GLOBAL GOVERNANCE AND RULES FOR THE POST-2015 ERA

ADDRESSING EMERGING ISSUES IN THE GLOBAL ENVIRONMENT

EDITED BY JOSÉ ANTONIO ALONSO AND JOSÉ ANTONIO OCAMPO

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Addressing Emerging Issues in the Global Environment

Edited by
José Antonio Alonso and
José Antonio Ocampo

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Preface

The world is undergoing a period of profound changes and facing challenges that will condition the future progress, security, and well-being of humanity. Overall, those changes will mean that the world in 2030, the reference point for the new development agenda to be agreed in 2015, will be very different from the one in which we currently live. While there are problems from the past that still need to be solved, others have emerged—or become more pronounced—and are yet to be addressed in a satisfactory way. Given their severity, a "business as usual" response is not viable.

We have more resources and capabilities than ever before to confront both old and new challenges; what we need is the right approach and greater determination to tackle them. The definition of a new development agenda is a unique chance to come up with a concerted international response. It is already clear that the objectives the international community will set out are vastly more ambitious than the preceding Millennium Development Goals (MDGs). Rather than a list of the highest priorities with a strong focus on the very poorest, the proposed Sustainable Development Goals (SDGs), as drafted by the Open Working Group for Sustainable Development, read more like a holistic attempt to set the world on a sustainable path. In this regard, the SGDs set forth the foundations for moving toward a development model that is socially and environmentally sustainable, both nationally and internationally.

Action is needed at both levels. National responses are essential because the basic responsibility for the development process lies with the political community of each country. Without the effective involvement of governments and the societies they represent, it is impossible to build an inclusive and credible agenda for international change. However, we are living in an increasingly interdependent world and the nature, magnitude, and effects of many of the current challenges imply that no country can find effective solutions by acting in isolation or by itself.

It is crucial, therefore, to define the rules and systems of governance needed to promote efficient global cooperation to create an international environment that favors the development of all countries and provides the required international public goods. Discussion about these components should form an integral part

of the process of defining the post-2015 development agenda. Unfortunately, the matter has not received sufficient attention in the intergovernmental processes geared to the definition of that agenda. This volume is an attempt to amend that oversight. It complements the analysis carried out in the companion publication *Alternative Development Strategies for the Post-2015 Era* (published in this series). In that work, options for new development pathways to promote broad-based economic growth while, at the same time, guaranteeing social equity and environmental sustainability were presented and analyzed. *Alternative Development Strategies* adopted mainly a national perspective, trying to draw some inspiring patterns from the study of successful national experiences to build a more effective international development agenda.

The present volume shifts the focus of analysis and adopts an international perspective. We critically examine global rules and global governance mechanisms that currently condition international cooperation for development. The purpose is to propose rules for global governance that lead to a more equitable distribution of development opportunities among countries and peoples, a more efficient provision of global public goods and a reduction of human, environmental, and economic risks currently afflicting the international system.

As in its companion volume, the contributions in this book result from an independent research program promoted by the United Nations *Committee for Development Policy* (CDP). CDP, a subsidiary body of the UN Economic and Social Council, is composed of development experts from around the world serving in their personal capacity. While the views expressed here do not necessarily reflect those of the CDP or of the United Nations and its Member States, this research program did benefit from discussions conducted at various workshops and plenary meetings of the Committee as well as from several interactive discussions with the Economic and Social Council. More precisely, the first versions of some chapters were discussed in an expert group meeting (New York, January, 2014), which has contributed to review the hypotheses underlining the analyses of this volume. The structure of the book and its main messages were also presented and discussed in the CDP plenaries, in March 2013 and March 2014, which helped to refine approaches used and to develop the main messages and recommendations.

This volume would not have been possible without the collective effort of a large array of people. We would like to thank the CDP Secretariat, particularly Ana Luiza Cortez and Namsuk Kim, for helping set this project in motion, organizing our discussions and for monitoring its successive stages. We also thank Leah C. Kennedy for following through on the production process and liaising with

our publishers. Our sincere gratitude goes to the contributors to this volume for the time and effort they dedicated to this undertaking, for their enlightened analyses, and for their willingness to adapt their inputs to the overall structure and trust of the book. Lastly, but not the least, we would like to acknowledge with appreciation the many useful comments and suggestions received by CDP members who peer reviewed the various chapters in this book.

As the global community moves toward a new development agenda for the post-2015 era, we hope that the analysis provided here will contribute to lay the foundations for fairer and durable progress toward a sustained improvement in human well-being worldwide. As such, this book is of interest not only to scholars and students of development economics but, in particular, to national and international policy-makers as well as to people interested in understanding how to promote a balanced, sustainable, equitable, and stable global development pattern.

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José Antonio Alonso and José Antonio Ocampo

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About the Committee for Development Policy

The Committee for Development Policy (CDP) was established in 1965 and its first chair was Nobel Laureate Professor Jan Tinbergen. The CDP is a subsidiary body of the United Nations Economic and Social Council (ECOSOC). It provides ideas, inputs, and independent advice to the ECOSOC on emerging cross-sectoral development issues and on international cooperation for development. The CDP is also responsible for reviewing the status of least developed countries (LDCs) and for monitoring their progress.

The twenty-four members of the Committee are nominated by the United Nations Secretary-General and appointed by ECOSOC in their personal capacity, reflecting a wide range of development experience as well as geographical and gender balance.

Each year, ECOSOC advises the Committee about the theme(s) that the Committee should consider at its annual session. The General Assembly, the Secretary-General, and the subsidiary bodies of ECOSOC can also propose, through the Council, issues for consideration by the Committee. In addition, based on its expertise, the Committee itself often provides suggestions to ECOSOC on emerging critical issues for the international development agenda.

Overview

José Antonio Alonso and José Antonio Ocampo

1. Introduction

The world is undergoing a period of profound changes and facing challenges that will condition the future progress, security and well-being of humanity. While the effects of some current trends can be forecasted (e.g., population aging), others are only partially known (e.g., climate change). Overall, those changes will mean that the world in 2030, the reference point for the development agenda, will be very different from the one in which we currently live. To a large extent, we could say that the world's future will crucially depend on how the international community tackles the major challenges that those trends bring with. Given the nature of some of those problems, we know that individual country actions, while absolutely necessary, will be insufficient: in most cases, efficient international cooperative is essential. That is why the international community must show perceptiveness in its diagnoses and ambition in its determination to tackle the future.

The range of problems that need to be tackled is much wider today than in the past. There are problems inherited from the past that still need to be resolved, like continued poverty and hunger, the exclusion of significant sections of the world's population from access to basic services or the denial of basic rights to women and some ethnic groups in many parts of the world. Alongside those problems, others have emerged—or become more pronounced—that have been subject to limited or no action, such as the uncertainty of future supplies of water and energy, the threat of climate change, rising income inequality in most countries, the demographic pressures emanating from a growing but aging world population, and the challenging levels of international risk and insecurity. Some of these problems are a result of unresolved severe shortages, while others stem

from the inadequate management of the wealth of a world that is increasingly interdependent but remarkably unequal.

Given the severity of these threats, a "business as usual" response is not viable. There is no possible excuse for indifference or passivity. We have more resources and capabilities than ever before to tackle the aforementioned problems: what is needed is the right approach and determination to tackle them. The definition of a new development agenda when the current one expires in 2015 is a unique chance to come up with a concerted international response. The goal has to be about laying the foundations for moving toward a development model that is socially and environmentally sustainable, both nationally and internationally.

National responses are essential because the basic responsibility for the development process lies with the political community of each country. Public resources are mainly gathered and managed at a national level where there are the political mechanisms required for aggregating the preferences of an entire society and for implementing procedures of social accountability—mechanisms that many times break down, however, leading to paralysis or, even worse, confrontation. Without the effective involvement of governments and the societies they represent, it is impossible to build an inclusive and credible agenda for international change.

Important though this is, it should not be concluded that developmental strategies designed to address the aforementioned issues can be focused solely on building local and national responses. The nature, magnitude, and effects of many of these problems mean that no country can resolve them adequately by itself. Even problems that are national ones require an enabling international environment to allow countries to respond efficiently. In an increasingly interdependent world, domestic and foreign policies have become inextricably intertwined.

It is crucial, therefore, to define the global rules and systems of governance needed to create an international environment that favors the development of countries and promotes efficient global cooperation. Discussion about these components should form part of the process of defining the post-2015 development agenda. Unfortunately, the matter does not seem to have received sufficient attention in the official documents being drawn for the Post-2015 Agenda. This book aims to contribute to that task.

This book complements the analysis carried out in the recent publication *Alternative Development Strategies for the post-2015 Era*. In that work, an independent group of development specialists, brought together through the UN Committee for Development Policy (CDP), set out to study the options

for feasible new development pathways promoting a broad-based economic growth and, at the same time, able to guarantee social equity and environmental sustainability. That book adopted a mainly national perspective, trying to draw some inspiring patterns from the study of successful national experiences in order to build a more effective international development agenda.

The present book adopts an international perspective. We critically analyze global rules and governance mechanisms that currently condition international cooperation for development. The purpose is to propose rules for global governance that lead to a more equitable distribution of development opportunities among countries and peoples, a more efficient provision of global public goods and a reduction of human, environmental and economic risks currently afflicting the international system. To do so, we need to analyze first the main changes faced by the international system.

2. Main changes in the international landscape

The world has changed significantly over the past few decades. The future development agenda needs to take those changes into account in order to identify goals and assign responsibilities for collective action. Some of the changes mentioned deserve special attention because they are long term in character and may condition the future configuration of the world system.

2.1. Shifting balance of economic power: Heterogeneity and growing multipolarity

Over the last few decades, there has been a major change in the distribution of global wealth. As a result of the economic dynamism of a growing number of Asian economies, there has been a visible *tilting of the balance toward the East* in terms of the centers of economic activity. In 1990 the contribution of Eastern and Southern Asia to world GDP (in PPP) was 25 percent; in 2012 that share reached 38 percent, while the combined contribution of the European Union and North America fell from 47 percent to 35 percent. This is a trend that is set to continue over time since world GDP is moving toward the Pacific basin (Subramanian, 2011).

This process has been accompanied by a sustained growth in a significant number of developing economies, leading to an *unprecedented convergence* of countries' income levels. Convergence has mainly benefited a group of successful

emerging economies but has also reached—though more selectively—some low-income countries. It is not the first time that the world's emerging economies have lived similar episodes of accelerated growth which later proved relatively ephemeral, leading countries to subsequent periods of stagnation. This is what has been identified as "middle-income traps," asymmetries and bottlenecks in the process of structural change that make countries become stuck on the path toward economic convergence (Agenor et al., 2012; Aiyar et al., 2013; Alonso, 2007). Keun Lee and John Mathews refer to these traps, specifically in the sphere of technological knowledge in Chapter 3 of this volume.

There are reasons, however, to think that this time around a significant number of countries (again, many of them in Asia) have managed to overcome those traps, maintaining the process of economic convergence over time (Spence, 2011). In fact, in a way that has never been seen before, low- and middle-income countries have grown in the last fifteen years at a faster rate than developed economies. During the last decade, emerging economies were responsible for 70 percent of the world economic growth (while developed economies for only 17%) (IMF, 2014). The 2008/9 crisis only accentuated that trend since developed countries were worse hit by the recessionary effects of the crisis.

However, the convergence process has been unequally distributed among developing countries. As a result, *levels of heterogeneity in the developing world have grown substantially* (UNDP, 2013). While in the past we could talk of a dual world, characterized by a sharp North-South divide, today the reality is very different. Deep international inequality continues but developing countries are more diverse and face, therefore, diverse challenges and unequal opportunities for progress. Diversity will require different policy agendas. Therefore, if we want to create a universal development agenda that involves everyone, that heterogeneity needs to be recognized and the range of areas we address must be broadened to take into account the different priorities of countries at diverse stages of development.

Along with the changes described, *new powers have emerged in the developing world*, alongside traditional powers, opening up the possibility of a transition toward a more multipolar world. The more central role now played by the G-20—rather than the G-7—, as a mechanism for international cooperation is symptomatic of that change, however imperfect the G-20 may be. Additionally, there is a broader spectrum of actors in the international arena. Alongside governments, there are a multitude of private sector actors—international nongovernmental organizations, foundations, unions, corporations—that have acquired a more central role as global players, taking part— albeit in

an unequal way—in the processes of setting the international agenda and holding public authorities to account. As a result of the changes mentioned, the international system has become more complex while also becoming more unstable. That new environment requires more inclusive and democratic systems of governance than in the past. This obliges us to understand global governance as a multilayered, multidimensional, and multiactor system (Held and McGrew, 2002).

The new composition of the international system should result in changes in the *distribution of tasks and responsibilities* for the new development agenda. As the world becomes ever more heterogeneous, with a new group of developing countries taking a more prominent role in the international system, countries' commitments and efforts should be adapted to the new distribution of wealth and capacities. The simplistic split between "developed" and "developing" countries should be replaced with a more complex and gradual distribution of responsibilities at the international level. The new development agenda necessarily has to take this new distribution of capacities among countries into account.

2.2. Less extreme poverty but growing domestic inequalities

The continued growth of some developing countries has also affected poverty incidence. Over the past two decades there *has been a significant decrease in the number of people who live on less than $1.25 a day* (and the same could be said for people under $2 a day). The intensity of this reduction is subject to debate: the most moderate forecasts see a continuous reduction in the poverty rate to 16.3 percent in 2015 (Ravallion, 2012), while optimistic estimates forecast 9.9 percent (Chandy and Gertz, 2011). Bearing in mind that in 1990 (baseline year for the MDGs) poverty affected 43 percent of the world's population, we can understand the significance of the progress made up to now. It is important to emphasize, however, that the bulk of the population that has managed to cross the poverty threshold has an income of between $US 2 and $US 10 a day. In fact, there are now over 4 billion people located in that range of income (Edward and Sumner, 2013). These are people living in highly vulnerable conditions with a risk of falling back into poverty if any negative change takes place.

While absolute poverty has reduced, the trend of the *number of relatively poor people has hardly changed* over the last twenty years. Chen and Ravallion (2012) present a measure of "weakly relative" poverty that takes into account

each country's level of development (and its consequent national poverty line). In their measure the poverty line rises with the mean national per capita income above some critical value, which can be interpreted as the minimum cost of social inclusion. In accordance with their estimates, the ratio of weakly relative poverty (in terms of total population) decreases from 65 percent in 1990 to 47 percent in 2008, but the amount of people affected grows from 2.4 billion to near 2.7 billion in the same period.

This result is consistent with the *increase of domestic inequality* in an ample group of countries, including most OECD members. More precisely, from 1990 to 2010, domestic inequality grew in two-thirds of the countries with available data. The fact that we are dealing with a general trend suggests that it is at least partly the result of factors that are common to most countries. Those factors include the unequal impact of economic liberalization on productive factors, the increase in wage differences according to labor skills, and the loss of redistributive capacity of national tax systems (Pickety, 2013). That said, there are exceptions to this trend, most of which are found in Latin America, showing that it is possible—even in a highly globalized world—to develop public policies that correct the levels of inequality that exist (Cornia, 2014).

In addition to those processes, we have seen a period of change in the characterization of those countries where the bulk of the world's poor population lives. Due to their recent economic growth, a large group of low-income countries (LICs) have graduated to the middle-income category according to the World Bank's classification. This process has affected some populous countries with an ample volume of poor people (particularly China, Indonesia, India, Nigeria, and Pakistan). As a result, *most poverty (almost two-thirds) is currently located in middle-income countries, MICs* (and not in LICs as before). This shift in the geography of global poverty defines a new reality that will continue in the near future (Edward and Sumner, 2013).

In summary, we live in a world with less absolute poverty and more relative poverty; a world in which, according to the data, global poverty is not merely, or even predominantly, an issue for LICs but also affects MICs—no doubt with higher capacities. Both facts suggest that the eradication of absolute poverty is now more feasible than before, but that will create a burgeoning mass of vulnerable population in the $2–$10 range, creating new challenges. Beyond extreme poverty, fighting inequality has emerged as crucial objective if social cohesion is to be preserved. Achieving these objectives will require active redistributive policies, not only internationally but also within countries.

2.3. A growing and aging population

A third important challenge comes from some current demographic trends. We are moving toward *a world with a still increasing and aging population*, increasingly living in cities, but with contrasting demographic dynamics between regions and countries and sharp migratory tensions. These are all changes that affect the composition and behavior of societies.

When the MDGs were agreed upon, the planet's population was a little more than 6 billion people; in 2030, that will be just over 8.3 billion. The demographic projections point to the progressive stabilization of the planet's population by the end of the current century but the trend varies between countries and regions. The annual rate of growth in the developing world is four times that of developed countries. In fact, *industrialized countries and some emerging countries are suffering a process of shrinking and aging populations*, which affects their potential for economic growth, the vitality of their societies, and the financial sustainability of their welfare systems. This is particularly true for many public pensions systems conceived as pay-as-you-go systems where the young productive generation pays contributions which are then handed out to the retired.

By contrast, *developing countries are still experiencing fast population growth and have high young cohorts*. In these cases, countries will need to address overcrowded labor markets, huge educational demands, and disorderly urbanization processes. The larger share of young people in developing countries creates a demographic dividend in terms of potential growth that will require new national and international policies in order to be exploited fully. In any case, growing population in ecologically fragile environments puts extra pressure on essential natural resources like water and energy, and also increases problems stemming from waste and pollution.

These processes are especially *severe in the case of cities, which are absorbing migration from rural areas*. The limited resources of local institutions and the speed of the process mean that inner-city areas soon become environmentally degraded and people may lack infrastructure and basic services, accentuating their vulnerability. That is one side to poverty and environmental deterioration to which the development agenda needs to respond.

The disparity in North-South demographic dynamics, coupled with persistent inequalities in living conditions between different regions *exacerbate international migratory pressure*. The generalized use of restrictive border measures has proved ineffective in halting that process: it has only made the

human costs associated with emigration much more painful and driven up the numbers of undocumented people in host countries. As José Antonio Alonso suggests in Chapter 6, a better management of those migratory flows would entail recognizing the ongoing needs of the migratory population in developed countries and the opportunities that process can offer to citizens from the South. Offering regular routes of access for that population to enter developed countries, protecting their rights, needs to be part of that recognition. It is also the responsibility of countries of origin to design efficient development strategies to offer their respective populations possibilities for progress without the need to abandon their countries. Beyond national solutions, the international community needs to make progress on defining minimum standards to help better manage migratory flows and protect migrant rights.

2.4. Widening the domain of regional and global public goods

One of the most striking trends experienced over the last five decades has been the clear drive toward greater integration in the world economy. There is, therefore, an increased prevalence of externalities and cross-border spillovers among countries and regions in the international arena. The *specific domain of international public goods (IPGs) has emerged from those externalities*: a type of public goods whose effects spread beyond national borders (regionally or globally). International Public Goods are of a very diverse nature. Some of them—such as international law and justice, and global rules—are essential for managing interdependence. Others—like peace, the prevention of transmissible illness or environmental protection—are minimum safety requirements for preserving life. Finally, there are IPGs such as financial stability, the spread of knowledge, and trade integration that improve the possibilities of progress throughout the world. All together, *they form a collection of goods, services, and regulatory frameworks that condition the level of well-being of the world's population*.

The characteristics of public goods are such that often the market alone is unable to ensure their efficient provision; some form of collective action becomes necessary to supply them, either through coordination, cooperation, or coercion. Within each country, that response is mainly directed by the state. By contrast, at the supranational level there is no institution similar to the state, so the response has to be based on various forms of voluntary coordination and cooperation. In order to manage this cooperative response, it is necessary *to correctly define the framework of rules and incentives in which agents and*

countries operate (Kaul et al., 1999). Multilateral organizations offer the best institutional framework to fulfill this task, but there is a widespread feeling that—as they stand—they lack the legitimacy, ability, mandate, and resources to carry out that function efficiently.

Achieving an appropriate provision of regional and global public goods is all the more important at a time when the international community is determined to accomplish a series of shared sustainable development goals. Important objectives that should form part of the post-2015 development agenda have public goods characteristics, such as those related to conditions for the preservation of life (basic health, peace and security, and environmental protection) or those that promote stable and fair opportunities for economic and social progress (such as financial stability, macroeconomic policy coordination, and affordable access to technology and knowledge). The insufficiencies in the provision of IPGs needed by society reveals the limited investment countries have made in international cooperation matters. As a result of this failure, the world is more unstable, less safe, more unequal, and less wealthy than it could be.

3. The Post-2015 Agenda

3.1. Learning from the MDGs

The approval of the Millennium Declaration and the subsequent setting of the Millennium Development Goals (MDGs) was one of the *most successful and influential initiatives promoted by the international community* in the last half century (Jolly et al., 2009). As a result, human rights and the fight against poverty was given significant international attention, encouraging international institutions and national governments to be held to account for their contribution to those goals.

There are a wide range of achievements associated with the definition of the MDGs, but three seem particularly notable. First, the broad-based agreement reached on those objectives *mobilized action internationally*: it has galvanized political commitment around some dvelopmental goals as never before in history. Second, the MDGs were conceived as a *shared commitment* by the international system, which assumed that the fight against poverty, in all its forms, was a shared responsibility. Finally, while some goals and targets may be subject to debate, the fact that *quantitative goals* were defined, and associated to a precise deadline for implementation, helped both the monitoring of progress and the focus of national efforts.

If the achievements of the MDGs are well known, so are some of their limitations. First of all, unintentionally, the MDGs led to a *simplification of the development agenda.* The emphasis and focus on fighting extreme forms of poverty contributed to that without an awarenesss that, while eradicating poverty should be a main goal, it should not be the only component of a development agenda. Secondly, the process of defining the MDGs was chiefly deployed in the sphere of bureaucracy and international organizations. *Open consultations with society and governments barely existed* during the process of defining the MDGs. Lastly, the MDGs, although supposedly universal, were *clearly imbalanced.* Many of the goals set challenges for developing countries but they imposed hardly any commitments on developed countries. The targets included in Goal 8, to build a global partnership for development, were particularly vague and its targets were imprecise and partial.

The new post-2015 development agenda seems to aim at tackling these limitations. First, it is being created around *one of the most complex and ambitious participatory, opinion-gathering exercises ever run by the United Nations*. The process has included an interagency working group of UN agencies, a High Level Panel of Eminent Persons designated by the Secretary-General, an intergovernmental open working group on the sustainable development goals and a working group on development finance, various thematic consultation processes, as well as national and regional consultations, seeking the opinion of private sector firms through the Global Compact, and an open internet poll ("My World") carried out to canvas public opinion. The process may have been somewhat disorderly but there is no doubt that the United Nations has sought public participation in an unprecedented way.

Second, from the moment discussion on the new agenda began, there was an emphasis on the need for the *new agenda to be far more comprehensive than the MDGs*, tackling the fight against poverty and the promotion of more inclusive and sustainable development in many dimensions. The changes in the international context and the experience gained from the MDGs suggested the need to take into account a number of elements that were omitted from or relegated in the previous agenda: among them, aspects like environmental sustainability, the fight against inequalities, economic growth and employment generation, the transparency and quality of institutions and the provision of regional and global public goods.

Lastly, it was agreed early on that *the agenda needs to be universal in the sense of involving the entire international community and not only the developing world.* All countries are called upon to make a balanced and shared effort.

That is an additional reason why the agenda should be more comprehensive. The new agreed goals have to motivate everyone's efforts and interests in an increasingly heterogeneous world in which countries have differentiated needs and urgencies.

3.2. The Post-2015 Agenda

In summary, the new agenda will be necessarily broader and more ambitious than the one defined by the MDGs. The main official documents looking at the potential scope of the agenda make this clear. They include the Reports from the Secretary-General, *A Life of Dignity for All*, by the UN Task Team on the Post-2015 Development Agenda, *Realizing the Future We Want* and *A Renewed Global Partnership for Development*, from the High Level Panel of Eminent Persons, *A new global partnership: eradicate poverty and transform economies through Sustainable Development,* and the most recent *Proposal of the Open Working Group for Sustainable Development Goals* and the synthesis report from the Secretary-General *The Road to Dignity by 2030: Ending Poverty, Transforming All Lives and Protecting the Planet.*

It is true that more effort has been applied on defining the new goals and targets than on building a broader narrative about the world we jointly want to create. It is worth underlining that "agenda-setting for development cannot be reduced to mere target-setting" (Vandemoortele, 2014), important though this process is. In any case, there is still work to do in defining the goals, as well as the targets and indicators, to guarantee that the agenda is focused and realistic. That said, an analysis of those documents, especially that presented by the Open Working Group for Sustainable Development Goals, shows that the agenda as a whole will be made up of three large components: (i) the work required to make MDGs mandate a reality; (ii) commitments for supporting countries' transition toward sustainable development; and (iii) a better provision of crucial regional and global public goods.

3.2.1. Unfinished business

The first element embraces those objectives that set out to complete the task started by the MDGs and which were focused on the fight against extreme poverty in all its forms. Despite being the part that is closest in content to that of the MDGs, it goes beyond what was drawn up back then because it both broadens the range of elements considered and in some cases sets more ambitious goals.

For example, the MDGs in Goal 1 concentrated efforts on reducing hunger and extreme poverty by half. Here, the SDGs propose to "*eradicate extreme poverty* for all people everywhere" and to tackle *weakly relative poverty*, cutting "at least by half" the proportion of people of all ages living "in poverty in all its dimensions according to national definitions." In the same way, the SDGs propose to end hunger and malnutrition and ensure access by all people to "safe, nutritious and sufficient food all year round." These measures are accompanied by a demand to strengthen national "appropriate social protection systems and measures for all," with the aim to achieve substantial coverage for the poor and the vulnerable by 2030.

A similar broadening of goals is envisaged in the fields of health and education, two central subjects of the MDGs. On *health*, for example, the MDGs had clear targets for three specific areas: child mortality, maternal health, and communicable diseases. By contrast, the SDGs call for healthy lives and the promotion of the well-being of people of all ages. They also state the goal to "achieve universal health coverage, including financial risk protection and access to safe, effective, quality, and affordable essential medicines and vaccines for all." The range of health problems mentioned in the goals is also wider, including the "prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol," the goal to "halve global deaths and injuries from road traffic accidents" by 2020 and the "substantial reduction of the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination."

There is a similar increase in the degree of ambition proposed for the *education* sector. The MDGs concentrated their attention on achieving universal access to primary education. The SDGs go further, talking about "ensuring inclusive and equitable quality education and promoting life-long learning opportunities for all." This goal deals with "complete, free, equitable and quality primary and secondary education," but also with "early childhood development, care and pre-primary education," and "equal access for all women and men to affordable quality technical, vocational and tertiary education, including university" or the promotion of relevant skills "for employment, decent jobs and entrepreneurship."

As well as greater ambition in its objectives, there has also been an increase in the fields to be addressed. Two are particularly relevant. The first is the fight against extreme inequality, both within countries as well as between countries. Although this goal was mentioned in the Millennium Declaration, it never became part of the MDGs. The SDGs are now ambitious in this regard. Among

other aspects, they mention the need to "achieve and sustain income growth of the bottom 40% of the population at a rate higher than the national average"—an objective that the World Bank had already set for itself—, to promote "the social, economic and political inclusion of all" without any discrimination, to "ensure equal opportunity and reduce inequalities of outcome," and to "adopt policies especially fiscal, wage and social protection policies and progressively achieve greater equality."

The second is the profound revision of the treatment of gender equality. The MDGs focused on equality in the education system, an improvement in maternal health, universal access to reproductive health services, and the elimination of gender inequalities at work and in political representation. The goal now extends to spheres that were previously neglected. The SDGs propose the need to end "all forms of discrimination against women and girls," to "eliminate all forms of violence" against women and other "harmful practices, such as early and forced marriage and female genital mutilations." In addition, and even more ambitiously, it proposes to "recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies."

3.2.2. Transition toward sustainable development

The most important novelties introduced by the SDGs are related to this second group, which aims to encourage countries to purse inclusive and sustainable development strategies. Environmental goals play a central goal in this sphere. In the MDGs, those aspects were limited to areas related to access to water and sanitation, the protection of biodiversity and the generic appeal for applying principles of sustainability at the national level. Such an approach proved clearly insufficient. While the world made significant advances in the fight against poverty after the year 2000, that was not the case with respect to the environmental goals where the deterioration has significantly worsened. Moreover, the advance made in scientific knowledge on the degradation of environmental balances and its consequences for humans has only accentuated the priority that should be accorded nowadays. As a consequence, it is essential to place all these issues at the center of the new agenda.

In fact, what was barely a goal in the MDGs is transformed into seven goals in the proposal of the open working group; environmental goals are also included in a large part of the rest of the agenda. Some of the specific environmental goals include: to "ensure availability and sustainable management of water and

sanitation for all," "make cities and human settlements inclusive, safe resilient and sustainable," "conserve and sustainably use the oceans, seas and marine resources," and to "protect, restore and promote the sustainable use of territorial ecosystems," including sustainable management of forest, combat desertification, and halt and reverse land degradation and biodiversity loss. However, perhaps the most ambitious goals are those that demand substantial modifications to current growth models. These include the aim to ensure access to "affordable, reliable and sustainable" energy for all, including a substantial increase of the share of renewable energy in the global energy mix and an improvement in energy efficiency. In the same vein are goals related to "ensure sustainable consumption and production patterns," which implies decoupling economic growth from environmental degradation. There is also a goal aiming for "urgent action to combat climate change and its impacts," although acknowledging the UNFCCC's primacy on this issue.

Two other issues that were excluded from the MDGs also form part of this large section of new proposed goals: economic growth and the promotion of good government. There are two goals that explicitly form part of the economic growth dimension. The first refers to promoting "sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all." In this sphere, the proposal to increase productivity levels is supported by productive diversification, inclusive and sustainable industrialization, technological upgrading and innovation, entrepreneurship, creativity and innovation, "quality reliable, sustainable and resilient" infrastructure. Also included is the goal to maintain GDP growth in the LDC of at least 7 percent annually, something that will mark an important change to the previous historic trends—though it is not stated as to how it will be achieved.

In addition, the economic growth objectives state the explicit objectives of promoting decent job creation and reducing the number of young people not in employment, education, or training. They also include the aim of promoting an increasing access of small-scale enterprises to financial services.

In terms of good governance, the aim is to achieve "peaceful and inclusive societies," promoting the rule of law at the national and international levels, fighting corruption and promoting effective, accountable, and transparent institutions. A large part of this chapter handles the goal of ensuring equal access to justice for all, guaranteeing public access to information, protecting fundamental freedoms and providing legal identity for all, including birth registration.

3.2.3. *Providing regional and global public goods*

The third component of the new agenda deals with improving the provision of some international national public goods considered crucial for development. In the MDGs this part of the agenda was concentrated in Goal 8—global partnership for development—as well as the chapters devoted to treating transmissible diseases and to protection of biodiversity. In the SDGs the presence of goals related to the provision of IPGs is broader and they are referred to in several aspects of the agenda. In many of the goals there are components that refer to international areas that have partial IPG characteristics. That is the case, for example, of "correct trade restrictions in agricultural markets" in the goal about achieving food security; it is also the case in "supporting research and the development of vaccines and medicines" in the goal focused on health and the aim to "improve regulation and monitoring of global financial markets" in the goal of reducing inequality within and among countries. Components that are more clearly related to public goods (national, regional, and global) form part of the environmental goals, linked with obtaining a sustainable management of water, ensuring a sustainable use of the oceans, seas, and marine resources, protecting the sustainable use of territorial ecosystems, building resilient infrastructure, making cities and human settlements resilient and sustainable, and taking actions against climate change.

Just as in the MDGs, the agenda dedicates a goal to "strengthen the means of implementation and revitalize the global partnership for sustainable development." This goal is in line with Goal 8 of the MDGs apart from a few relevant inclusions on the need to "strengthen domestic resource mobilization," including the support for improving domestic capacity for tax and other revenue collection, to "enhance international cooperation on and access to science, technology and innovation," as well as the need to promote the "development, transfer, dissemination and diffusion of environmental sound technologies to developing countries on favorable terms." The references to the need to increase international aid are maintained, including the target of providing 0.7 percent of GNI in ODA to developing countries, of which 0.15–0.20 to LDC. The SDGs also underscore the need to move toward a rules-based trade system, which is open and nondiscriminatory; and the implementation of duty-free, quota-free market access on a lasting basis for all LDCs, as well as ensuring that the rules of origin associated with the preferential treatment of LDCs are transparent and simple.

One component that is relatively new refers to so-called systemic issues. This groups goals that aim to “enhance global macroeconomic stability, including through policy coordination and policy coherence.” The same chapter states aptly the need to “respect each country’s policy space and leadership to establish and implement policies for poverty eradication and sustainable development.” Finally, the agenda recognizes the necessity of enhancing the multi-stakeholder partnership that mobilizes and shares knowledge, expertise, technologies, and financial resources to support sustainable development strategies, particularly in developing countries.

4. Global rules and governance

4.1. Global governance

Although the works still need to be completed, what we know about the goals being proposed for the Post-2015 Development Agenda suggests it will be ambitious. Probably it will be necessary to consolidate goals and targets to avoid an overloaded and vague wish list. But, even after that work, the agenda will still be highly demanding for countries and international players. It will be difficult to make progress in its implementation if, aside from the singular effort of each and every country, a thorough *revision of the global rules and governance mechanisms* is not made, in order to create a climate that maximizes development possibilities, encourages a switch toward sustainable models of progress, and stimulates cooperative action to address common problems. In short, we need to improve the conditions of international governance. This issue has never been given the attention it deserves in the MDGs nor has it so far in the SDGs. It is true that both, and to a greater extent the SDGs, contemplate proposals that affect the frameworks regulating international relations (trade, technological cooperation, financial regulation, external debt, and international aid). However, these are one-off measures that only very partially meet the reform needed in some of these spheres if we want to put global governance at the service of inclusive and sustainable development.

It is worth mentioning that both the MDGs and the SDGs have opted for entrusting the viability of the agenda to the creation of *global partnerships for (sustainable) development*, in which multiple stakeholders unite resources, capabilities, and knowledge to implement the agreed objectives. The option of global partnerships is doubtlessly attractive and potentially fruitful, particularly

in the current complex international environment in which the international institutional framework is weak. Some successful experiences, particularly in the field of health, show what can be achieved by finding ways to put together many different participants with their respective resources and capacities. This is the approach on which the viability of the financing of the Post-2015 Agenda is primarily based in some of the most influential and best-read studies on the matter (Sachs and Schmidt-Traub, 2014).

However, while multi-stakeholder partnerships have potential, we need to remember that creating such mechanisms is not exactly the same as responding to the governance needs created by the globalization process. It is clear that these partnerships can play a role in global governance, but governance has tasks and a scope that a voluntary alliance of participants cannot possible carry out, however large and efficient it may be. Governance structures need to have proper criteria on representativeness, accepted rules for aggregating constituencies' preferences, a capacity to define binding commitments, and mechanisms for monitoring and accountability. It would be difficult for those demands to be met, through voluntary commitments and the self-regulation of self-nominated participants.

The solution of giving a new role to *"trans-governmental networks"* that perform governance functions (Slaughter, 2004), proposed by some academics, is not a satisfactory response to the demand for good governance either. The argument is that the "unitary state" is an obsolete concept and is being substituted by "trans-governmental networks," made up of lower-level public sector agents that work in a concerted, and sometimes informal way in the transmission of information, in the shared implementation of knowledge and in the definition of solutions in the specific spheres. Supposedly those networks would usher a new era of "trans-governmental regulatory cooperation" and represent a new form of global governance, horizontal rather than vertical, composed of national government officials rather than international bureaucrats, decentralized rather than hierarchical and more informal than traditional governance structures. The examples given of these networks are financial, like the International Organization of Securities Commissions (IOSCO) and the Basel Committee on Banking Supervision. These are networks that have a limited institutional structure and lack enforcement power, but they do facilitate coordination and influence the setting of agendas, the dissemination of information, and the drawing up of rules. They are, therefore, part of a global governance system that is today necessarily more complex and dense than in the past.

While recognizing their contribution, it is again important to underscore that it is difficult for these networks to substitute the need for governance that is

based on mechanisms of representation, the generation of commitments, and proper accountability. Global governance necessarily needs to go beyond that offered by exclusive—and often opaque—clubs of regulators and technocrats, even if the contribution of those networks may be useful in certain fields.

The above approaches—multi-stakeholder partnerships and trans-governmental networks—point to a true phenomenon: global governance is today a complex process involving a dense network of agreements, institutions, regimes, and trans-governmental networks that play a role in the generation of rules and the production of solutions to international problems. As a result, a global public policy necessarily has to be developed today within an array of different kinds of networks and with the participation of several types of participants. In some way, the "embedded liberalism" on which the postwar order was built, is destined to become an international system that necessarily has to embrace the potential contributions to the global public domain from civil society and corporate players (Ruggie, 1982). That is the concept of global governance that the Commission on Global Governance (1995) offered, seeing it as "the sum of the many ways individuals and institutions, public and private, manage their common affairs. It is a continuing process through which conflicting or diverse interests may be accommodated and cooperative action taken." The states and their mechanisms of representation and international coordination are part of that complicated network but they are far from being the only elements of it. Even the provision of public goods—including GPGs—can no longer be equated with state-provided goods alone. An ample range of participants, public and private, shape and contribute to their provision; and, as Held (2004) points out "they need to do so if some of the most profound challenges of globalization are to be met."

Nevertheless, although they are not the only ones, national states are still the central pillars on which global governance is built and will continue to be so in the immediate future. The "stateness," in the sense of the institutional centrality of the state (Evans, 1997), will still be an essential component of any acceptable global governance alternative. Only the states are capable of producing legitimate mechanisms of citizen representation, of organizing the political processes for aggregating the populations' preferences, and of guaranteeing the accountability of public sector officials that is at the core of democracy. Global governance needs to be built very centrally—though not exclusively—around coordination and exercises of delegation that states mediate. That underlines the crucial role that multilateral institutions should have in that process, especially the United Nations. At least, the United Nations emerges as an international actor with

distinct advantages, including the equal representation of its member states under a shared normative framework (the UN Charter) (Weiss, 2009).

It is true that this process involves a paradox since "governance is becoming increasingly a multilevel, intricately institutionalized and spatial dispersed activity, while representation, loyalty and identity remain stubbornly rooted in traditional national communities" (Wallace, 1999). However, this is a paradox that is set to last, at least for some time yet, as long as there is not really something that can be considered a "transnational political community" on which those citizens' mandate and accountability exercises can be built up (Rodrik, 2011). The solution in this case does not lie with an improbable global reconstruction of the principles of "symmetry" and "congruency" between political decision-makers and the recipient of political decisions on which democratic thought is based (Held, 1995). Such a scenario is a little bit fanciful without democratic mechanisms adapted to the global arena. However, nor is an acceptable solution to progressively leave the construction of collective responses to associations composed of volunteers or networks of technocrats.

The required response necessarily involves carefully and selectively defining those areas where global and cooperative responses are needed. The complexities and difficulties of global governance mean that global institutions and responses should be restricted to those issues where this is an absolute requirement. In those cases—and only in those—multilateral rules and procedures should be developed that lock in all powers and agents into a multilateral framework. That framework needs to be accompanied by a parallel one aimed at reinforcing those international institutions that may function efficiently, improving their procedures for representation and public expression, on the one hand, and transparency and accountability, on the other. It is clear that in both areas—representation and political expression and transparency and accountability—, there is a lot of work to be done in order to adapt the multilateral system to the challenges posed by the demands of an ambitious sustainable development agenda. There is a need to clarify roles, remove duplication, and define mandates that enable them to better address contemporary global challenges. Unfortunately, those aspects are not included in the Post-2015 Agenda.

4.2. Global rules

As a part of the problems regarding governance mechanisms, serious reforms need to be made to the global rules regulating the international order. Most of these rules have been developed in ways that do not encourage growth convergence

and environmental sustainability. Among most important shortcomings are the following (Alonso et al., 2013):

- International policies and multilateral regulatory frameworks have been built by and large on the *"level playing field"* principle without considering the extraordinary diversity and heterogeneity of national situations. This approach has had negative effects on countries that have traditionally had fewer resources and capacities.
- In a number of areas, such as trade, finance, and intellectual property rights, multilateral regulatory frameworks have substantially *reduced the space for national policies*, limiting the ability of countries to determine their own destiny.
- The process of *liberalization has been highly imbalanced* with deregulation having been pushed too far in some areas (financial markets, in particular) and costly shortcomings in others (such as international migration). A more balanced and coherent system is needed.
- Several mechanisms of governance lack or have limited *legitimacy*, because of inadequate representation and transparency in decision-making in informal platforms such as the G-8, but also the G20, or because the governance structure inadequately reflects today's economic realities, such as in the World Bank and the International Monetary Fund.
- There has been a *notable inability to offer the level of security* (human, financial, and environmental) required to globally put highly interdependent development processes onto a more sustainable path. Improving security requires a better provision of some regional and global public goods. That is particular true in the case of some environmental challenges, such as climate change, in which the international community has been so far unable to come up with an appropriate response.

In order to address these shortcomings, major reforms to the global rules are needed. The objective should be to create an international order that pursues the greatest human and sustainable development, rather than promoting liberalization as an end in itself. It should be, first, a *more coherent* system that overcomes the inconsistencies that now exist among the global rules in different areas (finance vs. labor mobility, for example). Second, international rules should be based on the *acknowledgment of diversity*, taking into account the heterogeneity of national situations. That implies establishing the necessary support (based on the principle of common-but-differentiated responsibilities) to enhance development opportunities for the poorest countries. Third, it is

necessary to strike a better balance between international rule-setting and the provisioning of global public goods, on the one hand, and allowing sufficient space for national policies, on the other. The *protection of the national space for the definition of policies* constitutes a crucial area for the reform of global rules. Finally, it is necessary to apply the principle of subsidiarity that suggests that *issues ought to be addressed at the lowest level capable of addressing them*. Not all issues require global collective action: many problems can be effectively managed at a local, national, or regional level. That implies that decision-making should be decentralized as much as possible, maximizing each person's opportunity to influence the social conditions that shape her or his life. A smart interpretation of this principle should drive us to the conclusion that global governance should achieve an adequate balance between global, regional, and sub-regional institutions. Giving regional institutions a greater role facilitates the participation of smaller and poorer countries, strengthens the sense of identity and ownership among members, and makes decisions more adapted to realities on the ground. In short, using regional structures as building blocks for global processes is a way to build *denser and more inclusive international governance* (CDP, 2014).

These two last aspects—national policy space and subsidiarity–are key if we want to overcome the "political trilemma of the world economy" proposed by Rodrik (2011)—the forced choice between two of the following three goals, all of which are desirable: "increased globalization," "defense of democracy," and "respect for national sovereignty." The solution to this trilemma does not lie in a necessary giving up of one of the goals mentioned, but in the precise identification of areas where improvements to rules and global standards are needed versus those in which policy space should be respected so that countries have more room to define their national development strategies. In the first case, global responses are needed because the risks are systemic; in the second, an enabling international order is needed offering countries opportunities for development, taking into account the diversity of capacities and conditions of each one and thus allowing each one to follow its own strategy. The current international framework, however, does not adequately respond to any of those requirements: it is incapable of coming up with global solutions where they are needed (climate change, for example) and it unnecessarily limits the room for maneuver in areas where it should allow countries a broader room to maneuver (trade, finance, and intellectual property, for example).

To explain that difficult balance between global rules and national policy space, it may be useful to look at the different objectives of international cooperation

(Ocampo, 2015). In principle, it seems that international cooperation is spread across three different areas:

- First, the management of interdependence—externalities and all kinds of strong spillovers across nations—, that requires *the provision of international public goods*. In these cases, the aim is to respond to the challenges created by the combination of systemic interdependence and the incentives for free-rider behavior by countries. The only solution is the definition of global rules that involve all those affected in a cooperative effort that leads to a better situation than the one that would result from autonomous responses from individual countries. The fight against climate change or the promotion of financial stability constitute good examples of the areas we are talking about. As Goldin (2014) aptly put it, "solutions for systemic risk go hand in hand with a more inclusive and carefully managed globalization rather than a rejection of it."
- Second, the *provision of a floor of basic social standards for all world citizens,* which allows them the effective exercise of their basic human rights, including their economic, social, and cultural rights. In this category are all those activities aimed at fighting poverty, defending human rights, and improving social services. Here the basic responsibility falls back onto states: they have the first and major responsibility to respond to the needs of citizens. In this case, international cooperation has a double role: to contribute to the efforts of those countries that have severe shortfalls in resources in order to deliver those social standards and to generate an international context that allows countries to progress and, in doing so, to attend to the needs of their populations.
- Lastly, to encourage *the convergence of the developing, and particularly the poorest countries to higher levels of income and well-being,* correcting extreme international inequalities. For doing that, countries need to have sufficient policy space to draw up their own respective development strategies. International cooperation should define rules that stimulate an equal distribution of development opportunities.

A central role for global governance mechanisms is required if we want countries to be able to manage their interdependencies; however, in the two remaining levels, the diversity of countries needs to be recognized in order to avoid global standards and regulation that can be not just impractical, but also undesirable. In order to move toward new rules and governance structures it is necessary, therefore, for countries not just to properly identify the nature of their challenges

but also for them to assume a new concept of sovereignty—"responsible sovereignty" or, in terms of Kaul (2013), "smart sovereignty"—that is capable of recognizing that international cooperation is the best way to meet national interests in an increasingly interdependent world; and, at the same time, for that cooperative action to be respectful of the sovereignty of other nations so as to fulfill agreed policy outcomes.

5. Reforming global rules: Some key areas

The proposal previously presented about the objectives of international cooperation may help us to order—even if only in a rough way—the particular issues studied in this book, regarding those areas in which serious reforms of global rules and governance are required. Prior to that, it is worth indicating that, although we have highlighted some of the relevant areas, they are not the only ones where reform is needed, and that this brief summary does not do justice to the richness of analysis that the reader can find in the respective chapters.

5.1. Provisioning GPGs

One first group of topics has GPG characteristics. In these cases, the definition of regulatory frameworks globally has been shown to be crucial to tackle the extraordinary externalities that characterize these goods exacerbating countries' free-rider behaviors. We are talking here clearly about financial stability, tax cooperation, and the fight against adverse environmental phenomena like climate change. In the first case, the standardization of norms has been excessive, limiting the room for maneuver of national policies; in the cases of tax cooperation and, particularly, climate change, by contrast, global standards have not been adopted.

5.1.1. Reforming financial and monetary systems and promoting macroeconomic cooperation

José Antonio Ocampo analyzes in Chapter 1 the *reforms needed to the international financial and monetary systems.* As a consequence of the North-Atlantic financial crisis and under the coordination of the G-20, the international community undertook some reforms in the financial and monetary realm. The reforms aimed at strengthening macro-prudential regulation and supervision,

under the aegis of the Financial Stability Board, and the creation of a larger and better-structured counter-cyclical financing overseen by an overhauled IMF. The strategy also involved creating new regional financial arrangements, the capitalization of multilateral development banks (MDBs) and the recognition of the counter-cyclical role they play, the largest issuance of SDRs in history, and the creation of an elaborate system of macroeconomic policy cooperation among major economies. Nevertheless, the reform momentum has progressively vanished, in part as a consequence of the pressure from major private financial institutions. Therefore, the regulatory framework still faces major gaps, including the regulation of shadow banking and the expansion of derivative exchanges. The IMF continues to face a "stigma" for many borrowers and the under-capitalization of the World Bank undermines its role in terms of providing counter-cyclical financing. And, perhaps most importantly, the elaborate system of macroeconomic policy coordination has not avoided the creation of new global imbalances, the most important of which are the rising surpluses of the European Union and the rising deficits of a large group of emerging economies.

It is true that emerging and developing countries have enjoyed more policy space than before for addressing the effects of the North-Atlantic crisis. But this policy space has depended mainly on the "self-insurance" provided by the accumulation of foreign exchange reserves. This is a costly mechanism that implies a transfer of resources to reserve-issuing countries, and may contribute to the creation of global imbalances and the recessionary bias of the system. Thus, in opinion of the author, policy space should be enhanced by a fuller use of capital account regulations, even with some global features, further improvement in unconditional counter-cyclical financing mechanisms—including through the expansion of regional financing arrangements—, a better system of macroeconomic policy cooperation that avoids beggar-thy-neighbor policies, and the creation of an effective international debt workout mechanism.

The chapter mentions other elements of the institutional architecture that continue to be weak or absent. The first is the unsettled discussion as to the role of capital account regulations, a critical issue to provide policy space to emerging and developing countries in the face of capital account volatility. International monetary reform has not advanced beyond the large issuance of SDRs in 2009 and, in particular, steps have not been taken to strengthen the role of SDRs in the global monetary system. This implies that the system continues to marginalize emerging and developing countries from reserve creation. In spite of the debt crises of some European and developing countries, the world continues to lack a sovereign debt resolution mechanism, which is essential for handling problems

of over-indebtedness in an orderly way. Finally, ongoing reforms have not been matched by changes in the governance of the system. Reforms in this area should involve three elements: the design of a more representative apex organization than the G-20; advancing further in the reform of "the voice and participation" of developing countries in the Bretton Woods Institutions and the Financial Stability Board; and the design of a multilayered architecture, with the active participation of regional and subregional institutions.

5.1.2. Tax cooperation

Issues related to *international tax cooperation* are analyzed by Léonce Ndikumana in Chapter 2. Tax policy is a central element of national policy: it is the main source of revenue mobilization for funding public goods and services, has an important redistribution role, gives support to macroeconomic policies, and is an important tool for the allocation of economic resources. Globalization has affected the capacity of countries to design and implement their taxation policy. The main challenges come from the increased mobility of capital as corporations and individuals take advantage of disparities in institutional and regulatory environments. The proliferation of tax havens, safe havens, jurisdictions of secrecy, and offshore financial centers has made matters even more complicated.

There are four important issues regarding the links between globalization and taxation policy that the author mentions. First, there is increasing evidence that average taxation rates on capital income have declined over time, in part as a means by which countries try to attract foreign capital. Second, with the increasing mobility of capital, there is concern about multinational corporations engaging in profit shifting and mispricing activities, taking advantages of loopholes in tax policy. Third, there is a concern that the least developed countries (LDCs) are substantially disadvantaged in the allocation of capital, while at the same time they face severe hemorrhage through capital flight and other forms of illicit financial flows. Finally, from a global perspective, taxation policy can also play an important role in advancing global initiatives either supporting the financing of "global public goods" (or penalizing the production of "global public bads").

Existing initiatives at a national, regional, and global level aimed at improving tax cooperation and increasing transparency have produced limited and uneven results. The author underlines that the main problem is the lack of effective implementation and enforcement of existing frameworks. Some measures for overcoming this obstacle are suggested in the chapter. The first is in the area of

exchange of information, which is critical to dismantling the tradition of secrecy. In this respect, in addition to the establishment and enforcement of Tax Information Exchange Agreements, countries should push for the institutionalization of the automatic exchange of information on taxation. Second, countries and international institutions must endorse mechanisms to increase accountability and transparency in the corporate sector. The international community should back efforts to institutionalize rules on country by country reporting as well as unitary taxation of multinational corporations so that all countries are able to duly and systematically collect taxes on all activities taking place in their territories. Third, the implementation of the existing conventions, agreements and frameworks on fighting tax evasion, corruption and other illicit financial activities requires substantial technical capacity. Such capacity is generally in short supply in developing countries. Therefore, improvements on international tax cooperation must include strategies for assisting developing countries to build their technical and administrative capacity to combat tax evasion and associated illicit financial practices.

5.1.3. Environmental agenda

Within the IPGs field, environmental issues have a prominent presence. These issues are discussed by Claudia Sheinbaum-Pardo in Chapert 8. Most environmental degradation is a direct consequence of human activity related to continued population growth, ever-increasing economic activity, and predominantly wasteful and environmentally unfriendly patterns of production and consumption. This process affects not only environmental global public goods (such as biodiversity, the ozone layer, or a stable climate), but also regional and local environmental goods (such as desertification, depletion of groundwater or waste, and handling of pollutants). Climate change is arguably the greatest environmental challenge the international community faces today due to the pervasiveness in terms of its effects on livelihoods and its scale that is inherently global. The costs of inaction will thus be very large, even catastrophic. Other environmental challenges, such as those related to the availability of clean water and energy, will need to be at the top of any new development agenda.

The chapter argues that the formulation of the Post-2015 Agenda requires a new and stronger consensus to incorporate environmental sustainability as an integral part of the development process. Advances in technology to achieve higher efficiency in the use of resources are required and for these advances need to be available worldwide. However, technological progress—important

as it is—is not enough to shift development toward sustainable patterns. A change in lifestyles and in production models, particularly in developed and emerging countries, is needed if we want to significantly reduce the current ecological footprint. Second, environmental law, jurisprudence, and environmental governance are crucial to resolve problems of environmental faults. The recognition of environmental problems in current international justice institutions and even the possibility of an international environmental court shoud be seen as mandatory components of global governance. Third, we need to move from per capita GDP as the measure of development to other sustainable indicators that express the effect of human activity on some crucial biophysical ecological equilibria. In the same vein, development goals must include environmental sustainability as a component of every developmental objective.

Fourth, environmental problems do not have frontiers, so in this area international responses are essential. In this regard, the international community should develop a system—recognized by the WTO—that promotes and enforces internationally agreed standards, regulations and codes of conduct on FDI, thereby discouraging investment and economic activities based on the absence or weakness of environmental regulation. Fifth, global governance mechanisms for sustainable development should give a proper interpretation to the concept of common but differentiated responsibilities. In this regard, it is necessary to take into account the variety of development trajectories between countries and to determine responsibility based on historical emissions, as well as current and projected emissions. Finally, while estimates vary enormously, there is general agreement that high levels of resources are needed to finance the environmental agenda. Several financing mechanisms have been discussed, but real commitments are still to be made by the international community.

5.2. Universal social standards

The second mission for international cooperation is to establish minimum social standards for people that allow them to enjoy human rights, correcting situations of poverty and extreme shortages and promoting human capabilities. Here the main responsibility falls back on the states, which have to meet the demands and needs of their citizens. However, the international community also has the obligation to: (i) create an international context in which states can meet social goals; and (ii) through international cooperation, provide the complementary means to benefit that process when the state has severe restrictions to do that.

There are three fields that we consider in this volume: human rights, food security, and migration.

5.2.1. Human rights

In Chapter 9, Sakiko Fukuda-Parr and Rachael Wyant analyze the international cooperation that is required from the *regulatory perspective of human rights*. There is widespread agreement that the international objectives of development and poverty reduction must be consistent with human rights regulations and principles. Human rights differ from development aspirations in that they incur correlative obligations, notably of states. As stated in General Comment 3 of the Committee on Economic, Social and Cultural Rights, these duties include three-fold responsibilities: to respect the rights of individuals; to protect rights from being infringed upon by third parties; and to fulfill rights by taking proactive action to promote their realization. The international human rights system is mainly based on the responsibility of states to protect people within their borders. While recognizing this principle, the chapter argues that fulfilling rights requires international cooperation to address obstacles that states cannot resolve on their own. This constraint on national governments is often due to one of four reasons: problems require a domestic policy response but the country faces resource constraints; policy response requires addressing problems that originate in actions beyond national borders; problems require reforms of international rules; and investments in global technologies are needed.

This means that, in addition to our separate responsibilities to our individual societies, we have a collective responsibility to uphold the principles of human dignity, equality, and equity at the global level. This role is articulated as obligations of international cooperation in the 1948 Universal Declaration of Human Rights, and is reiterated in several other legal documents. However, it has been slow to develop as standards that can be applied in the international arena. The *Right to Development,* a highly debated concept, introduces three important principles regarding obligations for international cooperation in the domain of human rights: it is associated with a collective obligation; it links human rights to development and poverty eradication; and it defines extraterritorial obligations.

The current structures of global governance do not bring, however, these human rights principles into processes for designing and negotiating international economic policies. The structure and practice of human rights accountability remains state-centric, and procedures such as the Universal Periodic Review

and the reporting to the Committee on Economic, Social and Cultural Rights focus scrutiny of state conduct in terms of domestic responsibilities, not on its international consequences. However, this has been changing and since the 1990s human rights advocates, scholars, and institutions have not only developed norms but engaged in advocacy on economic policy issues, and human rights advocacy on international economic policy has begun to expand.

5.2.2. Food security

Another important issue is *food security* that is studied by Rob Vos in Chapter 7. Worldwide hunger and malnutrition have declined significantly in recent decades and, as a whole, the world produces enough food to feed everyone. Yet today over 800 million people are considered food insecure and undernourished, suggesting abundant supply does not guarantee affordable access to food for all. Continued population growth and rapid urbanization, environmental threats, ever-deepening global integration of food systems and volatile world markets pose critical challenges to the sustainability of food security and the world's capacity to end hunger, malnutrition, and poverty over the next few decades. It suggests sustainable development will not be possible without fundamentally transforming agriculture and food systems. The past ways to increase food supplies (expansion of arable lands, extensive fisheries, intensive use of water, chemical fertilizers, and energy in crop production, etc.) cannot be viable options in the future. Instead, to protect the environment and guarantee the adequate and stable availability of food, most of the growth in food production will need to come from increased yields and productivity while reducing pressure on natural resources ("sustainable intensification").

National policies have been directed at competing objectives, causing significant trade-offs (such as between biofuel production and food security) and by and large have continued in an uncoordinated fashion, without any regard for integrated global value chains. The interdependency of national food-related production systems and markets, and their dependence on the global financial and energy markets, means that national policies alone cannot fully protect countries from risks like inefficiencies and volatility. Cooperation and coordinated multi-stakeholder action is needed at a global level and with a global perspective. Some steps have been taken to improve the global governance of food and agriculture, but the responses have been largely ad hoc and far from adequate to deal with exploding and volatile food prices, looming water scarcity, the notorious under-investment in rural infrastructure and agricultural research

and continued food safety risks. To tackle most of these challenges, there are existing institutions, conventions, platforms and other mechanisms, but there is ample room to scale these up and enhance coherence and effectiveness. International organizations (mostly UN agencies) addressing agriculture, food, and related issues collectively may also need some rethinking and adjustment to meet the challenge of establishing a sustainable global food system.

5.2.3. Labor mobility

The third issue under analysis is related to *international labor mobility* that is studied by José Antonio Alonso in Chapter 6. In 2013 there were about 232 million migrants in the world—3.2 percent of world population. The percentage does not seem exceptionally high, which reminds us that the international mobility of people is taking place in a regulatory context that is limited and fragmented and that gives ample room for recipient countries to impose very restrictive policies. The restrictive tone adopted by migratory policies contrasts with the increasing liberalization of other economic flows, and is not consistent with the need for labor in developed countries and with the pressure on young people to search for personal progress in developing countries. This gap between real needs and the regulative response is at the root of why there are large numbers of immigrants living irregularly in their host countries. Nevertheless, when suitably regulated, migration can potentially improve the efficiency and well-being of the overall international economic system and it is also an effective, although notably selective, means of increasing the possibilities for individuals to better themselves.

In order to achieve that, national responses, mainly based on control efforts, are not enough: coherent regulation of the phenomenon is also needed at an international level. Initiatives undertaken to date in this field have had a very limited success. As a result, what exists is a fragmented set of rules, which are poorly supported, and a group of international institutions with partial competences which overlap one another with informal mechanisms for dialogue and multiple and varied agreements at a bilateral and regional level. The asymmetries of power between sending and recipient countries, on the one hand, and between the beneficiaries and those affected by the costs of the migratory process, on the other, are primary factors in why recipient countries are so reluctant to endorse international agreements. Nevertheless, there is a consensus that more adequate international rules and the governance of migratory processes could increase the positive effects (and reduce the negative ones) of migration, sharing its benefits more fairly and guaranteeing the rights of those involved more effectively.

In order to overcome resistance to the creation of a global regime, a two-track process is suggested in the chapter, combining the definition of a framework of minimum standards at a global level with a dynamic of more committed bilateral and regional agreements. The minimum standards should be based on the principles that previous Conventions on Labor Migration have established. Taking into account these general principles, countries should gradually reduce unnecessary obstacles to migration, allowing the liberalization sequence to be adapted to the circumstances of individual countries. On the other hand, regional agreements on migration should be encouraged: the fact that there is a greater similarity between economies in regional frameworks means that deals on migration would be more feasible. Mechanisms of informal dialogue, both globally and regionally, should also continue to be supported. Finally, regarding the institutional structure to govern labor migration at a global level, the chapter suggests starting with the International Organization for Migration (IOM), changing its mandate and statute to transform it into a multilateral body integrated into the UN system. This change supposes that IOM should add to its current operational mission, a standard-setting and monitoring mandate.

5.3. Promoting convergence in levels of development

It is also the mission of international cooperation to generate the conditions for a better distribution of development opportunities between countries. It needs to create the necessary framework for stimulating economic convergence, providing the necessary space for national policies to implement development strategies for very diverse situations. In this regard, there are two areas that are analyzed in this volume: those related to technology and trade. Some of these issues have also public goods implications.

5.3.1. Science and technology for sustainable development

Advancing a nation's capacity in *science, technology and innovation* (STI) and its effective application in economic activities are essential factors for achieving sustainable development. Keun Lee and John Mathews analyze this issue in Chapter 3. A critical concept in technological upgrading is leapfrogging including stage-skipping whereby the developing country can jump into a new eco-friendly techno-economic paradigm. Technological leapfrogging has been practiced around the world and has had tangible

impacts on the pattern of production and consumption. While developed countries have the most infrastructural inertia in terms of business models based on fossil fuels (carbon lock-in), developing countries have more room for maneuver to leap to new green energy and resource systems. However, if developing countries are to realize this potential, they need to build up technological capabilities, accessing the knowledge store available in the developed world. Various forms of incentive or subsidy provision are needed to correct market failures and to achieve economies of scale. Authors suggest that the international community should consider setting up a global fund to support research and development (R&D) into new environmental-friendly technologies and to promote their diffusion. A renewed discussion of how to reform the international trade rules should be conducted to help the latecomer build innovation capabilities.

In order to further facilitate firm-level technological capabilities in developing countries, the authors suggest the promotion of local-foreign partnerships (LFPs) which can be regarded as a modification of private-public R&D consortium/partnerships (PPPs). While the latter involved private firms and public research units and was quite effective in solving innovation bottlenecks in several successful countries in East Asia, LFPs involve private firms in less developed countries and public R&D units from developed countries promoting new business projects.

Finally, the chapter considers the role of intellectual property rights (IPRs) and argues that IPRs (particularly patents) can be a serious interfering factor in countries' efforts to make a transition into sustainable mode of development. IP systems need to evolve further, from an institution that protects innovations toward one that fosters the dissemination of technology. To this end, each country should be allowed some room to tailor its own IP system to its specific needs. The international community, including the WIPO, should discuss the advisability of a broad research exemption for experimental users and the establishment of judicial power to require nonexclusive licensing in the spirit of public interests. Also, the increasing mobility of knowledge works indicates a need for a reform to the IP regime to guarantee inventors' continuing research, especially noncommercial ones, and activities regardless of affiliation changes. Various schemes, such as the Inter-Institutional Agreement and the Material Transfer Agreement, could be further improved and diffused, together with appropriate rules for benefit sharing.

5.3.2. *Trade rules and the national policy space*

International trade rules are studied by Ana Luiza Cortez and Mehmet Arda in Chapter 4. In the last decade, developing countries have increased their participation in world trade. Successful experiences have been associated with strategic participation in international trade and tactical association with foreign investors with a view to promoting domestic backward and forward linkages and a structural transformation of the economy from low to higher productivity sectors. These experiences often rested on the adoption of a wide range of policy instruments and innovative institutional arrangements, some of which are no longer allowed by the current regulatory framework. As liberalization proceeds and trade rules move from tariffs into a wide range of areas covering "trade-related aspects," the policy space developing countries have to support the dynamic transformation of their economies has been reduced. Beyond WTO, regional and other free trade agreements and bilateral investment treaties have also been reducing policy space in developing countries as well as creating problems of fragmentation, consistency, and coherence in the global trade regime.

In general terms, trade rules seem to move away from differential treatment for developing countries as a group to preferential treatment based on specific, individual needs. While this may be a practical solution in view of the greater diversity among developing countries, the new approach has not yet been tested. Another source of concern is the enhanced reciprocity that the new trend entails, particularly if rules are not flexible enough to accommodate different country needs. These trends suggest that the principle of less than full reciprocity, which has been one of the pillars of the multilateral trade regime, is being eroded. The above notwithstanding, there seems to be an implicit contradiction in the way that the system operates: WTO rules aim at improving the welfare of all but deviations from the rules are necessary. If deviations are needed, then some of the rules may not necessarily be in synchrony with developing countries' interests.

The traditional response to the issue of diversity among WTO members has been the introduction of special and differential treatment (SDTs). However, the current SDT architecture is not ideal and has not been delivering as anticipated. SDTs are in fact the second-best solution to the development quest. The solution seems to lie not in having SDTs, which are deviations from the rules, but in negotiating trade rules that are flexible and supportive of development and from which no deviation is needed. To achieve that, however, many developing countries, LDCs in particular, will need to enhance their negotiating capacity,

including strengthening their presence in Geneva, where negotiations are conducted. To that end, enlightened and innovative development cooperation is necessary not only from developed countries but also from developing countries with proven trade negotiating skills.

In Chapter 5, Keun Lee, Wonkyu Shin, and Hochul Shin come back to the effects of trade rules on the national policy space, based on the analysis of international dispute settlement cases on industrial policy measures. The asymmetries in the use of trade disputes suggest that possible asymmetries exist in the use (or abuse) of industrial policy between developed and developing countries. In a total of 419 WTO dispute cases or in a total of eighty-six disputes involving subsidies and countervailing measures (SCM), more than half have been raised by developed countries. In the SCM dispute cases, which are closely related to industrial policies, half of the cases were between developed countries, and a quarter of the cases were between developed and middle-income countries. There has been no single case against low-income countries that implies that these countries may not have to worry too much when they use various tools of industrial policies. Developed countries do use various industrial policies, but only a few cases have been brought to the WTO by developing countries. This result can be explained by the fact that developing countries usually have insufficient legal capacities for pursuing disputes and have limited resources and retaliatory power to enforce the remedies.

Reducing asymmetries and arbitrariness is imperative with regard to the access and actual use of remedies (retaliatory measures) against faulty parties. The authors suggest establishing a third party that will enforce remedies not only through the resources of the involved parties, but also through resources and penalties at international level. In addition, developing countries, especially low-income ones, should take advantage of any allowed room by the WTO regime for implementing industrial policy. At the same time, developing countries will be able to use some "non-specific" subsidies, available on the basis of objective criteria (not limited to certain enterprises or industries), because they are not prohibited by the WTO. A new kind of "industrial policy"—called "program portfolio profile"—could be based on this opportunity, stimulating the development of indigenous technology. The WTO rules on permitted ("green light") subsidies, such as those for R&D, regional development, and environmental compliance expired in 2000. To extend these rules and/or establish new rules on such subsidies, a broad consideration of the interests of the developing countries is necessary. A good additional step would be to establish international guidelines for subsidies or government assistance in

several areas in which public intervention is justified. The chapter suggests that a strong international agency (such as a "global fair trade commission") should be established to monitor the market dominance of or distortion caused by a few large players. This agency should also have authority over international mergers and acquisitions, which could have anti-competition implications. Finally, measures to enhance the resources and capabilities of the South to understand and use WTO rules and procedures should be implemented, such as training sessions and technical assistance.

5.4. World heterogeneity and the proliferation of country groupings

Chapter 10, by José Antonio Alonso, Ana Luiza Cortez, and Stephan Klasen, analyzes the *consequences of the proliferation of country grouping* on the international cooperation system. In the last two decades, the international community has tried to tackle the increasing heterogeneity of developing countries by establishing categories for classifying countries to better organize the complexity of the international system. The level of success of this process is, however, very limited. In some of the categories, the level of diversity among countries belonging to a single group has progressively grown, reducing the relevance of the classifications themselves. In other cases, the problem is not so much with the diversity within a given group but with the progressive loss of relevance of some of the categories. And, what is more, most, if not all, of existing available systems of classifications are based on fragile analytical and doctrinal foundation.

In general terms, classifications could be grouped into two types: (i) systems that classify every country of the world in accordance with wide development criteria (the authors call them "comprehensive classification"); and (ii) systems based on identifying a relevant development issue and selecting those countries that suffer from it (they call them "selective or issue-based classification systems"). The *LDCs classification* is somewhere between these two systems, because it is based on identifying a specific type of problems (extreme structural impediments to development) but the issues considered are highly comprehensive.

Using comprehensive classifications in the process of aid allocation present serious problems. First, equity issues: two countries in a very similar development stage can receive different treatment because they are on either side of a threshold that in many cases is arbitrary; second, wrong incentives: international support measures are removed in association with "graduation" associated with

achievements in the level of country's development (which means that success is penalized); and, finally, lack of coordination: many donors share the same eligibility criteria for support measures; so, reaching the eligibility triggers simultaneous withdrawal from providing support measures, which could affect the stability and progress of a country's development.

The problems that adversely affect the comprehensive systems do not affect selective classifications, particularly when the issue is important and well defined and the support measures are specifically designed to address the problems that define the category. The issue-based systems are, however, not free from problems. The major drawbacks are the possible fragmentation of the international support system, on the one hand, and the loss of a comprehensive approach to issues that are tightly interconnected, on the other.

In that sense, the chapter suggests that the creation of new comprehensive, country-based classification systems should be avoided (or seriously considered). Donors can identify development issues that deserve international support, without defining new categories. If they are needed at all, selective classifications are more useful and special support should be targeted to that issue. In order to have a comprehensive classification that allows making a comprehensive approach to developmental issues, the authors believe that the LDC category has clear advantages over other country-based groupings. They include clear indicators and a transparent process for inclusion or graduation with a good track record and high legitimacy, and an independent body to monitor its implementation. In this regard, difficulties linked to graduation decisions in the intergovernmental process need to be addressed in order not to undermine the legitimacy of the category. At the same time, in view of the continuous or gradient nature of most development challenges, the authors suggest that there should be no sharp distinctions made between those on the list, and those who are slightly better off or have recently graduated. Instead of applying the "graduation" logic, a "gradualness" logic should be applied to address some of the equity and incentive problems mentioned above.

6. New rules and governance for the post-2015 era

We are at a crucial moment of change in which the international community needs to tackle significant challenges that require not only the effort of individual countries but of joint work. To facilitate that response, the creation of an international framework is necessary: one that stimulates national efforts

to move toward sustainable development, and that encourages quality collective action at an international level to tackle shared problems. Therefore, we need new global rules and governance. Those rules need to be built on a recognition of the diversity of national circumstances and the aim of ensuring an equal share of opportunities (and costs) from the globalization process under way. That governance needs to be based on institutions that are considered legitimate by those affected by their decisions and those institutions need to be inclusive in the sense of guaranteeing an adequate representation and voice of the participants involved. Having said that, for global action to be effective there must be some degree of *accountability and enforceability* for international commitments and rules. This is not easy in a world with hardly any international body with an executive mandate (Ocampo and Arteaga, 2014). Intergovernmental reviews and peer pressure among governments is one of the avenues to encourage countries to meet international commitment and follow rules. The other avenue is public pressure when failure to do so is brought to light by the media, by civil society organizations, or by public institutions. The enforcement of global action therefore requires a high degree of transparency and social participation. These issues will be crucial for making the SDGs a reality. Regrettably, the Post-2015 Agenda is not giving sufficient attention to these aspects. This volume tries to modestly shed some light on these crucial issues related to global rules and governance for the post-2015 era.

References

Agenor, Pierre-Richard and Otaviano Canuto (2012). Middle-income Growth Traps. *World Bank Policy Research Working Paper* 6210. Washington: The World Bank.

Aiyar, Shekhar, Romain Duval, Damien Puy, Yiqun Wu, and Longmei Zhang (2013). Growth Slowdowns and the Middle-Income Trap. *IMF Working Paper* 13/71. Washington: IMF.

Alonso, José Antonio (2007). *Cooperation with Middle-Income Countries.* Madrid: Editorial Complutense.

CDP (2014). Global Governance and Global Rules for Development in the Post-2015 Era. *CDP Policy Note.* New York: United Nations.

Chandy, L. and G. Gertz (2011). Poverty in Numbers: The Changing State of Global Poverty from 2005 to 2015. *Policy Brief* 2011–01. Washington: The Brookings Institution.

Chen, S. and M. Ravallion (2012). More Relatively-poor People in a Less Absolutely-poor World. *Policy Research Working Paper* 6114. Washington: The World Bank.

Cornia, Giovanni Andrea (2014). *Falling Inequality in Latin America. Policy Chances and Lessons*, Wider Studies in Development Economics. Oxford: Oxford University Press.

Edward, Peter and Andy Sumner (2013). Estimating the Scale and Geography of Global Poverty Now and in the Future: How Much Difference Do Method and Assumptions Make? *World Development*, vol. 58, pp. 67–82.

Evans, Peter (1997). The Eclipse of the State? Reflections on Stateness in an Era of Globalization. *World Politics*, vol. 50, no. 1, pp. 62–87.

Goldin, Ian (2013). *Divided Nations. Why Global Governance Is Failing, and What We Can Do About It.* Oxford: Oxford University Press.

Held, David (1995). *Democracy and the Global Order: From the Modern State to Cosmopolitan Governance.* Cambridge: Polity.

Held, David (2004). *Global Covenant. The Social Democratic Alternative to the Washington Consensus.* Cambridge: Polity.

Held, David and Anthony G. McGrew (eds.) (2002). *Governing Globalization: Power, Authority and Global Governance.* Cambridge: Polity.

IMF (2014). *World Economic Outlook, 2014.* Washington: IMF.

Jolly, Richard, Louis Emerijand, and Thomas G. Weiss (2009). *UN Ideas that Changed the World.* Bloomington: Indiana University Press.

Kaul, Inge (2013). Global Public Goods. A Concept for Framing the Post-2015 Agenda? German Development Institute, *DIE Discussion Paper* 2, Bonn.

Kaul, Inge, Isabelle Grunberg, and Marc A. Stern (eds.) (1999). *Global Public Goods: International Cooperation in the 21st Century.* New York: Oxford University Press.

Ocampo, José Antonio (2015). Global Economic and Social Governance and the UN System. In José Antonio Ocampo (ed.), *Global Governance and Development.* New York: Oxford University Press, forthcoming, chapter 1.

Ocampo José Antonio and Natalie G. Arteaga (2014). Accountable and Effective Developent Cooperation in the Post_2015 Era. Backgrounde study prepared for the Development Cooperation Forum, http://www.un.org/en/ecosoc/newfunct/pdf13/dcf_germany_bkgd_study_3_global_accountability.pdf

Piketty, Thomas (2014). *Capital in the Twenty-First Century.* Cambridge: Harvard University Press.

Ravallion, Martin (2012). Benchmarking Global Poverty Reduction. *Policy Research Working Paper* 6205. Washington: The World Bank.

Rodrik, Dani (2011). *The Globalization Paradox. Democracy and the Future of the World Economy.* New York: W.W. Norton and Company.

Ruggie, John G. (1982). International Regimes, Transaction, and Change: Embedded Liberalism in the Postwar Economic Order. *International Organization*, vol. 36, no. 2, pp. 379–412.

Sachs, Jeffrey D. and Guido Schmidt-Traub (2014). Financing for Sustainable Development. Implementing the SDGs through Effective Investment Strategies and Partnerships, mimeo.

Slaughter, Anne-Marie (2004). *A New World Order.* Princeton and Oxford: Princeton University Press.

Spence, Michael (2011). *The Next Convergence: The Future of Economic Growth in a Multispeed World.* New York: Farrar, Straus, and Giroux.

Subramanian, Arvind (2011). *Eclipse. Living in the Shadow of China's Economic Dominance.* Peterson Institute for International Economics.

UNDP (2013). *Human Development Report 2013: The Rise of the South.* New York: UNDP.

Vandemoortele, Jan (2014). Post-2015 Agenda: Mission Impossible? *Development Studies Research.* An Open Access Journal, vol. 1, no. 1, pp. 223–32.

Wallace, William (1999). The Sharing of Sovereignty: The European Paradox. *Political Studies,* vol. 47, no. 3.

Weiss, Thomas G. (2009). The UN's Role in Global Governance. UN Intellectual History Project, briefing Note no. 15.

1

Reforming the International Monetary and Financial Architecture

José Antonio Ocampo[1]

1. Introduction

The recent North-Atlantic[2] financial crisis, once again placed at the center of the global policy agenda the need for an international monetary and financial architecture which is appropriate for the current stage of economic interdependence. The initiatives this crisis unleashed have generated some progress, but should nevertheless be characterized as highly incomplete. The actions identified with these initiatives can be classified into four main groups. The first encompasses those aimed at strengthening prudential financial regulation and supervision; advance in this area contrasts with the inconclusive debate on regulating cross-border capital flows. The second group includes actions to improve counter-cyclical financing through the International Monetary Fund (IMF), but also through multilateral development banks (MDBs) and regional arrangements. The third includes the incomplete measures taken to enhance macroeconomic policy cooperation, and the even more limited steps adopted to strengthen the international monetary system. The fourth group comprises equally insufficient governance reforms.

These actions have repeated a past pattern of speeding up reforms in the face of crises. However, there have been significant differences with the response to the crisis in the emerging economies that erupted in East Asia in 1997 and then spread to Russia, Latin America, and Turkey. The first difference is the larger scale of action, which no doubt reflects the fact that major developed countries have been at the epicenter of the recent turmoil. Second, there have been greater (though still limited) measures in relation to truly global issues, both financial

and, to a much lesser extent, monetary. A third difference with the emerging countries' crisis of the late 1990s and early 2000s has been the absence of any actions in relation to the management of debt crises, which contrasts with the attempt by the IMF from 2001 to 2003 to create a sovereign debt workout mechanism, and the spread of collective action clauses in debt contracts after that initiative failed. Finally, greater attention has been given on this occasion to regional mechanisms, which contrasts with the strong negative response by the United States and the then IMF Managing Director, Michel Camdessus, to the Japanese initiative to create an Asian Monetary Fund after the outbreak of the East Asia financial crisis.

This chapter analyzes the advance and limitations of the current wave of reforms. The second section analyzes financial regulation and the inconclusive debate on cross-border capital account regulations. The third examines crisis response mechanisms, contrasting the expansion of counter-cyclical financing with the lack of initiatives to manage unsustainable debt burdens. The fourth section considers macroeconomic coordination and the very limited advance in international monetary reform. The fifth reviews governance reforms. The chapter concludes with a short summary of advances and the pending agenda.

2. Financial regulation

The tendency of financial markets to experience boom-bust cycles is well known (see, for example, Reinhart and Rogoff, 2009). Indeed, according to the IMF, financial market volatility has increased over time and has spread to transactions that are generally considered to be less volatile—particularly foreign direct investment (IMF, 2011a: ch. 4). This boom-bust pattern is associated with the uncertainties inherent to contracts that are subject to future contingencies, the outcome of which is unknown today, as well as with the information asymmetries that characterize financial transactions. It is enhanced by inadequate prudential regulation and supervision, as the frequent collapse of financial systems following episodes of capital market liberalization indicates.[3] The recent North-Atlantic financial crisis clearly follows past historical patterns: sharp cyclical swings and significant contagion effects of both financial booms and busts, as well as the deficit of financial regulation and supervision in the developed economies—particularly in the United States and the European Union (EU). In contrast to that trend, the crisis was less acute in emerging and developing economies, which had

strengthened their own frameworks of prudential regulation and supervision, to a large extent as a response to their own previous financial crises.

The North-Atlantic crisis had diverse origins.[4] Several analysts considered capital requirements for banks—including criteria for evaluating risks, which are an essential element of capital requirements in the risk-weighted system in place—, provisioning rules for loan losses, and liquidity requirements were inadequate. In addition there was a significant growth of off-balance sheet transactions, which in several countries was a way to avoid regulatory requirements. In the European case, the accumulation of theoretically "risk-free" sovereign debt in the hand of banks, with a clear market segmentation—as banks in specific countries tended to hold a disproportionate share of those countries' debts, a pattern that deepened as a result of the euro crisis—generated a vicious circle between sovereign and bank risk that exploded in the European periphery in 2010 (Pisani-Ferry, 2012). Furthermore, banking supervisors inadequately enforced regulations, based on a philosophy that believed that market mechanisms and market agents were better at evaluating risks. This included the adoption of self-evaluation as the major mechanisms to evaluate risks by major financial institutions in the reforms adopted by the Basel Committee in the mid-2000s, which came to be known as Basel II.

Beyond the problems of banking regulation and supervision was the growth of nonbanking financial institutions—"hedge" or "alternative investment" funds[5]—which were subject to much more limited (if any) regulation and supervision. Since these institutions often engage in the transformation of maturities, which is the essence of banking activities, they came to be known as the "shadow banking system." Given the central role of securitized real estate assets during the crisis, an additional problem was the inadequacy of the rules used to evaluate the risks of securitization, associated with insufficient risk evaluation of the underlying assets. Other problems included practices ("slicing" of securitized debts) to create new assets, which were sold as "low-risk" instruments, as well as the incomplete character and poor regulation of markets for derivatives, which tend to become even more incomplete during crises as a result of the underlying information problems that characterize them. This was compounded by the lack of transparency in over-the-counter derivative contracts.

Under the leadership of the Group of 20 (G-20) and the Financial Stability Board (FSB),[6] which it created in its April 2009 summit in London, financial regulation and supervision have been strengthened. Nonetheless, this effort is incomplete, and some norms have been weakened under pressure from major financial institutions.[7] Banking regulation was strengthened (see next

paragraph) and the "regulatory perimeter" was expanded to include some agents and transactions that were inadequately regulated before the crisis (D'Arista and Griffith-Jones, 2010). The principle of counter-cyclical prudential regulations—and, more broadly, of "macroprudential regulations"—was introduced, following proposals that had been made before the crisis (Griffith-Jones and Ocampo, 2010). The principle that standardized derivative contracts should be traded in exchanges was established, thus potentially increasing the transparency and reducing the counterparty risks of these transactions—though with significant exceptions for transactions that are still allowed to be undertaken over the counter. Consumer protection was also enhanced, particularly in the United States.

The major reforms in banking regulation were those approved by the Basel Committee on Market Supervision in September 2010, which came to be known as Basel III (Basel Committee, 2010; Caruana, 2010). They increased the minimum common equity and core (Tier 1) capital requirements from 2 to 4.5 percent and from 4 to 6 percent, respectively. They also increased the quality of the remaining assets that can be considered part of the overall risk-weighted capital requirement of 8 percent. A "capital conservation buffer" of 2.5% was added, also made up of common equity, as well as a counter-cyclical capital requirement that will fluctuate in a range of 0 to 2.5 percent according to national conditions. These two buffers help absorb the risks that are accumulated during booms and can thus be used during crises to absorb the associated losses. The regulations also increased the capital requirements for operations of banks in capital markets (the trading book). Due to the potential weakness of risk evaluation of specific assets, an overall unweighted capital requirement of 3 percent was added, which thus determines the maximum leverage ratio of financial institutions; this requirement was raised to 5 percent in the United States in April 2014 for large bank-holding companies, and 6 percent for their subsidiary banks benefiting from deposit insurance.

Liquidity requirements were also put in place, with provisioning requirements and associated accounting standards still subject to debate. The principle was established that risk evaluation would depend less on those of credit-rating agencies. Systemically important agents ("too-big-to-fail") were subject to stricter rules, including more stringent capital requirements, and the obligation to simplify the structure of financial conglomerates and draft "living wills" to manage their potential bankruptcy. To better supervise global financial conglomerates, the principle that they should be under a system of "supervisory colleges" was established.

Reforms would be gradually introduced between 2013 and 2019. Several analysts consider the transition period too long and the Basel III leverage still allowed too high. The regular evaluations of the state of implementation indicate that rulemaking has generally gone faster than implementation at the national level, and that major gaps remain. The major challenges that persist include: how to reduce dependence on credit rating agencies, resolution mechanisms for "too-big-to-fail" institutions, still inadequate regulation of shadow banking, the insufficient expansion of derivatives exchanges, the limited advance of supervisory colleges, and the lack of agreement on unique accounting standards (FSB, 2013).

Domestic and regional regulations have been adopted in a parallel way, especially in the United States and Europe, the two epicenters of the crisis. In the United States, the 2010 Frank-Dodd Act strengthened prudential regulation but did so following national principles. It also introduced the "Volcker" rule—finally implemented in late 2013—which limits the core capital that can be placed in investment funds to 3 percent; this was an alternative to the sharp division between commercial and investment banking that had been introduced during the Great Depression and dismantled in 1999.[8] The EU has also strengthened its own regulations and has determined that supervision of most agents will continue to be the responsibility of national authorities, with the European Central Bank (ECB) in charge of supervising the largest institutions. However, inconclusive steps have been adopted in two areas which are central to the Eurozone's proposed "banking union": deposit insurance and banking resolution, two areas in which the fiscal risks involved have led to the reluctance of Germany and some other members to agree on truly collective mechanisms. Both the United States and Europe have also put in place macroprudential frameworks, by creating the Financial Stability Oversight Council and the European Systemic Risk Board, respectively. The first of these institutions is also responsible for coordinating the multiple agencies that characterize the US regulatory structure. In any case, the parallel development of the US and European frameworks may lead to important differences in the regulatory frameworks. Notably, regulations have already led to US banks having stronger capital bases than their European counterparts.

The FSB initiatives completely ignored the risks associated with *cross-border* capital flows—almost as if cross-border finance was not part of finance! This includes limited attention to regulations on transactions in foreign currencies in domestic markets, as well as regulations on capital flows proper—generally called "capital controls," but which should more appropriately be called capital account regulations. Oversight of this issue was a major gap in the efforts to

strengthen financial regulation overall, and was particularly critical for emerging and developing countries, because capital account volatility plays a major role in determining boom-bust financial cycles, and therefore macroeconomic risks and fluctuations. However, the IMF addressed this issue in 2011 and 2012 as part of the broader debate on macroprudential regulations.

The official IMF documents on this topic underscore the positive role regulations on capital inflows can have, but take a more critical view of regulations on outflows (IMF, 2011b and 2012). In the first case, they consider that regulations are effective in changing the composition of capital inflows toward less volatile sources of finance, which have macro-stability effects. In terms of their macroeconomic effects, they argue that there is stronger evidence on the capacity of regulations to increase the room of maneuver for restrictive monetary policies but limited evidence that they reduce the total amount of inflows or that they affect the exchange rate. In the case of regulations of outflows, the IMF considers them generally ineffective. They recommend that authorities should favor regulations that do not discriminate based on the residence of the agents, but rather on the currency they use. The official documents have been backed by significant technical work in the institution, with some officials being skeptical of capital account regulations (see, for example, Habermeier et al., 2011), but others more favorable to them (Ostry et al., 2010 and 2011). The latter have argued that they were effective in reducing the vulnerability of emerging economies to the North-Atlantic financial crisis.

On the basis of this analysis, the IMF proposed some guidelines (IMF, 2011b) and later an "institutional view" on the use of these regulations (IMF, 2012). Both accept that capital account regulations should be part of the toolkit of macroprudential instruments, and underscore, correctly, that these regulations should be a complement and not a substitute for adequate macroeconomic policy. However, the initial guidelines tended to visualize them as sort of "interventions of last resort," once countries have exhausted all other alternatives to manage booms: letting exchange rates appreciate, accumulating foreign exchange reserves, and adopting contractionary fiscal and monetary policies. The final "institutional view" has a more favorable opinion of capital account regulations, but did not entirely dispel the conception of them as interventions of last resort (Gallagher and Ocampo, 2013).

Other analysts have argued that capital account interventions should be used *simultaneously* with other macroeconomic policy interventions to avoid the potential overheating of the domestic economy and overvaluation of the exchange rate generated by excessive capital inflows (see, for example, the contributions

to Gallagher, Griffith-Jones and Ocampo, 2012a). In fact, they should be conceived as part of a continuum that goes from regulations of domestic finance in domestic currency, to domestic financial transactions in foreign currencies and cross-border flows, which should be regulated in a manner consistent with the characteristics of different financial systems and the policy objectives of macroeconomic authorities (Ocampo, 2011; Ostry et al., 2011).

Under Brazil's initiative, the G-20 approved in 2011 an alternative set of guidelines that have a more pragmatic view of the use of these regulations, although also underscoring that they should not be used as a substitute for appropriate macroeconomic policies (G-20, 2011c). Gallagher, Griffith-Jones, and Ocampo (2012b, Box 2) have proposed, in turn, an alternative set of guidelines, which also emphasize that they are a complement and not a substitute for other macroeconomic policies, and that they should be adjusted dynamically to avoid their elusion. Nevertheless, they emphasize that there is no reason to discriminate against regulations on outflows or to favor price-based (taxes or unremunerated reserve requirements) over quantitative or administrative regulations (limits or prohibition of certain transactions), which may be more effective in practice. Furthermore, these alternative sets of regulations respond to the fact that the IMF Articles of Agreement recognize that countries are free to regulate capital flows; a debate that was settled in 1997 when the then Managing Director, Michel Camdessus, proposed the introduction of capital account convertibility as an obligation under the IMF Agreement, but the initiative did not raise the required consensus in the midst of the East Asian crisis then under way.

3. Crisis resolution

The North-Atlantic financial crisis generated the most ambitious response of official counter-cyclical financing in history. This response included a rapid expansion of IMF financing, as well as that of multilateral development banks (MDBs). Both benefited developing countries, but IMF financing also helped some developed countries. This was accompanied by the largest issuance of Special Drawing Rights (SDRs) in history, an issue that will be considered in the next section.

At the regional level, this was reinforced by old and new mechanisms in Europe and by the Chiang Mai Initiative of ASEAN + 3 (China, Republic of Korea, and Japan). In the first case, it involved both financing mechanisms for EU members (the Balance of Payments Assistance Facility, a preexisting mechanism,

and the new European Financial Stabilization Mechanism), but particularly for euro members (the temporary European Financial Stability Facility put in place in 2010, and the permanent European Stability Mechanism inaugurated in October 2012). In turn, the Chiang Mai mechanism was expanded to $240 billion and multilateralized, and a monitoring unit to support it was put in place in Singapore, but it has not been used thus far. A small, preexisting, and very successful institution of its kind is the Latin American Reserve Fund (FLAR, according to its Spanish acronym), made up of the Andean countries, Costa Rica, Uruguay, and Paraguay. Other mechanisms are in place or have been created in other parts of the world (IMF, 2013).

There was also an expansion of financing by the major central banks and the increase, again without precedent, of swap lines among central banks. Those from the US Federal Reserve benefited central banks from developed countries but also—though only temporarily—some emerging economies (Brazil, Republic of Korea, Mexico, and Singapore). China has also created swap facilities for some other emerging countries and its development bank has facilitated financing on a relatively large scale to other emerging and developing countries.

In any case, this expansion of official financing was smaller than the initial contraction of private sector financing. Also, notoriously, the weakest response was that of official development assistance—which only modestly increased during the early phase of the crisis and has declined after peaking in 2010 (United Nations, 2013)—a victim of austerity programs in place in developed countries. The net result of this is that, to a large extent, the crisis response benefited high- and middle-income, rather than low-income countries (Griffith-Jones and Ocampo, 2012).

As Figure 1.1 shows, the IMF has provided counter-cyclical financing, which significantly increased from the early 1980s to the early 2000s as a response to the series of crises in the emerging and developing world: the debt crisis (primarily in Latin America) in the 1980s, the shorter Mexican turmoil in December 1994, and the succession of crises in the emerging economies that began in East Asia in 1997. With the exuberance that characterized private capital markets in the mid-2000s, IMF financing fell sharply and in fact forced a reduction in the size of its staff. The direct and contagion effects of the North-Atlantic financial crisis led to the sharpest increase in financing, soon surpassing the previous 2003 peak. Equally interesting is that for the first time since the 1970s, several high-income Western European countries used those facilities: Iceland in 2009, Greece and Ireland in 2010, Portugal in 2011, Greece again in 2012, and Cyprus in 2013. Several Central and

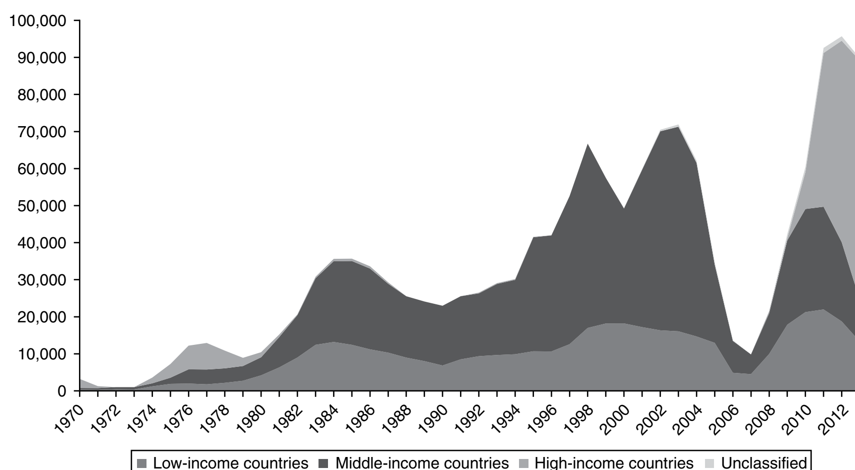

Figure 1.1 IMF loans by level of development (million SDRs)

Source: International Monetary Fund database. The classification of countries according to 2000 World Bank criteria; this year is considered more representative of countries' levels of development for the whole period covered in this graph.

Eastern European countries also did, with Hungary, Romania, and Ukraine—all classified as middle-income countries—as the largest borrowers among them. In addition to the financing recorded in Figure 1.1, which refers to disbursements, precautionary credit facilities were created during the crisis, but have not been disbursed.

This process was the result of a major redesign of credit facilities, particularly in 2009 and 2010. Facilities had already expanded during the emerging economies' crises of the late twentieth and early twenty-first century, primarily to respond to the extensive financial needs created by the sudden stop of private sector financing during crises. The major novelty was the 1997 Supplementary Reserve Facility. There was also an attempt to create a contingency credit line, but it was eliminated in 2003 because no country made use of it. An early attempt in 2008 to create a new line of this type also failed to attract borrowers.

The reform adopted in March 2009 was probably the most ambitious in history, and was adjusted later to improve its novel features (IMF, 2009b). They included the creation of a new preventive facility—the Flexible Credit Line (FCL)—for countries with solid fundamentals but with risk of contagion, which was soon demanded by three emerging economies (Colombia, Mexico, and Poland). It was improved in August 2010, both in terms of its size as well as the period for which it can be utilized (from one to two years). In turn, the size of the other credit lines was doubled, and it was agreed that the stand-by facilities could also

be used with preventive purposes. The reforms also included the elimination of some preexisting lines.[9]

This was followed in December 2009 by a reform of the concessional facilities for low-income countries, which moved from a single design to a menu of options, based on two factors: the level of indebtedness and their macroeconomic and public finance management capacity. Within this framework, countries where debt vulnerabilities are high will always have concessionary loans, but those with limited debt vulnerability and high capacity can eventually access nonconcessionary facilities.

Continuing with the task of improving the precautionary facilities, a new facility—the Precautionary Credit Line—was created in August 2010 for countries with sound policies, but which do not meet the requirements of the FCL. This facility was transformed into the Precautionary and Liquidity Line, to allow countries to use it to obtain rapid disbursement funds for six months.

It should be noted that as a result of the strong criticism of the IMF programs during the Asian crisis, there has been a long-term effort to reform the conditionality associated with such programs. Conditionality had been subject to a heated debate as a result of its enhancement during the 1980s and 1990s. In 2002, the IMF Board approved the principle that structural conditions had to be "macro-relevant." This implied that they had to be necessary to achieve the objectives of the macroeconomic adjustment program, and that the IMF had to be flexible and sensible to the adoption of alternative policies proposed by countries. This was followed by the creation of preventive credit lines with no ex-post conditionality (though with ex-ante conditions) and the elimination, in 2009, of the link between disbursement and fulfillment of structural conditions.

A major evaluation of the implementation of this policy was undertaken in 2008 by the IMF's Independent Evaluation Office (IEO), based on lending from 1995 to 2004 (IMF-IEO, 2007). This evaluation concluded that there had not been a significant reduction in the number of structural conditions after the 2002 reform, but that conditionality had moved from the areas subject to heated controversy (privatization of state-owned enterprises and trade reforms), to macro-relevant areas (tax policy and administration, public expenditure management and financial sector reform). A later analysis of 2008–9 stand-by programs indicated that the number of conditions had fallen significantly in relation to those estimated in the IMF-IEO's study (from nineteen to twelve, on average) and had continued to concentrate in macro-relevant areas, but that

these advances were less typical in programs for low-income countries (Griffith-Jones and Ocampo, 2012).

The issue of conditionality is central to the "stigma" associated with IMF financing. Hence, the importance of lending by MDBs, which has no stigma associated with it, as well as the importance of the design of the particular mix of regional with IMF financing. In the latter case, support by the European funds has been done largely together with the IMF, in the hope of building on its experience with emergency balance of payments lending. However, this has generated friction between the European institutions and the IMF, notably in the treatment of unsustainable debts. There is also a general perception that the unwillingness to use the Chiang Mai facilities is associated with the IMF stigma in East Asia, because beyond a certain level (30% of available swap facilities), the use of these facilities requires an IMF program.

In relation to MDBs, the crisis placed their counter-cyclical role at the center of the global agenda—an issue that most of them had not recognized prior to the crisis—together, of course, with poverty reduction and the provision of international public goods. Increased financing by the MDBs during crises should not be considered liquidity financing, but mainly financing for counter-cyclical fiscal programs and for programs aimed at facilitating the recovery of private sector investment during crises, but their disbursement obviously increases the foreign exchange available to countries. Interestingly, the recognition of the counter-cyclical functions of MDBs has also been highlighted in relation to the European Investment Bank, as well as to national development banks, which played a crucial role in generating a strong early recovery of several emerging economies (including Brazil, China, and India) during the North-Atlantic crisis. The Obama Administration has even proposed the creation of a development bank for infrastructure in the United States.

As Table 1.1 indicates, the MDBs serving emerging and developing countries increased their commitments by 124 percent in 2009–10 compared to their average level of lending in 2004–7. Increased disbursements came with a lag, which occurred despite the use or creation of fast-track facilities in all of them. All of the major institutions played an important role, and remarkably so the World Bank's International Bank for Reconstruction and Development (IBRD). Regional development banks also rapidly expanded their lending, notably the Asian and African Development Banks. The least dynamic was the World Bank's International Development Authority (IDA), confirming again the lesser priority given to low-income countries in the counter-cyclical financial support.

Table 1.1 Lending by multilateral development banks, 2004–12 (million dollars)

	2004	2005	2006	2007	2008	2009	2010	2011	2012
COMMITMENTS									
World Bank/IBRD	11,045	13,611	14,135	12,829	13,468	32,911	44,197	26,737	20,582
World Bank/IDA	9,035	8,696	9,506	11,867	11,235	14,041	14,550	16,269	14,753
International Finance Corporation (IFC)	4,753	5,373	6,703	8,220	11,399	10,547	12,664	12,186	15,462
Subtotal World Bank Group	24,833	27,680	30,344	32,915	36,101	57,499	71,411	55,192	50,797
African Development Bank	4,326	3,277	3,904	4,895	5,435	12,643	6,314	8,782	6,536
Asian Development Bank	5,039	5,761	7,389	10,770	12,174	20,389	18,935	21,717	21,571
European Bank for Reconstruction and Development	5,093	5,346	6,149	7,664	7,464	10,987	11,924	12,659	11,437
Inter-American Development Bank	5,468	6,738	5,774	8,812	11,085	15,278	12,136	10,400	10,799
Subtotal regional banks	19,926	21,122	23,216	32,141	36,158	59,296	49,309	53,558	50,344
TOTAL	44,759	48,802	53,560	65,056	72,259	116,795	120,720	108,750	101,140
DISBURSEMENTS									
World Bank/IBRD	10,109	9,722	11,833	11,055	10,490	18,564	28,855	21,879	19,777
World Bank/IDA	6,936	8,950	8,910	8,579	9,160	9,219	11,460	10,282	11,061
International Finance Corporation (IFC)	3,152	3,456	4,428	5,841	7,539	5,640	6,793	6,715	7,981
Subtotal World Bank Group	20,197	22,128	25,171	25,475	27,189	33,423	47,108	38,876	38,819
African Development Bank	2,042	1,842	1,863	2,553	2,866	6,402	3,867	4,873	5,193
Asian Development Bank	3,559	4,745	5,758	6,852	8,515	10,581	7,976	8,266	8,592
European Bank for Reconstruction and Development	4,596	2,859	4,768	5,611	7,317	7,649	7,950	9,320	7,711
Inter-American Development Bank	3,768	4,899	6,088	6,725	7,149	11,424	10,341	7,898	6,883
Subtotal regional banks	13,965	14,345	18,477	21,741	25,848	36,056	30,133	30,357	28,379
TOTAL	34,162	36,473	43,648	47,216	53,037	69,479	77,241	69,233	67,198

Source: Reports of the different banks. IBRD, IDA, and IFC data refer to the fiscal years ending in June.

Among regional development banks, the least dynamic was the European Bank for Reconstruction and Development, which serves the transition economies.

One of the most interesting responses by MDBs to the crisis was also the rapid way in which they addressed the paralysis of trade financing. The resources that they committed for that purpose were $9.1 billion, on top of the $3.2 billion that they were already providing. Due to the high rotation of trade credits, these resources provided much larger amounts of financing. An evaluation by the International Chamber of Commerce (ICC) in the midst of the crisis indicated that 55 percent of the banks they analyzed were using the resources of MDBs in the summer of 2009 (ICC, 2009).

Increased lending required a capitalization of all major institutions. The G-20 agreed in April 2009 to support the capitalization of MDBs. The Asian and African Development Banks agreed in 2009 to a 200 percent increase in their capital. Although the expectations of the Latin American and Caribbean countries were not fulfilled, the Inter-American Development Bank also agreed to a capitalization of $70 billion in March 2010, which represented close to a 70 percent rise in callable capital. This was followed by a 50 percent increase in capital of the European Bank for Reconstruction and Development, which was agreed in May 2010. The President of the World Bank initially argued that due to the institution's capital cushions, the IBRD did not require additional capital. However, in April 2010, it agreed on a capital increase of $86.2 billion, which included a general increase of $58.4 billion and a selective one for $27.5 billion to allow emerging and developing countries to enlarge their share in the institution's capital. This capitalization was clearly insufficient and implies that in the future, the World Bank would be unable to respond to a new sudden halt in external financing for developing countries the way it did during the North-Atlantic financial crisis. In fact, as Table 1.1 indicates, IBRD financing has declined sharply from its peak, though it has remained above pre-crisis levels. This is not true of IDA and IFC, which have been more resilient; in fact, the IFC has continued to expand quite dynamically. Regional development banks have also been resilient, but some—notably the Inter-American Development Bank—have reduced financing in recent years.

Nonetheless, the amount of financing provided by the MDBs was much smaller than the initial contraction of private external financing, and this is also true of the IMF.[10] Since private capital markets recovered relatively quickly (starting in mid-2009), this implies that their role in mitigating the sudden stop in external financing was moderate at best. This also implies that official financing can only moderately smooth out boom-bust cycles in private financing, and that the

main instrument to reduce the volatility of external financing is the regulation of capital accounts, particularly regulation on inflows during the boom phase of the cycle.

Finally, the crisis response cannot rely exclusively on emergency financing, as the availability of such financing could raise moral hazard issues for private sector lenders and/or public sector borrowers. Emergency financing serves to correct the problems of access to liquidity during crises from turning into insolvency, but is not adequate to manage problems of over-indebtedness. This is why a regular institutional framework to manage debt overhangs at the international level must be created: a debt workout mechanism for sovereign debts similar to those that help manage bankruptcies in national economies.

The only regular institutional mechanism of this type is the Paris Club, which deals exclusively with official financing. To this we should add two ad-hoc initiatives: the Heavily Indebted Poor Countries (HIPC) Initiative launched in the mid-1990s and its successor, the 2005 Multilateral Debt Relief Initiative. For private obligations, the system has relied in the past on ad-hoc mechanisms, such as the 1989 Brady Plan, but has essentially depended on traumatic individual debt renegotiations, including those with banks under the so-called London Club(s). The problem with all of these mechanisms is that solutions come generally (or even always) too late, after over-indebtedness has had devastating effects on countries. They are also horizontally inequitable, because they do not treat all debtors or all creditors with uniform rules.[11]

This issue was a subject of significant attention by the IMF after the emerging countries' crisis of the late twentieth century, leading to the proposal to create a Sovereign Debt Restructuring Mechanism (SDRM), which was subject to heated debates from 2001 to 2003. However, the negotiations failed due to the opposition of both major developed and emerging economies. So, the only initiative that was put in place by the Finance Ministers' G-20 was the spread of collective action clauses (CACs) in bond contracts. During the current crisis, it is generally accepted that the only debt reduction agreed in the European periphery—that of Greece—came too late, after many private creditors had already been bailed out by EU members; the IMF has also argued that the exception given to Greece regarding the criteria for debt sustainability required for IMF loans was an inadequate response.

A debt workout mechanism should include a mediation mechanism and, if it fails, an arbitration process, which should encompass both public and private sector liabilities (United Nations, 2009: ch. 5). Market-based restructuring mechanisms—based on London Club negotiations—or the active use of CACs

are clearly insufficient, because: (i) debtors may delay using the mechanism to avoid antagonizing creditors; (ii) they may provide insufficient debt reductions to guarantee a "fresh start"; and (iii) they do not generate a uniform treatment of creditors and fail to treat official and private lending with a unique set of rules, thus maintaining the horizontal inequities of the current nonsystem. In the case of CACs, they also face aggregation problems. Individual debt renegotiations, even successful ones, continue to generate significant legal uncertainties as the disputes between holdouts and Argentina in US courts in 2013–14 indicate.

4. Macroeconomic policy cooperation and international monetary reform

There is probably no area with greater tensions between the globalization process and the persistence of policies that continue to be national—or, in the case of the euro area, partly regional[12]—than in the macroeconomic field. The net result is the world lacks a mechanism that guarantees the consistency of the macroeconomic policies of the major economies, including the one that issues the main global currency.

The IMF constitutes the major multilateral instrument of macroeconomic policy dialogue and cooperation. Article I of the IMF's Agreement defines as its first purpose: "To promote international monetary cooperation through a permanent institution which provides the machinery for consultation and collaboration on international monetary problems." However, most forms of macroeconomic cooperation have tended to take place in ad-hoc arrangements outside the IMF.

The original Bretton Woods international monetary arrangement collapsed in the early 1970s and was not replaced by a coherent system—or, rather, it can be said that it was replaced by a "nonsystem." The major reform efforts were the creation of the IMF's SDRs in 1969 and the attempt to agree on a new international monetary system, possibly based on the SDRs, after the unilateral abandonment by the United States of the convertibility of dollars for gold in August 1971. The discussions took place in the so-called Committee of Twenty, but were unable to lead to any fundamental agreement (Williamson, 1977). The nonsystem that evolved is characterized by the central role played by domestic *fiduciary* currency, with countries being able to adopt any exchange rate system they choose, so long as they guarantee a stable system (rather than

stable exchange rates), and avoid "manipulating" the exchange rates—with no agreement, however, on what manipulation means.

This system has faced several problems. First of all, the monetary policy of the major reserve-issuing country is adopted without taking into account its spillover effects on the rest of the world. Second, since most advanced countries chose a flexible exchange rate, there was an implicit decision to let flexible rates adjust the discrepancies in the policies of these economies (Padoa-Schioppa, 2011). However, it can be argued that exchange rate flexibility does not operate as an effective mechanism to reduce global imbalances; the volatility that characterizes major bilateral exchange rates also tends to increase during crises with no effect in terms of correcting these imbalances. Third, the major emerging economy, China, continues to have limited flexibility, and most major oil-exporting countries continue to peg to the dollar. European countries also chose to have limited exchange rate flexibility among themselves, and most of them eventually converged into a monetary union. For all of these reasons, it can be said that, even more than the Bretton Woods arrangement, the system lacks sufficient adjustment mechanisms.

This is reflected in the generation of major global imbalances, which became massive before the 2007–8 North-Atlantic financial crisis. The major US deficit had as counterparts the surpluses of oil-exporting countries, China, Japan, and the East Asian Newly Industrializing Economies (NIEs) (Figure 1.2). The United States went from a relative equilibrium position in its current account to a deficit of around 6 percent in 2005–6. The depreciation of the US dollar since 2003 helped reduce such imbalance, but only in a moderate way and with a significant lag. The major correction took place during the North-Atlantic crisis and helped to spread the US recession to the rest of the world, as indeed it has been true of previous reductions in US imbalances around 1980 and 1990, which were also accompanied by major global slowdowns.

Imbalances initially fell with the outbreak of the crisis. As a counterpart of the sharp initial reduction in the US deficit, the surpluses of the oil-exporting countries and China also fell. However, this was soon followed by new imbalances. The most important of these included the renewal of the surpluses of the oil-exporting countries, and the change in the EU from a moderate current account deficit to a major surplus. The most important counterpart was the change in the position of non-oil, non-East Asian emerging and developing countries ("other emerging and developing countries" in Figure 1.2) from a moderate to a massive deficit. In a significant sense, and since the Chinese surplus has fallen, this means that adjustment in the EU has been made at the cost of emerging

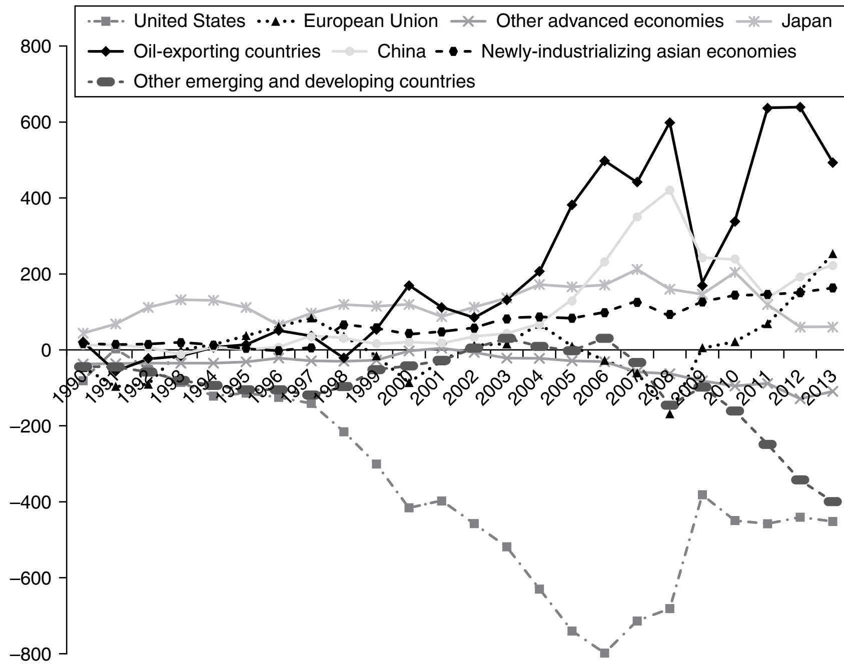

Figure 1.2 Current account balances (billion dollars)

Note: Oil-exporting countries: Angola, Bahrain, Iran, Iraq, Jordan, Kuwait, Libya, Oman, Qatar, Russia, Saudi Arabia, United Arab Emirates, and Venezuela. Newly industrializing Asian economies: Hong Kong, Republic of Korea, Singapore, and Taiwan POC.

Source: IMF, *International Financial Statistics*.

and developing countries. In any case, these "beggar-thy-neighbor" policies have been relatively ineffective in supporting a strong European recovery, as export-led strategies can be effective to support the recovery of small but not of large economies.

In turn, within the European Union, this reflects the massive adjustment in the countries of the periphery—in order of magnitude, Spain, Greece, Portugal, and Ireland—while maintaining the surpluses of other countries, particularly that of Germany. This is in fact one of the best examples of Keynes' assertion that the major problem of the international monetary system is the asymmetry between the need for deficit countries to adjust during crises and the lack of any pressure for surplus countries to do so, which generates a deflationary (or, more properly, recessionary) bias (Keynes, 1943). This has also called attention to the problems associated with the relations between the international monetary systems and payments imbalances, and more generally between the former and global macroeconomic stability.

For decades, mechanisms of macroeconomic policy coordination have tended to work outside the IMF and have not been particularly effective. In the 1980s, they included the ad-hoc agreements among major economies—the 1985 Plaza and 1987 Louvre Accords—mainly aimed at reducing the Japanese surplus. In fact, it may be argued that these agreements are part of the explanation for the massive appreciation of the Yen and the Japanese asset price bubble of the second half of the 1980s, which eventually generated a financial crisis and a lost decade in Japan. Cooperation then shifted to the G-7, and since the outbreak of the North-American financial crisis, to the G-20.

G-20 macroeconomic cooperation worked relatively well in the early stages of the crisis, when it assumed the form of a "Keynesian consensus." The peak level of cooperation was reached at the London April 2009 meeting and continued in the September 2009 Pittsburgh meeting, when the Group self-designating itself as "the premier forum for our international economic co-operation" (G-20, 2009). The launch of the counter-cyclical financing mechanisms mentioned in the previous section was matched by a temporary agreement to adopt expansionary monetary and, to a lesser extent, fiscal policies. Informal coordination among leading developed countries' central banks had already been in place, and was particularly critical during the outbreak of the subprime crisis in the United States in mid-2007, and the major global contagion associated with the bankruptcy of Lehman Brothers in September 2008. Pittsburgh also marked the launch of the Mutual Assessment Process (MAP) as the instrument of cooperation among major economies. The June 2010 G-20 summit in Toronto represented the end of the "Keynesian consensus," because several developed countries decided to prioritize public sector debt sustainability over their support to recovery. Even the European Central Bank made the wrong decision to start moving in the direction of less expansionary policies in 2011, before shifting again into the expansionary path at the end of the year.

In February and April 2011, the G-20 Finance Ministers and Central Bank Governors agreed that the macroeconomic cooperation would focus on "the persistently large imbalances that require policy action," which they defined as: "(i) public debt and fiscal deficits; and private savings and private debt (ii) and the external imbalances composed of the trade balance and net investment income flows and transfers, taking due consideration of exchange rate, fiscal, monetary, and other policies" (G-20, 2011a). This was followed by the agreement on the indicative guidelines against which each of the indicators would be assessed, based both on economic models and countries' historical trends (G-20, 2011b). The main technical support is provided by the IMF, which has been asked "to

assess the coherence, consistency, and mutual compatibility of G-20 members' policy frameworks" (IMF, 2011c). This activity, which is defined as "technical assistance to G-20 members," generates an obvious tension between the truly multilateral character of the IMF and the specific ownership of the MAP by the G-20—or perhaps even by a subgroup of G-20 members.

This has been combined with a proper IMF activity: the strengthening of surveillance, both multilateral and bilateral. At the multilateral level, this includes the regular IMF biannual analyses of the global economy, global financial stability, and a new fiscal monitor. It also includes a "Consolidated Multilateral Surveillance Report," launched in 2009; the "spillover reports" for the "systemic 5" (the United States, Eurozone, the United Kingdom, Japan, and China); and, most recently, the "External Sector Reports" assessing global imbalances, the first of which was issued in July 2012. In turn, the most important instrument of bilateral surveillance continues to be the Article IV Consultations. Its major changes are the more in-depth consideration of financial issues, and the commitment to more "candid" assessments of major economies. In 2010, it was also decided that all jurisdictions with systemically important financial sectors must be subject to Financial Sector Assessments Programs (FSAP).

The world had never such an elaborate system of surveillance and macroeconomic policy cooperation; but it continues to rely essentially on a mix of stronger surveillance and peer pressure, which have proven to be weak forces. This is reflected, in particular, in the limited attention to the spillovers generated by expansionary monetary policies of developed countries on emerging markets and associated "currency wars"—to use the term coined by the Brazilian finance minister—and, as we have seen, the incapacity to avoid austerity in the Eurozone from generating new global imbalances. As also indicated, this implies that, following Keynes' diagnosis, asymmetric European adjustment has also generated a global recessionary bias.

It is important to note that, aside from the recessionary bias of asymmetric adjustment, the international monetary system has two additional deficiencies (Ocampo, 2010 and 2011). One is what the literature has come to call the "Triffin dilemma": the problems generated by the dependence of the *international* reserve system on a *national* currency—or, more generally, on a limited number of national or regional currencies (Triffin, 1961 and 1968; Padoa-Schioppa, 2011). Given the fiduciary character of the currency at the center of the system since the early 1970s, the most important manifestations of this problem in recent decades have been the strong cycles in the value of the dollar and the US current account, which are transmitted to the global economy.

An additional deficiency, which affects emerging and developing countries in particular, is the need to accumulate large amounts of foreign exchange reserves as "self-insurance" in the absence of proper global regulation of, and insurance against capital account volatility. Indeed, the strong pro-cyclical pattern of capital flows and the lack of an appropriate international architecture to manage balance of payments crises, which originate in the capital account, have led these countries to accumulate massive reserves—particularly after the emerging economies' crisis of the late twentieth century. Figure 1.3 shows that until the end of the 1980s, the level of reserves of developing countries, with the exception of China and oil-exporting countries, was similar to that of developed countries: around 3 percent of GDP. Trends started to diverge in the 1990s, but especially in the early twenty-first century. By 2007, middle-income countries, excluding China, had reserves equivalent to 20 percent, and low-income countries to 9 percent of GDP. China's reserves had reached 40 percent, and an even higher proportion was reached in the Persian Gulf countries. In contrast to this, reserves of high-income countries, with the exception of Japan, continued to be around 2–3 percent of GDP. After a short interruption during the North-Atlantic crisis, reserve accumulation resumed, as capital flows toward emerging economies experienced an early recovery.

Reserve accumulation provided emerging and developing countries an exceptional level of insurance, as well as equally unprecedented policy space to adopt expansionary monetary policies during the North-Atlantic financial crisis, in open contrast with previous crises. However, it has also generated inequities—because reserve accumulation has costs—and it may have contributed to global imbalances. Notably, the demand for "safe assets" increased their prices and reduced their yield, possibly contributing to the asset bubbles that characterized the boom years. To the extent that reserve accumulation reflects strong current accounts, it also contributes to the generation of a global recessionary bias, which was attenuated prior to the crisis by US and the European periphery's deficits. In broader terms, though reserve accumulation obviously has positive effects on countries, they also generate "fallacy of composition" effects that feed into global imbalances.

The three deficiencies of the global monetary system—the recessionary bias associated with asymmetric adjustments, the Triffin dilemma, and the need for massive "self-insurance" by emerging and developing countries—are, in variable ways, at the center of the reform proposals formulated at the beginning of the crisis. They included the proposal by China's central bank governor to gradually eliminate the role that the dollar plays at the center of the system (Zhou, 2009).

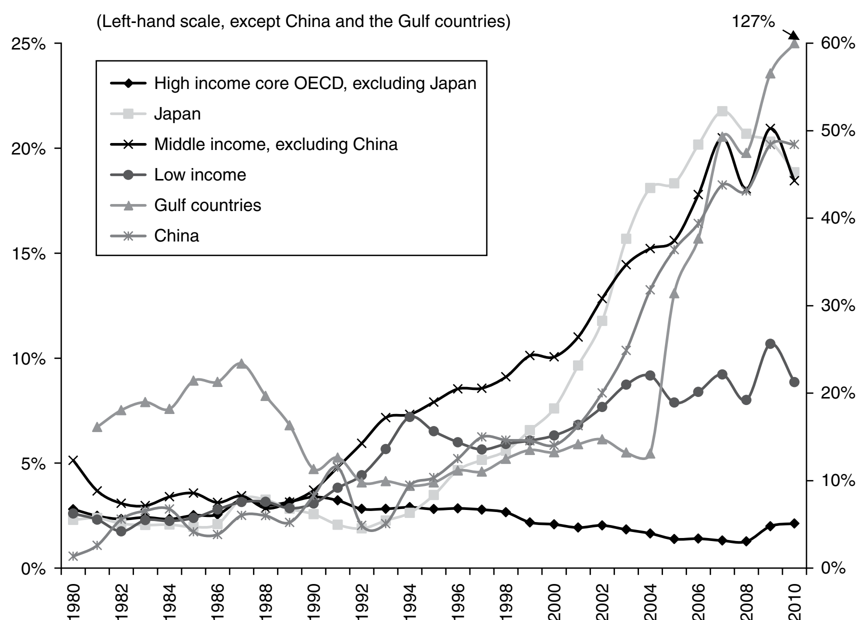

Figure 1.3 Foreign exchange reserves by level of development (% of GDP)
Source: Total reserves minus gold series, World Bank, World Development Indicators, based on information from the IMF.

In turn, the Commission of Experts convened of the President of the UN General Assembly on Reforms of the International Monetary and Financial System (Stiglitz Commission) proposed that reforms of the global reserve system should be at the center of the global reform agenda (United Nations, 2009). The Palais Royal Initiative, convened by Michel Camdessus, Alexandre Lamfalussy, and Tommaso Padoa-Schioppa also presented a series of reform proposals on February 2011 (Boorman and Icard, 2011). However, actions have been limited and the reforms of the international monetary system did not fully enter into either G-20 or IMF debates.

The most important action was the largest issuance of SDRs in history, agreed to in 2009 for the equivalent of $250 billion. It should be remembered that since the initial SDRs were issued in 1970–2, new allocations have been associated with crises: 1979–81, 1997, and 2009. The allocation of 1997 only became effective in mid-2009 when the US Congress approved the amendments of the IMF Articles of Agreement, of which it was part (as it involved allocation to members who had joined in the 1990s). However, this instrument of cooperation still has limited effects. This is due primarily to the limited share—less than a third (see Table 1.2)—going to developing countries, which are the most active users

Table 1.2 SDR allocations by level of development (in millions of SDRs)

	Allocations (million SDRs)			**Allocation to each group by percent of total allocations**		
	1970–2	1979–81	2009	1970–2 (%)	1979–81 (%)	2009 (%)
High income: OECD	6,796	7,906	109,095	73.6	65.8	59.7
United States	2,294	2,606	30,416	24.8	21.7	16.7
Japan	377	514	11,393	4.1	4.3	6.2
Others	4,125	4,786	67,286	44.7	39.8	36.8
High income: non-OECD	17	127	3,372	0.2	1.1	1.8
Gulf countries	0	78	2,057	0.0	0.7	1.1
Excluding Gulf countries	17	49	1,315	0.2	0.4	0.7
Middle income	1,507	2,758	55,062	16.3	22.9	30.1
China	0	237	6,753	0.0	2.0	3.7
Excluding China	1,507	2,521	48,309	16.3	21.0	26.4
Low income	913	1,226	15,125	9.9	10.2	8.3
Total allocations	9,234	12,016	182,653	100.0	100.0	100.0

Source: See Figure 1.1.

of this instrument. Their use is also limited, because they essentially operate as an unconditional overdraft facility rather than a full reserve asset (Erten and Ocampo, 2014).

In any case, the emission of SDRs gave way to a debate on the need to make regular and large allocations. Existing proposals include a variable mix of several recommendations: (i) the transformation of SDRs into a full reserve asset; (ii) a more active use of this instrument, by using it in particular to finance IMF lending; (iii) the inclusion of a "development dimension" in the allocation, by increasing the share of emerging and developing countries, recognizing that they have the largest demand for reserves; (iv) using SDRs for development programs, or to help finance the provision of global public goods, particularly to combat climate change; (v) the creation of a "substitution account" to manage shifts in the currency composition of reserves, to avoid their effects on foreign exchange market, following proposals that go back to the 1970s and that become increasingly relevant in a world of diversified reserve composition; and (vi) allowing the private use of this instrument to transform it into a true global currency. Most of these reforms would require a change in the IMF Articles of Agreement.[13]

After its 2009 proposal to reduce the role of the dollar, China focused on the internationalization of the Renminbi. This included the growing role of its central bank in swap arrangements, lending by its development bank (largely associated, in turn, to financing of Chinese exports), allowing Hong Kong to gradually create a market for Renminbi-denominated financial transactions and assets, and more recently London as a center for foreign exchange transactions undertaken in that currency. These moves will position the Chinese currency in a system that allows different currencies to compete among themselves. However, it is likely to succeed only partially, due to the advantages that the dollar will continue to have in the system—including providing the most liquid market in the world for dollar-denominated securities, an advantage that China is unlikely to enjoy for a long time. The Chinese Renminbi would require much larger financial liberalization in China, a step that it would have to carefully gauge on the basis of its domestic policy goals, particularly the financial instabilities that are associated with a more open capital market.[14]

5. Governance

Governance reforms in the international monetary and financial architecture should involve three interrelated issues. The first one is the design of a more representative international institution at the apex of the system, which would replace but could also evolve out of the G-20. The second is to broaden and strengthen the participation of emerging and developing countries in "international economic decision-making and norms-setting," as called forth by the Monterrey Consensus (United Nations, 2002, par. 62). The third is to design a "dense," multilayered architecture, in which global, regional, and subregional institutions interact in a constructive way.

In the first area, as mentioned earlier, the G-20 designated itself in 2009 as the premier forum for macroeconomic and financial cooperation of major economies. In terms of developing countries' representation in economic decision-making, the G-20 has been, of course, a step forward compared to the G-7. The preference for "Gs" over representative international institutions—"elite multilateralism," as I have called it (Ocampo, 2011)—has been a historical bias of major developed countries, which prefer institutional mechanisms over which they can exercise direct control. Yet, this creates major problems, because ad-hoc, self-appointed bodies cannot replace representative institutions in a well-structured international institutional architecture.

The defense of such a structure is based on the idea that inclusiveness is sacrificed for the sake of effectiveness (Bradford and Lim, 2011). However, the G-20 is an unclear success story in this regard. Following the analysis in previous sections, it can be argued that it exercised leadership in the area of financial regulation and created new forms of macroeconomic cooperation. However, after a good start, its effectiveness has declined and, in general, it has failed to deliver on its commitment to generate "strong, sustainable and balanced global growth" (G-20, 2009, par. 13). Performance has also been weak in terms of representation, contribution to the coherence of the global system of governance, and the lack of an effective secretariat supporting the continuity of its actions (Ocampo and Stiglitz, 2011).

Accordingly, a better option would be to transition toward a more representative, and thus legitimate, mechanism of international cooperation. In this regard, the best recent proposal was that made by the Stiglitz Commission to create a Global Economic Co-ordination Council (United Nations, 2009, ch. 4). This Council would direct, coordinate, and enhance cooperation among all institutions that are part of the UN system, including the BWIs and the WTO, which would become part of the system. It would identify and fill gaps in the current system of cooperation (e.g., the absence of a restructuring mechanism for sovereign debt), and strengthen synergies of different organizations in areas that need common attention—for example, environmental effects of trade policies, and effects of conflict on development, among many others. According to this proposal, the Council would be organized on the basis of constituencies, using a weighted voting system that would mix the economic weight of countries with basic votes. This voting structure would thus be akin to that of the BWIs, but it would correct the problems that the weighted votes of these organizations face today. The Palais Royal Initiative has also proposed the creation of a constituency-based organization as the apex of the international monetary system, which would replace the G-20 (Boorman and Icard, 2011, p. 24).

As mentioned earlier, the second of these reforms—enhancing the voice and participation of developing countries in economic decision-making—was launched at the UN Conference on Financing for Development that took place in Monterrey in 2002. Although this proposal predates the creation of the leaders' level G-20, the endorsement of the latter was critical for the reforms adopted in 2010, which in turn built upon the modest agreements reached in 2006 and 2007.[15] The reforms included the doubling of quotas, increasing basic votes, revising the allocation of quotas, reducing by two the European representatives in the IMF Board, and electing all of its members. Relative to the situation

prevailing before the Singapore 2006 annual meetings, where the first reforms were adopted, developing and transition economies increased their quota share by 3.9 percentage points and voting power by 5.3 points. The increase in quotas was largely concentrated in a few emerging economies—China, Republic of Korea, Brazil, India, Mexico, and Turkey, in that order—which gained in part at the expense of other emerging and developing countries. This was not the case of voting power, thanks to the increase in basic votes (Ocampo, 2011). In any case, this reform should be considered as part of an ongoing process, because it failed to correct the over-representation of Western Europe in the IMF and the under-representation of some emerging economies, particularly those of Asia. Furthermore, the reform is still not effective as of May 2014 because the US Congress has not approved the additional capital contributions, and that country has veto power on the implementation of major IMF decisions.

Other governance issues have been raised by the 2009 Commission for IMF Governance Reform headed by Trevor Manuel (IMF, 2009a) and the IMF's Independent Evaluation Office (IMF-IEO, 2008). A crucial issue is the selection of the head and senior management on the basis of transparent and open processes and the merit of the candidates, and regardless of nationality. Although these principles were endorsed by the G-20, the election of the IMF Managing Director in 2011 did not change preexisting practices, leading to the selection of another European candidate; the selection of the World Bank President in 2012 was similarly deficient, and once again led again to the choice of a US citizen.

The third element of governance reforms indicates that in a heterogeneous international community the creation of *networks* of global, regional, and national institutions can provide a better system of governance, because they give a stronger voice and a sense of ownership to smaller countries.[16] The best case in this regard is the system of multilateral development banks (MDBs), where the World Bank coexists with several regional and subregional banks, and an interregional one (the Islamic Development Bank). What this means in the case of the international monetary system is that the IMF of the future should be conceived as the apex of a network of regional reserve funds. A similar structure should be adopted for global financial regulation and supervision.

Regional arrangements in the monetary area have taken different forms—payment agreements, swap credit lines, reserve pools, common central banks—but today exhibit a rather hollow architecture.[17] As we saw in Section 3, the creation of a European Financial Stability Facility and the later European Stability Mechanism were the major developments in this area during the recent crisis. The Chiang Mai Initiative is the most ambitious involving emerging

economies, but has not been used so far. The Latin American Reserve Fund is a smaller very successful institution made up of eight small and medium-sized Latin American countries. The BRICS members have also announced the creation of a Contingent Reserve Arrangement to provide liquidity through currency swaps.

The links between the IMF and regional arrangements should be subject to a "variable geometry." In this regard, during the recent crisis, Europeans chose rescue packages in which the IMF was a partner (perhaps a junior partner) of the European institutions and involved programs with heavy conditionality. In contrast, as mentioned earlier, the strong "stigma" associated with IMF programs in East Asia explains why Chiang Mai has not been used, because beyond a certain limit, the use of its facilities requires an IMF program. As a result, countries that may have used the initiative during the recent crisis (possibly Indonesia and the Republic of Korea) did not do so. Eliminating the link with IMF programs is thus essential in this case. In turn, the use of the Latin American Reserve Fund has traditionally been delinked from any IMF program, and in fact has no conditionality attached to it.

6. Conclusions

The international monetary and financial architecture has experienced important reforms in recent years. They include: the strengthening of prudential regulation and supervision under the aegis of the Financial Stability Board, including the recognition of the role of macroprudential regulation; larger and better-structured counter-cyclical financing from a revitalized IMF; the creation of new regional financial arrangements; the capitalization of MDBs and the recognition of the role they play as counter-cyclical policy instrument; the largest issuance of SDRs in history; and the creation of an elaborate system of macroeconomic policy cooperation among major economies.

These actions have been limited in many ways. The regulatory framework still faces major gaps, including the regulation of shadow banking and the expansion of derivative exchanges. The IMF continues to face a "stigma" for many borrowers, and the Chiang Mai Initiative—the most elaborate system of balance of payments cooperation involving emerging and developing countries—has not been used thus far. The under-capitalization of the World Bank implies that in the future, it is unlikely to play the very active role it did during the North-American financial crisis in terms of providing counter-

cyclical financing. And, perhaps most importantly, the elaborate system of macroeconomic policy coordination has not avoided the creation of new global imbalances, the most important of which are the rising surplus of the EU and the rising deficits of a large group of emerging and developing countries. This implies that European adjustment has had "beggar-thy-neighbor" features as well as global recessionary effects, which have particularly affected emerging and developing countries.

Other elements of the architecture continue to be weak or absent. The first is the unsettled discussion as to the role of capital account regulations, a critical issue to provide policy space to emerging and developing countries in the face of capital account volatility. International monetary reform has not advanced beyond the large issuance of SDRs in 2009 and, particularly, has not taken steps to strengthen the role of SDRs in the global monetary system. This implies that the system continues to marginalize emerging and developing countries from reserve creation, except through the minority participation in SDRs allocations and the possibility of the Renminbi gradually becoming one of the secondary reserve currencies. And the world continues to lack a sovereign debt workout mechanism, which is essential for handling problems of overindebtedness in an orderly way.

Improvements in the policy space that emerging and developing countries have enjoyed have depended mainly on the "self-insurance" provided by the accumulation of foreign exchange reserves. But this is costly, implies a transfer of resources to reserve-issuing countries, and may contribute to the creation of global imbalances and the recessionary bias of the system. Thus, policy space would be enhanced by a fuller use of capital account regulations, even with some global features, further improvement in unconditional counter-cyclical financing mechanisms—including through the expansion of regional financing networks—a better system of macroeconomic policy cooperation that avoids beggar-thy-neighbor policies, and the creation of an effective international debt workout mechanism.

Finally, ongoing reforms have not been matched by changes in the governance of the system. Reforms in this area should involve three elements: the design of a more representative apex organization than the G-20; advancing further in the reform of "voice and participation" of developing countries in the Bretton Woods Institutions and the Financial Stability Board; and the design of a multilayered architecture, with active participation of regional and subregional institutions. Reforms have only been made in the second of these areas, and have had so far limited effects.

Notes

1 A prior version of this chapter was published by the Friedrich Ebert Stiftung in its International Policy Analysis series. It draws from my previous work on the subject, which has been supported by the Ford Foundation.

2 I prefer this term, to that of global financial crisis. Although it had global contagion effects, the crisis was essentially concentrated in the United States and Europe.

3 See, among the extensive literature on the subject, the papers collected in Ocampo and Stiglitz (2008), including the overview of that volume by Ocampo, Spiegel, and Stiglitz (2008).

4 See the papers collected in Griffith-Jones, Ocampo, and Stiglitz (2010). Three well-known commissions also analyzed the source of the crisis and the need for new policy responses: the de Larourière Commission (2009); the Commission of Experts of the President of the UN General Assembly on Reforms of the International Monetary and Financial System, also known as the Stiglitz Commission (United Nations, 2009); and the Warwick Commission (2009). *The Turner Review* also provided an insightful analysis (Financial Services Authority, 2009).

5 "Hedge" is the term generally used in the United States. "Alternative investment" is used in some European countries and is more appropriate, as these institutions undertake much more than "hedging" operations.

6 This was a transformation of the former Financial Stability Forum, which had been created by the Ministerial G-7, which was launched after the East Asian crisis.

7 For example, liquidity requirements were significantly reduced and their implementation delayed in early 2013.

8 The separation was introduced by the Glass-Steagall Act of 1933 but was eliminated by the Gramm-Leach-Billey Act of 1999. The latter was an initiative of the Clinton Administration, but some analysts considered that separation had *de facto* disappeared prior to the new legislation.

9 This included the Compensatory Finance Facility. It had been created in 1963 as a low-conditionality facility to finance countries facing deterioration in their terms of trade. It was a very important instrument in the 1970s, but then languished due to increased conditionality, and ceased to be used since 2000.

10 Based on World Bank data, it can be estimated that the contraction of private external financial flows (i.e., excluding foreign direct investment) toward emerging and developing countries was $534 billion between 2007 and 2008, or $249 billion if compared with 2006, to eliminate the peak 2007 levels. This compares to a peak increase in disbursements of MDBs of about $30 billion. IMF financing increased by SDR 90 billion or close to $140 billion, but a large amount was directed toward peripheral Europe.

11 See in this regard, the contributions to Herman, Ocampo, and Spiegel (2010).

12 This is true of monetary policy, as fiscal policy continues to be essentially national, though subject to regional rules and supervision. Financial policy is in a transition to a regional framework, based on the proposals for a "banking union"—an incomplete one, as we saw in Section 2.

13 For a more extensive analysis, see Erten and Ocampo (2014) and the contributions to the debate on the reforms of the global reserve system published by the *Journal of Globalization and Development*, vol. 1, no. 2. 2010. Some of the most interesting proposals go back to that of the late IMF economist Jacques Polak (1979) and the Committee of Twenty of the 1970s (Williamson, 1977). Ocampo (2011) provides a recent positive perspective on the role of SDRs, whereas Eichengreen (2011) presents a skeptical view.

14 See an analysis of the internationalization of the Renminbi in Yu (2012).

15 These governance reforms were matched by those of the World Bank, which I will not cover in this chapter.

16 See the contributions to Ocampo (2006).

17 See, in this regard, the contributions to Volz and Caliari (2010) and the evaluation of the IMF of its relations with regional financial institutions (IMF, 2013).

References

Basel Committee on Banking Supervision (2010). *The Basel Committee Response to the Financial Crisis; Report to the G-20*, October; available at: http://bis.org/publ/bcbs179.pdf

Boorman, Jack T. and André Icard (eds.) (2011). *Reform of the International Monetary System: The Palais Royal Initiative.* New Delhi: SAGE Publications.

Bradford, Colin I. and Wonhyuk Lim (2011). Introduction: Toward the Consolidation of the G20: From Crisis Committee to Global Steering Committee. In Colin I. Bradford and Wonhyuk Lim (eds.), *Global Leadership in Transition: Making the G20 More Effective and Responsive.* Seoul and Washington: Korea Development Institute and Brookings Institution Press, pp. 1–12.

Caruana, Jaime (2010). Basel III: Towards a Safer Financial System. Bank for International Settlements (BIS), September 15; available at: http://www.bis.org/speeches/sp100921.pdf

D'Arista Jane and Stephany Griffith-Jones (2010). Agenda and Criteria for Financial Regulatory Reform. In Stephany Griffith-Jones, José Antonio Ocampo, and Joseph E. Stiglitz (eds.), *Time for a Visible Hand: Lessons from the 2008 World Financial Crisis.* New York: Oxford University Press, chapter 7.

de Larousière Commission (2009). *The High-Level Group on Financial Supervision in the EU, Chaired by Jacques de Larousière.* Brussels, February 25.

Eichengreen, Barry (2011). *Exorbitant Privilege: The Rise and Fall of the Dollar and the Future of the International Monetary System*. New York: Oxford University Press.

Erten, Bilge and José Antonio Ocampo (2014). Building a Stable and Equitable Global Monetary System. In José Antonio Alonso and Giovanni Andrea Cornia/Rob Vos (eds.), *Alternative Development Strategies for the Post-2015 Era*. New York: Bloomsbury, United Nations Series on Development, chapter 9.

Financial Service Authority, United Kingdom (2009). *The Turner Review: A Regulatory Response to the Global Banking Crisis*, March.

Financial Stability Board (2013). Progress in Implementing the G-20 Recommendations on Financial Regulatory Reform. In *Status Report by the FSB Secretariat*, September 5.

Gallagher, Kevin P. and José Antonio Ocampo (2013). IMF's New View on Capital Controls. In *Economic and Political Weekly*, vol. XLVIII, no. 12, March 23, pp. 10–13.

Gallagher, Kevin P., Stephany Griffith-Jones, and José Antonio Ocampo (eds.) (2012a). *Regulating Global Capital Flows for Long-Run Development.* Boston: Boston University, Pardee Center Task Force Report, March.

Gallagher, Kevin P., Stephany Griffith-Jones, and José Antonio Ocampo (2012b). Capital Account Regulations for Stability and Development: A New Approach. In Kevin P. Gallagher, Stephany Griffith-Jones, and José Antonio Ocampo (eds.), *Regulating Global Capital Flows for Long-Run Development*. Boston: Boston University, Pardee Center Task Force Report, March, Executive Summary.

Griffith-Jones, Stephany and José Antonio Ocampo (2010). Building on the Counter-Cyclical Consensus: A Policy Agenda. In *Document Prepared for the Group of 24*; available at: http://173.254.126.101/~gtwofouo/wp-content/uploads/2014/03/Griffith-Jones-5.pdf

Griffith-Jones, Stephany and José Antonio Ocampo (2012). The International Financial Architecture Seen through the Lens of the Crisis: Some Achievements and Numerous Challenges. In José Antonio Alonso and José Antonio Ocampo (eds.), *Development Cooperation in Times of Crisis.* New York: Columbia University Press, chapter 3.

Griffith-Jones, José Antonio Ocampo, and Joseph E. Stiglitz (eds.) (2010). *Time for a Visible Hand: Lessons from the 2008 World Financial Crisis.* New York: Oxford University Press.

Group of Twenty (G20) (2009). *Leaders' Statement, The Pittsburgh Summit,* September 24–25; available at: http://www.g20.org/

Group of Twenty (G20) (2011a). *Communiqué, Meeting of Finance Ministers and Central Bank Governors.* Paris, February 18–19.

Group of Twenty (G20) (2011b). *Communiqué, Meeting of Finance Ministers and Central Bank Governors*. Washington, DC, April 14–15.

Group of Twenty (G20) (2011c). *G-20 Coherent Conclusions for the Management of Capital Flows Drawing on Country Experiences*, November 3–4.

Habermeier, Karl, Annamaria Kokenyne, and Chikako Baba (2011). The Effectiveness of Capital Controls and Prudential Policies in Managing Large Capital Inflows. In *IMF Staff Discussion Note SDN/11/14*, August 5.

Herman, Barry, José Antonio Ocampo, and Shari Spiegel (eds.) (2010). *Overcoming Developing Country Debt Crises*. New York: Oxford University Press.

International Chamber of Commerce, Banking Commission (2009). *ICC Trade Finance Survey: An Interim Report-Summer 2009*, September 4.

International Monetary Fund (2009a). *Committee on IMF Global Governance Reform: Final Report.* Washington, DC, March.

International Monetary Fund (2009b). IMF Implements Major Lending Policy Improvements. Washington, DC, March.

International Monetary Fund (2011a). *World Economic Outlook*, April.

International Monetary Fund (2011b). *Recent Experiences in Managing Capital Inflows: Crosscutting Themes and Possible Policy Framework*, February 14.

International Monetary Fund (2011c). *Review of the Fund's Involvement in the G-20 Mutual Assessment Process*, May 13.

International Monetary Fund (2012). *The Liberalization and Management of Capital Flows: An Institutional View*, November 14.

International Monetary Fund (2013). *Stocktaking the Fund's Engagement with Regional Financing Arrangements*, April 11.

International Monetary Fund Independent Evaluation Office (2007). *Structural Conditionality in IMF-Supported Programs*; available at http://www.imf-ieo.org/

International Monetary Fund Independent Evaluation Office (2008). *Governance of the IMF: An Evaluation*; available at http://www.imf-ieo.org/

Keynes, John M. (1943). The Keynes Plan. Reproduced. In J. Keith Horsefield (ed.), *The International Monetary Fund 1945–1965: Twenty Years of International Monetary Cooperation. Vol. III: Documents.* Washington, DC: International Monetary Fund, 1969, pp. 3–36.

Ocampo, José Antonio (ed.) (2006). *Regional Financial Cooperation.* Washington, DC: Brookings Institution and ECLAC.

Ocampo, José Antonio (2010). Reforming the Global Reserve System. In Stephany Griffith-Jones, José Antonio Ocampo, and Joseph E. Stiglitz (eds.), *Time for a Visible Hand: Lessons from the 2008 World Financial Crisis.* New York: Oxford University Press, chapter 16.

Ocampo, José Antonio (2011). *Reforming the International Monetary System*, 14th WIDER Annual Lecture, Helsinki: United Nations University World Institute for Development Economics Research (WIDER).

Ocampo, José Antonio and Joseph E. Stiglitz (eds.) (2008). *Capital Market Liberalization and Development*. New York: Oxford University Press.

Ocampo, José Antonio and Joseph E. Stiglitz (2011). From the G-20 to a Global Economic Coordination Council. In *Journal of Globalization and Development*, vol. 2, no. 2, Article 9.

Ocampo, José Antonio, Shari Spiegel, and Joseph E. Stiglitz (2008). Capital Market Liberalization and Development. In José Antonio Ocampo and Joseph E. Stiglitz (eds.), *Capital Market Liberalization and Development*. New York: Oxford University Press, chapter 1.

Ostry, Jonathan D. et al. (2010). Capital Inflows: The Role of Controls. In *IMF Staff Position Note SPN/10/04.* Washington, DC: International Monetary Fund, February 10.

Ostry, Jonathan D. et al. (2011). Managing Capital Inflows: What Tools to Use? In IMF Staff Discussion Note SDN/11/06. Washington, DC: International Monetary Fund, April 5.

Padoa-Schioppa, Tomasso (2011). The Ghost of Bancor: The Economic Crisis and Global Monetary Disorder. In Jack T. Boorman and André Icard (eds.), *Reform of the International Monetary System: The Palais Royal Initiative*. New Delhi: SAGE Publications, chapter 6.

Pisani-Ferry, Jean (2012). The Euro Crisis and the New Impossible Trinity, *Bruegel Policy Contribution*, January.

Polak, Jacques J. (1979). Thoughts on an International Monetary Fund Based Fully on SDR, *Pamphlet Series No. 28*. Washington, DC: International Monetary Fund.

Reinhart, Carmen and Kenneth Rogoff (2009). *This Time Is Different: Eight Centuries of Financial Folly*. Princeton: Princeton University Press.

Triffin, Robert (1961). *Gold and the Dollar Crisis* (revised edition). New Haven: Yale University Press.

Triffin, Robert (1968). *Our International Monetary System: Yesterday, Today and Tomorrow.* New York: Random House.

United Nations (2002). *The Monterrey Consensus on Financing for Development.* Outcome of the International Conference on Financing for Development, March.

United Nations (2009). *Report of the Commission of Experts Convened of the President of the UN General Assembly on Reforms of the International Monetary and Financial System* (Stiglitz Commission), United Nations, New York, September; available at: http://www.un.org/ga/econcrisissummit/docs/FinalReport_CoE.pdf

United Nations (2013). *The Global Partnership for Development: The Challenge We Face*, MDG Gaps Task Force Report 2013. New York: United Nations.

Volz, Ulrich and Aldo Caliari (eds.) (2010). *Regional and Global Liquidity Arrangements.* Bonn: German Development Institute and Center of Concern.

Warwick Commission (2009). *International Financial Reform,* November; available at: warwick.ac.uk/research/warwickcommission/

Williamson, John (1977). *The Failure of World Monetary Reform, 1971–1974*. New York: New York University Press.

Yu, Yongding (2012). Revisiting the Internationalization of the Yuan, *Asian Development Bank Institute Working Paper 336,* July.

Zhou, Xiaochuan (2009). *Reform the International Monetary System. People's Bank of China, Beijing*; available at: http://news.xinhuanet.com/english/2009–03/26/content_11074507.htm

2

International Tax Cooperation and Implications of Globalization

Léonce Ndikumana

1. Introduction

Globalization is viewed as the "increasing internationalization of markets for goods and services, the means of production, financial systems, competition, corporations, technology and industries" (UNCTAD, OECD, IMF, and WTO, 2002, Glossary, p. 170). It is associated with increasing mobility of factors of production—especially capital—, explosion of financial flows, and rapid transmission of technological innovation. The integration of product and financial markets is facilitated by worldwide adoption of liberalization policies in product and service markets as well as in the financial system, and the general trend toward removal of regulatory obstacles to economic activity (UNCTAD et al., 2002, p. 9).

While the increase in trade in goods is the bedrock of globalization, the most rapid expansion has been in the area of finance. Over the span of three decades between 1980 and 2012, capital flows grew five times faster than exports. Global trade in merchandises increased by 820 percent overall or 7.2 percent annually, from $1979 billion to $18214 billion. During the same period, global (outward) foreign direct investment increased by 5,290 percent overall or 13.3 percent annually, from $549 billion to $23593 billion.[1] Most of the capital flows have been directed to the service sector, including banking. For example over the 2005–7 period, services accounted for 60 percent of global investment outflows, although they represented only about 5 percent of global trade (UNCTAD et al., 2002, p. 9). At the same time, while there have been substantial efforts to establish and strengthen global frameworks for the regulation of trade in goods, much less has been done in terms of coordination of trade in services and finance.

These developments in globalization have important implications for taxation. Tax policy remains a central element of national policy in several ways. It is the main source of revenue mobilization to finance public service delivery and to support counter-cyclical policy interventions. It has an important redistribution role, enabling governments to support livelihoods for low-income segments of the economy. Taxation policy is also an important gauge of equity considerations in the policy stance. Finally, taxation is an important tool for promoting domestic saving and investment, for attracting foreign capital. It is in this context that developments in globalization are highly relevant for taxation policy. While other dimensions of fiscal policy are important, this chapter focuses on the implications of globalization for taxation policy.

There are four important issues regarding the links between globalization and taxation policy. First, there is increasing evidence that average taxation rates on capital income have declined over time in developed and emerging countries (Devereux, Lockwood, and Redoano, 2008). This raises the question of whether this is a result of deliberate attempts by countries to unilaterally use their tax policy to undercut each other in order to attract foreign capital and saving. In other words, are countries engaging in a "race to the bottom" or "harmful competition" using their tax policies? Second, with the increasing mobility of capital and ease of incorporation of enterprises in foreign territories, there is concern about multinational corporations engaging in profit shifting, taking advantages of loopholes in tax policy, gaps in regulatory frameworks, and lack of coordination of taxation policy across countries. This has important implications for efficiency and equity. The problem is exacerbated by the lack of transparency in the global financial services, especially in safe havens (Shaxson, 2011). Third, there is a concern that there is no level-playing field in the globalization process, and that the least developed countries (LDCs) especially are substantially disadvantaged in the allocation of capital and saving. In particular, LDCs suffer large losses in tax revenue due to profit shifting by multinational corporations (MNCs) operating in the natural resources, manufacturing, and service sectors, while at the same time they face severe haemorrhage through capital flight and other forms of illicit financial flows (AfDB and GFI, 2013; Ndikumana and Boyce, 2011a; Shaxson, 2011).

From a global perspective, taxation policy can also play an important role in advancing global initiatives. This is at two levels. At the first level, taxation can generate valuable resources to support the financing of "global public goods." At the second level, targeted taxation can help discipline the production of "global

public bads" such as pollution. Achieving these goals requires a high level of coordination and political commitment by national governments.

This chapter discusses these issues with a view to shed light on ways to improve global institutional mechanisms and frameworks to increase efficiency and equity in taxation in the context of globalization. The next section describes the main features and developments in tax regimes under globalization. Section 3 discusses tax competition and potential gains from international coordination in tax policy. Section 4 explores the linkages between tax competition, transparency, and the emergence of tax havens as facilitators of profit shifting, transfer pricing, and other illicit financial flows. Section 5 reviews the existing global institutional frameworks for tax coordination and antitax evasion conventions, examines their effectiveness and discusses their potential. Section 6 examines the implications of international tax cooperation for revenue mobilization in developing countries. Section 7 briefly discusses the potential benefits from international coordination of taxation policy for financing global public goods. Section 8 concludes.

2. Tax policy in the context of globalization

2.1. Special goals and challenges associated with globalization

In addition to its traditional role in the domestic economy, tax policy takes on an expanded role in the context of globalization. It is a tool for managing the country's trade and investment relations with the rest of the world, including protecting the domestic economy against external shocks. At the global level, taxation is also a tool for (1) setting up incentives for discouraging the production of public "bads" such as pollution and (2) for mobilizing financing for public goods. This is further elaborated in Section 7.

In the context of globalization, national fiscal policy design and management is guided by two important objectives. The first is to improve the competitiveness of national enterprises relative to foreign companies. In this respect, fiscal policy uses two main tools: the statutory tax rate on capital and corporate profit; and the effective marginal tax rate on business income. The second objective is to attract foreign capital and saving while retaining domestic capital in the local economy. This objective is challenged by the fact that tax policy is a sovereign policy and therefore there is no expectation that countries will automatically harmonize their policies. In fact more often than not, tax policies are not harmonized, and this is not new.

The lack of harmonization of tax policy is partly due to the fact that economies are characterized by different levels of productivity of capital and different rates of consumer/saver intertemporal substitution between saving and consumption. However, even taking into account these considerations, the evidence tends to show substantial disparities in taxation rates that are not backed by these fundamental characteristics. Let's take the example of tax on capital. One would expect that differences in tax rates across countries would reflect differences in productivity of capital. The data in Figure 2.1 for 1991 suggests that this is not systematically the case.

Fiscal policy in the context of globalization is confronted with the reality of increased cross-border capital mobility following the gradual deregulation of capital account regimes. If domestic tax rates are perceived as being higher than in other countries, then businesses will be tempted to move abroad either or both their investments and their business profits. This raises policy concerns as such decisions affect the country's potential for growth and employment creation.

The competitiveness implications of fiscal policy have come to the center stage in the wake of the recent global financial crisis in developed countries as they struggle to ignite and sustain economic recovery. In the United States, the crisis has reenergized claims from the business community and the conservative political establishment that American companies are penalized by relatively higher statutory and effective tax rates compared to other OECD countries.

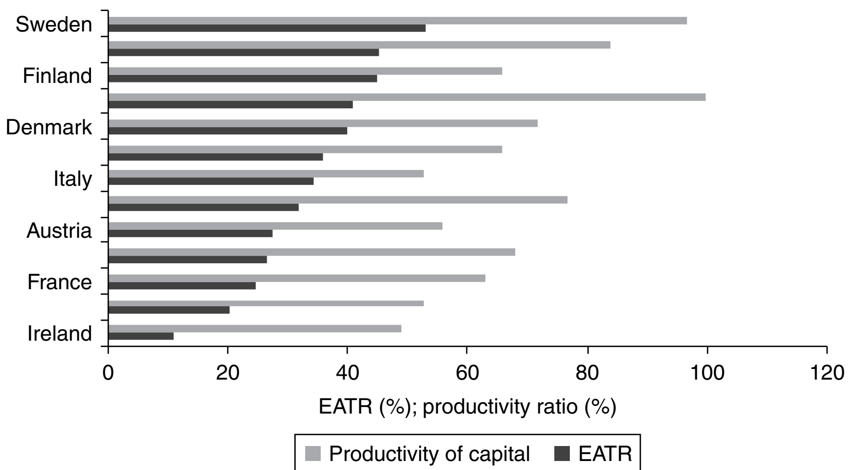

Figure 2.1 Effective corporate tax rate and productivity of capital in the US and EU, 1991

Source: Sorensen (2000).

This, as the argument goes, would be one of the major reasons why American businesses have been relocating production abroad, especially in developing and emerging countries to reap the benefits of lower effective costs of capital and labor. Recent evaluations tend to lend some support to the claim about US tax rates being higher than in comparable countries. In 2013, the average effective corporate tax rate was 39.1 percent in the United States, followed by Japan at 37 percent (Figure 2.2). All the other major OECD countries had lower rates. In the United Kingdom, the rate was a full 16 percentage points lower than in the United States (23%). In all OECD countries except Chile, the tax rates have declined since 2000, and quite substantially in some countries. The United States experienced a smaller decline in corporate tax rate compared to other countries.

A recent report by PriceWaterhouseCoopers (2013) finds that in the past years, effective corporate income tax rates have increased in the majority of sectors in the United States. For example, the average effective corporate income tax rate for companies in the third top quartile in the aerospace and

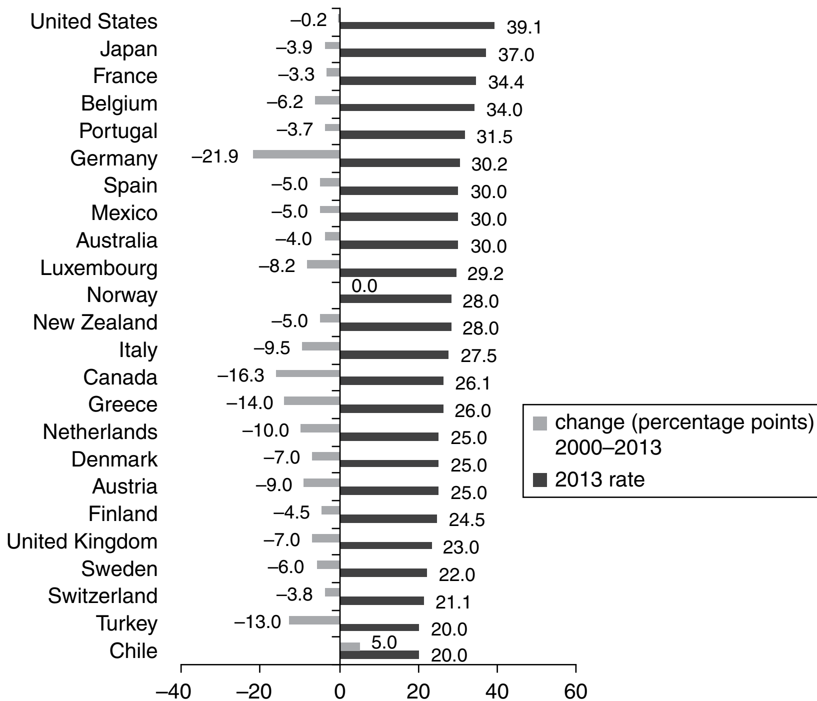

Figure 2.2 Effective corporate tax rates in selected OECD countries, 2000–2013

Source: OECD, Center for Tax Policy Administration (online data).

Table 2.1 Effective corporate tax rates in selected US corporate sectors, 2010, 2012

Sector	Quartile	2010	2012
Aerospace and defense	Q3	32.2	33.9
	Q1	19.5	24.0
Industrial products and automotive sector	Q3	34.1	35.2
	Q1	16.4	20.4
Automobile sector	Q3	35.5	34.4
	Q1	16.1	18.4
Chemicals	Q3	32.1	33.9
	Q1	20.8	23.0
Transportation and logistics	Q3	38.3	38.5
	Q1	8.7	15.5
Industrial manufacturing and metals	Q3	33.6	36.0
	Q1	22.9	24.1

Source: PWC (2013).

defence industry increased by 1.6 percentage point from 32.3 percent in 2010 to 33.9 percent in 2012 (Table 2.1). The data also indicates that the increase in the burden of taxation has been uneven, falling disproportionately on smaller companies. To use the example of the aerospace and defence industry, the average effective corporate tax rate for companies in the bottom first quartile increased twice as much as in the third quartile: by 4.5 percentage points from 19.5 to 24 percent during 2010–12. The larger multinational companies have experienced a relatively smaller increase in the tax burden. The increase in the tax burden should be even smaller for multinational corporations which are able to take advantage of low taxation in foreign territories where their branches and affiliates are located in addition to tax avoidance through various "tax planning" mechanisms and outright tax evasion (discussed later in the chapter).

The differences in effective corporate income tax rates across countries could be a result of many factors. The first is, obviously, the statutory tax rate. However, these differences are also driven by the overall structure of the tax regime. In other words, these differences are a result of cross-country variations in both the tax rate as well as the base. This involves considerations on what activities are taxed or not, what provisions are available for tax deductions and allowances, and differential treatment of income on the basis of where it

was earned—domestically or abroad. These considerations are central to tax competition; they are elaborated in Section 3 further below.

2.2. Trends and shifts in tax policy regimes

The configuration of tax regimes around the world has experienced three main developments over the last five decades. The first was the introduction of the Value Added Tax (VAT), which is now the most widespread form of consumption tax. The rationale for this form of taxation was that it is the least distortionary way of taxing private consumption. The second major development has been the general lowering and flattening of statutory income tax rates on high income individuals and corporations (Bird, 2012). The third noteworthy development is a recent push for more equity considerations in tax policy. These changes and trends reflect, to some extent, shifts in views of what good tax policy is within the academic community and the policy arena.

In the 1960s, it was all about income tax. Under what is referred to as Development Tax Model 1.0, progressive comprehensive personal income tax was deemed to be the ideal tax regime (Bird, 2012). In particular, such a regime was considered especially appropriate and preferred for developing countries (Bird, 2012; Bird and Zolt, 2005; Kaldor, 1963). Indirect consumption tax was considered as a "necessary evil." International and subnational aspects of taxation were relegated to the margin and were not considered important in tax policy design. This model of taxation eventually proved ineffective in helping developing countries in the mobilization of tax revenue. Tax to GDP ratios did not increase, which was an important cause of the fiscal challenges faced by developing countries in the 1980s in addition to external debt crisis.

In the 1980s, the thinking on taxation underwent an important shift in the context of market-oriented policy reforms enshrined in the so-called Washington Consensus. The prescription was that a broad-based low tax rate model—Development Tax Model 2.0—was the most appropriate for developing and developed countries (Bird, 2011). It is in this context that the preference shifted to VAT as the more preferable form of taxation. However, like under Model 1.0, the premise remained that "more tax is better"; thus, the objective remained to increase tax revenue. Note, however, that even with the shift toward VAT, income taxes remained important. What changed was that the rates were declining, as were tax incentives, but the bases were broadening.

Under the 2005 United Nations Millennium Project, a minimum of 4 percentage-point increase in the tax to GDP ratio was deemed necessary for developing countries to achieve the millennium development goals. This meant that countries were expected to raise their tax/GDP ratios from an average of 17–18 percent to 22 percent. This goal proved to be rather ambitious and even unrealistic. In fact no least developed country achieved this target. In 2011, the IMF recommended a less ambitious goal of 2 percentage increase in the tax/ GDP ratio, and suggested that most countries could achieve this increase with VAT alone "with no great effort" (Bird, 2012, p. 8).

More recent debates about taxation regimes exhibit increasing attention to the fiscal exchange and equity dimensions of taxation. Specifically, this is illustrated by reforms in the tax system that seek to achieve a better balance between resource mobilization and income (re)distribution through changes in corporate income tax, personal income tax, tax on wealth, and others.

The evidence, however, shows that these shifts in taxation regimes have not produced commensurate effects in effective tax revenue collection. In fact, the evidence indicates substantial "fiscal revenue inertia" (Bird, 2012) and there has been little progress in raising tax/GDP ratios, especially in developing countries (Table 2.2). The leading region in terms of growth of tax/GDP ratio is developing Asia where the ratio grew by nearly 3 percent

Table 2.2 General government revenue in developing regions, % of GDP

Group	2000	2005	2010	2011	2012	Average 2000–2012	Annual change 2000–12 (%)
Developing Asia	15.4	18.4	20.5	21.5	21.7	18.9	2.9
Latin America and Caribbean	24.5	27.2	30.1	30.9	31.3	27.7	2.0
Middle East and North Africa		40.4	34.7	37.8	37.8	36.9	2.2
Sub-Saharan Africa	25.9	27.6	25.4	28.6	27.9	26.8	0.6
For comparison							
Emerging market and developing economies	23.6	27.6	27.0	28.3	28.3	26.6	1.5
European Union	44.7	43.6	43.5	44.1	44.3	43.8	-0.1

Source: IMF, World Economic Outlook database (online).

annually during the 2000–2012 period. However, this region continues to trail other regions in tax mobilization, with a 21.7 percent tax/GDP in 2012 (up from 15.4% in 2000). In Sub-Saharan Africa, there has been virtually no change in the tax/GDP ratio over the past decade. The best performers in this respect are Latin America and the Middle East and North Africa with ratios above 30 percent.

Several factors have been advanced to explain the poor performance in tax revenue mobilization in developing countries. These include lack of economic transformation that perpetuated the dominance of low-tax generating sectors such as agriculture, and inefficiencies in tax administration, some of which are due to lack of technical capacity. In the spirit of Kaldor (1963), it may be argued that taxation has not increased as expected "because it is seldom in the interest of those who dominate the political institutions to increase taxes" (Bird, 2012, p. 8).

Moreover, performance in tax revenue mobilization reflects the degree of compliance by tax payers, which in turn is influenced by the public's perception of the efficiency of utilization of resources as illustrated in the supply and quality of public services. In general, accountable states have more leverage in mobilizing tax revenue. In particular, successful strategies for raising tax revenues must be backed by enhanced rule of law, reduction of corruption, improved tax morale, and contraction of the shadow economy. Obviously these are not easy to accomplish, but "some countries may find it easier to do such things than finding oil – and they may well be better off by doing so since oil wealth may solve the revenue problem only at the cost of exacerbating substantially the governance problem" (Bird, 2012, p. 8). In fact, in the case of developing countries, those that "have found oil" have performed worse in tax revenue mobilization than their less "lucky" non-oil counterparts (see Ndikumana and Abderrahim (2010) for evidence in the case of African countries).

In addition the evidence also indicates "fiscal structure inertia" (Bird, 2012). Despite the various changes in the tax rates and legislations, there has been no major change in the structure of the tax system. In particular, the share of consumption taxes has not substantially increased following the introduction of VAT, as increases in VAT revenues have been offset by declining customs revenues due to trade liberalization (Martinez-Vazquez and Bird, 2011). As for personal income tax collection, there is no systematic common trend across countries; the ratio of personal income to GDP has increased in some countries and decreased in others (Table 2.A1 in the Appendix). The same goes for corporate income tax as a share of GDP (Table 2.A2 in the Appendix).

3. Tax competition and gains from international policy coordination

3.1. Distortionary effects of taxation

The substantial variations in statutory and effective tax rates across countries suggest that there are scopes for competition for capital and savings on the basis of fiscal policy. These disparities may in fact be a result of active attempts by governments to compete over mobile capital and savings. This implies that globalization increases the distortionary effects of taxation. In the context of a closed economy, taxation can create a wedge between consumer-saver's marginal intertemporal rate of substitution and the producer-investor's marginal productivity of capital. This can affect the allocation of capital across sectors and activity.

In the open economy context there are two additional potential distortions due to taxation (Razin and Sadka, 1991). Under globalization, residents in any country may engage in rate of return arbitrage on capital (firms) and saving (households and firms) on the basis of differences in taxation between their home country and the rest of the world. Their objective is to maximize the returns to savings and capital regardless of the country where they choose to locate their investments and channel their savings or profits. Differences in taxation therefore can create disparities in the intertemporal marginal rate of substitution, which may result in misallocation of savings across countries. Similarly, differences in taxation may drive disparities in marginal product of capital, resulting in misallocation of capital or investment across countries.

If countries choose to compete over capital and savings using fiscal policy, their tool kit includes more than the rate of taxation. In addition to setting the tax rate, governments can choose what to tax, when, and how much to tax it. From the tax payer's perspective, this affects the taxable income and the tax base. There are two important dimensions besides the tax rate along which governments can compete to attract and retain capital and savings in the context of globalization. The first is the treatment of foreign-earned income. Here governments can choose between two approaches. The first is the *residence-based* taxation whereby residents are taxed on their worldwide income regardless of whether the income is earned at home or abroad. Foreigners are not taxed at all in this approach. The second is the *source of income* approach where residents are not taxed on foreign-earned income and foreigners are taxed as residents on income earned from domestic sources. If all countries adopted the same

approach, then marginal intertemporal rates of substitution as well as marginal products of capital would be unaffected by tax considerations and savings and capital would be allocated according to country-specific fundamentals; taxation would not be distortionary in an open economy context. But in practice, there is no coordination in foreign income taxation.

The second possible dimension of tax competition is the treatment of debt and equity in taxation. Corporations can (legally) use clever financial accounting to take advantage of allowances for deduction of interest payments not only by increasing the use of debt relative to equity, but also through intra-corporation lending to minimize the overall tax burden. The latter is an avenue for "thin capitalization" as well as profit shifting across territories, resulting in overall lower effective tax payments for the corporation as a whole. Therefore the data on effective corporate tax rate may be misleading with respect to the level of statutory taxation in a country. This also means that countries have more tools at their disposal when they use tax policy to compete over capital and savings.

3.2. Evidence: Do countries engage in tax-based competition over capital and savings?

The question of whether countries effectively engage in tax-based competition has been motivated, in part, by the substantial variations of tax rates across countries as well as the steady decline in effective marginal tax rate on capital and corporate profits (Devereux et al., 2008). Obviously the decline in the tax rate is a concern because it implies loss in government revenue. But, at least in principle, these losses may be compensated by gains arising from increased economic activity due to inflows of foreign capital, if in fact the tax provisions do succeed in enticing increased capital inflows.

The research community has attempted to shed light on the question above by combining theoretical modeling and empirical analysis to search for evidence of effective tax competition (Devereux et al., 2008; Huizinga and Laeven, 2008; Marceau, Mongrain, and Wilson, 2010; Paeralta, Wauthy, and van Ypersele, 2006; Wilson and Wildasin, 2004). To get a handle on the question, one must consider the interplay between the decisions by the government regarding taxation and the reactions of private sector actors (firms and individual savers) with regard to the levels and allocation of capital and saving. The interplay can be conceived as a two-stage game between private actors and the government. This is summarized in Figure 2.3.

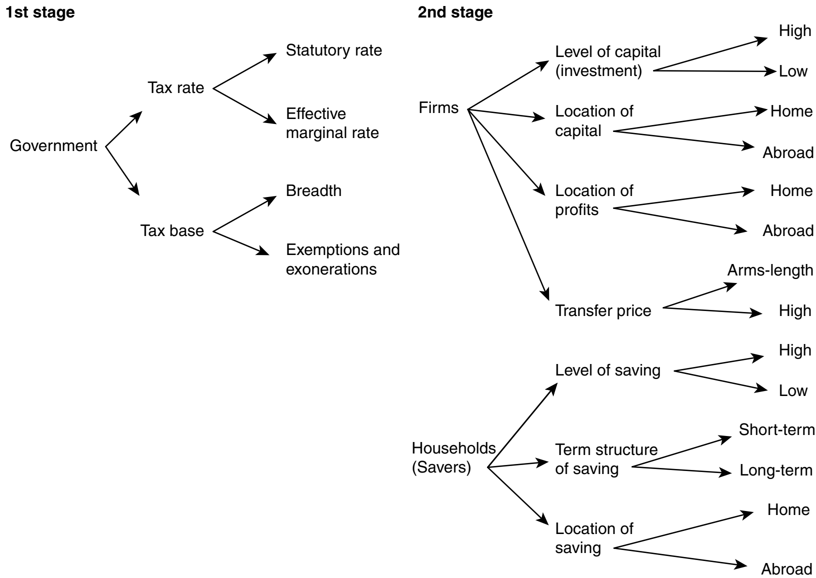

Figure 2.3 Government, firms, savers, and taxation: A game theoretical representation
Source: Author's design.

The outcomes of these interrelated decisions by the government and private sector actors are critically important for the relative economic performance of countries with accompanying welfare implications. These decisions imply that economic activity may be displaced due to disparities in taxation policies (Desai, Foley, and Hines, 2006). There are also possibilities of misallocation of capital and savings across countries as discussed earlier. Information plays a key role in the decisions by firms and savers to allocate capital and saving. This happens at two levels. First, accurate information on the true content of taxation policy—statutory as well as effective tax rates—is important in the determination of the optimal level and location of capital. Second, the extent of disclosure of information, or transparency, affects incentives of firms and savers in determining the location of economic activity (capital), savings and profits.

The literature on tax competition provides some consistent evidence that demonstrates the important role of globalization. The evidence confirms that capital and profits have become more mobile across countries, as illustrated by the massive capital flows toward both developed and developing countries, although the lion's share is still at the advantage of advanced economies. The evidence also confirms that governments do use taxation policy to compete over capital, profits, and savings. Among the tools that are at the disposal of the

governments, the key factor that seems to be determinant in tax competition is the statutory tax rate. In contrast the effective marginal tax rate seems to play a minor role (Devereux et al., 2008).

The analysis in the empirical literature indicates that tax competition has been enhanced by the increasing deregulation of capital flows (Devereux et al., 2008). In the case of developing countries, capital account liberalization occurred in the context of the general push for economic liberalization from the 1980s. In the developed world, the major change was the culmination of the European integration into a common currency, which provided an environment for near-complete mobility of capital. In the context of closed capital account or restricted capital flows, tax competition is less effective in moving capital between countries. But this holds only for transparent and honest movements of capital; illicit capital movements are generally independent of the degree of capital flow regulation (Fofack and Ndikumana, 2013; Ndikumana and Boyce, 2011b; Ndikumana, Boyce, and Ndiaye, 2015).

3.3. Gains from tax policy coordination

The increased capital mobility has motivated debates on the need for global and regional cooperation on corporate income and capital taxation policies (FitzGerald, 2002). The objective is to avoid the "race to the bottom" whereby in an attempt to lure capital to their home countries, governments undercut each other's capital income tax mobilization. Coordination of tax policy is both a technical and a political process. It is critically contingent on systematic and efficient exchange of information on taxation. It also requires sensitive sovereign decisions about trade-offs between gains from harmonization and payoffs from differentiated regimes. In making these decisions, economic and financial calculus is often trumped by political considerations. This may explain why international conventions and protocols on taxation take long to design and are difficult to implement and enforce. This is further discussed in Section 5.

Coordination and harmonization of tax policy may take place at the regional level and at the international level. The gains from harmonization are maximized if all countries were to agree to exchange full information on taxation and systematically enforce a common regime such as a residence-based taxation. However, the gains from coordination depend on other factors underlying the domestic economies and the regulation of exchange between countries. In particular, a key determinant of the feasibility of coordination and the gains from it is the degree of capital mobility across countries. In the presence of

perfect capital mobility globally, the gains from regional coordination appear to be rather small (Sørensen, 2004). Regional coordination would be justified if the set of countries in the region are more integrated among each other, but relatively closed vis-à-vis the rest of the world. Given the general trend toward capital account deregulation, harmonization efforts at the regional level need to be effectively coordinated with initiatives at the international level.

4. Tax competition, tax evasion, and tax havens

4.1. Why care about tax havens?

The discussion of coordination of taxation policy in the context of globalization cannot be complete without an analysis of the role of safe havens, or tax havens, secrecy jurisdictions, or offshore financial centres (OFCs). These terms are used often interchangeably although they do not mean the same thing. So, for example, while it is typically presumed that most illicit financial flows are concealed in small tropical islands called safe havens, a substantial share of the funds are in fact located in financial centers in major OECD countries. But the latter are rarely, if ever, referred to as OFCs or tax havens. Thus far the discussion in this chapter on how tax regimes induce and affect the mobility of capital, profits, and savings has not considered the legal and transparency aspects of transactions. Yet, transparency and legality of financial flows are central to understanding the recent explosion of financial flows around the world, a substantial part of which goes toward or transit through tax havens.

But why should we care about tax havens? There are several reasons. First due to the services that secrecy jurisdictions offer to capital holders, they facilitate the transfer and concealment of capital including illicitly acquired wealth. This has emerged as a major issue for developing countries in the context of debates on development financing and governance. But developed countries have also begun to pay attention to the problem of secrecy jurisdictions because of the substantial revenue losses incurred through profit shifting, transfer pricing, and other illicit transactions (Bartelsman and Beetsma, 2003; Sikka and Willmott, 2010). It is estimated that developing countries are more vulnerable to the impact of safe havens (Hampton and Christensen, 2010; Hebous and Lipatov, 2013; Shaxson, 2011). Thus safe havens are central to debates on taxation policy and development financing.

Safe havens also deserve attention because of the distributional and equity implications of their operations. Part of the massive amounts of capital held in

tax havens belong to the economic and political elites of developing countries, who, in addition to acquiring most of it illicitly, do not pay taxes on the earnings from the underlying assets. This implies substantial regressive taxation and a relatively higher burden of taxes on the middle class. Thus, safe havens indirectly contribute to worsening income inequality in developing countries. In fact, given the massive amounts of wealth that is channelled through safe havens, and therefore not incorporated in national accounts for income and expenditures, it is likely that the standard measures of welfare and inequality as well as cross-country distribution of wealth may provide inadequate representation of the actual extent of inequality; they may overestimate or underestimate it (Zucman, 2013).

The attention to tax havens is further motivated by the linkages with corruption in both developed and developing countries. Secrecy jurisdictions provide a safe haven for corrupt rulers to hide stolen assets, including funds obtained through embezzlement of the proceeds from natural resource exploitation and trade. For example, it is estimated that up to 8 percent of all petroleum rents from oil-rich countries with weak institutions end up in private accounts in OFCs (Andersen, Johannesen, Lassen, and Paltseva, 2012; Hebous and Lipatov, 2013). By facilitating the transfer and concealment of corruption-related funds, tax havens undermine governance in general (Torvik, 2009). They may also have a negative impact on tax regimes, as they provide incentives for rulers to devise tax regimes that facilitate profit shifting. As a result, tax compliance is undermined as safe havens facilitate tax avoidance and tax evasion by multinational corporations and the political and economic elites. This further undermines tax morale through negative demonstration effects (Fjeldstad, Schulz-Herzenberg, and Sjursen, 2012). Indeed, if neighbors do not pay taxes, and especially if they happen to be rulers, then there is less incentive for a regular resident to honor his/her tax obligations.

There are, however, voices that have argued that there are some positive effects associated with tax havens. It is argued that secrecy jurisdictions and tax havens enhance competition in neighboring countries (Rose and Spiegel, 2007), and that they may even have positive welfare effects by providing opportunities for investment by firms fearing high taxes and expropriation in corrupt countries (Hong and Smart, 2010). But these alleged potential benefits pale in the face of the devastating negative effects arising through the drainage of resources (Ndikumana and Boyce, 2011a; Reuter, 2012; Shaxson, 2011), deterioration of governance in the public sector and erosion of business ethics.

4.2. Institutional mechanisms of secrecy

Tax havens thrive on secrecy. The key service they sell to their clients is the promise to withhold all the information pertaining to their identity and the characteristics and outcomes of their business activities. That is their main capital, and they work hard to preserve and protect it even in the face of increasing pressure from the global community and individual major countries—especially the United States—to lift their veil of secrecy. Thus tax havens invest heavily in undermining financial transparency. Financial transparency obtains when "every actor and transaction within a system can be traced to a discrete, identifiable individual" (Sharman, 2010, p. 127).

Secrecy jurisdictions and tax havens are able to provide protection to their customers through complex institutional mechanisms that establish intricate layers of secrecy and make it difficult to link illicit proceeds to the predicate crime and the ultimate beneficiary; that is, linking crime to the criminal. This is summarized in Figure 2.4. Secrecy is provided through two main mechanisms. The first is outright anonymity whereby no meaningful information on the beneficial owner of an asset, transaction, or company is recorded during the initiation of a transaction, the establishment of a company, or the opening of a bank account. Economic units established in this context often do not even undertake any activities in the territory where they are domiciled. These "shell companies" are created to serve as vehicles for transfer pricing, transfer of illicit funds and other activities, which may include legal as well as legal operations. The second mechanism is through a web of legal ownerships involving a tangled inter-jurisdictional web of interlocking relationships. There are two key features of these mechanisms. The first is what we may call the chameleon structures of shell companies in the sense that these companies can be modified, restructured, and renamed expeditiously to evade any inquisition by the regulator or law enforcement authorities. The second is the mobile jurisdiction of the companies whereby the domiciliation of the company can be changed at will in no time to evade law enforcement and criminal investigation. These mechanisms are made possible by the lax legal systems and regulations in the secrecy countries. They are also perpetuated by the immense economic power of the companies and individuals that hold wealth and channel their transactions through these territories.

In the popular press, the notion of secrecy jurisdictions and tax havens is typically associated with palm-fringed tropical islands such as the Cayman Island, Bermuda, and others. It also refers to territories with loose governance such as

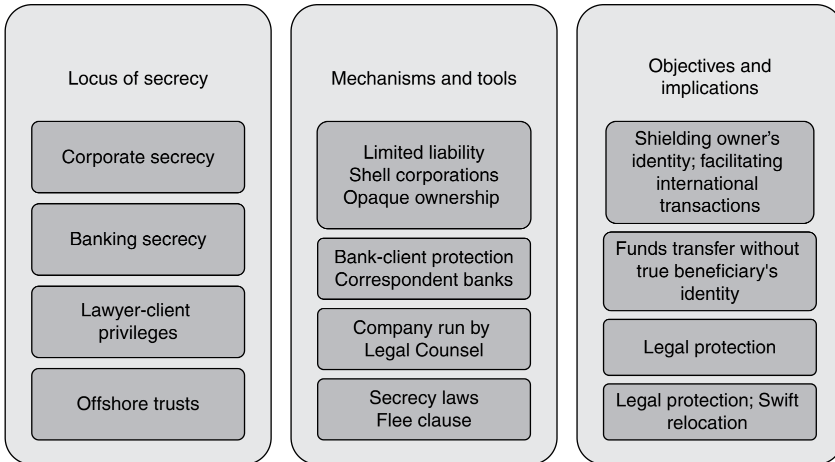

Figure 2.4 Tax havens and layers of secrecy
Source: Author's design.

Somalia which are used as transits for illicit trade and financial transactions. But recent evidence has shown that large OECD countries are also guilty of harboring banking secrecy, and are both conduits and victims of substantial tax evasion (Hampton and Christensen, 2010; Sharman, 2010; Shaxson, 2011).[2] Moreover, surprisingly, it is actually the well-governed countries that tend to become tax havens and that benefit the most when they do so (Dharmapala and Hines, 2009). This is contrary to conventional wisdom where large advanced economies are viewed as having superior legal environments and as being the vanguards of transparency and good governance. This conventional belief is increasingly challenged.

The use of tax havens has been facilitated by the increasing complexity of the structure of multinational corporations and their multiple-domiciliation characteristics. Being located in multiple territories with different regulatory frameworks with regard to taxation, banking laws, and rules governing business operations in general provides incentives and opportunities for tax evasion. Indeed larger firms with substantial foreign operations benefit the most from using tax havens (Desai et al., 2006). The implication is that growth of the private business sector may not be accompanied by proportional increase in tax revenue because of these leakages facilitated by tax havens.

Rules and regulations in developed countries are evolving in response to the increasing evidence on the explosion of tax evasion and illicit financial flows. But progress is slow and uneven. As a result, important discrepancies remain in

the institutional frameworks, and these differences are exploited for the purpose of tax evasion, profit shifting, transfer pricing, and other forms of illicit financial transactions. So, for example, whereas all OFCs regulate corporate service providers, the United States and the United Kingdom do not. It is possible that this reflects the influence of the interest groups over the regulators in states like Nevada and Delaware that are known as tax havens (Sharman, 2010). It is clear that there is ample room for improvement in coordination.

5. Global conventions and frameworks for tax cooperation and against tax evasion

5.1. Existing frameworks

The expansion of activities in tax havens and the explosion of illicit financial flows over the past decades have prompted a push for establishment and consolidation of international regulatory frameworks to increase transparency or rather to combat secrecy and enforce responsible banking and trade practices. Efforts have been initiated at both national level, and global level on a bilateral as well as multilateral basis.

As the lion's share of tax evasion and illicit financial flows is orchestrated by or through large companies, the first area of focus is the enforcement of standards on corporate governance. The recent global financial crisis revealed that there are widespread and deep shortcomings in corporate governance, especially the lack of reliable checks and balances capable of enforcing responsible corporate practices. In this context, the main instrument to address this problem at the global level is the OECD Principles on Corporate Governance, especially chapter VI which specifies that "The corporate governance framework should ensure that timely and accurate disclosure is made on all material matters regarding the corporation, including the financial situation, performance, ownership, and governance of the company" (OECD, 2004, p. 24).[3]

Another area of attention is anti-money laundering which is an important channel of illicit financial flows (Baker, 2005). In this context, the recommendations by the Financial Action Task Force (FATF) constitute the global standards recognized internationally against money laundering and terrorist financing. These recommendations are aimed at increasing transparency and providing member countries with a framework and guidance on how to prevent all forms of illicit use of their financial systems.[4] In the same context, Basel Core

Principles provide a framework for banking supervision that can also contribute to reducing the use of the financial system for illicit purposes, although this may not be the explicit goal. In the same vein, the conventions on securities regulation, notably the IOSC Multilateral Memorandum of Understanding, provide a comprehensive framework for cooperation and collaboration among world securities regulators in the exchange of information (IOSCO, 2012).[5] Such collaboration can, in principle, enable tracking of the sources, amounts, destination, and owners of financial transactions around the globe.

Globally, the overarching framework is the UN Convention on Against Corruption (UNCAC), whose aim is "to promote and strengthen measures to prevent and combat corruption more efficiently and effectively; to promote, facilitate and support international cooperation and technical assistance in the prevention of and fight against corruption, including in asset recovery; and to promote integrity, accountability and proper management of public affairs and public property" (Nations, 2003, p. 7). The Convention provides a frame of reference for anticorruption policies at national and regional level, such as the African Union Convention on Corruption.

At the bilateral level, countries have been establishing agreements to facilitate exchange of information for the purpose of combatting tax evasion, which also can help curb illicit financial flows. In this context, Tax Information Exchange Agreements (TIEAs) have proliferated in recent years. But they remain concentrated among OECD countries whereas developing countries have been left on the margin. For example, only Mauritius has a TIEA in Africa.

5.2. Limited effectiveness of existing frameworks

The effectiveness of the various conventions and agreements on cooperation in taxation policy has been limited and uneven. For multilateral frameworks, the implementation is often hampered by the lack of coordination among parties to the conventions or agreements and lack of mechanisms of accountability to penalize failure to cooperate. Bilateral agreements also have their limitations. One important challenge is that operators in tax havens are able to take advantage of the complex layers of secrecy and intricate legal machinery to make discovery of criminal financial activity difficult and prosecution even harder. Moreover, tax evaders are able to stay one step ahead of the regulator and the investigator. They can shift shell companies, bank accounts, and other transactions to territories that are not yet covered by treaties. As a result, the TIEAs have not yet produced a significant decline in tax evasion or meaningful repatriation of funds. The

initial impact of TIEAs seems to be a relocation of funds or redirection of new illicit financial flows across jurisdictions (Johannesen and Zucman, 2012).

Moreover, coordination of efforts to fight tax havens is challenging because not all tax havens are created equal. The set includes large and small offshore financial centers, including some in poor nations (Rawlings, 2005). Determining how to sequence global action is difficult. But at the same time, unless action is undertaken at multiple fronts, it is difficult to make a substantial impact. It seems, therefore, that the effectiveness of efforts to fight tax evasion is bound to be limited in the absence of a concerted approach to take on all safe havens at once through a "big bang" multilateral intervention (Elsayyad and Konrad, 2012). In fact fighting a subset of tax havens may actually make the remaining ones more profitable as activities shift from safe havens that are under pressure to the ones not covered by the intervention. But the question remains as to how to organize such a "big bang" combat against all safe havens, especially given that it is not even possible for all stakeholders to agree on a comprehensive ranked list of safe havens.

6. International tax cooperation and revenue mobilization in developing countries

The foregoing discussion on taxation and globalization has important implications for developing countries, especially the least developing countries (LDCs) that face special challenges in taking advantage of globalization and mobilizing domestic revenue. It has been demonstrated in various reports that developing countries are lagging behind a number of important development goals and that a key reason for this is the shortage of financing to meet their development needs. In light of the discussion in this chapter, international tax cooperation can be a tool for helping developing countries in addressing this critical constraint to economic development. Three important avenues can be singled out: impact on domestic investment; effects on tax revenue mobilization; and effects on allocation of official development aid.

The analysis in this chapter suggests that the current configuration of the global financial and taxation systems has detrimental effects on efforts by developing countries to increase their domestic investment as a means of accelerating economic growth and development. In particular, the proliferation of tax havens and their facilitation of tax evasion and illicit financial flows undermine domestic investment in developing countries. On the domestic front, tax evasion facilitated

by tax havens creates incentives for channelling domestic capital abroad rather than investing in the home country. This affects both honestly acquired capital and stolen capital that ends up fleeing developing countries toward tax havens. LDCs continue to lose massive amounts of capital annually through capital flight and other forms of illicit financial flows, most of which are motivated by tax evasion (AfDB and GFI, 2013; Henry, 2012; Kar and Cartwright-Smith, 2010; Ndikumana and Boyce, 2011a; Reuter, 2012; UNDP, 2011).

As can be seen in Table 2.3, developing countries are facing severe financial haemorrhage through capital flight and other forms of illicit financial outflows including corruption related outflows, proceeds from trade in illegal goods and services, and profit shifting by multinational corporations. Global Financial Integrity estimates that over the past decade alone (2002 to 2011) developing countries as a group have lost about $6 trillion through illicit financial flows. A substantial fraction of these outflows occurs through misinvoicing of imports and exports. Most of these outflows are domiciled in tax havens where their owners take advantage of low or no taxation, and most importantly extreme secrecy

Table 2.3 Illicit financial flows from developing countries, $ billion

Region	**Illicit outflows**		**Recorded external capital inflows**[c]		
	Illicit financial flows: GFI estimates[a]	Capital flight: TJN estimates[b]	ODA (net annual flows)	FDI (net annual flows)	External debt stock
	2002–11	1970–2010	2011	2011	2011
Africa	555.8	517.9	51.2	46.4	391.5
SSA	487	361.7	47.5	41.2	297.6
MENA	684.5	963.2	15.5	15.9	162.9
LAC	1130.7	1375.5	11.4	145.1	1133.5
East Asia and Pacific	1974.3	1881.7	7.8	339.8	1286.6
Central Europe and Asia	1273.9	1509.9	10.7	73.8	1095.3
South Asia	375.9	60.7	16.7	40.3	461.8
Developing world	5889.5	6152.8	131.8	735.2	

Notes: SSA = Sub-Saharan Africa; MENA = Middle East and North Africa; LAC = Latin America and Caribbean.

Source: a) Illicit financial flows are from Global Financial Integrity (Kar and LeBlanc, 2013); b) Capital flight estimates are from Tax Justice Network; these measures do not include trade misinvoicing; c) Capital inflows are from the World Bank's Global Development Indicators, complemented with data from UNCTAD's online statistical database.

practices that protect their identity and the source of their wealth. The leakage of financial resources through illicit financial flows undermines domestic saving in developing countries and therefore exacerbates the financing gaps faced by these countries. The resulting capital shortage undermines the ability of these countries to achieve and maintain high levels of investment and growth.

The second avenue of impact of international tax cooperation on developing countries is directly through the capacity to achieve their potential in government revenue mobilization through tax and nontax revenue. This is achieved in two fundamental ways. The first is by ensuring that international actors operating in developing countries pay their taxes. This is especially the case for multinational corporations which are notorious at using various legal and illegal mechanisms to dodge taxes in the countries where they operate. Tax evasion and tax avoidance by multinational corporations are facilitated by lack of transparency in tax havens, inadequate reporting of company operations and profits (especially no country-by-country reporting), and lack of coordination and exchange of tax-related information across countries. While it is difficult to obtain a precise estimate of the losses in tax revenue incurred by developing countries through tax dodging by MNCs, evidence from case studies suggests that these losses are large in absolute terms and relative to other meaningful economic aggregates. Christian Aid estimated that losses in corporate taxes to developing countries due to illicit practices by multinational corporations are in the order of $160 billion per year, which exceeds the total amount of official aid to all developing countries (see Table 2.2) (Christian Aid, 2008). The practice of tax evasion is facilitated by profit shifting by MNCs through transfer pricing. This is especially prevalent in the natural resource sector. To illustrate, in the case of Zambia, the Extractive Industry Transparency Initiative (EITI) found that while mining companies paid $463 million in taxes to the government, there were $66 million of "unresolved discrepancies" between actual payments and companies' tax liabilities in the same year ((Sharife, 2011).[6] The main mechanism of tax dodging is transfer pricing. The EITI report notes for instance that half of copper exports earmarked for Switzerland never made it there, "disappearing in thin air." The price of copper in Switzerland was six times higher than in Zambia and corporate tax rates were lower; thus export earmarking for Switzerland implies substantial profits for the companies involved in the copper trade. As a result of these profit shifting and transfer pricing mechanisms, Zambia may have lost tax revenue that is nearly equal to its total GDP in 2008 (Sharife, 2011).[7]

In addition to maximizing tax revenue on through curbing of tax dodging by multinational corporations, developing countries can also mobilize substantial amounts of tax revenue by taxing private wealth held abroad through capital flight.

One of the motives of capital flight is to avoid taxation on wealth including that which may have been acquired legally. While there are no precise measures of the amount of tax revenue that could be mobilized through taxation of private capital held abroad by residents of developing countries, estimates based on statistics on capital flight and illicit financial flows suggest that the gains in tax revenue are substantial. Using conservative assumptions about the rates of return to the assets accumulated through capital flight (about 7%) and by applying a modest tax rate (20%) Valpy FitzGerald derives estimates of forgone tax revenue due to capital flight from developing countries (FitzGerald, 2013). Using data up to 2006, he finds that developing countries as a group were losing tax revenue in the order of $200 billion per year, representing 2.5 percent of total GDP of this group of countries (FitzGerald, 2013). Considering the case of Sub-Saharan African countries and using data on capital flight over the period of 1970–2004 from Ndikumana and Boyce (2008),[8] FitzGerald estimates that this group of countries were losing about $6 billion per year in tax revenue. More recent estimates of capital flight from Africa show that the phenomenon has continued and even accelerated over the past decades. By 2010, the continent had experienced an outflow of unrecorded capital in excess of $1.3 trillion in constant dollars (2010 base) (Table 2.4). An important mechanism of capital flight is trade misinvoicing, especially exports underinvoicing which accounted for $859 billion in unrecorded outflows in the sample of thirty-nine African countries over the four decades. Extrapolating FitzGerald's results on the basis of the updated estimates of capital flight presented in Table 2.4, we find that capital flight may have resulted in a tax revenue loss of $17 billion annually for this group of countries. This exceeds the average annual inflows in FDI and is about 81 percent of annual official development aid inflows over the past four decades.[9]

The evidence presented above has clear implications for thinking about official development assistance as a means of helping developing countries reach and sustain high growth rates and accelerate their progress toward their social development goals. The debate on international assistance to developing countries needs to move beyond increasing budgetary allocations to foreign aid to consider ways to help developing countries mobilize more domestic resources. Scaling up international cooperation and technical assistance in the area of taxation can go a long way in complementing traditional development aid. In fact in many cases, international tax cooperation can help countries graduate from official development assistance. This is especially the case for natural resource-rich developing countries that can substantially increase their tax revenue if they manage to effectively tax multinational corporations operating in these sectors, negotiate a fairer share in natural resource rents,

Table 2.4 Capital flight and estimated tax revenue losses from thirty-nine African countries, 1970–2010 (billion, 2010 constant $)

Indicator	**Cumulative flows over 1970–2010**	**Annual average**
Stock of capital flight	1685.2	
Cumulative flows of capital flight	1273.8	31.1
Trade misinvoicing:		
Export misinvoicing	859.2	21.0
Import misinvoicing	–550.1	–13.4
Net misinvoicing	309.2	7.5
Other flows		
ODA	874.8	21.3
FDI	459.1	11.2
Debt stock: value 2010	267	
Estimated tax loss[a]		17.2

Note: a) The estimated losses are extrapolated from the methodology proposed by FitzGerald (2013), which is based on explicit assumptions about the share of the stock of capital flight that belongs to residents of African countries (assumed equal to 50%), the returns on these assets (7%), and a tax rate of 20% on the taxable income. FitzGerald used capital flight from Sub-Saharan Africa as of 2004. The values in this table are obtained by scaling up FitzGerald's results using the proportion of the 2010 cumulative capital flight relative to the 2004 value.
Source: Capital flight data are from the Political Economy Research Institute's database (www.peri.umass.edu/300).

stem capital flight, and collect tax on private assets stashed abroad by their residents. As resource-rich countries are able to mobilize more tax revenue and keep their wealth onshore, then international development assistance would be reallocated to the poorer countries that need it the most (FitzGerald, 2013). The donor community can help the cause by doing two things: one is to support and effectively implement measures aimed at preventing tax evasion and related illicit practices by multinational corporations operating in developing countries; second is to provide technical assistance to developing countries in the design and implementation of reforms of tax systems as well as the monitoring and prosecution of financial crimes, including through establishment and strengthening of specialized institutions such as national financial intelligence units. Generally, by accelerating global efforts to fight against tax evasion and other forms of financial crimes, and by supporting domestic institutional reforms in developing countries, the donor community can better help these countries reap the benefits of globalization or at least minimize its negative effects.

7. Taxation and global public goods

Globalization opens up opportunities for mobilizing efforts behind initiatives that generate benefits that accrue to the larger community as a whole, or global public goods. These include peace and political stability, protection and improvement of the natural environment, preservation of food security, eradication of hunger and poverty, the fight against health pandemics and communicable diseases, and others. Globalization is accompanied by new challenges that affect the stability of the global economic system and the environment, and phenomena whose negative consequences cannot be contained within the borders of the source country. These are referred to as "global public bads" and they include climate change, the deterioration of the ecosystem, high-impact communicable diseases, systemic attacks on global peace such as terrorism, and global financial instability. Attending to these challenges requires the mobilization of massive financial resources that cannot be met solely by increasing national budgetary allocations to development aid. Therefore, new and innovative financing mechanisms need to be explored.

Coordinated efforts at the global level can leverage innovative taxation as a means to both finance the production of global public goods and to contain or discipline the production or spread of global public bads. In fact, one may even ask why governments only tax goods and do not tax, and even subsidize public bads such as pollution. One of the ways to finance global goods could in fact be to tax public bads. Thus taxation would generate a "double dividend" (Griffith-Jones, 2010; Spahn, 2010). It would enable greater production of public goods, while also containing the production and expansion of public bads. Examples of such taxation include the financial transaction tax proposed by John Maynard Keynes and aimed at containing financial instability arising from speculative financial transactions. In the same spirit James Tobin proposed in 1974 the introduction of an international currency transactions tax also aimed at taming global currency markets. While these taxes were initially proposed as stabilization tools, they actually can generate substantial tax revenue given the massive volume of transactions that take place on a daily basis globally. Some estimates suggest that even a small levy of 0.005 percent on the transaction of major currencies could raise more than 20 billion euros (Griffith-Jones, 2010; Spahn, 2010). By expanding taxation to a larger set of financial transactions, much more revenue could be raised. Taking 2008 as a base, it is estimated that moderate taxation on all major financial assets traded in the United States could generate up to $353 billion annually (Baker, Pollin, McArthur, and Sherman, 2009). Revenues generated through these innovative taxation tools could go a long way in financing major global initiatives such as climate change adaptation and mitigation, the fight

against HIV/AIDS, malaria, tuberculosis, and others. At the same time these tools can help stem instability in the financial markets.

While there are large potential gains from taxation aimed at financing global public goods and controlling global public bads, the implementation of such tools faces substantial challenges at both technical and political levels. The biggest challenge is to build consensus and support from individual governments and institutions around these innovative taxation instruments. One reason is that it is difficult to quantify and apportion the benefits accruing to each member country. There is therefore a risk that individual countries may resist taking the initiative to avoid the first-mover disadvantage associated with the free rider problem. Moreover, global initiatives to mobilize additional tax revenue and to use taxation as a disciplining instrument against global public bads are constrained by the lack of a global institution entrusted with coordination and execution of such initiatives. Today there is no such thing as a global taxation authority akin to the global institutions responsible for financing issues (e.g., the IMF, the Basel Committee), or trade regulation (e.g., WTO), etc. So far, proposals for a supranational authority in charge of global taxation have not made any headway. A more feasible avenue would be to work with existing institutions and capitalize on experiences at the regional level in policy coordination. In this sense, the European Union can offer a fertile ground for implementation. Indeed there is already a substantial degree of coordination of VAT among EU members which could offer some lessons for the way forward. Such experiences could be emulated in other regions and eventually scaled up at the global level.

8. Conclusion

The discussion in this chapter has identified a number of challenges arising from the implications of globalization for taxation that face both developed and developing countries. These challenges derive from the increased mobility of capital and the ease of shifting profits and savings across territories as corporations and individuals take advantage of disparities in institutional and regulatory environments as well as the lack of transparency in international transactions. These developments put a burden on national tax systems that must strike a balance in meeting the dual objective of mobilizing government revenue on the one hand, and facilitating trade, retaining and attracting investment capital and savings on the other hand. The proliferation of tax havens, safe havens, secrecy jurisdictions, and offshore financial centers has made matters even more complicated.

Even as countries continue to make efforts to adapt their taxation systems to the complex and changing global environment, it is important to maintain a realistic and dynamic perspective. As Bird (2012, p. 5) puts it, there is no magical fiscal system,

and therefore "what this complex and changing world needs is not some non-existent 'universal fix' but rather a sort of fiscal medicine kit containing a variety of remedies and treatments that may help us cope with the wide variety of fiscal problems and needs that arise at different times and often in different ways in different developing countries." In this regard, policy-oriented research has an important role to play in shedding light on possible avenues for reforms and expected outcomes. Thus far, research has tended to be a step behind, and in fact it is contended that "research has not led the reform elephant but mopped behind it" in the sense that it has come to only rationalize reforms and innovations that are already occurring in the real world rather than coming up with novel ideas of reforms (Bird, 2012, p. 14). This is a serious challenge to the policy research community.

The existing initiatives at national, regional, and global level geared toward fighting tax evasion through improved tax cooperation and increased transparency have produced limited and uneven results. What is clear, though, is that what's lacking is not conventions and agreements. What is lacking is effective implementation and enforcement of existing frameworks; and this is where efforts should be concentrated going forward. In this context, a few areas are worth highlighting. The first is in the area of exchange of information, which is critical to dismantling the tradition of secrecy. In this respect, in addition to efforts to establish and enforce TIEAs, countries should push for institutionalization of automatic exchange of information on taxation or AEITs. Second, countries and international institutions must swiftly endorse and enforce mechanisms to increase accountability and transparency in the corporate sector, especially with regard to large multinational corporations. In this regard, the global community must rally behind efforts to institutionalize rules on country by country reporting as well as unitary taxation of multinational corporations so that all countries are able to duly and systematically collect taxes on all activities taking place on their territories and on all activities undertaken by all their tax payers regardless of their geographical location.

The implementation of the existing conventions, agreements, and frameworks on fighting tax evasion, corruption, and other illicit financial activities requires substantial technical capacity. Such capacity is generally in short supply in developing countries. Those countries typically have a thin stock of expertise, or what Kaldor (1963, p. 414) called "a corps of capable and honest administrators," needed to deal with issues of transfer pricing, thin capitalization, and other practices that facilitate tax evasion and profit shifting. Therefore, the debate on international tax cooperation must include strategies for assisting developing countries to build their technical and administrative capacity to combat tax evasion and associated illicit financial practices in the corporate and financial sectors. This should be at the core of the post-2015 development strategy.

Appendix

Table 2.A1 Taxes on personal income as % of GDP in OECD countries, 1965–2010

Country	1965	1975	1985	1990	2000	2007	2010
Australia	7.1	11.1	12.6	12.0	11.5	10.9	9.9
Austria	6.8	7.9	9.4	8.3	9.5	9.4	9.5
Belgium	6.4	12.9	15.8	13.4	14.0	12.1	12.2
Canada	5.8	10.5	11.5	14.7	13.1	12.3	10.8
Chile							
Czech Republic					4.4	4.2	3.6
Denmark	12.7	21.4	23.4	24.8	25.6	25.3	24.3
Estonia					6.8	5.8	5.4
Finland	10.1	14.1	14.9	15.2	14.5	13.0	12.6
France	3.6	3.8	4.9	4.5	8.0	7.5	7.3
Germany (1)	8.2	10.3	10.3	9.6	9.5	9.1	8.8
Greece	1.2	1.7	3.6	3.7	5.0	4.9	4.4
Hungary					7.3	7.4	6.5
Iceland	5.1	6.0	5.5	8.3	12.9	13.8	12.9
Ireland	4.2	7.2	10.7	10.5	9.4	8.8	7.5
Israel					10.7	8.1	6.3
Italy	2.8	3.8	9.0	9.9	10.4	11.1	11.7
Japan	3.9	4.9	6.6	7.9	5.6	5.6	5.1
Korea		1.3	2.2	3.9	3.3	4.4	3.6
Luxembourg	6.9	9.0	10.1	8.4	7.2	7.1	7.8
Mexico							
Netherlands	9.1	11.0	8.2	10.6	6.0	7.7	8.6
New Zealand	9.4	15.4	18.7	17.7	14.3	14.6	11.9
Norway	11.7	12.4	9.6	10.7	10.3	9.5	10.1
Poland					4.4	5.2	4.5
Portugal				4.3	5.5	5.5	5.6
Slovak Republic					3.4	2.6	2.3
Slovenia					5.6	5.5	5.7
Spain	2.1	2.7	5.4	7.1	6.4	7.5	7.0
Sweden	16.2	19.0	18.4	20.1	17.1	14.6	12.7
Switzerland	5.8	9.3	9.9	8.2	8.7	8.8	9.1
Turkey	2.6	3.9	3.2	4.0	5.4	4.1	3.7
United Kingdom	10.1	14.0	9.6	10.4	10.7	10.8	10.0
United States	7.8	8.9	9.7	10.1	12.3	10.6	8.1
Unweighted average OECD	**6.9**	**9.3**	**10.1**	**10.3**	**9.3**	**9.0**	**8.4**

Note: (1) From 1991 the figures relate to the united Germany.

Source: OECD Centre for Tax Policy Administration (online data on Tax Policy Statistics).

Table 2.A2 Taxes on corporate income as percentage of GDP, 1965–2010

Country	1965	1975	1985	1990	2000	2007	2010
Australia	3.4	3.1	2.6	4.0	6.1	6.9	4.8
Austria	1.8	1.6	1.4	1.4	2.0	2.4	1.9
Belgium	1.9	2.7	2.2	2.0	3.2	3.5	2.7
Canada	3.8	4.3	2.7	2.5	4.4	3.5	3.3
Chile							
Czech Republic					3.4	4.7	3.4
Denmark	1.4	1.2	2.2	1.7	3.3	3.8	2.7
Estonia					0.9	1.6	1.4
Finland	2.5	1.7	1.4	2.0	5.9	3.9	2.6
France	1.8	1.8	1.9	2.2	3.1	3.0	2.1
Germany (1)	2.5	1.5	2.2	1.7	1.8	2.2	1.5
Greece	0.3	0.7	0.7	1.5	4.2	2.6	2.4
Hungary					2.2	2.8	1.2
Iceland	0.5	0.8	0.9	0.9	1.2	2.5	1.0
Ireland	2.3	1.4	1.1	1.6	3.7	3.4	2.5
Israel					3.9	4.5	2.9
Italy	1.8	1.6	3.1	3.8	2.9	3.8	2.8
Japan	4.0	4.2	5.6	6.4	3.7	4.8	3.2
Korea		1.3	1.8	2.5	3.2	4.0	3.5
Luxembourg	3.1	5.1	7.0	5.6	7.0	5.3	5.7
Mexico							
Netherlands	2.6	3.1	3.0	3.2	4.0	3.2	2.2
New Zealand	4.9	3.3	2.6	2.4	4.1	4.9	3.8
Norway	1.1	1.1	7.3	3.7	8.9	11.0	10.1
Poland					2.4	2.8	2.0
Portugal				2.1	3.7	3.6	2.8
Slovak Republic					2.6	3.0	2.5
Slovenia					1.2	3.2	1.9
Spain	1.4	1.3	1.4	2.9	3.1	4.7	1.8
Sweden	2.0	1.8	1.7	1.6	3.9	3.7	3.5
Switzerland	1.3	2.0	1.7	1.8	2.6	3.0	2.9
Turkey	0.5	0.6	1.1	1.0	1.8	1.6	1.9
United Kingdom	1.3	2.2	4.7	3.5	3.5	3.4	3.1
United States	4.0	2.9	1.9	2.4	2.6	3.0	2.7
Unweighted average OECD	**2.2**	**2.1**	**2.6**	**2.6**	**3.4**	**3.8**	**2.9**

Note: (1) From 1991 the figures relate to the united Germany.

Source: OECD Centre for Tax Policy Administration (online data on Tax Policy Statistics).

Notes

1 Data obtained from UNCTAD's statistical database (online) at http://unctad.org/en/Pages/Statistics.aspx.

2 More information is available at Tax Justice Network (www.taxjustice.net), including ranking of territories by degree of secrecy ("financial secrecy index").

3 The OECD Principles on Corporate Governance were released for the first time in May 1999 and were revised in 2004. They constitute "one of the twelve key standards for international financial stability of the Financial Stability Board and form the basis for the corporate governance component of the Report on the Observance of Standards and Codes of the World Bank Group." OECD: http://www.oecd.org/corporate/oecdprinciplesofcorporategovernance.htm.

4 Details on the recommendations can be found on FATF website at: http://www.fatf-gafi.org/topics/fatfrecommendations/

5 See, especially, paragraph 7 (b)ii of the IOSCO Memorandum of Understanding. Created in 1983, the IOSCO gathers the world's securities regulators to set and enforce standards for the securities sector. It "develops, implements, and promotes adherence to internationally recognized standards for securities regulation, and is working intensively with the G20 and the Financial Stability Board (FSB) on the global regulatory reform agenda" (IOSCO, website at http://www.iosco.org/about/).

6 See the PricewaterhouseCoopers 2008 independent reconciliation report for a detailed analysis of discrepancies in the tax reported by the mining companies relative to tax authority's records. PWC (2011). *Zambia Extractive Industries Transparency Initiative: Independent Reconciliation Report for Year End December 2008* (February 2011).

7 See Ndikumana (2013) for more discussion on tax revenue implications of private sector corruption in African countries.

8 The published version is Ndikumana and Boyce (2011b).

9 In Table 2.4, in calculating cumulative amounts of inflows, the data are matched with availability of capital flight series annually. So, for every country in any given year the values of ODA and FDI are discarded when capital fight is missing.

References

AfDB and GFI (2013). *Illicit Financial Flows and the Problem of Net Resource Transfers from Africa: 1980–2009*. Washington, DC and Tunis.

Andersen, J., N. Johannesen, D. D. Lassen, and E. Paltseva (2012). Petro Rents and Hidden Wealth: Evidence from Bank Deposits in Tax Havens. BI Norwegian Business School, University of Copenhagen and Stockholm Institute of Transition Economics.

Baker, D., R. Pollin, T. McArthur, and M. Sherman (2009). The Potential Revenue from Financial Transactions Taxes. *PERI Working Paper 212*. Amherst, MA: Political Economy Research Institute.

Baker, R. (2005). *Capitalism's Achilles Heel: Dirty Money and How to Renew the Free-Market System*. New York: John Wiley & Sons.

Bartelsman, J. E. and M. W. J. R. Beetsma (2003). Why Pay More? Corporate Tax Avoidance through Transfer Pricing in OECD Countries. *Journal of Public Economics*, vol. 87, nos. 9–10, pp. 2225–52.

Bird, R. (2011). The BBLR Approach to Tax Reform in Emerging Countries. In M. G. Rao and M. Rakshit (eds.), *Public Economics: Theory and Policy*. New Delhi: SAGE Publications.

Bird, R. (2012). *Taxation and Development: What Have We Learned from Fifty Years of Research?* Atlanta: International Center for Public Policy, Georgia State University.

Bird, R. and E. Zolt (2005). Redistribution Via Taxation: The Limited Role of the Personal Income Tax in Developing Countries. *UCLA Law Review*, vol. 52, no. 6, pp. 1627–95.

Christian Aid (2008). *Deaths and Taxes: The True Toll of Tax Dodging*. London: Christian Aid.

Desai, A. M., C. F. Foley, and R. J. J. Hines (2006). Do Tax Havens Divert Economic Activity? *Economics Letters*, vol. 90, no. 2, pp. 219–24.

Devereux, M. P., B. Lockwood, and M. Redoano (2008). Do Countries Compete over Corporate Tax Rates? *Journal of Public Economics*, vol. 92, nos. 5–6, pp. 1210–35.

Dharmapala, D. and R. J. J. Hines (2009). Which Countries Become Tax Havens? *Journal of Public Economics*, vol. 93, nos. 9–10, pp. 1058–68.

Elsayyad, M. and A. K. Konrad (2012). Fighting Multiple Tax Havens. *Journal of International Economics*, vol. 86, no. 2, pp. 295–305.

FitzGerald, V. (2002). International Tax Co-operation and Capital Mobility. *Oxford Development Studies*, vol. 30, no. 3, pp. 251–66.

FitzGerald, V. (2013). The International Fiscal Implication of Global Povery Reduction and Global Public Goods Provision. *UNU WIDER Working Paper No. 2013/136*. Helsinki, Finland: UNU/WIDER.

Fjeldstad, O.-H., C. Schulz-Herzenberg, and H. I. Sjursen (2012). Peoples' Views of Taxation in Africa: Theories, Evidence and an Agenda for Future Research. *ICTD Working Paper*. Bergen, Norway: CHR Michelsen Institute.

Fofack, H. and L. Ndikumana (2013). Capital Flight and Macroeconomic Policy in Africa. In I. Ajayi and L. Ndikumana (eds.), *Capital Flight from Africa: Causes, Effects and Policy Issues*. Oxford, UK: Oxford University Press (forthcoming).

Griffith-Jones, S. (October 6, 2010). Building Global Solidarity: The Movers and Makers. *The Broker*.

Hampton, P. M. and J. Christensen (2010). Offshore Pariahs? Small Island Economies, Tax Havens, and the Re-configuration of Global Finance. *World Development*, vol. 30, no. 9, pp. 1657–73.

Hebous, H. and V. Lipatov (2013). A Journey from a Corruption Port to a Tax Haven. *Journal of Comparative Economics*, article in Press.

Henry, J. S. (2012). *The Price of Offshore Revisited*. London: Tax Justice Network.

Hong, Q. and M. Smart (2010). In Praise of Tax Havens: International Tax Planning and Foreign Direct Investment. *European Economic Review*, vol. 54, no. 1, pp. 82–95.

Huizinga, H. and L. Laeven (2008). International Profit Shifting within Multinationals: A Multi-country Perspective. *Journal of Public Economics*, vol. 92, nos. 5–6, pp. 1164–82.

IOSCO (2012). *IOSCO Multilateral Memorandum of Understanding*. Madrid: International Organization of Securities Commissions.

Johannesen, N. and G. Zucman (2012). *The End of Bank Secrecy? An Evaluation of the G20 Tax Haven Crackdown*. Paris and Copenhagen: Paris School of Economics and University of Copenhagen.

Kaldor, N. (1963). Will Underdeveloped Countries Learn to Tax? *Foreign Affairs*, vol. 41, no. 2, pp. 410–19.

Kar, D. and D. Cartwright-Smith (2010). *Illicit Financial Flows from Africa: Hidden Resource for Development*. Washington, DC: Global Financial Integrity.

Kar, D. and B. LeBlanc (2013). *Illicit Financial Flows from Developing Countries: 2002–2011*. Washington, DC: Global Financial Integrity.

Marceau, N., S. Mongrain, and D. J. Wilson (2010). Why Do Most Countries Set High Tax Rates on Capital? *Journal of International Economics*, vol. 80, no. 2, pp. 249–59.

Martinez-Vazquez, J. and R. Bird (2011). Value-Added Tax: Onward and Upward? In E. Albi and J. Martinez-Vazquez (eds.), *The Elgar Guide to Tax Systems: Critical Views on Contemporary Theory, Policy and Administration*. Cheltenham, UK: Edward Elgar.

Nations, U. (2003). *United Nations Convention against Corruption*. New York: United Nations Office on Drugs and Crime.

Ndikumana, L. (2013). The Private Sector as Culprit and Victim of Corruption in Africa. *PERI Working Paper* (vol. 330). Amherst, MA: PERI.

Ndikumana, L. and K. Abderrahim (2010). Revenue Mobilization in African Countries: Does Natural Resource Endowment Matter? *African Development Review*, vol. 22, no. 3, pp. 351–65.

Ndikumana, L. and J. K. Boyce (2008). New Estimates of Capital Flight from Sub-Saharan African Countries: Linkages with External Borrowing and Policy Options. *PERI Working Paper Series*, p. 166.

Ndikumana, L. and J. K. Boyce (2011a). *Africa's Odious Debts: How Foreign Loans and Capital Flight Bled a Continent*. London: Zed Books.

Ndikumana, L. and J. K. Boyce (2011b). Capital Flight from Sub-Saharan African Countries: Linkages with External Borrowing and Policy Options. *International Review of Applied Economics*, vol. 25, no. 2, pp. 149–70.

Ndikumana, L., J. K. Boyce, and A. S. Ndiaye (2015). Capital Flight: Measurement and Drivers. In I. Ajayi and L. Ndikumana (eds.), *Capital Flight from Africa: Causes, Effects and Policy Issues*. Oxford, UK: Oxford University Press, pp. 15–54.

OECD (2004). *OECD Principles of Corporate Governance*. Paris: OECD.
Paeralta, S., X. Wauthy, and T. van Ypersele (2006). Should Countries Control International Profit Shifting? *Journal of International Economics*, vol. 68, pp. 24–37.
PriceWaterhouseCoopers (2013). *Asessing Tax 2013: Tax Rate Benchmarking Study for Industrial Products and Automotive Sectors*. New York: PricewaterhouseCoopers.
Rawlings, G. (2005). Mobile People, Mobile Capital and Tax Neutrality: Sustaining a Market for Offshore Finance Centres. *Accounting Forum*, vol. 29, no. 3, pp. 289–310.
Razin, A. and E. Sadka (1991). International Tax Competition and Gains from Tax Harmonization. *Economics Letters*, vol. 37, no. 1, pp. 69–76.
Reuter, P. (ed.) (2012). *Draining Development? Controlling Flows of Illicit Funds from Developing Countries*. Washington, DC: The World Bank.
Rose, A. K. and M. M. Spiegel (2007). Offshore Financial Centers: Parasites or Symbionts. *The Economic Journal*, vol. 117, no. 523, pp. 1310–35.
Sharife, K. (2011). Transparency Hides Zambia's Lost Billions. June 18, 2011. *Al Jezeera.Net.*
Sharman, J. C. (2010). Shopping for Anonymous Shell Companies: An Audit Study of Anonymity and Crime in the International Financial System. *Journal of Economic Perspectives*, vol. 24, no. 4, pp. 127–40.
Shaxson, N. (2011). *Treasure Islands: Tax Havens and the Men Who Stole the World*. London: Bodley Head.
Sikka, P. and H. Willmott (2010). The Dark Side of Transfer Pricing: Its Role in Tax Avoidance and Wealth Retentiveness. *Critical Perspectives in Accounting*, vol. 21, no. 4, pp. 342–56.
Sørensen, P. B. (2004). International Tax Coordination: Regionalism versus Globalism. *Journal of Public Economics*, vol. 88, no. 6, pp. 1187–1214.
Spahn, P. B. (October 6, 2010). Financial Transaction Taxes. *The Broker*.
Torvik, R. (2009). Why are Tax Havens More Harmful to Developing Countries than to Other Countries? Memorandum written for the Commission to the Norwegian Government Commission on Tax Havens. Trondheim, Norway: Department of Economics, Norwegian University of Science and Technology (NTNU).
UNCTAD, OECD, IMF, and WTO (2002). *Manual on Statistics of International Trade in Services*. Geneva: United Nations.
UNDP (2011). *Illicit Financial Flows from the Least Developed Countries: 1990–2008*. New York: UNDP.
Wilson, D. J. and E. D. Wildasin (2004). Capital Tax Competition: Bane or Boon. *Journal of Public Economics*, vol. 88, no. 6, pp. 1065–91.
Zucman, G. (2013). *The Missing Wealth of Nations: Are Europe and the US Net Debtors or Net Creditors?* Paris: Paris School of Economics.

3

Toward New Rules for Science and Technology Policy for Sustainable Development[1]

Keun Lee and John Mathews

1. Introduction

In June 2012, the UN Conference on Sustainable Development met in Rio for the "Rio+20" conference, just twenty years after the first conference in 1992 had adopted a far-reaching strategy on sustainable development. The new Rio+20 strategy, as elaborated in the statement that emanated from the conference, "The future we want" (and adopted by the UN General Assembly a month later, in July 2012) shows the UN's continuing commitment to sustainable development in three dimensions, namely promotion of an economically, socially, and environmentally sustainable future for our planet and for present and future generations. Special note was given to the continued deterioration in the global environment and the failure of past strategies to halt the fossil-fuel-based "business as usual" trajectory found in both developed and developing countries.

Among the three dimension of sustainable development, economic sustainability is concerned with poverty reduction and more directly related to the Millennium Development Goals (MDGs). The second or social aspect concerns equity and has recently been formulated into emphasis on inclusive development. The third or environmental aspect is about the ecological and resource crises faced today and which threaten the development prospects of countries around the world. While all three dimensions are relevant, the economic sustainability is particularly vital to developing countries as many of them tend to be stuck in poverty or middle-income traps as their growth is not sustained.[2] This chapter is concerned primarily with the interaction between the

economic and environmental dimensions, and investigates the role of science, technology, and innovation (STI) in enabling developing countries to reach their potential and catch-up with advanced countries, while respecting the social inclusion goals that are highlighted in the MDGs.

Advancing a nation's capacity in STI and its effective application in economic activities are essential factors for expanding peoples' capabilities and achieving sustainable development. Globalization has implied increased competition among producers/countries and further stressed the importance of STI for the dynamic transformation of economies and sustaining growth. For example, the rapid development of digital technologies and their accelerated use in hardware (computers, mobile phones, and so on) and production processes have changed many aspects of daily lives and enhanced prospects for development. Countries and individuals lacking capacity to access, adapt, and fully utilize these technologies have lagged behind the STI frontier, while the productivity and welfare gaps between the haves and have-nots have widened.

For most developing countries, the underlying strategic objective in the area of STI is to promote technological catch-up with technological leading countries (the leader), which include not only developed countries, but also some other developing countries. This catch-up process involves acquiring, mastering, and adapting new products, technologies, or managerial structure previously developed by the leader and, eventually, breaking into new markets, expanding and consolidating participation. For many least developed countries (LDCs) that do not possess a minimal technological base to start or advance in the catch-up process, external assistance may be required to enable them to establish a minimum technological platform from which the process is initiated. The initial success of the catch-up would make it possible for a country—LDCs and otherwise—to climb up the ladder in the global technological hierarchy and eventually to participate in the generation of new technology.

These considerations call for an examination of the role of technology in economic development, and the role of STI policies in the context of national development strategy as well as the potential contribution of international cooperation in the area of technology transfer and capacity building.[3] In this regard, the success of East Asian countries can be attributed to the priority in the national strategy given to policies aimed at enhancing long-term growth prospects, including policies on technology, human capital, and institutional development. STI policies were undertaken with a view toward creating or strengthening strategic industries through tax concessions, subsidies, and trade protections.

However, countries trying to catch up at present face new challenges and opportunities that the countries in East Asia did not face when they were at the initial stages of this process. First, policies promoting structural change in the economy will need to be increasingly consistent with the introduction of technologies that rely on clean energy and adapt to climate change.[4] Second, more rapid technological progress than before implies that the target of catching up and development are constantly moving and the market opportunities of today change quickly. Thus, promoting sectors based on mature technologies, while offering a good platform for promoting manufacturing, may not lead to catch-up.[5] Accordingly, the requirements to access and apply new technologies and to capture market opportunities may be more challenging to meet than before. Third, the inability of the conventional fossil-fueled industrial model to scale up and provide a sound source of income and wealth for all the world's inhabitants has to be confronted, and an alternative sustainable model of development be created.[6] This means, in effect, that developing countries need to avoid the "carbon lock-in" that constrains the uptake of renewable and low-carbon technologies in the advanced world, while securing advantages from the adoption of renewable such as Brazil is able to do from its development of bioethanol from sugarcane as a domestically developed alternative fuel. Fourth, intellectual property rights are now ruled by a multilateral agreement, The Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS), and also increasingly by regional and bilateral Free Trade Agreements, which may restrict the range of policy options available for developing countries. These patent-based regimes are not necessarily compatible with the technological development stage of many developing countries and may deter innovation in these countries (Kim and others, 2012).

The main objective of the present chapter is to examine what policy measures both at the domestic and international level are effective in facilitating technological catch-up or leapfrogging by developing countries. Analysis will be based on the experience of some successful developing countries, but with paying due considerations to the new challenges and opportunities in the twenty-first century. The focus should be not only on policies for advancing science, technology, and innovation, but also on their application in the upgrading and transformation of production structures in developing countries to drive job creation and poverty reduction. In the context of greening of development strategies and the role played by STI, our concern is to demonstrate how developing countries can formulate policies to access and utilize the accumulated

knowledge regarding the technical means of getting off a fossil fuel trajectory to a new, sustainable trajectory.

In what follows, Section 2 reviews issues and challenges related to these two dimensions of economics and environmental sustainability, and Section 3 discusses the role of STI in coping with challenges in this regard, and the necessity and feasibility of switching to an alternative growth paradigm. Section 5 discusses specific policy strategies in building up capabilities of developing countries as well as how to use STI in dealing with the problems in sustainable development. Section 6 concludes the chapter by providing the UN or international-level policy suggestions.

2. Issues and challenges in sustainable development

2.1. The middle income trap, poverty trap, and the adding-up problem

While some latecomer economies have been making a remarkable success of catching-up, many others have not been able to join the catch-up club (Lee, 2013). Despite the huge amount of development aid that has been transferred as well as policy reforms along the lines of the Washington Consensus, poverty and the widening gap between rich and poor countries still prevails. Some have blamed this on poor institutional conditions, including insecure property rights, rule of law, and so on in these economies (Knack and Keefer, 1995). Recent literature in economic development has debated the relative importance of institutions, policy, and geography as competing determinants of economic growth or as factors responsible for the reversal of fortune between former colonies and others. A stream of research, such as works by Acemoglu, Johnson, and Robinson (2001), Rodrik, Subramanian, and Trebbi (2004), and Acemoglu (2012), has emerged verifying the importance of institutions. However, cross-national empirical literature has failed to establish a strong causal link between any particular design feature of institutions and sustained economic growth (World Bank, 2005). Furthermore, Glaeser, and others (2004) proposed human capital as a more robust variable for long-run economic growth. In the meantime, the Commission on Growth and Development acknowledged the importance of government activism and industrial policy, while expressing caution over hasty liberalization and privatization initiatives (Commission on Growth and Development, 2008).

Table 3.1 Three patterns of technological catch-up

Path of the Forerunner:	**stage A --> stage B --> stage C --> stage D**
1) Path-Following Catch-up:	stage A --> stage B --> stage C --> stage D
eg.) Consumer electronics in Korea during analogue era, PC, Machine tools	
2) Stage-Skipping Catch-up (leapfrogging I):	
	stage A --------------> stage C --> stage D
eg.) Engine development by Hyundai Motors; DRAM development by Samsung (Lee and Lim, 2001); Digital Telephone Switch development by China (Mu and Lee, 2005)	
3) Path-Creating Catch-up (leapfrogging II):	
	stage A --> stage B --> stage C' --> stage D'
eg.) CDMA mobile phone, Digital TV (Lee, Lim, and Song, 2005)	

Notes: In stage C, the two technologies, C and C', represent alternative technologies.

Source: Lee and Lim (2001).

Recently an increasing number of scholars have been paying attention to the fact that many developing countries were able to show growth spurts for a certain period of time (usually less than a decade) but were unable to sustain it over a longer period, as noted by Jones and Olken (2005), Hausmann, Pritchett, and Rodrik (2005), and Rodrik (2006). We view this question of sustaining growth especially for middle-income countries as important, because many countries were able to grow and attain middle-income status but subsequently failed to go on to achieve high-income status. While there have been many studies of the poverty trap and its relevance for low-income countries, few empirical studies focus on sustaining economic growth beyond the middle-income level.[7]

We find instances in Latin American countries such as Brazil and Argentina where growth was more or less stalled during the 1980s and the 1990s (Lee and Kim, 2009, Table 3.1; Paus, 2011). These countries have arguably been caught in what could be called a middle-income country trap—defined as a situation where middle-income countries struggle to remain competitive as new countries with low-cost, high volume production take over their industries while they lack the capacity and capabilities to move to advanced industries. In contrast, several countries moved beyond the middle-income status to join the rich-country club. Examples of these include Republic of Korea and Taiwan Province of China, whose per capita income increased thrice as much over the two decades (the 1980s and the 1990s), whereas their levels used to be at par with those of Latin American countries in the early 1980s.

This trend of declining growth rates as a country that moves on from lower-middle income to upper-middle-income level suggests that sustaining catch-up growth becomes more difficult when a country is closer to the technological frontier. How can we explain the difficulties faced by middle-income countries, and what would be the possible breakthrough in this difficult situation? It also raises the important question of how a few countries such as Republic of Korea and Taiwan Province of China were able to escape this trap and continue their catching-up trajectory.

As verified in Lee and Kim (2009), the answer appears to lie in the level of expenditure on research and development (R&D) and related innovation capabilities; their country-panel analysis shows that during the first transition from low- to middle-income level, basic factors like institutions and primary/secondary education are significant, whereas in the upgrading from middle- to high-income stage, more advanced factors like tertiary education and technological innovation come to play a significant role.

This econometric finding, controlling the so-called endogeneity problem, is consistent with descriptive data. Lee and Kim (2009) show that in the early 1980s, measures such as R&D to gross domestic product (GDP) ratio as well as a number of US patents registered attained similar levels in Asian countries (e.g., Republic of Korea and Taiwan Province of China) and Latin American countries such as Brazil and Argentina. However, twenty years later or by the early 2000s, while the Asian countries passed the threshold of 1 percent ratio of R&D to GDP and filed about 6,000 US patents, the Latin American countries' R&D intensity rarely reached 1 percent while their filing of US patents never exceeded 500. The Latin American countries appeared to be caught in the middle-income trap.

Growth beyond the middle-income level is important because without a clear prospect for further development countries have less incentive to promote growth beyond the low-income level. Economic growth in middle-income countries is important in terms of poverty reduction (given that about 70% of the poor in the world live in these countries) and in terms of greening, since countries cannot switch to green technologies without achieving a certain minimum-income level. Growth of the current low-income countries may be more possible and sustained as the so-called adding-up problem is attenuated.

The adding-up problem happens when all the developing countries flood the market with similar goods that they tend to be good at producing—thus relative prices of these kinds of goods would decrease, making these sectors less profitable (Spence, 2011). Only when more successful middle-income countries move on from selling these low-end goods to the next stage of making and selling

higher-value-added or high-end goods, do they leave room for the less successful or low-income countries to continue to sell low-end goods and maintain their footing on the development ladder.

In general, sustaining economic growth in the South is important because growth is one necessary condition for job growth and poverty reduction although it might not be sufficient. However, role of STI has been limited in economic growth in the South, despite that being an important ingredient for sustaining economic growth. We will turn to how to improve this situation in the following sections.

2.2. Challenge of environment- and climate-friendly development

While sustaining economic growth is vital for poverty reduction, job creation, and avoiding the middle-income trap, the world has reached the stage where the environmental costs of economic growth have to be reconsidered seriously (UN-CDP, 2012). In other words, trade-offs between the economic and environmental dimensions of sustainable development has been increasingly felt. The related increase in the level of human activity is threatening to surpass the limits of the Earth's capacity as a source and sink (UN-CDP, 2012; Vos, 2013).

While it results from both natural factors and human activities, climate change itself is a major challenge, too. Human activities contribute through emissions of "greenhouse gases" (GHGs)—carbon dioxide (CO_2) being the major one of them. Energy use is the main source of $CO_{2,}$ followed by land use change and deforestation—but in China it is power production and cement production that generate most GHG emissions. The impacts of climate change affect livelihoods and societal welfare, such as sea-level rise, changes in weather regimes, declining agricultural output, and health effects. Developing countries will be confronted with 75 percent or more of the potential economic losses at the global level in relation to climate change and have a relatively limited capacity to respond (Opschoor, 2013).

In general, this unsustainability has distributional aspects, as poor groups and countries depend relatively more on the direct use of natural resources to secure livelihoods and development whereas there are diverse asymmetries in environmental burden bearing. For instance, 1.4 billion people are "energy-poor," that is, lacking access to forms of modern energy or electricity in particular, which in turn is hampering their economic opportunities and options to emerge from income poverty (Vos, 2013). Environmental pressure (including on natural

resources) is driven by economic growth, population dynamics, and technological change, and thus there are three basic routes to reducing environmental pressures: technological innovation, reduced economic growth, or reduced population size. Given that reducing population growth evokes a range of ethical issues and we need economic growth for poverty reduction and jobs, the least controversial way of tackling unsustainability should be to rely on the potentials of STI which may then lead to changes in the patterns of consumption.

Traditionally, it is thought that countries of the North will be the supplier of eco-innovations. However, with increasing globalization, and the growing strength of the technological capabilities in the countries of the South, the integration of these innovations into the development process in the rapidly growing economies becomes an additional option which combines both economic catch-up with environmental sustainability (Walz and Krail, 2012). Indeed, eco-innovations are seen as a possible field in which some latecomer economies might more rapidly achieve a leading position, due to lower path dependency or lock-in. An example might be the wind turbine industry which used to be dominated by European firms but has now seen significant and successful entry by firms from China and India. Although China relied heavily on European firms for most of the parts, supplies, and equipment at its early stage, it soon localized much of the production process owing to nationalistic procurement policy and local content requirements (Lema, Berger, and Schmitz, 2012). We see this as an option for other developing countries as well.

Policy frameworks thus need to be framed so as to promote widespread use of available eco-friendly technologies. Because many of such technologies are still far from commercial maturity, Governments may need to create rents to make investments in these technologies "artificially" attractive (Altenberg and Engelmeier, 2012). Temporary rents allow for testing new technologies, learning, and building up economies of scale that are necessary for commercial success. Solar energy technologies are a prominent example. While solar energy is climate-neutral and abundant, solar energy cannot yet compete with fossil fuels, especially as long as environmental costs are not accounted for (but see discussion on costs below).

2.3. Intellectual property rights: Incentives or barriers for innovation?

The subtle balance between incentive provision for knowledge production and providing access to knowledge has long been the source of conflicting views

on the role of Intellectual Property (IP) for the economic well-being of human society. History has witnessed a pendulum between more- and less-protection of IP rights (Reichman, 2009). Since the 1980s, the period for pro-protection bias had driven the IP field with the agenda of global harmonization of IP regime and TRIPS. Recent decades, however, have seen a revived concern for the anticompetitive effects of IP overprotection. Such turnaround has led to the formulation of the World Intellectual Property Organization (WIPO) development agenda and forty-five recommendations.[8] This shifting emphasis from more protection to more use of IP has coincided with a newly emerging innovation paradigm (Lee and others, 2013).

It is important to understand how the evolving nature of innovation has affected the way an economist thinks (or should think) about the role of IP rights and what policy implications these changes hold for developing countries. Developing countries are concerned more with the utilization and commercial use of IPs for the development of their societies. While protection of knowledge provides innovators with economic incentives, such incentives are to be given more priority at the later stage of economic development where these countries enjoy a higher level of technological capabilities.

Although some evidence of the IPR effects on economic growth exists, particularly with regard to patent protection (Kanwar and Evenson, 2003), the evidence is mixed. Some studies have dealt with the impact of IPRs contingent on certain conditions, stages of economic development or capabilities (Kim and others, 2012; Falvey, Greenaway and Foster, 2006; Schneider, 2005). It seems reasonable to summarize that the impact of IPRs on economic growth depends on many other factors that vary over time from country to country, including the stage of development (Fink and Maskus, 2005). More recent studies, furthermore, point out that an IP system is only one of the many factors that affect economic growth and developing countries, in particular, have more critical or binding factors than IPRs for economic growth (Odagiri and others, 2010).This latter statement is supported by the experiences of successful catching-up economies that have achieved growth without strong protection for IPRs. Also, simply raising the level of IPR protection level would not encourage more innovation expenditure or efforts in the context of developing countries where innovation capabilities are lacking. In other words, more stringent IPR protection leads to higher R&D expenditure only when there are preexisting R&D capabilities, which is not the case in typical developing countries.

Furthermore, strong IP enforcement with regard to firms may seriously reduce the catching-up probability of latecomer firms, especially small and

medium enterprises (SMEs) from developing countries. Lee and Kim (2010) and Odagiri and others (2010), in fact, cite stories of such firms having trouble with IPR lawsuits by forerunning companies, though bigger firms in developing countries have had relative success in overcoming the barriers after some troubles. Moreover, while antidumping suits were the main tools of trade disputes among countries in the past, IP litigation has become the rapidly increasing areas for trade disputes (Lee and others, 2013). The increased patent litigations over fragmented IPRs and the emergence of patent trolls are also a matter of concern for policy makers in both developed and developing countries because these create numerous regulatory and antitrust issues, and threaten the wider usage of IP for innovation and knowledge creation.

In general, it can be concluded that latecomer firms are currently facing more difficult challenges than in the past. This problem is more serious and burdensome for SMEs with limited financial and human resources to respond to litigations from forerunning companies. In such circumstance where the capabilities of firms, especially SMEs, are weak, there can be a case for the active role of the Government or public research institutes. This should be an important policy agenda. Each country should be allowed certain room to tailor its own IP system to its specific needs. In general, the developing countries at an earlier stage of growth may be encouraged to adopt a petit patent (utility models) system,[9] in addition to regular invention patents, because this secondary IP system has turned out to be successful in the past of currently successful catching-up countries like Japan, Republic of Korea, China, and most recently in Thailand after 1999 (Kim and others, 2012).

3. The search for and feasibility of a new paradigm of development

3.1. New strategic thinking about development

Development is, in essence, a process of capability building, not optimization. The difference in the income level across countries comes basically from the differences in capabilities in many aspects, including the capability to produce and sell internationally competitive products for a prolonged period of time. Then, we can reason that the Neoclassical economics cannot be a good development economics because it is all about optimization or optimal uses of (existing) resources. It also implicitly assumes that all resources are accessible

and we only have to consider how to utilize them most efficiently. But, in reality of most of the developing countries, we do not have to worry about the optimal usages of the resources, simply because we do not have them at hand. For us, the more critical issue is how to build up such capabilities, especially the private sector (Lee and Mathews, 2010).

In this view, the existing framework of overseas development assistance (ODA) is limited in helping developing countries upgrade their industrial structures to ease the adding-up problem, because it tends to focus on the public infrastructure and the nongovernmental organizations, rather than on the capacity building of private firms and entrepreneurship strengthening. A famous example involving the ODA program giving out antimosquito nets leading to collapse of the private business of producing and selling the nets illustrates this point (Moyo, 2009).

3.2. From removing the binding constraint to creating the growth poles/drivers

The concept of the binding constraints refers to those economic distortions whose removal would make the largest contribution to economic growth (Hausmann, Rodrik, and Velasco, 2008, p. 331). They suggested to undertake a diagnostic analysis to detect where the most significant constraints on economic growth are (hence where the greatest return is) and then to address them by adequate policies. But, the stark reality in developing countries is that there are too many problems or binding constraints. An idea consistent with the binding constraint is that of the investment or doing business climates. For example, many studies on the so-called investment climate report so many problems in so many areas, from telecommunication, transportations, electricity, corruption, opening businesses, financing, and so on. However, the idea that if you remove those, then growth will take off sounds somewhat naïve (Lin, 2012). It is naïve in that sense that these concepts still do not put the capabilities of the private sector at its center of discussion. In other words, the priority should be not only on improving the business climates but also on directly cultivating their capabilities. As they grow, they will come up with their own priority idea on which investment climates area to be improved first.

If there is only one universal binding constraint for developing countries, it should be the hard currencies. This is because that growth depends in a most robust manner on investment, and you need to have hard currencies to pay for the investment goods which are mostly to be imported from abroad and not produced locally in developing countries. Then, we can reason that developing

countries should promote export industries to earn the foreign currencies that are most binding for investment and growth. Despite importance of export growth, the development literature tends to emphasize the just openness measured by the trade to GDP ratio. However, several empirical studies do not find robustness of this openness variable as a determinant of growth.

Along this line of thought, the developing countries are advised to pick up and specialize into a few selective sectors or industries as growth poles or growth drivers (UN-CDP, 2012). Initially, it can be tourism, labor-intensive manufacturing, or exports of primary products like coffee, although the industrial structure had better to be diversified and upgraded along the stage of development. Focusing on a few growth poles are important because many resources are constrained and thus to be mobilized into a few strategic areas. Improving business environment can also be done first in these target sectors, rather than in every sector. Then, STI can have an important role in enhancing the possibility of upgrading capabilities and industrial structure of developing countries so that we may attenuate the adding-up problem.

3.3. Potential of science, technology, and innovation in catching-up development

While developing countries have many deficiencies, such as poor endowments of skilled labor, infrastructure, or financial capital, they do have certain advantages that they can draw on the accumulated knowledge of the developed world, and do so without the inherited constraints and inertia of the industrial leaders. This provides a clear focus and strategic goal for the latecomers. The great Russian economic historian, Gerschenkron, introduced the notion of the "latecomer effect" (Gerschenkron, 1962), which includes the fact that these countries may start to use the technology only after it become matured enough to have the standardized capital goods suitable for mass production.

However, this discussion was confined to the catching-up in the mature technology. It is Freeman and Soete (1985) and Pérez and Soete (1988) that suggested the idea of leapfrogging with focus on the role of the new technological paradigm which brings forth a cluster of new industries. It is observed that emerging technological paradigms serve as a window of opportunity for the catching-up country, not being locked into the old technological system and thus being able to grab new opportunities in the emerging or new industries. Pérez and Soete emphasize the advantages of early entry into the new industries, such as low entry barriers in terms of IPRs given that knowledge tends to reside in

public domain during its early days, as well as that there is no firmly established market leaders. During the initial stage of new technological paradigm, the performance of technology is not stable and not parochial to a firm. Therefore, if there are only the human resources who could access the sources of knowledge and create new additional knowledge, entry into emerging technology can be easier than during the later stage of technological evolution. Furthermore, catching-up countries can be said to be in a rather advantageous position as they are not locked into the existing technologies. The advanced countries tend to be locked into the current existing technologies due to the currently high productivity with the existing technologies while unsure about the profitability of emerging technologies.

The above discussion identifies two different advantages of the latecomers, the one in the mature industries and the other in emerging industries. The former is about the possibility of low cost-based entries at mature stages or into mature industries by the latecomers without bothering to bear the burden of R&D costs. The latter is about entry into new emerging industries (such as new renewable energies, and so on) at an earlier stage with the same entry costs but without being locked into existing technologies. In the former, the latecomers tend to inherit the mature industries or segment, while in the latter they leapfrog into emerging industries. The concept of the forerunners' trap applies to the latter case because the forerunners want to stay with the existing technologies until they fully recover their investment costs and benefits and thus might be late in entering new fields. Under such trap, the incumbent would allow some chance for the latecomers becoming the first mover in these new industries. Leapfrogging in new sectors such as clean technology has particular advantages (such as avoidance of carbon lock-in) but also particular barriers, as discussed, for example, by Perkins (2003).

The above discussion is consistent with the idea that there can be several different paths of the latecomer in catching up with the forerunners. Actually, Lee and Lim (2001) have identified the three different patterns of catch-up (Table 3.1): a path-following catch-up, which means the latecomer firms follow the same path taken by the forerunners, a stage-skipping catch-up, which means that the late-comer firms follow the path but skip some stage, and thus save the time, and a path-creating catch-up, which means that the late-comer firms explore their own path of technological development.

To take an example, Samsung's achievement in memory chips (Dynamic random access memories, or DRAMs) can be considered as a case of stage-skipping catching-up. Seeing the potentials of memory chip business, Samsung

decided to enter this new industry as a latecomer to the US and Japanese leaders. The time that Samsung was considering entering memory chip production was the transition period in the world DRAM industry from 16 kilobit (16 K) chips to 64 K chips. Government's advice was such that Korean firms had to start from 1K DRAM, but it was private firms' decision to skip the 1 to 16K DRAM and enter directly into 64K DRAM production. Owing to this strategy of stage-skipping, Samsung was able to save the time to catch up with the incumbent and actually become the market leader in the 2000s. A typical example of a path-creating catching-up or leapfrogging is the case of digital television (TV) development in Republic of Korea (Lee, Lim, and Song, 2005). They actually succeeded by forming the public-private R&D consortium, which was the beginning of the Korean rising ahead of Japan as in today's display market in the world. Without such risk-taking and leapfrogging, Korean catch-up with Japan would have taken much longer time or never happened.

Leapfrogging is, thus, more likely to happen when there are more frequent changes in technologies or generation changes in given products or markets, and there are certain technological sectors with such features. Lee (2013) and Park and Lee (2006) show that such features are closely linked with the variable of the length of cycle time of technologies which means the speed of how quickly technologies change or become obsolete over time and the degree that new technologies thus tend to emerge frequently. Then, we can reason that it is advantageous for qualified latecomers to target and specialize in such sectors. It is a risky venture but makes sense because the latecomers do not have to rely much on the existing technologies dominated by the incumbents and because there is always more growth opportunities associated with ever-emerging new technologies. Thus, Lee (2013) suggests, for the middle-income countries, the short cycle technology sectors as a criterion for specialization because short cycle time means a sector with less reliance on the existing technologies but with greater opportunity for emergence of new technologies. This property of new opportunities indicates more and new growth prospects, and the property of less reliance on existing technologies may lead to faster localization of knowledge creation mechanism. It also indicates lower entry barriers and the possibility of higher profitability associated with less collision with the advanced countries' technology, less royalty payments, and even first/fast mover advantages or product differentiation.

The strategy of leapfrogging makes more sense during the time of paradigm shift because every country or firm is a beginner in terms of the newly emerging techno-economic paradigm and entry barrier tends to be low while the incumbent

tends to ignore new technologies and stay with existing dominant technologies. Industrial latecomers can capture latecomer advantages by adopting green technologies, leapfrogging the stage of "carbon lock-in" that is holding back the developed world (Mathews, 2013).

Thus while almost all the technologies involved in renewable power generation, energy efficiency, heat and power cogeneration, development of alternative fuels and transport systems emanate from the advanced world, the possibilities for applying them are found for the most part in the tropical developing world, where "carbon lock-in" does not act as a constraint. There is an historic opportunity for developing countries to build new industrial systems based on renewable energies and resource efficiency that will generate advantages for the countries concerned (and serve as export platforms for their future development) as well as provide a pathway of sustainable development for the planet as a whole.

One may say that existing advanced countries also try to effect entry into new emerging or renewable industries, and there will also be fierce competition between the advanced and emerging countries. However, those from the advanced countries tend to be new or small entrants rather than big giants, which is typical of early stage in growth of new industries. Thus, during the period of paradigm change or emergence of new industries, early entrants tend to be small firms, and everybody is starting from the same start line. Thus, there will be a period of experiment and turbulence and periods of ups and downs of many companies. It is thus a period of opportunity for the firms from the developing countries, especially when they are backed by the government support in R&D and financing. Newly emerging or short-cycle technology sectors do not necessarily mean that there is no entry barrier but lower barriers, and that there is less disadvantages for the developing countries. An example might be the wind turbine industry which used to be dominated by European firms but now saw significant and successful entry by firms from China and India (Lema, Berger, and Schmitz, 2012).

For this leapfrogging strategy to work certain conditions need to hold, not only availability or access to new technologies but also management of the two important risks of choice among alternative technologies and the creation of initial markets which are discussed in relation to the digital TV development by Korean makers in Lee, Lim, and Song (2005). To handle these risks and also to create certain locational advantages, the government activism is called for.

IPRs constitute another potential obstacle. Theoretical argument has been made that IPRs tend to remain in the public domain and thus less subject to infringement issues. This has been pointed out as one of the advantage of

adopting leapfrogging strategy when there is an emergence of new technologies. However, a worrying emerging sign is that new knowledge in this area has been registered as patents in an increasingly fast manner. If this is the trend, this implies a serious damage to our goal of achieving more sustainable development with the helping hand of STI.

To build a bridge across the gap between developed and developing countries, there needs to be a certain level of capabilities to understand the risks and potentials of leapfrogging. We now turn to these issues in the next section and try to learn lessons from the existing or on-going cases and experiments.

3.4. Feasibility of new growth models

The industrialized countries today share a common pattern of energy consumption and production, involving access to new energy sources of unprecedented power (steam power, then electric power, based on fossil fuels), access to resources at unprecedented levels of exploitation (largely through exploitation of extra-territorial colonial possessions), and the targeting of finance to facilitate the construction of a vast industrial infrastructure (through new industrial banks such as the Deutsche Bank). The problem—or inconvenient truth—is that the conventional industrial model will not "scale" to satisfy the aspirations of these twenty-first-century industrial giants— let alone the aspirations of the many countries in the South that are looking to upgrade their wealth and income through industrialization. The earth's resources are already overstretched by the actions of the "first" industrializers, which have led to about 1 billion people enjoying a prosperous lifestyle. To bring up to 6 billion people to a middle-class lifestyle by mid-century (as foreseen by economists such as Michael Spence) would call for a sixfold expansion of these activities, with intensity multiplied by the accelerated pace of change. China and India are both courting disaster, from rising oil prices, increasing vulnerability to a handful of oil suppliers, and exacerbating tensions with existing industrialized countries and their "carbon lock-in."

The answer to this conundrum is not for China and India to turn their back on growth and industrial development, but to build a new kind of industrial system. This is what is known as the "green" industrial system—and the current interest of the UN and all development-oriented agencies is to ascertain to what extent a green industrial system really is being fashioned and implemented in these countries, and to what extent it may represent a fresh option for the many developing countries coming after them. Such a green development strategy is

the inevitable choice for China because it is lagging in conventional fossil-fueled technology but can leapfrog to the lead with green technology because it has such a huge population for which the traditional model would not scale. Now China has been taking important initiatives in new green growth strategies, for example, by building its renewable energy industries in earnest, and so far with notable success. In wind power, for example, China has risen from a marginal position in 2005, doubling its wind power capacity each year, to the point that it was world leader in terms of production of wind power generators and size of domestic wind power market, by the end of 2010 (Lewis, 2012).

The issue is: can the costs of shifting to a renewable energy pathway (as called for in the UN Secretary-General's Sustainable Energy for All Programme) be moderated so that developing countries are enabled to enjoy the advantages of shifting to such sources, while not paying a penalty in terms of excess costs and reduced competitiveness. Now, an emerging fact is that the costs of renewable are relentlessly coming down (due to the learning curves) while the costs for fossil fuels can only be expected to rise (driven by rising demand from the newly developing countries). This is the factor that is going to give latecomers who build their industrial strategies on green development a decided advantage. Consider the situation for solar photovoltaic power (PV). According to Bazilian and others (2012), the costs for solar PV are falling at 45 percent per year, and grid parity will be achieved (or is already being achieved) by 2015.

The message for developing countries is clear: In many low-income developing countries, with above-average isolation (which means countries right across the tropical belt), this means that producing electric power from solar PVs is now cheaper than producing power from, for example, stand-alone diesel generators. Thus the way is opening for the realization of the UN Secretary-General's *Renewable Energy for All* program.

4. Strategies and policies for sustainable development

4.1. Building technological capability

We can suggest several stages of learning and capability building which can involve eventually the final stage of leapfrogging.

The first stage is the initial stage, in which the latecomer countries tend to specialize in mature industries or the low-end segment of short-cycle technology-based industries. An example of longer-cycle technology-based sectors is textile

products, which the latecomers produce for the export market via an original-equipment-manufacturer (OEM) arrangement with the firms from advanced countries. Original equipment manufacturing (OEM) is a specific form of subcontracting under which a complete, finished product is made to the exact buyer specifications. An example of the low-end or low value-added segment of the shorter-cycle technology-based sectors is the OEM- or FDI-based assembly-type products in consumer electronics, automobiles, or telecommunication equipment. These arrangements are typical of low-income or several middle-income countries. In the early days of Taiwan Province of China and Republic of Korea, like during the 1970s, 1980s, and even 1990s, OEM accounted for a significant share of electronic exports, and served as one of the institutional mechanisms to enter into and facilitate technological learning (Hobday, 2000).

At this stage, the developing countries are learning-by-doing or exporting, and the by-products are job creation and foreign exchange earnings. Thus, policy tools often include tariffs and undervaluation of currencies that are less sector specific or horizontal. Specifically, tariff had better be asymmetric, namely higher tariffs for sectors to be promoted and lower tariffs for capital goods to be imported by the latecomers, and Shin and Lee (2012) find such tariffs had the impact of increasing the world market share of Korean products. Other forms of horizontal intervention are needed in the areas of hard infrastructure (e.g., transportation, energy, and communication). While the OEM is definitely an effective way of catching up at the early stage of economic growth, it is somewhat uncertain as a long-term strategy because the foreign vendor firms may move their production order to other lower-wage production sites (Lee, 2005). Nowadays a similar situation is happening among flower producers in neighboring East African countries as foreign vendor firms are buying flowers not only from Kenya but also neighboring countries which emerged later than Kenya.

Therefore, the OEM firms should prepare a longer-term plan of making a transition to the original design manufacturer (ODM) and finally even original brand manufacturer (OBM). The original design manufacturing (ODM) firms carry out most of the detailed product design, and the customer firms of ODM companies continue to carry out marketing functions. Meanwhile the original brand manufacturing (OBM) firms carry out manufacturing, design of new products, R&D for materials, processing of products, and conducting sales and distribution for their own brand. Thus, the path from OEM to ODM to OBM has become the standard upgrading process for the latecomer firms. A modified example of such upgrading in flower firms in Africa would be producing flowers

that can last longer with specific smells and with less insects, which require inputs of STI. Transition to OBM in flower industry means that African firms enter into marketing segments, setting up their own outlets with its own brands in Europe. Such transition to ODM or OBM is not easy but has been a narrow path toward the middle or even higher-income status in some Asian countries. Another development model available for low-income countries endowed with rich resources is a combination of black and green development, with Mozambique as an example, where cash from exports of resources can be used to pay for entry into green industries.

In general, transition to the middle-income stage and beyond calls for more sector-specific or vertical intervention policies because the country must now identify its niche between low-income countries with cost advantages in low-end goods and high-income countries with quality advantages in high-end goods. At this stage, public policy should focus on the two kinds of upgrading, namely entry into new industries as well as upgrading into higher value-segment in the existing industry, which is to upgrade the overall industrial structure (Lee and Mathews, 2012). We can suggest short-cycle technology-based sectors as a niche for latecomers, and the issue is how to break into medium short-cycle technology-based products or into the higher-valued segment of the existing sectors. Good targets for such an (import substitution) entry are those products that the latecomers had to import at higher prices due to oligopolistic market structure dominated by the incumbent countries or firms. A best existing example is the telephone switch development in the 1980s or 1990s, discussed in the preceding section (Section 4). The above experience can have implication, for example, for Nigeria or Cameroon, which produce oil but export it as crude oil without refining it. They can target to build more oil refineries which are mature or medium short-cycle technologies. The task is not impossible given that the technology needed to build an oil refinery is old and mature and is, therefore, easily available at cost. The process would be similar to the Korean entry into steel in the form of a State-owned enterprise in the early 1970s.

The final stage of leapfrogging involves public-private R&D efforts that target emerging, rather than existing, technologies. In this case, the role of the Government and public labs is to share the risk involved in the choice of technologies and to promote the initial markets. Specifically, coordinated initiatives on promoting locally developed technological standards and incentives for early adopters would be essential in reducing the risk faced by the weak initial market. In reality, larger, latecomer economies, such as those of China, Brazil, and India, have already been seeking a new development path

powered not by traditional fossil fuels but by alternative energy sources, such as biofuel and other renewable energies. Such countries are trying to move into a new low-carbon economy by developing a range of alternative energies such as wind, solar, and thermal energy, as well as photovoltaic and biogas digesters.

The three stages in the above scheme can be further elaborated with focus on the changing roles of the government research institutes (GRI) or public research organizations (PRO). The essence of such a latecomer model of technological development is the three party cooperation (*G-P-G model*), namely cooperation of the *Government research institutes (G)—Private firms (P)—Government ministries (G),* with possibly different roles of each party, depending upon the stages of development. Given that whatever case of technological development should involve the three things of R&D, production, and marketing, the GPG model implies that government research labs in charge of R&D, private firms in charge of production, and the Government in charge of marketing help in the form of direct procurement or protection by tariffs and exclusive standards.

First, the case of telephone switch would be the most typical representation of this GPG model (let us call this GPG1), where R&D is mainly done by the GRIs or public research organs (see Figure 3.1). In this GPG1, private firms are in charge of manufacturing and the Government helped marketing by procuring the domestically made products. Then, there are other variations depending upon the level of capabilities of private firms and public agents involved. The

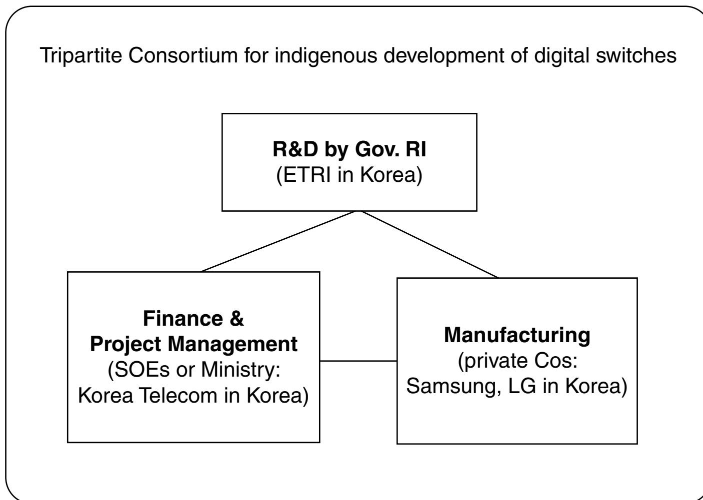

Figure 3.1 The G-P-G model of technological development

Source: Keun Lee and John Mathews (2013).

case of digital TV and code division multiple access (CDMA) mobile phone in Republic of Korea (Lee, Lim, and Song, 2005) is another variation that can be called a GPG2. In the GPG2, costs and risk of R&D are shared between government research institutes and private firms, and the GRIs do the role of technology-trend watching and coordination to bring in diverse actors into the consortium. This GPG2 model can be considered as a more advanced form of the GPG in that it is possible only when the capabilities of private firms are more advanced to be able to more R&D.

Another variation of the GPG model is the case of government agents doing both R&D and production, and this is possible when capabilities of private firms are nil or the nature of projects tends to involve more production and less R&D but some start-up costs. This variation can be called GPG0 but is actually not GPG but GG without P (without involvement of private firms), and the case of POSCO or steel development in Republic of Korea by the government-owned enterprise is the representative.

The opposite case to this GPG0 mode is that of GPG3 or PG, where government research institute is missing. An example is the case of development of automobile industry spearheaded by Hyundai Motors. As discussed in Lee and Lim (2001), in this case, the Government or a government research institute was not involved in R&D but its role was limited to providing protection of infants by tariffs. As R&D was done by private firms or Hyundai Motors, it is the GP model, not GGP model, with private firms doing both R&D and production.

In sum, based on the cases in the Korean experience, we have identified the four modes of State activism for technological development, and in the increasing order of more roles for a private firm, they are (1) the GPG0 (or GG) mode with the Government doing market provision and government-owned enterprise doing both R&D and production, (2) GPG1 mode with R&D by GRIs and production by private firms, (3) the GPG2 with more R&D shifted to the hands of private firms who are cooperating with the GRIs, and finally (4) GPG3 (or PG) mode where private firms are doing both R&D and production. In all of these variations, the role of the Government (or ministries involved) tends to be guaranteeing the initial markets in the form of procurement policies, and/or local market protection by tariffs or exclusive standard declarations.

In the above discussion of the modes of technological development, the focus has been on the roles of government ministries or research labs. However, we also note that one common element across the four modes of technological development is that they have all involved arranging access to foreign knowledge in diverse channels. As discussed in many literature (Lee, 2005), the role of

foreign knowledge is very critical, without which the latecomers' catching-up effort is often at risk and takes too much time and cost. In general, the diverse channels of knowledge access and learning included such modes as training in foreign firms and institutes, OEM, licensing, joint ventures, co-development with foreign specialized R&D firms, transfer of individual scientists or engineers, reverse brain drains, overseas R&D centers, strategic alliances, and international merger and acquisitions (Lee, 2005). Then, we can say that successful technological development by the latecomers tends to involve the three things, namely, government supports, access to foreign knowledge, and finally private firms' effort, and the weight and specific role of the three elements would differ by the sectors and levels (or stages) of economic development.

The above GPG model can be modified as the model of technological aid to the lower-income countries, in the name of the FLG or F (foreign actor)-L(local firm)-G (Government) Model (see Table 3.2). A simple idea of this is to put foreign actors (foreign research organization invited by the donor Government or UNs) in the place of the GRI/PRO in the GPG model so that foreign actors (cooperation partner) conduct R&D to transfer the results to, or solve the technical problems

Table 3.2 From GPG model to FLG (foreign actor-local firm-government) model

1st stage	**GPG0**	**F-L-G0**
Tech transfer/R&D	PRO/foreign actor	Foreign cooperation partner
production	SOEs/private firms	Local firm (private, SOEs)
market promotion/protection	Gov't	Gov't
2nd stage	**GPG1**	**FL-P-G (FLG1)**
R&D	PROs	Joint R&D by foreign & local PROs/firms
production	private firms	Local private firms
market promotion/protection	Gov't	Gov't
3rd stage	**GPG2**	**G-P-G2 (FLG2)**
R&D	public & private joint R&D	Local public & private joint R&D
production	private firms	Local private firms
market promotion/protection	Gov't	Gov't
4th stage	**GPG3 (PG)**	**G-P-G3 (FLG3)**
R&D	private firms	Local private firms
production	private firms	Local private firms
market promotion/protection	None	None

Source: Keun Lee and John Mathews (2013).

of, the local (private or State-owned) firms in developing countries (stage FLG0). Then, in the next stage or FL-P-G, foreign partners conduct joint R&D with local R&D organization or firms. Then, in stage 3, the aid-receiving developing countries become able to conduct R&D locally as private-public partnerships, which is equivalent to GPG2. The final stage is, of course, where all functions are performed by private actors.

4.2. Intellectual property strategies for latecomer firms

As discussed in the preceding section, how to handle IPRs has emerged as a vital concern for the latecomer firms as it affects their learning and catching-up possibilities. It is our view that each country should be allowed certain room to tailor its own IP system to its specific needs, which is especially true of the middle-income countries as they face more complicated and dynamic situations. In general, the developing countries at an earlier stage of growth may be encouraged to adopt a petit patent (utility models) system, in addition to regular invention patents, because this secondary IP system has turned out to be successful in the past of currently successful catching-up countries like Japan, Republic of Korea, China, and most recently in Thailand after 1999 (Kim and others, 2012).

For more specific policy lessons, we can try to learn from the more successful cases.[10] One case of government activism helping SMEs is the Industrial Technology Research Institute (ITRI) in Taiwan Province of China. The main role of the ITRI has been to conduct R&D services for, and to transfer R&D results to, industries in Taiwan Province of China. In ITRI, IP and its management is the key part of its success (Shih, 2005). The patents owned by the ITRI are classified into three grades to be a basis for the diverse uses of IPs, such as internal uses including in-house start-ups, exclusive and nonexclusive licensing, and public auctioning, among others. There have been many cases of using such IP as a basis for start-ups initiated by the ITRI staff.

ITRI has also played a vital role in promoting Taiwan Province of China's strategic industries and overcoming the entry barriers. For instance, when Taiwan Province of China entered the semiconductor industry as a follower to Japan and Republic of Korea, it had already initiated related R&D and produced many patents which were transferred to the firms. In such roles, the strategic use of IPs has been quite important. A strategy used by the Taiwanese is "patent combinations" (Shih, 2005, p. 293). There are two exemplar cases for this strategy: biochip R&D alliances and thin film transistor-liquid crystal display (TFT-LCD)

patent alliance. In the latter case, ITRI has formed an alliance with the Taiwan Province of China TFT-LCD Association (and its seven key companies) to share a portfolio of 232 key patents for large-size flat panels. With this patent pool, the Taiwanese companies were able to stage a late entry to an industry dominated by Japan and Republic of Korea because some of these patents were used to strike a cross-licensing deal with them (Shih, 2005).

There is an example from Republic of Korea in terms of several measures to help the SMEs in IPR disputes. One early initiative included the direct sharing of costs for legal IPR disputes by the SMEs. This initiative has now been changed into creating and selling commercial insurance against possible IPR lawsuits, where the Government pays 70 percent or more of the insurance premium with the maximum amount set for a company. Other ex-ante measures include a service to conduct pre-marketing/exporting investigation of the possibility of legal disputes when the SMEs plan to export to some countries. Ex-post measures included package consulting for SMEs who faced IPR lawsuits with foreign entities. Most recently, a public-private consortium fund, the so-called patent angel, was created to purchase, manage, license, and sell various types of IPRs, and help the SMEs that joined this fund either as a fee-based membership or as an equity holder; the fund was supposed to act as a patent umbrella for SMEs exposed to possible claims by patent trolls.

5. Concluding remarks and policy suggestions

In this chapter we have argued that STI can play a critical role in expediting transition to a sustainable mode of development, through the vehicle of industrial restructuring and fostering of green growth. A critical concept in this transition is leapfrogging including stage-skipping whereby the developing country can jump into a new eco-friendly techno-economic paradigm. In the case of inclusive green growth this concept has intuitive appeal because it is the developed countries that have the most infrastructural inertia in terms of business models based on fossil fuels (carbon lock-in) while developing countries have the opportunity to leap to new green energy and resource systems unconstrained by such lock-in. They also have powerful competitive advantages based on their abundance of resources (sun, land, water) which can be utilized as sources of energy, both to power the industrial development of the latecomer itself and also provide an export platform. Republic of Korea's initiatives in green growth are exemplary in this regard (Mathews, 2012).

However, if developing countries are to realize this potential they need to build up technological capabilities, accessing the knowledge store available in the developed world. There can be several roles for the international organizations like UN in helping cultivation of firm-level technological capabilities in developing countries. First of all, a renewed discussion of how to reform international trade architecture may be conducted to help the latecomer build innovation capabilities that can be started by the UN's initiatives. In domestic setting, developing countries are to be allowed certain policy space to nurture their local firms, which is not possible to emerge if they are exposed from the beginning against competition with foreign goods. Having elementary school players competing in the same soccer tournament with the professional players is not a fair game. In the international setting, the new emphasis is needed in the area of providing "access to developed country markets," and at the same time, their aid should be reformed so as to encourage capacity building of the private sector in developing countries.

Second, to further facilitate cultivation of firm-level technological capabilities in developing countries, the UN may consider starting a new initiative to promote *local-foreign partnerships (LFPs)* which can be regarded as a modification of private-public R&D consortium/partnerships (PPPs). While the latter involved private firms and public research units and was quite effective in solving innovation bottlenecks in several successful countries in East Asia, the LFP involves private firms in less-developed countries and public R&D units from developed countries in solving the existing production problems as well as in executing new business projects which may be an import-substituting or export-generating items in mature or emerging technology sectors. An UN-initiated international assistance program that might be called "STI doctors" can be mobilized to help the firms in the developing world. The STI doctors are a team of foreign experts from public R&D units, retired engineers from private sector, and policy practitioners from foreign governments. Such teams can help solve technical bottlenecks of the developing country firms in the area of innovation and management consulting and know-how. The Korean Government has promoted such programs to help the SMEs, and the UN Industrial Development Organization has already a similar program that can be extended further.

Technological leapfrogging has been practiced around the world including countries in Africa and has had tangible impacts on the pattern of production and consumption. However, a greater policy intervention is called for to expedite the diffusion of new technologies needed to maintain the upgrading momentum. Various forms of incentive or subsidy provision are needed to correct market

failures and coordination failures and to achieve economies of scale. The international community including the UN may consider setting up a global fund to support R&D activities into new environment-friendly technologies and to promote their diffusion.

Finally this chapter has considered the role of IPRs and argued that IPRs (particularly patents) can be a serious interfering factor in countries' efforts to make a transition into sustainable mode of development with the help of STI. We argue that IP systems need to evolve further from an institution to protect IP to one that fosters dissemination of technology. Each country should be allowed certain room to tailor its own IP system to its specific needs. There is a pressing need for global dialogue on the reform of the patent system. Developing countries as a group are well positioned to undertake a leadership role in adapting traditional IP laws to new technological challenges that current advanced countries have failed to address, and thus undermined markets for technology in these economies (Reichman, 2009).

The rise of innovation models utilizing multi-field and outside knowledge, and the associated rise of patent licensing have indicated a need to consider a whole new set of policies. International community including the WIPO should discuss several policy issues, such as a broad research exemption for experimental users and judicial power to require nonexclusive licensing in the spirit of antiblocking or public interests. Regarding the patenting of publicly funded research results, there is a need to install a minimum safeguard of public interests by ensuring transparency in licensing and allowing wider use of nonexclusive licensing. Also, the increasing mobility of knowledge works indicates a need for a reform in IP regime to guarantee inventors' continuing research, especially noncommercial ones, and activities regardless of affiliation changes. Various schemes such as the Inter-Institutional Agreement and the Material Transfer Agreement could be further improved and diffused, together with appropriate rules for benefit sharing.

Finally, our chapter argues that inclusive green growth is a feasible development goal that can deliver "sustainable energy for all" (in the terms of the UN Secretary General's program). Growth is essential to enable the balance of the world's population to aspire to and achieve the living standards enjoyed by the 1 billion living in the currently advanced world. Latecomers have potential advantages that, if utilized adroitly (as practiced by East Asia over the past half-century) can enable developing countries to accelerate their catch-up with the West. But they cannot do so by utilizing the traditional model of development powered by fossil fuels, since this would lead them to gross energy insecurity and

probable resource wars. The way around this supremely "inconvenient truth" is to fashion an alternative "green development" model, as arguably China is doing, and to some extent India and Brazil likewise. Green growth is thus a feasible goal for developing countries, enabling them to leapfrog the advanced world with its carbon lock-in and move to the exploitation of abundant resources in tropical developing countries. Tropical countries such as Mozambique are demonstrating that they can utilize revenues from fossil fuel resources to build a "black development" platform in order to finance entry to green sectors which promise long-term economic and energy sustainability. And green growth offers the best chances for social inclusiveness, given that almost all the renewable sources of energy will have to be developed in rural areas and can offer employment and social infrastructure development for rural communities. This would appear to be a promising way forward for developing countries.

Notes

1 This chapter is based on Keun Lee and John Mathews (2013), "Science, technology and innovation for sustainable development" CDP Background Paper No. 16. We thank Hiroshi Kawamura, Ana Cortez, and Jose Antonio Alonso for providing valuable comments for the CDP working paper.
2 See CDP Policy Note, *The United Nations Development Strategy Beyond 2015* (United Nations publication, Sales No. (E.12.II.A.3)).
3 Here technology or innovation is considered in a broader perspective in which some improvements in products, processes, or ways to do things are included.
4 Economic and Social Council, *Report of the Committee for Development Policy on Its Fourteenth Session (12–16 March 2012)* (E/2012/33).
5 See Pérez (2001), available from http://www.intech.unu.edu/events/herrera_lectures/herrera_lectures/2001_perez.pdf.
6 Economic and Social Council, *Report of the Committee for Development Policy on Its Fourteenth Session (12–16 March 2012)* (E/2012/33).
7 This issue of the middle-income trap has attracted increasing attention in a number of recent studies, including one by the World Bank (2010). Other than innovation issues, there might be various sources of the trap, such as an institutional trap (as long as institutions are not able to modify at the same pace as economic reality in middle-income countries) and a financial trap (as long as middle-income countries have to integrate in financial markets but that process turns more difficult for them to preserve macroeconomic stability).
8 The forty-five adopted recommendations under the WIPO development agenda are available from http://www.wipo.int/ip-development/en/agenda/recommendations.html.

9 While patents protect innovations of relatively high inventiveness, utility models protect those of relatively low inventiveness. Utility models are second-tier protection for minor inventions, such as devices, tools, and implements. See Kim and others (2012) for detail.

10 The cases from Republic of Korea and Taiwan Province of China are taken from Lee and others (2013).

References

Acemoglu, Daron (2012). Introduction to Economic Growth. *Journal of Economic Theory*, vol. 147, no. 2 (March), pp. 545–50.

Acemoglu, Daron, Simon Johnson, and James A. Robinson (2001). The Colonial Origins of Comparative Development: An Empirical Investigation. *American Economic Review*, vol. 91, no. 5 (December), pp. 1369–1401.

Altenburg, Tilman and Tobias Engelmeier (2012). Rent Management and Policy Learning in Green Technology Development: The Case of Solar Energy in India. Paper presented at the 2012 Globelics Conference, Hangzhou, China.

Bazilian, Morgan and others (2012). Re-considering the Economics of Photovoltaic Power. White Paper #82, Bloomberg New Energy Finance; available at: http://www.bnef.com/WhitePapers/download/82.

Commission on Growth and Development (2008). *The Growth Report: Strategies for Sustained Growth and Inclusive Development*. Washington, DC: World Bank.

Economic and Social Council (2012). *Committee for Development Policy: Report on the Fourteenth Session (12–16 March 2012)*. New York: United Nations.

Falvey, Rod, David Greenaway, and Neil Foster (2006). Intellectual Property Rights and Economic Growth. *Review of Development Economics*, vol. 10, no. 4 (November), pp. 700–19.

Fink, Carsten and Keith E. Maskus (eds.) (2005). *Intellectual Property and Development: Lessons from Recent Economic Research*. Washington, DC: World Bank and Oxford University Press.

Freeman, Christopher and Luc Soete (1985). *Information Technology and Employment: An Assessment*. Falmer, Brighton, Sussex: Science Policy Research Unit, University of Sussex.

Gerschenkron, Alexander (1962). *Economic Backwardness in Historical Perspective: A Book of Essays*. Cambridge: Belknap Press of Havard University Press.

Glaeser, Edward and others (2004). Do Institutions Cause Growth? *Journal of Economic Growth*, vol. 9, no. 3 (September), pp. 271–303.

Hausmann, Ricardo, Dani Rodrik, and Andrés Velasco (2008). Growth Diagnostics. In Narcís Serra and Joseph E. Stiglitz (eds.), *The Washington Consensus Reconsidered: Towards a New Global Governance.* Oxford: Oxford University Press.

Hausmann, Ricardo, Lant Pritchett, and Dani Rodrik (2005). Growth Accelerations. *Journal of Economic Growth*, vol. 10, no. 4 (December), pp. 303–29.

Hobday, Michael (2000). East versus Southeast Asian Innovation Systems: Comparing OEM- and TNC-led Growth in Electronics. In Linsu Kim and Richard R. Nelson (eds.), *Technology, Learning and Innovation: Experiences of Newly Industrializing Economies.* Cambridge: Cambridge University Press.

Jones, Benjamin F. and Benjamin A. Olken (2005). The Anatomy of Start-Stop Growth. *NBER Working Paper*, No. 11528. Cambridge, MA: National Bureau of Economic Research. July.

Kanwar, Sunil and Robert Evenson (2003). Does Intellectual Property Protection Spur Technological Change? *Oxford Economic Papers*, vol. 55, no. 2 (April), pp. 235–64.

Kim, Yee Kyung and others (2012). Appropriate Intellectual Property Protection and Economic Growth in Countries at Different Levels of Development. *Research Policy*, vol. 41, no. 2 (March), pp. 358–75.

Knack, Stephen and Philip Keefer (1995). Institutions and Economic Performance: Cross-Country Tests Using Alternative Institutional Measures. *Economics & Politics*, vol. 7, no. 3 (November), pp. 207–27.

Lee, Keun (2005). Making a Technological Catch-up: Barriers and Opportunities. *Asian Journal of Technology Innovation*, vol. 13, no. 3 (February), pp. 97–131.

Lee, Keun (2013). *Schumpeterian Analysis of Economic Catch-up: Knowledge, Path-Creation, and the Middle-income Trap*. Cambridge: Cambridge University Press.

Lee, Keun and Byung-Yeon Kim (2009). Both Institutions and Policies Matter but Differently for Different Income Groups of Countries: Determinants of Long-Run Economic Growth Revisited. *World Development,* vol. 37, no. 3 (March), pp. 533–49.

Lee, Keun and Chaisung Lim (2001). Technological Regimes, Catching-up and Leapfrogging: Findings from the Korean Industries. *Research Policy*, vol. 30, no. 3 (March), pp. 459–83.

Lee, Keun and John A. Mathews (2010). From Washington Consensus to the BeST Consensus for World Development. *Asian-Pacific Economic Literature*, vol. 24, no. 1 (May), pp. 86–103.

Lee, Keun and John A. Mathews (2012). South Korea and Taiwan. In Edmund Amann and John Cantwell (eds.), *Innovative Firms in Emerging Markets.* Oxford: Oxford University Press.

Lee, Keen and John A. Mathews (2013). Science, Technology and Innovation for Sustainable Development. CDP Background Paper 16.

Lee Keun, Jinyoung Kim, Junbyoung Oh, and Kyoo-ho Park (2013). Economics of Intellectual Property in the Context of a Shifting Innovation Paradigm: A Review from the Perspective of Developing Countries. *Global Economic Review*, vol. 42, no. 1 (March), pp. 29–42.

Lee, Keun and Yee Kyung Kim (2010). IPR and Technological Catch-Up in Korea. In Hiroyuki Odagiri and others (eds.), *Intellectual Property Rights, Development, and Catch Up: An International Comparative Study.* Oxford: Oxford University Press.

Lee, Keun, Chaisung Lim, and Wichin Song (2005). Emerging Digital Technology as a Window of Opportunity and Technological Leapfrogging: Catch-up in Digital TV

by the Korean Firms. *International Journal of Technology Management,* vol. 29, nos. 1–2, pp. 40–63.

Lee, Keun, Justin Lin, and Ha-Joon Chang (2005). Late Marketisation versus Late Industrialisation in East Asia. *Asian-Pacific Economic Literature*, vol. 19, no. 1 (May), pp. 42–59.

Lema, Rasmus, Axel Berger, and Hubert Schmitz (2012). China's Impact on the Global Wind Power Industry. *Discussion Paper*, No. 16/2012, German Development Institute.

Lewis, Joanna I. (2012). *Green Innovation in China: China's Wind Power Industry and the Global Transition to a Low-Carbon Economy*. New York: Columbia University Press.

Lin, Justin Yifu (2012). *New Structural Economics: A Framework for Rethinking Development and Policy.* Washington, DC: World Bank.

Mathews, John A. (2012). Green Growth Strategies—Korean Initiatives. *Futures*, vol. 44, no. 8 (October), pp. 761–9.

Mathews, John A. (2013). The Renewable Energies Technology Surge: A New Techno-economic Paradigm in the Making? *Futures*, vol. 46, no. 1 (February), pp. 10–22.

Moyo, Dambisa (2009). *Dead Aid: Why Aid Is Not Working and How There Is a Better Way for Africa*. New York: Farrar, Straus and Giroux.

Mu, Qing and Keun Lee (2005). Knowledge Diffusion, Market Segmentation and Technological Catch-up: The Case of the Telecommunication Industry in China. *Research Policy*, vol. 34, no. 6 (August), pp. 759–83.

Odagiri, Hiroyuki and others (2010). *Intellectual Property Rights, Development, and Catch-Up: An International Comparative Study*. Oxford: Oxford University Press.

Opschoor, J. B. Hans (2013). Towards Climate Compatible and Resilient Development. In José Antonio Alonso, Giovanni Andrea Cornia, and Rob Vos (eds.), *Alternative Development Strategies for the Post-2015 Era.* New York: Bloomsbury Academic.

Park, Kyoo-Ho and Keun Lee (2006). Linking the Technological Regime to the Technological Catch-up: Analyzing Korea and Taiwan Using the US Patent Data. *Industrial and Corporate Change*, vol. 15, no. 4 (March), pp. 715–53.

Paus, Eva (2011). Latin America's Middle Income Trap. *Americas Quarterly*, Winter 2011; available at: http://www.americasquarterly.org/node/2142.

Pérez, Carlota (2001). Technological Change and Opportunities for Development as a Moving Target. *Cepal Review*, vol. 75, no. 4 (December), pp. 109–30.

Pérez, Carlota and Luc Soete (1988). Catching-up in Technology: Entry Barriers and Windows of Opportunity. In Giovanni Dosi and others (eds.), *Technical Change and Economic Theory.* London: Pinter Publishers.

Perkins, Richard (2003). Environmental Leapfrogging in Developing Countries: A Critical Assessment and Reconstruction. *Natural Resources Forum*, vol. 27, no. 3 (August), pp. 177–88.

Reichman, Jerome H. (2009). Intellectual Property in the Twenty-First Century: Will the Developing Countries Lead or Follow? *Houston Law Review*, vol. 46, no. 4 (December), pp. 1116–85.

Rodrik, Dani (2006). Goodbye Washington Consensus, Hello Washington Confusion? A Review of the World Bank's Economic Growth in the 1990s: Learning from a Decade of Reform. *Journal of Economic Literature,* vol. 44, no. 4 (December), pp. 973–87.

Rodrik, Dani, Arvind Subramanian, and Francesco Trebbi (2004). Institutions Rule: The Primacy Of Institutions over Geography and Integration in Economic Development. *Journal of Economic Growth*, vol. 9, no. 2 (June), pp. 131–65.

Schneider, Friedrich (2005). Shadow Economies Around the World: What Do We Really Know? *European Journal of Political Economy*, vol. 21, no. 3 (September), pp. 598–642.

Shih, Chintay (ed.) (2005). *Industrial Technology and the Industrial Technology Research Institute: Visible Brain*. Hsinchu: Industrial Technology Research Institute.

Shin, Hochul and Keun Lee (2012). Asymmetric Trade Protection Leading Not to Productivity but to Export Share Change: The Korean Case from 1967 to 1993. *Economics of Transition,* vol. 20, no. 4 (October), pp. 745–85.

Spence, Michael (2011). *The Next Convergence: The Future of Economic Growth in a Multispeed World*. New York: Farrar, Strauss, Giroux.

UN-CDP (2012). *The United Nations Development Strategy beyond 2015*. New York: Committee for Development Policy, United Nations.

Vos, Rob (2013). Globalization at a Cross Roads: Key Challenges for the Twenty-First Century. In José Antonio Alonso, Giovanni Andrea Cornia, and Rob Vos (eds.), *Alternative Development Strategies for the post-2015 Era.* New York: Bloomsbury Academic.

Waltz, Rainer and Michael Krail (2012). Towards Modeling Innovation Driven Export Potentials for OECD and Newly Industrializing Countries—An Explanatory Study for Wind Turbines, Paper presented at the 2012 Globelics Conference, Hangzhou, China.

World Bank (2005). *Economic Growth in the 1990s: Learning from a Decade of Reform.* Washington, DC: World Bank.

World Bank (2010). Escaping the Middle-Income-Trap. In *World Bank East Asia and Pacific Economic Update 2010*, vol. 2. Washington, DC: World Bank.

4

Global Trade Rules for Supporting Development in the Post-2015 Era[1]

Ana Luiza Cortez and Mehmet Arda

1. Introduction

Development requires dynamic structural change of economy with continued technological upgrading of productive capacities and economy-wide increased productivity. These have been largely neglected in the MDG agenda but, without inclusive economic growth, it becomes very difficult to achieve and sustain social progress. Such transformation of the economy also needs to contribute to environmental sustainability and social improvements. In this regard, the chapter recognizes the importance of industrialization and the promotion of production linkages and technological upgrading given the limits to productivity growth and technological upgrading provided by natural resources-based activities and services-based development (Lal, 2004; United Nations, 2006; Ocampo, Rada, and Taylor, 2009; Panagaryia, 2008; Akyuz, 2013).[2]

International trade provides opportunities for realizing economies of scale, increases the efficiency of production, and facilitates the transfer of technology. Integration to the global economy is not an end in itself, rather a strategic component in the path to development. What a country exports and how exports are produced matter for development and the generation of productive employment. Patterns of insertion in global markets also matter: for trade to support sustained growth and the continuous productive transformation of the economy, countries need to participate in dynamic markets. With production increasingly organized through global value chains, how much value a country can capture in the chain becomes critical.

The debate about the use of industrial (or sectoral) policies to promote structural transformation is vast and evolving (Harrison and Clare-Rodriguez, 2009; Rodrik, 2008; United Nations, 2006). Successful industrializers (including developed countries) had a series of policy instruments available to promote and protect their nascent industries and agriculture. Liberalization came later for manufactures, while agriculture still remains protected. Today's late industrializers have reduced policy space for industrial and sectoral policy; they face fierce competition at the low-skill manufactures, the usual "entry point," and have to pay attention to environmental sustainability. Trade disciplines, while helping to make trade flows take place and expand in a predictable and equitable manner, need also to be sufficiently flexible to allow for the implementation of national policies that facilitate productive structural change. As the international development strategy beyond 2015 is being defined, there is need to ensure that the global trade governance supports patterns of trade integration that generate benefits and creates real opportunities for sustainable inclusive development for all countries.

The rest of this chapter is organized as follows. Section 2 reviews recent trends in international trade and identifies the main forces behind increased trade flows and the diversity of trade and development outcomes among developing countries. It highlights the role trade rules have played in shaping these outcomes, the significance of global value chains (GVC), and the emerging challenge to reconcile pressures for increased standardization of rules with the needs for policy flexibility for promoting structural economic transformation in developing countries. Section 3 presents a brief overview of the evolution of multilateral trade rules, the approaches to address the difficulties developing countries have experienced to fully benefit from trade and how effective those responses have been. It analyses recently completed and currently ongoing negotiations at WTO and identifies significant changes in how development has been approached at that forum over time. Section 4 concludes.

2. Recent trends in international trade

Global exports of merchandise reached over $18.5 trillion (current values) in 2013, which corresponds roughly to 26 percent of world gross product up from 17 percent in 1981. Merchandise trade volume grew particularly fast from the late 1990s into the first years of the 2000s, but has decelerated sharply since the great financial and economic crisis that hit the global economy in 2008. As seen in Figure 4.1, imports remain below their pre-crisis trend level, particularly in

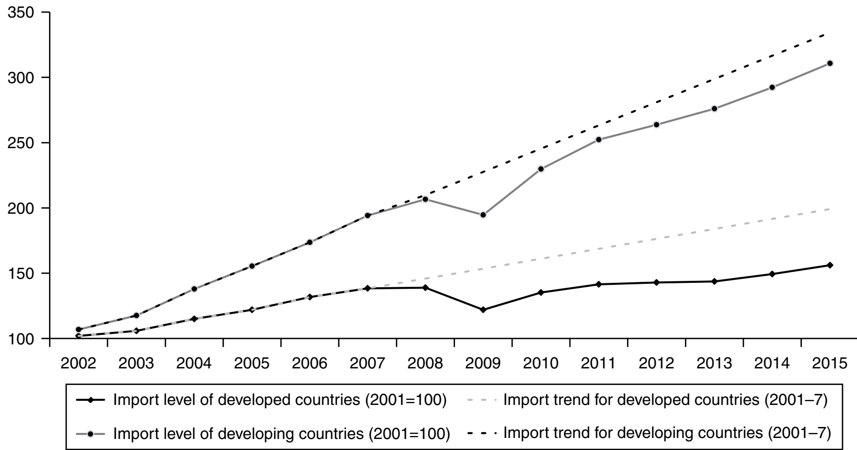

Figure 4.1 Merchandise import trends in developing and developed economies, 2002–15 (2001=100)

Note: Figures for 2013 are partially estimated; 2014 and 2015 are forecasts.

Source: United Nations (2014).

the developed economies (some 28%), and it is likely that this gap will persist in the near future (more below).

The expansion of trade is mostly accounted for by growth in non-commodity exports. Growing at an average annual rate of 5.5 percent during the period 2001–11, manufacturing remains the largest (70% of world trade in 2010) and the most dynamic sector (particularly high-tech products such as computers and electronics) of international trade. Exports of high-skill and high-tech manufactures recovered quickly from the negative impact of the global crisis and surpassed pre-crisis level in 2010 (nominal terms). Trade in agricultural products, fuels, and other mineral commodities grew at more modest rates during the past decade (4% and 2.7%, respectively). Nevertheless, certain commodities, helped by favorable prices, exhibited considerable dynamism (gold, iron, precious metals, natural rubber, coal and vegetable fats and oils, closely followed by spices and oilseeds).

The share of developing countries in world exports expanded from 25 percent in the period 1990–2 to 43 percent in 2010–12. This trend is dominated by China, the Asian emerging industrialized countries and India (Figure 4.2). Africa and LDCs lag behind. Export composition changed considerably for the group of developing countries. The share of primary commodities in nonfuel exports declined from over 50 percent around 1980 to less than 30 percent in the 2000s. Moreover, the group also increased their share in world exports of high-tech manufactures, which reached 25 percent in the 2000s (United Nations, 2010).

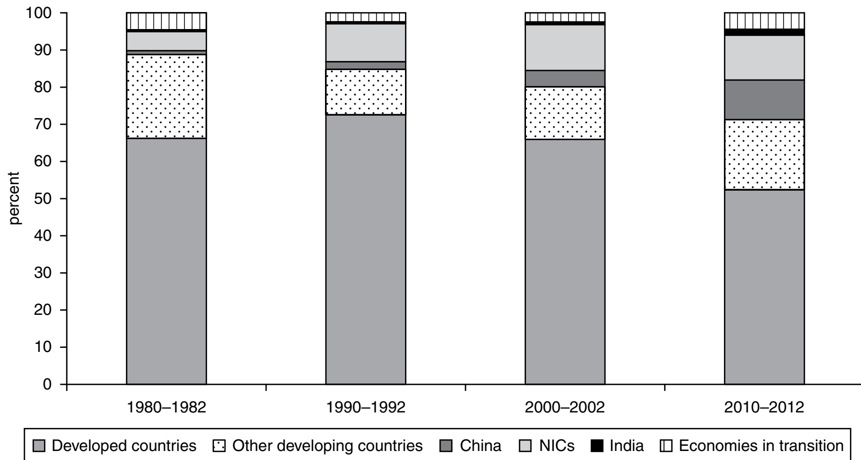

Figure 4.2 Share in world merchandise exports by selected groups of countries, 1990–2012

Note: Shares were calculated on the basis of current U.S. dollar values.

Source: UNCTADStat online database.

The successful Asian industrializers, including China, also increased their share in nonfuel commodity exports, indicating that export success is a comprehensive phenomenon rather than confined to manufacturing (see Table 4.1). Largely because of these countries, the share of developing countries in global nonfuel commodity trade has grown from 40 percent in 1995 to 51 percent in 2011 (UNCTAD, 2013a).

Trade in services has experienced growth comparable to merchandise trade. The ratio of service to merchandise trade remained relatively stable at 25 percent during the period 1990–2010. Communications, insurance, financial, computer and information are the most dynamic subsectors of services trade, covering over 53 percent of global exports of all commercial services in 2011, up from 45 percent in 2000 (WTO, 2012). Despite strong presence of some developing countries (China, India, the Republic of Korea, Turkey, and Singapore), most exports of services are still generated in the developed economies, not only in the more dynamic subsectors but also in traditional sectors such as travel and transportation. Recently, a few other developing economies have increased their importance as exporters of commercial services, notably Mexico (insurance services), Israel, and Philippines (computer and information services).

Table 4.1 Developing countries regional groupings: Share in world exports by product group, 1995 and 2011 (%)

(world =100 percent)	All products		Food		Agric. raw materials		Ore and metals		Fuels		Manufactures	
	1995	2011	1995	2011	1995	2011	1995	2011	1995	2011	1995	2011
Developing countries	28.5	39.5	25.8	36.2	30.4	49.2	27.7	47.9	26.0	40.8	29.6	38.8
Africa	2.5	3.0	4.4	5.9	2.4	2.5	1.3	1.6	1.9	2.7	2.5	3.0
Latin America	4.8	5.9	4.8	5.8	3.7	4.3	2.3	2.3	4.8	4.9	5.0	6.6
Eastern, Southern and South-Eastern Asia	18.7	26.4	13.0	18.8	22.2	39.1	22.1	39.1	16.8	31.0	19.6	24.8
Western Asia	2.4	4.0	3.4	4.6	2.0	3.3	2.0	4.8	2.1	2.1	2.4	4.2
Oceania	0.1	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2

Note: It may not sum up due to rounding.

Source: UNCTAD, *Handbook of Statistics* 2012, Table 2.2.A United Nations publications No. B.12.II.D.1.

Table 4.2 Intraregional exports as a share of total merchandise exports, 1990 and 2010

Regions	1990	2010
Developing countries	35.9	56.3
Latin America and the Caribbean	16.1	20.7
Western Asia	6.7	10.3
Eastern Asia	26.2	30.8
Southern Asia	4.6	7.2
South-eastern Asia	19.2	25.2
North Africa	3.3	4.1
Sub-Saharan Africa	12.5	20.3
Memo items		
Developing countries excluding China	31.9	45.2
Economies in transition	19.1	14.2
North-North	77.2	68.8
EU	65.3	65.3
North America (developed economies)	34.2	32.3

Source: UN COMTRADE online database.

The increased presence of developing countries in world trade is reflected in two fronts. First, there is a noticeable increase in South-South trade: 56 percent of the developing country exports were directed to the group in 2010, up from 36 percent in 1990, as seen in Table 4.2. This trend remains valid even when we exclude China.[3] Exporting to regional markets is often less demanding than participating in global supply chains and in some cases can serve as stepping stones to the global markets. On the other hand, China—currently the world's largest exporter—sends an increasing share of its exports to developed countries (50% in 2010 compared to 36% in 1990), which remain the main sources of external demand. Second, there has been a decline in the relative importance of North-North trade for developed countries' exports from 77 percent in 1990 to 69 percent in 2010 (based on value of exports). Thus, developing countries are not only increasingly important export markets for themselves but also for the advanced economies.

Another important trend is the growing importance of regional merchandise trade. While the share of intra-regional trade flows across the various regional groupings of developed economies have either stabilized or declined over two decades, the share of intra trade flows increased in all developing regions (Table 4.2).

2.1. The small print

These trends mask a marked diversity among developing countries. As mentioned earlier, there were significant gains in market share by Eastern and Southern Asia, much smaller gains by Latin America, but no gains by Africa. Particularly in the case of the least developed countries (LDCs), increased share in world trade is largely due to price effects—associated with the latest commodity boom—rather than greater market penetration.

2.1.1. Commodity dependence and price volatility

In all, ninety-six developing countries (of which fifty-eight nonfuel exporters) and most LDCs still derive at least 50 percent of their export revenues from commodities. The share of primary commodities in total nonfuel exports increased slightly in South America and significantly in Sub-Saharan Africa from the 1990s to the 2000s, two developing regions where export growth has not been rooted in structural transformation toward manufacturing (United Nations, 2006 and 2010).

Price instability (around the trend), which has always been a problem for commodities, increased over the past thirty years. The traditional causes of fluctuations continue, such as supply failures, response lags, and farm support policies which suppress global prices when they are already low. In agriculture, increasing climatic volatility is an aggravating factor. Prices diverging from fundamentals give wrong signals, causing further fluctuations. Recent support in developed countries for biofuels as well as export restrictions, imposed by both developed and developing countries, for various reasons including food security, also distort markets and aggravate price volatility. Closer links between financial and commodity markets have been also associated with increased fluctuations (FAO, 2006). However, no significant difference in price fluctuations was observed between commodities included and not included in index funds.

Excessive price fluctuation is a major concern for commodity markets, but given the lack of political will to implement market intervention schemes, the means to deal with commodity price instability are limited to improved market transparency, risk management instruments, and timely provision of information.

Price trends over the last decade have been favorable for commodity exporters. Terms of trade improved for most of them. Yet, the nominal commodity price increases observed in the late 2000s seem to have only restored real prices to levels reached in the late 1960s–early1970s and interrupted the long-term price

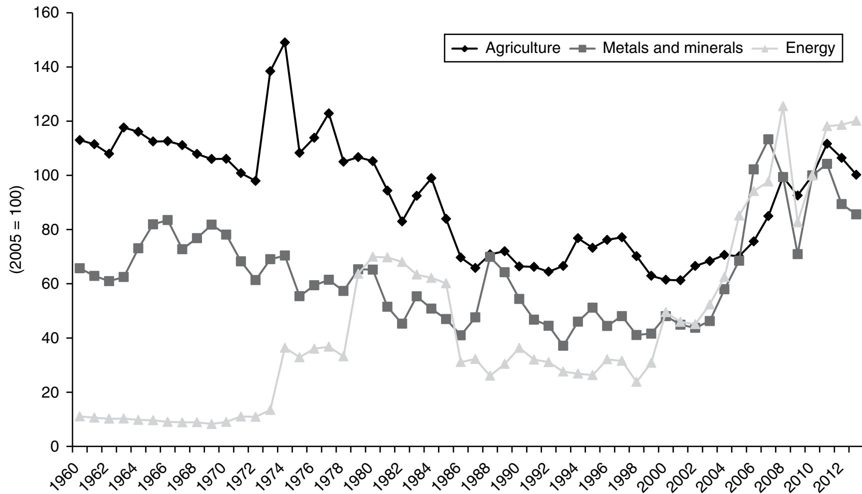

Figure 4.3 Indices of real fuel and nonfuel commodity prices, 1960–2013 (2005=100)

Note: Nominal prices were deflated by using a manufacturing unit value index (MUV). The MUV is a composite index of prices for manufactured exports from the fifteen major developed and emerging economies to low- and middle-income economies, valued in US dollars.

Source: World Bank (pinkdata), January 2014 update.

declines commodity producers have been experiencing (see Figure 4.3). To the extent that "Dutch disease" effects and rent-seeking behavior are avoided higher commodity prices should impact positively on the economies of commodity dependent countries. Relatively high prices are unlikely to be sustained in the long run, unless China and other major emerging economies are able to delink from the prolonged period of slow growth anticipated for the developed countries (Erten and Ocampo, 2012). In April 2014, the IMF indicated that futures markets showed most commodity prices remaining flat or declining over the next twelve months, with the exception of gasoline, natural gas, and some food products (IMF, 2014).

2.1.2. Trade in intermediates

A good chunk of trade dynamism is explained by the fast growth in trade in intermediates, which doubled from 1995 to 2009 to reach $5.4 trillion—51 percent of nonfuel world trade (WTO-EDE-JETRO, 2011). With components entering, leaving, and reentering various countries at different stages of processing, trade statistics are inflated owing to double counting. Notwithstanding the wide diversity across industries and patterns of integration to the world economy, in most economies, about one-third of the imports of intermediary inputs end

up in exports, and the share is usually higher the smaller the economy. Even in large developed economies, such as Japan and the United States, the share of intermediates in exports is substantial: 20 and 15 percent, respectively (Ahmad, 2013). Imported intermediaries can also embody previously generated domestic value added: 5 percent for the United States, close to 7 percent for China (OECD-WTO, 2013).

There is a noticeably growing dependency of production, particularly exports, on imports generating higher shares in world exports than would have been the case if trade were calculated in net, value-added terms. How much value added a country captures and how integrated to the domestic economy these export processes are have significant growth and development implications. The latter also depends on to whom value added accrues and how it is used. The mineral and fuel-exporting countries where the proportion of retained value added is relatively high, but economic development has not taken place as anticipated, provide examples of inefficient and/or inappropriate use of retained value added.

Value-added capture depends on the market structure, the extent of competition, and the organization of the value chain. For instance, in the coffee sector, the share of total value of the final product going to major corporations from consuming countries increased from 50 percent to 75 percent, while that retained by primary coffee producers declined from about 20 percent to 10 percent since the 1970s (FAO, 2013). Certain commodities, however, such as fruits and vegetables, and cut flowers not only generate relatively high value added but also have considerable linkages with the rest of the economy.

2.2. The tectonic plates

The rapid expansion of world trade and increased participation of developing countries in international trade system have been underlined by five major trends. First, increased liberalization of trade and investment flows over the past decades. Trade liberalization has been facilitated by the successive GATT rounds. These efforts aimed at greater discipline on trade flows and the consolidation of a rules-based trade regime anchored on the principle of nondiscrimination and national treatment. They have led to an overall decline in tariffs both in developed and developing countries. Nontariff measures, however, remain an important determent to trade. Beyond the rounds, trade liberalization has been particularly noticeable in developing countries since the 1980s, not only autonomously, but also in the context of the structural adjustment programs. The liberalization

of foreign direct investment (FDI) regimes and the mushrooming of bilateral trade and investment agreements are also important factors underlying these trends. Developed countries have, on average, very low tariffs but, overall, cuts in tariffs have been lower on products of export interest to developing countries (low skill manufactures, agriculture); tariff peaks (sensitive products), and tariff escalation still remain (ITC, 2010). Liberalization has been impressive in services (particularly in financial and insurance services), though Mode four of service exports (presence of natural persons) remains pretty much closed.

Second, developments and improvements in transport infrastructure plus technological progress, not only in transport sector (e.g., containerization) but also in telecommunications, have been important trade drivers. Ocean shipping costs have declined after peaking in the mid-1980s; technological changes in air shipping and declining costs of rapid transportation have been critical to support trade growth. Transport costs, however, remain high for many landlocked countries, particularly in Africa, not only because of inadequate "hard" transport infrastructure but also owing to organizational, institutional, and governance-related barriers. For landlocked LDCs the cost of transport can be more than twice as high as that for other developing countries (Lamy, 2013).

Third, owing to innovations, which allowed increased fragmentation and specialization and the fast spread of information and communication technologies, new ways of doing business emerged. It became increasingly economical to separate manufacturing stages geographically (Baldwin, 2011). This has led to the consolidation of global value chains (GVC) or the slicing up of the supply chain internationally through formal or informal networks of firms. In the 1990s and 2000s, production activities organized in GVCs grew tremendously involving finished products, components, and subassemblies, not only in manufacturing but also in food production, energy, and services (Gereffi and Lee, 2012).

Fourth, the industrialization and urbanization of India and China implied fast growing demand for commodities further supporting trade growth. Increasing incomes in other important emerging markets, such as Brazil, Indonesia, Korea, Mexico, and Turkey, also provided an important boost for trade.

Fifth, in the period 2007–13 GDP growth and export/GDP elasticity have been smaller than before (see Figure 4.4). The deviation from previous growth trend is stronger in the case of developed countries, but also noticeable for developing countries. While expenditure and demand for final goods remain constrained, it is difficult for trade to grow fast.[4] Additionally, there is evidence of re-shoring or on-shoring of some activities by some GVCs, especially in

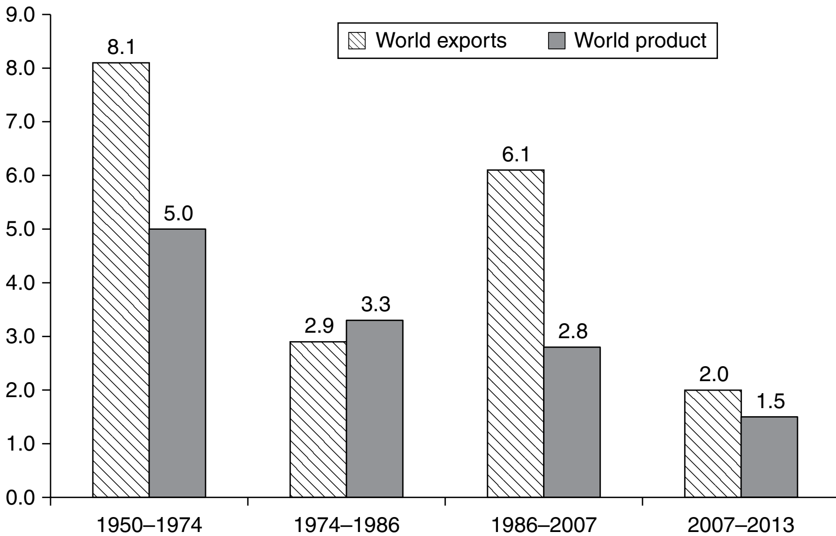

Figure 4.4 World exports and world gross product: Average annual rates of growth

Sources: WTO, International Trade Statistics 2013 and United Nations, World Economic Situation and Prospects 2014.

the United States. Reasons for re-shoring vary across countries and include improved cost competitiveness (energy in the case of the United States), higher labor force skills, concerns about supply disruptions, and increased transport costs (*Financial Times*, March 3, 2014).

2.3. Moving forward: Trade and participation in GVCs as a means

The emergence of the GVC model brings important implications for industrialization, technological upgrading, and development. Most early industrializers created relatively well-developed and complete supply chains at home. The nascent industry was often sheltered from external competition and promoted with macroeconomic and sectoral policies. Policy tools of the past have been drastically reduced by the liberalization wave. Nowadays, it is argued that industrialization often starts by joining a GVC (Gereffi, 2013), and the path followed by early industrializers is no longer relevant as guidance for countries at the early stages of industrialization.

Joining GVCs may lead to a "shallow" industrialization in some cases, with countries—particularly low-income and LDCs—unable to forge the necessary production linkages with the rest of the domestic economy. With undeveloped

or incipient production and technological structures, countries remain stuck in unprocessed low-value commodities or simple assembling activities in the supply chain (where competition is intense and returns are low). They remain incapable of expanding their own domestic markets and developing technological capabilities for upgrading and attaining a more productive economic structure. A minimum domestic manufacturing base or an efficient agriculture is required (beyond infrastructure and a disciplined labor force) if the country wants to be more than a supplier of cheap labor in the GVC. It is unlikely that this required minimum base will be developed by the foreign investors, as the existence of that base is one of the reasons why FDI goes to that country in the first place (United Nations, 2006). Other factors also play a role in GVC location, such as access to foreign markets and to strategic knowledge assets (skilled labor, research centers, etc.).

Another important consideration for developing countries is the transient nature of some GVCs. As decisions to fragment production internationally are largely dependent on the trade-off between production and transaction costs, production supply links may be severed when such trade-off is not advantageous. This is particularly true in the unskilled labor segments, but not confined to them. Orders move from country to country as labor costs rise. Technology transfer in the GVC works more as "technology lending" as it is firm specific and often protected by strict intellectual property rights (IPR) provisions. While performing a specific task is learned, the possibilities for understanding the entire process of how a product or component is designed and constructed are minimal. Thus, the level of technological sophistication embodied in products exported may not necessarily correspond or reflect the level of domestic technological capabilities (Baldwin, 2011). Managerial and technological spillovers tend to be positive and greater when there is interest in establishing a presence in the domestic market or when the input is not easily available elsewhere.

2.3.1. The importance of patterns of insertion and association

The literature on GCVs and their impacts on development is vast and growing, but a review is beyond the objectives of this chapter. Potential negative implications of joining a GVC that need to be avoided could be grouped under "fatal attraction" type of impacts where the presence of the chain is due to the existence of cheap labor and raw materials, and generates little positive spillover effects for the rest of the economy (United Nations, 2006; UNCTAD, 2013b). It may lead to a "race to the bottom" or "self-defeating competition" in terms of

labor and environmental regulations and a significant erosion of policy space well beyond what is agreed multilaterally (United Nations, 2010; Blanchard, 2013). Potential positive impacts would fall under a "happily ever after" type of effects, where technological upgrading, increased productivity, and domestic linkages are created, while "raising the bar" in terms of social and environmental standards (UNCTAD, 2013b). Private standards imposed by some GVCs can act as trade barriers, but also as promoters of upgrading and a means of market entry. These are certainly crude characterizations and most outcomes lie somewhere in between these two extremes.

Patterns of GCV insertion matter. The capture of value added within the chain, including product development, design, branding, and marketing, depends on strategies that promote the creation of domestic capabilities, support innovation, and technological upgrading (Lee and Matthews, 2013). Product differentiation through various means of certification (such as "organic" or "fair trade"), performing tasks associated with the retail end of the chain (such as packaging and bar coding) and quality assurance by trusted entities also augment retained value added. Export bans for unprocessed commodities such as timber have also helped in increasing processing and value added. Such bans may generate, however, the risk of some producers quitting the country. The possibility of facing WTO disputes and trade barriers also arises.

Diversification is fraught with difficulties. Provision of information to businesses is crucial but it also necessitates support in the form of financial incentives. This is particularly important for inciting the initial entrepreneurs to undertake the necessary risks from developing and producing a new product, entering (or creating) new markets, and embarking upon a discovery process. Therefore, temporary incentives and support practices, including financial ones, all amply used in the past, may be necessary (Rodrik, 2005). Moving forward, the question for developing countries, as far as GVCs are concerned, is how to integrate into the supply chain in a way that allows for the absorption of a growing labor force at increasing levels of productivity and incomes. For the successful emerging economies, joining a GVC or attracting multinational companies and FDI have not been ends in itself but part of a clearly drafted strategy.

2.3.2. Trade rules: What role?

Global trade rules must be assessed in terms of their efficiency in maintaining stable and predictable trade flows and in providing a transparent regulatory framework to the advantage of all. Multilateral, regional, and bilateral trade

disciplines have evolved largely reflecting the needs and interests of the production sectors and big business in dominant economies. Rules were extended to new areas and provided deeper disciplines as business models changed, new practices emerged, and the organization of production became increasingly complex and internationally fragmented. Initially, multilateral disciplines were essentially about market access in industrial goods, although some of the products (textiles and garments) were initially excluded. With the Uruguay Round (UR), trade rules moved into services (Agreement on Trade in Services, GATS), investment (Agreement on Trade Investment-related Aspects, TRIMS), and intellectual property rights (Agreement on Intellectual Property Rights, TRIPS). Numerous bilateral and regional agreements have been signed introducing stricter discipline to trade and investment flows, moving the liberalization frontier forward but leading to a disjuncture between what is agreed multilaterally and what is agreed bilaterally (Girvan and Cortez, 2013).

While lower tariffs are an important component of this process (particularly on intermediates), the current business model also requires well-functioning and efficient communication systems, transportation services and infrastructure as well as protection of foreign investment—not only tangible but also and perhaps more importantly intangible capital—open financial system, and regimes supporting the flow of skilled labor. With big firms operating in multiple countries, transaction costs can be reduced when laws and regulations are standardized and reflect those of the headquarter economy. However, it is unclear whether increased standardization of laws and disciplines among countries that are (still) quite unequal in terms of economic power and capabilities are in the best interest of all. As a minimum, these trends raise serious equity concerns.

At the UR developed countries were able to retain important policy tools used to protect their agriculture while settling the "base-line protection"—upon which reduction commitments were to be made—at very high levels. For many developing countries, competing with subsidized agricultural products is a fundamental problem. Albeit slowly declining, price distorting support still continues. Among products of export interest to developing countries, rice, sugar, and cotton are the major beneficiaries of support (Elliott, 2013). Cotton subsidies reach almost 90 percent of the market price in Spain and 50 percent in Greece. China, the biggest cotton producer has the largest support program in value terms, followed by the United States, the largest cotton exporter (ICAC, 2013). Discussions on reducing support to agriculture are generally prompted by budgetary concerns.

As the international community advances to define the international development strategy beyond 2015, there is need to assess how global governance of trade can ensure that increased trade integration generates benefits and creates real opportunities for sustainable inclusive development in all countries. Addressing the current tension between multilateral disciplines and those included in free trade agreements (which are becoming increasingly interregional), is important in this context so as to avoid further fragmentation of trade rules and world trade. Some 35 percent of world merchandise trade is conducted under RTA arrangements (WTO, 2011). That share can become significantly larger if mega RTAs such as the Trans-Atlantic Trade and Investment Partnership (TTIP), the Regional Comprehensive Trade Partnership (RCEP), and the Trans-Pacific Partnership (TPP) come into force. It will leave the WTO to manage residual flows and exclude a great number of countries which, even if admitted to the schemes, would have had no voice in shaping the disciplines contained in those arrangements.

Another important tension relates to the role of trade rules and how they can be formulated to promote development. WTO members established that trade relations are to be conducted with a view to raising living standards in a manner consistent with countries' respective needs and concerns. In this regard, (i) should trade rules further advance globalization and integration as embodied in GVCs (emphasizing the reduction of transaction costs, standardization of rules, and regulations)? Alternatively, (ii) should they allow for greater policy flexibility and the use of instruments for the promotion of structural transformation and the upgrading of productive capacities? [5] As currently approached, these objectives seem to be in conflict, and the challenge is how best to reconcile them. This reconciliation is even more demanding if one takes into account the principle of nondiscrimination (most favored nation and national treatment) that underline trade rules under GATT/WTO and the large number of WTO members with diversified capabilities and development needs.

3. Global rules: Free trade at a cost

The initial five trade liberalization rounds were essentially tariff reduction rounds, but as tariffs were lowered, behind the border protection became important and the rounds started to cover other areas beyond tariff liberalization. The rounds were largely dominated by developed countries and reflected the interests as well as the disciplines prevailing in these economies. Developing countries'

participation was minimal. Areas where developing countries had a trading interest were often excluded (e.g., agriculture, clothing, and textiles—often "sensitive sectors" in developed economies) as an implicit *quid pro quo* for their less than full reciprocity in trade concessions (Das, 2007). Yet, it is far from clear whether developed countries would accept rules that would take developing countries' needs into account as replacement for "less than full reciprocity." An important point to keep in mind is that sixty years ago developing countries were not relevant trade powers; many were at the early stages of industrialization, and it is likely that their negotiating capabilities were equally incipient. During the UR developing countries were no longer a homogenous block of commodity exporters and a few among them had become formidable competitors to developed countries. Yet, their approach to negotiations had not changed. This would take place slowly and more visibly—albeit centered in few countries—in the Doha Round.

3.1. Integrating developing countries: Special and differential treatment

Special and differential treatment (SDT) for developing countries was first introduced in the 1950s to address balance-of-payment difficulties and to protect infant industries of developing economies. In 1964 (Kennedy Round) the need for more favorable market access was recognized and developed countries agreed not to expect reciprocity for their commitments. The General System of Preference (GSP) was established in 1968. Selected products originating in developing countries would be granted tariffs lower than those under the (Most-Favored-Nation MFN) treatment, on a voluntary basis. In 1979, the adoption of the *Enabling Clause* provided a legal basis for deviations from the principle of nondiscrimination and for special treatment for the LDCs. It was not supposed to last forever. The Clause also indicated that developing countries were expected to "participate more fully in the framework of rights and obligations" under the GATT as they develop and their trade situation improved (art. 7).

The principle of nonreciprocity of commitments by developing countries was maintained in the UR. But with the "single undertaking" developing countries could no longer opt out specific agreements. In addition to several of the Tokyo's plurilateral agreements becoming integral part of the round, the UR also included disciplines on services, intellectual property rights, investment, textiles, agriculture, dispute settlements, sanitary and phytosanitary measures, technical barriers to trade, and rules of origin. The UR also introduced major changes

in the thrust and objectives of special and differential treatment. With most of the regulations reflecting the rules and legislation prevailing in the developed countries, adjustment and implementation costs fell largely on the developing countries. These new commitments by developing countries implied need for flexibilities in the implementation of the new trade rules (longer transition periods, simpler or less frequent reporting requirements) and increased technical assistance for building institutional capacities. Most of the UR (and post UR) SDTs aim at guaranteeing participation by developing countries (and LDCs) in the multilateral trade regime and facilitating the implementation of the new disciplines.

While preferential market access on a nonreciprocal basis was maintained, the special rights of developing countries shrunk, and became subject to more stringent discipline. For instance, approaches used in the past such as compulsory licensing, reverse engineering, and copying are restricted or forbidden. Performance-related requirements on foreign investors, such as local content or trade-balancing requirements, are no longer allowed. Subsidies and incentives related to the use of domestic product, or to expected level of export earnings, are forbidden. Subsidies supporting a sector can be contested if another signatory proves them harmful to its economy. Meanwhile, tariff binding coverage increased, thus tying countries to a given level of protection but bound tariffs remained much higher than applied tariffs (United Nations, 2006; Akyuz, 2009; Khor and Ocampo, 2011), particularly in developing countries.

3.2. Beyond WTO: Further constraints to policy space

UR disciplines are only part of the story of reduced policy space in developing countries. In fact, bilateral and regional free trade agreements (RTAs) contain provisions which are more stringent than those adopted at WTO, often including areas not under WTO jurisdiction (such as labor and environmental legislation, competition policy, movement of capital, etc.), and which place considerable restrictions on national governments. By their very nature, RTAs do not include any sort of special and differential treatment (except in some regional agreements where LDCs are signatory parties) while they create the so-called spaghetti bowl effect compromising the efficiency and coherence of the multilateral trade regime.

RTAs have evolved over time. "Old generation" RTAs focused on tariffs and rules of origin. But as tariffs fell and business models evolved, a "new generation" of RTAs emerged. The new RTAs are not necessarily concerned with market

access but rather with the removal of impediments and the reduction of costs and risks associated with the operations of international production networks. These concerns fall more under services (particularly mode 3, commercial presence) and behind the border regulations than under goods and at the border barriers. Baldwin (2014) argues that the new RTAs could be understood as "factories for reform" type of deals and, as such, they reflect a bilateral rather than a multilateral contract. Baldwin also reasons that the new RTAs are less distortionary, in terms of creating a tangle of preferences, than RTAs centered on goods as "rules of origin" are leakier for services (mode 3) than they are for goods (Baldwin, 2014, p. 30). Corporate activity regardless of nationality is subject to the same rules when operating within the borders of a given country (but with a caveat: the so-called regulatory takings discussed further down). Nonparty MFN provisions also contribute to multilateralize preferential market access to a certain extent. Yet, new RTAs may create a problem for ensuring coherence in the global governance of trade. They may also undermine the centrality of WTO in setting rules (particularly in view of the imminence mega RTAs). RTAs also restrict policy space beyond what might be necessary for managing spill-over effects coming from national actions effectively, lead to competitive liberalization by developing countries, and to the premature adoption of policies not necessarily compatible with their development needs.

Besides RTAs, further policy constraints originate in bilateral investment agreements (BITs), which regulate bilateral investment flows and go well beyond the obligation of providing prompt, effective, and adequate compensation in case of expropriation. BITs also include provisions on dispute settlement, repatriation of profits, national treatment, and MFN requirements. The model US BIT, for instance, prohibits performance requirements; it defines investment not only as physical investment but also intellectual property, financial assets and, most importantly, legal and contractual rights. The latter implies that changes in national laws (say for social or environmental reasons) that may impose unanticipated costs or additional obligations on foreign investors are considered as breach of contract and "expropriation" of the foreign investor's contractual rights (regulatory takings) and require compensation (Cotula, 2007). This locks host countries in a given legal framework which may not be ideal for achieving certain development goals at a later date. These provisions are considered typical of BITs worldwide. In any case, it seems contradictory that developing countries may resist the imposition of limits to their policy space at multilateral fora to relinquish that space at bilateral or regional levels. A possible explanation is that by resisting constraints at the multilateral level (as a group) but relinquishing

policy space or granting concessions at the bilateral level, a country may boost its relative attractiveness for FDI. But then, it is not clear whether benefits derived from FDI going to the country will be greater than costs incurring in attracting that investment (Guzman, 1998).

No two developed countries have BIT with one another (excluding with the former economies in transition that joined the EU). In this regard, BITs can be considered to indicate partners with unequal bargaining power. With the increasing economic importance of developing countries (also as foreign investors in developed countries), developments in international law, and the pressing global environmental and social challenges, a new generation of BITs is emerging (UNCTAD, 2012b). They introduce some flexibility to pursue policy objectives, including the fulfillment of human rights and environmental treaty obligations. Concerns that foreign investors could challenge measures adopted to confront the financial and economic crisis of 2007–8 also contributed to the search for a better balance between investment protection and the need to maintain regulatory discretion in host countries (Spears, 2010).

Strengthening multilateralism offers the best option for developing countries to address the issue of reduced policy space and exercise their collective bargaining power to their benefit. Yet, not all disciplines are best placed under global governance and "one-size-fits-all" rules and harmonization are not ideal in all circumstances, particularly when countries' preferences, needs, and contexts vary. The EU experience may provide some direction on what needs to be multilateralized. The principles of subsidiarity (issues are addressed at the lowest level capable of addressing them) and proportionality (the supra national level is involved to the least extent necessary) guide the Union's governance while the Union imposes disciplines to control negative spill-over effects from individual country actions, including beggar-thy-neighbor policies among members (Baldwin, 2014, p. 33).

From the above, action in two possible fronts may be suggested. One possibility is a revision of GATT article XXIV,[6] beyond what is being envisaged by the Doha Round.[7] The revision would reflect the evolving nature of RTAs (going beyond tariff liberalization) and provide "rules of conduct" or principles to be followed during the negotiation of such agreements, with stronger and effective overseeing responsibility for WTO. Similar observations are applicable to GATS Article V, which disciplines economic integration in the area of trade in services. In fact, reforming article XXIV has already been suggested to ensure the supremacy of WTO rules over RTA rules so as to improve coherence and consistency in the world trade regime (e.g., Picker, 2005; Davey, 2011) or to

protect policy space in developing countries (Lang, 2006). Countries, however, may perceive this route as leading to a potential change to the implicit "balance of rights and duties" existing in the current WTO legal package.

Another option is a standing-alone agreement on basic investment rules or a code of conduct for foreign investors and host countries. Either way, these options may offer a policy anchor to limit "unilateral investment incentives and bilateral concessions over behind the border policies" (Blanchard, 2013, p. 17), increase coherence and compatibility with WTO rules, and offset negative consequences of existing power asymmetries in negotiating such agreements. Existing agreements would then need to be modified or adjusted to be compatible with the rules or code of a conduct agreed multilaterally. Initiatives such as UNCTAD's Investment Policy Framework for Sustainable Development (IPFSD) with its set of core principles for investment policy making are steps in this direction.[8]

3.2.1. The governance of large investments in natural resources

Large natural resource -based activities (such as mining, forestry, and fisheries), generally oriented toward exports, are often undertaken with the involvement of large foreign firms. The retention of resource rents in the country and their conversion into productive investments depend crucially on concessions and foreign investment agreements. Owing to the large size of these rents, transparency and good governance, starting from negotiating the agreement to its implementation and oversight, are extremely important. While national governance structures are of primary importance, the Extractive Industries Transparency Initiative (http://eiti.org/) has become a significant instrument of international governance. Although the use of resource rents is the prerogative of the government, international governance through EITI helps improve transparency, preventing (at least, reducing) abuses, and increasing the availability of resources for public benefit.

Recent high prices of agricultural products and production of raw material for biofuels have prompted a new interest in agriculture. Land prices have increased, especially in countries where land is in short supply. This has pushed private firms and states to lease or purchase land in land-abundant countries, particularly in Africa. From a purely trade point of view this FDI in agriculture ("land grab" for some) is positive, because land which was previously idle or inefficiently exploited is brought into more efficient production and may improve export earnings. This is why the World Bank and IFC support such

investments. However, these operations are exclusively export oriented. They not only neglect local needs, such as the production of foodstuff, but also have negative impacts on the livelihood of local populations, at times necessitating their displacement. This has led to the adoption by UN Committee on World Food Security, of Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security.

3.3. Back to the WTO: Policy space and differential treatment

Development concerns in GATT/WTO legal texts are addressed through SDTs. There are a total of 139 SDT provisions in the agreements adopted at the conclusion of the UR (WTO, 2013).[9] Many more followed. But in general there is a great deal of dissatisfaction with the SDTs, and the measures have failed to deliver as anticipated. There are problems in the design of these measures: (i) they require a certain level of institutional and productive capacity so as to extract benefits, (ii) some carry "add-on" requirements that are difficult to comply with, (iii) they conflict with policy directives implemented elsewhere (e.g., adjustment programs by IFIs) which mitigate (and may even completely offset) the potential contribution that some of these measures can bring (Cortez, 2011). The value of a standard GSP scheme, for instance, has been compromised by exemptions, exclusions, complex rules of origin, competing (and deeper) preferential schemes, and preference erosion as MFN tariffs decline.

Except in few instances, where longer implementation periods are granted or exemptions are clearly defined, SDTs are largely indications of "best endeavors," signaling general intentions but lacking legal weight and certainly not offering a legal basis for dispute adjudication in case of noncompliance. Access and effective use of SDTs are complicated by inadequate knowledge of legal texts, particularly by LDCs and low-income countries. Technical cooperation, while forthcoming, has not closed the vast capacity gaps. These shortcomings were noticed already in 2001 when the Doha Ministerial Conference adopted the Decision on Implementation-Reacted Issues and Concerns. The Decision instructs the Committee on Trade and Development (CTD) to consider the legal implications of converting SDTs into mandatory provisions—a mandate difficult to fulfill in view of the nature of such provisions. The Decision also requests the CTD to consider how SDTs can be made more effective, precise, and operational. This remains as one of the contentious issues of the Doha round with limited or no progress achieved.[10]

3.3.1. Increased differentiation and graduation: The way forward?

It has been argued that SDTs can be made more effective if they are better targeted or linked to individual country needs and not to the group of extremely diverse developing countries whose "members" are self-denominated (Keck and Low, 2004; Hoekman et al., 2003). This approach could avoid the challenges associated with the creation and management of additional groups or categories which entail political difficulties and lock countries in endless negotiations to get advantages that they may not need and will not make use. Better SDT targeting could also address concerns by the more advanced countries about agreeing to a blanket of exemptions and preferences covering an increasingly heterogeneous group of countries, some of which are formidable trade competitors. Moreover, it would imply that the treatment would no longer be available when needs cease to exist. It would also imply the potential to operationalize the concept of gradual graduation (beyond the group of LDCs) as envisaged by the Enabling Clause.

Others have argued that the SDT approach should be rejected altogether as lack of full reciprocity in concessions has not allowed developing countries to fully benefit from the multilateral trade regime and its various liberalization rounds (Hart and Dymond, 2003; Hoekman, 2004; Christie, 2009). Their focus of attention, however, is largely on tariff liberalization and not on other aspects related to trade such as IPRs or TRIMs. Moreover, there is some nuance in the recommendation: reciprocity is suggested for those markets where developing countries are large and competitive participants, which is another way of tackling heterogeneity. Yet, given the current level of tariffs in developed countries, it may be difficult to identify a substantial set of mutually beneficial and reciprocal tariff concessions for developed and developing countries (Bagwell and Staiger, 2012). Additionally, there are equity concerns about a complete policy package, often originated in a few relatively homogenous countries, which are to be applied equally to a wider constituency of highly divergent countries. As discussed below, a new generation of SDTs is emerging to address some of these challenges. But the new approaches do not eliminate all difficulties. Depending on how they are implemented, these approaches may pose serious risks to the principle of less than full reciprocity, which underlies special and differential treatment—the chosen instrument to tackle development issues in WTO—and leave no alternative tools in place.

3.3.2. *The new generation of SDTs*

Increasing differentiation has been already taking place in WTO differential treatment for developing countries beyond the LDC group. The UR introduced SDTs for net food importing developing countries,[11] countries listed in Annex VII of the Agreement on Subsidies and Countervailing Measures (SCM): LDCs plus developing countries whose GNI per capita is less than $1,000. Subsequently, other groups of countries were added: countries with insufficient or no manufacturing capacities in the pharmaceutical sector (implementation of para. 6 of the Doha Declaration within the context of TRIPS); small, vulnerable economies (special work program, extension transition period under SCM Agreement).

Trading partners have been differentiating (targeting preferences to needs) and graduating countries from their GSP programs.[12] The recent changes in the Canadian and the EU GSP schemes are cases in point. The EU scheme will exclude upper-middle and high-income developing countries (World Bank classification) starting in 2014 while preferences to the remaining beneficiaries are offered relative to countries' needs, with the LDCs receiving most advantageous terms. As beneficiaries improve their income status, they will be phased out from the program. Moreover, preferences will no longer be granted to competitive sectors of low- and middle-low income countries (EC, 2012). Canada will exclude 72 higher income and trade competitive countries starting in 2015 and review remaining beneficiaries biannually to assess whether they remain eligible based on objective economic criteria. The need to adjust to the changing global landscape was one of the main factors underlining the changes in the Canadian scheme.[13]

Already in 2005 the Decision of the Council on TRIPS on extending the transition period for LDCs to implement TRIPS (art. 66.1) included provisions for enhanced cooperation targeted to specific country needs. These required LDCs to submit detailed information on their individual priority needs for technical and financial cooperation necessary to implement TRIPS and developed country Members to provide the assistance requested. While well intentioned, the provisions were difficult to implement. LDCs lacked capacity to identify and prioritize needs. For example, among eighteen LDCs surveyed by UNDESA/CDP only five submitted the priority need report by 2010, four of which relied on external assistance for the preparation of the report (UNDESA/CDP, 2011). In June 2013, the TRIPS Council dropped the provisions on enhanced technical

cooperation when adopting a further extension of the transition period for implementation of the TRIPS Agreement.

Another approach is taken in the recently renegotiated Agreement on Government Procurement (GPA). Article V states that in negotiations on accession to and implementation of the Agreement, Parties shall pay special consideration to the needs of developing countries, *recognizing that these may differ significantly from country to country* (emphasis added). Special and differential treatment is to be accorded where and to the extent that this meets development needs. Nonetheless, specific modalities of SDTs—allowed during a transition period and in accordance with a schedule—are envisaged under the GPA plus the possibility of delaying any specific obligation in the agreement (except for art. IV.1a on national treatment) for a specified period no longer than three years for developing countries. GPA SDTs do not embody the principle of less than full reciprocity. Market access opportunities available to acceding developing countries are "subject to any terms negotiated between the Party and the developing country in order to maintain an appropriate balance of opportunities under this Agreement." Deviations from the rules are only allowed while the country implements the agreement; SDTs are not permanent exemptions under the GPA. The GPA is one of the WTO plurilateral agreements; its signatories are mostly the developed economies. Accession is optional, which may justify the different nature of SDT provided. However, nonparticipation has costs, an important one being losing the possibility of influencing the way rules are designed.

The Draft Consolidated Negotiating Text on Trade Facilitation (July 29, 2013 version), which is part of the Doha single undertaking, contemplated a novel way to approach SDTs. Commitments and their implementation were to be related to implementation capacities of developing countries and LDCs, including their ability to undertake investments in the required trade facilitation infrastructure. There is no exemption ex-ante; implementation is related to capacity; where capacity lacks, assistance is to be provided.[14] Three categories of commitments were envisaged: (A) provisions to be implemented upon entry into force of the agreement; (B) provisions to be implemented after a transitional period to allow the country to introduce the required changes; and, (C) provisions to be implemented at a later date after the transitional period and which require implementation capacity not available in the country. Countries should notify WTO about their schedule of implementation and also provide information on their specific needs and the technical and financial assistance required within a

given period of time, still to be determined. Extensions were envisaged but need to be notified, justified, and approved.

Linking implementation to the provision of assistance where needed might have addressed developing countries' concerns about adjustment costs and lack of capacity to adopt rules and procedures that are norm elsewhere, provided the adoption of these rules is to their benefit. But in the end, the provision of receiving technical and financial assistance as a precondition to implementing the agreement (para. 8.1 of the text dated July 29, 2013) was stripped from the final document. The Bali text still stipulates that "donor Members agree to facilitate the provision of assistance and support," but this is a much weaker version of the commitment contained in a previous version of the text. Most of the SDTs adopted do not go much beyond the extension of longer periods for presenting the numerous notifications required regarding the classification of commitments, the implementation schedule, and requests for additional extensions. As in the case of GPA, full reciprocity is expected. No deviations from rules are foreseen and all countries are expected to implement the entire agreement, eventually.

4. Conclusions

The adequacy of global trade rules has to be assessed in terms of their efficiency in maintaining stable and predictable trade flows and providing a transparent regulatory framework to the advantage of all participants. The framework has succeeded in keeping trade open and predicable, and flows have grown steadily, with occasional "hiccups," as seen in the increase of trade remedy measures in the aftermath of the 2008 economic and financial crisis. As a group, developing countries have increased their participation in world trade, a trend that is most noticeable in manufactures. However, at the individual country level trade performance has been rather diversified and not all countries are benefiting from trade as anticipated. Successful experiences have been associated with strategic participation in international trade and tactical association with foreign investors with a view to promoting domestic backward and forward linkages and a structural transformation of the economy shifting from low to higher productivity sectors. These experiences often rested on the adoption of a wide range of policy instruments and innovative institutional arrangements, some of which are no longer allowed by the current regulatory framework.

Commodity exports continue to be the mainstay of the economies of many developing countries. Strengthening the potential of the commodity sector to generate the resources necessary for development is also crucial. International and national policies for improving the conditions of GVC participation need to cover commodity sectors as well. However, certain characteristics of commodity trade set it apart from manufactures. Excessive price fluctuations harm both producers and consumers. Under the current political and economic realities, increasing market transparency and reducing risks and market distorting policies that prevent the functioning of markets are the only acceptable means of reducing fluctuations. Diversification is difficult because of strong path dependency for commodity producers and significant search costs. Diversification requires policy space. Another challenge refers to the large rents generated from minerals trade which can easily be diverted to socially suboptimal activities. Increased transparency in this respect would generate public pressure to improve governance. Recent examples of large land purchases, often for increasing the exports of a particular product may have strong adverse effects, particularly, on the rural poor. They deserve to be brought under global governance of trade-related investments, probably in a stronger manner than through voluntary guidelines.

As liberalization proceeds and trade rules move from tariffs into a wide range of areas covering "trade-related aspects," the policy space developing countries had to support the dynamic transformation of their economies has been reduced. There has been a noticeable trend toward the standardization of rules and disciplines, which often correspond to those prevailing in the more advanced economies. The rules may be sound, but they may not be the most adequate disciplines for countries at the lower end of the development ladder. Standardization pressures have accompanied the fragmentation of production and distribution worldwide and the emergence of the global value chains as a main business model.

Both the WTO and its predecessor the GATT recognize that countries are at different stages of development and therefore have different financial and trade needs. Yet, there are significant differences between them. The pre-WTO regime included flexibilities or provisions that could be used to support structural change, while the WTO regime is increasingly moving toward flexibilities that support the implementation of its rules. Moreover, while some flexibilities in terms of "allowed policy tools" are still available for developing countries, those currently enjoyed by developed economies (those in agriculture being the most notorious example) are off-limits, which introduces an important element of inequity in

the system. Beyond WTO, RTAs and BITs have been reducing policy space in developing countries besides creating problems of fragmentation, consistency, and coherence in the global trade regime. While multilateralization of some provisions contained in RTAs may be possible, and is worth exploring, there is urgent need to introduce disciplines so that RTAs and BITs preserve policy space and prevent "negative competitive liberalization" by developing countries. In other words, there is need to curb policy space to preserve policy space. Binding "rules of conduct" or principles to anchor action by negotiating parties, which should also rely on stronger overseeing and enforcement responsibilities by WTO, could provide a possible way forward.

The analysis above also indicated that trade rules are moving away from differential treatment for developing countries as a group to preferential treatment based on specific, individual needs. While this may be a practical solution in view of greater diversity among developing countries, the new approach has not yet been tested and it is not clear how it will be implemented and how well it will work in practice. A number of other problems will likely emerge, including difficulties related to country classification based on needs, the selection of needs eligible for assistance, monitoring and the extent and modalities of resources committed, including their additionally. Without prejudging which direction trade negotiations will take, there is a risk that while new disciplines will be binding, the provision of technical assistance they require will not. Another source of concern is the enhanced reciprocity that the new trend entails, particularly if rules are not flexible enough to accommodate different country needs. These emerging trends seem to suggest that the principle of less than full reciprocity, which has been one of the pillars of the multilateral trade regime, is being eroded.

The above notwithstanding, there seems to be an implicit contradiction in the way that the system operates: GATT/WTO rules aim at improving welfare of all but, deviations from the rules are necessary. As WTO continues to move the liberalization frontier from "at the border" to "behind the border," further exemptions may be needed. If deviations are needed, then some of the rules may not necessarily be in synchrony with developing countries' interests. Increasing participation by developing countries and LDCs in the multilateral trading system may strengthen the system itself but not necessarily promote the development of these countries. In this regard, the question whether the policy package implicit in WTO agreements is in fact appropriate for economies at an early stage of development becomes increasingly relevant.

The solution to the issue of diversity among WTO members has been the introduction of SDTs. However, the current SDT architecture is not ideal and

has not been delivering as anticipated. In fact, SDTs are second best solutions to the quest for development. Thus, moving forward the issue seems not so much to have SDTs which are deviations from the rules, but to negotiate trade rules that are flexible and supportive of development and do not need to be deviated from. To achieve that, however, many developing countries, LDCs in particular, will need to enhance their negotiating capacity, including strengthening their presence in Geneva, where negotiations are conducted. To this end, enlightened and innovative development cooperation is necessary not only from developed countries but also from developing countries with proven trade negotiating skills.

Notes

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2 On natural-resource-based development strategy see, among others, Perez, 2010.

3 Excluding China, the share of South-South trade in developing country exports increases from 32 percent in 1990 to 45 percent in 2010.

4 Bens, Johnson, and Yi (2012) argue that the collapse in aggregate expenditure, particularly in final durable goods, as the main driver of the trade collapse in 2009.

5 Keane (2012) argues that countries which most governed trade in terms of specific rules for the private sector were the ones that suffered least severe impacts from the current crises.

6 Article XXIV: Territorial Application—Frontier Traffic—Customs Unions and Free-trade Areas. Available from http://www.wto.org/english/docs_E/legal_E/gatt47_02_E.htm#articleXXIV

7 Article 29 of the Doha Declaration states: "We also agree to negotiations aimed at clarifying and improving disciplines and procedures under the existing WTO provisions applying to regional trade agreements. The negotiations shall take into account the developmental aspects of regional trade agreements." Thus far the only concrete outcome has been the Transparency Mechanism created in 2006 which however has produced limited results. See WTO, 2014 .*Overview of Developments in the International Trading Environment Annual Report by The Director-General*. Trade Policy Review Body. January 31.

8 Information on the IPFSD is available from http://investmentpolicyhub.unctad.org/Views/Public/IndexIPFSD.aspx. For past attempts at multilateral investment agreements and code of conduct on transnational corporations see OECD http://www.oecd.org/investment/internationalinvestmentagreements/multilateralagreementoninvestment.htm; the UN Intellectual History Project, The UN and Transnational corporations. Briefing Note No. 17. July 2009 available from http://www.unhistory.org/briefing/17TNCs.pdf; and UNCTAD http://unctad.org/sections/dite/iia/docs/Compendium/en/13%20volume%201.pdf.

9 This excludes SDTs available in the Agreement on Clothing and Textiles which already expired.

10 For a background and current state of negotiations (pre-Bali) see South Centre, History and Assessment of the Cancun Annex C: 28 Special and Differential Treatment Proposals (SC/TDP/AN/S &D), April 2013.

11 See for the definition of the group WTO/Committee on Agriculture, document A/AG/3 of November 15, 1995.

12 They have also granted differentiated, deeper preferences on the basis of requirements such as compliance with specific internationally agreed conventions as well as excluding countries from their standard schemes on the basis of discretionary conditionalities.

13 See Canada's General Preferential Tariff Regime. Available from http://actionplan.gc.ca/en/initiative/canadas-general-preferential-tariff-regime, accessed on August 14, 2013.

14 "Developed country Members shall ensure to provide support and assistance to developingand least developed country Members in a comprehensive manner" (art. 1.4 draft text dated July 29, 2013).

References

African Economic Outlook (2013). http://www.africaneconomicoutlook.org/en/in-depth/structural-transformation-and-natural-resources/ (consulted on September 15, 2013).

Ahmad, Nadim (2013). Estimating Trade in Value Added: Why and How? In Deborah K. Elms and Patrick Low (eds.), *Global Value Chains in a Changing World*. Geneva: WTO.

Aksoy, M. Ataman and Bernard Hoekman (eds.) (2010). *Food Prices and Rural Poverty.* Washington, DC: World Bank.

Akyuz, Yilmaz (2009). Multilateral Disciplines and the Question of Policy Space. *TWN Trade and Development Series,* no. 38.

Akyuz, Yilmaz (2013). Post-2015 Development Agenda and Sustainable Development. *South Bulletin* (73). Geneva. South Centre.

Anderson, Robert D. (2012). *Reflections on Bagwell and Staiger in Light of the Revised WTO Agreement on Government Procurement*; available at: http://papers.nber.org/books/feen11–1

Bagwell, Kyle and Robert Staiger (2012). *Can the Doha Round Be a Development Round? Setting a Place at the Table*, October 15; available at: http://papers.nber.org/books/feen11–1

Baldwin, Richard (2011a). *Trade and Industrialization after Globalisation's 2nd Unbundling: How Building and Joining a Supply Chains Are Different and Why It Matters*. Graduate Institute, Geneva, November.

Baldwin, Richard (2011b). 21st Century Regionalism: Filling the Gap between 21st Century Trade and 20th Century Trade Rules. *CTEI Working Paper*. Geneva, CTEI. CTEI-2010–31. April.

Baldwin, Richard (2012). Global Supply Chains: Why They Emerged, Why They Matter, And Where They Are Going. *CTEI Working Paper*. Geneva, CTEI. CTEI-2012–13. July 7.

Baldwin, Richard (2014). *Multilateralising 21st Century Regionalism. Global Forum on Trade. Reconciling Regionalism and Multilateralism in a Post-Bali World*. OECD Conference Centre, Paris, February 11–12, 2014.

Bens, Rudolfs, Robert C. Johnson, and Kei-Mei Yi (2012). The Great Trade Collapse. *NBER Working Paper*, no. 18632, December; available at: http://www.nber.org/papers/w18632.pdf.

Blanchard, Emily J. (2013). Revisiting Trade and Development Nexus. What Global Fragmentation Means to WTO. Article XXIV, Behind-the-Border Concessions, and a New Case for WTO Limits on Investment Incentives. *WTO Working Paper* ERSD-2014–03, December.

Bloomberg News (2013). *Ghana Cocoa Premium Said to Drop on Better Ivory Coast Quality*. January 18; available at: http://www.businessweek.com/news/2013–01–18/ghana-cocoa-premium-said-to-drop-on-better-ivory-coast-quality (consulted September 10, 2013).

Cheong, David, Marion Jansen, and Ralf Peters (2013). Shared Harvests: Agriculture, Trade and Employment, an Overview. In *Shared Harvests: Agriculture, Trade and Employment*. International Labour Office and United Nations Conference on Trade Development—Geneva: ILO and UNCTAD, 2013; available at: http://unctad.org/en/PublicationsLibrary/ditctncd2013d2_En.pdf.

Christie, Andrew (2009). Special and Differential Treatment in the GATT: A Pyrrhic Victory for Developing Countries. *The Estey Centre Journal of International Law and Trade Policy*, vol. 10, no. 2, pp. 64–84.

Cortez, Ana Luiza (2011). Beyond Market Access: Trade-related Measures for the Least Developed Countries. What Strategy? *DESA Working Paper Series*, no. 109 (ST/ESA/2011/DWP/109), December.

Cotula, Lorenzo (2007a). Investment Treaties. *International Institute for Environment and Development*. Briefing 2. August.

Cotula, Lorenzo (2007b). The Regulatory Taking Doctrine. *International Institute for Environment and Development*. Briefing 3. August.

Das, Dilip K. (2007). *The Evolving Global Trade Architecture*. Cheltenham, UK Northampton, MA, USA: Edward Elgar Publishing.

Davey, William J. (2011). A Model Article XXIV: Are There Realistic Possibilities to Improve It? In Kyle W. Bagwell and Petro C. Mavroidis (eds.), *Preferential Trade Agreements: A Law and Economics Analysis*. Cambridge eBooks.

Driffeld, Nigel and James H. Love (2005). Intra-industry Foreign Direct Investment, Uneven Development and Globalization: The Legacy of Stephan Hymer. *Contributions to Political Economy*, vol. 24, pp. 55–78.

Elliott, Kimberley (2013). Subsidizing Farmers and Biofuels in Rich Countries: An Incoherent Agenda for Food Security. *CGD Policy Paper 032*, September 2013; available at: http://www.cgdev.org/sites/default/files/subsidizing-farmers-biofuels-rich-countries-an-incoherent-agenda-food-security_final.pdf

Erten, Bilge and José Antonio Ocampo (2013). Super-cycles of Commodity Prices since the Mid-nineteenth Century. *World Development*, vol. 44, pp. 14–30.

European Commission (2012). The EU's New Generalised Scheme of Preferences (GSP). December.

FAO (2012). *Price Volatility from a Global Perspective.* Technical background document for the high-level event on: "Food price volatility and the role of speculation." FAO headquarters, Rome, July 6.

FAO (2013). *Statistcal Yearbook 2013* (consulted on line, September 18, 2013); available at: http://www.fao.org/docrep/018/i3107e/i3107e03.pdf

FAO et al. (2011). *Price Volatility in Food and Agricultural Markets: Policy Responses,* June 2, 2011; available at: http://www.fao.org/fileadmin/templates/est/Volatility/Interagency_Report_to_the_G20_on_Food_Price_Volatility.pdf

Gereffi, Gary (2013). Global Value Chains in a Post-Washington Consensus World. *Review of International Political Economy*, March.

Gereffi, Gary and Joonkoo Lee (2012). Why the World Suddenly Cares About Global Supply Chains. *Journal of Supply Chain Management*, vol. 48, no. 3, July.

Girvan, Norman and Ana Luiza Cortez (2013). The Enabling International Environment. In Alonso, Jose Antonio et al. (eds.), *Alternative Development Strategies for the Post-2015 Era.* Bloomsbury Academic in association with the United Nations.

Guzman, Andrew T. (1998). Why LDCs Sing Treaties That Hurt Them: Explaining the Popularity of Bilateral Investment Treaties. *Berkeley Law*. January.

Hanson, Gordon (2012). The Rise of Middle Kingdoms: Emerging Economies in Global Trade. Gordon H. Hanson. *NBER Working Paper,* no. 17961. March.

Hart, Michael and Bill Dymond (2003). Special and Differential Treatment and the Doha "Development" Round. *Journal of World Trade*, vol. 37. no. 2, pp. 395–415.

Hoekman, Bernard (2004). *Operationalizing the Concept of Policy Space in the WTO: Beyond Special and Differential Treatment,* July 13; available at: http:www.ycsg.yale.edu

Hoekman, Bernard, Constantine Michalopoulos, and L. A. Winters (2003). More Favourable and Differential Treatment of Developing Countries: Toward a New Approach in the World Trade Organization. *Policy Research Working Paper,* no. 3107, Washington, DC: World Bank, August. Can be downloaded from: elibrary.worldbank.org/doi/pdf/10.1596/1813–9450–3107

International Cocoa Organization (ICCO) (2012). *Study on the Costs, Advantages and Disadvantages of Cocoa Certification*, October 2012, undertaken by KPMG Advisory N.V.

International Cotton Advisory Committee (ICAC) (2013). *Production and Trade Policies Affecting the Cotton Industry,* September; available at: https://www.icac.org/getattachment/mtgs/Plenary/72nd-Plenary/Documents/e_goverment-measures.pdf.

International Monetary Fund (IMF) (2014). *Commodity Price Outlook and Risks*, April 15, 2014; available at: www.imf.org/commodities.

International Trade Centre (ITC) (2010). *Market Access, Transparency and Fairness in Global Trade. Export Impact for Good 2010*. Geneva: ITC.

Keane, Jodie-Anne (2012). The Governance of Global Value Chains and the Effects of the Global Financial Crisis Transmitted to Producers in Africa and Asia. *Journal of Development Studies*, vol. 48, no. 6, pp. 783–97.

Keck, Alexander and Patrick Low (2004). Special and Differential Treatment in the WTO: Why, When and How? *WTO Staff Working Paper.* ERSD-2004–03. May.

Khor, Martin and Jose Antonio Ocampo (2011). The Unsettled Global Trade Architecture. *Queries.* Magazine of the Foundation for European Progressive Studies (FEPS), vol. 1, no. 4, pp. 68–88.

Lamy, P. (2013). *Aid for Trade Aims to Connect the Least Connected*. WTO News, July.

Lang, Remi (2006). Renegotiating GATT Article XXIV—a Priority for African Countries Engaged in North-South Trade Agreements. *ATPC Work in Progress*, no. 33, Economic Commission for Africa/African Trade Policy Centre, February.

Lee, Keun and John Matthews (2013). Science, Technology and Innovation for Sustainable Development. *CDP Background Paper Series,* no. 16; available at: http://www.un.org/en/development/desa/policy/cdp/cdp_background_papers/bp2013_16.pdf

Magraw, Daniel B. (1990). Legal Treatment of Developing Countries: Differential, Contextual and Absolute Norms. *Colorado Journal of International Environmental Law & Policy*, vol. 69.

Mayer, Frederick and William Milberg (2013). Aid for Trade in a World of Global Value Chains: Chain Power, the Distribution of Rents and Implications for the Form of Aid. *Capturing the Gains*, Working Paper 13, Mancheter, June; available at: http://www.capturingthegains.org/pdf/ctg-wp-2013–34.pdf

New York Times (2013). *China Finds Resistance to Oil Deals in Africa*, September 17.

Nicita, Alessadro et al. (2011). Global Supply Chains: Trade and Economic Policies for Developing Countries. *UNCTAD Policy Issues in International Trade and Commodities.* UNCTAD/ITCD/TAB/56.

OECD (2013). *Interconnected Economies: Benefitting from Global Value Chains. Synthesis Report*. Paris: OECD.

OECD-KDI (2013). Global *Value Chains, Development and Competitiveness. Sharing Policy Practices. Discussion Paper*. Paris: OECD. March 19.

OECD-WTO (2012). Trade in Value-added: Concepts, Methodologies and Challenges (Joint OECD-WTO note).

Panel on Defining the Future of Trade (2013). *The Future of Trade: The Challenges of Convergence.* Geneva, WTO, April 24.

Pauwelyn, Joost (2013). The End of Differential Treatment for Developing Countries? Lessons from the Trade and Climate Regimes. *Review of European Community & International Environmental Law (RECIEL)*, vol. 22, no. 1, pp. 29–41.

Picker, Colin B. (2005). Regional Trade Agreements V. the WTO: A Proposal for Reform of Article XXIV to Counter This Institutional Threat. *University of Pennsylvania Journal of Economic Law*, vol. 26, no. 2, pp. 267–319. Also available at: http://scholarship.law.upenn.edu/jil/vol26/iss2/2

Rodrik, Dani (2005). Policies for Economic Diversification. *CEPAL Review*, 87, December.

Rodrik, Dani (2008). Industrial Policy: Don't Ask Why, Ask How. *Middle East Development Journal*, Demo Issue, pp. 1–29.

Roepstorff, Torben M., Steve Wiggins, and Anthony M. Hawkins (2011). The Profile of Agribusiness in Africa. In Yumkella, Kandeh K., Patrick M. Kormawa, Torben M. Roepstorff, and Anthony M. Hawkins (eds.), *Agribusiness for Africa's Prosperity.* UNIDOID/440, 2011.

South Centre (2013). *History and Assessment of the Cancun Annex C 28 Special and Differential Treatment Proposals* (SC/TDP/AN/S &D). April.

Spears, Susanne (2010). The Quest for Policy Space in a New Generation of International Investment Agreements. *Journal of International Economic Law,* vol. 13, no. 4, pp. 1037–75.

Srinivasan, T. N. (2005). Non-discrimination in GATT/WTO: Was There Anything to Begin With and Is There Anything Left? *World Trade Review*, vol. 4, no. 1 (March), pp. 69–95.

UNCTAD (2012a). *Handbook of Statistics*, 2012, UN Publication Sales No. B.12.II.D.1.

UNCTAD (2012b). *The World Investment Report 2012. Towards a New Generation of Investment Policies*, UN Publication Sales No. E.12.II.D.5.

UNCTAD (2013a). *Facts and Figures on Commodities and Commodities Trade*, March 19, 2013, Geneva unctad/press/in/2013/2; available at: http://unctad.org/meetings/en/sessionaldocuments/gcf2013_facts_En.pdf

UNCTAD (2013b). *The World Investment Report 2013. Global Value Chains: Investment and Trade for Development*, UN Publication Sales No. E.13.II.D.5.

UNDESA/CDP (2011). *Survey on the International Support Measures Related to WTO Provisions and Preferential Market Access for LDC. Responses by Least Developed Countries. Summary and Analysis*; available at: http://esango.un.org/ldcportal/documents/10179/15001/Summary%20%26%20Analysis%20LDCs.pdf.

UNECA (Economic Commission for Africa) (2013). *Economic Report on Africa, 2013, Making the Most of Africa's Commodities: Industrializing for Growth, Jobs and Economic Transformation*; available at: http://www.uneca.org/sites/default/files/publications/unera_report_Eng_final_web.pdf

United Nations (2006). *World Economic and Social Survey 2006. Diverging Growth and Development,* UN Publication Sales No. E.06.II.C.1.

United Nations (2010). *World Economic and Social Survey 2010. Retooling Global Development,* UN Publication Sales No. E.10.II.C.1.

United Nations (2014). *World Economic Situation and Prospects 2014*, UN Publication Sales No. E.14.II.C.2.

World Trade Organization (WTO) (2011). World Trade Report 2011. The WTO and Preferential Trade Agreements: From Co-existence to Coherence. Geneva. WTO.

WTO (2012). *International Trade Statistics 2012*. Geneva. WTO.

WTO (2013). *Committee on Trade and Development Special and Differential Treatment Provisions in WTO Agreements and Decisions. Note by the Secretariat*. WT/COMTD/W/196, June 14.

WTO (2014). *Overview of Developments in the International Trading Environment Annual Report by The Director-General*. Trade Policy Review Body. January 31.

WTO-IDE-JETRO (2011). *Trade Patterns and Global Value Chains in East Asia: From Trade in Goods to Trade in Tasks*. Geneva: WTO.

5

How Large or Small is the Policy Space? WTO Regime and Industrial Policy[1]

Keun Lee, Wonkyu Shin, and Hochul Shin

1. Introduction

Since the past decade, renewed interest on industrial policy has been observed by both developed and developing economies (OECD, 2013), which reflect partly the disappointing economic performance under the Washington Consensus during the 1980s and 1990s and the effect of the 2008 global financial crisis (Lin and Stiglitz, 2013; Lee, 2013a; Lee and Mathews, 2010). Although industrial policy is often a broad concept, it is traditionally defined, according to early works such as that of Johnson (1982), as sector-specific policies that improve the structure of a domestic industry to enhance the international competitiveness of a country. New more recent literature on the subject includes the works of Cimoli, Dosi, and Stiglitz (2009), as well as those of Lin (2012), Lee (2013b), Lee and Mathews (2013), and Wade (2012). Two most recent works are that of Lin and Stiglitz (2013) as well as a new flagship report by the Organization for Economic Cooperation and Development (OECD, 2013) that attempts to suggest new and broader uses of industrial policy to include not only sector-specific (or vertical) interventions but also horizontal ones. Thus, the OECD (2013, p. 102) defines industrial policy as "targeted government actions aimed at supporting production transformation that increases productivity, fosters the generation of backward and forward linkages, improves domestic capabilities, and creates more and better jobs."

The revived interest in industrial policy seems to reflect an emerging consensus that all the well-known experiences of successful economic development have not emerged spontaneously. Rather, these experiences have

been achieved through strong policies that stimulate modern economic activity and create a virtuous circle of rising productivity, technological upgrading, and social progress in low-income countries that would typically require assistance through a combination of public investment in infrastructure, human capital, and a set of policy incentives broadly labeled as "industrial policy" (Cornia and Vos, 2013). In other words, industrial policy is now to be understood not merely as promoting manufacturing industries, but also promoting modern production and service activities in general (Cornia and Vos, 2013). Empirical research, such as those by Aghion, Dewatripont, Du, Harrison, and Legros (2011) and Shin and Lee (2012), verify the positive effect of industrial policy in contrast to earlier literature that found its effect to be insignificant, such as in the work of Beason and Weinstein (1996) or Lee (1996).

One reason for the mixed outcome of industrial policy may be the difficulty of verifying the average positive effect of industrial policy because the effects tend to appear only under certain conditions, depending upon specific contexts (Shin and Lee, 2012). Thus, the OECD (2013) concludes that the three basic ingredients for successful industrial policies are investment in skills, access to financing, and adequate infrastructure. In the meantime, industrial policy has been increasingly recognized as not having been pursued and implemented consistently enough for long periods because of external conditions and interference, such as the World Trade Organization (WTO) regime, and the related conflicts of interest at internal and international levels. Several observers argue that WTO rules restrict developing country policy space *de jure*, thereby limiting their development policies (Chang, 2003; UNCTAD, 2006). However, international interference on industrial policy pursued by national governments may be justified because the effect and consequence of the industrial policy flow of one country affects not only its domestic economy but also the foreign domain. Thus, a number of scholars even argue that industrial policy may not result in gains for the world economy as a whole because additional profits are often made at the expense of foreign competitors (Bhagwati, 1988; Grossman and Helpman, 1994; Spencer and Brander, 1983). This argument would be the basis for WTO rules and regulations that prevent "unfairness" and "market-distorting inefficiency" that could arise from the implementation of industrial policies or protectionism.

Despite this theoretical debate, industrial policy has been attempted in diverse forms throughout the world, specifically to promote renewable energy industries. Today, developed countries seem to use industrial policy more than developing countries do. Particularly during the 2008 financial crisis, many

developed countries used industrial policies to bail out companies. However, few such cases have been brought to the WTO for arbitration. By contrast, numerous cases have been raised against former attempts at industrial policy by middle-income countries. This situation raises the concern that possible asymmetries exist in the use (or abuse) of industrial policy between developed and developing countries, under the WTO regime in particular.

Girvan and Cortez (2013) noted that issues of asymmetric power related to WTO governance are particularly reflected in the use of the dispute settlement mechanism (DSM), certainly not with respect to the transparency of the process and the independence of its rulings, but rather because of issues related to access and actual use of remedies (retaliatory measures) against faulty parties that are unable or unwilling to act on a given ruling. In other words, the possibility of imposing retaliatory measures is in practice limited for developing countries, especially those with smaller markets; in addition, more than half of the disputes are settled during consultations and only a few decisions have been reached and led to countermeasures (Busch and Reinhardt, 2003; Girvan and Cortez, 2013). For example, bananas are major exports of Ecuador. Although the country won three WTO dispute cases related to this product from 1996 to 2008 against the European Union, the only WTO-authorized option for Ecuador was the implementation of retaliatory measures against the EU. This option was not beneficial for Ecuador because the EU was one of the major markets for the banana exports of the former (Langlois and Langlois, 2007).

Under the WTO regime, governmental policies have to be formulated and implemented in a manner that is nondiscriminatory to exporters on the border (MFN: most favored nation) and within the domestic market (NT: national treatment). Moreover, the policy instruments for production subsidies should be generic for all producers regardless of whether they are foreign affiliated or domestic instead of industry specific. In practice, the South seems to use the WTO dispute settlement body (WTO DSB) less, whereas the North vigorously engages in disputes. As of July 5, 2012, 440 cases had been brought to the WTO, 188 of which were initiated by the EU and the United States; few small- and low-income countries have initiated disputes (Girvan and Cortez, 2013). The problem is that the costs of using the system are high and require substantial awareness and knowledge of WTO disciplines, which many developing and least developed countries lack (Horn, Mavroidis, and Nordström, 1999.

In general, the WTO regime seems to restrict the pursuit of industrial policy space and flexibility to achieve policy objectives particularly granted to

the developing countries under the previous trade regime (Bora, Lloyd, and Pengestu, 2000; Dicaprio and Gallaher, 2006; UNCTAD, 2006; Wade, 2003). The literature on the political economy of industrial policy has described how specific industrial policies are often inconsistent with WTO rules, and how the policies that developed countries previously enjoyed have become prohibited under the WTO regime (Chang, 2002; Cimoli, Dosi, and Stiglitz, 2009; Dicaprio and Gallaher, 2006; Wade, 2003). In the meantime, Mayer (2009) and Shadlen (2005) argue that some regional integrations and bilateral approaches, such as free trade agreements (FTAs) yet enable developing countries to expand their policy space and market access to a certain degree. However, the enlargement and effectiveness of policy space under the FTA framework is in fact ambiguous as this bilateral framework involves much dependency on political will of the developed countries, rather than strict compliance to the mutually specified and agreed rules (Ahn and Shin, 2011; Bown, 2005).

This study is motivated by the recognition that the current global rules on trade and industrial policy should be improved so that they will not intensify existing asymmetries and more room should be created for policy intervention by latecomers. In Section 2, we examine data from WTO dispute cases to reveal who have been mainly using rules against whom. In Section 3, we analyze a set of comparable cases to show that the implementation of the WTO dispute settlement system has been asymmetrical between developing and developed countries. Moreover, developing countries eventually become victims of trade disputes over industrial policy. Section 4 elaborates the cases in which industrial policy has been actually used in several countries and discusses how the cases have been treated in WTO systems. Section 5 examines the rules on Subsidies and Countervailing Measures (SCM) in detail to measure the size of policy spaces and seek possible policy measures under the current rules. Finally, in Section 6, we provide a summary of the current state of industrial policy under WTO rules, and then propose changes to global rules as well as determine possibilities under these rules.

2. Who makes claims against whom: First asymmetry

This section aims to identify the main users of the dispute settlement devices of the WTO, specifically, the main complainants and respondents. To address this issue, we have investigated all of the WTO dispute cases filed until 2010 using the information available on the WTO website (http://wto.org/english/

tratop_E/dispu_E/dispu_status_E.htm). When a dispute arises, the complainant country or countries submit an official "request for consultations" document that identifies the specific WTO agreements allegedly violated by the respondent country. Mostly, more than one agreement is brought under WTO dispute. Thus, the number of cited agreements is almost double that of unique disputes.

Table 5.1B shows the trend of disputes by the classified agreement categories according to the method of Table 5.1A (Classifications of WTO Agreements) proposed by Leitner and Lester (2011). We found that 419 WTO dispute cases were filed from 1995 to 2010, which involved 900 cases on various WTO agreements.[2] The number of cases (900) on disputed agreements was larger than the unique number (419) of dispute cases. Thus, in general, complainants tend to involve the policy measures of the respondent by invoking agreements as much as possible to increase the success rate of the cases.[3] Table 5.1B also shows that the cases involving the General Agreement on Tariffs and Trade (GATT) are most common, followed by anti-dumping (AD) and Subsidies and Countervailing Measures (SCM), which implies that the GATT provisions are invoked before the more specific agreements. The general GATT/WTO principles touch upon cases such as MFN, NT, trade remedies (AD, SCM, and Safeguard), and more outlined types of provisions (e.g., local content requirements).

Table 5.2 shows the disputes by developed and developing countries and focuses on SCM cases. The table indicates that first, most complainants in WTO dispute cases are developed and middle-income countries, and a low-income country has filed only one case (Bangladesh requested consultations with India concerning AD measures imposed by India in 2004).[4] Developed countries were complainants in 264 cases (62.29%) and middle-income countries were complainants in 148 cases (35.32%). WTO member countries have no litigation requests against low-income countries because the latter have limited industrial foundation that could threaten developed and middle-income economies.[5]

Developed countries were respondents in 261 cases (62.29%) and developing as well as middle-income countries were respondents in 158 cases (37.71%), similar to the distribution of complainant countries. A total of 40 percent of cases were between developed countries. These data indicate that most WTO disputes occur between developed countries. A total of 22.2 percent of cases involved developed countries requesting the investigation of middle-income countries, 20 percent were cases that involved middle-income countries requesting the investigation of developed countries, and 15 percent were cases between middle-income countries.

Table 5.1A Classifications of WTO agreements

WTO agreement title	Abbreviations
Agreement on Implementation of Article VI of the GATT 1994	AD
Agreement on Agriculture	Agriculture
Understanding on the Interpretation of Article II:1(b) of the GATT 1994	Article II Understanding
Understanding on the Interpretation of Article XXIV of the GATT 1994	Article XXIV Understanding
Understanding on the Interpretation of Article XXVIII of the GATT 1994	Article XXVIII Understanding
Agreement on Textiles and Clothing	ATC
Agreement on Implementation of Article VII of the GATT 1994	Customs
Understanding on Rules and Procedures Governing the Settlement of Disputes	DSU
Understanding Regarding Notification, Consultation, Dispute Settlement and Surveillance	1979 DSU
Differential and More Favorable Treatment Reciprocity and Fuller Participation of Developing Countries	Enabling
General Agreement on Trade in Services (GATS)	GATS
General Agreement on Tariffs and Trade (GATT)	GATT
Agreement on Government Procurement	GPA
Agreement on Import Licensing Procedures	Licensing
Decision on Notification Procedures	Notification Decision
Agreement on Rules of Origin	Origin
Agreement on Safeguards	Safeguards
Agreement on Subsidies and Countervailing Measures	SCM
Agreement on the Application of Sanitary and Phytosanitary Measures	SPS
Agreement on Technical Barriers to Trade	TBT
Agreement on Trade-Related Investment Measures	TRIMs
Agreement on Trade-Related Aspects of Intellectual Property Rights	TRIPS
Marrakesh Agreement Establishing the World Trade Organization	WTO

Source: www.worldtradelaw.net

Table 5.1B WTO dispute cases by the agreements at issue

YEAR	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Total
Number of unique cases	25	39	50	41	30	34	23	37	26	19	12	20	13	19	14	17	419
By agreement categories	50	71	100	79	56	70	55	86	63	39	25	54	27	46	38	41	900
GATT	24	25	33	24	19	23	19	34	23	16	12	20	9	15	14	15	325
AD	1	3	3	6	8	11	6	7	6	8	4	8	1	5	3	5	85
SCM	0	7	10	11	3	7	4	7	6	6	2	9	5	5	1	3	86
Agriculture	4	5	13	5	6	5	2	7	6	2	1	1	2	2	5	0	66
Safeguards	0	0	2	2	5	3	7	11	1	0	2	2	0	0	1	4	40
WTO	0	0	0	2	0	3	5	6	5	2	1	7	0	2	2	3	38
TBT	8	5	4	4	0	1	3	1	4	0	0	0	1	3	3	1	38
SPS	5	3	3	4	0	2	0	5	6	0	0	0	1	2	3	1	35
Licensing	2	1	13	5	4	0	2	4	1	1	1	0	0	0	0	0	34
TRIPS	0	6	5	4	5	3	1	0	1	0	0	0	1	0	0	2	28
TRIMs	0	5	5	3	1	1	1	2	0	0	1	2	2	0	0	1	24
Protocol of accession	0	0	0	0	0	0	0	0	0	1	0	3	3	5	6	4	22
GATS	1	3	2	3	1	2	1	0	1	1	0	0	1	3	0	1	20
ATC	1	6	2	1	1	4	0	0	1	0	0	0	0	0	0	0	16
Customs	3	1	0	1	1	3	1	0	1	0	0	1	1	2	0	0	15
DSU	1	1	0	1	1	1	1	0	1	2	1	0	0	0	0	1	11
Origin	0	0	2	1	0	0	0	1	0	0	0	1	0	2	0	0	7
GPA	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	4
Enabling	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0	4
Others	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	4

Note: The classifications of the agreements at issue are based on Table 5.1A (the work of Leitner and Lester, 2011).

Source: Authors' calculation based on WTO dispute settlement data.

Table 5.2 Classification of WTO dispute cases (complainant vs. respondent countries)

Classification		**Number of Cases (Consultation request, %)**	
Complainant country	Respondent country	WTO Cases (All)	SCM Cases
Developed country	Developed country	171(40.81)	43 (50)
Developed country	Middle-income country	93 (22.20)	22 (25.58)
Middle-income country	Developed country	84 (20.05)	15 (17.44)
Middle-income country	Middle-income country	64 (15.27)	4 (4.65)
Low-income country	Middle-income country	1 (0.24)	-
Developed and middle-income countries together	Developed country	6 (1.43)	2 (2.33)
Sum		419 (100)	86 (100)

Note: Classification of developed, middle-income, and low-income countries is based on the definition provided by the World Bank.
Source: Authors' calculation based on statistics on WTO dispute settlement.

Table 5.2 also reports data on WTO SCM Agreement dispute cases, which are more directly related to industrial policy. Its distribution is similar to the overall cases. Half of the cases were between developed countries. In a quarter of cases, developed countries requested action from the WTO DSB against middle-income countries. However, only 17.44 percent of cases were brought by middle-income countries requesting action from the WTO DSB against developed countries, and only 65 percent of cases were between middle-income countries. Thus, developed countries are more active in SCM Agreement cases.

Although middle-income countries seem to be involved as respondent or complainant in numerous WTO dispute cases, such cases are heavily concentrated among a few large countries, such as Brazil, India, Mexico, and Argentina, as shown in Table 5.3A and Table 5.3B. Table 5.3A reports the distribution of respondent countries in all of the WTO dispute cases requested by the developed countries against middle-income countries. In 77 percent of these cases, the respondent countries are five major middle-income countries: India, China, Argentina, Brazil, and Mexico. These countries are struggling to catch up with developed countries and are in fact competing with the developed

Table 5.3A Distribution of respondent countries in WTO dispute cases requested by developed countries against middle-income countries

Respondent countries	Number of cases	Ratio (%)	Cumulative ratio (%)
India	19	20.43	20.43
China	17	18.28	38.71
Argentina	11	11.83	50.54
Brazil	10	10.75	61.29
Mexico	9	9.68	70.97
Philippines	6	6.45	77.42
Chile	4	4.30	81.72
Indonesia	4	4.30	86.02
Turkey	4	4.30	90.32
Pakistan	2	2.15	92.47
Romania	2	2.15	94.62
Thailand	2	2.15	96.77
Egypt	1	1.08	97.85
Malaysia	1	1.08	98.92
Venezuela	1	1.08	100
Sum	**93**	**100**	**100**

Source: Authors' calculation based on statistics on WTO dispute settlement cases.

countries in a number of industries and services. However, Table 5.3B shows the distribution of complainant countries in WTO dispute cases requested by middle-income countries. Seven major middle-income countries (Brazil, India, Mexico, Argentina, Thailand, Chile, and China[6]) were complainants in two thirds of all cases, which suggest that many middle- and low-income countries barely use the WTO dispute settlement system.[7]

In short, the above indicates asymmetrical distribution of the number of the WTO DSB utilization between the North and the South. One may say that this asymmetry is not surprising, given that the developed countries account for almost two thirds (about 61.2%) of the world export over the past twenty years. However, many empirical studies commonly point out that this asymmetry is too much. For example, Bown (2004), Bown and Hoekman (2008), Busch, Reinhardt, and Shaffer (2009) found that this asymmetry indeed exists and appears to be more significant even when other economic, institutional, and power-based factors are controlled.

Table 5.3B Distribution of complainant countries in WTO dispute cases requested by middle-income countries

Complainant countries	Number of cases	Ratio (%)	Cumulative ratio (%)
Brazil	24	16.33	16.33
India	17	11.56	27.89
Mexico	17	11.56	39.46
Argentina	14	9.52	48.98
Thailand	10	6.80	55.78
Chile	9	6.12	61.90
China	7	4.76	66.67
Colombia	5	3.40	70.07
Costa Rica	5	3.40	73.47
Guatemala	5	3.40	76.87
Philippines	5	3.40	80.27
Honduras	4	2.72	82.99
Indonesia	4	2.72	85.71
Panama	4	2.72	88.44
Peru	3	2.04	90.48
Ecuador	2	1.36	91.84
Pakistan	2	1.36	93.20
Turkey	2	1.36	94.56
Antigua and Barbuda, El Salvador, Nicaragua, Sri Lanka, Ukraine, Uruguay, Venezuela, Viet Nam	(each) 1	(each) 0.68	100
Sum	**147**	**100**	**100**

Note: Cases requested by two or more countries jointly are not considered.
Source: Authors' calculation based on statistics on WTO dispute settlement cases.

3. Another asymmetry in enforcing compliance with dispute rulings

Although a number of observers praise the WTO dispute settlement system as an effective legal institution for inducing compliance, different perceptions exist because, in practice, counteracting violations of WTO rules is one thing and enforcement of WTO rulings by member countries is another. In other words, inducing compliance through dispute rulings on the matter of industrial policies is a challenging issue that the current WTO system has to resolve (Bown

and Pauwelyn, 2010; Pauwelyn, 2000). Although the retaliation system for noncompliance or delayed compliance looks compelling *de jure*, enforcing WTO rulings on others depends on country-specific factors and political motivations *de facto* (Schwartz and Sykes, 2002). More importantly, rule enforcement between the South and the North is asymmetrical and depends upon the extent of economic power and resources. In the following sections, we present examples of such asymmetries to demonstrate how two groups of countries (North and South) respond differently to the rulings of the WTO dispute settlement body.

3.1. The North as a respondent

3.1.1. US-zeroing cases

If policies are challenged by other WTO member countries and found to be inconsistent with WTO rules, the WTO advises the involved country to abandon or adjust the policy according to the ruling of the organization. The policies are established through regulations or national legal systems and require sufficient time for modification. Thus, the WTO DSB provides defeated countries with reasonable time to implement changes according to WTO rulings. However, if the defeated countries decline to abide by the rulings, retaliation is allowed. Interested countries should claim this retaliation individually. During this long process of legal battles (which raises issues about consultation requests, the WTO rulings from the panel and appellate body, and implementation of the rulings), the damages for the complainant countries remain while the respondent country satisfies the policy goals at least to a certain extent.

The United States actively employs the WTO legal system both offensively and defensively. The "US zeroing"[8] cases (listed in Table 5.4) are typical examples of defensive-and-delaying cases in which the US government continues to implement regulatory measures for industry protection. After a series of WTO Panel and Appellate Body (AB) rulings, the United States is supposed to stop "zeroing" in AD investigations and in administrative reviews. However, all existing AD margins given to firms have been unchanged since the United States accepted the WTO ruling that prohibited zeroing in future cases.

Table 5.4 shows that many developing countries have suffered from zeroing by the United States in various protected industries and products, including metals, steels, cement, sawblades, bags, oranges, and shrimp. As political interest groups in the United States have long been protecting these products and industries, these dispute cases illustrate that the United States is still actively using bilateral protectionist measures on imports from developing countries. We can observe

Table 5.4 "*US-Zeroing*" disputes filed by developing countries

DS NO.	Case Title (Complainant)	Consultation Request Date	Remark (Adoption Date)
DS239	US—Anti-dumping Duties on Silicon Metal from (Brazil)	November 2001	No panel proceeding
DS281	US—Anti-dumping Measures on Cement from (Mexico)	January 2003	No panel proceeding
DS282	US—Anti-dumping Measures on Oil Country Tubular Goods from (Mexico)	February 2003	PR/ABR (November 2005)
DS324	US—Provisional Anti-dumping Measures on Shrimp from (Thailand)	December 2004	No panel proceeding
DS325	US—Anti-dumping Determinations Regarding Stainless Steel from (Mexico)	January 2005	No panel proceeding
DS335	US—Anti-dumping Measures on Shrimp from (Ecuador)	November 2005	PR (February 2007)
DS343	US—Measures Relating to Shrimp from (Thailand)	April 2006	PR/ABR (August 2008)
DS344	US—Final Anti-dumping Measures on Stainless Steel from (Mexico)	May 2006	PR/ABR (May 2008)
DS345	US—Customs Bond Directive for Merchandise Subject to Anti-Dumping/Countervailing Duties (India)	June 2006	AB (August 2008)
DS346	US—Anti-dumping Administrative Review on Oil Country Tubular Goods from (Argentina)	June 2006	No panel proceeding
DS382	US—Anti-dumping Administrative Reviews and Other Measures Related to Imports of Certain Orange Juice from (Brazil)	November 2008	PR (June 2011)
DS383	US—Anti-dumping Measures on Polyethylene Retail Carrier Bags from (Thailand)	November 2008	PR (February 2010)
DS404	US—Anti-dumping Measures on Certain Shrimp from (Viet Nam)	February 2010	PR
DS422	US—Anti-dumping Measures on Shrimp and Diamond Sawblades from (China)	February 2011	PR
DS429	US—Anti-dumping Measures on Certain Shrimp from (Viet Nam)	February 2012	No panel proceeding

Note: PR: Panel Report is adopted. No panel proceeding: the case is terminated, settled, withdrawn or concluded with the mutually agreed solution with (or without) an official notification, prior to the ruling of WTO panel. ABR: Appellate Body Report is issued and adopted accordingly.

Source: Extracted from (Ahn and Messerlin, 2014) and reorganized by the author.

that the products involved in these disputes are major exports of developing countries that used to be the major export products of the United States. The United States used to be the leader in these relevant industries and in the world export market, but has lost its competitiveness.

In fact, the more problematic issue revealed by the US-zeroing case is that developing countries are forced to bring "remedial cases" to the WTO DSB because the United States continues to reject the application of WTO rulings on preexisting cases directly (until its own regulatory system incorporates the WTO rulings) without a specific WTO ruling for the case from individual challenges. In other words, unlike most other WTO members that modify or eliminate "defective" policy measures overall according to the WTO rulings, the United States limits the application of WTO rulings to specific cases in which the dispute arises most of the time (Ahn and Messerlin, 2014).

3.1.2. US-gambling case[9]

The gambling case presents a prominent example of how small countries such as Antigua & Barbuda cannot effectively resort to WTO rules and feel powerless when retaliating against large economies such as the United States, which is almost 1,500 times larger than the economy of Antigua. The WTO DSB system can be problematic if the system fails to induce compliance with the rulings.

As online gambling companies are located and clustered in countries with friendly licensing regulations such as Canada, Curacao, Gibraltar, and Latin American nations, the industry can be a major source of jobs, particularly for smaller countries. In the United States, gambling statistics shows that live and online gambling has generated as much as $91 billion per year as of 2006. The United States is the one of the largest online gaming markets in the world although online gaming accounts for only 8 to 9 percent of the entire gaming sector.

In the case filed by Antigua & Barbuda to request a consultation with the United States on March 21, 2003, the WTO panel ruling in favor of Antigua was circulated in November 2004. The AB issued and adopted this ruling on April 2005.

This dispute involved the measures applied by the US central, regional, and local authorities to control the cross-border supply of gambling and betting services. Antigua & Barbuda claimed that the United States violated the WTO General Agreement on Trade in Services (GATS) since the United States committed to full market access and full national treatment of the cross-border supply (mode 1) of "gambling and betting" services. After the technical legal battle over the interpretation and application of the related GATS articles,

the WTO Panel and AB confirmed that the United States had made specific commitments on gambling and betting services, and three federal laws (the Wire Act, the Travel Act, and the Illegal Gambling Business Act) are inconsistent with the WTO GATS rules.

The WTO gave the United States the option of either allowing all internet gambling or repealing the related US law that prevented internet gambling services from abroad. At the DSB meeting in May 2005, the United States stated its intention to implement the DSB recommendations and indicated that it would need a reasonable period of time to do so. In August 2005, the arbitrator circulated an award to the members and determined that the reasonable period for implementation was eleven months and two weeks (i.e., from April 20, 2005 to April 3, 2006). However, the United States continually refused to comply with the recommendations and rulings of the DSB, specifically Articles 21 (implementation of rulings) and 22 (remedies) of the DSU, which are subject to Article 25 (arbitration awards). On June 8, 2006, Antigua & Barbuda requested consultations. On March 30, 2007, the panel report was circulated to members. The panel concluded that the United States had failed to comply with the recommendations and rulings of the DSB. On December 21, 2007, the decision of the arbitrator was circulated to members.

Instead of bringing its laws in accordance with WTO rules, the United States announced in May 2007 that it would withdraw gambling from the services it opened up under a 1994 world trade deal. Under WTO rules, the United States then had to offer comparable access in other sectors to interested countries.[10] Antigua & Barbuda won compensation from the United States on December 21, 2007, but the amount was significantly less than the original amount sought by the small Caribbean nation. A WTO arbitration panel granted the request of Antigua to levy trade sanctions on US intellectual property, such as by lifting copyright on US-made films and music so that Antiguans can sell these products themselves. This request prompted concern in Washington. The WTO panel said that Antigua was entitled to $21 million a year in compensation from the United States for being shut out of the US online gambling market. However, the ruling was only partial relief, which enabled Antigua to establish an internet gambling industry to replace decreasing tourism revenues, only to find itself shut out of the largest gambling market in the world. The award fell far short of what Antigua had demanded ($3.44 billion in "cross-retaliation"). Thus, Antigua was allowed to seek damages outside the original services sector. The US government argued that Antigua was entitled to only $500,000 in compensation (the *New York Times*, June 21 and December 22, 2007).

This trade dispute, which is the lingering frustration of the small complainant country, is still ongoing. After nearly a decade of the United States continually disagreeing and refusing to comply with the WTO rulings, the DSB meeting on January 28, 2013 granted Antigua & Barbuda the authority to suspend concessions and obligations to the United States with respect to intellectual property rights (IPR). However, some observers are concerned that this retaliation on IPR not only damages the tourism sector of Antigua but also its economy, its reputation (because the country would be considered as a "pirate"), and its investment and innovation environments.

3.2. The South as respondent: Cases in the automotive industry

3.2.1. Failure of late entry effort by Indonesia due to the opposition from foreign incumbents

After experiencing two oil shocks during the 1970s, the Indonesian government acknowledged the need for economic structural reform. The government planned to develop manufacturing industries by following the successful example of newly industrialized economies under the national development plan (James and Fujita, 1989). Indonesia attempted to specialize in a number of specific industries that require a higher technological level than primary resource-based low-degree skills. However, high-technology heavy industries such as shipbuilding and aircraft manufacturing were not considered as strategic policy objectives because these industries were capital intensive. As the country was relatively abundant in labors, the government decided to develop the car, trailer, car assembly, chemical, chemical product, and machinery industries. Thus, the car industry was selected as one of the national strategic industries. In terms of market structure, such attempts at new entries by locals makes economic sense because it promotes competition and reduces market failure associated with imperfect markets. Moreover, Japanese automotive companies almost monopolized the Indonesian market by having control over almost 90 percent of it. However, the attempt of Indonesia failed because of strong opposition from foreign incumbents, such as Japanese carmakers.

In the Indonesian automotive case, a series of National Car Programs in the country (such as *The 1993 Program* and *The 1996 National Car Program*) were subject to disputes that started with consultation requests by the European Community (EC, WT/DS54), Japan (WT/DS55 and WT/DS64), and the United States (US, WT/DS59).[11] The National Car Programs were initiated pursuant to

Presidential Instruction No. 2 of Indonesia in February 1996, which aimed for the embryonic development of an indigenous automotive industry by reducing dependency on foreign brand owners and increasing local industrial capacity. National automotive companies were required to use an increasing amount of local materials in their automobiles, starting at 20 percent at the end of the first year, 40 percent at the second, and 60 percent at the end of the third year. PT Timor Putra National (TPN) was the first and only company to satisfy the requirements for obtaining the National Car status granted by the Indonesian government. Unfortunately, PT TPN was unable to produce a car using its own capacity. Thus, Presidential Decree No. 42/1996 was issued to allow PT TPN to form a partnership and import automobiles either in completely knocked down (CKD) or completely built up (CBU) form from South Korea while securing more time to develop its own technology. In seeking foreign firms to produce national cars through technical cooperation, the Indonesian government (PT TPN) chose South Korea (Kia Motors), which agreed to incorporate the technology transfer clause in the outcome of business-to-business negotiations over Japan. Japan did not transfer technology even though it had operated in the Indonesian market for over twenty years. The National Car Program provided significant benefits to PT TPN for the Timor car project through duties and taxes that accounted for over 60 percent of the showroom price of sedans. The joint venture between Kia and PT TPN to produce the Timor brand of national motor vehicles resulted in disputes, particularly complaints by local firms controlled by other foreign (such as Japanese and the United States) companies that were the market incumbents excluded from the government incentives.

The EU, Japan, and the United States alleged that the exemption from customs duties and luxury taxes on imports of "national vehicles" and the components thereof as well as related measures violated the obligations of Indonesia under the GATT (MFN and NT), SCM Agreement (specific subsidies), TRIMs (local content requirement), and TRIPS (NT with respect to the use of trademarks).

WTO DSB decided that a single panel would examine the disputes reported by the three developed countries. The panel found that Indonesia violated the NT and MFN GATT principles regarding sales tax benefits and customs duty exemptions, the local content requirement (article 2 of the TRIMs Agreement), and significant price undercutting in Articles 5(c) and 6.3(c) of the SCM Agreement articles under the National Car Program.

The panel report was adopted on July 23, 1998, and Indonesia followed the WTO DSB recommendations within a reasonable period of implementation (twelve months). Exactly one year later, in June 1999, Indonesia informed the

WTO DSB that it had removed the 1996 National Car Program by substituting a new automotive policy (the 1999 Automotive Policy), which effectively implemented the recommendations pursuant to the WTO rulings.

As soon as the National Car Program was removed, the imports from Japan, and now along with the EU, and the United States encroached on the Indonesian automobile market. Research and development efforts conducted by the National Agency for Technological Research on automotive products could not be used or remained as prototypes, including the development of machinery and car parts made of eco-friendly materials. The motorcycle industry under PT TPN ceased operating immediately. Thus, the domestic motorcycle manufacturing industry, including PT Kanzen Motor Indonesia, has remained stagnant until today.

3.2.2. The case of Indian automobiles with local contents and trade balancing requirements

An automobile dispute in India concerns indigenization (i.e., use of local content) and trade balancing requirements imposed by the government on the automotive sector. These requirements were in accordance with longstanding import restrictions on a wide range of products, including passenger cars, car chassis, and car bodies.[12] One aspect of the Indian import licensing regime was that licenses were used as incentives for companies to comply with indigenization and trade balancing requirements.

Public Notice No. 60 was initiated by the Indian Ministry of Commerce on December 12, 1997. The law states that companies that obtain import licenses for CKD or semi-knocked down (SKD) kits must sign a memorandum of understanding with the government, which requires companies to achieve a predetermined percentage of local content ("indigenization requirements") and ensure that the value of their exports was equal to the value of their imports ("trade balancing requirements"), such that cost, insurance, and freight import values of licensed goods (CKD + SKD kits + components) should be equal to freight-on-board values of exported cars and auto components.

The Indian government argued that such import restrictions were imposed because of the balance of payments (BOP) problem of the country. India referred to GATT Article XVIII B, which stipulated exceptions in import restriction measures by developing countries with BOP problems. However, the EC and the United States claimed that the local content and trade balancing requirements violated GATT Article III: 4 (National Treatment). This disagreement was subjected to WTO dispute settlement.[13] A panel was established pursuant to a

request by the United States on November 18, 1997, and the panel and AB reports in that case were adopted on September 22, 1999. The final outcome was an order that all of the import restrictions by India, including the licensing scheme for cars, chassis, and bodies, were to be eliminated by April 1, 2001. Separately, six other countries and India reached a mutually agreed solution, under which India agreed to phase out these restrictions. As India failed to provide coherent defense with any evidence of its BOP problem, the WTO panel ruled in favor of the EC and the United States. In a letter dated November 6, 2002, India informed the DSB that it had issued new Public Notices to withdraw the indigenization and trade balancing requirements stipulated in Public Notice 60.

4. Industrial policy practices under the WTO and a need for new rules

As the solar panel industry is a renewable industry with environmental impact, promoting its development may be justified based on environmental factors. However, given its implications for international competitiveness and the possibility of an escalating battle on subsidies among countries, internationally agreed guidelines are necessary to control the situation and prevent issues that would not be optimal from a global perspective. We elaborate on how this battle started and evolved internationally. Numerous cases of bailouts during the financial crisis in developed countries require the establishment of certain guidelines, given that some bailouts may be justified based on the idea that business failure was not caused by the firm itself, but by transitory and global or external factors beyond the control of the company. This section discusses such cases.[14]

4.1. Case 1: Solar panels—need for a new rule to prevent global inefficiency

Developed countries and a number of large developing countries, such as China, Brazil, and India, have tendency to institute industrial policies in high-tech industries since these countries perceive the industries with potential and expectation on spill-over effects of externalities and economic benefits from related sectors. The industrial policies related to solar panel industry may be a good example.

The global market for solar panels grew rapidly from US$ 2.5 billion in 2000 to US$ 79.7 billion in 2012 (Pernick, Wilder, and Winnie, 2013). In order to

boost for job creation and green growth in the economy, right after the global financial crisis in 2008 the US government planned to invest in the solar panel industry, in which basically a manufacturing industry of core equipment for solar photovoltaics is involved. In this industry, Solyndra was a private company which received various forms of financial support by the government. For instance, this firm received a US$ 535-million loan guarantee under the Loan Guarantee Program of the Department of Energy in September 2009, which was financed through the Federal Financing Bank.[15] The loan interest rate was 1.025 percent per quarter, which was extremely low, accounting for only a third or a fourth of the interest rate for other government-supported projects.[16] Furthermore, the California state government reduced the sales tax of Solyndra through Sales and Use Tax exclusion in 2010, which amounted to US$ 25.1 million. However, in spite of such favorable supports, Solyndra went bankrupt in September 2011. The government is now expected to recover at most US$ 142.8 million of the loan.

Behind the failure of Solyndra project, China as a newcomer in the industry equipped itself with price competitiveness, and outperformed the United States, Japan, and the EU (especially Germany) in the solar panel market. Due to the competition seemingly driven by Chinese firms, the price of solar panels dropped by a great deal accordingly as the industry grew fast. For example, the price of a Chinese crystalline solar panel decreased from €2.83 per peak watt in the first quarter of 2008 to €0.46 per peak watt in the second quarter of 2013.[17] And China increased its market share from 8 percent in 2008 to 55 percent in the last quarter of 2010. Consequently, the United States including the Solyndra project, and the EU had to face the loss of market share decreasing about 20 percent during the period (Baldwin, 2011). In response, the US government (the US Department of Commerce: DOC) counteracted by charging both Anti-dumping (AD) duties and Countervailing Duties (CVD) of 31 to 250 percent on Chinese solar panels in May 2012. The US Department of Commerce claimed that Chinese solar panel manufacturers received the WTO-inconsistent subsidies from the Chinese government and engaged in unfair practices, namely dumping sales. The EU also initiated anti-dumping investigations from September 2012 and imposed provisional anti-dumping tariffs (11.8% to 47.6%) on Chinese solar panels in June 2013.[18] On May 25, 2012, China requested consultation with the United States under the WTO DSB to rebut the United States' claim and to respond to unilateral measures on Chinese solar panels.[19] In response to the EU's remedial action, China requested consultations with the EU member states, in particular but not limited to, Greece and Italy, under the WTO DSB on November 5,

2012 to investigate the subsidies subject to domestic content restrictions and feed-in tariff program related to the renewable energy generation sector.[20] In the consultation report, China argued that these types of government measures and industrial policies rather restricted Chinese exports. According to China's investigation report, the Italian and Greek governments' discriminative subsidies to the renewable energy generation sector of the EU or European Economic Area, which produces solar panels, are inconsistent both "as such" (*de jure*) and as applied under the SCM and TRIMs agreement.[21]

4.2. Case 2: Bailout during the crisis

4.2.1. The case in the North: The US automobile bailout and "Buy American" policy

General Motors (GM), Chrysler, and their financial subsidiaries became fragile and unstable after the global financial crisis in 2008. In December 2008, the US government started to provide support through emergency loans to these companies. The US Department of the Treasury provided these companies loan and equity amounting to almost US$ 81 billion under the Automotive Industry Financing Program. As a result of this assistance, the US automobile industry rebounded since 2009 and US auto jobs increased by 341,000 during the period from June 2009 to July 2013.[22]

The US Treasury provided GM with US$ 51 billion in 2008 and 2009. GM received US$ 6.7 billion as pure loan with only 7 percent interest rate, which was highly beneficial for the car manufacturer because GM bonds at the time were below junk level. The remaining support was in terms of buying 60.8 percent of GM equity.[23] The US Treasury recovered US$ 35.4 billion from GM through repayments, sales of stock, dividends, interest, and other incomes, but GM still owed the US government US$ 15.6 billion as of August 31, 2013. The US Department of the Treasury still holds 211 million shares of GM common stock and said that the Treasury would exit its remaining GM investment by early 2014 depending on market conditions. The Treasury also provided Chrysler and Chrysler Financial with US$ 12.4 billion for stabilization. The government recovered US$ 11.1 billion, but lost US$ 1.3 billion. In addition, the government provided Ally Financial, a GM subsidiary, with US$ 17.2 billion, but the government was expected to recover only US$ 12.1 billion until November 30, 2013 (Canis and Webel, 2013; Reyes, 2013).

These forms of US government support could be considered as financial contribution because the Treasury provided a low-interest loan to GM and

revived the auto company. The support could also be considered as specific subsidy because it was granted to specific firms. Furthermore, such financial support could have adverse effects on the exportation of products made by foreign car manufacturers. Without government support, GM and Chrysler would have failed and foreign auto companies could have grown rapidly. However, no country except China raised its voice over these cases. In December 2011, the Chinese government imposed antidumping and antisubsidy duties on imported cars made by GM, Chrysler, and other foreign firms in the United States, arguing that US-made vehicles benefited from subsidies and dumping, and that these companies had caused material injury to the Chinese auto industry. On July 5, 2012, the United States requested consultations with China with regard to this anti-dumping duty. A panel was established on October 23, 2012 and the dispute settlement process is ongoing.

The Buy American Provision is an attempt of the US government to support its domestic economy. The US government included a Buy American Provision in the American Recovery and Reinvestment Act of 2009 (ARRA). According to this Provision, the US government should use the budget for projects that use only American-made iron, steel, and manufactured goods to construct public buildings and infrastructure. The provision was applied to the projects that use the ARRA budget amounting to US$ 275 billion and ended in September 2011. However, the Obama administration included the Buy American clause to legislate the American Jobs Act in September 2011 (The White House, 2011). The law is similar to the Buy American Provision (government procurement) and was applied to the projects that use the government budget worth US$ 80 billion.

The policy discriminates against foreign firms by restricting the bidding for public infrastructure. However, the US government argued that this policy does not violate the WTO regulation on the following grounds. The US federal and thirty-seven state governments joined the WTO Government Procurement Agreement (GPA), but the WTO GPA cannot be applied to the procurement of state governments if the funds are not from the federal government. Thus, when state governments use the budget according to Buy American Provision, this kind of procurement does not violate the WTO GPA under the following conditions: if the state government did not join the WTO GPA, the state government surrendered the funds to municipal governments that did not participate in the WTO GPA, or the funds did not come from the federal government. In the meantime, the Canadian government argued that the Buy American Provision impeded the economic recovery of Canada and, in June 2009, retaliated against

the United States by restricting imports and bidding of US firms for Canadian city contracts. Thereafter, the two countries compromised and agreed in February 2010 after negotiating over ARRA procurement access, resulting in opening the ARRA contracts tendered from seven federal programs in the 37 states that participate in the AGP for Canadian firms. In return, Canada's provinces and territories have to become signatories to the AGP (Fergusson, 2011).

4.2.2. *The case in the emerging country: Republic of Korea's bailouts for semiconductor industry*[24]

Republic of Korea was severely affected by the Asian financial crisis in 1997. To recover from the crisis, the Korean government implemented various industrial policies.[25] During the crisis, the Korean government helped many firms through provisions of financial supports in direct and indirect ways, including several bailout plans. The semiconductor industry is one of its major beneficiaries. Hynix Inc. (originally a branch of Hyundai Electronics), the second largest semiconductor manufacturer of the country and an emerging exporter to the world market at the time, also faced serious financial trouble from 2000 to 2001 even though its export share was increased especially in the US market during the period.[26]

By the time of the crisis in the Hynix, to add insult to injury, the EC and the United States imposed countervailing duties on Hynix's semiconductor products at 34.8 percent and 44.29 percent, respectively, in August 11, 2003. The EC and the United States justified their unilateral measures by claiming that unfair subsidies were provided for Korea's semiconductor industry and specifically to an incompetent firm in the form of financial aid. In response, the Korean government requested consultation on November 2003 with the two countries under the WTO DSB to resolve matters over the EC and the United States, protesting that the two countries' counteractions were inconsistently imposed under the WTO SCM rule on November 2003.

In the case of the United States' CVDs on DRAM from Korea (DS296), the WTO panel ruled that US Department of Commerce (DOC)'s finding of financial contribution and conferred benefit to Hynix through "entrust and direct" by the Korean government lacks sufficient evidence to be condemned; thus, the DOC's finding of benefit conferred lost the ground for benchmarks for the determination. The Panel also found that the ITC did not properly ensure that injury caused by one known factor other than the allegedly subsidized imports was not attributed to the allegedly subsidized imports. On the other hands, the

panel supported the findings of the DOC concerning specificity, to the extent that the Government of Korea's activity ended up focusing on Hynix.

In short, the panel judged that the evidence presented by the United States did not have sufficient probative power as the DOC presented evidence in some ways that cannot support generalized findings of its investigations. Therefore, the countervailing duty was found to be inconsistent with the WTO SCM agreement. However, the WTO AB reversed the panel's legal interpretation and judgment by criticizing the panel for considering the evidence in isolation and not in its totality. The AB reviewed the panel's rulings and determined that based on its own legal analysis it could not arrive at a conclusion, based on its own analysis, as to whether the US DOC's subsidy determination was consistent.

Over the EC's CVDs on semiconductor products from Korea (DS299), there are mainly four substantial issues. The first was syndicated loan. To solve the short-term liquidity problem of Hynix in 2000, ten banks, including Korea Development Bank (KDB), Korea Exchange Bank, and Korea First Bank provided the semiconductor firm with a loan amounting to 800 billion Korean won. In fact, these banks had already reached their lending limits to Hynix, which had been arranged by the Korean government; thus, they could not provide the loan in accordance with the regulation. However, the Financial Supervisory Commission allowed the banks to exceed the ceiling for the sake of "industrial development and stability of national life," such that these three banks could participate in the syndicated loan. The EC argued that the participation of the three banks was directed by the Korean government and the syndicated loan was a financial contribution of the government. The WTO panel accepted the arguments of the EC.

The second was the guarantee of Hynix documents against acceptance (D/A). The Korean government compelled the Korea Export Insurance Corporation (KEIC) to guarantee Hynix D/A, which a main transaction bank of Hynix bought until June 30, 2001. The EC argued that this action was a financial contribution under the SCM agreement. The panel accepted this argument because even KEIC questioned the guarantee at that time, and no party argued that other private firms would have provided the guarantee at their commercial logic because of the low credit rating of Hynix at that time.

The third was the debenture program of KDB. The bank formulated the rule in June 2001 under which KDB bought 80 percent of the debentures of the specific firm if most of them mature at a specific time at once. The EC argued that this program was a financial contribution under the SCM agreement. The panel

accepted the argument because without this program, no private financial firm would have bought the debentures of Hynix because of its low credit status.

The last issue was the restructuring program in October 2001. Six related banks (including KDB) provided 650 billion Korean won as a new loan to the company in October 2001. The EC argued that this loan was provided through an indirect order of the Korean government. The panel accepted this argument because KDB was a public institution and the Korean government had significant shares in three other banks and a close relationship with one other bank. The panel accepted the EC argument that, without the influence of the Korean government, no new loan would have been extended to Hynix because of its low credit status.

5. Size of the policy space: Policy space under the WTO regime: WTO SCM standard[27]

Member countries of the WTO should comply with the standards set by the organization, which are embodied in the principle that national governments should not have any room to maneuver under the WTO regime. This section examines the WTO SCM standard, focusing on various subsidies including R&D, to determine the size of policy spaces for the latecomers in their effort to achieve industrial development.

Under the WTO system, R&D subsidies by government entities were permitted as a "non-actionable subsidy"; that is, allowable subsidies under the SCM agreement although this provision on the nonactionable subsidies was terminated as of January 2000 based on Article 31 of the SCM agreement. The continuation of the provision reached an impasse because of the absence of the negotiation for its extension.

Figure 5.1 illustrates how the subsidy is defined and classified in the SCM agreement. Article 1 of the SCM agreement defines subsidy as being (a) a financial contribution by a government or any public body within the territory of a member country and (b) a form of support that confers a benefit.[28] The forms of "financial contribution by a government" include (i) direct or potential direct transfers of funds (such as grants, loans, equity infusion, loan guarantees), (ii) foregone government revenue that is otherwise due, (iii) provision of goods and services, or (iv) any form of income or price support.[29] However, not all financial contributions by a government are subsidies and a benefit should be conferred from the financial contributions to a recipient. To demonstrate a conferred

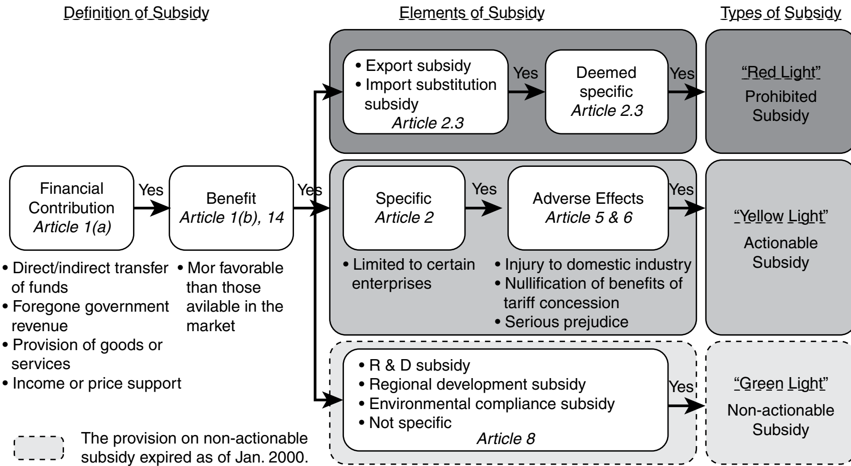

Figure 5.1 Subsidy classification under the WTO SCM Agreement

Source: Authors' analysis based on the SCM agreement (W. Shin and Lee, 2013).

benefit, a government has to prove that the recipient obtained an advantage that could not be obtained in the marketplace. For instance, if a government provides goods and services at market prices, no benefit is conferred; therefore, no subsidy exists (Sykes, 2005). In considering market prices, no clear answer exists for the question as to which market should be used as a benchmark.

If a program is defined as a subsidy, then the program has to be proven specific to be subject to possible constraints under the WTO.[30] Subsidies are specific when they are limited to "certain enterprises or industries."[31] Nevertheless, if a subsidy is available based on "objective criteria or conditions," then the subsidy is not specific.[32] Even if the subsidies appear to be nonspecific on legal documents, they can be considered as *de facto* specific, which means that the subsidy is in fact specific and is being used by certain enterprises.[33] Moreover, a subsidy limited to certain enterprises in a particular region within the jurisdiction of the administering authority is defined as specific.[34]

The SCM agreement governs subsidies by classifying them in terms of traffic lights, namely, red, yellow, and green light subsidies. The "red light" subsidies are prohibited subsidies of which two types exist: export and import substitution subsidies. Export subsidies are those tied to export performance, and import substitution subsidies are those contingent upon the use of domestic over imported goods.[35] These subsidies are considered to be specific regardless of their details.[36] When subsidies are found to be prohibited, the remedy is repayment or removal of the scheme. The "yellow light" subsidies are actionable subsidies

that are not prohibited altogether, but can be challenged when they are specific *and* cause "adverse effects."[37] The SCM agreement lists three types of adverse effects on a member country, such as (a) damage to a domestic industry, (b) nullification or impairment of the benefits of a tariff concession, or (c) serious prejudice to the interest of another member.[38] The "green light" subsidies, also known as "nonactionable" subsidies, are permitted and offer "countries a method for structuring subsidies to avoid attack under countervailing duty laws." Governments may provide subsidies that fall under the aforementioned categories without fear of challenge or countervailing measures. This provision was temporarily in effect for five years[39] and expired in January 2000. The types of subsidies that were provisionally permitted were R&D subsidies, regional development subsidies, and subsidies for complying with environmental requirements.[40] As the provision is no longer in effect, R&D subsidies for other products, except civil aircraft, can be subjected to challenge under the WTO.

When member countries file complaints, the WTO evaluates what constitutes a subsidy and identifies which subsidies are illegal under the rules of the organization. The legality of subsidies is largely assessed by determining whether the subsidies impose illegal conditions or distort trade by causing adverse effects on free trade.

6. What should be done

6.1. Practices of the current rules and size of the policy space

First, the developed countries have been effectively using the WTO rules for their legal and economic interest. This chapter has shown that in a total of 419 WTO dispute cases or in a total of eighty-six SCM dispute cases, more than half have been raised by the developed countries. In the SCM dispute cases, which are closely related to industrial policies, half of the cases were between developed countries, and a quarter of the cases were between developed and middle-income countries. However, only 17.44 percent of SCM cases were raised by middle-income countries against developed countries, and 4.65 percent of cases were between middle-income countries. Southern countries use the WTO system minimally because the trade flows of developing countries are usually small; thus, the expected benefit of WTO disputes is also minimal. Southern countries usually have insufficient legal capacities, such as limited availability of international lawyers or specialists in international trade

and law, which discourage them from initiating disputes (Horn, Mavroidis, and Nordstrom, 1999).

Second, in 419 WTO cases or eighty-six SCM cases, no single case was against the low-income countries, implying that these countries may not have to worry too much when they use various tools of industrial policies. Unless they are successful and competitive to a level that threatens the interests of the developed countries, low-income nations are not likely to face complaints at the WTO. Relatedly, Article 27 of the SCM Agreement used to permit the export subsidies by the South, especially those of who have income of less than US$1,000. Although this article has also been expired in 2003, each country may ask for its extension which is now subject to approval by the WTO Ministerial Conference as of 2015, there are more than fifteen countries' cases for which export subsidies are permitted, such as Barbados, Belize, Costa Rica, Dominica, El Salvador, Fiji, and so on.[41]

Third, the developed countries do use various industrial policies, but only a few cases have been brought to the WTO by the developing countries. Even in such cases, developing countries cannot effectively remedy the situation because they have limited resources and retaliatory power to enforce the remedies. This finding is consistent with the argument that executing retaliatory measures against large countries such as the United States is practically impossible or has negligible effect when they are initiated by the developing countries with smaller domestic markets. Furthermore, even if developing countries could win WTO disputes against developed countries, executing the remedies would not be beneficial because the allowed retaliatory action is generally either exemption from the WTO commitment or an import restriction against the developed countries. These remedies are not highly feasible because the developing countries are usually dependent on imports from developed countries, such as capital and consumer goods, or the exports of developing countries often heavily depend on developed markets, as seen from the example of Banana dispute between Ecuador and the EU.

Fourth, large incidence of claims by the developed countries against the middle-income countries indicates that the current WTO rules serve as a cause of the middle-income trap by frustrating industrial development efforts of middle-income countries. Banning export subsidies while allowing R&D subsidies is not easy to justify. A remote reason might be that R&D is more likely to involve market failure. If this is the case, then the market failure caused by monopoly or oligopoly in international markets should also be corrected by encouraging the market entry of subsidized firms from the South. An example is the case

(discussed in Section 3) of the failed attempt by Indonesia to promote its local automobile industry against foreign carmakers that have almost a monopoly through their approximately 90 percent market share.

6.2. What can be done to change the current global rules

First, reducing asymmetries and arbitrariness is imperative with regard to access and actual use of remedies (retaliatory measures) against faulty parties that are not willing to act on a given ruling. One way is to establish a third party that will enforce remedies not only through the resources of the involved parties, but also through resources and penalties at the international level. Otherwise, the WTO may have to consider introducing a rule that can limit a country with a larger market size (representing the size of retaliatory power) to complain against a considerably smaller country when the size difference of the two parties is beyond a certain level. A committee should be established to conduct a pre-review of submitted cases.

Second, the situation of the developing countries that are not receiving the "promised technology transfer" in return for their concurrence with the stricter IPR protection rules under the TRIPS should be improved.[42] Otherwise, high-income countries that have failed to deliver that promise or their official development assistance commitments (0.7% of GNI) should not be allowed to complain against the developing countries that use R&D or other subsidies to enhance their technological capabilities.

Third, the WTO rules on permitted ("green light") subsidies, such as those for R&D, regional development, and environmental compliance expired in 2000. To extend these rules and/or establish new rules on such subsidies, a broad consideration of the interests of the developing countries is necessary. Although expiration should mean that those subsidies are no longer viable, taking no explicit action after the expiration date could also be interpreted as implicitly retaining the permitted subsidies, unless one party raises a serious objection. If this is the case, then clarifying these rules on subsidies via new agreements is preferred so that these subsidies can be extended for a longer or infinite period.

Fourth, the late entry of emerging countries into product markets that are characterized as near monopoly or oligopoly should be treated in a special manner under the WTO rules because these emerging countries can promote competition and efficiency by correcting market failures and distortions associated with monopoly. In such cases, promoting late entry by subsidies or state-owned enterprises may be justified. Furthermore, a strong international

agency (such as a "global fair trade commission") should be established to monitor the market dominance of or distortion caused by a few large players. This agency should also have authority over international mergers and acquisitions, which could have anticompetition implications.

Fifth, establishing international guidelines for subsidies or government assistance is necessary in several areas in which public intervention may be justified. The case of an international dispute over escalating subsidies in the solar panel industry indicates that although subsidies in this case may be justified in terms of environmental factors, internally agreed guidelines are needed to prevent subsidies from escalating across countries because such situation is not optimal from a global perspective. The bailouts during the financial crisis in the developed countries (as discussed in Section 4) also require certain guidelines, given that some bailouts may be justified because firm failure is not caused by the firm itself but by transitory and global or external factors beyond the control of the firm.

Sixth, as noted by Girvan and Cortez (2013), despite the formal equality in terms of decision-making rights, decisions in practice are made through consensus building, which has been dominated by a few major industrial countries; thus, most nations that have been excluded from consensus building are dissatisfied. In this regard, better procedures should be established for smaller and issue-based meetings, with authorization from all members, and the meetings should be governed by transparent rules. All meetings, such as Green Room or Mini-Ministerial ones, should be called by all members and should be inclusive and transparent (Khor and Ocampo, 2010).

Seventh, measures to enhance the resources and capabilities of the South to understand and use WTO rules and procedures should be implemented, such as training sessions and technical assistance. A pool of international experts and lawyers can be mobilized and should be available to the South when it needs WTO-specific legal services to defend various cases. A promising move in this regard is the establishment of the Advisory Center on WTO Law to provide legal service, support, and training to developing countries. More effort by the governments and industry in learning how to utilize the WTO DSB system would be a crucial stepping points (Davis and Bermeo, 2009).

6.3. What can still be "tried" under the current rules

First, the developing countries, especially low-income ones, are advised not to take the WTO restriction on industrial policies as an excuse for not trying

industrial policy because members can deviate from WTO disciplines, provided that no other member initiates legal action (and makes the case) against that measure, which is likely to happen only when industrial policies become significantly successful. As noted, the developed countries have been taking advantage of this feature, and no cases exist in which low-income countries have been the target of a dispute brought to the WTO.

Second, R&D subsidies have not been restricted (or classified as green light subsidies). Although subsidies on exports are prohibited, those on production are "green light subsidies" or have not been prohibited unless they are deemed as specific and causing adverse effects on other member countries, as noted by UNIDO/UNCTAD (2011). Moreover, the SCM does not prevent governments from subsidizing activities, particularly through regional, technological, and environmental policies, provided that governments have sufficient ingenuity to present such subsidies as WTO compatible (UNCTAD, 2006). In general, the developing countries may attempt to take advantage of the fact that many rules in the WTO SCM have loopholes or room for flexible interpretation, as the term "yellow" light for certain types of subsidies are classified, and even if a country is brought into the WTO process, the lengthy process and enforcement are sometimes dubious.

Third, the South may be able to use some "nonspecific" subsidies because these subsidies are not prohibited by the WTO. In other words, when subsidies are not limited to "certain enterprises or industries" but are available on the basis of "objective criteria or conditions," they are regarded as not specific. In accordance with this idea, a new "industrial policy" was proposed by Avnimelech and Teubal (2008) based on the concept of evolutionary targeting called "Program Portfolio Profile" for innovators to leverage domestic market forces and local demand, thereby stimulating the development of indigenous technology. The proposed evolutionary targeting is an alternative approach to "firm-specific targeting" and focuses on the specification of the selection mechanisms. Evolutionary targeting involves the design and implementation of targeted "programs" for the emergence of a multi-agent structure.

Finally, as noted by Cornia and Vos (2013), developing countries can use a stable and competitive exchange rate as an effective alternative to tariff. Studies, such as that by Helleiner (2011), found that this strategy has significantly greater protective effects on the import-competing domestic manufacturing sector than tariff rates of 30 percent or more. Specifically, countries can combine subsidies on production to targeted sectors, which is allowed by the WTO, with general

undervaluation of their currencies, which would have the same effect as export subsidies on targeted sectors.

Notes

1 This is an edited version of a paper published in Seoul Journal of Economics (Lee et al. 2014). For many valuable comments and suggestions, we are grateful to Jose Antonio Ocampo, Lu Aiguo, and Victor Polterovich.

2 This paper focuses on cases filed until 2010 because many cases initiated after that year are either pending or yet to be concluded.

3 However, a discrepancy exists between the invocation of the rules and an actual ruling because the WTO DSB has a distinctive judicial system called "judicial economy" to limit unnecessary invocations in a given case on the actual legal process of WTO rulings.

4 India: Anti-dumping Measure on Batteries from Bangladesh (DS306).

5 Another possible reason is that various provisions of Special and Differential Treatment may protect them from any WTO dispute (Bown and Hoekman, 2008).

6 Although China joined the WTO only in 2004, the country is an active user of the WTO DSB.

7 Developing (middle-income and low-income) countries have initiated only few disputes and many have never initiated any, regardless of their positions. Among the 107 WTO developing members (consisting of seventy-nine middle-income and twenty-eight low-income countries), only twenty-six middle-income and one low-income countries have an experience to participate in the WTO dispute as plaintiff; eighty countries have filed none. Only twenty-five developing members have involved in the WTO disputes as respondent.

8 In the context of the WTO case, "zeroing" stands for a specific methodology of calculating a general dumping margin (which is equal to normal value—export price/export price), for a product in question under which negative individual dumping margins are considered as zero (thus, zeroed) before all individual dumping margins are aggregated. Thus, zeroing has the effect of exaggerating dumping margins.

9 *United States—Measures Affecting the Cross-Border Supply of Gambling and Betting Services*, WT/DS285/AB/R, adopted April 20, 2005.

10 The WTO allows countries to modify the service sectors covered by the agreement, but only if they compensate their trading partners for lost business opportunities when a sector-specific commitment is changed or withdrawn.

11 *Indonesia—Certain Measures Affecting the Automobile Industry*, WT/DS54/R; WT/DS55/R, WT/ DS59/R; WT/DS64/R, adopted July 1998.

12 A government policy called License Raj (Permit Raj—import controls) was initiated by the first prime minister of India, Jawaharlal Nehru, to strengthen government control on the manufacturing sectors and ensure policy sovereignty over national economic development. This industrial policy was implemented for approximately forty years (between 1947 and 1990) until a huge trade deficit of approximately $1.2 billion was incurred during the Sixth Plan (1980 to 1985) and $2.2 billion during the Seventh Plan (1985 to 1990). This turn of events, combined with a shortage of foreign exchange, led to a serious BOP crisis. India requested a $7 billion loan from the International Monetary Fund, which required market liberalization. As a result of liberalization, the industrial licensing policy was abolished in 1991.

13 *India—Quantitative Restrictions on Imports of Agricultural, Textile and Industrial Products*, a complaint filed by the United States (WT/DS90/AB/R, adopted in November 1999).

14 See Section 5 in regard to the WTO rules, especially the WTO SCM rules referred in this section.

15 Office of Inspector General (2012), Audit Report: Consultation on Solyndra Loan Guarantee was Rushed, Department of the Treasury. Retrieved from http://www.treasury.gov/about/organizational-structure/ig/Agency%20Documents/OIG%20Audit%20Report%20%20-%20Consultation%20on%20Solyndra%20Loan%20Guarantee%20Was%20Rushed.pdf.

16 http://abcnews.go.com/Blotter/solyndra-lowest-interest-rate/story?id=14460246#.Uc1H23_08s8

17 http://kr.enfsolar.com/cell-panel-prices

18 http://trade.ec.europa.eu/doclib/press/index.cfm?id=909

19 *United States—Countervailing Duty Measures on Certain Products from China*, WT/DS437/1, May 30, 2012. In the consultation report, China particularly rebutted the US Department of Commerce's use of the term "public bodies," as well as its application of specificity and facts available, and its calculations of antidumping and countervailing duties.

20 *European Union and Certain Member States—Certain Measures Affecting the Renewable Energy Generation Sector*, WT/DS452/1

21 http://news.xinhuanet.com/english/business/2012–11/05/c_131952482.htm

22 TARP Programs; Program Status of Auto Industry, US Department of the Treasury (www.treasury.gov/initiatives/financial-stability/TARP-Programs/automotive-programs/Pages/purpose.aspx)

23 http://www.forbes.com/2010/04/23/general-motors-economy-bailout-opinions-columnists-shikha-dalmia.html

24 *United States—Countervailing Duty Investigation on Dynamic Random Access Memory Semiconductors (DRAMS) from Korea* (WT/DS296/AB/R) adopted July

20, 2005; *European Communities—Countervailing Measures on Dynamic Random Access Memory Chips from Korea* (WT/DS299/AB/R) adopted August 3, 2005.

25 As of today, Korea is viewed as a developed country, however, in the earlier stage of the WTO period 1995 to 1997 the country was a middle-income country based on the income and its self-claim.

26 Financial difficulties were caused mainly from three reasons: (i) the aftermath of the crisis, (ii) a huge debt given while undertaking M&A with LG Semiconductor, and (iii) independence from Hyundai Electronics.

27 This section relies on the work of W. Shin and Lee, 2013.

28 SCM Agreement Article 1.1.

29 SCM Agreement Article 1.1(a).

30 According to Sykes (2005), the concept of specificity originated from US law.

31 SCM Agreement Article 2.1.

32 According to Sykes (2005), SCM Agreement Article 2.1(b) stipulates: "Where the granting authority, or the legislation pursuant to which the granting authority *operates, establishes objective criteria or conditions* governing the eligibility for, and the amount of, a subsidy, *specificity shall not exist*, provided that the eligibility is automatic that such criteria and conditions are strictly adhered to" (author's emphasis).

33 SCM Agreement Article 2.1(c) stipulates: "If . . . there are reasons to believe that the subsidy may *in fact be specific*, other factors may be considered. Such factors are: use of a subsidy program by a limited number of certain enterprises . . ." (author's emphasis).

34 SCM Agreement Article 2.2.

35 SCM Agreement Article 3.1; Annex I of the SCM Agreement lists prohibited export subsidies.

36 SCM Agreement Articles 3 and 2.3.

37 SCM Agreement Article 5.

38 SCM Agreement Article 5.

39 SCM Agreement, Article 31. According to SCM Agreement Article 31, the provision can be extended upon review by the WTO members.

40 SCM Agreement Article 8.2.

41 For details, refer to "*Article 27.4 of The Agreement on Subsidies and Countervailing Measures* (WT/L/691)."

42 TRIPS Article 66.2 requires the developed members to implement technology transfer for the least developed countries by providing incentives to enterprises or institutions. The developed countries' efforts on this provision are supposed to be reported to the WTO in pursuance of their commitments under the Article. However, it seems that few developed countries have followed the rule properly for its goal (see http://wto.org/english/tratop_E/trips_E/techtransfer_E.htm in detail), and thus the technology gap between the North and the South is still huge (Shin, Lee, and Park, 2015).

References

Aghion, Philippe, Dewatripont, Mathias, Du, Luosha, Harrison, Ann, and Legros, Patrick (2012). Industrial Policy and Competition. National Bureau of Economic Research.

Ahn, Dukgeun and Messerlin, Patrick (2014). United States–Anti-Dumping Measures on Certain Shrimp and Diamond Sawblades from China: Never Ending Zeroing in the WTO?. *World Trade Review*, vol. 13, no. 2, pp. 267–79.

Ahn, Dukgeun and Shin, Wonkyu (2011). Analysis of Anti-dumping Use in Free Trade Agreements. *Journal of World Trade*, vol. 45, no. 2, pp. 431–56.

Avnimelech, Gil and Teubal, Morris (2008). Evolutionary Targeting. *Journal of Evolutionary Economics*, vol. 18, no. 2, pp. 151–66.

Baldwin, Sam (2011). *Energy Efficiency & Renewable Energy: Challenges and Opportunities*. PPT presentation at Opportunities Clean Energy SuperCluster Expo at Colorado State University, U.S. Department of Energy.

Beason, Richard and Weinstein, David E. (1996). Growth, Economies of Scale, and Targeting in Japan (1955–1990). *The Review of Economics and Statistics*, vol. 78, no. 2, pp. 286–95.

Bhagwati, Jagdish N. (1988). Protectionism (vol. 1). Cambridge: The MIT Press.

Bora, Bijit, Lloyd, Peter J., and Pengestu, Mari (2000). Industrial Policy and the WTO. *The World Economy*, vol. 23, no. 4, pp. 543–59.

Bown, Chad. P. (2004). Developing Countries as Plaintiffs and Defendants in GATT/WTO Trade Disputes. *The World Economy*, vol. 27, no. 1, pp. 59–80.

Bown, Chad. P. (2005). Participation in WTO Dispute Settlement: Complainants, Interested Parties, and Free Riders. *World Bank Economic Review*, vol. 19, no. 2, pp. 287–310.

Bown, Chad P. and Hoekman, Bernard M. (2008). Developing Countries and Enforcement of Trade Agreements: Why Dispute Settlement Is Not Enough. *Journal of World Trade*, vol. 42, no. 1, pp. 177–203.

Bown, Chad P. and Pauwelyn, Joost (2010). *The Law, Economics and Politics of Retaliation in WTO Dispute Settlement* (vol. 3). New York: Cambridge University Press.

Busch, Marc L. and Reinhardt, Eric (2003). The Evolution of GATT/WTO Dispute Settlement. *Trade Policy Research*, pp. 143–83.

Canis, Bill and Webel, Baird (2013). *The Role of TARP Assistance in the Restructuring of General Motors*. (R41978). Congressional Research Service.

Chang, Ha-Joon (2002). *Kicking Away the Ladder: Development Strategy in Historical Perspective*. London and New York: Anthem Press.

Chang, Ha-Joon (2003). Kicking Away the Ladder: Infant Industry Promotion in Historical Perspective. *Oxford Development Studies*, vol. 31, no. 1, pp. 21–32.

Cimoli, Mario, Dosi, Giovanni, and Stiglitz, Joseph E. (2009). *Industrial Policy and Development: The Political Economy of Capabilities Accumulation*. New York: Oxford University Press.

Cornia, Giovanni Andrea, and Rob Vos (2013), Common Elements for Inclusive and Sustainable Development Strategies Beyond 2015. In José Antonio Alonso, Giovanni Andrea Cornia, and Rob Vos (eds.), *Alternative Development Strategies for the Post-2015 Era*. London and New York: Bloomsbury Academic in association with the United Nations.

Dalmia, Shikha (2010). Still Government Motors. *Forbes*.

Davis, Christina L. and Bermeo, Sarah Blodgett (2009). Who Files? Developing Country Participation in GATT/WTO Adjudication. *Journal of Politics*, vol. 71, no. 3, pp. 1033–49.

Dicaprio, Alisa and Gallagher, Kevin P. (2006). The WTO and the Shrinking of Development Space. *Journal of World Investment and Trade*, vol. 7, no. 5, pp. 781–803.

Fergusson, I. F. (2011). United States-Canada Trade and Economic Relationship: Prospects and Challenges. In Mathew B. Reynolds and James K. Nelson (eds.), *Canadian Imports and Trade Issues*. New York, US: Nova Publishers Inc.

Gallagher, Kevin P. (2011). Losing Control: Policy Space to Prevent and Mitigate Financial Crises in Trade and Investment Agreements. *Development Policy Review*, vol. 29, no. 4, pp. 387–413.

Girvan, Norman and Ana Luiza Cortez (2013). The Enabling International Environment. In Jose Antonio Alonso and others (eds.), *Alternative Development Strategies for the Post-2015 Era*. Bloomsbury Academic in association with the United Nations.

Greene, Ronnie and Mosk, Matthew (2011). "Connected" Energy Firm Got Lowest Interest Rate on Government Loan, *adcNEWS*, available at: http://abcnews.go.com/Blotter/solyndra-lowest-interest-rate/story?id=14460246&singlePage=true

Grossman, Gene M. and Helpman, Elhanan (1994). Protection for Sale. *The American Economic Review*, vol. 84, no. 4, pp. 833–50.

Guzman, Andrew T. and Simmons, Beth A. (2005). Power Plays and Capacity Constraints: The Selection of Defendants in WTO Disputes. Paper presented at the American Law & Economics Association Annual Meetings.

Helleiner, Eric (2011). Understanding the 2007–2008 Global Financial Crisis: Lessons for Scholars of International Political Economy. *Annual Review of Political Science*, vol. 14, pp. 67–87.

Horn, Horn, Mavroidis, Petros C., and Nordström, Håkan (1999). *Is the Use of the WTO Dispute Settlement System Biased?* Centre for Economic Policy Research.

James, William E. and Fujita, Natsuki (1989). Import Substitution and Export Promotion in the Growth of the Indonesian Industrial Sector. *ASEAN Economic Bulletin*, vol. 6, no. 1, pp. 59–70.

Johnson, Chalmers (1982). MITI and the Japanese Miracle: The Growth of Industrial Policy: 1925–1975. California, the United States: Stanford University Press.

Khor, Martin and Ocampo, José Antonio (2010). The Unsettled Global Trade Architecture. In *Discussion at the Conference on Global Economic Governance, Washington DC,* pp. 7–8.

Langlois, Jean-Pierre P. and Langlois, Catherine C. (2007). Dispute Settlement Design for Unequal Partners: A Game Theoretic Perspective. *International Interactions*, vol. 33, no. 4, pp. 347–82.

Lee, Jong-Wha (1996). Government Interventions and Productivity Growth. *Journal of Economic Growth*, vol. 1, no. 3, pp. 391–414.

Lee, Keun, Wonkyu Shin, and Hochul Shin (2014). How Large or Small Is the Policy Space? WTO Regime and Industrial Policy. *Seoul Journal of Economics*, vol. 27, no. 3, pp. 307–48.

Lee, Keun (2013a). Capability Failure and Industrial Policy to Move beyond the Middle-Income Trap: From Trade-based to Technology-based Specialization. In J. Lin and J. Stiglitz (eds.), *Industrial Policy Revolution I*. Basingstoke: Palgrave.

Lee, Keun (2013b). *Schumpeterian Analysis of Economic Catch-up: Knowledge, Path-creation and Middle Income Trap*. Cambridge: Cambridge University Press.

Lee, Keun and Mathews, John (2010). From the Washington Consensus to the BeST Consensus for World Development. *Asian-Pacific Economic Literature*, vol. 24, no. 1, pp. 86–103.

Lee, Keun and Mathews, John (2013). *STI for Sustainable Development, UN: Committee for Development Policy*, Background paper No. 16.

Leitner, Kara and Lester, Simon (2011). WTO Dispute Settlement 1995–2010—A Statistical Analysis. *Journal of International Economic Law*, vol. 14, no. 1, pp. 191–201.

Lin, Justin Yifu and Joseph Stiglitz (eds.) (2013). *New Thinking in Industrial Policy*. Palgrave.

Lin, Justin Yifu (2012). *New Structural Economics: A framework for Rethinking Development and Policy*. Washington, DC: World Bank.

Lin, Justin (2013). From Flying Geese to Leading Dragons: New Opportunities and Strategies for Structural Transformation in Developing Countries. In J. Lin, J. Stiglitz, and E. Patel (eds.), *Industrial Policy Revolution II*. Basingstoke: Palgrave.

Mayer, Jörg (2009). Policy Space: What, for What, and Where? *Development Policy Review*, vol. 27, no. 4, pp. 373–95.

Ocampo, Jose A., Kregel, Jan, and Griffith-Jones, Stephany (2007). *International Finance and Development*. London: Zed Books.

OECD, Perspectives on Global Development (2013). *Industrial Policies in a Changing World*. Paris: OECD.

Pauwelyn, Joost (2000). Enforcement and Countermeasures in the WTO: Rules are Rules-Toward a More Collective Approach. *The American Journal of International Law*, vol. 94, no. 2, pp. 335–47.

Pernick, Ron, Wilder, Clint, and Winnie, Trevor (2013). Clean Energy Trends 2013. Clean Edge, INC. (www.cleanedge.com): Clean Edge, INC.

Reyes, Anthony (2013). The Financial Crisis Five Years Later: Response, Reform, and Progress. Treasury Notes, available at: http://www.treasury.gov/connect/blog/Pages/The-Financial-Crisis-Five-Years-Later.aspx.

Schwartz, Warren F., and Sykes, Alan O. (2002). The Economic Structure of Renegotiation and Dispute Resolution in the World Trade Organization. *The Journal of Legal Studies*, vol. 31, no. S1, pp. S179–S204.

Shadlen, Kenneth C. (2005). Exchanging Development for Market Access? Deep Integration and Industrial Policy under Multilateral and Regional-bilateral Trade Agreements. *Review of International Political Economy*, vol. 12, no. 5, pp. 750–75.

Shin, Hochul and Lee, Keun (2012). Asymmetric Trade Protection Leading not to Productivity but to Export Share Change. *Economics of Transition*, vol. 20, no. 4, pp. 745–85.

Shin, Wonkyu and Lee, Wonhee (2013). Legality of R&D Subsidies and Its Policy Framework under the World Trading System: The Case of Civil Aircraft Disputes. *STI Policy Review*, vol. 4, no. 1, pp. 27–53.

Shin, Wonkyu, Lee, Keun, and Park, Walter G. (2014). When an Importer's Protection of IPR Interacts with an Exporter's level of Technology: Comparing the Impacts on the Exports of the North and South, mimeo.

Spencer, Barbara J. and Brander, James A. (1983). International R & D Rivalry and Industrial Strategy. *The Review of Economic Studies*, vol. 50, no. 4, pp. 707–22. doi: 10.2307/2297771

Sykes, Alan O. (2005). Subsidies and Countervailing Measures. The World Trade Organization: Legal, Economic and Political Analysis, Springer: 1682–1706.

UNCTAD (2006). *Trade and Development Report*. Geneva: United Nations.

UNIDO / UNCTAD (2011). *Economic Development in Africa Report 2011*. Geneva: United Nations.

U.S. Department of the Treasury (2012). *Audit Report: Consultation on Solyndra Loan Guarantee Was Rushed.*

U.S. Department of the Treasury (2013), TARP Programs: Auto Industry-Program Status, available at: http://www.treasury.gov/initiatives/financial-stability/TARP-Programs/automotive-programs/Pages/default.aspx (accessed May 11, 2013).

U.S. White House (2011). The American Jobs Act: President Obama's Plan to Create Jobs Now [Press release], available at: http://www.whitehouse.gov/economy/jobsact

Wade, Robert H. (2003). What Strategies are Viable for Developing Countries Today? The World Trade Organization and the Shrinking of "Development Space." *Review of International Political Economy*, vol. 10, no. 4, pp. 621–44.

Wade, Robert H. (2012). Return of Industrial Policy?, *International Review of Applied Economics*, vol. 26, no. 2, pp. 223–39.

6

Managing Labor Mobility: A Missing Pillar of Global Governance[1]

José Antonio Alonso

1. Introduction

One of the most visible facets of the process of globalization is the relevance acquired by migratory flows across the international landscape. In an increasingly integrated world, alongside goods and services, ideas and capital crossing national borders, people too are seeking in foreign venues what they have been denied in their own countries. However, this movement of people is taking place in a limited and fragmented international regulatory context, leaving ample room for recipient countries to impose their particular national choices and policies. In most cases, those policies are clearly restrictive when it comes to labor immigration, especially as regards unskilled workers. Control efforts by states, however, have not been totally effective, as the massive quantities of undocumented migration attests. Paradoxically, the ability to control migration has been reduced even as the desire to exert control has increased (Bhagwati, 2003).

In this context, the migratory phenomenon is frequently associated with dramatic experiences that shock public opinion: people risking their lives in sea crossings in flimsy boats, trespassing borders strapped to the chassis of cars, stacked up between lorry loads of goods, or hidden in the fuselage of planes. The emotional (and sometimes tragic) nature of this type of news often leads us to forget the basic fact that most humans never move from where they are born (Straubhaar, 2000). Only a minority of people migrate. Therefore, the notion that if we fail to fiercely block borders, a massive wave of migration will take place—a kind of upward "avalanche" of the world's southern population—is

both false and prejudiced. Not even the European Union, which has substantially dismantled migratory restrictions between members, has experienced such a wave of uncontrolled migration.

In fact, according to the United Nations, there were about 232 million international migrants in 2013. In relative terms, this corresponds to over 3.2 percent of the world population. The percentage does not seem exceptionally high, especially when compared to the proportions of other cross-border economic transactions. However, the social and political relevance of migration goes beyond numbers: migration involves people, and not merely production factors—social agents with a will of their own and with individual rights. As a consequence, international migration has become a powerful force of social change and cultural interaction throughout the contemporary world.

The fact that people can more freely choose their own place of residence and work is, in principle, desirable, because this widens the range of human freedoms (Nussbaum, 2000). Moreover, when suitably regulated, migration can potentially improve the efficiency and well-being of the overall international economic system, as both theoretical and empirical studies have confirmed. History shows, moreover, that migration can be a force in correcting international inequalities, actually reducing wage differences between host and home countries, as transatlantic migration did in the second half of the nineteenth century (O'Rourke and Williamson, 1999; Hatton and Williamson, 1999 and 2005). Aside from this global effect, migration is also an effective (although notably selective) means of increasing the possibilities for individuals to better themselves, improving individual income, health, education, and living conditions. It is therefore an important development factor, especially if we believe that people (and not just countries) matter (Clemens, 2010; Pritchett, 2006).

Migration can also entail costs, both for the countries of origin (due to the breaking of family structures or the loss of human capital, for example), and for the recipient countries (increasing the cost of social policy or reducing social cohesion, for example). Furthermore, in certain conditions, when emigration becomes a widespread and intensive phenomenon, it can feed a vicious circle that promotes a regressive dynamic of depopulation and the abandonment of productive activities in migrants' communities of origin; or it can shrink social capital, harm mutual regard, and even feed some aggressive reactions in host countries. All these costs reveal that a policy of "open borders" is not a reasonable option.

However, the restrictive tone adopted toward immigration contrasts with the increasing liberalization of other economic flows. Such an asymmetry

illustrates the unbalanced nature of the globalization process currently under way, serving as obstacle to a more complete exploitation of the benefits of migration. Additionally, since globalization benefits mainly those factors that are more internationally mobile (capital over labor, skilled over unskilled workers), restrictive policies on migration tend to accentuate social inequalities (Rodrik, 1997). As a selective opportunity, human mobility has become an important stratifying factor in our globalized world: poorest people in poorest countries do not even have the opportunity to migrate (Bauman, 1998).

Furthermore, the restrictive attitude with which immigration is regulated runs contrary to the need for migrant labor in developed countries, given those countries' stagnant demographics and aging populations; and it conflicts with the pressure placed on young persons from developing countries to search for employment and personal progress in a world where global media disseminate idealized images of the rich lifestyles available elsewhere. In face of these tendencies, the imposition of tighter restrictions to migration has proved itself less than effective, as the presence of undocumented migrants has bloomed into a universal phenomenon (Castels, 2007).

In any case, common remarks on "alien avalanche" in some sectors of opinion neglect the fact that migrants come not only because they want to but because they are wanted. In host countries, there are also employers in some sectors that are interested in sustaining the presence of undocumented migrants, as a means to fill menial jobs and reduce labor costs. In fact, immigration, particularly unauthorized immigration, plays a role in maintaining labor-market flexibility in host countries because it reduces the political and economic repercussion of the labor adjustments. However, this has severe costs not only for the immigrants and their families, that are not protected, but also for the social cohesion and the democratic climate of the society in which they now live (Hollifield, 2004).

The great recession has only worsened the vulnerable situation of many groups of migrants. The economic downturn has led to increased unemployment among migrants, above and beyond that of the native population; also stricter conditions for new residents in countries hit by the crisis; and containment (albeit limited) of the remittances that migrants send to their families. In addition—and this is the most worrying effect—the crisis has stirred unease about immigration in general, prompting discriminatory and xenophobic reactions even in countries with well-established democracies.

The importance of migration and the aggravation of the conditions from which it is produced suggest the need for nations to manage migratory flows in an orderly and realistic way. However, national responses, mainly based on

control efforts, are not enough: coherently regulation of the phenomenon is also needed at the international level. Failures of national policies are exacerbated by the absence of appropriate global rules and governance on migration.

International initiatives undertaken to date in this field have seen very limited success. The reasons for this failure stem from conflicting interests toward migration, not only between social groups within countries, but also between home and host countries. In any case, ample consensus exists that more adequate international governance of migratory processes could increase the positive effects (and reduce the negative ones) of migration, sharing its benefits more fairly and guaranteeing the rights of those involved more effectively.

In the pages that follow, the current regulatory framework will be analyzed in order to promote changes in global rules and governance of migration.[2] The chapter is divided into seven sections in addition to this introduction. Section 2 will present some essential data on migration; Section 3 will discuss the impact of migration in terms of the overall well-being of the international system; Section 4 will explore the conflicting interests affected by migration that condition any response in this field; Section 5 will look at the current regulatory and institutional framework governing international migration; and Section 6 presents some proposals for establishing a new global framework to maximize the benefits (and reduce the negative effects) of migration. Finally, Section 7 will present some concluding comments.

2. Empirical evidence: A global phenomenon

Information on the number of current migrants in the world is never totally reliable. Factors contributing to the poor quality of data include the fact that no single concept exists of what should be understood as a migrant[3]; also, the irregular conditions in which many migrants live; as well as the shortcomings of demographic statistics from low-income countries. Nevertheless, in the last few years, the availability of proper empirical information has significantly improved with the creation of new datasets on migration stocks and flows (Özden et al., 2011, Parsons et al., 2005).

UN data over the last five decades confirms that the trend in international migration has been slightly upward, in keeping with the process of globalization. This trend shows a (somewhat artificial) jump around the 1980s, as a result of the sudden migrant status acquired by former USSR citizens, as a consequence of their living in regions different from their birthplaces (later converted into

independent countries).[4] Apart from that phenomenon, excluding the USSR and Czechoslovakia, the upward tendency has been maintained.

In dynamic terms, in the thirty years from 1980 to 2010, the total number of migrants increased by an average annual rate of 2.8 percent. That rate is not especially high, particularly if we consider that international trade doubled and foreign direct investment tripled that rate during the same period. After the crisis, between 2010 and 2013, the annual rate of increase in the number of migrants has decreased to 1.6 percent. As a consequence, in 2013 there were about 232 million migrants in the world (Table 6.1). This figure is most likely an underestimate of the true magnitude of the phenomenon, because undocumented immigrants are not adequately included in the data (Massey and Capoferro, 2007, Heckmann, 2007); and the number also excludes those who move abroad to study, or to perform temporary work, as well as second-generation migrants born abroad.

Since the mid-1980s, developed countries have become the major destination of migrants. In fact, while the growth rate of the stock of migrants in developed countries was 3.3 percent for the period that rate in developing countries reached only 1.7 percent. In 2013, developed countries concentrated 59 percent of migrants. Europe and North America have the highest number of migrants, followed by Asia, with a relatively similar number.

If the relative percentage of immigrants over host populations is considered, Oceania shows the highest ratio (20.7%), followed by North America (14.9%),

Table 6.1 Destination countries: Stock of migrants (millions of people)

	1960	1970	1980	1990	2000	2010	2013
By region							
Africa	9.1	9.9	14.0	15.6	15.6	17.1	18.6
Asia	28.5	27.8	32.1	49.9	50.4	67.7	70.8
Europe	14.2	18.8	21.9	49	56.2	69.1	72.4
Latin America	6.0	5.6	6.0	7.1	6.5	8	8.5
North America	12.5	12.9	18.1	27.7	40.4	51.2	53.1
Oceania	2.1	3.0	3.7	4.6	5.4	7.3	7.9
World	75.4	81.3	99.2	154.1	174.5	220.7	231.5
By income level							
More developed	14.0	38.3	47.4	82.3	103.3	129.7	135.5
Less developed	32.1	42.9	51.8	71.8	71.1	90.9	95.9
Least developed	21.9	7.2	9.1	10.9	10.2	10.1	10.9

Source: United Nations (UNDESA). International Migrant Stock. The 2013 Revision (http://esa.un.org/migration).

Western Asia, where countries of the Persian Gulf are located (13.5%), and most of Europe (between 10 and 12%) (Figure 6.1). In most developing regions, immigrants represent less than 2 percent of the host population, with the exception of Central Asia, Southern Africa, and the Caribbean (8.5, 4.3, and 3.3 %, respectively).

The above data could suggest that managing the influx of international migrants is a problem exclusive to developed countries. However, the phenomenon is more complex, as becomes clear when those countries with the largest amount of immigrants are identified (Figure 6.2). Some developed countries stand out here, including the United States, Germany, Canada, France, the United Kingdom, and Spain; nevertheless, developing countries like India, Pakistan, and the Ivory Coast also occupy leading positions. This suggests that: (i) having a large immigrant population is not a characteristic exclusive to developed countries; and (ii) the distinction between host, origin, and transit countries in terms of migration is increasingly blurred. A good number of countries (such as Mexico, India, and Morocco) fall into all three categories.

The study of bilateral flows confirms the global nature of the migratory phenomenon (Figure 6.3). According to the United Nations, in 2013, 71 percent of migratory flows came from developing countries; of this 36 percent went to developing countries, and 35 percent were bound for developed countries. In turn, 23 percent of the total emigration from developed countries went to other developed countries, while 6 percent went to developing countries. Therefore, migration from the South is distributed between North and South in similar

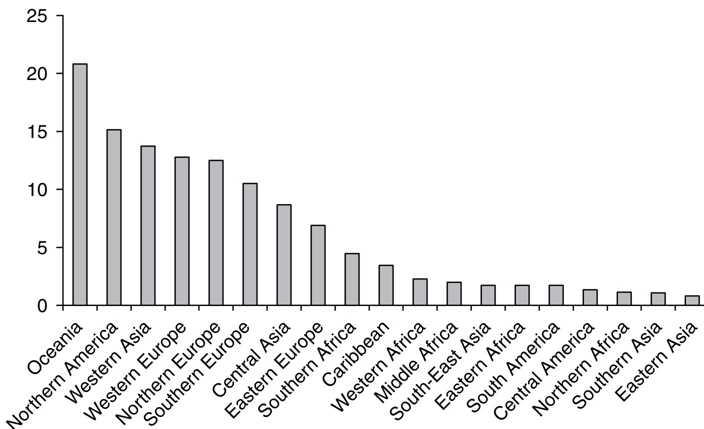

Figure 6.1 Percentage of migrants over population (2013)

Source: United Nations (UNDESA): International Migrant Stock. The 2013 Revision (http://esa.un.org/migration).

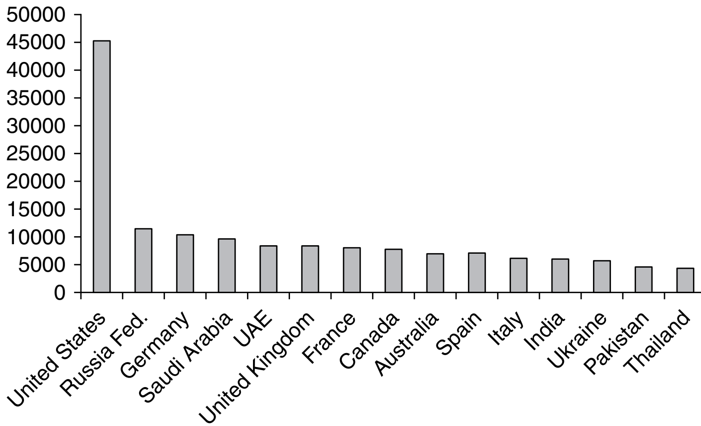

Figure 6.2 Main host countries of migrants (thousands of people), 2013

Source: United Nations (UNDESA): International Migrant Stock. The 2013 Revision (http://esa.un.org/migration).

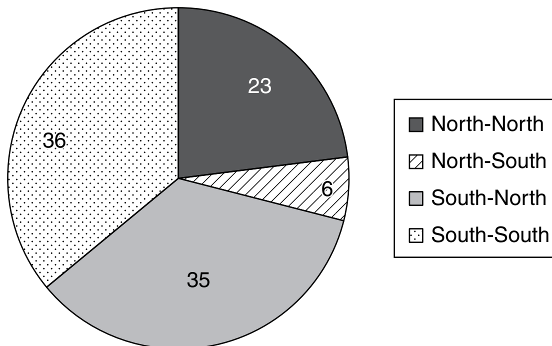

Figure 6.3 Composition of migration flows by origin and destination, 2013 (in percentage shares)

Source: United Nations (UNDESA): International Migrant Stock. The 2013 Revision (http://esa.un.org/migration).

proportions; while 80 percent of those coming from developed countries go to the North, and the other 20 percent to the South.

Finally, almost half of the migrants—48 percent—are women (Figure 6.4). This is a new feature of the current migration flows in relation to the first wave of mass migration, in the nineteenth century (Hatton and Williamson, 2005). In any case, the percentage of female migrants change in accordance with the regions considered, with higher ratios in Eastern Asia, Europe, and North and South America. On the other hand, Western Asia shows the lowest ratio, with women representing only 34 percent of immigrants.

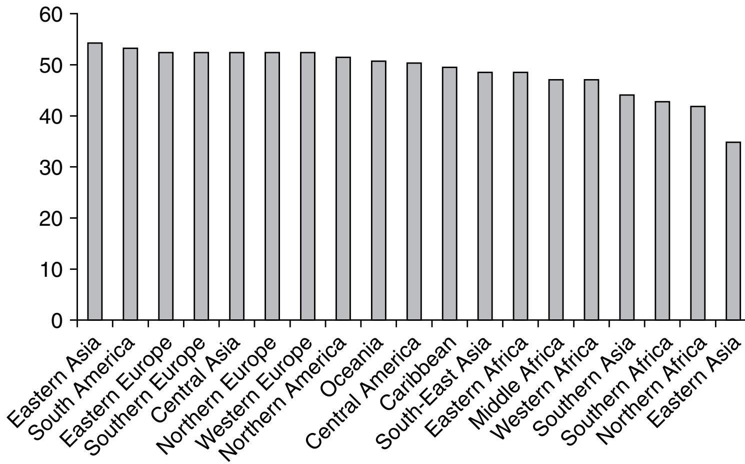

Figure 6.4 Percentage of female migrants (2013)

Source: United Nations (UNDESA): International Migrant Stock. The 2013 Revision (http://esa.un.org/migration).

3. Effects on global welfare

Economic theory predicts that international migration will be associated with an improvement in global efficiency, as migration allows people to move from where they are least rewarded and less productive (labor-abundant economies) to where they earn more and be more productive (labor-scarce economies). As a result, this is not a zero-sum game: obviously, not all sectors of society benefit from the change, but the overall result is undeniably positive in terms of potential welfare.

It is interesting to consider how large the benefits might be in the hypothetical case of free movement of people. The earliest works on this subject (such as Hamilton and Whalley, 1984, or Moses and Lettnes, 2004) applied a general equilibrium model (AGE), supposing full labor mobility. The estimated benefits were striking: in the first study, the world GDP could double as a consequence of completely free migration, and in the second the increase on global efficiency could reach, in the most conservative scenario, a range of between 6 and 47 percent of the world's GDP. Even though the assumption made by these studies (full labor mobility) is unrealistic, a large part of the benefits would be obtained in the first phases of liberalization—a powerful argument in favor of more flexible regulation of migration.

Other, subsequent studies confirmed the tone of these results. For example, Iregui (2005) used a fully developed AGE model with trade and found that migration barriers reduce world GDP by between 13 and 67 percent, depending

on the scenario considered. Klein and Ventura (2007) used a growth model that included dynamic effects and arrived at the conclusion that complete free migration would increase world GDP by 20 to 120 percent, in accordance with the assumptions. Finally, Bradford (2012) applied an AGE of one sector model with a continuum of skills and confirmed the effect of free migration on the increase of world GDP (by 75%) and on the reduction of poverty (between 66.9 and 43.3%, depending on the assumptions). Quantitative estimates go through a wide range, but the sign of the effects of free migration is very clear.

The World Bank (2006) carried out a similar exercise, but with a more realistic assumption: an annual growth rate of 3 percent of the working population in developed countries between 2001 and 2025, and allowing for labor needs to be covered, as required, by immigration. Taking as a baseline the assumption of the same proportion of immigrants as in 2001, the net gains to welfare from the above expansion scenario would be close to $674 million, or 1.19 percent of world GDP (Table 6.2). If this is adjusted in function with the different costs of living

Table 6.2 Changes in real income due to more free migration in 2025 relative to baseline

	Real income			Real income adjusted for cost of living		
	Private	**Public**	**Total**	**Private**	**Public**	**Total**
Billion dollars						
Natives in high income countries	139	-1	139	139	-1	139
Old migrants in high income countries	-88	0	-88	-88	0	-88
Natives in developing countries	131	12	143	131	12	143
New migrants	372	109	481	126	36	162
WORLD TOTAL	554	120	674	308	48	356
% of change						
Natives in high income countries	0.44	-0.01	0.36	0.44	-0.01	0.36
Old migrants in high income countries	-9.41	-0.02	-6.02	-9.41	-0.02	-6.02
Natives in developed countries	0.94	0.44	0.86	0.94	0.44	0.86
New migrants	584	607	589	198	203	199
WORLD TOTAL	1.20	1.15	1.19	0.67	0.45	0.63

Source: World Bank (2006): Global Economic Prospects: Economic Implications of Remittances and Migration, Washington.

from country to country (translated into Purchasing Power Parity), the benefits would be 0.63 percent of world GDP. The distribution of these benefits would be favorable to developing countries, since these populations would experience an increase in income of about 1.8 percent, while developed countries would obtain an increase of 0.4 percent. The results that the World Bank (2006) obtained are very close to those reached by Walmsley and Winters (2005) and, more recently, by van der Mensbrugghe and Roland-Host (2009).

The fact that migration has a positive effect on aggregate efficiency does not mean that everyone affected ends up winning. Current immigrant and native workers who are substituted by new immigrants may be negatively affected by such an increase in migratory flows. Empirical studies confirm this effect but find the salary decline to be small. For example, Borjas (2003) finds that immigration to the United States between 1980 and 2000 caused a cumulative deterioration in average US salaries of 3.2 percent (in other words, an annual reduction of barely 0.15%). An even lower rate is estimated by Ottaviano and Peri (2008), who put the accumulated effect of immigration between 1990 and 2006 at 0.4 percent (or a 0.025% fall in the average rate).[5] In any case, that effect can vary in relation to the skill level of workers. As Dustmann et al. (2013) demonstrate, immigration depresses wages below the twentieth percentile of the wage distribution but leads to slight wage increases in the upper part of the wage scale.

Furthermore, countries of origin can be negatively affected by migration of high-skilled workers, particularly when the positive externalities attributed to human capital are considered. The aforementioned models do not take these externalities into account in their estimates, which is a severe limitation given the increasing presence of this kind labor mobility. In fact, the outflow of high-skilled workers is an important issue for developing countries and its effects are subject to active debate (see later).

To sum up, estimates confirm that, with current migration barriers, labor is highly misallocated and, as a consequence, the potential welfare gains of a less restrictive policy on migration are huge. Moreover, those benefits, even in their most modest versions, are comparable (or superior) to those that would result from trade liberalization. For example, the increase in world GDP estimated by Anderson and Martin (2005) as a consequence of potential full trade liberalization is 0.7 percent; meanwhile, in the case of a partial removal of migration barriers, that increase could reach between 0.6 and 1.2 percent in the Walmsley and Winter (2005) estimation, or between 0.9 and 2.3 percent in van der Mensbrugghe and Roland-Host (2009). These

results are sufficient proof that international migration should be part of any development agenda (Clemens, 2011).

4. Political economy of migration

Given the size of its positive impact, it would be natural to expect countries to favor the international movement of labor. However, the opposite phenomenon can be observed: regulatory restrictions to migration, particularly in the case of unskilled labor, and a resistance from countries to give up authority in this area. That contrast challenges the most canonical theoretical justification of migration and obliges us to build an explanation with assumptions based more closely on reality.

4.1. The difficult aligning of competing interests

A large number of the studies on the impact on well-being of migratory freedom turn to an analytical framework that is very similar to the one used to justify the advantages of free movement of trade and capital (Mundell, 1968). However, international migration presents particular characteristics suggesting that those reference points are not totally adequate (Greenaway and Nelson, 2006). There are three elements here that are particularly relevant.

4.1.1. A dominant one-direction flow

First, trade theory is dominantly based on comparative advantages that, by definition, are distributed (not necessarily in an equal way) between the countries that take place in the exchange. As a consequence, what is expected in this field of trade is a two-directional flow (exports and imports) between countries. Any imbalance is corrected in the medium term by movements in the exchange rate and by differences in countries' income growth, which operate as mechanisms of adjustment. As a result, both countries will be benefited as a consequence of this international exchange.

In the case of international migration, however, the flow is mainly in a single direction: from countries with lower levels of productivity (and salaries) to countries in which labor productivity and salaries are higher. Migration could produce a movement of salaries with opposite signs in home countries (increasing) and host countries (decreasing), but as we saw both movements

tend to be rather modest. The possibility that these changes can operate as an adjustment mechanism is, thus, remote, except in the case of massive movement of people between both countries. As a consequence, the unidirectional sense of the migration flow can be sustained over time.

This feature of migration flows can be reinforced by the potential complementariness between physical and human capital, something that lies at the base of the new theory of growth (Lucas, 1988). In this case, all factors—skilled labor, unskilled labor, and physical capital—could flow simultaneously and cumulatively toward the more relatively developed economy. In one case (that of unskilled labor), this would be due to the relative shortage of the factor in more developed countries; in other cases (physical and human capital) it is due to the greater productivity that both factors enjoy in industrialized countries, resulting from their complementarity. In this way, all factors could move in the same direction (Lucas, 2005), making an agreement based on reciprocity among host and home countries more difficult.

4.1.2. The heterogeneousness of the labor factor

A second singular element is the notably heterogeneous nature of the labor factor, particularly due to dissimilarity of skills. Significant externalities are attributed to skilled labor, as long as this factor improves productivity and promotes innovative capacity, institutional quality, and tax resources in the involved economy. This is why the emigration of high-skilled labor may generate negative, uncompensated effects for the home country (and additional benefits to the host one). That is the argument on which the "brain drain" literature is based.

The costs of skilled labor migration are all the greater if we take into account: (i) the increasing tendency that skilled workers have to emigrate from developing countries (Docquier and Marfouk, 2006); (ii) the public origin of the resources with which, to a large extent, that human capital is developed; and (iii) the social usefulness of some activities more affected by this phenomenon (health specialists, for example). In these cases, migration of skilled workers would present a problem related to the contradiction between the private interests of emigrants and the collective interests of the country from which they come (Schiff, 2006).

In contrast to this perspective are those who find positive aspects in the emigration of skilled workers and professionals. If returns from the educational effort are higher abroad than in the country of origin, the possibility of emigration will increase the return on investment in human capital and will

lead to more people becoming educated. This, then, represents a "brain-drain-induced-brain-gain" (Stark et al., 1997, 1998; Vidal, 1998; and Mountford, 1997). Other potentially positive contributions from the emigration of high-skilled workers are the following three: (i) that the assets of experience and qualification gained through migration can be represented in the country of origin, as long as the emigrant returns (Stark et al., 1997; Domingues Dos Santos and Postel-Vinay, 2003); (ii) the possibility of creating networks for international business (Mesnard and Ravaillon, 2001); and (iii) the higher level of remittances from this type of emigration (Cinar and Docquier, 2004).

Literature on the effects of skilled migration has increased in recent years, mainly as a consequence of the availability of better data. In spite of this, empirical evidence has been far from conclusive (Gibson and McKenzie, 2011 and Docquier and Rapoport, 2012). In any case, empirical results seem to support a position somewhere between the two extremes, suggesting that: (i) the optimum does not coincide with a probability equal to zero of skilled labor emigrating, because sending countries could take advantage of some of the benefits that this process generates; but (ii) an excessive drain of high-skilled workers (such as suffered by some small and very poor states) could make the costs of the process unambiguous for sending countries.

4.1.3. Who captures the benefits?

Lastly, a third factor of difference between international migration and trade has to do with the way in which both flows affect social agents. A trade-induced shift in prices and production benefits consumers in both the importing and exporting countries, as long as in both countries the variety of available goods will be widened, and their prices reduced. Meanwhile, migration-induced shifts principally benefit the migrants and their families (directly in the host country or through remittances in the home country). Of course, migration can produce other benefits in host countries in terms of contributing human capital, filling jobs that citizens are no longer willing to take, providing workers for encouraging economic growth, helping to smooth out the effects of population aging, or making social security and tax contributions. Most of these benefits, however, are dispersed and not always recognized as having been produced by migration.

The benefits that consumers in the host country gain from international migration may, additionally, be counteracted by the negative externalities that the process generates, in terms of sustainability, capacity of access, and the quality of the public services that the recipient country provides (Facchini and Mayda, 2009). This

is one of the factors that most explains the reluctance toward immigration by wide sectors of the population in recipient countries. That is the result that Hainmuueller and Hiscox (2010) obtained using survey data from United States; and in the same vein, Hanson et al. (2007), again employing opinion surveys, found evidence that in the United States, native-born residents of states that provide generous social benefits to migrants also prefer to reduce the number of migrants.

That said, migrants do not only use social services; they also contribute to financing them. However, the empirical studies reveal that the net effect is highly dependent on the characteristics of migration (like the skill level and age of migrants). In general terms, a skilled and young migrant may help the finances of the welfare state, whereas an unskilled and older migrant may probably inflict a net burden on the social expenses (Razin et al., 2012). As expected, the worst situation is a combination of the higher dependency ratios and the lower skill level of migrants (Andersen, 2012).

Lastly, there are other types of negative externalities associated with the (non-economic) effects that immigration has on social cohesion, and on levels of trust, in the host country. There are people who feel that their way of life, culture, language, and religion is threatened by the presence of people coming from other social communities. For them, immigration is felt as a challenge to their "social model," particularly when migration is an intense phenomenon and involves people from very different cultures (Collier, 2013). As mutual regard is crucial for social cooperation and the functioning of the overall society, immigration—when not adequately managed—can be transformed into a factor of social disruption and upset.[6]

To sum up, the consideration of these specificities would suggest that the most canonical doctrinal framework, based on trade theory, is inadequate in understanding the effects of migration. In fact, it seems that although labor mobility may be a source of improvement in levels of overall well-being: (i) it may be that full liberalization of labor movement is not a desirable optimum for assigning labor internationally; and (ii) due to the asymmetrical power and incentives accompanying the migratory process, it is reasonable to suppose that there is no coincidence between the positions of the involved countries regarding their role in the migratory processes.

4.2. The difficulties of cooperative action

In these conditions, establishing an international framework of agreement will not be easy. The difficulties seem even greater considering that this is a field

where what we call "the paradox of the adverse interest" is produced: the fewer the potential gains associated with migratory liberalization, the simpler it is for nations to come to agreement; on the other hand, the greater the potential gains, the more remote the possibility for agreement.

The explanation for this paradox rests on two main asymmetries that affect the governance of the migratory process. The first is the asymmetry of power between sending and recipient countries, the latter being in a much better position for regulating migration. The second is the asymmetric way in which the benefits and costs of the migratory process are distributed in host countries. While the benefits are mainly private (mainly, although not only, captured by the migrants), the costs are social (as long as they harm social cohesion and access to public services). Moreover, while beneficiaries in host countries are mainly foreigners (and not voters), it is the citizenry (at least a part of them[7]), with the power to remove governments, that feels threatened with potential losses. A combination of these two asymmetries (among countries and among affected people) explains why host countries are not interested in backing an international agreement and prefer to preserve their autonomy in this field. On the other hand, home countries tend to have limited capacity and low interest in repressing unskilled emigration.[8] As a consequence, the international community has been unable to offer a fair and effective response to the need of more orderly human mobility.

In order to appreciate the effect of the paradox, we will consider two extreme hypothetical cases (more explanations are offered in the Annex).

Let us suppose, first, a world made up of two countries with relatively similar factor endowments. In this ideal case, the differentials of retribution that drive labor migration would be reduced, as would the gains in well-being associated with migratory liberalization. The international mobility of labor would operate on the margins, filling small shortfalls in each labor market. In this case, a liberalizing action would only meet with (weak) opposition from the labor factor which is serving as substitute to migration. The abundant factors, skilled labor and capital, would favor liberalization; and consumers would be neutral (or weakly favorable) toward the process. If, additionally, liberalization is reciprocated (both countries agreeing to it simultaneously), the possibilities for agreement are greater and the process could, therefore, result in a cross-flow of migrants.

One example of this type of migration is that taking place between countries in the former EU-15: relatively similar countries with crossed flows of migrants. In these cases, international accords are more easily reached since there is

reciprocity in the benefits. In fact, the strategic action underlying the agreement is that of a "cooperative game": both countries find strategic equilibrium in mutual liberalization (particularly if both can coordinate their strategies).

Although possible, the above model is not the most representative of current world migration. In most cases, migration takes place between countries with substantially different factor endowments, including high differentials in levels of productivity, which pushes migratory flow in a single direction. Here the gains derived from the opening up of the migratory process may also be high, feeding an intense and cumulative movement of people from the less-developed country toward the more developed one. Because of this intensity, the costs of migration in terms of loss of social capital and congestion of public services in the host country can be high, thus complicating the reaching of agreements.

In such a case, the shortage factor (unskilled labor) in the host country would actively be against liberalization; if there is freedom of movement of capital, this factor might be neutral, as capital loses interest in immigration if it may enter countries with lower labor costs (through offshoring); finally, if negative externalities (loss in social capital and access to public services) are considered, consumers turn actively against liberalization (see Annex). Reciprocity does not facilitate agreement in this case since it is not probable that the human capital (an abundant factor in the developed country) would consider migration in the inverse sense, toward the developing country, as a viable alternative. Thus the action strategy adopts the form of a "bully game," in which it is difficult to find a cooperative equilibrium without changing the incentives under which the players are operating.

In sum, the difficulties in reaching agreement can be the result of the limited space of reciprocity of interest between the two group of countries (sending and receiving migrants), the asymmetries in their bargaining strengths, and the absence of a hegemonic and committed power to promote and safeguard such an agreement (Ghosh, 2013).

5. A fragmented international order

There is no coherent global framework for governing migration. Rather, what now exists internationally is a fragmented set of rules, poorly supported, and a group of international institutions with partial jurisdictions which overlap one another, with informal mechanisms for dialogue and multiple and varied agreements at the bilateral and regional levels. Let us take a brief look at this panorama.

5.1. International regulatory framework

Apart from the odd attempt in the period between the First and Second World Wars,[9] it was not until the 1940s that serious efforts were undertaken to introduce a shared international regulatory framework for labor mobility. Since that time, diverse regulatory initiatives have been proposed, all of which have gained only very limited international support (Table 6.3).

The International Labour Organization (ILO) has played a leading role in these efforts and endorsed some of the proposals most often linked to labor migration. The first initiative was the *ILO Convention 97* (of 1949), ratified by forty-nine countries, most of which were emigrant countries. The central proposal of the Convention was to tackle labor discrimination against migrants, stating that countries should ensure that immigrants receive "treatment no less favourable than that which it applies to its own nationals." This equal treatment should be applied to: (i) labor conditions (remuneration; membership with trade unions and thus the benefits of collective bargaining; and accommodation); (ii) social security (with all its provisions); (iii) employment taxes; and, (iv) other legal proceedings related to the Convention. The *ILO Convention 97* also encouraged countries to establish bilateral agreements for the adequate management of migration.

A quarter of a century later, the ILO approved a second proposal on migration: the *ILO Convention 143,* of 1975, ratified by twenty-three countries. The goal in this case was to tackle irregular migration and the clandestine movement of people. The Convention also suggested measures aimed at promoting the integration of properly settled migrants, as a means of addressing the expiration of temporary migration programs, and measures to counter effects of the economic crisis of the 1970s, in order to prevent legally migrating workers from ending up in irregular situations. It also reiterated rules that immigrants should receive the same opportunities and treatment as native workers.

It was another fifteen years before the General Assembly of the United Nations, in 1990, approved the International Convention on the Protection of the Rights of all Migrant Workers and Members of their Families. The Convention was designed to "contribute to the harmonization of the attitudes of states through the acceptance of basic principles concerning the treatment of migrant workers and members of their families." The approach of the Convention is rather wider than what had been promoted by the ILO, insisting first and foremost on full recognition of the human rights of migrants, including undocumented immigrants. This Convention (in part III) restates the need to guarantee the

Table 6.3 Legal instruments affecting international migrants

	Entry into force	State parties (2014)
Main General Instruments		
1948 Universal Declaration of Human Rights	1948	
1965 International Convention on the Elimination of all forms of Racial Discrimination	1969	177
1966 International Covenant on Civil and Political Rights	1976	168
1966 International Covenant on Economic, Social and Cultural Rights	1976	162
1979 Convention on the Elimination of all forms of Discrimination Against Women	1981	188
1984 Convention Against Torture and other Cruel, Inhuman and Degrading Treatment or Punishment	1987	155
1989 Convention on the Rights of the Children	1990	194
Main Specific Instruments on Labour Migration		
ILO Convention 97 on Migration for Employment	1952	49
ILO Convention 143 on Migrant Workers	1978	23
1990 International Convention on the Protection of the Rights of all Migrant Workers and Member of their Families	2003	47
Other Instruments Related to Migration		
1950 Convention for the suppression of the traffic in persons and of the exploitation of the prostitution of others	1951	82
1951 Convention relating to the Status of Refugees	1954	145
1967 Protocol related to the Status of Refugees	1967	146
2000 UN Convention against Transnational Organized Crime	2003	179
2000 Protocol to prevent, suppress and punish trafficking in persons, especially Women and Children	2003	159
2000 Protocol against the smuggling of migrants by land, sea and air	2004	112
2011 C189 Convention concerning Decent Work for Domestic Workers	2013	14

same pay and work conditions to migrants (whether authorized to work or not) as natives doing similar jobs; it also recognizes migrants' rights to join a trade union and establishes that they receive the benefits of social protection systems. Additionally, in the case of authorized migrants, it recognizes their right to relocate within the host country, to participate in political life, and to have

access to employment services, public residences, and educational institutions in conditions similar to those of the native population. The Convention came into effect in July 2003, but with the support of just forty-seven countries to date, most of these being countries of net emigration.[10]

Alongside these conventions, three others should be mentioned, even if they are not strictly (or not only) related to labor migration, since they focus on other important aspects of the international movement of people. First, there was the Convention Relating to the Status of Refugees (1954) and the Protocol Relating to the Status of Refugees (1967), which aim at regulating the forced movement of people as well as the conditions for granting asylum. Second, there was the Convention against Transnational Organized Crime (2003), including the Protocol to Prevent, Suppress and Punish Trafficking in Persons (2003), and the Protocol against Smuggling of Migrants (2004). Finally, the C189 ILO Convention Concerning Decent Work for Domestic Workers (2013) that particularly affects social and labor conditions for women and girls, many of whom are migrants.

Notably, even countries that are not signatories of the above Conventions may still be subject to other universal legal instruments. The most general of all these are doubtlessly the UN Charter, of 1945, and the Universal Declaration of Human Rights, of 1948. But there are also at least six other regulatory frameworks relevant to migration: the International Convention on the Elimination of All Forms of Racial Discrimination; the International Covenant on Civil and Political Rights; the International Covenant on Economic, Social and Cultural Rights; the Convention on the Elimination of All Forms of Discrimination against Women; the Convention against Torture and Other Cruel, Inhuman and Degrading Treatment or Punishment; and the Convention on the Rights of the Child. It is clear that all these conventions make up a regulatory fabric governing the rights of people, including migrants, regardless of their administrative status, that all countries should respect.

5.2. Non-binding mechanisms

Alongside the binding regulations named above, the status of migrants was addressed by various World Summits promoted by the United Nations during the 1990s. All of these resulted in programs of action that were backed by the international community—although none were binding in nature. Among them, the one that most comprehensively analyzed migratory movements was the Cairo Programme of Action of the International Conference on Population

and Development (1994), which dedicated a large section (chapter X) to tackling various aspects related to migration. The Conference produced a balanced and far-reaching declaration in which there was a call for "orderly international migration that can have positive impacts on both communities of origin and the communities of destination."

Other agreements that affect international migration include the Vienna Declaration and Programme of Action on Human Rights (1993); the Beijing Platform of Action of the Fourth World Conference on Women (1995), in the case of women migrants; and, more recently, the Durban Declaration and Programme of Action, approved by the World Conference on Racism, Racial Discrimination, Xenophobia and Related Intolerance (2001).

In a more specialized way, the purpose of better governance of migration has inspired two rather far-reaching initiatives: the NIROMP (New International Regime for Orderly Movement of People), which was backed by the United Nations and various European governments, at the end of the 1990s; and the Berne Initiative, promoted by Switzerland, which gathered government officials, NGOs, and academia to analyze migration and its effects. One of the main results of this last initiative was the drawing up of an *International Agenda for Migration Management*, which establishes a system of nonbinding agreements to facilitate cooperation between states in the planning and managing of human mobility.

In a similarly nonbinding way, the ILO has tried to enshrine certain principles, strategic guidelines, and good practice into a general framework in order to extend labor standards. That proposal (the ILO Multilateral Framework on Labour Migration) was part of the broad effort made by the organization in the mid-2000s to reflect on the social effects of globalization. In fact, ILO made migration the theme of the 2004 International Labour Conference. At its 2006 Conference, the ILO circulated the Multilateral Framework which, while recognizing the sovereignty of states, aimed at widening the space of international cooperation by adopting an approach based on a recognition of the rights of migrant workers that is also sensitive to market needs.

Given the immensity of the theme and the limited international response, the Secretary-General of the United Nations decided to create the Global Commission on International Migration in 2003, "to provide the framework for the formulation of a coherent, comprehensive and global response to the issue of international migration."[11] The Commission started out by recognizing that "the international community has failed to capitalize on the opportunities and to meet the challenges associated with international migration." Additionally, while this Commission assumes that individual countries must define migration

rules and policy, it stresses that "migration is an inherently transnational issue, requiring cooperation between states at the sub-regional, regional and global levels." The main messages of the Commission are summed up in the six action principles contained in its report (Table 6.4).

One year after the approval of the Commission report, and in response to the request made by the General Assembly in resolution 59/241 (and reiterated in resolution 60/227), the Secretary-General prepared a report on "International Migration and development."[12] Along with a broad diagnosis of the situation with regards to international migration, this report proposes a program of policy for migration aiming at: (i) improvement in international cooperation based on a clearer shared vision of development goals; (ii) respect for human rights and tolerance; (iii) more realism in development migration policy; (iv) promotion of the entrepreneurial capacity of migrants; (v) the encouragement of contributions to provide development opportunities for migrants and transnational communities; (vi) the need to evaluate more carefully the international impact of the mobility of professionals; (vii) the transferability of pensions; and (viii) improvement in information and statistics on migration.

In 2006, under the impetus of the Secretary-General, the first High-Level Dialogue on Migration and Development was put in place, with the aim of discussing the problems of international migration and its regulation among governments, international organizations, civil society, and the private sector. In 2013, a second High-Level Dialogue took place, which resulted in the declaration "Making migration work: an eight-point agenda for action," summing up the dialogue's main messages (Table 6.5).

In a bid to overcome the resistance and inertia of the UN framework, the Global Forum on Migration and Development was promoted as a forum for informal and nonbinding dialogue, aimed at exchanging experiences, discussing

Table 6.4 Principles of action of the Commission on International Migration

Principles	Purpose
1	Migrant out of choice: Migration and the global economy
2	Reinforcing economic and development impacts
3	Addressing irregular migration
4	Strengthening social cohesion through integration
5	Protecting the rights of migrants
6	Enhancing governance: Coherence, capacity and cooperation

Table 6.5 High-dialogue on international migration and development: An eight-point agenda for action

Points for action	Purpose
1	Protect the human right of all migrants
2	Reduce the costs of labor migration
3	Eliminate migrant exploitation, including human trafficking
4	Address the plight of stranded migrants
5	Improving public perceptions of migrants
6	Integrate migration into the development agenda
7	Strengthen the migration evidence
8	Enhance migration partnerships and cooperation

relevant policies and practical challenges, and analyzing institutional gaps toward a more coherent national and international policy on migration and its impact on development.[13] Between 2007 and 2013, as many as six meetings were organized around other themes related to migration.

Beyond these global initiatives, there have been other regulatory responses at regional level. The most comprehensive approach on this ground was promoted by the European Union (EU), with the 1985 Schengen Agreement (extended in 1990 with the Schengen Convention, implemented in 1995) for unification of the European borders, and the EU decision on common migration and asylum policies, through the 1997 Amsterdam Treaty.[14] In the same line, although with a more limited scope, there have also been agreements on human mobility in other regional integration processes, such as MERCOSUR or CARICOM.

In other cases, regional initiatives have been oriented to promote regional dialogue on migration. These include the Latin American High Dialogue on Migration, the Regional Conference on Migration (the Puebla Process, in Central America), the Migration Dialogue for West Africa, the Migration Dialogue for Southern Africa, the Ministerial Consultation on Overseas Employment and Contractual Labour for Countries of Origin and Destination in Asia (the Colombo Process), and the Bali Process on People Smuggling, Trafficking in Persons and Related Transnational Crime (the Bali Process) among others. Rather than orienting themselves to "norm-dissemination" in the way some formal agreements or institutions do, these have primarily engaged in "practice dissemination," attempting to define common standards of good practices relating regional migration (Betts, 2010).

5.3. Institutions

The international management of migration is no more orderly or less fragmented in terms of institutional solutions. There are many institutions with overlapping mandates covering partial aspects of migratory flows. For example, the ILO is specialized in the rights of migrant workers, ACNUR focuses on the conditions of the refugee and the asylum-seeking population, the Office of the United Nations High Commissioner for Human Rights is tasked, among other things, with defending the rights of migrants who have been the victims of traffickers, and UNESCO, the UNFPA, and the Office of the United Nations Against Drugs and Crime all have remits involving areas specifically related to migration. Although without regulatory powers, there are other organizations involved in these areas such as DESA, the UNDP, and the World Bank. Lastly, there is the International Organisation for Migration (IOM), which, although it has no regulatory mandate and does not even belong to the UN system, has a mandate to promote technical assistance to governments in order to improve the drawing up of migration policy. All of these agencies are part of the Global Migration Group (formerly the Geneva Migration Group), created in 2005 with the purpose of encouraging the "adoption of more coherent, comprehensive and better coordinated approaches to the issue of international migration" among certain multilateral institutions.

6. The foundation for a more adequate international governance of migration

Despite the difficulties highlighted, there remains a need to provide an international framework to help take better advantage of the benefits associated with human mobility, and to distribute those benefits more justly. This demand has been made, although with limited results, by many of the commissions on global governance. The Willy Brandt Commission, for example, in the early 1980s, underlined the need for a "framework that would be more just and equitable" for migration; the Commission on Global Governance, in the 1990s, discussed the need for a new approach to managing migration; and, finally the Commission on Migration and Development devoted a large part of its reflections to this theme, stating that "in the longer term a more fundamental overhaul of the current institutional architecture relating to international migration will be required." However, it also recognized that "there is currently no consensus concerning the

introduction of a formal global governance system for international migration, involving the establishment of new international legal instruments or agencies."

The limited results of these attempts suggest that establishing a framework for a more coherent governance of migration is no simple task. The goal is to define an international framework based on the recognition of human rights and aimed at establishing a balance between the basic allocation benefits of free international migration and the controversial distribution and external effects of cross-border movements.

6.1. General framework

Previously, we have referred to the disorderly and fragmented nature of the governance of migration processes, but this does not mean to say that there are no governance mechanisms at all (Betts, 2011). While there is no single institution or regulatory mandate, there do exist partial governance solutions at very diverse levels, with varying degrees of support and formality. In any case, the overall framework that has resulted from all of that is currently characterized as being limited in scope and having low levels of overall coherence.

Such a result has a doubly perverse consequence. First, it has costs in terms of efficiency, since it is more difficult to contemplate the externalities that national policies generate on foreign countries. Without a comprehensive approach to labor mobility schemes, severe coordination failures may arise. Second, failure to cohere also damages fairness, since it gives more weight to expressions of power. In this context, recipient countries, being those with a greater ability to impose conditions, retain a high degree of autonomy in establishing migration rules and policy.

Overcoming this situation in order to design a more coherent framework involves: first, a decision as to whether we want a system to govern overall migration, with all its modalities, or whether we want to regulate only labor migration; and, secondly, whether we are aiming at creating a governance system through a centralized, top-down process, or through a decentralized and diffuse, bottom-up process.

In terms of the first question, there is no shortage of voices arguing for the need to adopt an integrated and comprehensive vision, incorporating all aspects of human mobility (including those referred to as the refugee population) (Ghosh, 2000, 2013). The arguments to support this position are: (i) that the factors driving the different types of migration all combine with one another, and interact in reality; (ii) that different types of flows cannot easily be disentangled;

and (iii) that there are gray areas in human mobility that would not fall into any of the standardized modalities, but that should nevertheless be regulated.

Despite the strength of these arguments, there are equally powerful reasons to differentiate labor mobility (voluntary migration, motivated by substantially economic reasons) from forced migration (due to political persecution, risk to migrants' lives, or violations of human rights).[15] It is clear that there are connections between the two types of migration and that some modalities (like family reunification) are not easily included in either, but the separation makes sense to the extent that the motivations for each type of migration (and the solutions that countries should adopt for each) are very different.

Support for the refugee population requires a multilateral solution, since it is based on collectively recognized rights deriving from shared responsibility. The universality of the criteria should be the basis for any regulatory solution in this field, which is tantamount to a global public good, and that is currently the case. In fact, refugee management is the only field related to migration in which there exists a regulatory framework that is widely supported (the 1950 Convention) and under the authority of a multilateral institution (UNHCR) with a precise mandate.

In stark contrast, the case of labor mobility has the fewest formal governance structures. It is the field in which the greatest amount of room is required for adapting governance solutions to the specific conditions of particular countries. Formulas must, therefore, be flexible, limiting global action to the mere positing of minimum shared standards and leaving countries to define their own commitments later.

As mentioned, another important decision to be made is whether the global governance framework should be conceived as a centralized solution, working through a single regulatory framework and institution (a top-down dynamic), or whether it is better to move forward from more limited commitments (regional and bilateral) in the search for a more complete framework (a bottom-up dynamic). The advantages of the first option lie in the likelihood of a more coherent solution, ensuring more efficient and fair treatment of the international externalities associated with migratory phenomena. However, disadvantages stem from the considerable difficulties involved in creating a single regulatory and institutional framework that can garner sufficient international support. The low level of support expressed for previous regulatory proposals in this field speaks volumes.

Thus it may well be more feasible to adopt a mixed process, combining the definition of a framework of minimum standards with the establishment of a

platform for negotiation and global dialogue. A dynamic of more committed bilateral and regional agreements, based on more intensive interactions and platforms of dialogue among government officials, would also be required. Among the disadvantages of this option is the possibility that the international system of regulation might fragment into numerous regional approaches. However, that risk would be reduced if agreement were reached on minimum standards globally. On the positive side, this approach would allow partial agreements of greater magnitude, which could mean that regional commitments serve as building blocks (rather than stumbling blocks) for international governance.

This would also mean that "policy networks" could play an important role in promoting global governance, less by creating regulations than by addressing the issues and resolving problems related to migration (Slaugther, 2004). Coordinated solutions to detected problems are the result of the exchange of information, the dissemination of good practices, and the formulation of nonbinding codes. These frameworks, along with platforms for dialogue, can facilitate the definition of more committed agreements at the bilateral or regional levels. The fact that there is greater similarity among economies within regional frameworks means that deals around migration might be more easily negotiated through a cooperation game (as opposed to a bully game), thereby making them more feasible. And we should not forget that nearly half of all international migrants move only within their region of origin. The bottom-up approach could thus facilitate the path to global governance, even if this is achieved through denser and more diffuse structures, and via regional agreements that would not necessarily be uniform.

6.2. The basis for agreement

The suggested dynamic should be compatible with a framework of agreement that is more general on principles and minimum standards. Here, significant inspiration can be found in treaties agreed upon in the United Nations. The approach should be based on a number of shared principles and should include:

- Acceptance that international migration is a consequence of differences that exist globally in levels of well-being, freedom, security, and the potential for individual progress. If we want to decrease migratory pressures, we need to actively reduce the inequalities that drive migration.
- Recognition that the ability of people to choose the place where they live is an element of human freedom. That freedom cannot be exercised when

countries erect obstacles to emigration, artificially restrict the entry of foreigners, or limit the rights of those who emigrate.

- Nevertheless, freedom is fuller when it is less conditioned upon necessity. Therefore, all persons have the right to stay in their home countries, and governments remain responsible for the consequences of "bad" governance that may provoke mass emigration of their citizens.
- All countries have the right to define the rules around entry into their territories, access to residency and citizenship, and integration by foreigners into labor markets. However, such regulation should be drawn up bearing in mind: (i) that migratory regulation must be sensitive to the conditions of the poorest peoples and societies, while identifying the potential developmental effects of migration; and (ii) the nature of today's world, where markets and countries are increasingly integrated beyond national borders. It would seem incoherent to seek freedoms governing trade and capital while excluding the movement of people.
- While states have the right to regulate the conditions of access by nonnationals to their territory, they also have the obligation to protect and respect the basic rights of everyone therein, regardless of his or her administrative status. Migrants constitute a particularly vulnerable sector of society, which obliges states to redouble their efforts in fighting xenophobia and the abuse and exploitation, exclusion and marginalization of the emigrant, as well as the illegal trafficking of humans.
- In the case of migrants who legally live in a host country, the host government should be obliged to guarantee as a minimum: (i) equal pay for similar jobs, respectable labor conditions, and social and health protection; (ii) collective organization and negotiation; (iii) that they are not subject to arbitrary detention or deportation without judicial process; (iv) that migrants do not suffer cruel, inhuman, or degrading treatment; and (v) the possibility of free return to their country of origin. All these rights should be safeguarded along with those associated with personal freedom and security.

In accordance with these principles, the final goal is to achieve a situation where "there would be few barriers to migration and little unwanted migration" (Martin et al., 2006, pp. 150). That is surely a difficult task in a world that is both interconnected and notably unequal. A more viable goal for migration management would be to define a balanced framework that: (i) preserves the greatest possible freedom for people to choose where they want to live; (ii) guarantees the rights of persons who emigrate, allowing them to achieve

a dignified life in the host country; (iii) maximizes the benefits resulting from emigration, both for the emigrants themselves and for the countries involved; and (iv) establishes mechanisms to compensate those damaged by the migratory process.

These objectives are clearly not compatible with free migration, understood as the dismantling of any type of control on migration. In fact, free migration could result in unsustainable losses to states that invest in human capital, or those that provide high levels of social welfare transfer. Rather, the purpose should be to promote a managed liberalization of current restrictions on human mobility, defining a framework for more orderly migration.

To achieve that objective, it is essential to remember that countries coexist in very different states of potential. This is why the process should be carried out gradually and flexibly, moving toward a progressive liberalization of migratory policies while allowing regulation to be adapted to the circumstances of individual countries. One possible way to achieve this is, as Trachtman (2009) suggests, by using a system based on request/offer-type negotiation. This is a similar process to that used to liberalize services through GATS, with countries negotiating on the basis of positive lists of liberalized services, adapted to the conditions in each country.

Even through the use of such a gradual process, it may be the case that countries do not find sufficient incentives to sign an international agreement on migration. It may, therefore, be a good idea to establish side payments linked to negotiations on migration. Two options seem particularly relevant. The first has to do with the possibility of including deals on migration into wider negotiations in which concessions are made around areas other than migration. This may prove a worthwhile way to involve net emigration countries in cooperative actions to regulate migratory flows in an orderly way.

The second option has to do with the goal of promoting better distribution of the benefits of migration. As we know, migration is highly selective, and it is migrants themselves who receive a large part of the benefits of labor mobility (and such benefits lie not in the assets that migrants carry with them, but rather in the complementary inputs that a migrant finds in the host country). It would seem reasonable for some of those benefits to be distributed to the emigrant's country of origin. This is particularly important in the case of skilled labor, which has after all been trained in the country of origin. One way to share those benefits could be through a tax, perhaps agreed to between the countries of origin and host countries (along the lines initially proposed by Bhagwati and Dellalfar, 1973, or Bhagwati, 2003), but

not necessarily. Alternatively, other ex-ante agreements (such as the "global skill partnership"[16] suggested by Clemens, 2014) could be put in practice.

If it is necessary to define minimum standards to guide the global regime, it also needed the search for operational mechanisms that allow to move forward in a more orderly migration. Bilateral and regional dialogues can play an important role in this field. There are several aspects subject to possible agreements, such as defining standards for portability of health care and pensions, recognition of academic qualifications, controlling irregular movements, fighting trafficking, facilitating circular migration or reducing cost of labor migration, among others. Probably, bilateral and regional dialogues might not immediately harvest concrete policy results, but they are critical in developing the cooperative spirit that is required for better governance (Newland, 2005). More practical, gradualist, and organic steps can be needed for an effective and multilayered cooperation in this field (Papademetriou, 2011).

6.3. Institutions

In order to create a framework for international governance, it would be a good idea to clarify the institutional panorama that currently exists. The Commission on Migration and Development suggests two possible alternatives in this respect. First, it suggests assigning an explicit leadership role in managing voluntary migration to one of the institutions that already exists within the United Nations (the ILO, for example), or else to the IOM. Secondly, it suggests merging two institutions that now exist, the UNHCR and the IOM, in order to attempt to integrate the mandate on migration, both forced and voluntary. Others have proposed creating a new organization (the World Migration Organization) under the umbrella of the United Nations, with a mandate to manage all migratory flows (Baghwati, 2003).

This last option seems less than feasible; nor would it be easy to merge two organizations such as the IOM and UNHCR with such different organizational cultures and mandates. The simplest option, therefore, would be to start with the IOM and to modify its mandate and legal status, transforming it into a multilateral institution within the UN system. With such a new status, the IOM would add to its current operational mission two new mandates of standard-setting and monitoring. In the last few years, the IOM has been increasingly active in the work processes of the United Nations, so much of the work here has already been started. The organization's mandate should be limited to voluntary migration, leaving the management of the refugee population (present in the IMO's original mandate) to the UNHCR.

Meanwhile, it is also necessary to maintain coordination between multilateral agencies with partial responsibility over migratory themes, as the Global Migration Group has proposed. Finally, it is equally essential to support the international instances of dialogue and cooperation currently in effect (such as the Global Migration Forum and the Regional Consultative Processes on Migration), supporting their secretariats in the preparation and monitoring of their agenda, promoting more active participation by civil society and the private sector, and encouraging, when appropriate, a tighter link with the process of regional integration.

7. Final considerations

Regulation of migration has remained largely the domain of sovereign states, without a formal multilateral institutional framework. However, in a world so interconnected, it is difficult for migratory flows to be managed exclusively through autonomous nations. Migration is a global phenomenon requiring cooperative solutions at a global level. If such solutions are not found, we will continue to fail to take advantage of the full potential for development offered by migration. We will also ensure that many migrants end up living without legal protection, the victims of abuse or social exclusion.

In spite of the relevance of this phenomenon, there has been limited debate about the regulatory, institutional, and operative bases for migration governance. But such debate is absolutely necessary for the development of a coherent and fair vision for the future of migration. That debate should lead to a progressive, pragmatic, and gradual liberalization of regulation on migration, in order to achieve an orderly and realistic management of migratory flows.

The best way to achieve this objective would be to combine the establishment of universal minimum standards, shared by all countries, with the implementation of a dynamic of bilateral and regional interaction among government officials driven by problem-solving goals that could lead to greater commitments.

At the global level, a framework of dialogue and negotiation should be started in which countries can offer to take positive steps on liberalization in a way similar to the approach adopted in the GATS. In order to encourage those processes, progress should be made in setting up a multilateral institutional framework with competences over the regulation of labor migration. The most viable alternative is to start with the IOM, altering its mandate and statute to transform it into a multilateral body, integrated within the UN system and specialized in managing voluntary migration.

Mechanisms of dialogue, both globally and especially regionally, should continue to be promoted. And well-functioning government networks may create a dynamic of coordinated solutions, based on constant exchange of information, addressing issues and formulation of non-binding codes of conduct. These networks could facilitate the environment for more formal supranational agreements.

Notes

1 I am grateful for debates on this topic at the CDP and particularly for comments by José Antonio Ocampo, Pilar Romaguera, and Nouria Benghabrit-Remaoun.

2 In a complementary work (Alonso, 2013), we analyzed the developmental effects of international migration.

3 A migrant can be considered a person born in a country different from that in which she lives or, alternatively, a person of a different nationality from the country in which she lives. Both concepts are used in specialist literature. Data offered here adopt the first criterion.

4 A similar, though smaller, phenomenon was produced as a result of the breakups of Czechoslovakia and Yugoslavia.

5 In the opposite sense, wages in net emigration countries will tend to increase, as Mishra (2005) and Aydemir and Borjas (2007) show in the case of Mexico. As a consequence of both changes, migration tends to reduce wage differentials between net emigration and host countries, which turns migration into a potential factor for reducing international inequalities.

6 This interpretation is in accordance with the idea that noneconomic forces have a more important role than economic ones in determining social preferences in relation to migration (Greenaway and Nelson, 2006).

7 While the native population of receiving countries tends to reject large-scale immigration, this sentiment is far from universal and is highly conditioned by the way in which States manage the process of migration.

8 Home countries have come to understand the advantages of emigration, both as a safety valve to alleviate the social pressure on domestic markets and institutions and as a source of external financial resources. Therefore, they have few incentives to repress nonskilled emigration (Portes and De Wind, 2007).

9 There was one attempt adopted by the League of Nations in the 1920s to explore the possibility of a Convention dedicated to "facilitate and regulate international exchange of labour". However, the initiative failed to prosper.

10 An analysis of the causes for the limited international support to the Convention can be found in Pecoud and Guchteneire (2004).

11 In 1999, nations were consulted as to whether they would support a global conference to discuss the elements of a global migration regime. Only forty-seven governments expressed support for such a conference, while twenty-six expressed reservation. Given those results, instead of a conference, the UN Secretary General decided to launch a Global Commission on International Migration.

12 Previously, UN-DESA focused its 2004 World Economic and Social Survey on the subject of International Migration.

13 It deserves mentioning that the Global Forum on Migration and Development was created after the 2006 General Assembly an as a consequence of the countries' reluctance to support the Secretary-General's suggestion of creating a formal intergovernmental committee on this topic.

14 The European migratory policy is, however, far from effective and integrated, as disputes around the distribution of responsibilities of the control on southern frontiers show.

15 To these two modalities, Koslowski (2009) adds a third, related to the rules of displacement and mobility of people, including those who move outside any legal frameworks.

16 As Clemens suggests in such partnership countries of migrant origin and destination agree ex ante who will bear the costs of training skilled migrants and allow a small portion of the economic gains from skilled mobility to foster skill creation in origin countries.

References

Alonso, José Antonio (2013). International Migration in the Development Agenda. In José Antonio Alonso, Giovanni Andrea Cornia, and Rob Vos (eds.), *Alternative Development Strategies for the Post-2015 Era.* London: Bloomsbury Academy.

Andersen, Torben M. (2012). Migration, Redistribution and the Universal Welfare Model. *IZA Discussion Paper* 6665.

Anderson, Kym and Will Martin (2005). Agricultural Trade Reform and the Doha Development Agenda. *The World Economy*, vol. 28, no. 9, pp. 1301–27.

Aydemir, Abdurrahman and George J. Borjas (2007). A Comparative Analysis of the Labor Market Impact of International Migration: Canada, Mexico, and the United States. *Journal of the European Economic Association*, vol. 5, no. 4, pp. 663–708.

Bauman, Zygmunt (1998). *Globalization: The Human Consequences.* Cambridge: Polity.

Betts, Alexander (2010). Migration Governance: Alternative Futures. *Background Paper WMR 2010*, International Organization for Migration.

Betts, Alexander (ed.) (2011). *Global Migration Governance.* Oxford: Oxford University Press.

Bhagwati, Jagdish N. (2003). Borders Beyond Control. *Foreign Affairs*, vol. 82, no. 1, pp. 98–104.

Bhagwati, Jagdish N. and William Dellafar (1973). The Brain Drain and Income Taxation. *World Development*, vol. 1, no. 1, pp. 94–101.

Borjas, George J. (2003). The Impact of Immigration on the Labour Market. Paper prepared for the Conference on Labour and Capital Flows in Europe Following Enlargement. Organized by IMF, the Joint Vienna Institute, and the National Bank of Poland.

Bradford, Scott (2012). The Global Welfare and Poverty Effects of Rich Nations' Immigration Barriers. Brigham Young University.

Castles, Stephen (2007). The Factors that Make and Unmake Migration Policies. In Alejandro Portes and Josh DeWind, *Rethinking Migration. New Theoretical and Empirical Perspectives.* New York: Berghahn Books.

Cinar, Dilek and Frederik Docquier (2004). Brain Drain and Remittances: Consequences for the Source Countries. *Brussels Economic Review*, vol. 47, no. 1, pp. 103–18.

Clemens, Michael (2010). *A Labor Mobility Agenda for Development*. Center for Global Development, Washington, DC.

Clemens, Michael (2011). Economics and Emigration: Trillion-Dollar Bills on the Sidewalk? CGD *Working Paper* 264, Center for Global Development, Washington.

Clemens, Michael (2014). Global Skill Partnership: A Proposal for Technical Training in a Mobile World. *CGD Policy Paper* 040, Washington, Centre for Global Development.

Collier, Paul (2013). *Exodus. How Migration Is Changing Our World.* Oxford: Oxford University Press.

Docquier, Frederic and Abdeslam Marfouk (2006). International Migration by Educational Attainment: 1990–2000. In Çaglar Ozden and Maurice Schiff, *International Migration, Remittances and Brain Drain.* New York: Palgrave MacMillan.

Docquier, Frederis and Hillel Rapoport (2012). Globalization, Brain Drain and Development. *Journal of Economic Literature*, vol. 50, no. 3, pp. 681–730.

Domingues Dos Santos, Manon and Fabien Postel-Vinay (2003). Migration as a Source of Growth: The Perspective of a Developing Country. *Journal of Population Economics*, vol. 16, no. 1, pp. 161–75.

Dustmann, Christian, Tommaso Frattini, and Ian Preston (2013). The Effect of Immigration Along the Distribution of Wages. *Review of Economic Studies*, vol. 80, no. 1, pp. 145–73.

Facchini, Giovani and Anna Maria Mayda (2009). The Political Economy of Immigration Policy. *UNDP Research Paper*, April.

Ghosh, Bimal (2003). New International Regime for Orderly Movements of People: What Will It Look Like? In Bimal Ghosh (ed.), *Managing Migration. Time for a New International Regime?* Oxford: Oxford University Press.

Ghosh, Bimal (2013). *The Global Economic Crisis and the Future of Migration. Issues and Prospects. What Will Migration Look Like in 2045?* London: Palgrave Macmillan.

Gibson, John and David McKenzie (2011). Eight Questions About Brain Drain. *Journal of Economic Perspectives*, vol. 25, no. 3, pp. 107–28.

Greenaway, David and Douglas Nelson (2006). The Distinct Political Economies of Trade and Migration Policy: Through the Window of Endogenous Policy Models, with Focus on North America. In Federico Foders and Rolf J. Langhammer (eds.), *Labor Mobility and the World Mobility.* Berlin: Springer-Verlag.

Hainmueller, Jeus and Michael J. Hiscox (2010). Attitudes toward Highly Skilled and Low Skilled Immigration: Evidence from Survey Experiment. *American Political Science Review*, vol. 104, no. 1, pp. 61–84.

Hamilton, Bob and John Whalley (1984). Efficiency and Distributional Implications of Global Restrictions on Labour Mobility. *Journal of Development Economics,* vol. 14, no. 1, pp. 61–75.

Hanson, Gordon H., Kenneth Scheve, and Mathew J. Slaughter (2007). Public Finance and Individual Preferences over Globalization Strategies. *Economics and Politics*, vol. 19, no. 1, pp. 1–3.

Hatton, Timothy J. and Jeffrey G. Williamson (1998). *The Age of Mass Migration: Causes and Economic Impact.* New York: Oxford University Press.

Hatton, Timothy J. and Jeffrey G. Williamson (2005). *Global Migration and the World Economy. Two Centuries of Policy and Performance.* Cambridge, MA: MIT Press.

Heckmann, Friedrich (2007). Illegal Migration: What Can We Know and What Can We Explain? In Alejandro Portes and Josh DeWind, *Rethinking Migration. New Theoretical and Empirical Perspectives.* New York: Berghahn Books.

Hollifield, James (2004). The Emerging Migration State. *International Migration Review*, vol. 38, no. 3, pp. 885–912.

Iregui, Ana María (2005). Efficiency Gains from the Elimination of Global Restrictions on Labor Mobility. In Georges J. Borjas and Jeff Crisp (eds.), *Poverty, International Migration and Asylum.* New York: Palgrave Macmillan.

Klein, Paul and Gustavo Ventura (2007). TFP Differences and the Aggregate Effects of Labor Mobility in the Long Run. *The B.E. Journal of Macroeconomics*, vol. 7, no. 1, article 10.

Koslowski, Rey (2009). Global Mobility Regimes. Paper presented at the Global Mobility Regimes Workshop, April 27, New York.

Lucas, Robert E. (1988). On the Mechanics of Economic Development. *Journal of Monetary Economics*, vol. 22, no. 1, pp. 3–42.

Lucas, Robert E. B. (2005). *International Migration and Economic Development: Lessons from Low-Income Countries.* Northampton: Edward Elgar.

Martin, Philip, Manolo Abella, and Christiane Kuptsch (2006). *Managing Labor Migration in the Twenty-First Century*, Global Management Series, Yale University Press.

Martin, Philip L., Susan F. Martin, and Patrick Weil (2006). *Managing Migration. The Promise of Cooperation.* New York: Lexington Books.

Massey, Douglas and Chiara Capoferro (2007). Measuring Undocumented Migration. In Alejandro Portes and Josh DeWind, *Rethinking Migration. New Theoretical and Empirical Perspectives.* New York: Berghahn Books.

Mesnard, Alice and Martin Ravaillon (2001). Wealth Distribution and Self-employment in a Developing Country. *CEPR Discussion Paper* 3026. Center for Economic Policy Research.

Mishra, Prachi (2005). Emigration and Wages in Source Countries: Evidence from Mexico. *Journal of Development Economics*, vol. 82, no. 1, pp. 180–99.

Moses, Jonathon W. and Bjorn Lettnes (2004). The Economic Cost to International Labour Restrictions: Revisiting the Empirical Discussion. *World Development*, vol. 32, no. 10, pp. 1609–26.

Mountford, Andrew (1997). Can Brain Drain be Good for Growth in the Source Economy? *Journal Development Economics*, vol. 53, no. 2, pp 287–303.

Mundell, Robert (1968). *International Economics.* New York: Palgrave Macmillan.

Newland, Kathleen (2005). The Governance of International Migration: Mechanisms, Processes and Institutions. Paper prepared for the Policy Analysis and Research Programme of the Global Commission on International Migration

Nussbaum, Martha (2000). *Women and Human Development: The Capabilities Approach.* Cambridge: Cambridge University Press.

O'Rourke, Kevin H. and Jeffrey G. Williamson (1999). *Globalization and History.* Cambridge: MIT Press.

Ottaviano, Gianmarco and Giovanni Peri (2008). *Immigration and National Wages: Clarifying the Theory and Empirics.* Dept of Economics, University of California.

Ozden, Çaglar, Christopher R. Parsons, Maurice Schiff, and Terrie L. Walmsley (2011). Where on Earth Is Everybody? The Evolution of Global Bilateral Migration 1960–2000. The World Bank. *Policy Research Working Paper* 5709, Washington.

Papadememetriou, Demetrios G. (2011). *The Governance of International Migration. Defining the Potential for Reform in the Next Decade.* Transatlantic Council of Migration and Migration Policy Institute.

Parsons, Christopher R., Ronald Skeldon, Terrie Walmsley, and L. Alan Winters (2005). Quantifying the International Bilateral Movements of Migrants. Development Research Centre on Migration. *Research Working Paper* T13, University of Sussex.

Pecoud, Antoine and Paul de Guchteneire (2004). Migration, Human Rights and the United Nations: An Investigation into the Low Ratification Record of the UN Migrant Workers Convention. *Global Migration Perspectives* No. 3, October, Geneva, Global Commission on International Migration.

Portes, Alejandro and Josh DeWind (2007). A Cross-Atlantic Dialogue. The Progress of Research and Theory in the Study of International Migration. In Alejandro Portes and Josh DeWind, *Rethinking Migration. New Theoretical and Empirical Perspectives.* New York: Berghahn Books.

Pritchett, Lant (2006). *Let Their People Come. Breaking the Gridlock on Global Labor Mobility.* Washington: Center for Global Development.

Razin, Assaf, Efrain Sadka, and Benjarong Suwankiri (2011). *Migration and the Welfare State. Political Economy Policy Formation.* Cambridge: MIT Press.

Rodrik, Dani (1997). *Has Globalization Gone Too Far?*, Washington: Institute for International Economics.

Schiff, Maurice (2006). Brain Gain: Claims About Its Size and Impact on Welfare and Growth Are Greatly Exaggerated. In Ozden, C. and M. Schiff, *International Migration, Remittances and the Brain Drain.* New York: Palgrave Macmillan.

Slaughter, Anne Marie (2004). *A New Global Order.* Princeton: Princeton University Press.

Stark, Oded, Christian Helmenstein, and Alexia Prskawetz (1997). A Brain Gain with Brain Drain. *Economic Letters*, vol. 55, no. 2, pp. 227–34.

Stark, Oded, Christian Helmenstein, and Alexia Prskawetz (1998). Human Capital Depletion, Human Capital Formation, and Migration: A Blessing in a Curse. *Economic Letters,* vol. 60, no. 3, pp. 363–7.

Straubhaar, Thomas (2003). Why Do We Need a General Agreement on Movements of People (GAMP)? In Bimal Ghosh (ed.), *Managing Migration. Time for a New International Regime?* Oxford: Oxford University Press.

Trachtman, Joel P. (2009). *The International Law of Economic Migration. Toward the Fourth Freedom.* Michigan: Upjohn Institute.

Van der Mensbrugghe, Dominique and David Roland-Holst (2009). Global Economic Prospects for Increasing Developing Country Migration into Developed Countries. *Human Development Research Paper* 2009/50, UNDP.

Vidal, Jean-Pierre (1998). The Effect of Emigration on Human Capital Formation. *Journal of Population Economics*, vol. 11. no. 4, pp. 589–600.

Walmsley, Terry L. and L. Alan Winters (2005). Relaxing the Restrictions on the Temporary Movements of Natural Persons: A Simulation Analysis. *Journal of Economic Integration*, vol. 20, no. 4, pp. 688–726.

World Bank (2006). *Global Economic Prospects*: *Economic Implications of Remittances and Migration.* Washington, DC: World Bank.

ANNEX

In the case of migratory liberalization between symmetric countries, the agents' positions are shown in Table 6A1. Only the scarce factor which competes with migrants is clearly opposed to the liberalization. The gains of the process are small, but there is limited resistance to the liberalization, particularly where the agreement is reciprocal.

Table 6.A1 Position in relation to migratory liberalization in symmetric countries

	Scarce labor	**Abundant labor**	**Capital**	**Consumers**
No reciprocity	Opposed	Weakly in favor	In favor	Neutral
Reciprocity	Opposed	Weakly in favor	In favor	Neutral or weakly in favor

Strategic equilibrium adopts the structure of a "cooperation game," which is represented in Table 6.A2 (Trachman, 2009).

Table 6.A2 Cooperative game

		State B	
		Liberalize	Defect
State A	Liberalize	5, 5	1, 3
	Defect	3, 1	3, 3

In the case of migratory liberalization between asymmetric countries, the agents' positions in the host country are shown in Table 6.A3. Only the abundant factor is (weakly) favorable to liberalization. The remainder of agents are neutral or opposed to the process, particularly if the intensity of immigration amplifies its negative externalities (on social capital and access to service in host countries). Nothing changes if the agreement is reciprocal.

Table 6.A3 Positions in the host country in relation to migratory liberalization in asymmetric countries (with externalities and free capital movements)

	Scarce labor	**Abundant labor**	**Capital**	**Consumers**
No reciprocity	Opposed	Weakly in favor	Neutral	Neutral or opposed
Reciprocity	Opposed	Weakly in favor	Neutral	Neutral or opposed

Strategic equilibrium adopts the structure of a "bully game," which is represented in Table 6.A4 (Trachtman, 2009).

Table 6.A4 Bully game

		State B (developing country)	
		Liberalize	Defect
State A (developed country)	Liberalize	1, 3	0, 2
	Defect	2, 1	2, 2

7

Thought for Food: Strengthening Global Governance of Food Security

Rob Vos[1]

1. Introduction

With the onset of the 2007–8 food price crisis, food security was put back on the international agenda. Threats of food insecurity had provoked civil unrest around the world and countries that had long been considered food secure were facing the threat of limited food imports as a result of export restrictions put in place by some food-exporting countries. The food price spikes are symptoms of larger concerns with the future of global food security. Worldwide hunger and malnutrition have declined significantly in recent decades and, in the aggregate, the world produces enough food to feed everyone. Yet, today, over 800 million people are considered food insecure and undernourished suggesting abundant supply does not guarantee affordable access to food for all. The recent and recurrent food price spikes and heightened volatility are caused in part by the tightness of markets for many staple foods and by increased financialization of commodity markets. There are more fundamental challenges at the root of enhanced global food market volatility which pose important threats to food security in the long run. Those relate to ongoing demographic change with continued population growth and accelerated urbanization putting upward pressure on the demand for food, as well as on land use given higher demand for high-protein food like meat with the growth of urban populations and rising incomes in emerging economies. They also relate to increased pressure on and erosion of the natural resource base underpinning food production. The related environmental threats include climate change which is already adversely impacting on food supplies

through more intense weather shocks. Agriculture[2] itself is part of that problem being a major contributor to global greenhouse gas emissions. Food systems (from farm to fork) around the world are increasingly intertwined being part of global value chains dominated by large corporate businesses. This trend has given impulse to food productivity growth, but is also raising increasing concerns with—inter alia—local impacts of international land acquisitions, uneven (and inadequate) investment in agricultural research and development, safeguarding food safety and nutritious diets.

These challenges conspire against achieving sustainable food security. They are now more widely recognized in international policy debates, but the responses so far to address them and initiatives to strengthen international governance of food security and nutrition at best provide small steps in the right direction. As argued in this chapter, most of these responses have been ad hoc in nature, falling well short of what is needed to guide the transformative changes needed to make food systems around the world environmentally sustainable while securing food safety, good health, and sound nutrition for all. Further improvements in the global governance of food security issues are needed. This chapter proposes a stronger coordinating role for the Committee on World Food Security and its capacity to gluttonize intergovernmental consensus with involvement of civil society and private sector actors, and help ensure coherence with multilateral trade, finance, and environmental regimes.

2. The evolving notion of food security

Since the World Food Conference of 1974, the concept of food security has evolved and been broadened. According to Maxwell (1996) and Shaw (2004), the concept went through several paradigm shifts. These shifts in conventional wisdom reflect changes in what, over time, have been considered to be key issues informing food security research and food policy and practice.

The 1974 World Food Conference, convened by the UN General Assembly, took place in response to the dramatic rise in world food prices in the early 1970s. The food price spike occurred in a context of a weakened US dollar, high energy prices, short-term climatic shocks, and growing food demand from a number of emerging economies (at the time, these were countries like Spain, the Republic of Korea, and Taiwan). The World Food Conference was to seek ways to “resolve the world food problem within the broader

context of development and international economic co-operation" (United Nations, 1975). The Conference led to the creation of the short-lived World Food Council and the Committee on World Food Security (CFS). The latter continues to be at the center of present global governance mechanisms for food security.

From 1975, the Food and Agriculture Organization (FAO) of the United Nations began to argue that malnutrition is not simply a problem of food availability, but also a function of poverty and of deprivation. This argument directly linked malnutrition to broader development problems, as it recognized that malnutrition could persist despite increases in overall food supplies. After a series of poor grain harvests in the early 1980s, there was further recognition that, despite successes with high-yielding varieties introduced as part of the Green Revolution in agriculture, the global food system could not secure adequate food supply at all times. In response to these concerns, the concept of food security was broadened to three specific goals: adequacy, stability, and security of access to supplies in food markets.

In the 1990s, several actors, UNICEF in particular, campaigned to make a distinction between food and non-food factors (care and health) in the debates about both food security and nutrition, seeing the distinction as critical when addressing child malnutrition. The distinction was institutionalized by the 1992 International Conference on Nutrition (ICN). The global policy discussions started referring to "food security and nutrition," rather than just food security. In 2010, a range of stakeholders in the nutrition and health community started the Scaling-Up Nutrition (SUN) Movement, which aims to further mainstream nutrition considerations into food policies.

In 2012, this broadened understanding of what constitutes food security led to the agreement by the CFS that: "[f]ood and nutrition security exists when all people at all times have physical, social and economic access to food, which is safe and consumed in sufficient quantity and quality to meet their dietary needs and food preferences, and is supported by an environment of adequate sanitation, health services and care, allowing for a healthy and active life" (CFS, 2012).

While broadened, the definition continues to be centered on the adequacy, stability, and security of access to food with the difference of having turned into a definition of food security *and* nutrition. The main focus remains to provide guidance to policies for eradicating hunger and undernourishment. Three more recent concerns are at best only partially covered in this broadened concept of food security.

First, there is the now more widely accepted recognition that nutrition insecurity, hunger and malnutrition cannot be adequately characterized as in terms of caloric deficit, but also needs to consider micronutrient deficits. While this is captured in the going definition by the reference to "allowing for a healthy life," the implication of this recognition for policies would go beyond stable, secured, and affordable access to food, as it would set requirements as to the composition of food to be produced and made accessible would need to be sufficiently diverse in nutritional content.

The second concern is with the rapidly growing prevalence of obesity. While underlying causes of obesity are not merely caused by overnutrition, less healthy dietary preferences of more wealthy consumers (in both rich and poor nations) and promotion of such preferences by suppliers of food certainly play a critical role. Technically, the definition could be seen as covered by the condition of allowing people to live healthy lives, but misses the point not only in that such preferences might compromise the condition of food security contributing to a healthy life, but also that "overconsumption" likely jeopardizes affordable access to food for others.

The third relates to environmental concerns. As discussed in the next section, if the ecological footprint of agriculture and food production is not drastically reduced, future food security cannot be guaranteed, simply because it would not be environmentally sustainable and hence should be an overarching concern.

While these concerns are recognized in today's policy discussions about global food security, they are yet to earn fuller recognition in the "official" definition of food security.

Meanwhile, awareness-raising as well as operationalization of international agreement on the notion of food security has been promoted through the Voluntary Guidelines on the Right to Food (FAO, 2005). The Guidelines were developed in follow-up to the declaration of the 1996 World Food Summit and more firmly rooted the food security in a human rights-based approach and theoretically aligned with Sen's entitlement approach (see for example Sen, 1981, 2013). The declaration of the Summit reaffirmed intergovernmental agreement that "the right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger" (World Food Summit, 1996, p. 1). FAO Council was invited to establish an Intergovernmental Working Group to develop a set of Voluntary Guidelines in support of national and internationally coordinated efforts "to achieve the progressive realization of

the right to adequate food in the context of national food security," but by their nature do not establish legally binding obligations for states or international organizations. Nonetheless, a recent review of ten years of Right-to-Food Guidelines concludes these remain "an important guiding framework for achieving the eradication of hunger and improving food security and nutrition through relevant international and regional policy and strategic processes. They are relevant to the formulation of the post-2015 development goals, the international trade agenda, development and humanitarian policies, the mechanisms of international financing for development, and the climate change agenda" (FAO, 2014a: p. 25). True as this may be, the world is still at quite some distance of fulfilling the right to food for everyone and the challenges to shorten that distance remain daunting.

3. Global trends and emerging challenges

The suggested broadening of the definition of food security and nutrition to guide the global policy discussions would better meet the emerging challenges to the global food system. Those challenges are emerging both on the supply and demand side.

The past sixty-five years have seen a massive growth in food output and quality, enabling a 40 percent rise in food intake per person for a population that has swollen to 7 billion today, up from 2.5 billion around 1950. In recent decades, it has helped to significantly reduce the prevalence of undernourishment worldwide. The MDG target of halving this prevalence by 2015 is within reach (see Figure 7.1). Yet, the extra food has not led to "freedom from want" for all. More than 800 million people worldwide are considered chronically undernourished, of which about 790 million live in developing countries (FAO, 2014b) and the target set by the World Food Summit of halving the number of hungry people by 2015 (from 1990 levels) seems well beyond reach (see also Figure 7.1).

Chronic hunger and poverty are heavily concentrated in the rural populations that produce much of the food in developing countries, especially in Africa and South Asia. However, chronic food insecurity is also affecting growing urban populations in some parts of the world. "Food riots" and related political unrest following multiple global food price spikes from 2008 foremost have been "urban" manifestations of feelings of food insecurity. The challenges moving forward impinge on all dimensions of the modern concept

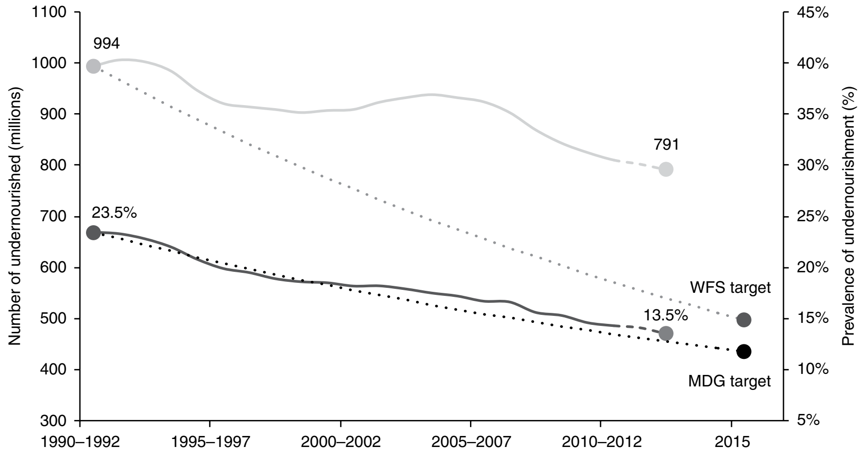

Figure 7.1 Trajectory of undernourishment in developing regions: Progress toward the MDG and WFS targets

Note: Data for 2012–14 in all charts refer to provisional estimates.

Source: FAQ.

of food security and nutrition: availability, stability, and accessibility of food supplies, as much as nutritious composition of food and the environmental sustainability of food production.

3.1. Food and demographics

First, population growth will make the challenge of feeding everyone that much more difficult. According to the United Nations' medium-scenario projections (United Nations, 2013), the world's population will reach 9.3 billion people by 2050 and 10.1 billion by 2100. Most of this increase (85%) will take place in what are now developing countries. Africa will account for about half of the absolute increase in population between 2010 and 2050 and, at present trends, it will be home to nearly one quarter of the world population by 2050. Developing countries will have to adapt to growing urban populations. By 2050, 70 percent of the world's population is projected to live in urban areas with implications for land use and the composition of food demand (see below). Combined with the growing world population, changing dietary patterns imply that food production needs to increase from present levels by an estimated 60 percent (Alexandratos and Bruinsma, 2012). In most regions, land frontier limits have been reached, such that, all other things being equal, in order to feed the growing and increasingly urban world population almost

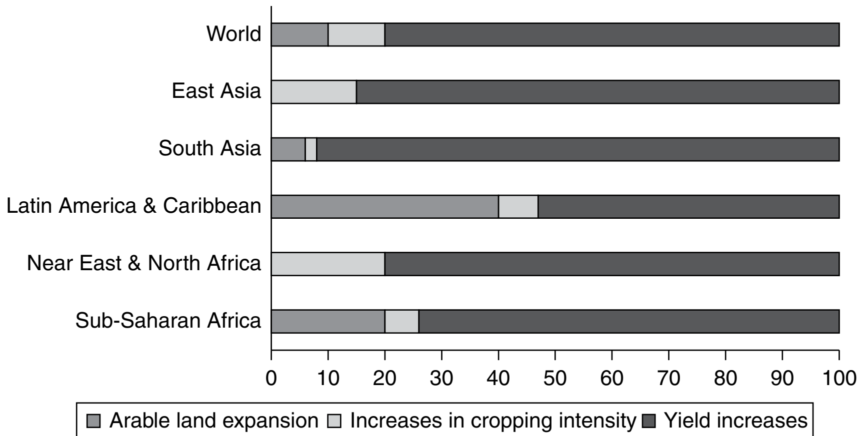

Figure 7.2 Sources of growth of crop production to feed a growing world population, 2010–50 (percentage shares)

Source: Alexandratos and Bruinsma (2012).

all of the expansion of crop production would need to be generated through yield increases (see Figure 7.2).

3.2. Shifting consumption patterns

Second, changing consumption trends also contribute to the challenge of achieving food security. Rising incomes and increasing urbanization around the world have led to improvement in the nutrition for hundreds of millions of people. As income rises above the basic subsistence level, diets diversify and move beyond grains to include sugars, fats, oils, and protein. These trends are fueling the shift toward greater consumption of animal protein in developing countries. The FAO predicts that with continued trends, the expanded world population will be consuming two thirds more animal protein by 2050, with meat consumption rising nearly 73 percent and dairy consumption growing 58 percent over current levels (Alexandratos and Bruinsma, 2012). Changing diets and the underpinning factors have an upside and downside: they have been a factor in reducing average rates of prevalence of undernourishment, but they have also been an important factor in pushing up rates of overnutrition.[3] Through its association with sharp increases in the prevalence of chronic diseases, like diabetes and cardio-vascular ailments, unhealthy food patterns are contributing to increased health costs in developed and developing countries alike.

3.3. Food and the environment

Third, expanding food production and economic growth in general have come at the expense of the degradation of our natural environment. Almost one half of the forests that covered the Earth are gone,[4] groundwater sources are rapidly being depleted, enormous reductions in biodiversity have already taken place[5] and, through the burning of fossil fuels, about 30 billion tons of carbon dioxide are currently being emitted each year. All of these undesired trends continue to take place at an accelerated pace and agriculture is an important part of the problem. Modern agriculture currently contributes about 14 percent of greenhouse gas emissions and the land-use and water management related thereto are not sustainable in many parts of the world (United Nations, 2011). Deforestation is contributing an estimated 17 percent of global emissions, while causing the loss of habitat, species, and biodiversity in general. The incidence of natural disasters has increased fivefold since the 1970s. With a fair degree of certainty, this increase can be attributed in part to climate change induced by human activity. Deforestation, degradation of natural coastal protection, and poor infrastructure have increased the likelihood that weather shocks will turn into human disasters, especially in the least developed countries. These trends in turn threaten the sustainability of food system and undermine the world's capacity to secure adequate availability of food.[6]

Even though the real effects of climate change on agriculture, forestry, and fisheries are difficult to predict, it is expected that the impact will be different for each region, ecological zone, and production system. Even small changes in the climate, for example, through small changes in annual rainfall or in seasonal precipitation patterns, can affect productivity. The frequency and intensity of severe weather events such as floods, cyclones, and hurricanes as well as of prolonged drought and water shortages will increase, affecting soil quality directly. Model-based simulations of the possible impact of climate change on crop yields are subject to a fair degree of uncertainty, but most studies suggest significant productivity losses for key crops in most regions. The severity of the losses is expected to increase significantly with each rise in average temperatures (see Figure 7.3).

Because of climate change, entire regions will have to adapt their food production systems. Food producers will need to either adopt new or changing production techniques or, if not feasible, move to other income-generating activities. This will reinforce the ongoing rural-urban migration, and transform food producers into food consumers. In those regions where the rural-urban

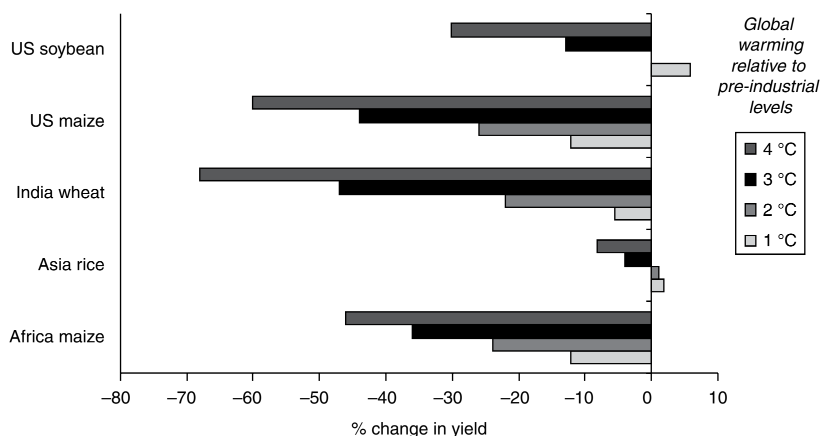

Figure 7.3 Projected changes in yields for selected crops with global warming
Source: US NRC (2011), based on various studies.

migration does not provide opportunities for income generation, South-North migration across nations and continents will be an attractive option and thus likely would intensify.

Agricultural producers who are not able to invest in insurance or preventive/mitigating measures or who cannot benefit from related national programs will face loss of their production base and/or capacity with further intensification of natural disasters. Food insecurity will affect smallholders and rural poor in particular and extreme weather events will have a reinforcing effect on migration movements.

The upshot is that the past ways to increase food supplies (expansion of arable lands, extensive fisheries, intensive use of water, chemical fertilizers and energy in crop production, etc.) cannot be viable options of the future. Instead, to protect the environment and guarantee adequate and stable availability of food, most of the growth in food production will need to come from increased yields and productivity while reducing pressure on natural resources ("sustainable intensification").[7]

3.4. Future farmers

Fourth, with present farming patterns, smallholder family farmers in developing countries, including the poorest would need to be the key drivers of the required substantial increases in productivity and transformation toward sustainable production methods. Presently, about 80 percent of farms are small in scale

with landholdings of 2 hectares or less (FAO, 2014c). The number of small farms has grown over the past decades. Average farm size has fallen in most low- and middle-income countries, where the majority of the world's farms are (FAO, 2014c). Rapid population growth in rural Sub-Saharan Africa and Asia and lack of access to land for poor households is a key factor behind increasing landholdings and decreasing farm size. At the same time, smallholders are responsible for most of the agricultural production; in low-income countries typically for more than three quarters (Figure 7.4).

The world possesses the technologies to significantly step up farm productivity, including through climate-smart methods (Vos, 2014). However, can we expect these to be adopted widely by farmers around the world? Small-scale family farmers in developing countries tend to find it difficult to access these technologies, because of inadequate infrastructure, low education, and lack of credits. Many of them live and work in vulnerable ecosystems, which may become even more fragile because of climate change. In addition, farmer populations are aging rapidly. Worldwide, the average age of farmers is about sixty, including in developing countries, and many among them are women and poorly educated (see, for example Jöhr, 2012; Gorman, 2013). Older farmers are less likely to introduce new, transformative production techniques. One could expect their children to do so, especially in developing countries where

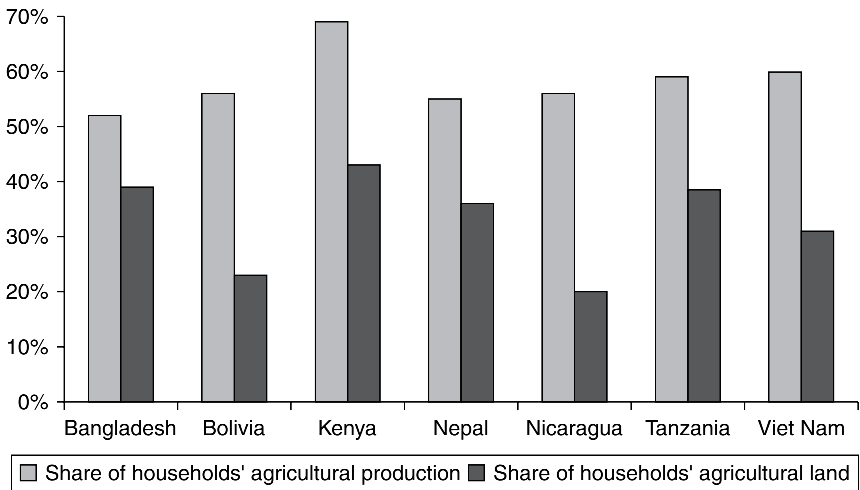

Figure 7.4 Share of smallholder farms (lowest quartile) in agricultural production and land in selected low and lower middle-income countries (around 2010)

Source: FAO (2014c: Figure 2.4).

60 percent of the population is under twenty-five years of age and most living in rural areas. The problem is, however, that few of the rural youth see a future for themselves in agriculture (Vos, 2014).

3.5. Policy and policy coordination failures

Fifth, the existing mix of government policies does not add to push adequately toward the desired transformative change. On the contrary, in many respects, policies add to the obstacles, as:

- Beggar-thy-neighbor agricultural policies persist around the world that inhibit trade and subsidize crop production to support farmers and food consumers at home, but at the expense of farmers and food security elsewhere. This refers to continued high agricultural subsidies in OECD countries, which continue to constitute near 20 percent of gross farm receipts in those countries at a total fiscal cost of about $250 billion per annum (MDG Gap Task Force, 2013). These subsidies significantly distort prices and markets for key crops, affecting developing country producers in particular. In addition, export restrictions and trading bans isolate local markets and give farmers little incentive to expand production for the next season, limiting the potential supply response to price increases. During the 2008 food crisis, for example, more than thirty countries imposed export restrictions, further pushing up prices. Trade plays a crucial role in ensuring food security by allowing agricultural commodities to move from places of surplus to places of deficit. Though only about 15 percent of the world's calories cross international borders, for countries dependent on imported supplies this share can be a lifeline.
- Policies also are a key factor in stimulating nonfood use of crops. Mandated use of biofuels represents another significant obstacle to achieving food security. About 30 million tonnes of whole grain equivalents would be needed to meet the caloric deficit of the 805 million undernourished people in the world today, which equals to approximately one sixth of the amount of grains currently used to produce biofuels. The use of agricultural feedstocks (such as corn, soybeans, and sugarcane) for the production of biofuels is projected to grow, largely driven by biofuel mandates and support policies. By 2023, biofuels will consume 12 percent of the global coarse grain production, 14 percent of vegetable oil production, and 28 percent of sugarcane production, according to OECD-FAO estimates (OECD and FAO,

2014). While conceived as part of measures to mitigate climate change, net contribution of agricultural feedstock production to reducing greenhouse gas emissions is, at best, only very slight (Vos, 2009), while it adds to continued intensive use of water, energy, and chemicals in agriculture and affecting food security.

- Such subsidies have also stimulated large-scale land acquisitions in developing countries for production of feedstocks. They form but one factor, though, among other incentives (FAO, 2012, ch. 4). Such large-scale land acquisitions (or "land grabs" as they are also sometimes referred to) have received quite some attention recently, because of concerns over socioeconomic effects on local farmers and environmental impacts. Large-scale land investments are more prone in countries where farmers lack adequate protection of land tenure rights and where land governance is weak otherwise (FAO, 2012, ch. 4). The precise magnitude of such investments is difficult to measure because of data limitations, but available evidence suggests that in the aggregate they are rather limited relative to total agricultural investment and that foreign investors tend to be in a minority. Yet, the local impacts tend to be substantial and reflective of the mentioned concerns. It has raised calls for better regulation of such investments. Accordingly, ongoing international debates and some action have moved to better secure land rights for smallholder farmers and make business models more inclusive, to mitigate the adverse impacts of such investments. Voluntary guidelines have been set up aiming to make such investments socially and environmentally more responsible, engaging governments, NGOs, and private sector stakeholders in new ways (more on this later).
- Contrary to some conventional wisdom, public sector spending and investment on agriculture actually increased over the past three decades, including in developing countries (Figure 7.5 and FAO, 2012). However, in most regions (except Asia) such spending has lost out to competing priorities (see Table 7.1) and, most importantly, levels are considered highly deficient to meet needs for basic infrastructure and research on new technologies to stimulate private investment and agricultural productivity growth needed to meet increased food demand and make food systems more sustainable. Private sector investment in research has increased—largely in biotechnology and in a handful of global staple crops such as corn, soybeans, and canola—leading to other crops to fall behind in productivity. To induce the required long-term improvements in the supply, availability,

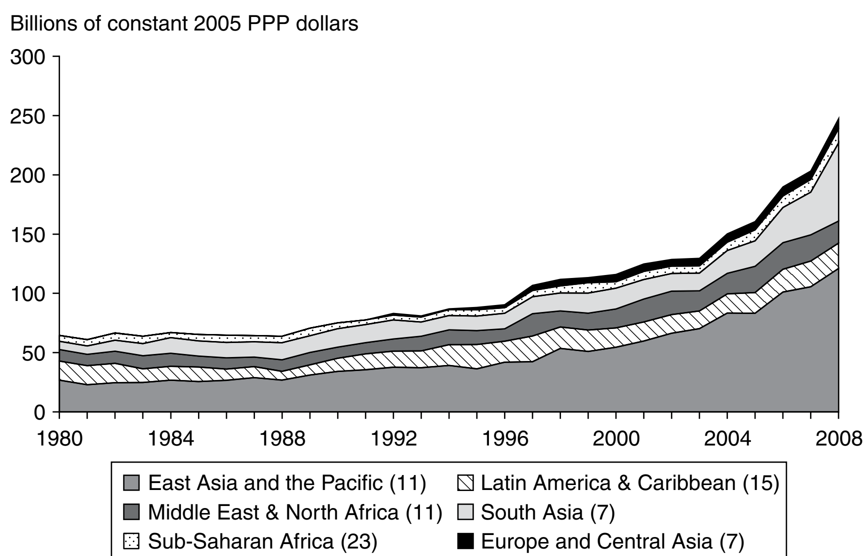

Figure 7.5 Public expenditures on agriculture by region, 1980–2007
Source: FAO (2012).

Table 7.1 Agricultural orientation index (AOI) for public spending in low- and middle-income countries, 1980–2007 (ratio)

	1980–90	1990–9	2000–2004	2005–7
East Asia and Pacific (7)	0.31	0.48	0.49	0.59
Europe and Central Asia (9)		0.29	0.35	0.36
Latin America and Caribbean (6)	0.96	0.86	0.56	0.38
Middle East and North Africa (5)	0.34	0.37	0.37	0.30
South Asia (5)	0.24	0.21	0.21	0.27
Sub-Saharan Africa (9)	0.30	0.17	0.14	0.12
Total (41 countries)	**0.35**	**0.38**	**0.38**	**0.41**

Note: The AOI for public spending equals the agricultural share of government spending divided by the agriculture share in GDP. Calculations include forty-one low- and middle-income countries. The number of countries covered in each region is indicated in parentheses.
Source: FAO (2012).

and affordability of food, much more will need to be invested in agricultural research and development for a much wider range of crops and staple foods. Inefficient physical infrastructure for storage and transportation of food, combined with unreliable or ineffective customs clearance, also limit access to safe food. Inadequate storage capacity and transportation tend to disrupt the supply of food, especially in developing countries and

limiting smallholder farmer productivity in particular. In some countries, food wasted in post-harvest losses can reach levels as high as 40 percent because of gaps in the food chain infrastructure, including lack of proper storage facilities to protect against the external environment and pests (FAO, 2013c). A recent estimate of FAO puts additional public investment needs as part of a broader strategy to end hunger at minimally $50 billion per annum worldwide (FAO, 2012, table 8).[8]

- Investment in research and development of new technologies and their adaptation to smallholder farmer conditions in developing countries equally has been grossly deficient (United Nations, 2011, chapter III; FAO, 2013). Since the 1980s, also international support for agricultural research has decreased and national agricultural research centers have scaled back their support for seed development (United Nations, 2011, chapter III). Moreover, the bulk of public support for R&D is heavily concentrated in developed countries and remains low in most developing countries. Private corporate investment in R&D is important and a main driver of modern agriculture and biotechnology. Much of this research has supported the green revolution in agriculture that did not turn out so "green," as it introduced high-yielding varieties also high in use of water, chemical fertilizers, and pesticides. Several more recent biotechnology inventions have produced high-yielding varieties that are much more environmentally friendly, low in use of water and land (including zero tillage) as well as reducing the need for pesticides. The "save and grow" technologies referred to earlier build in part on these innovations. Genetically modified (GM) plants are at the center of many of these technologies as much as they have stirred controversy. Some of the critique refers to doubts about actual reductions in the use of chemical inputs.[9] Other concerns are with alleged health risks.[10] Others do not question as much the continued environmental or health risks, but rather see potential for enhancing food security but are concerned with the fact that most R&D investments in new biotechnologies are concentrated on improving productivity of basic grains and oil seeds (such as wheat and soybeans) apt for large-scale farming and bypass basic food staples produced by smallholder farmers in developing countries. The "save and grow" adaptations for crops such as cassava show that sustainable crop intensification is possible with benefits going to smallholders if other things also fall into place (Vos, 2014; FAO, 2013d). Improved global governance and rules (such as for intellectual property rights) are needed to provide guidance, financial means, and other incentives that support

R&D investments in sustainable crop intensification and climate-smart agriculture that can also be a central part of transformation of smallholder farming around the world.

- Continued volatility in commodity and food prices is another factor threatening global food security. In today's global food market, small changes in supply tend to have outsized effects on price, especially when food stocks are low, because demand for food persists even when prices rise. For example, the 2010 drought in Russia reduced global grain production by 1 percent but sparked price increases between 60 and 80 percent. In 2009, forces worked the other way around, with modest improvements in supply driving prices down sharply. This instability and its impact in terms of limiting food access for many vulnerable populations and as a cause of much political unrest (food riots) around the world was one of the key reasons why food security returned on top of the international policy agenda. The policy failure here is complex, partly associated with the previous factors that have led to structurally tight food markets, while some would also add financial deregulation and how this has facilitated financial speculation in commodity markets, compounding food price volatility (FAO and other agencies, 2011).

National policies thus have been oriented at serving different objectives causing significant trade-offs (such as between biofuel production and food security) and by and large have continued in uncoordinated fashion, in disregard of integrated global value chains.[11]

It is evident that issues related to global and individual food security can no longer be resolved through action limited to the national or local level, but that there is need for cooperation and coordinated multi-stakeholder action at the global level and with a global perspective. The interdependency of national food-related production systems and markets, due to their vertical and horizontal integration, and their dependence on the global financial and energy markets, means that national policies alone cannot fully buffer against risks like inefficiencies and volatility.

4. Toward a new food security governance?

The international response to the 2007–8 food price crisis reflected an implicit acknowledgment that the institutional framework established after the Second World War and after the 1970s energy crisis was no longer adequate to deal

with the dynamics of a changed economic and institutional environment. It recognized that with globally integrated food production systems, market and production failures in the food and agriculture sector can threaten the global economy as well as destabilize entire nations. It also prompted consideration that food, energy, and financial markets could dynamically, but perversely interact to provoke instability in each of these markets. The crisis pushed food security briefly to the top of the international agenda. The need to revive rural development and invest in new technologies that are also accessible and affordable to smallholder farmers was widely recognized.

The question is whether the changing system of global governance will be able to cut hunger, prevent similar future crises, and ensure sustainable resource use.

4.1. Changing architecture in response to the 2007–8 food crisis

The international response was characterized by the establishment of a variety of, largely ad hoc, global institutional mechanisms and processes.

4.1.1. HLTF and CFA: Zero hunger initiatives

In April 2008, the UN Chief Executives Board established a High-Level Task Force (HLTF) on the Global Food Security Crisis. The HLTF brought together the heads of the UN specialized agencies, funds and programs, as well as relevant parts of the UN Secretariat, the World Bank, the International Monetary Fund, the Organization for Economic Cooperation and Development, and the World Trade Organization.

The primary aim of the HLTF was (and still is) to promote a comprehensive and unified response to achieving global food security, by facilitating the creation of a prioritized plan of action and coordinating its implementation. This resulted in the Comprehensive Framework for Action (CFA) agreed to in 2008. The CFA was designed to encourage concerted responses to the food price crisis by meeting the immediate needs of vulnerable populations and by building at the same time longer-term resilience (the so-called, twin-track approach to food security). The CFA meant to provide governments, international and regional organizations, and civil society groups with a menu of policies and actions from which they could draw in designing appropriate responses to come to sustainable food security, address food market volatility, and address persistent widespread chronic malnutrition.

The CFA also has been the inspiration for the UN to launch its Zero Hunger Challenge Initiative,[12] which has set five specific goals: (a) zero stunted children under two years old; (b) 100 percent access to adequate food all year round; (c) all food systems are sustainable; (d) 100 percent increase in smallholder productivity and income; and (e) zero loss or waste of food. It has also led to several country and regional initiatives where national governments are undertaking concerted efforts toward the zero-hunger goal, reportedly with some tangible results. Notable examples at the regional level include the *Hunger-Free Latin America and Caribbean Initiative* (which builds on the experience of Brazil's *Zero Fome* program) and the *Renewed Partnership for a Unified Approach to End Hunger in Africa by 2025* which is part of the Comprehensive Africa Agricultural Development Programme (CAADP) of the African Union.

4.1.2. G8 and G20: Crisis responses

Since the creation of the HLTF and release of the CFA, the international community has made notable efforts to encourage greater investment in food security. Various gatherings of the G8 held since 2008 were used by world leaders to make major commitments in support of enhancing food security. The statement agreed at the 2008 G8 meeting in Tokyo emphasized their commitment to pursue all possible measures to ensure global food security and recognized the coordinating role of the United Nations through the HLTF.[13] Countries with food surpluses were encouraged to release food stocks and the removal of export restrictions was called for. The G8 Summit at L'Aquila in Italy (2009) gathered the heads of state of twenty-six nations and representatives of fourteen international and regional organizations who announced a major initiative to increase agricultural production, the "L'Aquila Food Security Initiative." This initiative was accompanied by the "L'Aquila Joint Statement on Global Food Security," through which $22 billion would be raised for agricultural investment over a three-year period.[14] The initiative promised action in five areas or "principles": investment in country-led plans and processes; comprehensive policies covering support for humanitarian assistance, sustainable agriculture development and nutrition; strategic coordination of assistance; a strong role for multilateral institutions; and sustained commitment of financial resources. The World Summit on Food Security held in Rome in 2009 reconfirmed this approach now labeled as the "Five Rome Principles for Sustainable Food Security."

The pledges made through the L'Aquila Food Security Initiative led to the establishment of the Global Agriculture and Food Security Program (GAFSP)

Trust Fund, a multilateral financing mechanism run through the World Bank focused on the achievement of the eradication of hunger (MDG 1). Its objective is to address the underfunding of country and regional agriculture and food security strategic investment plans already under development. Its mandate is to build on existing structures and support the implementation of the CFA. It consists of a public and private sector window and reports to have received commitments and disbursements of over $1 billion by 2013 from ten donors including the Gates foundation (GAFSP, 2013).

The G20 also gave follow-up to food security concerns in the broader context of the deliberations in response to the global financial crisis. The creation of GAFSP resulted from the reconfirmed commitments made by G20 leaders at the 2009 Pittsburgh Summit. Subsequently, however, food price volatility and spillover effects from financial market instability and speculation received most attention, leading to the establishment of the Agricultural Market Information System (AMIS), established in June 2011. AMIS is to enhance food market transparency and encourage international policy coordination in response to market uncertainty. One of its main objectives is to forecast the short-term market outlook for wheat, maize, rice, and soybeans ("AMIS crops"). The AMIS secretariat, located at FAO, consists of ten international organizations with the capacity to collect, analyse, and disseminate information on the food market situation and outlook. Attempts in 2011 by the French presidency of the G20 to come to more forceful concerted measures to stem financial speculation in agricultural commodity markets and to create new mechanisms aiming to more directly stem price volatility stranded over disagreements about the precise role of financial speculation and the effectiveness of any such measures.

4.1.3. Voluntary guidelines: Engaging the private sector and civil society

An array of other mechanisms aiming to improve global governance of food security and related issues has emerged. Examples include the request to the Committee on World Food Security (CFS), on which more below, to develop the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security and to create an International Observatory on Land Tenure. Steps have been further taken to deal with issues related to fisheries, aquaculture, and oceans through the Areas Beyond National Jurisdiction (ABNJ) project of the Global Environment Fund (GEF) and to review the governance of UN Oceans. Further, it was agreed to establish an Intergovernmental Science-

Policy Platform on Biodiversity and Ecosystem Services (IPBES), on Principles for Responsible Agricultural Investment (PRAI) and the CFS Principles for Responsible Investments in Agriculture and Food Systems (CFS-RAI),[15] and the International Guidelines for the Governance of Tenure in Land, Fisheries and Forestry and the Voluntary Guidelines for Small-Scale Fisheries.

The CFS-RAI and the Voluntary Guidelines are a response in part to the concern surrounding large-scale land investments and aim to promote secure tenure rights and equitable access to land, fisheries, and forests as a means of eradicating hunger and poverty, supporting sustainable development and enhancing the environment. The Guidelines were officially endorsed by the Committee on World Food Security on May 11, 2012. Since then, implementation has been encouraged by G20, Rio+ 20, and the UN General Assembly.

One thing those new mechanisms have in common is the recognition of the importance of involving multiple stakeholders, that is not just governments but also civil society organizations and the private sector. At the time of the establishment of the FAO, issues related to policies, knowledge sharing, and international standards (such as on food safety) related to agriculture and food security were considered as purely intergovernmental affairs. Most of FAO's work would be conducted through statutory bodies or commissions, many operating under joint oversight with other UN agencies. Nowadays, however, it is more widely recognized that other players have to be engaged as well for international agreements and coordination mechanisms to be effective.

NGOs and civil society organizations (CSOs) have become vocal defenders of consumer and producer rights and interests.

The voices of smallholder farmers, by the numbers of the major private sector players in global food systems, are being heard through a number of international producer associations, such as the World Farmers Organization (WFO), and have a say in CFS consultations though they have no defined role in the decision-making process, which remains intergovernmental.

Corporate businesses operating globally are other key private actors in the food system as they dominate the food processing industry. They function according to private profit-based principles. Accordingly, less profitable research areas are more likely to be neglected; biasing it against smallholders and biodiversity, and not necessarily geared toward the needs of the vulnerable population groups or markets with reduced purchasing power. Recent trends, however, signal that environmental concerns and efforts to link global food value chains to smallholder production are increasingly becoming part of corporate business strategies, possibly owing to greater attention to responsible corporate

entrepreneurship in the public debate and better understanding that long-term profitability depends on the sustainability of food systems at large.

4.1.4. Food safety: Health versus fair trade?

International arrangements for governing food safety have a longer history. Modern food safety policies were introduced in major developed countries in early twentieth century. In the United States they emerged in response to scandals in the meat packing and other food processing industries that, at the time, had started to revolutionize food systems (Hoffman and Harder, 2010). A second generation of major food safety policy reform emerged in response to late twentieth-century scandals and crises of trust in the quality of food, such as the *E. coli* outbreak in the United States, the bovine spongiform encephalopathy (BSE) crises in the United Kingdom and continental Europe, dioxin in Belgian feed, melamine in Chinese food exports, among several other food-related health threats. As they did a century ago, economic and technological transformations in both the nature of food and the food supply system lie behind these crises. The heightened concentration of production through global food supply chains quickly turned problems in one part of the chain into an issue of global concern. It underlined the importance of risk-based, scientifically supported, integrated "farm-to-fork" policies and the need to review food safety policies as part of global risks.

Since 1963, the Codex Alimentarius Commission (Codex) forms the main forum for international technical collaboration on the development of food safety and quality standards. It was established by the FAO and the WHO to serve two primary goals: protecting human health and promoting fair trade policies. Codex provides international standards and principles to guide national policies. Codex norms were incorporated in the Sanitary and Phytosanitary (SPS) Agreement of the Uruguay Round of multilateral trade negotiations. The agreement, effective as of 1994, has been one of the few also ratified early into the existence of the World Trade Organization (WTO). Though not binding on nations, embedding the Codex norms part of the SPS Agreement gives them greater weight in national regulatory and legislative development of food safety policies. The implication for trade policies is that the SPS Agreement provides the basis for distinguishing legitimate from protectionist use of safety and phytosanitary laws with the intention of applying those laws for legitimate food safety concerns only. Inevitably though, with economic interests on the line, it has brought some politicization into Codex as a forum for the development of the norms and standards themselves.

4.1.5. Trade and investment: Lifting trade distortions versus food self-sufficiency?

While food security is not a new trade concern, the discourse in multilateral trade negotiations changed in the light of the rising food prices and heightened volatility that became a global concern toward the end of the 2000s. Before, especially during the Uruguay Round, food security was an issue in a context of low food prices in world markets and how low prices affected producers.[16] Current food security fears in the minds of trade negotiators currently center mainly on the potential impact on consumers. Within the WTO, this is exemplified by the current discussions at the Committee on Agriculture and some of the proposals, such as the G-33 suggestion for changes in the treatment of food security stocks (on which more later).

Agricultural trade issues have dominated multilateral trade negotiations before and after the Uruguay Round and since the establishment of the WTO in 1994. The Agreement on Agriculture (AoA) facilitated greater access to developed-country markets by developing countries and was to put an end to developed-country use of trade distorting (export) subsidies, which adversely affect the incomes of producers in developing countries. More generally, the AoA foresaw a substantial liberalization of agricultural markets through the adoption of stricter rules on the use of subsidies, tariffs, import restrictions, and other agricultural policy measures, with exceptions made for least developed countries (LDCs) under special preferential treatment.

While arrangements such as the "everything but arms" initiative of the EU have reduced the influence of trade distorting measures for LDCs by allowing them to make duty-free and quota-free exports, relatively high tariffs have been maintained on developing country export products such as cotton, sugar, cereals, and horticulture.

In December 2013, the Bali agreement was reached, constituting the first deal in the Doha Round negotiations that had started in 2001. Agriculture was at the center of this agreement. The agreement contains progress on several of the previously mentioned issues, as well as on trade facilitation and securing duty-free and quota-free market access for LDCs. Key sticking point at Bali, however, was the text on public stockholding and procurement for food security purposes. The G33 had proposed that purchases of food for public stockpiles to support low-income or resource-poor producers, including at above local market prices, should be placed in the "Green Box."[17] India was the main proponent. The country had just raised the minimum producer price for

rice and the subsidy risked exceeding its limits set for support in the "Amber Box."[18] The G33 basically reiterated its position that WTO rules allowed developed countries to continue price distortions with very few limits, while leaving developing countries with too little policy space. In Bali, parties agreed on a so-called peace clause, which allows countries to build public stockpiles of food reserves without breaching their domestic support commitments until a "permanent solution" is agreed upon.

Why was this issue so contentious? It reflects continued asymmetries in the multilateral trading system, which could also be harmful to global food security. A key perceived asymmetry refers to the lack of policy space for developing countries to address problems of food insecurity. Although food security is recognized in the preamble to WTO's AoA as a nontrade concern which must be taken into account in the reform process to establish a fair and market-oriented agricultural trading system, developing countries claim that this is not the case or, at least, that it has been inadequately recognized (De Schutter, 2011; Matthews, 2014). Criticisms include arguments that the AoA rules are lop-sided, favoring developed countries by allowing them to continue to heavily support their agricultural sectors, while they unduly constrain the ability of developing countries to pursue agricultural development and food security policies.

WTO defines policy space by the right of member states to exempt support under some policies when calculating its current aggregate measurement of support (AMS), as well as by the limits to the amount of permitted AMS. WTO already exempts a wide range of policies which address food security needs, but these rules are more restrictive regarding policy features that could "distort" prices and, hence, trade. This is where things start to bite.

The original G33 proposal aimed for WTO rules to deem purchases at administered prices for the purposes of public stockholding not as price support but merely serving food security purposes and that such support would not be included in a product's AMS. Opponents argue that this would be a too radical change from existing rules by breaching the criterion for permissible support in the "Green Box," namely that it should not have the effect of providing price support to producers.

As suggested by Matthews (2014), there could be ways to bridge these opposing positions. One could be to make explicit allowance in the AoA for countries to adjust their measured support for high rates of food price inflation (and which would drive up their AMS in the case of public purchases for food stockpiles). The other could be to distinguish between the use of administered prices for price support and that as a form of social protection. Farmers in developing

countries tend to be more vulnerable to price risk, but have fewer opportunities to manage this than farmers in developed countries. Where administered prices operate as a safety net rather than the incentive price to which farmers respond, AoA rules could then recognize that this use of administered prices is not likely to lead to additional trade distortion and could be permitted.

While these suggestions might make the issue at hand negotiable for a "permanent solution" within the WTO context, they also make clear that there are fine lines between permissible "non-distortionary" policy support in agriculture and the actual policy space. Expanding agricultural productive capacity through measures that increase productivity, such as infrastructure, agricultural R&D, and similar investments are generally allowed under the "green box" of the AoA. These are, of course, more fundamental lines of action (than trade policy) to promote food security and should also work to reduce price volatility, raise farm incomes, and keep food prices affordable to consumers. It also makes clear that the distinction between policies that are price "distorting" and "non-distorting" is rather blurry in practice. Hence, more "creative thinking" may be required in both national policy design and how permissible support in the "Green Box" is defined, in order to allow for sufficient developing-country policy space for farm support and consumer protection for poor households in pursuance of legitimate food security objectives. The challenge is to ensure that any social policy component by way of "administered prices" would have no or only minimal trade impacts, and not unduly shield domestic producers from more efficient and non-subsidized competitors in other countries.

The way out of such policy dilemmas would require broader consideration than what seems feasible when confined to the pure WTO setting of trade negotiations. If food security is considered a global public good (more on this below), the primacy in the rule setting then arguably would be with the food security objective. Analogy could be found in Pascal Lamy's argument, stated as Director-General of WTO, that climate policy must take priority because trade is not an end in itself but supposed to enhance human welfare, which in turn is heavily dependent on climatic conditions (Lamy, 2009; and, also, Vos and Montes, 2013). Consistency between climate and trade policies must entail internalization of environmental costs, including those associated with greenhouse gas emissions. Similarly, it could be argued that the cost of guaranteeing food security (i.e., the right to food), including the related environmental costs, would need to be internalized in food prices and subsidies. The link with trade is also important here because much of food

productivity-enhancing and environment-friendly agricultural technologies and knowhow are generated in developed countries.[19]

Despite all of these developments, the responses to recurrent food crises and persistent food insecurity have remained largely ad hoc. Existing platforms, like the CFS, have been strengthened and given broadened mandates with engagement of nongovernmental stakeholders as well. Yet, decision-making remains limited to some broad guidance for national policies and definition of voluntary guidelines for responsible private sector behavior, but without strong accountability frameworks as sticks for compliance, thereby pretty much leaving the actual practice of uncoordinated national policies in place. The role of other platforms such as the G8 and G20 in driving some more tangible parts of the food security agenda (such as financial pledges in support of the implementation of the CFA and guidance as to how to act or not to act in mitigating food price volatility) has left the CFS without much teeth. There are important global public good arguments to suggest a stronger and more coherent global governance architecture for food security is needed.

4.2. Global public goods and bads in food security and nutrition

Should, indeed, the global governance of food security and nutrition conceptually be more firmly rooted in notions of "provisioning" of related global public goods and prevent associated "global public bads"?

Global public goods, loosely defined, refer to a broad range of "goods and services" (or economic conditions) that benefit everyone, including a stable climate, clean air, a stable international financial system, good public health (e.g., no pandemics), and, possibly also, global food security. Economic theory defines public goods as those that are non-excludable (no one can be excluded from the consumption of these goods) and non-rival (the consumption by one in no way decreases that by others). They are public goods because their production (or preservation) results from collective choices (markets by themselves cannot guarantee them) and because their externalities are far-reaching. Applied to the international arena, the understanding of what are global public goods (and what not) continues to be subject to some controversy, if only because of its implication for global governance: by their nature, global public goods must be managed globally and national governance would be inadequate to guarantee globally benign outcomes. This is not the place to go into this debate, but there are undeniable public goods elements to food security and nutrition.

Prior to 2008 though, food security and the eradication of hunger were hardly referred to as global public goods in major international policy debates. As argued by Page (2013) and others, the case can be made to use broadly recognized "global public good" as a basis to guide global governance of food security. Based on the assessment in this chapter, those global public aspects would suggest at least five core functions for a strengthened global governance of sustainable food security and nutrition:

- *Guaranteeing affordable access to nutritious food and prevention of famines and food crises*: this function for global governance of food security may be grounded in the Right to Food (for which Voluntary Guidelines already exist) and internationally agreed objectives to end hunger (MDG 1), as much as in consequences for peace and security (as loss of affordable access to food owing to price stability or struggle for access to water or land may be causes of conflict of possible international ramifications).
- *Ensuring stability and transparency of food commodity markets* at global, regional, national, and local levels to prevent market failures and thus contribute to market efficiency and fair international agricultural and food trading systems. This would also include, inter alia, strengthening of information and early warning systems, addressing food waste and losses along global value chains, and monitoring proper application of the common—but-differentiated principle in agricultural trade.
- *Securing food safety* based on two core principles: protecting human health and promoting fair trade policies.
- *Compliance with international labor standards and promotion of decent work in agriculture and the entire food chain.*
- *Promoting the environmental sustainability of food systems and protecting biodiversity*: all previous tasks should be fully aligned with this overarching function. It would include overseeing and coordinating actions to ensure agriculture and food systems contribute to climate change mitigation and to protect affected rural and agricultural livelihoods by supporting actions toward climate change adaptation. It also suggests a task in facilitating and promoting investment in agricultural research and education that results in ecologically friendly agriculture and ensures new technologies are accessible to the main drivers of global food systems (i.e., smallholder farmers). This further implies, inter alia, a role in ensuring international rules regarding intellectual property rights form no impediment. It also entails a role in

promoting the application of production techniques that minimize the use of toxic chemicals and in prevention of cross-boundary diseases and pests.

4.3. The way forward: Enhancing the role of the CFS

The CFS seems best placed to take center stage in a strengthened global governance of sustainable food security and nutrition. As discussed, it already has arrangements for the involvement of the wider range of stakeholders, including the private corporate sector and a range of civil society organizations. Its mandate was broadened following its reform in 2009. Implementation of the reform is still work in progress, but has started to up its role in global coordination, policy convergence, and country-level support in several of the key functional areas listed. This normative work has resulted inter alia in the application of the Voluntary Guidelines for the Right to Food and the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forests. As a next step, CFS envisages to include coordination at national and regional levels, promoting accountability, and developing a global strategic framework for food security and nutrition. This is work in progress and the breadth of its mandate could be enhanced to cover all of the afore-mentioned functions, provided adequate accountability structures and, where necessary, decisions can also be made binding to its membership.

A strengthened global governance mechanism for sustainable food security and nutrition will have to be effective and be capable of exercising all the five core functions simultaneously and with authority. The CFS should thus be endowed with authority to adopt strategic guidelines and policy orientations on all of those key issues and with the necessary accountability and, in some areas also, enforcement mechanisms to ensure their application by all stakeholders. It will further require establishing coherence (with clear demarcation of responsibilities) with other components of the global governance architecture (such as WTO, UNFCCC, etc.). This would then also require recognition of this authority by CFS, not to be sidelined by other platforms as—despite all efforts at coordination—has been the case through certain task setting by informal, but powerful platforms such as the G8 and the G20. Its authority and effectiveness would further depend on an effective response capacity and capability to resolve conflicts and controversial issues. Last but not least, coherence across all five core functions will require multisectoral and holistic approaches to the related issues, which in turn would require that the members and observers representing CFS can also speak with authority and participate in decision-making on all five core

functions on behalf of their governments and nongovernmental organizations they represent, thus going beyond, for instance, areas typically under purview of ministries of agriculture.

4.4. Implications for governmental and nongovernmental stakeholders

Pursuance of the goal of sustainable food security and nutrition requires acknowledgment that private corporations are key players in the global food security system, and that they have the capacity to resist or avoid national legislations, particularly in developing countries. Given that it is unlikely that the current approach to private management of food supply chains and markets will change, the only solution is to involve these private and nonstate actors in the global governance of food security in the broad sense. This emerging role has been acknowledged by the inclusion of the private sector in the CFS and an appeal to "corporate social responsibility." The Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests and the CFS-RAI are examples of how the evolving global food security governance architecture is trying to balance the shareholder value perspective of private companies with more socially responsible corporate behavior. The Bill and Melinda Gates Foundation is a positive example for private sector engagement at the philanthropic level. Other models include joint government-private sector ventures, NGO/CSO-private sector ventures, or support to research and development that focus on the needs also of the poor and vulnerable, that is those that are already and would be marginalized in the required adjustment processes to climate change.

However, to have a broad and sustainable impact on food security, those forces that drive private business need to be directed through appropriate incentive structures consistent with the goals of ensuring sustainable food security. The challenge will be creating a public opinion environment where managers of food chain corporations see advantages and benefits in contributing to sustainable and socially responsible food production and development.

This would require much greater efforts at influencing public opinion and awareness, which nowadays is pretty much restricted to the impacts of extreme situations of food insecurity or food safety scandals. Awareness about the impact of certain policies and corporate behaviors or of the impact of climate change on overall food supplies and food security (and vice versa the impact of agricultural production systems on climate change and the environment in general) is still at a very nascent stage. Yet, enhancing such awareness would further provide

incentives for change on the demand side. Environment and food-security aware consumers are expected to favor, as can already be observed increasingly, products from those companies that operate in consistency with globally agreed ethical values (e.g., nonacceptance of child labor and decent work conditions).

5. Conclusions

Continued population growth and rapid urbanization, environmental threats, ever-deepening global integration of food systems, and volatile world markets pose critical challenges to the sustainability of food security and the world's capacity to end hunger, malnutrition, and poverty over the next decades. It suggests sustainable development will not be possible without fundamentally transforming agriculture and food systems. The globalization of food systems does not mean agrarian structures are also converging. Agricultural systems and their potential vary widely across the world, suggesting that there can be no grand design or single recipe, and that changes will need to be local. True as this may be, the global nature and public good aspects of the challenges require coordinated responses. Some steps have been taken to improve global governance of food and agriculture, but the responses have been largely ad hoc and far from adequate to deal with exploding and volatile food prices, looming water scarcity, the notorious underinvestment in rural infrastructure and agricultural research or continued food safety risks.

The analysis in this chapter suggests that an improved governance of global food security and nutrition would need to guide the transformation toward a sustainable food system, would need to deal in a coordinated and coherent fashion with at least five core functions: (1) Guaranteeing affordable access to nutritious food and prevention of famines and food crises; (2) Ensuring stability and transparency of food commodity markets; (3) Securing food safety; (4) Compliance with international labor standards and promotion of decent work in agriculture and the entire food chain; and (5) Promoting the environmental sustainability of food systems and protecting biodiversity.

For most of these functions, there are existing institutions, conventions, platforms and other mechanisms, but there is ample room to scale these up and enhance coherence and effectiveness. A strengthened CFS seems well positioned to provide political guidance and coordination, being a multistakeholder platform of governments, private sector and civil society actors. At the same time, international organizations (mostly UN agencies) addressing agriculture, food, and related health issues, employment and labor standards, and international trade and

investment (FAO, IFAD, ILO, WFP, WHO, The World Bank, WTO, and CGIAR) have evolved and, individually, all serve important functions, but collectively their place in global food governance needs serious rethinking and adjustment to meet the challenge of establishing a sustainable global food system.

It is urgent to reexamine the global architecture for food security and nutrition. Recent improvements are steps in the right direction, but much more is needed to live up to the challenge of sustainably providing each person with enough food to live a healthy and productive life as envisaged in the agenda of the MDGs and what is to be the agenda of the sustainable development goals in the post-2015 era.

Notes

1 This chapter was written in the author's personal capacity. The views and opinions expressed in this chapter are exclusively his and do not necessarily reflect those of FAO or its member states.

2 In this chapter, agriculture is referred to in a broad sense, that is comprising agricultural crop cultivation, livestock production, fisheries, and forestry.

3 The World Health Organization (WHO, 2011) estimates that almost one quarter of the world population is overweight and/or obese. Most people (65%) live in countries where overweight is a bigger killer than undernourishment.

4 Since 1990, the globe's forest area has decreased by 300 million hectares, an area larger than Argentina. Most losses were in Latin America and Africa, while there was some recovery in North America, Europe, and parts of Asia.

5 The Living Planet Index, which reflects changes in the health of the Earth's ecosystems, has declined by 30 percent between 1990 and 2010. Biodiversity in the tropics is declining most dramatically, which is seen to be associated with high depletion rates of primary forests and transformation of forest into agriculture land and pasture (WWF, 2010).

6 A recent report of the UN's International Panel on Climate Change (IPCC, 2013) also issued a sharp warning that climate change is threatening to reduce food supply in the coming decades.

7 Making production practices more sustainable also holds the potential of enhancing agriculture's restorative capacity to the ecosystem, including through upping its capacity as a carbon sink. See for example Agri4D (2013) for discussions on the potential to transforming agriculture from being a large carbon source to becoming a carbon sink. Carbon sequestration by soils can be enhanced, for instance, by avoiding ploughing and turning agricultural systems into conservational agriculture systems.

8 Those additional public investments and other spending, especially in developing countries, would be needed for rural infrastructure, sustainable management of natural resources, research and development, strengthen rural institutions and strengthened social protection systems (FAO, 2012, pp. 35–6).
9 GMOs are promoted in part by claiming reductions in the need for synthetic herbicides and pesticides while the plants will not harm the environment. However, while there is some evidence that insecticide use is down, particularly for the cotton crop which is notorious for large amounts of insecticide use, studies on herbicide use show that levels have remained the same and in some cases have risen.
10 Genetically modified seeds and plants could cause detrimental effects from "genetic pollution," which occurs when an engineered gene enters another species of crop or wild plant through cross-pollination. This contamination may pose public health threats, create "superweeds" which could require greater amounts of more toxic pesticides to manage, and threaten extinction of rare plants and their weedy relatives relied upon for crop and plant biodiversity. However, evidence regarding such risks is far from conclusive and is contested.
11 There are further challenges, such as, the inconsistent application of international food safety standards, which forms a barrier to moving food efficiently across borders. As discussed in the next section, predictable, science-based global food safety standards are needed to manage risk, provide transparency, and ensure accountability.
12 See http://www.un.org/en/zerohunger/challenge.shtml.
13 http://www.mofa.go.jp/policy/economy/summit/2008/doc/doc080709_04_En.html
14 http://www.mofa.go.jp/policy/economy/summit/2009/statement3–2.pdf
15 The PRAI were developed jointly by UNCTAD, FAO, IFAD, and the World Bank. At its Seoul Summit in November 2010, as part of its multi-year action plan on development, the G20 encouraged: "all countries and companies to uphold the Principles for Responsible Agricultural Investment. We request UNCTAD, the World Bank, IFAD, FAO and other appropriate international organizations to develop options for promoting responsible investment in agriculture" (https://www.g20.org/sites/default/files/g20_resources/library/Annex%202%20Multi-Year%20Action%20Plan%20On%20Development.pdf). G20 Leaders at the Cannes Summit in November 2011 and at the Los Cabos Summit in June 2012 reaffirmed their support for the PRAI.
The seven Principles cover all types of investment in agriculture, including between principal investors and contract farmers. In many cases no purchase of land or concessions are involved. Where this does occur the Principles cover both large and small holdings. The Principles are based on detailed research on the nature, extent, and impacts of private sector investment and best practices in law and policy. They are intended to distil the lessons learned and provide a framework for national regulations, international investment agreements, global corporate social responsibility initiatives, and individual investor contracts.

The PRAI were conceived mainly as a response to the challenge of large-scale land acquisitions and the need for increased agricultural investment. In October 2014, the CFS approved a broader set of principles, the CFS Principles for Responsible Investment in Agriculture and Food Systems (CFS RAI: http://www.fao.org/cfs/cfs-home/resaginv/en/). The scope of the CFS-RAI is very broad, as these principles address all kinds of investment and investors, from farmers to multinational companies, but with the advantage that they have been endorsed by representatives of all of these actors through CFS' multi-stakeholder process.

The CFS-RAI and the PRAI may be useful for both private corporate actors desiring to make investments that are financially, socially and environmentally sustainable and governments who want to develop laws and policies that promote responsible investment. They may furthermore help civil society groups advocating responsible business conduct.

16 During the Uruguay Round the issue was reflected in the Marrakesh Declaration and the establishment of the category of "Net Food Importing Developing Countries." Also several developed countries claimed food security concerns during those negotiations to justify barriers to food imports.

17 The "*Green Box*" refers to the list of domestic support measures which may be maintained or introduced by WTO members without any limits or reduction commitments.

18 The "*Amber Box*" contains all forms of domestic support for agriculture considered to distort trade.

19 Unlike some policy-makers, NGOs and even scholars have done, none of this is to argue that the Right to Food would be equivalent to food self-sufficiency, regardless of competitiveness, trade distortions, and (domestic) consumer prices. In some countries, the notion of food sovereignty has entered a general public discourse and national legislation. The term food sovereignty was coined by *Via Campesina* in 1996 as part of its opposition to trade liberalization and agro-industrialization. The declared objectives were self-sufficiency, sustainable production at cost-covering prices for small farmers, protection against cheap imports, and the abolition of all export subsidies. The argument received renewed attention following the 2007–8 food price crisis. While there are strong arguments to shield consumers and producers from the whims of world agricultural markets and avoid heavy dependence on few monoculture crops, none of the suggested steps would by themselves guarantee sustainable food security (nationally or globally) or would make sense to countries and regions with limited agricultural potential.

References

Agri4D (2013). Agricultural Research Towards Sustainable Development Goals. Conference Proceedings, September 25–26, 2013, SLU-Global Report 2013:3, Uppsala: Swedish University for Agricultural Sciences (SLU).

Alexandratos, Nikos and Jelle Bruinsma (2012). World Agriculture Towards 2030/2050: The 2012 Revision, FAO ESA *Working Paper*, no. 12–03, Rome: Food and Agriculture Organization; available at: http://www.fao.org/fileadmin/user_upload/esag/docs/AT2050_revision_summary.pdf

CFS (2009). Reform of the Committee on World Food Security. *Thirty-fifth Session of the Committee on World Food Security*, Rome, October; available at: http://www.fao.org/fileadmin/templates/cfs/Docs0910/ReformDoc/CFS_2009_2_Rev_2_E_K7197.pdf

CFS (2012). Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT). *Thirty-eighth (Special) Session of the Committee on World Food Security*, Rome, May; available at: http://www.fao.org/docrep/meeting/025/md958e.pdf

De Schutter, Olivier (2011). *The World Trade Organization and the Post-Global Food Crisis Agenda: Putting Food Security First in the International Trade System*. United Nations Special Rapporteur on the Right to Food, Geneva.

FAO (2005). *Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security* (adopted by the 127th Session of the FAO Council November 2004), Rome: Food and Agriculture Organization; available at: ftp://ftp.fao.org/docrep/fao/meeting/009/y9825e/y9825e.pdf

FAO (2012). *The State of Food and Agriculture 2012: Investing in Agriculture for a Better Future.* Rome: Food and Agriculture Organization.

FAO (2013a). *The State of Food and Agriculture 2013: Food Systems for Better Nutrition.* Rome: Food and Agriculture Organization.

FAO (2013b). *The State of Food Insecurity in the World 2013: The Multiple Dimensions of Food Security.* Rome: Food and Agriculture Organization.

FAO (2013c). *Food Wastage Footprint.* Rome: Food and Agriculture Organization; available at: http://www.fao.org/docrep/018/i3347e/i3347e.pdf

FAO (2013d). *Save and Grow: A Policymaker's Guide to the Sustainable Intensification of Smallholder Crop Production*. Rome: FAO; available at: http://www.fao.org/ag/save-and-grow/index_En.html

FAO (2014a). International Dimensions to the Right to Food. *10 Year Retrospective on the Progress Made in Implementing the Right to Food Guidelines Working Paper 7.* Rome: Food and Agriculture Organization; available at: http://www.fao.org/3/a-i3896e.pdf

FAO (2014b). *The State of Food Insecurity in the World 2014: The Impact of Food Security Policies and Governance.* Rome: Food and Agriculture Organization.

FAO (2014c). *The State of Food and Agriculture 2014: Innovation in Family Farming.* Rome: Food and Agriculture Organization.

FAO, IFAD, IMF, OECD, UNCTAD, WFP, the World Bank, the WTO, IFPRI, and the UN HLTF (2011). Price Volatility in Food and Agricultural Markets: Policy Responses. Inter-Agency Report for the G-20, Paris (July); available

at: http://www.foodsecurityportal.org/sites/default/files/g20_interagency_report_food_price_volatility.pdf

GAFSP (2013). GAFSP-Update. Washington, DC: Global Agriculture and Food Security Program, October. available at: http://www.gafspfund.org/sites/gafspfund.org/files/Documents/August-October_FINAL.pdf

Gorman, Mark (2013). Older Women, Older Farmers—the Hidden Face of Agriculture. Briefing, London: HelpAge.

Hoffman, Sandra and William Harder (2010). Food Safety and Risk Governance in Globalized Markets. *Discussion Paper RFF* DP 09–44, Washington, DC: Resources for the Future (July).

IPCC (2013). *Fifth Assessment Report: Climate Change 2014 (AR5): The Physical Science Basis.* Intergovernmental Panel on Climate Change; available at: http://www.ipcc.ch/report/ar5/wg1/

Jöhr, Hans (2012). Where Are the Future Farmers to Grow Our Food? *International Food and Agribusiness Management Review*, vol. 15, Special Issue A.

Lamy, Pascal (2009). Climate First, Trade Second: GATTzilla Is Long Gone. Simon Reisman Lecture, Norman Paterson School of International Affairs, Carleton University, and Department of Foreign Affairs and International Trade of Canada, Ottawa (November 2).

Matthews, Allan (2014). Food Security and WTO Domestic Support Disciplines Post-Bali. ICTSD Programme on Agricultural Trade and Sustainable Development, *Issue Paper No. 51*, Geneva: International Centre for Trade and Sustainable Development (February).

Maxwell, Simon (1996). Food Security: A Post-modern Perspective. *Food Policy*, vol. 21, no. 2 (May).

MDG Gap Task Force (2013). *MDG Gap Task Force Report 2013: The Challenge We Face.* New York: United Nations.

OECD and FAO (2014). *Agricultural Outlook 2014–2023.* Rome and Paris: FAO and OECD; available at: http://www.oecd-ilibrary.org/agriculture-and-food/oecd-fao-agricultural-outlook-2014_agr_outlook-2014-en

Page, Hans (2013). Global Governance and Food Security as a Global Public Good. New York: Center on International Cooperation, New York University (August).

Sen, Amartya (1981). *Poverty and Famines: An Essay on Entitlement and Deprivation.* Oxford: Oxford University Press.

Sen, Amartya (2013). Why Is There So Much Hunger in the World? Twenty-eighth McDougall Memorial Lecture, FAO Conference. Rome: Food and Agriculture Organization (June); available at: http://www.cse.iitb.ac.in/~damani/ctaraReading/AmartyaSenHunger.pdf

Shaw, D. J. (2004). Food for Thought: Malnutrition and Obesity. *Development Policy Review*, vol. 22, no. 3 (May), pp. 343–55.

United Nations (1975). Report of the World Food Conference. Rome, November 5–16, 1974, New York: United Nations.

United Nations (2011). *World Economic and Social Survey 2011: The Great Green Transformation.* New York: United Nations Department of Economic and Social Affairs.

United Nations (2013). *World Population Prospects: The 2012 Revision.* New York: United Nations.

US NRC (2011). *Climate Stabilization Targets: Emissions, Concentrations, and Impacts over Decades to Millennia.* Washington, DC, USA: National Academies Press.

Vos, Rob (2009). Green or Mean: Is Biofuel Production Undermining Food Security? In Mohamed Salih (ed.), *Climate Change and Sustainable Development: New Challenges for Poverty Reduction.* Oxford, UK: Edward Elgar Publishers.

Vos, Rob (2014). Is Global Food Security Jeopardised by an Old-age Time Bomb. *The Guardian*, February 4, 2014; available at: http://www.theguardian.com/global-development-professionals-network/2014/feb/04/global-food-security-old-age-timebomb

Vos, Rob and Manuel F. Montes (eds.) (2013). *Retooling Global Development and Governance.* London: Bloomsbury Academic.

World Food Summit (1996). Rome Declaration on World Food Security. November 13–17, 1996, Rome; available at: http://www.fao.org/docrep/003/w3613e/w3613e00.HTM

World Health Organization (2011). Obesity and Overweight. Fact Sheet No. 311; available at: http://www.who.int/mediacentre/factsheets/fs311/en/

WWF (2010). *Living Planet Report.* London: World Wildlife Fund.

8

Environmental Agenda in the Context of the Global Governance and Rules for the Post-2015 Era

Claudia Sheinbaum-Pardo

1. Introduction

Despite some advance in the last decades, the state of the environment continues to decline. According to the UN Secretary-General in his report to the Preparatory Committee for the Rio+20 "the environmental pillar is perhaps where progress has been the slowest" and that "most indicators of environmental improvement have not demonstrated appreciable convergence with those of economic and social progress; indeed, the overall picture is one of increased divergence" (UN, 2012a).

Possibly the phase-out of ozone depleting substances production under the Montreal Protocol, which is expected to lead to a recovery of the ozone layer in the forthcoming decades, is the only example where the impacts are reverting. Overall, however, the global environment continues to show signs of degradation (UNEP, 2013a).

The present chapter develops a revision of the main problems of the international environmental agreements, and delineates key elements for the post-2015 agenda. The roles of technology in sustainable development and mitigation and adaptation strategies for climate change have been discussed in a previous CDP book (Alonso et al., 2014). In this chapter the role of sustainable production and consumption in the context of the limits of growth and global environmental agenda is raised.

2. The state of the environment continues to decline

After the Earth Summit in 1992, three UN conventions were formed to address major global environmental threats: the UN Framework convention on Climate Change (UNFCCC); the UN Convention on Biological Diversity (UNCBD), and the UN Convention to Combat Desertification (UNCCD). Because of their importance we will put more emphasis on these conventions and the problems they address.

2.1. Energy and climate change

Climate change is possibly the most dangerous of all environmental threats. Climate is changing mainly as a result of human activity (IPCC, 2013). Increased use of fossil fuels, particular industrial processes, land use change and heavily fertilized agriculture, have augmented greenhouse gas (GHG) emissions and their concentration in the atmosphere, leading to an increase in the Earth's surface temperature with consequences on sea level, hydrological cycle, and higher presence and intensity of extreme events (IPCC, 2007a; IPCC, 2013). Regardless of the UNFCCC commitment to reduce emissions in order to maintain warming below 2°C to prevent *dangerous* climate change; there is a significant gap between the actual GHG emission trends and the pathways that are needed to keep the increase in global average temperature, that would require a 50 to 80 percent reduction in global GHG emissions by the year 2050 in relation to 2000 emissions (IPCC, 2007b; IEA, 2012a; IEA, 2012b).

A revision of trends in carbon dioxide emissions (CO_2) from fossil fuel combustion (that in 2004 represented 57% of GHG emissions) makes this gap evident. From 1990 to 2011, CO_2 emissions from fossil fuel combustion increased by 2 percent/year; and from 2005 to 2011 the years of the Kyoto protocol, the raise was 2.4 percent/year (USEIA, 2013). Emissions could have increased more during this period but the 2009 economic recession represented a global reduction of –0.1 percent from 2008 to 2009.

By 2011 China and US contribution was 44 percent (27% and 17% respectively), but total emissions have increased mostly in BRIC countries (Brazil, Russia, India, and China). Nevertheless per capita emissions continue to be higher in developed than in developing countries (Figure 8.1).

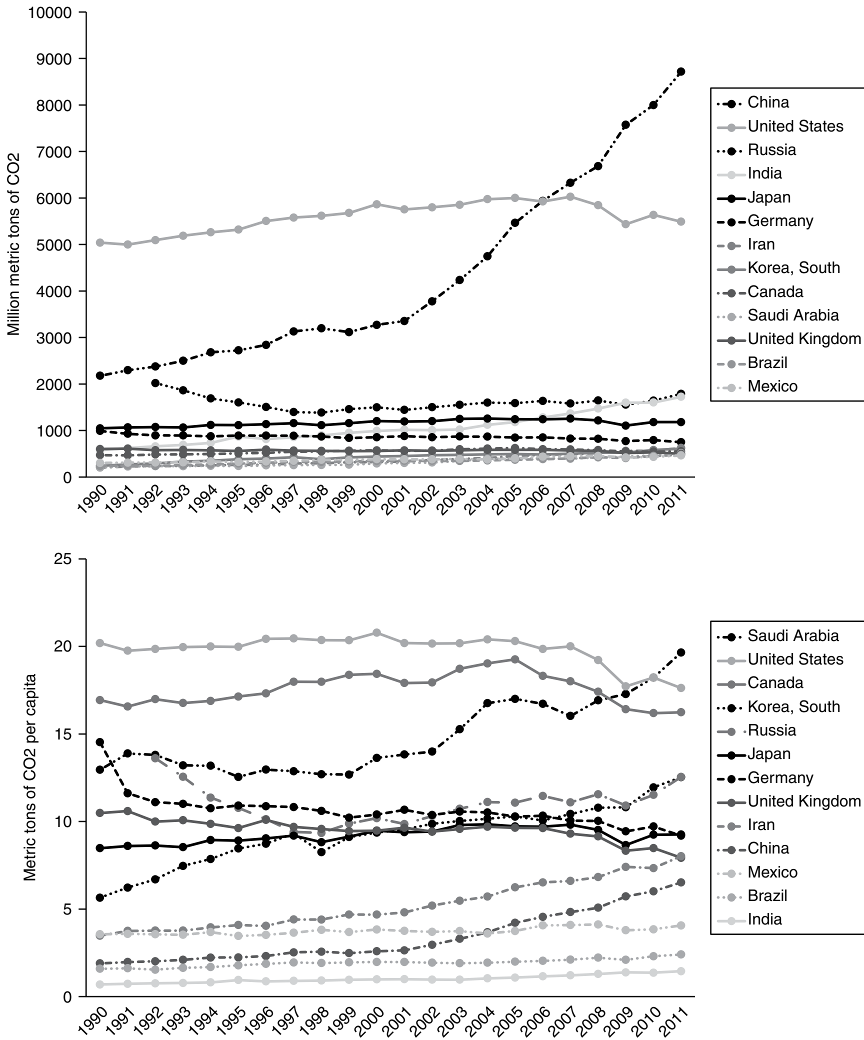

Figure 8.1 CO2 emissions from fuel combustion by the 12th top emitting countries

Note: In this graph we compare per capita emissions of the top total emitting countries. In 2011, the top emitting countries in per capita emissions were United Arab Emirates; Netherlands Antilles; Trinidad and Tobago; Singapore; Qatar; Kuwait; Bahrain; Luxembourg; Brunei; Saudi Arabia; Nauru; Australia; United States (USEIA, 2013).

Source: (USEIA, 2013).

Despite the scientific alert (IPCC, 2013), the international community is not responding as fast as it is needed. The UNFCCC has not reached a post-Kyoto consensus and efforts to reduce GHG emissions are by now set voluntarily by National and regional commitments.

2.2. Biodiversity loss

In the Rio+10 Conference held in Johannesburg in 2002, the world leaders agreed to substantially reduce the rate of biodiversity loss by 2010 as "a contribution to poverty alleviation and to the benefit of all life on Earth." However, the target was not met and there are multiple indicators of continuing decline in biodiversity in all three of its main components—genes, species, and ecosystems (Butchart et al., 2010; UNCDB, 2010).

In its Global Biodiversity Outlook 3, the UNCBD presented several examples of the decay in biodiversity, some of them are: (a) Species which have been assessed for extinction risk are on average moving closer to extinction. Amphibians face the greatest risk and coral species are deteriorating most rapidly in status, also 40 percent of bird species are declining in population. Nearly 25 percent of plant species are estimated to be threatened with extinction; (b) The abundance of vertebrate species, fell by nearly a third on average between 1970 and 2006, and continues to fall globally, with especially severe declines in the tropics and among freshwater species; (c) Crop and livestock genetic diversity continues to decline in agricultural systems (UNCDB, 2010a).

In addition to the Cartagena and Nagoya protocols, in 2010, the CDB adopted a revised Strategic Plan for Biodiversity, including the Aichi Biodiversity Targets, for the 2011–20 period, whose plan is to consider better goals in the conservation and restoration of biological diversity (UNCDB, 2013; UNEP, 2007).

2.3. Desertification, Land Degradation, and Drought

Other major global environmental problem is Desertification, Land Degradation and Drought (DLDD) resulting from various factors, including climatic variations and human activities. Desertification refers to land degradation in arid, semi-arid, and sub-humid areas, where more than 2,000 million inhabitants are found, most of them in developing countries. Dry lands support 50 percent of the world's livestock, 44 percent of all cultivated land and store 46 percent of the planet's carbon inventory. Desertification reduces the ability of the land to provide ecosystem services such as production of crops, forage, fuel, and wood as well as the availability and quality of water resources; thus desertification is linked to hunger and food security (Vogt et al., 2011). About half of all dry land inhabitants are poor and marginalized (UNDP, 2013). Climate change is expected to worsen the situation (IPCC, 2007d). Approximately 6 million km^2 of dry lands (about 10%) are already affected by desertification (MA, 2005; UNCCD, 2011).

2.4. Water and air quality problems

There are other important environmental problems such as air and water quality, inadequate access to clean water and sanitation, air pollution, increased production of hazardous chemicals, etc., that continue to be detrimental to the human condition.

Air pollution (out-door and in-door) continues to be a major problem mainly in developing regions. Based on exposure to particulate matter it is estimated that annually between 3.1 and 3.7 million people worldwide die prematurely (UNEP, 2012a; WHO, 2009; Annenberg et al., 2010). Surface ozone air pollution is responsible for an estimated 0.7 million respiratory deaths globally each year, more than 75 percent of which are in Asia (Anenberg et al., 2010; UNEP, 2012a).

On the other hand, it is projected that by 2015, 600 million people will still lack access to drinking water and currently about 35 percent of the world population do not have improved sanitation facilities, with poor rural population being the most affected. It is estimated that at any given time, over half of the world's hospital beds are filled with people suffering from water-related diseases (UNDP, 2006; UNEP, 2012a). Diarrheal diseases make up more than 4 percent of the global disease burden, 90 percent being linked to environmental pollution and lack of access to safe drinking water and sanitation (Prüss-Üstün et al., 2008; UNEP, 2012a; Olmstead, 2010).

Other health problems related to pollution are linked to the intense use of inorganic pesticides and fertilizers. The risks are much higher in developing countries where 99 percent of current global deaths from pesticide exposure occur, both from occupational exposure and from casual exposure resulting from lax or absent health and safety controls (UNEP, 2012a). Also, arsenic and mercury pollution in mining areas and their impacts on health have been documented in different parts of the world (WHO, 2009).[1]

3. A critical review of multilateral environmental agreements (MEAs)

3.1. A brief account of the MEAs

The international community has developed an important set of agreements and institutions that constitute complex international environmental governance (IEG) that includes organizations, policy instruments, financing mechanisms, rules, procedures, and norms that regulate the processes of global environmental

protection. International environmental instruments already consist of 1,190 MEAs, 1,500 bilateral environmental agreements, as well as declarations, judicial decisions, and others, most of them since the 1972 UN Conference on the Human Environment that led to the creation of UNEP (Mitchel, 2013; Ved and Pring, 2012). Within this enormous number, it is possible to identify twenty MEAs with global coverage.

As a complement to the MEAs, in 1992 the Global Environmental Facility (GEF) was created as a financial mechanism for key international environmental conventions. Since then $11.5 billion USD have been invested directly, $57 billion in co-financing in more than 165 countries (GEF, 2013). There are other environmental funds that operate under the GEF such as the Special Climate Change Fund (SCCF) and the Least Developed Countries Fund (LDCF); and in other institutions, the Adaptation Fund and the Green Fund. On the other hand, an increase in scientific knowledge of the environment has also been promoted by different MEAs (e.g., the assessments developed by the IPCC, the panels and conferences on biodiversity, desertification, ozone depletion, and many others).

MEAs are also part of economic international organizations. Since its formation, the General Agreement on Tariffs and Trade (GATT) for example, recognized environmental exceptions for free trade, to protect human, animal, or plant life and health (art. XX para. b), or in relation to the conservation of exhaustible natural resources (art. XX, para. g). An additional recognition to the environment was set up in 1994, with the creation of the Committee on Trade and Environment (CTE) that was incorporated in the World Trade Organization (WTO), and in 2001 when a chapter of the Doha Declaration of the WTO was devoted to the negotiations on "trade and environment" (WTO, 2013; Brack and Gray, 2003; Poletti and Sicurelli, 2012).

Additionally international efforts outside the UN and financial international institutions are developing voluntarily mechanisms such as environmental and quality standards of the International Organization for Standardization (ISO), or the promotion of Corporate Social Responsibility (CSR) from several firms.

From this overview it is clear that governments, private organizations, and international organizations, have addressed global and local environmental problems by different mechanisms that go from strength regulations and bans that affect international trade, to economic instruments (such as those developed by the Kyoto Protocol or carbon tax developed in EU), and voluntary mechanisms. The reality, however, is that the international efforts to revert environmental degradation have not been enough; or have not been

developed in the right directions or do not really address the causes of the decline (Afionis et al., 2012).

3.2. Strengthen the global institutional framework

There is a large volume of literature on the analysis of IEG and reasons for success and failure particularly on the institutional problems such as insufficient coordination, fragmentation of the system; overlapping, conflicting mandates between organizations, lack of a central organization, insufficient role of UNEP, etc. (Andersen, 2007; Bierman, 2009; Vogt et al., 2011; Ivanova, 2012; Young, 2012; Vijge, 2013).

The necessity to strengthen the global institutional framework for sustainable development was addressed in the Resolution of the Rio+20 United Nations Conference on Sustainable Development, titled "The future we want" and endorsed by the UN General Assembly (UN, 2012b; UN, 2012c). It promoted the strengthening and upgrading of the UNEP in the following manner: Universal membership; Secure, stable, adequate, and increased financial resources; Fulfill its coordination mandate within the United Nations; Promote a strong science-policy interface; Disseminate and share evidence-based environmental information; Provide capacity-building to countries, support, and facilitate access to technology; Progressively consolidate headquarters functions in Nairobi; Ensure the active participation of all relevant stakeholders. The first Universal Session of the Governing Council took place in February 2013 (UNEP, 2013b).

In addition, the resolution establishes a universal, intergovernmental, high-level political forum in substitution of the Commission for Sustainable Development (CSD). This forum was set up to provide political leadership and recommendations, follow-up and review progress in commitments, enhance the integration of economic, social, and environmental dimensions of sustainable development, have a focused, dynamic, and action-oriented agenda, and consider new and emerging challenges. It is mandate to meet every four years at the level of Heads of State and Government under the auspices of the General Assembly, and every year under the auspices of the Economic and Social Council—for eight days, including a three-day ministerial segment.

It is too soon to analyze the impacts of UN institutional changes, but reforms go in the direction to highlight the environmental pillar, strengthen institutions, and avoid overlap with existing structures, bodies, and entities. How these bodies will enhance MEAs is something that needs to be developed. Also, the relation between environmental governance, MEAs, and the multilateral trading

system needs more covenant efforts. Under this, although there have been some advances, there is still much more way to go in order to clarify trade limits and their implementation, and to solve disputes in the benefit of the environment.

3.3. Montreal versus other environmental protocols

The Montreal Protocol (MP) is often described as the international environmental agreement par excellence. The MP successfully led to the phase-out of almost 95 to 98 percent of all chlorofluorocarbon (CFC) use (Gareau, 2010; Andersen et al., 2013). The ozone layer has not grown thinner since 1998 over most of the world, and it appears to be recovering because of reduced emissions of ozone-depleting substances (ODS). Antarctic ozone is projected to return to pre-1980 levels by 2060 to 2075 (USEPA, 2007).

The phase-out of the use of ODS regulated by MP was made principally by the substitution of CFC through the adoption of hydrochlorofluorocarbons (HCFCs). The HCFCs are also ozone-depleting substances but with much less Ozone Depletion Potential than the CFCs (USEPA, 2010, 2013). The most recent adjustments to the MP, adopted in 2007, now accelerate the phase-out of HCFCs—widely used for refrigeration and air-conditioning (Andersen et al., 2013). In addition, there are other gases that are important to control in order to continue protecting the ozone layer, such as Nitrous oxide (N_2O), but its control is much more difficult, because it is widely used for synthetic fertilizers in agriculture (IPCC, 2007c).

According to different studies, the achievements in the contention of the depletion of the stratospheric ozone layer were due to several factors, some of them: (a) the foundation of stratospheric ozone depletion theory (which was pioneered by Molina and Rowland, 1974); (b) the confidence of some scientists concerned enough to confront corporate stakeholders; (c) the construction of an international treaty based on the precautionary principle to avoid irreversible effects from ozone depletion predicted by a theory, even when not yet proven to the satisfaction of the political and corporate interests; (d) the use of trade measures as one of the enforcement mechanisms (parties to the treaty are required to ban trading with nonparties in ODS) accompanied by (e) finance and technology transfer mechanisms to meet the incremental costs of developing country parties in complying with MP requirements (Zhang, 2009; Benedick, 1998; Andersen and Sarma, 2002; Andersen et al., 2013).[2]

However, some authors suggest that the success of the MP was also deeply entrenched in the economic opportunities for certain multinational firms

that were made available to phase out CFCs. Big chemical corporations such as Dupont, for example, supported the MP once they valued the economic opportunity of the ODS phase-out (Gerau, 2010).[3] This can explain also that many companies phased out far more rapidly than required by the MP and often at a lower cost than originally projected by industry and governments (Miller and Mintzer, 1986; Cook, 1996; Le Prestre et al., 1998; Andersen and Sarma, 2002; Andersen et al., 2007; Andresen et al., 2012).

Under this review it is fair to raise the following question: Is it possible to address other global environmental problems only by following the MP example? It is of essential importance to take merit of the outstanding achievement of the involved scientists, UNEP, and other national and international institutions in the MP, and the recognition of the relevance of certain implementation instruments; however, from our point of view, the technical and socioeconomical differences between the substitution of CFC and other ODS by certain substances; and the changes that are needed to reduce GHGs, biodiversity loss and land degradation, are related to a very different scale in the number of stakeholders, and responses represent very different levels of scale and intensity as compared to the MP.

According to the IPCC (2007c) GHG mitigation to avoid dangerous climate change requires technological (accompanied by different regulatory and economic instruments) and behavioral changes made in many different sectors. Not one sector or technology can address the entire mitigation challenge but different technologies and measures from energy to agriculture and forest to waste management are needed in order to contribute to the total reduction of global GHG emissions.

Concerning biodiversity loss and the changes in human activities that are linked to it, it is difficult, expensive, or impossible to reverse or fix through only technological solutions (Hooper et al., 2005). The main causes of biodiversity loss are land use change (habitat change), overexploitation, pollution, invasive alien species and climate change, which is expected to become the first or second greatest driver of global biodiversity loss (Hooper et al., 2005; UNCDB, 2010; Heller and Zavaleta, 2009).

The human activities associated with DLDD are mainly overgrazing, overcultivation, deforestation, poorly planned irrigation systems, and soil pollution from excessive use of chemical fertilizers. Poverty, migration, and political instability are also socioeconomic causes and consequences of land degradation (UNCCD, 2011).

This implies that the magnitude of organizational, technological, and behavioral changes needed to overturn the environmental damage go beyond the

ones observed on the MP, and also imply deeper changes in the global economic patterns as we know them today. This represents threats and challenges for many international corporations related for example to fossil fuels, extractive industries, chemical fertilizers, and pesticides.[4]

For this reason, many authors sustain that global environmental problems are expressing a deeper crisis in the shape of economic growth, patterns of production, and consumption, and in general, the logic of no limits in the exploitation of natural resources. This is not new; it was pointed out since the limits of growth by Meadows et al. (1972), however, the patterns of growth and the environmental declining show that environment continues to be an outsider of the development agenda and the limits of growth continue to be a fundamental question for post-2015 era. A broader approach to these issues is further elaborated in the subsequent sections. From our point of view the IEG needs to recognize these key queries in a broader perspective; otherwise it will continue to gain only marginal success.

4. The myths of growth and its importance in global environmental policy

Although many theories regarding human development are in place and under discussion, the dominant view that economy must grow in order for a society to reduce poverty and satisfy its basic needs for present and future generations, still prevails.

The underlying base of the international divergence toward a Post-Kyoto agreement in the UNFCCC, for example, is the idea that a reduction of GHG gases would compromise economic growth therefore it would jeopardize the influence and power of certain countries in the international economy. The United States does not agree to reduce GHG emissions if China does not do the same. China argues that absolute emission reduction will compromise the well-being of millions of inhabitants. The obligated inquiry is thus the following: is it possible to reduce GHG emission without jeopardizing human well-being?

4.1. Progress and environment

Progress in many aspects of human development has been substantial over the past forty years (UNEP, 2010), but the state of the environment continues to decline. The obvious inquiry after these opposing trends is whether progress

comes at the cost of environmental degradation irremediably. In China for example, the 1,200 percent increase in per capita income over the last forty years came with a very important increase in per capita CO_2 emissions, and several environmental problems (UNDP, 2011; Liu and Diamond, 2005).

One approach to this inquiry argues that setting up the right signals to the market, internalizing externalities,[5] and strengthening property rights will solve this predicament. This school of thought (rather dominant) postulates that if a stock of nonrenewable resources is consumed, technological innovation and price signals will prevent shortages. This leads to the approach of possible substitution between physical, human, and natural stocks[6] (Turner et al., 1994; UNDP, 2011).

Another school of thought raises the limits of this approach by questioning the validity of perfect substitution. Some basic natural assets have no real substitutes and thus must be preserved, this is what sets biophysical limits to the growth of economic activities, in view of the irreversibility of certain processes that have triggered an impact on nature (ECLAC et al., 2003).[7]

Biodiversity loss is a clear example of irreversibility, not only because of the permanent loss of certain species, but because it harms the ecosystem services, including the access to water and basic materials for a satisfactory life and security (Diaz et al., 2006). Climate change is also an example of irreversibility because the major greenhouse gases can remain in the atmosphere for tens to hundreds of years after being released; thus past emissions will have future impacts.

This brings out another subjacent contradiction of this false dilemma: resource declining and environmental damage caused by human activities reverts on economic growth and human well-being. Environment cannot be later attended; environment has to be understood as part of the development process, otherwise it will harm human well-being.

4.2. Well-being and per capita emissions

There have been several efforts to develop indicators that express human development in a better way than the traditional indicators of economic progress such as per capita GDP. One of the most important efforts is the Human Development Index (HDI) developed by UNDP that besides per capita GDP includes health and education performance. The World Energy Assessment (Goldemberg, 2000) was one of the first that investigated the relation between per capita energy use and the HDI. We present in Figure 8.2 an adaptation of WEA figure by plotting energy-related per capita CO_2 versus HDI for year 2008

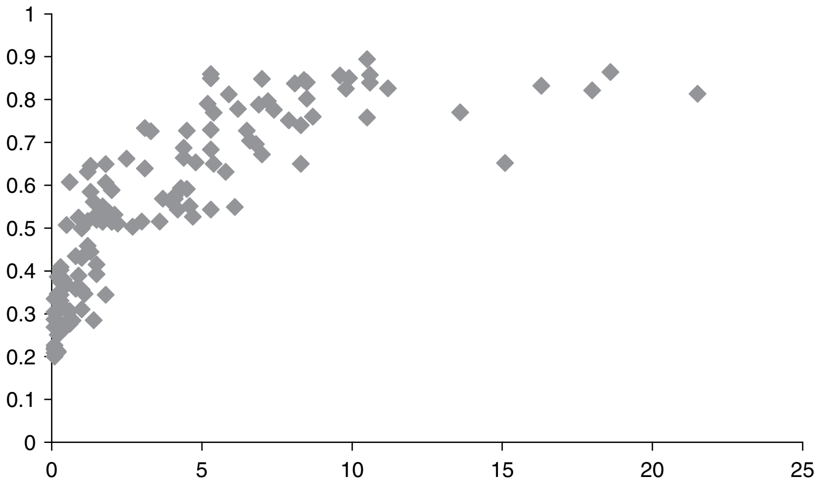

Figure 8.2 Per capita energy-related CO2 emissions and HDI for 160 countries (2008)

Source: UNDP data.

for several countries. As shown, an increase in the HDI might represent an increase in per capita CO_2 because of the need for energy (in this case fossil fuels) to reduce poverty, however for higher levels, even though per capita CO_2 keeps increasing the HDI does not. The interpretation of this might be that beyond a certain point, increased consumption (in this case more CO_2/cap) provides no further increase in well-being (Goldemberg, 2004). Another important point of this figure is that if fossil fuels are substituted by renewable energy to increase HDI, overall per capita CO_2 will consequently be reduced.[8]

4.3. Poverty and emission growth

By 2010, around 15 percent of the World's population lacked access to electricity and about 29 percent of the World's population relied on the traditional use of biomass. Although energy is not a specific MDG, there is a wide consensus that the eradication of extreme poverty as well as the accomplishment of other development goals are linked to the access of modern energy, especially electrification (UN, 2005). In 2010, the IEA and the UNDP developed an assessment on universal access to energy. Results were remarkably interesting. According to this study "to meet the more ambitious target of achieving universal modern energy services by 2030, additional investment of $756 billion or $36 billion of US dollars per year is required. This is less than 3 percent of the global

energy investment in the New Policies Scenario of IEA to 2030. The resulting increase in primary energy demand and CO_2 emissions would be modest. In 2030 global electricity generation would be 2.9 percent higher, oil demand would have risen less than 1 percent and CO_2 emissions would be 0.8 percent higher, as compared to the New Policies Scenario"[9] (IEA, 2010).

Of course these estimations are based on a minimum consumption and they will rise if consumption increases. What is important to highlight is that the main drivers of energy-related CO_2 emissions in baseline scenarios are not found in the fulfillment of basic energy needs but in the assumption of constant energy consumption per household combined with population and GDP increases.

4.4. Per capita GDP and the environmental impact

There is a thesis called the environmental Kuznets curve (EKC) that points out that the environmental impact indicator is an inverted U-shaped function of income per capita. This hypothesis was raised based on water and air pollution data for different countries (Grossman and Krueger, 1995; Harbaugh et al., 2002; Deacon and Norman, 2006). Some authors have inquired this idea using several environmental indicators, especially GHG emissions, where clearly higher per capita income in general means higher per capita GHG emissions (Stern et al., 1996; Stern, 2004; Asilandis, 2009).

According to the ecological footprint methodology, it would take three to four Earths to meet the consumption demands of the current human population, if every human consumes at the level of the average US inhabitant (Wackernagel and Reese, 1996; Wilson, 2002); and GHG emission will reach 3.8 times actual emissions if population in developing countries uses the same amount of fossil fuels per capita that developed countries use (IPCC, 2007c).

4.5. Different paths of growth

There are economic activities that may produce per capita GDP growth and have positive externalities for certain resources such as renewable and energy-efficient technologies, sustainable management of forests, fisheries, technology investments for water decontamination or for the reduction of air pollutant emissions, recycling, sustainable tourism, restoration of ecosystems, etc.

The 2011 HDR showed how among the developing countries, Costa Rica and Philippines for example, have managed to increase per capita GDP as well as other development indicators and at the same time, they rise environmental

indicators such as afforestation, air quality, water access and quality, while still reducing GHG emissions (UNDP, 2011).

4.6. Decoupled environment degradation and GDP growth

The most important measure of the economy in terms of increase in its national output is the Gross Domestic Product (GDP) or including population growth, the per capita GDP. In general, an increase in per capita GDP is related to an increase in production and consumption, but this is not always the case.

Figure 8.3 shows for example, per capita GDP versus Per capita energy-related CO_2 emissions for year 2008 (each point is a country). A linear relationship between these variables could be expected since higher income means more appliance, automobiles, etc. Although it is possible to trace a line, it is also possible to find that many countries have similar CO_2/cap and very different GDP/cap. This difference might reflect the participation of fossil fuels in the energy matrix, but also how efficiently is the energy used by unit of GDP/cap. In fact energy efficiency technologies make possible the reduction per capita energy use while per capita GDP is increasing. This is exactly what happened in OECD countries as a response to the increase in oil prices in the 1970s. Between 1973 and 1985 total energy use per capita in OECD countries fell 6 percent while

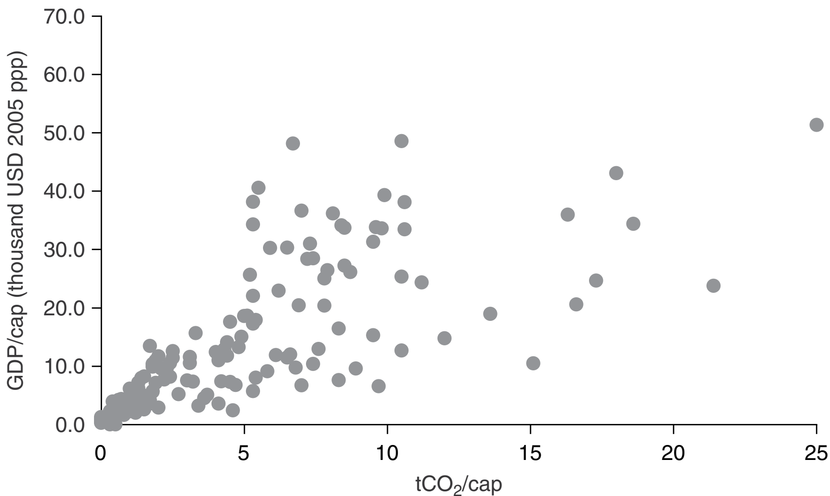

Figure 8.3 Per capita energy-related CO2 emissions and per capita GDP for 160 countries (2008)

Source: UNDP data.

per capita GDP increased 21 percent, a clear dissociation between energy and economic growth (Goldemberg et al., 2004).

4.7. The importance and limits of technology

In general, it is possible to affirm that technology has enabled growing efficiency of resource use. The main criticism to the Meadows et al. (1972) limits of growth is that technology has enabled to extract more and more economic activity for a given unit of natural resource.

But technology efficiency has physical limits ruled by the second law of thermodynamics. At some point, the following question arises; is technology efficiency enough to meet the very ambitious emission reduction targets proposed by climate scientists? According to Allwood et al. (2013), in the case of industrial energy, within the present conditions of material substitution and technology efficiency it is simply not possible. According to these authors, the world is reaching the efficiency limits for certain industrial technological processes, and the ambition to reduce industrial emissions can only be attained through an increase of material efficiency which includes recycling and reusing components, but also reduction of overall material demand by promoting longer life of products as well as intensifying its use.

5. Drivers and indicators for global environmental policies

While many of the critics on the original limits of growth publication (Medows et al., 1972) were justified, as Turner et al. (1994) pointed out it does not follow that there are no ecological limits on growth. Even in this case the precautionary principle is valid in the sense that even if it is not certain that there are limits to growth it would be prudent to behave as if they were in order to prevent or at least reduce major environmental damages that could seriously affect human well-being (Turner et al., 1994). Of course in the logic of the ecological limits of growth and a better environment, human well-being, poverty eradication, and inequalities have to be also at the center of the equation.

5.1. Better indicators for development besides GDP

GDP growth as a symbol of progress is an index that is constructed on the basis of the twentieth-century human development, grounded on modern agriculture,

extractive industries, intensive use of fossil fuels and materials, intensive industrialization and growth of production and consumption regardless of what is produced and consumed and at what costs for natural resources.

There has been an important debate on the limits of GDP as a measure for human well-being. In the particular case of the environment, one of the most common indicators as an adjustment to GDP is the so-called Green GDP that takes into account the consumption of natural capital as depletion or damage. The main limitation of this index is that it will only measure what can be quantified as a product that is sold in the market place.

The Stiglitz, Sen, and Fitoussi (2010) report reviews different exercises of indicators that have the objective of measuring sustainability, from dashboards to the ecological and carbon footprints, to adjusted net savings (ANS). They suggest that it is difficult to establish one indicator for human well-being and environment and that it is better to develop a dashboard of indicators where the environment has its own well-identified sub-dashboard that affords access to the signs of change, preservation, or increase in several "stocks" to make long-term considerations for future generations (monetary and physical indicators). The report also argues in favor of the Carbon Footprint index being used for climate change.

5.2. Equity

If unequal distribution of income is maintained, a greater increase in GDP is needed to get the poor to access better incomes, this because the economy has to fulfill the requirements of the highest income groups (ECLAC, 2002; Rosas et al., 2010). A study for Latin America shows that even very small reductions in inequality can have very large positive impacts in terms of poverty reduction (ECLAC, 2002). In the horizon of the ecological limits of growth, equity acquires an additional value for the environment. Boyse (2007) goes even further when he proposed that wider political and economic inequalities tend to result in higher levels of environmental harm. If policies to redistribute income inequalities are not applied, more GDP will be needed to reduce poverty, meaning more production and consumption, and more impacts to the environment.

Moreover, Figure 8.4 presents a plot of per capita CO_2 emissions versus the education and health parts of the HDI for 2008. Putting together this figure with the above reasoning it is possible to assert that a more equal distribution of income and investment in those public services can have greater welfare effects than generalized growth and at the same time less environmental impacts.[10] The same is true for a broader concept of inequality, especially regarding gender.

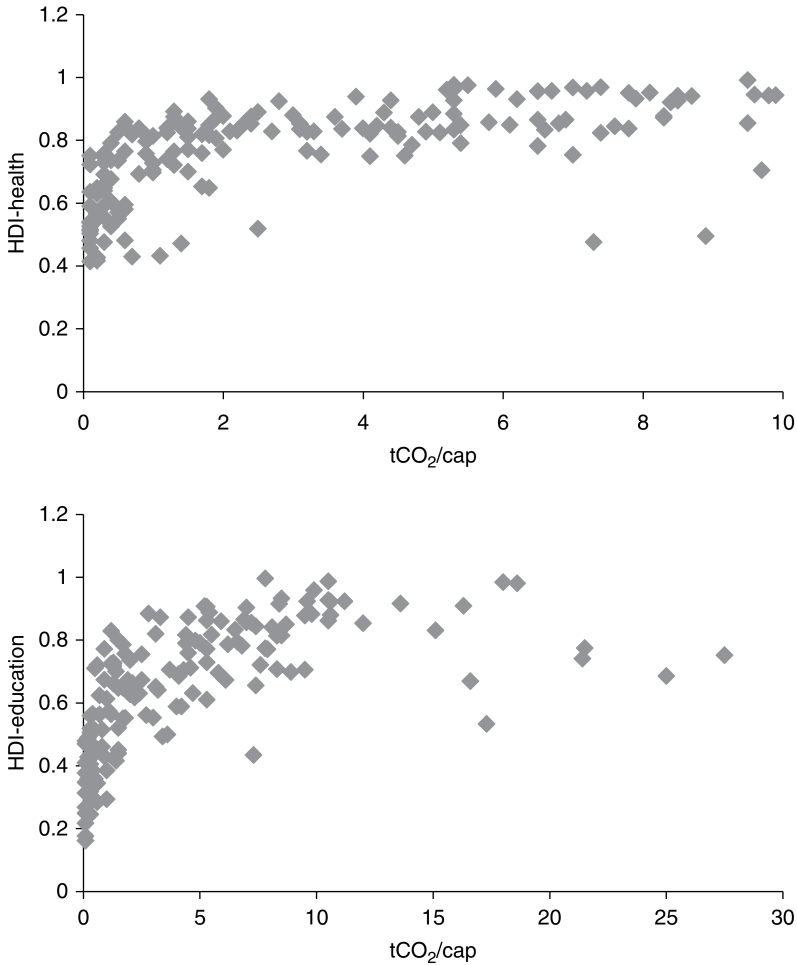

Figure 8.4 Per capita energy-related CO2 emissions and HDI education and health for 160 countries

Source: UNDP data.

Also, this reasoning can also be applied at the international level. A new pathway for sustainable development implied a more equal distribution of wealth among countries.

5.3. Population growth

Population growth continues to be an important driver in global production and consumption growth and it will continue to represent a huge pressure on the environment. The dilemma of how to bring employment to new generations

when the population is growing in an economy that does not grow is of increasing importance. Decent work opportunity is crucial to human well-being and it needs to drive a transformation of the economic system that recognizes the physical limits of growth. In this arena the limits on population growth are also vital. There are a lot of studies and discussions on policies to reduce population growth as well as its linkages to the universal access to reproductive health care and family planning, gender equity, reproductive choice and investments in education, especially for girls and women, who are too often left behind. It is not the goal of this chapter to discuss population policies but to highlight its importance in the overall approach of the limits of growth.

5.4. The limits of multinational corporations

Multinational corporations (MNCs) are the main actors of globalization. Between 1990 and 2010, the world's outflow of Foreign Direct Investment increased by 450 percent, while world's GDP increased by 63 percent (World Investment Report cited by Forsgren, 2013). Although the total number of MCs is very high (around 70,000), the global scene is dominated by some few (Forsgren, 2013). MNCs dominate a very important part of the activities and markets that have the larger impacts on the environment (mining, agriculture, fishing, energy, food, automobiles, chemical, etc.; PWC, 2013).

Most of these companies have higher revenues than the GDPs of developing countries (Stiglitz, 2006; Hertz, 2004), and because of this, they have large political power (Stiglitz, 2006). According to several authors, MNCs have brought several benefits of globalization to developing countries such as technology transfer, training human resources, job creation, access to international markets, technology developments, etc. (Prahalad and Doz, 1987). According to others, they have brought more poverty than they alleviate (van Tulder and van der Zwart, 2006).

Businesses pursue profits and therefore MNCs have goals that are directed to the maximization of profits (Forsgren, 2013; Stiglitz, 2006, 2007a, 2007b). In the neoclassical theory, companies respond to the market. If consumers buy, producers provide. However, it must be admitted that MNCs act to shape consumer desires in ways that enhance their own profits and consumer consumption (Stiglitz, 2006). For this reason, in general, MNCs are against the concept of the limits of growth, because it goes against the principal goal of increasing profits by increasing consumption at no limit. It is well documented

that many oil and gas companies have lobbied against every international agreement to reduce GHG emissions (Sæverud and Skjærseth, 2007).

In the global arena, a less regulated country in terms of taxes, environment, labor, etc., is in principle, much more attractive to FDI than the more regulated ones (Stiglitz, 2006, 2009). Although the discourse of CSR (self-regulation of corporations toward social and environmental goals) has increased in several companies, in general, MNCs act differently depending on national regulations. There is evidence, for example, that extractive companies act differently depending on environmental regulation and government institutional capacities (Kallis et al., 2012; Bebbington et al., 2008; Urquidi and Walter, 2011; Fanthorpe and Maconachie, 2010).

Under this panorama, it is not only important to raise the right of domestic strategies for developing countries (Khor, 2009), but also imperative to develop a system of international environmental standards, regulations, and institutions for environmental justice that generate international rules in favor of sustainable development. Some have argued that environmental international regulation might act against local companies and its insertion in international trade (Khor, 2011). Proper financial and capacity building mechanisms may solve this. However, the worst panorama remains to continue down the same path.

6. Toward an economy for sustainable development and global environmental agenda

6.1. Green economy, steady state economy, and de-growth economy

UNEP defines green economy as one that results in "improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities" (UNEP, 2011). Before green economics, many authors have sustained alternative theories and pathways to human well-being and environment such as the steady state economy, the new economics of prosperity, or even economy of degrowth (Daly, 1973, 1996, 2010; Jackson, 2009; NEF, 2009; Schor, 2011; Nørgaard, 1994; Nørgaard et al., 2010; Odum and Odum, 2001; Reese, 2006; Victor, 2010; Kallis et al., 2012; Martínez-Alier, 2009, 2012; Martínez-Alier et al., 2010; Cato, 2009). The underlying debate is referred in Section 3.1 of this chapter on weak and strong sustainability.

It is not the goal of this chapter to discuss the difference of these approaches, but to recognize that there is a very important international dialogue and debate on how to transform global and national economic systems in a pathway that recognizes the importance of poverty eradication, social equity, and the environment for present and future generations. It should be highlighted however, that from our perspective, there are views that misuse the concept of the "green economy" to "green wash" conventional approaches that do not question the actual patterns of intensive use of natural resources and the inequity in consumption patterns.

The underlying question of the decoupled between resource consumption and development, is how to promote social welfare with less resources; how to provide well-remunerated employment to young population without intensive industrialization that leads to environmental decay; how to enhance human development and reduce environmental degradation. This is of course the core of the international debate on sustainable development and it is only not solved, but there are different answers for different regions and countries. We bring some examples delineated by different authors of new pathways of productive activities for sustainable development, understanding production not as an end in itself but as a mean to fulfill social needs.

6.2. Food availability

To meet the world's future, food availability must grow substantially while, at the same time, activities that provide it, shrink their environmental footprints considerably and adapt to climate change. At least six transformations in agriculture, livestock, and fisheries production are desirable to reach food availability: (a) Change production technologies and methods toward halting agricultural expansion, closing 'yield gaps' on underperforming lands, increasing cropping efficiency, shift from heavy mechanized with intense use of water, inorganic pesticides and fertilizers to organic systems and precision agriculture; and improvements in livestock management in order to reduce pasture area (Foley et al., 2005; UNDESA, 2013); (b) Recognize the complexity of production systems within diverse social and ecological contexts; (c) Shift from high-input industrial farming and large vessels to traditional systems run by small farmers and fishers to produce the majority of stable crops and animal protein needed to feed the world population. This will require secure land rights, good governance, greater commercialization and integration of small farmers and fishers into supply chains with infrastructure development (UNEP, 2011);

(d) Adoption of more sustainable diets. On average, the number of kilograms of cereal needed to produce 1 kilogram of meat ranges from 2 to 1 for poultry and from 7 to 1 for beef (UNCCD, 2012); and (e) Reduce waste. Approximately one-third of the total food produced for consumption, amounting to 1.3 billion tons per year, is lost or wasted (FAO, 2012), and about 30 percent of total harvested food does not reach the marketplace as a result of quality selection and cosmetic considerations (UN, 2013; IME, 2013). Policies to amend this nonsense have to be one of the main objectives of a new food and agricultural model.

6.3. Sustainable water and forest management

Water demand is expected to exceed supply at present rates of use. Proper investment in ecosystems services and restoration, as well as efficiency management and use particularly in agriculture, could achieve greater water and sanitation access and meet agriculture and industrial demands under a sustainable scenario. This would require investment as well as improvements in institutional arrangements and again, recognition of local communities (UNEP, 2011).

Forests are a fundamental part of the earth's ecological richness, providing many sorts of goods and services. Reduced deforestation and increased forest ecosystem services and goods is possible through the promotion of long-term financial, technological, and training supports and policies for sustainable management that value forest goods in contrast to agriculture and livestock for landowners, promoting other activities with lesser impacts such as ecotourism and agroforestry, and valuing ecosystem services (Merino-Pérez and Barry, 2005; Fisher et al., 2009; FAO, 2010; Toledo-Aceves et al., 2011). Sustainable water and forest management are the first steps in adaptation strategies to climate change.

6.4. Sustainable energy production and consumption

Energy transition to a less environmental impact activity in its production, transformation, and use, meanwhile gaining access to electrification and sustainable use of biomass as well as other fuels is only achievable by huge increases in renewable energy sources, energy efficient technologies, and a structural change to lesser energy consumption patterns.[11] There are several studies that show the possibilities of energy transition toward low carbon pathway (IEA, 2012; IEA, 2013; WEAR, 2013; EU, 2013; IPCC, 2014). However, the increase in energy consumption is related to the patterns of growth discussed

earlier. Therefore, sustainable energy has to be linked to material efficiency, equity, and even demand reduction for the higher consumers. There are several economic instruments such as taxes that help orienting sustainable patterns of consumption and production.

6.5. From energy efficiency to resource efficiency

One of the strategies to reduce environmental impacts is increasing resource efficiency of which material efficiency is crucial. According to Allwood et al. (2013), material efficiency includes the following options: (a) Light-weight design; (b) Reducing yield losses; (c) Diverting manufacturing scrap; (d) Reusing components; (e) Longer life of products, and (f) More intense use of products. Other strategies are the shifting from certain products to others such as e-books rather than paper ones (UNDESA, 2013).

6.6. Sustainable cities

On the other hand, the percentage of global population living in urban areas has reached 50 percent at the beginning of the twenty-first century and is expected to reach 60 percent by 2030; the fastest rates of urbanization are found in the developing world (UNHabitat, 2013). It has been calculated that urban areas consume more than 65 percent of the world's energy and emit 70 percent of global greenhouse gas (GHG) emissions (Solecki et al., 2013). Vehicles are the largest source of GHG emissions in most urban areas; for this reason sustainable transportation is central to reduce energy consumption (UNHabitat, 2013). The Avoid-Shift-Improve-Finance (ASIF2) framework (Dalkmann and Brannigan, 2007; Mani et al., 2012; Schipper et al., 2000; and Tiwari et al., 2011) helps in understanding different strategies toward sustainable transportation: (1) avoid unnecessary trips, for example through information technologies; (2) shift to more sustainable transport modes, for example public transport and rail for freight; (3) improve performance in all modes; and (4) finance investment in urban development and transport to achieve reduced CO_2 levels and sustainability.[12]

6.7. Science, technology, and innovation

Technology is not all in pursuing sustainable development but it does not mean that it is highly important to reduce resource consumption. To make a

serious attempt to face the social, economic, and environmental challenges of sustainable development, STI must strive to understand both, the natural and the cultural worlds and the way they interact. Taking into account this approach, it is still important for the need to fastest the process of certain technologies introduction to the market, as well as increase technology transfer. For this reason, and important to put in place international efforts to set up (a) national systems of science, technology, and innovation and (b) policies for technology transfer and dissemination for the benefits of all countries, especially patents and trade policies; and (c) social discount rates that are well below market rates in order to accelerate technological change and promote intergenerational equity (Stern, 2007; Ocampo et al., 2011).

7. Lines for an environmental agenda in the context of the global governance and rules for the post-2015 era

Under the panorama explained above, an environmental agenda for the post-2015 era needs to consider the following elements:

7.1. Build consensus of a new economy for sustainable development

The formulation of a global development agenda post-2015 requires a new international consensus to build environmental sustainability as an integral part of the development process. The concept of green economy and sustainable development that is emerging from the follow-up of the Rio+20 Conference seems to go in this direction. However, further efforts are needed in order to fully modify the economic model of development that wrongly assumes no ecological limits of growth. Under this background some suggestions are:

Moving from per capita GDP to sustainable development indicators: So long as per capita GDP remains as the dominant measure of development for the eradication of poverty, the promotion of equity and addressing the physical limits of growth will continue being of secondary importance. Development goals must include environmental sustainability, poverty eradication, and equity as the focus of policy attention and established targets in these fields must guide the actions of international development institutions, especially international financial institutions.

Promoting public, social, and private investments for sustainable development: Markets, left to their own logic, will not reorient economies to a more sustainable path. The global governance has a role to play in promoting the need for public policies in the strategic transition toward more sustainable economic trajectories that reorient production activities in accordance to the local population and environmental features needs of each country. Public policies are needed to stimulate public, social, and private investments in the path to reduce GHG emissions and pollution, enhance energy, material and resource efficiency, prevent the loss of biodiversity, and restore ecosystem services. These environmental objectives need to be consistent with job creation, poverty eradication, improved equity, and the recognition of the strategic role of local producers and communities in sustainable agriculture, fisheries and resource management, sustainable energy and cities, water management and forest, and resource efficiency. The economic transition also requires different methodologies for the estimation of costs that contribute to place social benefits ahead of private profits.

Changing consumption patterns. According to the ecological footprint it would take three to four Earths to meet the consumption demands of the current human population, if every human consumes at the level of the average US inhabitant (Wackernagel and Reese, 1996; Wilson, 2002); and GHG emission will reach 3.8 times actual emissions if population in developing countries uses the same amount of fossil fuels per capita that developed countries use (IPCC, 2007). Technology has enabled growing efficiency of resource use, but it has its limits and unsustainable lifestyles with excessive consumption of energy, materials, and goods among the richer segments, place enormous pressure on the environment (Allwood et al., 2013). The poorer segments, meanwhile, are unable to meet food, health care, shelter, and educational needs. Changing consumption patterns will require focusing on demand, meeting the needs of the poorest, and changing lifestyles and excessive material and energy demands of the richest. This requires building a new paradigm of success that is not based on increasing consumption. In the case of energy, carbon taxes have been discussed widely as an economic instrument to accelerate energy transition toward a low carbon economy (Parry et al., 1999; Shah and Larsen, 2014). Application of this instrument might be different depending on the country, especially in developing countries.

Recognize the importance of equality for the environment: Through various channels, policies to improve the distribution of wealth act in favor of the environment. Persisting unequal distribution of income imply that a greater

increase in GDP is needed to get the poor to access better incomes (ECLAC, 2002; Rosas et al., 2010), with deleterious consequences to the environment if current consumption and production patters are maintained. This is true at the National level but also among countries. Gender equality is also catalytic to social, economic, and environmental progress, and therefore it should be well integrated into sustainable development policies, strategies, and action plans (UNDP, 2013c). Investments in education, especially for girls and women and universal access to reproductive health care and family planning must be high in an agenda for sustainable development. This is the best approach to reduce population growth that will make an important contribution to sustainable development. Improved access to education and health enhances human development, creates informed citizens, and represents a critical investment in human capital that is essential for a more demanding development path. Moreover, in the context of pluri-ethnic and multicultural societies, a strategy for sustainable development needs to recognize the rights of indigenous communities to the land, natural resources, ethnic identity, and cultural heritage; as well as their right to participate in the decisions that affect them.

7.2. International environmental regulations and standards

Environmental problems do not have frontiers, especially when looking at the global environmental problems. It is absurd that countries compete for Foreign Direct Investment (FDI) or that Multi-National Corporations (MNCs) look for countries to develop their investments, based on less environmental regulation. The IEG needs to develop a system that promotes international standards and regulations, not only for products but also for production processes that limit the FDI based on no regulation to protect the environment. This is especially important for extraction activities. Conventions need to start developing protocols on this matter and WTO and PTAs require recognizing them. The best technologies and practices need to be available for all, and limits to the maximization of profits on behalf of the environment need to be set.

7.3. Strengthen global environmental justice

In the broadest perspective, the recognition of the linkages between environment and human well-being leads to acknowledge the fundamental right to the protection of a healthy environment as a human right. Environmental law, jurisprudence, and environmental governance are central to resolving problems

of environmental justice. The recognition of environmental problems in current international justice institutions and even the possibility of an International Environmental Court is a central issue to strengthen global environmental governance (UNEP, 2013b). Today there is no international body with delegated authority to enforce international environmental regulations. The protection of fragile ecosystems, the sustainable use of natural resources in the global commons, and the improved management of trans-boundary resources are areas of special concern in the development of a global mechanism for environmental governance.

7.4. Strengthen global institutional framework

The need to strengthen the global institutional framework for sustainable development was addressed in the Resolution of the Rio+20 United Nations Conference on Sustainable Development. This brought out the strength of the UNEP, and the creation of a universal, intergovernmental high-level political forum. This reform goes in the direction to highlight the environmental view, strengthen institutions, and avoid overlap with existing structures, bodies, and entities and in the move to a more coherent international framework. Global efforts to strengthen these international bodies and initiatives such as sustainable development objectives post-2015 are highly important to enhance global environmental governance. How these bodies will support environmental conventions is something that needs to be developed. Also, the relation between environmental governance and the multilateral trading system needs more covenant efforts. There is still much more way to go in order to clarify trade limits and their implementation, and to solve disputes in the benefit of the environment.

7.5. New common but differentiated responsibilities

Increasing differentiation among developing countries is part of the new international scene. Mechanisms of global governance for sustainable development especially to reach a new international consensus in the UNFCCC will have to give proper interpretation to the concept of common but differentiated responsibilities in recognition to the variety of development trajectories across countries and their responsibility based on historic emissions, current and projected total, and per capita emissions.

7.6. Science and technology for all

Developing the capacity to innovate and have access to technology are crucial for reducing the wide developmental gaps that exist between developing and developed countries. This requires strengthening the capacity of developing countries to develop, review, and implement education, science, technology, and innovation oriented toward nationally relevant responses to the challenges they face in relation to climate change, the preservation of biodiversity, and reducing and avoiding desertification. Under the barriers for technology transfer it is important to recognize the increasingly globalized protection of intellectual property rights on the ability of countries to provide their citizens with basic research, education, public health, and environmental protection (Maskus and Reichman, 2005). A new international system is needed in the recognition of the links between international public goods and transfer of technology. Keeping and strengthening the precautionary principle is also essential in MEAs.

7.7. Finance and support for sustainable development

Depending on the methodology used, the estimation of financing needs to support sustainable development strategies varies wildly but they all coincide to predict high financing costs. Several mechanisms of financing have been discussed in recent years but serious commitments are still to be made if environmental sustainability is to be effectively integrated into a new development paradigm. In the allocation of resources, clear priority should be given to the poorest countries, as well as those more likely to be affected by climate change. In the allocation of resources traditional development goals, such as access to water and sanitation, electrification, but also reduction of air and water pollution in cities of middle-income countries, should be made compatible with sustainable management of natural resources both as a policy to reduce poverty and as a strategy for adaptation to climate change. In fact, sustainable resource management is the first step to attend adaptation strategies for climate change.

Notes

1 In January 2013 governments took a major step forward to begin lifting the health and environmental impacts of mercury, including its most toxic forms, by agreeing a global Convention, Minamata Convention, covering emissions and releases.

2 The history of the Montreal protocol, background, importance and the role of scientists, negotiations, problems and success is brilliantly exposed in Andresen, Sarma and Sinclair, 2002.
3 The difference in the control of CFC used mainly as aerosol product and the more difficult control of methyl bromide used as a pesticide (both ODSs under control in the MP) is presented as an example (DuPuis and Gareau, 2008).
4 This in part explains the dissimilarity in the position of the US government in the MP and the Kyoto Protocol (Sunstein, 2007), and the role of US fossil fuel industry in Washington's rejection to any international agreement to reduce GHG emissions (Sæverud and Skjærseth, 2007).
5 Environmental externalities refer to the "uncompensated environmental effects of production and consumption that affect consumer utility and enterprise cost outside the market mechanism" (OECD, 2013). As a consequence of negative externalities, private costs of production tend to be lower than its "social" cost.
6 This school of thinking is known as the weak sustainability.
7 This is called the strong sustainability view (Heidiger, 1999).
8 A critique to this interpretation is that in general per capita GDP weights more for higher HDI countries where the health and education part of the index has been obtained. Despite this important point that questions the validity of the HDI itself, this suggests that there is not always a positive relation between fossil fuel consumption and human well-being.
9 These estimations are based on a minimum electricity consumption of 250 kWh/year in rural areas and 500 kWh/year in urban areas and 22 Kg of LPG per person per year (in comparison, average US consumption per household in 2011 was 11, 280 kWh of electricity/year and 900 kg of LPG/year).
10 Similar reasoning for happiness is considered in Kallis et al., 2012.
11 Biofuels production must grow in a sustainable way. There is no space in this chapter for this discussion but for more about this see
12 A very good example of the positive synergies that a consumption pattern brings in the energy sector is the shift from larger and heavier vehicles to smaller cars (Schipper and Lilliu, 1999; Cuenot, 2009; Meyer and Wessely, 2009; Sheinbaum-Pardo and Chávez-Baheza, 2012).

References

Afionis, Stavros, Steinar Andresen, Elin Lerum Boasson, and Geir Hønneland (eds.) (2012). International Environmental Agreements: An Introduction. *International Environmental Agreements: Politics, Law and Economics*, 1–5.

AIE, UNDP (2010). *Energy Poverty. How to Make Modern Energy Access Universal*. IEA, Paris.

Allwood, Julian, M., Michael F. Ashby, Timothy G. Gutowski, and Ernst Worrell (2013). Material Efficiency: Providing Material Services with Less Material Production. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, vol. 371, p. 1986.

Alonso, Jose Antonio, Giovanni A. Cornia, and Rob Vos (eds.) (2013). *Alternative Development Strategies for the Post-2015 Era*. New York: Bloomsbury Publishing.

Álvarez Buylla, Roces Elena Alma Elena, and Alma Piñeyro (2009). Riesgos y peligros de la dispersión de maíz transgénico en México. *Ciencias*, vol. 92, octubre-marzo, pp. 82–96.

Álvarez-Buylla Roces Elena Alma Elena, and Alma Piñeyro (2010). Riesgos y peligros de la dispersión del maíz transgénico en México. *Ciencias*, vol. 92, no. 092.

Andersen, Stephen, Madhava Sarma, and Lani Sinclair (2002). *Protecting the Ozone Layer: The United Nations History*. London: Earthscan Publications London.

Andersen, Stephen, Marcel L. Halberstadt, and Nathan Borgford-Parnell (2013). Stratospheric Ozone, Global Warming, and the Principle of Unintended Consequences—An Ongoing Science and Policy Success Story. *Journal of the Air & Waste Management Association*, vol. 63, no. 4. pp. 607–47.

Andresen, Steinar (2007). The Effectiveness of UN Environmental Institutions. *International Environmental Agreements: Politics, Law and Economics*, vol. 7, pp. 317–36.

Andresen, Steinar, Elin Lerum Boasson, and Geir Hønneland (eds) (2012). *International Environmental Agreements: An Introduction*. London: Routledge.

Anenberg, Susan, Jason West, Larry W. Horowitz, and Daniel Q. Tong (2010). An Estimate of the Global Burden of Anthropogenic Ozone and Fine Particulate Matter on Premature Human Mortality Using Atmospheric Modeling. *Environmental Health Perspectives*, vol. 118, no. 9, pp. 1189–95.

Aslanidis, Nektarios (2009). *Environmental Kuznets Curves for Carbon Emissions: A Critical Survey*. Nota di lavoro // Fondazione Eni Enrico Mattei: Sustainable development, No. 75.2009.

Bebbington, Anthony, Denise Humphreys Bebbington, Jeffrey Bury, Jannet Lingan, Juan Pablo Muñoz, and Martin Scurrah (2008). Mining and Social Movements: Struggles over Livelihood and Rural Territorial Development in the Andes. *World Development*, vol. 36, no. 12, pp. 2888–2905.

Benedick Richard E. (1998). *Ozone Diplomacy: New Directions in Safeguarding the Planet* (enlarged edition). Cambridge, MA: Harvard University Press.

Biermann Frank, Philippe Pattberg, Harro Van Asselt, and Fariborz Zelli (2009). The Fragmentation of Global Governance Architectures: A Framework for Analysis. *Global Environmental Politics*, vol. 9, no. 4, pp. 14–40.

Brack, Duncan and Kevin Grey (2003). *Multilateral Environmental Agreements and the WTO*. The Royal Institute for International Affairs and International Institute for Sustainable Development.

Bradshaw Corey J. A., Navjot S. Sodhi, Kelvin S. H. Peh, and Barry W. Brook (2007). Global Evidence that Deforestation Amplifies Flood Risk and Severity in the Developing World. *Global Change Biology*, vol. 13, no. 11, pp. 2379–95.

Butchart Stuart H. M., Matt Walpole, Ben Collen, Arco van Strien, Jörn P. W. Scharlemann, Rosamunde E. A. Almond, Jonathan E. M. Baillie, Bastian Bomhard, Claire Brown, John Bruno, Kent E. Carpenter, Geneviève M. Carr, Janice Chanson, Anna M. Chenery, Jorge Csirke, Nick C. Davidson, Frank Dentener, Matt Foster, Alessandro Galli, James N. Galloway, Piero Genovesi, Richard D. Gregory, Marc Hockings, Valerie Kapos, Jean-Francois Lamarque, Fiona Leverington, Jonathan Loh, Melodie A. McGeoch, Louise McRae, Anahit Minasyan, Monica Hernández Morcillo, Thomasina E. E. Oldfield, Daniel Pauly, Suhel Quader, Carmen Revenga, John R. Sauer, Benjamin Skolnik, Dian Spear, Damon Stanwell-Smith, Simon N. Stuart, Andy Symes, Megan Tierney, Tristan D. Tyrrell1, Jean-Christophe Vié, Reg Watson (2010). Global Biodiversity: Indicators of Recent Declines. *Science*, vol. 328. no. 5982, pp. 1164–8.

Cato, Molly-Scott (2009). *Green Economics: An Introduction to Theory, Policy, and Practice*. Earthscan.

Cheung, William W. L., Vicky W. Y. Lam, Jorge L. Sarmiento, Kelly Kearney, Reg Watson, Dirk Zeller, and Daniel Pauly (2010). Large-scale Redistribution of Maximum Fisheries Catch Potential in the Global Ocean under Climate Change. *Global Change Biology*, vol. 16, no. 1, pp. 24–35.

Cook, Elizabeth (1996). *Ozone Protection in the United States: Elements of Success*. Washington, DC: World Resources Institute.

Corbera, Esteve and Noelia Jover (2012). The Undelivered Promises of the Clean Development Mechanism: Insights from Three Projects in Mexico. *Carbon Management*, vol. 3, no. 1, pp. 39–54.

Cuenot, Francoise (2009). CO2 Emissions from New Cars and Vehicle Weight in Europe; How the EU Regulation Could Have Been Avoided and How to Reach It? *Energy Policy*, vol. 37, pp. 3832–42.

Dalkmann, Holger and Charlotte Brannigan (2007). *Transport and Climate Change, Module 5e, Sustainable Transport, a Sourcebook for Policy-makers in Developing Cities, GTZ Global*. Eschborn, Germany: Federal Ministry for Economic Cooperation and Development.

Daly, Herman E. (1973). *Towards a Steady-state Economy*. San Francisco: Freeman.

Daly, Herman E. (1996). *Beyond Growth. Th e Economics of Sustainable Development. The Economy as an Isolated System*. Boston: Beacon Press.

Daly, Herman E. (2010). From a Failed-growth Economy to a Steady-state Economy. *Solutions 1*, pp. 37–43.

Deacon, Robert T. and Catherine S. Norman (2006). Does the Environmental Kuznets Curve Describe How Individual Countries Behave? *Land Econ.*, vol. 82, no. 2, pp. 291–315.

DuPuis, E. Melanie and Brian J. Gareau (2008). Neoliberal Knowledge: Th e Decline of Technocracy and the Weakening of the Montreal Protocol. *Social Science Quarterly*, vol. 89, no. 5, pp. 1212–29.

ECLAC, IPEA, and UNDP (2002). *Meeting the Millenium Poverty Reduction Targets in Latin America y el Caribe*. Santiago de Chile.

ECLAC, OLADE, and GTZ (2003). *Energy and Sustainable Development for Latin America and the Caribbean*. Santiago de Chile.

European Union (EU) (2013). *The EU Climate and Energy Package*; available at: http://ec.europa.eu/clima/policies/package/

Fanthorpe, Richard and Roy Maconachie (2010). Beyond the "Crisis of Youth"? Mining, Farming, and Civil Society in Post-war Sierra Leone. *African Affairs*, vol. 109, no. 435, pp. 251–72.

FAO (2010). Global Forest Resources Assessment 2010, Food and Agriculture Organization of the United Nations, Rome; available at: www.fao.org/forestry/fra2010

FAO (2011). The State of the World's Land and Water Resources for Food and Agriculture (SOLAW)—Managing Systems at Risk, FAO, Rome and Earthscan, London.

FAO (2012). Food Wastage Footprints. Factsheet; available at: http://www.fao.org/fileadmin/templates/nr/sustainability_pathways/docs/Factsheet_FOODWASTAGE.pdf.

Fisher, Bredan, R. Kerry Turner, and Paul Morling (2009). Defining and Classifying Ecosystem Services for Decision Making. *Ecological Economics*, vol. 68, no. 3, pp. 643–53.

Foley, Jonathan. A., Ruth DeFries, Gregory P. Asner, Carol Barford, Gordon Bonan, Stephen R. Carpenter, F. Stuart Chapin, Michael T. Coe1, Gretchen C. Daily, Holly K. Gibbs, Joseph H. Helkowski, Tracey Holloway, Erica A. Howard, Christopher J. Kucharik, Chad Monfreda, Jonathan A. Patz, I. Colin Prentice, Navin Ramankutty, Peter K. Snyder (2005). Global Consequences of Land Use. *Science*, vol. 309, no. 5734, pp. 570–4.

Forsgren, Mats (2013). *Theories of the Multinational Firm: A Multidimensional Creature in the Global Economy*. Northampton, MA: Edward Elgar Publishing.

Gareau, Brian J. (2010). A Critical Review of the Successful CFC Phase-out versus the Delayed Methyl Bromide Phase-out in the Montreal Protocol. *International Environmental Agreements: Politics, Law and Economics*, vol. 10, pp. 209–31.

George, Micheal W. (2012). *2011 Minerals Yearbook*, Gold. USGS, available at: http://minerals.usgs.gov/minerals/pubs/commodity/gold/myb1–2011-gold.pdf

Global Environmental Fund (GEF) (2013). About GEF, available at: http://www.thegef.org/gef/whatisgef

Goldemberg, Jose (Coo) (2000). *World Energy Assessment: Energy and the Challenge of Sustainability*. United Nations Pubns.

Goldemberg, Jose (2004). *Development and Energy Overview in Encyclopedia of Energy*. In Cleveland (ed.), New York: Elsevier, pp. 801–7.

Gomiero, Tiziano, David Pimental, and Maurizio G. Paoletti (2011). Environmental Impact of Differential Agricultural Management Practices: Conventional vs. Organic Agriculture. *Critical Reviews in Plant Sciences*, vol. 30, nos. 1–2, pp. 95–124.

Grossman, Gene M. and Alan B. Krueger (1995). Economic Growth and the Environment. *Q. J. Econ.* vol. 110, no. 2, pp. 353–75.

Gupta, Aarti and Robert Falkner (2006). The Infl uence of the Cartagena Protocol on Biosafety: Comparing Mexico, China and South Africa. *Global Environmental Politics*, vol. 6, no. 4, pp. 23–55.

Harbaugh, William, Arik Levinson, and David M. Wilson (2002). Re-examining the Empirical Evidence for an Environmental Kuznets Curve. Rev. *Econ. Stat.*, vol. 84, no. 3, pp. 541–51.

Hediger, Werner (1999). Reconciling "Weak" and "Strong" Sustainability. International Journal of Social Grossman GM, Krueger AB. 1995. Economic Growth and the Environment. *Q. J. Econ.*, vol. 110, pp. 353–75.

Heller, Nicole E. and Erika S. Zavaleta (2009). Biodiversity Management in the Face of Climate Change: A Review of 22 Years of Recommendations. *Biological Conservation*, vol. 142, no. 1, pp. 14–32.

Hertz, Noreena (2004). Corporations on the Front Line. *Corporate Governance*, vol. 12, no. 2, pp. 202–9.

Hooper, D. U., F. S. Chapin, J. J. Ewel, A. Hector, P. Inchausti, S. Lavorel, J. H. Lawton, D. M. Lodge, M. Loreau, S. Naeem, B. Schmid, H. Setälä, A. J. Symstad, J. Vandermeer, and D. A. Wardle (2005). Effects of Biodiversity on Ecosystem Function: A Consensus of Current Knowledge. *Ecological Monographs*, vol. 75, no. 1, pp. 3–35.

Institution of Mechanical Engineers (IME) (2013). *Global Food: Waste Not, Want Not*. London.

Intergovernmental Panel on Climate Change (IPCC) (2007a). *Climate Change 2007: The Physical Science Basis. Contribution of Working Group 1 to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Susan Solomon, Dahe Qin, Martin Manning, Zhenlin Chen, Melinda Marquis, Kristen B. Averyt, Melinda Tignor, and Henry Leroy Miller (eds). Cambridge, UK and New York, NY, USA: Cambridge University Press.

IPCC (2007b). *Climate Change 2007: Synthesis Report*. Bernstein Lenny, Peter Bosch, Osvaldo Canziani, Zhenlin Chen, Renate Christ, Ogunlade Davidson, William Hare, Saleemul Huq, David Karoly, Vladimir Kattsov, Zbigniew Kundzewicz, Jian Liu, Ulrike Lohmann, Martin Manning, Taroh Matsuno, Bettina Menne, Bert Metz, Monirul Mirza, Neville Nicholls, Leonard Nurse, Rajendra Pachauri, Jean Palutikof, Martin Parry, Dahe Qin, Nijavalli Ravindranath, Andy Reisinger, Jiawen Ren, Keywan Riahi, Cynthia Rosenzweig, Matilde Rusticucci, Stephen Schneider, Youba Sokona, Susan Solomon, Peter Stott, Ronald Stouffer, Taishi Sugiyama, Rob Swart, Dennis Tirpak, Coleen Vogel, Gary Yohe. Cambridge, UK and New York, NY, USA: Cambridge University Press.

IPCC (2007c). *Climate Change 2007: Technical Summary Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Metz Bert, Ogunlade Davidson, Peter Bosch, Rutu Dave, and Leo Meyer (eds.). Cambridge, UK and New York, NY, USA: Cambridge University Press.

IPCC (2007d). *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Martin L. Parry, Osvaldo F. Canziani, Jean. Palutikof, Paul van der Linden, and Claire E. Hanson (eds.). Cambridge, UK and New York, NY. USA: Cambridge University Press.

IPCC (2013). *Working Group I Contribution to the IPCC Fifth Assessment Report Climate Change 2013: The Physical Science Basis Summary for Policymakers*,

available at: http://www.climatechange2013.org/images/uploads/WGIAR5-SPM_Approved27Sep2013.pdf

International Energy Agency (IEA) (2012a). *Energy Technology Perspectives 2012, Pathways to a Clean Energy System*. OECD/IEA, Paris, France.

International Energy Agency (IEA) (2012b). *CO2 Emissions from Fuel Combustion. Highlights*. OECD/IEA, Paris, France.

Ivanova, Maria (2012). Institutional Design and UNEP Reform: Historical Insights on Form, Function and Financing. *International Affairs*, vol. 88, no. 3, pp. 565–84.

Jackson, Tim (2009). Prosperity without Growth: Economics for a Finite Planet. London: Earthscan.

Johansson, Thomas (2012). Keynote Address at the 10th Anniversary of the Global Climate & Energy Project Creating a Bright Energy Future—GCEP at 10 Years Stanford University; available at: http://gcep.stanford.edu/pdfs/symposium2012/ThomasJohansson_Symp2012_web.pdf

Kallis, Giorgos, Christian Kerschner, and Joan Martinez-Alier (2012). The Economics of Degrowth. *Ecological Economics*, vol. 84, no. 4, pp. 172–80.

Khor, Martin (2009). *The Food Crisis, Climate Change and the Importance of Sustainable Agriculture*. Environment & Development Series no. 8. Th ird world network (TWN).

Khor, Martin (2011). Risks and Uses of the Green Economy Concept in the Context of Sustainable Development, Poverty and Equity. South Centre; available at: http://www.twnside.org.sg/title2/uncsd2012/RP40_GreenEcon_concept_MKJul11.pdf

Klapwijk, Philip, Neil Meader, Philip Newman, William Tankard, Peter Ryan, Cameron Alexander, Rhona O'Connell, Junlu Liang, Marcin Szczypka, Matthew Piggott, George Coles, Saida Litosh, Sudheesh Nambiath, (2012). *Gold Survey 2012*. London, United Kingdom: Thomson Reuters GFMS Ltd.

Le Prestre, Philippe G., John D. Reid, and E. Thomas Morehouse (1998). *Protecting the Ozone Layer: Lessons, Models and Prospects*. Boston, MA: Kluwer Academic.

Liu, Jianguo and Jared Diamond (2005). China's Environment in a Globalizing World. *Nature*, vol. 435, no. 7046, pp. 1179–86.

Lu, Bao Rong and Allison A. Snow (2005). Gene Flow from Genetically Modified Rice and Its Environmental Consequences. *BioScience*, vol. 55, no. 8, pp. 669–78.

Mani, Akshay, Madhav Pai, and Rishi Aggarwal (2014). *Sustainable Urban Transport in India: Role of the Auto-rickshaw Sector*. World Resources Institute, EMARQ; available at: http://pdf.wri.org/sustainable_urban_transport_india.pdf. (accessed December 1, 2014).

Martinelli, Luiz A. and Solange Filoso (2008). Expansion of Sugarcane Ethanol Production in Brazil: Environmental and Social Challenges. *Ecological Applications*, vol. 18, no. 4, pp. 885–98.

Martinez-Alier, Joan (2009). Socially Sustainable Economic De-growth. *Development and Change*, vol. 40, pp. 1099–1119.

Martinez-Alier, Joan (2012). Environmental Justice and Economic Degrowth: An Alliance between Two Movements. *Capitalism Nature Socialism*, vol. 23, pp. 51–73.

Martinez-Alier, Joan., Unai Pascual, Franck-Dominique Vivien, and Edwin Zaccai (2010). Sustainable De-growth: Mapping the Context, Criticisms and Future Prospects of an Emergent Paradigm. *Ecological Economics*, vol. 69, pp. 1741–7.

Meadows, Donella H., Demisse H. Meadows, Jorgen Randers, and William W. Behrens III (1972). *The Limits to Growth: A Report to The Club of Rome*. New York: Universe Books.

Merino-Pérez, Leticia and Deborah Barry (2005). *The Community Forests of Mexico*. D. B. Bray (ed.). Austin: University of Texas Press.

Meyer, Ina and Stephan Wessely (2009). Fuel Efficiency of the Austrian Passenger Vehicle Fleet—Analysis of Trends in the Technological Profi le and Related Impacts on CO2 Emissions. *Energy Policy*, vol. 37, no. 10, pp. 3779–89.

Millennium Ecosystem Assessment (MA) (2005). *Ecosystems and Human Well-being: Desertification Synthesis*. World Resources Institute: Washington, DC; available at: http://www.millenniumassessment.org/documents/document.355.aspx.pdf

Miller, Alan and Iriving Mintzer (1986). *The Sky Is the Limit: Strategies for Protecting the Ozone Layer*. Washington, DC: World Resources Institute.

Mitchel, Ronald B. (2013). *The International Environemnatl Agreement Data Project*; available at: http://iea.uoregon.edu

Molina, Mario and Frank Sherwood Rowland (1974). Stratospheric Sink for Chlorofluoromethanes: Chlorine Atom-catalyzed Destruction of Ozone. *Nature*, vol. 249, no. 5460, pp. 810–12.

NEF (2009). *Growth Isn't Possible*. London: New Economics Foundation.

Nicholls, Richard J. T, Frank M. Hoozemans, and Marcel Marchand (1999). Increasing Flood Risk and Wetland Losses Due to Global Sea-level Rise: Regional and Global Analyses. *Global Environmental Change*, vol. 9, pp. S69–S87.

Nørgård, Jørgen Stig John Peet, and Kristín Vala Ragnarsdóttir (2010). The History of the Limits to Growth. *Solutions Journal: For a Sustainable and Desirable Future*, vol. 1, no. 2, pp. 59–63.

Norgaard, Richard B. (1994). *Development Betrayed: The End of Progress and a Coevolutionary Revisioning of the Future*. London: Routledge.

Ocampo, Jose Antonio, Aaron Cosbey, and Martin Khor (2010). The Transition to a Green Economy: Benefits, Challenges and Risks from a Sustainable Development Perspective. In Report by a Panel of Experts to Second Preparatory Committee Meeting for United Nations Conference on Sustainable Development. Division for Sustainable Development, UNDESA.

Odum, Howarth T. and Elisabeth C. Odum (2001). *A Prosperous Way Down: Principles and Policies*. Colorado: University Press of Colorado.

OECD (2013). *Glossary of Statistical Terms*; available at: http://stats.oecd.org/glossary/detail.asp?ID=824

Olmstead, Sheila M. (2010). The Economics of Water Quality. *Review of Environmental Economics and Policy*, vol. 4, no. 1, pp. 44–62.

Palmer, Margaret A., E. S. Bernhardt, W. H. Schlesinger, K. N. Eshleman, E. Foufoula-Georgiou, M. S. Hendryx, A. D. Lemly, G. E. Likens, O. L. Loucks, M. E. Power, P. S.

White, and P. R. Wilcock (2010). Mountaintop Mining Consequences. *Science*, vol. 327, no. 5962, pp. 148–9.

Parry, Ian W., Roberton C. Williams III, and Lawrence H. Goulder (1999). When Can Carbon Abatement Policies Increase Welfare? The Fundamental Role of Distorted Factor Markets. *Journal of Environmental Economics and Management*, vol. 37, no. 1, pp. 52–84.

Poletti, Arlo and Daniella Sicurelli (2012). The EU as Promoter of Environmental Norms in the Doha Round. *West European Politics*, vol. 35, no. 4, pp. 911–32.

Prahalad, Coimbatore Krishna and Yves Doz (1987). *The Multinational Mission: Balancing Local Demands and the Global Vision*. New York: Free Press.

Pruss-Ustun, Anette, Robert Bos, Fiona Gore, and Jamie Bartram (2008). *Safer Water, Better Health: Costs, Benefi ts and Sustainability of Interventions to Protect and Promote Health*. World Health Organization, Geneva; available at: http://www.who.int/quantifying_Ehimpacts/publications/saferwater/en/index.html

PWC (2013). *Global Top 100 Companies by Market Capitalization*; available at: http://www.pwc.com/gx/en/audit-services/capital-market/publications/top100-marketcapitalisation.Jhtml

Rees, William E. (2006). Ecological Footprints and Biocapacity: Essential Elements in Sustainability Assessment. Renewables-based Technology: Sustainability Assessment, pp. 143–57.

Rosas, Jorge, Claudia Sheinbaum, and David Morillon (2010). The Structure of Household Energy Consumption and Related CO2 Emissions by Income Group in Mexico. *Energy for Sustainable Development*, vol. 14, no. 2, pp. 127–33.

Sæverud, Ingvild Andreassen; and Jon Birger Skjærseth (2007). Oil Companies and Climate Change: Inconsistencies between Strategy Formulation and Implementation? *Global Environmental Politics*, vol. 7, no. 3, pp. 42–62.

Schipper, Lee and Celine Lilliu (1999). More Motion, More Speed, More Emissions: Will Increases in Carbon Emissions from Transport in IEA Countries Turn Around? In Energy Efficiency and CO2 Reductions: The Dimensions of the Social Challenge, ECEEE 1999 Summer Study (LBNL-43747).

Schipper, Lee, Celine Marie-Lilliu, and Roger Gorham (2000). *Flexing the Link between Transport and Greenhouse Gas Emissions: A Path for the World Bank*. Paris: International Energy Agency.

Schipper, Lee, Lynn Scholl, and Lynn Price (1997). Energy Use and Carbon Emissions from Freight in 10 Industrialized Countries: An Analysis of Trends from 1973 to 1992. *Transp Res D: TranspEnviron*, vol. 2, no. 1, pp. 57–76.

Schor, Juliet B. (2011). *True Wealth: How and Why Millions of Americans Are Creating a Time-rich, Ecologically Light, Small-scale, High-satisfaction Economy*. New York: Penguin.

Shah, Anuar and Bjorn Larsen (2014). Carbon Taxes, the Greenhouse Effect, and Developing Countries. *Annals of Economics and Finance*, vol. 15, no. 1, pp. 353–412.

Sheinbaum-Pardo, Claudia and Carlos Chávez-Baheza (2011). Fuel Efficiency of New Cars in Mexico: Trends from 1988 to 2008. *Energy Policy*, vol. 39, no. 12, pp. 153–62.

Solecki, William, Karen C. Seto, and Peter J. Marcotullio (2013). It's Time for an Urbanization Science. *Environment: Science and Policy for Sustainable Development*, vol. 55, pp. 12–17.

Stern, David I. (2004). The Rise and Fall of the Environmental Kuznets Curve. *World Development*, vol. 32, no. 8, pp. 1419–39.

Stern, David I., Michael S. Common, and Edward B. Barbier (1996). Economic Growth and Environmental Degradation: The Environmental Kuznets Curve and Sustainable Development. *World Development*, vol. 24, pp. 1151–60.

Stern, Nicholas N. H. (ed.) (2007). *The Economics of Climate Change: Th e Stern Review*. Cambridge: Cambridge University Press.

Stiglitz, Joseph E. (2006). *Making Globalization Work*. New York: W.W. Norton and Company Inc.

Stiglitz, Joseph E. (2007a). Multinational Corporations: Balancing Rights and Responsibilities. *Am. Soc'y Int'l L. Proc* 101: 3.

Stiglitz, Joseph E. (2007b). Regulating Multinational Corporations: Towards Principles of Cross-Border Legal Frameworks in a Globalized World Balancing Rights with Responsibilities. *American University International Law Review*, vol. 7, pp. 453–558.

Stiglitz, Joseph E., Amartya K. Sen, and Jean-Paul Fitoussi (2010). *Mismeasuring Our Lives: Why GDP Doesn't Add Up. Report by the Commission on the Measurement of Economic Performance and Social Progress*. New York: New Press.

Sunstein, Cass R. (2007). Of Montreal and Kyoto: A Tale of Two Protocols. *Harv. Envtl. L. Rev*. vol. 31, no. 1.

Tiwari, Reena, Robert Cervero, and Lee Schipper (2011). Driving CO2 Reduction by Integrating Transport and Urban Design Strategies. *Cities*, vol. 28, no. 5, pp. 394–405.

Toledo-Aceves, Tarin, Jorge A. Meave, Mario González-Espinosa, and Neptali Ramírez-Marcial (2011). Tropical Montane Cloud Forests: Current Threats and Opportunities for Their Conservation and Sustainable Management in Mexico. *Journal of Environmental Management*, vol. 92, no. 3, pp. 974–81.

Turner, R. Kerry, David Pearce, and Ian Bateman (1994). *Environmental Economics: An Elementary Introduction*. Harvester Wheatsheaf.

UN (2005). The Energy Challenge for Achieving the Millennium Development Goals; available at http://www.un-energy.org/sites/default/files/share/une/un-enrg_paper.pdf

UN (2012a). UN Secretary General Report to the Preparatory Committee for the Rio+20 (A/CONF.216/PC/2); available at: http://daccess-ods.un.org/TMP/2840371.72794342.html

UN (2012b). Resolution Adopted by the UN General Assembly. 66/288. Th e Future We Want.

UN (2012c). Resolution Adopted by the UN General Assembly. 67/213 UNEP.

UN (2013). World Economic Situation and Prospects 2013. Sales No. E.13.II.C.2.

UNCBD (2010b). Strategic Plan 2011–2020; available at: http://www.cbd.int/sp/

UNCBD (2013a). Th e Cartagena Protocol on Bioseft y; available at: http://bch.cbd.int/protocol/

UNCBD (2013b). Th e Nagoya Protocol on Access and Benefi t-sharing; available at: http://www.cbd.int/abs/

UNCCD (2011). Desertifi cation: A Visual Synthesis; available at: http://www.unccd.int/Lists/SiteDocumentLibrary/Publications/Desertification-EN.pdf
UNCCD (2012). Worsening Factors. Bonn: UNCCD Secretariat; available at: http://www.unccd.int/en/programmes/Thematic-Priorities/Food-Sec/Pages/Wors-Fact.aspx.
UNCCD (2013a). Preliminary Conference Report. Th e Synthesis and Recommendations Version 15.04.2013 Draft prepared by Global Risk Forum GRF Davos; available at: http://2sc.unccd.int/conference-documents/preliminaryconference-report/
UNCCD (2013b). Strategic Plan for Biodiversity 2011–2020, including Aichi Biodiversity Targets; available at: https://www.cbd.int/sp/
UN Convention of Biological Diversity (UNCBD) (2010a). Global Biodiversity Outlook 3. Secretariat of the Convention on Biological Diversity Montréal.
UN Department of Economic and Social Aff airs (2013). World Economic and Social Survey 2013. Sustainable Development Challenges.
United Nations Development Program (UNDP) (2006). Human Development Report 2006. Beyond Scarcity: Power, Poverty and the Global.
UNDP (2011). Human Development Report 2011. Sustainability and Equity: A Better Future for All.
UNDP (2013a). Sustainable Land Management; available at: http://www.undp.org/content/undp/en/home/ourwork/environmentandenergy/focus_areas/sustainable_landmanagement.html
UNDP (2013b). Human Development Report 2013. The Rise of the South: Human Progress in a Diverse World.
UNDP (2013c). Powerful DSynergies Gender Equality, Economic Development and Environmental Sustainability.
United Nations Environment Program (UNEP) (2007). Global Environmental Outlook Geo 4. Nairobi.
UNEP (2011). Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication; available at: www.unep.org/greeneconomy
UNEP (2012a). Global Environmental Outlook Geo 5. Nairobi.
UNEP (2012b). Advancing Justice, Governance and Law for Environmental Sustainability.
UNEP (2013a). UNEP Year Book: Emerging Issues in Our Global Environment; available at: http://www.unep.org/yearbook/2013
UNEP (2013b). Proceedings of the Governing Council/Global Ministerial Environment Forum at its First Universal Session; available at: http://www.unep.org/gc/gc27/
UNFCCC (2013). Annex 1 countries inventories of GHG; available at; http://unfccc.int/ghg_data/items/3800.php
UN Framework Convention on Climate Change (FCCC). 2012. CDM Report.
UN Habitat (2013). Time to Think Urban. 24th Session Governing Council. Nairobi. April.
Urkidi, L. and M. Walter (2011). Dimensions of Environmental Justice in Anti-gold Mining Movements in Latin America. *Geoforum*, vol. 42, no. 6, pp. 683–95.

US Energy Information Administration. 2013. International Database.

US Environmental Protection Agency (USEPA) (2007). Stratospheric Ozone Depletion. Progress Report. USEPA Office of Air and Radiation Washington, DC.

USEPA (2010). *Proposed Air Pollution Transport Rule. USEPA Offi ce of Air and Radiation*; available at: http://www.epa.gov/airquality/transport/pdfs/TRPresentationfi nal_7–26_webversion.pdf

USEPA (2013). *Ozone Layer Protection*; available at: http://www.epa.gov/ozone/strathome.html

van Tulder, Rob and Alex van der Zwart (2006). *International Business-Society Management: Linking Corporate Responsibility and Globalization*. New York: Taylor and Francis.

Ved, Nanda and George R. Pring (2012). *International Environmental Law and Policy for the 21st Century* (2nd revised edition). The Netherlands: Martinus Nijhoff Publishers.

Victor, Peter (2010). Questioning Economic Growth. *Nature*, vol. 468, pp. 370–1.

Vijge, Marjanneke J. (2013). The Promise of New Institutionalism: Explaining the Absence of a World or United Nations Environment Organisation. *Int Environ Agreements*, vol. 13, pp. 153–76.

Vogt, J. V., U. Safriel, G. Von Maltitz, Y. Sokona, R. Zougmore, G. Bastin, and J. Hill (2011). Monitoring and Assessment of Land Degradation and Desertifi cation: Towards New Conceptual and Integrated Approaches. *Land Degradation and Development*, vol. 22, no. 2, pp.150–65.

Wackernagel, Mathis and William E. Rees (1996). *Our Ecological Footprint: Reducing Human Impact on the Earth*. Philadelphia: New Society Publishers.

WHO (2009). Global Health Risks: Mortality and Burden of Disease Attributable to Selected Major Risks. World Health Organization, Geneva; available at: http://whqlibdoc.who.int/publications/2009/9789241563871_Eng.pdf

WHO (2011). Arsenic in Drinking-water. Background Document for Development of WHO Guidelines for Drinking-water Quality. WHO/SDE/WSH/03.04/75/Rev/1; available at: http://www.who.int/water_sanitation_health/dwq/chemicals/arsenic.pdf

Wiener, Jonathan B. and John D. Graham (2009). *Risk vs. Risk: Tradeoff s in Protecting Health and the Environment*. Cambridge: Harvard University Press.

Wilson, E. O. (2002). *The Future of Life*. New York: Alfred A. Knopf.

World Trade Organization (WTO) (2013). The Doha Mandate on Multilateral Environmental Agreements.

Yimin, Yee, Kevern Cochrane, Gabriella Bianchi, Rolf Willmann, Jacek Majkowski, Merete Tandstad, and Fabio Carocci (2013). Rebuilding Global Fisheries: The World Summit Goal, Costs and Benefits. *Fish and Fisheries*, vol. 14, no. 2, pp. 174–85.

Young, Oran R. (2012). Sugaring Off: Enduring Insights from Long-term Research on Environmental Governance. *International Environmental Agreements: Politics, Law and Economics*, vol. 13, no. 1, pp. 87–105.

Zhang, ZhongXiang (2009). Multilateral Trade Measures in a Post 2012 Climate Change Regime. Nota Di Lavoro Fundazzione Eni Enrico Mattei.

9

Human Rights, Economic Governance, and International Cooperative Action

Sakiko Fukuda-Parr and Rachael Wyant

1. Introduction

The need to end poverty remains a fundamental political objective for the international community, requiring cooperation among countries. While other chapters of this volume focus on particular policy areas of international rules and collective action, this chapter takes the reverse approach and focuses on the poverty—conceptualized in the human centered and capability perspective as multidimensional deprivation in well-being—to identify relevant global policies. In particular, the purpose of the chapter is to identify the nature of international cooperation that is required from the normative perspective of human rights.

The chapter uses international human rights norms as an evaluative framework for assessing the design of global economic policies and institutions; are global governance arrangements adequate to promote the well-being of people and end poverty as defined by the norms of international human rights? In adopting these arrangements, are governments compliant with their obligations to take appropriate measures to fulfill human rights?

There is widespread agreement that the international objectives of development and poverty reduction must be consistent with human rights norms and principles. This principle is reflected for example in the Millennium Declaration and the Outcome document of the Open Working Group on the Sustainable Development Goals (UN Open Working Group on the Sustainable Development Goals, 2014). It has been an important issue in the on-going debates on the post-2015 development agenda[1] as the MDGs were criticized

for some inconsistencies with human rights norms (e.g., Office of the High Commissioner for Human Rights [OHCHR] 2008).

International human rights provide an overarching normative framework that sets out principles and standards that states have committed to by signing and ratifying treaties. This framework spells out not only the rights of individuals but also the obligations of states parties to ensure the full realization of human rights for all people within their national borders. Human rights are the minimum conditions necessary for individuals to live with the dignity and freedom, and while all categories of rights are important aspects of poverty reduction, economic and social rights are particularly central to key poverty objectives. These rights—to education, employment, food, health, housing, an adequate standard of living, and social security—and corresponding state duties—are elaborated in the International Covenant on Economic, Social and Cultural Rights (ICESCR) (United Nations, 1966) and related legal documents.

Human rights differ from development aspirations in that they incur correlative obligations, notably of states. As articulated in General Comment 3 of the Committee on Economic, Social, and Cultural Rights (Committee on Economic, Social, and Cultural Rights, 1990), these duties include three-fold responsibilities: to respect rights of individuals; to protect rights from being infringed upon by third parties; and to fulfill rights by taking proactive action to promote their realization. These measures are not limited to legal provisions but include a wide range of public policy tools including trade rules, macroeconomic policies, regulation of private investments, international economic agreements, and many other interventions (Balakrishnan and Elson, 2011).

This framework has important implications for the design of all public policies and the criteria by which they should be assessed, including policies that governments adopt as members of the international community in setting or agreeing to global economic governance rules and institutions. It introduces a particular set of objectives and criteria for evaluation, which are primarily concerned with a policy's contribution to the realization of human rights, with particular emphasis on the principles of equality and nondiscrimination, participation, and social justice. Used in assessing policies and institutions, these criteria differ from those that are conventionally used in the field of global governance. They would focus on the well-being of the individual as the unit of analysis rather than the economic health of a national or global economy. They would be particularly concerned with the distributional

consequences of policy, and special attention would be given to the poorest and the most marginalized. Balakrishnan and Elson explain

> In the latter, policy is judged in terms of a utilitarian framework, in which the best policies are judged to be those that are likely to maximize utility. This is operationalized in terms of maximizing the level and rate of growth of the country's gross national product (GNP) . . . But the goal of economic growth cannot be substituted for the goal of realizing human rights. Human rights obligations prescribe priority to human rights, not economic growth, which must be seen as a potential means for realizing human rights, not an end in itself. (Balakrishnan and Elson, 2011, p. 12)

Heterodox economic frameworks, such as Keynesian and Structural approaches, emphasize objectives such as full employment and transforming economy's productive capacity, but they are not fully concerned with the well-being of the individual. Human rights criteria overlap considerably with the policy priorities of human development and capabilities approach (Fukuda-Parr, 2011).

The framework also differs in terms of institutions. States have treaty obligations to fulfill human rights under the International Covenant on Economic, Social, and Cultural Rights and other instruments by implementing appropriate public policies, and these legal instruments define the norms and principles of rights and duties in specific terms that the capabilities approach does not. So states are accountable to the international community and to the people within their borders for these commitments.

Do these human rights obligations apply beyond domestic policies to global policies and institutions? While states have duties to implement policies to realize rights, it may be argued that these duties are not relevant to global governance because state obligations are limited to individuals within their borders. The international human rights system is centered around the responsibility of states to people within their borders. While recognizing this principle, we argue that fulfilling rights requires international cooperation to address obstacles that states cannot resolve on their own. Furthermore, there are ethical and moral reasons why governments need to cooperate, and states have long recognized the importance of international cooperation since the Universal Declaration of Human Rights in 1948.

The chapter starts by explaining empirically why international cooperative action is required for ending poverty and improving well-being, illustrated by the case of hunger and malnutrition. We then consider the human rights

implications of these empirical trends; that states have an obligation to take a range of measures to address international constraints to the realization of human rights and be accountable to the international community and to their people for doing so. We then explore further the human rights norms regarding state obligations for international cooperation and "extra-territorial obligations" (ETOs), and the ways in which these principles have been applied in recent years.

2. The need for international cooperative action to assure human well-being

Through processes of globalization, states and their citizens do not operate in a bubble; they exist in a rapidly integrating political and economic global order. The need for international cooperation arises because there are many urgent challenges and obstacles to reducing poverty and ensuring human well-being that cannot be addressed by national governments on their own. This constraint on national governments is often due to one of the four reasons: problems require a domestic policy response but the country faces resource constraints; policy response requires addressing problems that originate in actions beyond national borders, or in short, global "bads" that travel across boundaries; problems require reforms of international rules; and investments in global technologies are needed.

In this section we illustrate these situations with the obstacles to ending hunger and malnutrition and realizing the right to food that currently affect an estimated one in eight people, and one in four children under five. Hunger and malnutrition are concentrated in South Asia and Sub-Saharan Africa, and among the rural population and small-scale farmers (IFPRI, 2013). Hunger and malnutrition result from individuals and households having lost the means to acquire food. Sen refers to these means as "entitlements" and identifies three categories of accessing food: wage exchange; own production; and social transfers (Sen, 1990). National governments can deploy a range of policies to reduce hunger and malnutrition by strengthening the "entitlements" such as by strengthening incomes or reducing food prices; own production by strengthening productivity of the food insecure; and social transfers by strengthening social protection measures. Many of these measures can be implemented as domestic policies but there are several situations that require international cooperation.

2.1. Domestic resource constraints

First, some countries face severe resource constraints in implementing the necessary policy measures: in particular, low income and least developed countries are unable to in finance high priority development investments from domestic savings and borrowing. For example, there is widespread consensus that investing in support systems for small-scale farmers such as transport and storage infrastructure, and research in pro-poor sustainable crop and livestock technologies, particularly in Sub-Saharan Africa, is one of the top priorities in the agenda for combating global hunger (see for example von Braun, 2014; IFPRI, 2013). Many countries with high levels of hunger and malnutrition (though not all countries, notably India, which is home to about a third of the world's hungry) lack the financial and technical capacity to implement these programs and will require international cooperation.

Historically, resource transfer through aid, debt relief, and other mechanisms has been the primary form of cooperation for development and has often defined the political and economic relationship between resource poor and resource rich countries. Though there are controversies about the volume of aid that is required, the principle of cooperation has been widely accepted since the 1950s. More recently, since the 1990s and particularly since the launch of the Millennium Development Goals (MDGs) in 2001, development aid has increasingly been directed at poverty reduction and social investments, particularly in health. Moreover, a global initiative to encourage all countries to develop social protection floors has gained momentum (see Social Protection Floor Advisory Group, 2011; de Schutter and Sepulveda, 2012).

2.2. Global bads travel across boundaries

Second, several of the most important challenges for poverty reduction are global in nature. Actions taken by actors in one country have repercussions on the well-being of people across borders. Some have severe consequences on people's lives, increase poverty in poor countries and inequality between countries, and pose major obstacles to reducing poverty, inequality, and the realization of human rights.

For example, carbon emissions in one country contribute to global warming and have wide-ranging consequences on people everywhere, both positive and negative. Climate change is one of the major threats to food security in the years ahead (Von Braun, 2013). Climate change is likely to drive shifts in production

potential throughout the world, shifting productivity, production, and prices. While the shifts will be both positive and negative as well as location specific, studies consistently point to overwhelmingly negative consequences for farmers in the most vulnerable environments (IFPRI, 2009). Rising temperatures, changing precipitation patterns, and extreme weather events will increase the likelihood of crop failures, reduce yields, and encourage pests and weeds. Scenario studies by IFPRI predict major yield and production losses for wheat, rice, and maize in the most food insecure regions: South Asia and Sub-Saharan Africa (IFPRI, 2009). Assuming no adaptive investments, child malnutrition could increase by 20 percent by 2050, erasing the gains made in previous decades (IFPRI, 2009).

2.3. Reforms required in international economic rules

Third, the design of existing international policies and rules, or gaps in them, can be a major constraint to national efforts to reduce poverty and promote pro-poor development.

International rules on trade, investment, and movement of people have distributive effects. Certain rules can have negative consequences for some countries and groups of people within countries. International cooperation is needed to create and design rules compatible with poverty reduction and human rights priorities.

One of the major challenges for strengthening food security for countries with high levels of hunger and malnutrition is the WTO Agreement on Agriculture (AoA). National governments can pursue a range of public policies to fulfill the right to food—public procurement from small-scale farmers using administered prices, subsidized prices for consumers, holding food stocks to facilitate public distribution and for regulating price fluctuations. But many such measures are potentially inconsistent with these trade rules. Originating in the global food environment of low prices and excess production of the 1970s and 1980s, and responding to the needs of countries in Europe and North America, the AoA was not designed to address hunger and malnutrition objectives. As a result, many of the provisions are not consistent with these objectives and constrain implementation of necessary domestic action (de Schutter, 2011) (FAO, 2003) (ICTSD, 2009). The AoA refers to national support measures for agriculture in several categories, and sets minimum allowable levels of "trade distorting" measures, evaluated by a complex set of criteria. Many of the support measures fall into a "gray zone" and countries face uncertainty as to the trade consequences of adopting them; "States are less likely to initiate

creative policies without strong assurances and confidence that new policies will not negatively affect third parties' commercial interests and leave them exposed to potential litigation" (de Schutter, 2011, p. 3). Poor countries are particularly averse to taking such risks given their lack of technical capacity and bargaining power in international disputes negotiations. This presents a major issue for many countries with a large sector of small-scale family producers who are food insecure and that compete in the same global markets; the case of West Africa cotton farmers who compete against US and EU farmers is a well-publicized case in point.

Developing countries, where hunger and malnutrition are widespread and an urgent priority, have long pressed for revisions in these rules to permit the use of measures including stockholding, and a variety of other means to combat poverty, including land reform and rural development programs. The issue came to a head in the Bali ministerial conference in March 2014 when India, together with a group of developing countries, pushed for an agreement on public stockholding and procurement at administered prices, a major component of their ambitious food security policy.

Overall, the Agreement on Agriculture leaves much broader policy scope for developed countries than for developing countries. The level of support to agriculture in developed countries remains very high (Demeke et al., 2012) using a wide range of government subsidies, such as income support that are not considered trade distorting and permitted. Agreement on Agriculture was designed in the context of the 1980s and 1990s to address OECD agricultural policies intended to support incomes and provide insurance against the natural risks of agriculture, and when developing countries were being encouraged to liberalize the sector to stimulate production. Food security in poor countries and of poor households within them was not the major concern.

Apart from the overall negative effect of these measures on developing country producers, the more important issue is the disregard of human rights principles in these agreements. The international community is pursuing free trade at the expense of hunger and malnutrition. A second important point is the inequity in these global trade rules that are pitched against developing country farmers—where income support to EU and US farmers do not face the same restrictions as subsidies to consumers in India. They accommodate the measures that were established in developed countries to suppress production in an era of depressed prices and abundant production. They need to be changed to meet the needs of the twenty-first century in which the challenges are high prices and potential

new pressures on production from climate change, polluting technology, and competition for fuel (de Schutter, 2011).

Sometimes, it is the absence of international regulation that poses an obstacle to ending hunger and malnutrition. Food prices and household incomes are important determinants of hunger and malnutrition; typically food accounts for over half of household expenditures for lowest income quintiles in poor countries (von Braun, 2014). Both food prices and household incomes are vulnerable to instability in global markets. The 2007/8 crises in food and finance were not single events but heralded a new era of increasing volatility and rising prices in world food markets, interrelated with fuel and financial markets (von Braun, 2013). While the 1970s, 1980s, and 1990s were characterized by abundant production and low international food prices, the current context is marked by rising and volatile world market prices and constraints to production. Prices rose dramatically for major staple crops—rice, maize, and wheat—which more than doubled. After a short decline, prices started to climb again (HLPE, 2011).

Though domestic prices do not always mirror international price trends and levels, the 2007/8 price hikes led to a sharp rise in food prices in most developing countries (HLPE, 2011). World market price increases threaten food security for poor households; as von Braun illustrates "the most relevant price for the poor is the price of grain . . . the price increase (in 2011) implies that a kilo for wheat in many developing countries costs about $0.30 instead of $0.15—a critical difference for a person who lives on $1 a day" (von Braun, 2013, p. 163). Foods represent a substantial portion of expenditures of a poor household in poor countries; for countries in Asia and Africa with data, it was generally over 50 percent in the early 2000s prior to the 2007 crisis (e.g., 76% in Kenya, 75% in Pakistan in 2005, 63% in the Philippines) compared with a range of 10–25 percent in Western Europe (e.g., for 2003, 24% in France, 18% in the United States, 11% in the Netherlands) (FAO, 2014).

In 2011, maize prices were higher by 105 percent, and wheat by 102 percent compared with the previous year. Such price hikes have devastating consequences for food security of net purchasers and have pushed millions into poverty (Agarwal, 2011; von Braun, 2014). Price increases erode exchange entitlements—the means that households have to access food in exchange for wages or other incomes. Households adjust to such fall in wage/exchange entitlements in a variety of ways including shifting to less costly and less diverse diets, deficient in the essential nutrients that are particularly important for women in, and for young children. Studies of eleven countries with data available found that in eight of them malnutrition increased or improvements slowed during 2007/10

(von Braun, 2013). Women also bear the brunt of coping, often reducing their own consumption in favor of other members, but also spending more time on preparation and processing of food, adding to their unpaid household work (Quisumbing, Meinzen-Dick, and Bassett, 2008). FAO estimates some 173 million were added to the number of undernourished people in this period (HLPE, 2011, p. 11). It is argued that higher prices would improve producer incomes and stimulate production. Yet as already noted, when farmers lack the necessary inputs and resources, they are less able to respond to the incentives.

Inadequate regulation of international financial system is another gap in international rules that lies at the source of hunger and malnutrition. The global financial crisis of 2008 started with events in one country and quickly spread around the world. Though the consequences varied greatly from one country to another, no country was unaffected, and in many, increased poverty, weakening household access to food. While national governments can deploy measures to protect their people from the effects of these financial crises—such as through the adoption of counter-cyclical economic policy measures, and robust social protection policies, international cooperative action is needed to fill gaps in international prudential financial regulation, financing of counter-cyclical measures, and reform of the international monetary system.

2.4. Global technologies

Fourth, technological innovation has been one of the major drivers of human progress—whether it is vaccines for childhood diseases that cut child mortality, or the printing press of earlier centuries and the internet of the twentieth century that radically expanded communications, or improved crop varieties that has driven increases in food production. Yet the benefits of these advances are not evenly distributed and may well not reach deprived populations who may also be negatively affected. Market incentives for investment in innovation—centered on tight intellectual property protection under the TRIPS agreement—favor technologies that yield high financial returns, not social returns. This has led to underinvestment in technologies central to improving the lives of the poorest people, such as medicines for malaria and other tropical diseases, clean energy for areas out of reach of electrical grids, and technology for sustainable food crop production in marginal environments. There has been a historic underinvestment in improved crop varieties and sustainable technologies for food crops and small-scale producers in Sub-Saharan Africa. This no doubt underlies that the stagnation in food crop yields in Africa have

barely improved since the 1960s while they have at least more than doubled in other regions of the world.

These are just some examples to illustrate the limitations of domestic action in promoting human development and fulfilling core economic and social rights, not just hunger and malnutrition. Examples of similar obstacles requiring international cooperative action abound—from the lack of international taxation coordination leading to drained resources for financing social investments in LDCs, to consequences of the rules of intellectual property that constrain access to life-saving drugs, to the under-regulation and impunity of corporations creating environmental havoc.

3. Implications for human rights and state accountability

The examples in the previous section illustrate the need for international cooperative action for ending hunger and malnutrition, and the importance of global economic rules and institutions in realizing the right to food. Evaluated according to human rights principles, poor development outcomes such as widespread hunger and malnutrition, "signif(y) an unacceptable level of deprivation of well-being" (Sengupta, 2002, p. 885). They are failures of national economic policies and failures of states to fulfill the right to food for which the states in question should be held to account by the international community as well as by their people.

Within the terms of rights, addressing systemic hunger and malnutrition in developing countries obliges all countries not only to increase aid but to take a wide range of policy measure to progressively realize the right to food. The right to food demands a holistic solution to addressing hunger and malnutrition—it includes access to and control over means of production, access to appropriate resources, technology, and markets. Realizing the full right to food requires legislative and administrative action, not just short-term distribution fixes or food aid.

A rights framework also allows those that are hungry or suffering from malnutrition to place legal claims on their duty bearers, the state, facilitates their participation in decision-making, and also acknowledges the complicity of other states and the international economic structures and policies in impeding the domestic ability to progressively realize the right to food. Particularly pertinent in the context of development policy and financing, they provide an important shift away from the charitable approach to development and previous

conceptions of the welfare state. "The real potential in human rights lies in its ability to change the way people perceive themselves vis-à-vis the government and other actors . . . Rights make it clear that violations are neither inevitable nor natural, but arise from deliberate decisions and policies" (Uvin, 2004, p. 130).

What are the implications for accountability of states? First we consider implications for state responsibility to the human rights of people within their borders (State A and Population A). As explained, international human rights law articulates three types of state obligations in realizing rights: to respect, protect, and fulfill. The latter two are positive obligations requiring states to take proactive steps to ensure the full enjoyment of rights by taking "all appropriate means" (art. 2, United Nations, 1966). In its General Comment 3, the Committee on Economic, Social and Cultural Rights explains that what is appropriate depends on the circumstances and includes a wide range of public policy measures (Committee on Economic, Social and Cultural Rights, 1990). In the case of the right to food, these measures are not limited to distribution of food, but facilitating access so all can acquire food; General Comment 11 on the right to adequate food states: "The obligation to fulfil incorporates both an obligation to facilitate and an obligation to provide . . . The obligation to fulfil (facilitate) means the State must proactively engage in activities intended to strengthen people's access to and utilization of resources and means to ensure their livelihood, including food security. Finally, whenever an individual or group is unable, for reasons beyond their control, to enjoy the right to adequate food by the means at their disposal, states have the obligation to fulfil (provide) that right directly. This obligation also applies for persons who are victims of natural or other disasters" (UN Committee on Economic, Social and Cultural Rights 1999, para 15). The General Comment goes on to explain that the "means" that the State must deploy include a wide range of policy instruments, in a coherent national strategy that "should address critical issues and measures in regard to all aspects of the food system, including the production, processing, distribution, marketing and consumption of safe food, as well as parallel measures in the fields of health, education, employment and social security" (UN Committee on Economic, Social and Cultural Rights 1999, para 25). In this context, engaging in international cooperative action must surely be an element of a coherent strategy.

Thus states have an obligation to enter into international cooperation to seek additional resources, tackle global bads, negotiate international rules, and invest in global technologies. These human rights objectives, however may diverge from their priorities such as national economic growth or structural transformation,

which might be achieved at a cost to human rights. For example, a country may find that measures to reduce carbon emissions and combat climate change that threatens the right to food for subsistence farmers might interfere with industrialization. They may compromise on reforms of the AoA in WTO trade negotiations in the interest of obtaining other concessions such as on market access. Yet governments are accountable for taking proactive measures to fulfill rights in compliance with their human rights commitments. Overall obligations for international action include (Green and Randolph, 2011): maintaining a stable economic and financial environment and reducing risks of international economic and financial crises; reducing volatility of commodity prices, especially food prices; developing a nondiscriminatory international trading system; ensuring access to technology; ensuring environmental sustainability; promoting access to financial and human resources; and implementing equitable approaches to sharing the benefits and burdens of development such as environmental burdens and shocks.

But by definition, international cooperative action requires action of multiple states. What are the implications for other states (State B) toward those people within the borders of State A—or extraterritorial obligations (ETO)? Moreover, what is the obligation of other nonstate actors who play a major role in global economic governance, such as multilateral financial institutions and corporations?

These questions are explored further in the following section.

4. Extraterritorial obligations in international human rights law

Historically, the principle of national responsibility for the well-being of poor people has been a basic consensus among states. Sovereign states are duty bearers under international law and the international community has held them accountable for domestic social spending and regulatory and incentivizing policy-making that progressively realizes basic human rights. The principle that ending poverty, and development, are *primarily* a responsibility of individual states for their own citizens is firmly entrenched in international human rights law, and repeatedly recognized in international development agendas, including the Millennium Declaration.

But there is an important role for the international community and the commitment to global solidarity articulated in the Millennium Declaration,

which commit states to the well-being and the realization of human rights of all people across the world; the realization of human rights everywhere. Thus at the dawn of the twenty-first century, world leaders once again committed to international cooperation for the creation of a global order that is conducive to reduction of poverty and an increase in human well-being. The 2000 Millennium Declaration states that,

> In addition to our separate responsibilities to our individual societies, we have a collective responsibility to uphold the principles of human dignity, equality and equity at the global level. As leaders, we have a duty to all the world's people, especially the most vulnerable . . .global challenges must be managed in a way that distributes costs and burdens fairly in accordance with basic principles of equity and social justice . . . (United Nations, 2000)

This role is articulated as obligations of international cooperation in the 1948 Universal Declaration of Human Rights, and are reiterated in several other legal documents but have been slow to develop further as standards that can be applied to constrain behavior of states and other actors whose actions have major global repercussions on peoples' lives such as international financial organizations and corporations. However there has been increasing activism by scholars and advocates on these issues with the advance of globalization and initiatives have been taken. Below we track the evolution of norms regarding ETOs.

4.1. International human rights treaties

The longest running norm of international cooperation and ETOs with regard to human rights fulfillment comes from Article 22 and Article 28 of the *Universal Declaration of Human Rights* (1948), which stipulate that "Everyone, as a member of society, has the right to social security and is entitled to realization, through national effort and *international co-operation* . . ." and "Everyone is entitled to *a social and international order* in which the rights and freedoms set forth in this Declaration can be fully realized" (UN General Assembly, 1948) (emphasis ours) respectively.

Following the UDHR, the ICESCR Article 2(1) begins by outlining the duties that states have, namely that they should take steps to advance economic, social, and cultural rights *with the assistance of international assistance and cooperation*:

> Each State Party to the present Covenant undertakes to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving

> progressively the full realization of the rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures. (United Nations, 1966)

With regard specifically to the right to an adequate standard of living, Article 11(1) of the Covenant states that, "States Parties will take appropriate steps to ensure the realization of this right, recognizing to this effect the *essential importance of international co-operation* based on free consent" (United Nations, 1966) (emphasis ours). The Committee on Economic, Social, and Cultural Rights' General Comment 3, paragraph 13 specifies in particular that international assistance and cooperation should be of both an economic and technical nature. The Committee also specifies that "the phrase 'to the maximum of its available resources' [in Article 2 (1) of the ICESCR] was intended by the drafters of the Covenant to refer to both the resources existing within a State and those available from the international community through international cooperation and assistance" (Committee on Economic, Social and Cultural Rights, 1990, para. 13). General Comment 2 on Article 22 of the CESCR references international agencies directly by outlining both negative and positive duties to which they should be held accountable.[2]

The Convention of the Rights of the Child, adopted in 1990, also mentions the fulfillment of economic, social, and cultural rights through the "framework of international co-operation" (UN General Assembly, 1989, art. 4) (CRC, art. 4). General Comment 16 of the CRC on State obligations regarding the impact of the business sector on children's rights goes further to say that it is not only through international cooperation, but also membership in international organizations that rights should be fulfilled. Articles 47 and 48 of this comment place obligations not only on ratifying states who are accepting loans from organizations such as the World Bank or IMF, but also states that participate in the development of development policies and programs, to ensure that they uphold the principles and rights outlined in the CRC (Committee on the Rights of the Child, 2013, arts. 47 and 48).

While these norms make states parties accountable, efforts have also been made to clarify the obligations of non-State actors such as international financial institutions (IFIs) and multinational corporations whose power and actions are central aspects of the global order. For example, the 1997 *Maastricht Guidelines on Violations of Economic, Social and Cultural Rights,* drawn up by the International Commission of Jurists, a committee of thirty experts and later acknowledged by the UN, that elaborate on the nature of State obligations for economic, social,

and cultural rights includes commentary on international organizations. Issued in the context of controversies over structural adjustment programs supported by the IFM and the World Bank, it urges member states of these organizations to “use their influence” to “correct” policies that violate economic, social, and cultural rights (International Commission of Jurists (ICJ) 1997).

4.2. Right to Development

The Right to Development was first adopted by the General Assembly in 1986 through the *Declaration on the Right to Development*, was later reaffirmed in the 1993 Vienna Declaration and Programme of Action, which specifically notes that “While development facilitates the enjoyment of human rights, the lack of development may not be invoked to justify the abridgement of internationally recognized human rights” (UN General Assembly, 1993, art. 1).

While the Right to Development has been criticized for lack of coherence and clarity, and subjected to much controversy (see for example Uvin, 2004; Ghai, 2006; Donnelly, 1985), it introduces three important principles regarding obligations for international cooperation aimed at development and poverty reduction (Fukuda-Parr, 2012). First, the principle of collective obligation—the Right to Development is normatively different than other rights; while human rights frameworks speak of duty holders and rights bearers, they were traditionally thought of as primarily a relationship between individuals and their states, creating a space for individuals to formally claim rights and hold governments accountable. The Right to Development, however, includes the concept of collective obligation, which creates a relationship among states to act jointly, and states having a responsibility for the development and well-being of peoples in other territories. RTD specifically recognizes that actions of a state have consequences on well-being outside of its borders.

Second, linking human rights to development—the Right to Development explicitly links human rights fulfillment to development, and defines development in those terms. It states unambiguously: “development is a comprehensive economic, social, cultural and political process, which aims at the constant improvement of the well being of the entire population and of all individuals on the basis of their active, free and meaningful participation in development and in the fair distribution of benefits resulting therefrom” (UN, 1986, Preamble). According to the report of the Independent Expert on RTD Arjun Sengupta (1999–2004), RTD asserts a view of development as “Human Development”[3] which is (i) a “human centered” process; (ii) a comprehensive

process including economic, social, cultural, civil, and political dimensions; (iii) a process involving participation of people; and (iv) a process involving equal opportunities and social justice (Sengupta, 2002).

The Declaration asserts that the principles found across all human rights mechanisms such as nondiscrimination, access to information, participation, and means of effective complaint and remedy, should be addressed in all policies and programs at both the national and international levels. These principles seek to create an environment in which "the benefits stemming from trade, economic growth, scientific advancement, etc., do not accrue purely in proportion to the political or economic bargaining power of particular parties or groups" (Green, 2011, p. 19). The Declaration explicitly requires governments to "formulate appropriate national development policies that aim at the constant well being of the entire population and of all individuals, on the basis of their active, free and meaningful participation in development and in the fair distribution of the benefits resulting therefrom" (UN General Assembly, 1986, art. 2.3).

Third, extraterritorial obligations—the 1986 Declaration recognizes the structure and operations of the international economic system as essential determinants of development, imposing obligations on states to act individually and collectively for: (i) "the creation of international conditions favourable to the realization of RTD" (art. 3.1); (ii) "ensuring development and eliminating obstacles to development" (art. 3.3); and (iii) to "formulate international development policies' (art. 4.1). According to Salomon, "The Declaration gave legal expression to the notion that the ability of states to develop and to fulfil their human rights obligations domestically are constrained by the actions and structural arrangements of the international community' (Salomon, 2007, p. 99). She goes on to explain that the Declaration takes forward the 1947 UN Charter whose purpose is to put in place international cooperation to solve international economic and social problems, and the Universal Declaration on Human Rights that articulates a "universal entitlement to a human rights-based international order" (Salomon, 2007, p. 100). Ideas about the right to development were discussed as far back as the late 1940s and are included in article 28 of the Universal Declaration on Human Rights that states "Everyone is entitled to a social and international order in which the rights and freedoms set forth in this Declaration can be fully realized" (UN General Assembly, 1948).

In these ways, the Right to Development takes an important step in bridging the gap between economic policy and human rights, and seeks to evaluate how economic governance processes affect daily life and the well-being of those in developing countries. Thus, it is concerned with not only individual

choices and policies that potentially provide for or violate human rights, but it is also very much focused on global economic governance structures as a whole (Green, 2011, p. 11). Article 3.3 in particular references the need for "the creation of national and international conditions favourable to the realization of the right to development" (UN General Assembly, 1986, art. 3.3). Article 4.1 more specifically calls for the needs for states to commit to international development policies that allow for the full realization of development and related rights (UN General Assembly, 1986, art. 4.1), and Article 4.2 calls in the need for cooperation, stating that, "As a complement to the efforts of developing countries, effective international co-operation is essential in providing these countries with appropriate means and facilities to foster their comprehensive development" (UN, 1986, art. 4.2).

4.3. Corporations

A significant area of effort has been to develop an accountability framework for multinational corporations. Advocated since the 1960s, the several initiatives were launched to develop norms for private sector conduct including a commission on transnational corporations created in the 1973s and the elaboration of "Norms on the Responsibilities of Transnational Corporations and Other Business Enterprises with regard to Human Rights" in 2003. These initiatives were politically divisive and controversial, opposed particularly by the United States and other Western powers. In 2005, the Secretary General appointed a Special Representative for Business and Human Rights which led to the preparation and adoption of Guiding Principles on Business and Human Rights adopted in 2011. In an important new development the Human Rights Council took this further in June 2014 by adopting a resolution to set up a committee to elaborate an "international legally binding instrument."

4.4. The Maastricht Principles on Extraterritorial Obligations of States in the Area of Economic, Social and Culture Rights

Issued in September 2011, the *Maastricht Principles on Extraterritorial Obligations of States in the Area of Economic, Social and Cultural Rights* constitutes a major new development in clarifying the nature of state obligations outside of national borders. An initiative of human rights scholars and practitioners—the ETO Consortium—concerned with "the gaps in human rights in the context of globalization" including lack of accountability of corporations and of

international financial institutions, inadequate application of human rights in trade rules, and the lack of implementation of duties of international cooperation (ETO Consortium, 2011, p. 5), has gone to great lengths to specify obligations to respect, protect, and fulfill economic, social, and cultural rights, applicable extraterritorially (ETO Consortium, 2011, para. 4).

With regard to state obligations to respect rights, the principles emphasize that states must refrain from "indirect interference" ((ETO Consortium, 2011, para. 21), which includes "[impairing] the ability of another State or international organisation to comply with that State's or that international organisation's obligations as regards economic, social and cultural rights." With regard to state obligations to protect rights, the principles specify the need to regulate nonstate actors, including individuals, organizations, and corporations, so as to ensure that they do not impede or prevent the fulfillment of economic, social, and cultural rights ((ETO Consortium, 2011, para. 24). And with regard to the obligation to fulfill, paragraph 29, the "Obligation to create an international enabling environment" specifies that states should "create an international enabling environment conducive to the universal fulfilment of economic, social and cultural rights, including in matters relating to bilateral and multilateral trade, investment, taxation, finance, environmental protection, and development cooperation" (ETO Consortium, 2011, para. 29).

Paragraph 29, part b specifically uses the language of "contributing to the fulfilment" of rights extraterritorially, which suggests that it obligates states to positive action, not merely avoiding the direct violation of rights. Salomon notes this, as she points out that international financial institutions should not indirectly cause developing countries to violate human rights, but that these institutions are also accountable to their own policies and programs as international actors with positive duties to provide and protect human rights (Salomon, 2006, p. 7). The *Maastricht Principles* emphasize the positive obligations to fulfill through the provision of aid, support to social policies and social protection, and appropriate macroeconomic policies.

5. Application of human rights norms in global governance

While states have made commitments to human rights principle, the practice of economic policy formulation barely refers to them. Human rights and economic policy have evolved as two separate fields that do not interact. International economic policy negotiations and debates have not referred to human rights

principles while the human rights community has historically not addressed issues of economic policy. However, this has been changing and since the 1990s human rights advocates, scholars and institutions have not only developed norms but engaged in advocacy on economic policy issues, and human rights advocacy on international economic policy has begun to expand.

5.1. UN human rights mechanisms

Starting in the early 1990s, a number of initiatives have been taken within UN human rights mechanisms to address economic policies, particularly the negative human rights consequences of neoliberal policy regimes and globalization including structural adjustment programs, multilateral trade agreements, and corporate investments. The Committee on Economic, Social and Cultural Rights, and several UN Special Rapporteurs with mandates on health, extreme poverty, food, debt, and other areas have issued reports on issues of international economic governance and elaborated on the application of human rights standards to those issues.

A major focus of the critique has been domestic social sector spending and the role of international financial institutions, especially under Structural Adjustment Programmes (SAPs) of the 1980s and 1990s, continuing into the post-2008 austerity policies. The Committee on Economic, Social and Cultural Rights specifically mentions, in its General Comment 2 on international cooperation, its concern with the "the adverse impact" of the debt crisis, SAPs, and austerity measures on the enjoyment of economic, social, and cultural rights, and urges states and international organizations to make special efforts to ensure that the programs are designed with the objective to protect human rights of the vulnerable—or promote "adjustment with a human face" or "the human dimension of development" (Committee on Economic, Social and Cultural Rights,1990, para. 9). General Comment 2 is then used extensively throughout other general comments, including General Comment 12 on the Right to Food, which calls on the IMF and the World Bank to "pay greater attention to the protection of the right to food in their lending policies and credit agreements and in international measures to deal with the debt crisis" (Committee on Economic, Social and Cultural Rights, 1999, para. 41). General Comment 18 and 11 reiterate that structural adjustment programs should not impact the right to work or negatively affect the right to work for any marginalized groups, including women, and that there is a historical tendency for structural adjustment programs to interfere with states' ability to provide

primary education, respectively (Committee on Economic, Social and Cultural Rights, 1999). UN Special Rapporteurs to the UN Human Rights Council have also been outspoken about these economic policy trends. Magdalena Sepulveda, the Special Rapporteur on Extreme Poverty (2008–14), highlights the human rights consequences of public spending cuts by many governments following the 2008 recession, that disproportionately affect women (Sepulveda, 2013).

In addition to such domestic policy issues, many have taken up issues related to rules of international economic governance and made recommendations for creating a more enabling international economic environment for rights fulfillment. For example, Paul Hunt as the UN Special Rapporteur on the Human Right to Health (2002–8) highlighted the effects of the WTO Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS) agreement on developing states' ability to ensure access to medicine. He notes that the TRIPS-plus standards are detrimental to their ability to purchase and deliver adequate supplies of medicine, and recommends that no developed nation fpressure developing nations into these agreements. While the flexibilities clauses were intended to allow manufacturing rights to some patents, most developing countries do not have the capacity to manufacture pharmaceuticals. He also highlights that TRIPS prevents invaluable research on diseases predominantly found in developing countries (Hunt, 2004, p. 12). Preventing competitors after medicines have been patented also impedes access for low-income populations.

Olivier de Schutter, the Special Rapporteur on the Right to Food (2008–14) began his mandate by addressing the global food price crisis, and took up related aspects of the global food system including speculation, trade, corporate value chains, and investment in land or "land grabs." In his final end of mandate report, he argues "local- level and national-level policies should benefit from an enabling international environment, in which policies that affect the ability of countries to guarantee the right to food—in the areas of trade, food aid, foreign debt alleviation, and development cooperation—are re-aligned with the imperative of achieving food security and ensuring adequate nutrition . . . this requires deepening the cooperation between States" (de Schutter, 2014, pp. 19–20).

They also use the authority of the UN Special Rapporteurs to apply pressure for reforms in global institutions and to change the behavior of powerful global actors, particularly rich country governments, international financial institutions, and multinational corporations. These approaches defend the interests of the poor and marginalized populations, and help support the positions of less powerful states in trade negotiations.

5.2. Trade linkage

Another set of initiatives to apply human rights in global economic policy is to link trade with human rights conditionality—the "social clause" in bilateral and multilateral trade agreements. Advocates of the "social clause" argue for inclusion of respect of labor and environmental standards in trade agreements as a condition for trade. This strategy has been used in bilateral and multilateral trade agreements, for example by the United States in the NAFTA, targeting mostly developing countries. It has also been proposed as a unilateral measure, such as that Harkins Bill proposed in 1992 in the United States which sought to ban imports using child labor. Opponents to these strategies argue that these are protectionist measures in disguise, and that in practice are crude measures that would have little effect on advancing the enjoyment of human rights. Indeed, they could have perverse consequences; children taken out of producing carpets, soccer balls and other goods would likely be driven to worse form of employment such as prostitution.

The social clause differs in concept and purpose from international cooperation and ETOs for the fulfillment of human rights. It does not aim to develop international cooperative action for fulfillment of human rights, nor to design global economic rules that are consistent with human rights principles. It involves State A using economic power to pressure State B, purportedly in defence of the rights of people of State B. It sees lack of will of developing country governments as the source of human rights violations, not globalization. It does not consider development to be a part of a process of progressive realization of rights. They are used in a very different political context; by powerful countries against developing countries. The controversies have followed a North-South divide, where developing countries argue that these are a form of protectionism in the guise of promoting human rights.

5.3. Humanitarian intervention

Another initiative to use of human rights standards in global interactions is humanitarian intervention such as the Responsibility to Protect (R2P). Like the social clause, this approach differs significantly in concept and motivation. Here it is often the international community that intervenes with armed force in cases of serious human rights violations and the intervention is aimed specifically to curb these violations. It often depends on a "threshold" being reached, at a point where there have been enough violations by a State to warrant outside

intervention. As with the social clause, the doctrine of Responsibility to Protect[4] (R2P) focuses on failures of states to comply with negative obligations and proposes as justification for intervention, as its name suggests, an intervention is only "protection" and does not attend to the obligations to "fulfill." Humanitarian intervention veers from language of cooperation and assistance, and uses the language of victims and perpetrators, of helpers and those being helped, rather than duty bearers and rights holders. States that have political and military power use intervention to hold other states—often developing or failing states—accountable, purportedly protecting citizens from their own governments.

A core difference between ETOs to fulfill rights and humanitarian intervention is that the latter has been consistently judged viable based on the intention of the intervention, rather than measured based on its lasting impact on human rights, giving it a moral, not legal, grounding (Howland, 2008, p. 395). Conversely, the Maastricht Guidelines on Violations of Economic, Social, and Cultural Rights specifies that when states act extraterritorially, their responsibilities are two-fold: they must both take action as well as achieve results toward fulfilling the right (International Commission of Jurists, 1997, para. 15). Intervention is often considered a positive duty to protect, not a negative duty to respect or to refrain from violating extraterritorial rights. It frequently considers right to life and security as divisible from other rights that may be violated in the process of humanitarian intervention, as is evident from recent cases of armed intervention where armed force and the aftermath have significantly impeded the target state's ability to respect, protect, and fulfill basic human rights.

6. Conclusions: The potential of human rights norms to advance international cooperative action

This chapter has argued that international economic policies and institutions are particularly important for the realization of human rights and ending poverty. It has documented the principles elaborated and commitments made since 1948 by states to implement such measures through international cooperation. Yet the current structures of global governance do not bring these human rights principles into processes for designing and negotiating international economic policies. The structure and practice of human rights accountability remains state centric, and procedures such as the Universal Period Review and the reporting to the Committee on Economic, Social, and Cultural Rights focus scrutiny state conduct in terms of domestic responsibilities, not international consequences.

International economic negotiations on the other hand, are framed in the logic of pursuing economic growth, free trade, and capital as priority objectives, and are not subjected to the normative priorities of human rights.

Human rights scholars and activists have increasingly engaged with the negative human consequences of globalization and are pushing forward the potential of human rights principle to humanize the global market economy. Scholars such as Margot Salomon argue that the contemporary function of human rights is to check the excesses of the global market that impinge on the well-being of people. She states, "Human rights considerations are important not solely because of their instrumental value in increasing the likelihood of better economic outcomes but because, properly considered, they should shape the processes and outcomes of economic decisions in order to render them consistent with international human rights standards" (Salomon, 2006, p. 14). It is not enough for these economic governance institutions to give greater consideration to human rights through their programs; rather, existing human rights mechanisms, specifically extraterritorial obligations, could hold them to higher standards of accountability for both respecting and fulfilling rights (Salomon, 2007, p. 23).

Moving forward, increasing civil society engagement to hold states accountable for their positions in international negotiations—on trade, environment, migration, financial stability, commodity price regulation, and other critical issues—would be an important next step to realizing the potential of human rights system in humanizing globalization.

Notes

1 See for example UN Task Team Report (UN Task Team on the Post 2015 Development Agenda, 2012) that identifies human rights, equality, and sustainability as three fundamental principles.

2 Article 22: "In negative terms this means that the international agencies should scrupulously avoid involvement in projects which, for example, involve the use of forced labour in contravention of international standards, or promote or reinforce discrimination against individuals or groups contrary to the provisions of the Covenant, or involve large-scale evictions or displacement of persons without the provision of all appropriate protection and compensation. In positive terms, it means that, wherever possible, the agencies should act as advocates of projects and approaches which contribute not only to economic growth or other broadly defined objectives, but also to enhanced enjoyment of the full range of human rights" (CESCR).

3 A major part of the work of Sengupta as independent expert focused on elaborating the development as human development. See particularly Sengupta 2000 IE; 2002 HRQ).

4 Responsibility to protect is a reaction to the controversial need for international intervention before, during, and after mass atrocity situations. The term arose in discussions by the International Commission on Intervention and State Sovereignty in 2001 and was later officially recognized at the UN World Summit in 2005, although it has yet to be ratified by the Security Council (Evans, 2008).

References

Agarwal, Bina (2011). *Food Crises and Gender Inequality.* New York: DESA Working Paper No. 107.

Balakrishnan, Radhika and Diane Elson (2011). Introduction: Economic Policies and Human Rights Obligations. In Radhika Balakrishnan and Diane Elson, *Economic Policy and Human Rights: Holding Governments to Account.* London: Zed Books.

Committee on Economic, Social and Cultural Rights (1990a). *General Comment 2: International Technical Assistance Measures (Art. 22).* New York: United Nations.

Committee on Economic, Social and Cultural Rights (1990b). *General Comment 3: The Nature of States Parties Obligations (Article 2. Para1 of the Covenant).* New York: United Nations.

Committee on Economic, Social and Cultural Rights (CESCR) (1999a). *General Comment 12: The Right to Adequate Food.* New York: United Nations.

Committee on Economic, Social and Cultural Rights (1999b). *General Comment 11: Plans of Action for Primary Education (Art. 14).* E/C.12/1999/4. New York: United Nations.

Committee on the Rights of the Child (2013). *General Comment No. 16 on State Obligations Regarding the Impact of the Business Sector on Children's Rights.* CRC/C/GC/16; available at: http://www.refworld.org/docid/51ef9cd24.html (accessed June 15, 2014), New York: United Nations, 2013.

de Schutter, Olivier (2011). The World Trade Organization and the Post-Global Food Crisis Agenda: Putting Food Security First in the International Trade Agenda. *UN Special Rapporteur on the Right to Food,* November 2011; available at: www.srfood.org (accessed April 17, 2014).

de Schutter, Olivier (2014). *Final Report: The Transformative Potential of the Right to Food, Report of the Special Rapporteur on the Right to Food.* General Assembly, New York: United Nations.

de Schutter, Olivier and Magdalena Sepulveda (2012). Underwriting the Poor: A Global Fund for Social Protection. Briefing Note 07, Geneva/New York.

Demeke, Mulat, David Dawe, James Tefft, Tadele Ferede, and Whinnie Bell (2012). *Stabilizing Price Incentives for Staple Grain Producers in the Context of Broader Agricultural Policies: Debates and Country Experiences.* ESA, FAO, Rome: ESA Working Paper No. 12–05.

Donnelly, Jack (1985). In Search of the Unicorn: The Jurisprudence and Politics of the Right to Development. *California Western International Law Journal*, vol. 15, p. 473.

ETO Consortium (2011). Maastricht Principles on Extraterritorial Obligations of States in the Area of Economic, Social and Cultural Rights. Heidelberg.

Evans, Gareth (2008). *The Responsibility to Protect: Ending Mass Atrocity Crimes Once and For All.* Washington, DC: Brookings Institute Press.

FAO (2003). *Trade Reform and Food Security: Conceptualizing the Linkages.* Rome: FAO.

FAO (2013). *The State of Food Insecurity in the World: The Multiple Dimensions of Food Security.* Rome: FAO.

FAO (2014). *FAO Food Security Indicators.* Rome, April 12.

Fukuda-Parr, Sakiko (2011). The Metrics of Human Rights: Complementarities of Human Rights and Capabilities Approach. *Journal of Human Development and Capabilities*, vol. 12, no. 1, pp. 73–89.

Fukuda-Parr, Sakiko (2012). The Right to Development: Reframing a New Discourse for the Twenty-First Century. *Social Research: An International Quarterly,* vol. 79, no. 4, pp. 839–64.

Ghai, Yash (2006). Redesigning the State for the State for "Right Development." Chapter 8 in Bard Andreassen and Stephen Marks, *Development as a Human Right: Legal, Political and Economic Dimensions.* Cambridge: Harvard University Press.

Green, Maria and Susan Randolph (2011). Bringing Theory into Practice: Operational Criteria for Assessing Implementation of the International Right to Development, A/HRC/15/WH.2/TF/CRP.5. *UN OHCHR.* January 12, 2011; available at: http://www2.ohchr.org/english/issues/development/right/docs/A-HRC-15-WG-2-TF-CRP-5_En.pdf (accessed July 19, 2012).

Howland, Todd (2007). The Multi-state Responsibility for Extraterritorial Violations of Economic, Social and Cultural Rights. *Denver Journal of International Law and Policy*, vol. 35, no. 3/4, pp. 389–411.

Hunt, Paul (2004). *The Right of Everyone to the Enjoyment of the Highest Attainable Standard of Physical and Mental Health Report of the Special Rapporteur, Paul Hunt.* E/CN.4/2004/49/. New York: United Nations Human Rights Council.

ICTSD (International Centre for Trade and Sustainable Development) (2009). Publications. *International Centre for Trade and Sustainable Development.* November 2009; available at: www.ictsd.org (accessed April 18, 2014).

IFPRI (2009). *Climate Change: Impact on Agriculture and Costs of Adaptation.* Washington, DC: IFPRI.

IFPRI (2013). *Global Food Policy Report 2013.* IFPRI, Washington, DC: IFPRI.

International Commission of Jurists (ICJ) (1997). *The Maastricht Guidelines on Violations of Economic, Social and Cultlural Rights. Guidelines Adopted at a Workshop Sponsored by the International Commission of Jurists, the Urban Morgan Institute for Human Rights and the Centre for Human Rights of the Faculty of Law of Maastricht University, Maastrict, Netherlands, 22–26 January, 1997. UN doc. E/C.12/2000/13*; available at: http://www.refworld.org/docid/48abd5730.html (accessed July 5, 2014), Utrecht: SIm.

Quisumbing, Agnes, Ruth Meinzen-Dick, and Lucy Bassett (2008). *Helping Women Respond to the Global Food Price Crissis.* IFPRI Policy Brief 7, Washington, DC: IFPRI.
Salomon, Margot (2006). *International Human Rights Obligations in Context: Structural Obstacles and the Demands of Global Justice*, vol. 125. Cambridge: Harvard School of Public Health, François-Xavier Bagnoud Center for Health and Human Rights. In Bård A. Andreassen and Stephen P. Marks (eds.), Development as a Human Right: Legal, Political, and Economic Dimensions. Nobel Symposium (125).
Salomon, Margot (2007). *Global Responsibility for Human Rights: World Poverty and the Development of International Law.* Oxford: Oxford University Press.
Sengupta, Arjun (2002). On the Theory and Practice of the Right to Development. *Human Rights Quarterly*, vol. 24, 4 vols. Baltimore, MD: Johns Hopkins University Press.
Sepulveda, Magdalena (2013). *Report of the Special Rapporteur on Extreme Poverty and Human Rights, Magdalena Sepúlveda Carmona.* A/HRC/23/36, New York: United Nations Human Rights Council.
Social Protection Floor Advisory Group (2011). *Social Protection Floor for a Fair and Inclusive Globalization.* Geneva: International Labour Orgnaization.
UN General Assembly (1948). *Universal Declaration of Human Rights.* 217 A (III); available at: http://www.refworld.org/docid/3ae6b3712c.html (accessed June 15, 2014), New York: United Nations.
UN General Assembly (1986). *Declaration on the Right to Development.* A/RES/41/128, New York: United Nations. UN General Assembly (1989). *Convention on the Rights of the Child.* Treaty Series, vol. 1577; available at: http://www.refworld.org/docid/3ae6b38f0.html (accessed June 15, 2014), New York: United Nations.
UN General Assembly (1993). *Vienna Declaration and Programme of Action.* A/CONF.157/23; available at: http://www.refworld.org/docid/3ae6b39ec.html (accessed June 15, 2014), New York: United Nations.
UN General Assembly (2008). *Optional Protocol to the International Covenant on Economic, Social and Cultural Rights.* A/RES/63/117, New York: United Nations.
United Nations (1966). *International Covenant on Economic, Social and Cultural Rights.* Office of High Commissioner for Human Rights, New York: United Nations.
United Nations (2000). *The Millennium Declaration.* General Assembly, United Nations, New York: United Nations.
Uvin, Peter (2004). *Human Rights and Development*, vol. 37. Kumarian Press.
von Braun, Joachim (2013). Aiming for Food and Nutrition Security in a Changed Global Context: Strategy to End Hunger. In Jose Antonio Alonso, Giovanni Andrea Cornia, and Rob Vos, *Alternative Development Strategies in the Post 2015 Era.* New York and London: Bloomsbury Press and UN, pp. 163–80.

10

LDC and Other Country Groupings: How Useful are Current Approaches to Classify Countries in a More Heterogeneous Developing World?

José Antonio Alonso, Ana Luiza Cortez, and Stephan Klasen

1. Introduction

The developing world has become much more heterogeneous than in the past. There are still extreme international inequalities, but the economic situation of different countries is much more diverse than previously. In contrast to the North-South divide that underpinned development approaches in the past, there is now a wider and graduated spectrum of development between countries. It is therefore understandable that analysts, governments, and institutions aim to tackle that diversity by establishing categories for classifying countries to better analyze and organize the complexity of the international system. In fact, there has been a mushrooming of classification systems and country categories all striving to put some order in the new complex international reality but not fully succeeding. As a result, the international panorama has become more confused and disorganized, with several overlapping classifications.[1]

The first official attempt to classify developing countries took place at the United Nations, which identified the least developed countries (LDCs) in the early 1970s. Several other proposals followed and were formulated in terms of diverse criteria, including:

- Per capita income level: high, middle, and low income, the criteria used by the World Bank since the 1980s; these categories are then an input to generate eligibility categories for the World Bank's main lending windows, IBRD and IDA (see below);

- Human development level: very high (VHHD), high (HHD), medium (MHD), and low human development (LHD), defined by the UNDP since the 1990s;
- Country indebtedness: Heavily Indebted Poor Countries (HIPCs) as defined by the World Bank in the 1990s;
- Responsibility to address climate change issues: Annex I and non-Annex I countries, defined by the UN Framework Convention on Climate Change in 1992;
- State of governance: Fragile States (FS) which replaced the category Low-Income under Stress (LICUS) both generated by the World Bank and also adopted by the OECD-DAC in the early 2000s;
- Geographical features: Small Island Developing States (SIDS), and Landlocked Developing Countries (LLDCs) put forward by the United Nations; and,
- Access to and weight in international trade: Small and Vulnerable Economies (SVEs) defined by the WTO in 2002.

The net result of this proliferation of categories is that a single country can belong to various groups depending on the classification criteria adopted. For example, Burundi belongs to the following groups: the LDCs, LLDCs, FS, Low-income, Low Human Development, HIPCs, and IDA-eligible; and Comoros belongs to LDCs, SIDS, Low-income, Low Human Development, IDA-eligible, and HIPCs.

The complexity of the classification systems is underlined, on occasions, by the fact that institutions do not always coincide in their lists of countries that belong to a group. The most extreme case is that of the SIDs, a category for which there are as many as six different lists depending on which institution has produced it. Similar observation applies to the list of FS, where the criteria and country lists do not always coincide between the World Bank, the Development Association Committee of the Organization for Economic Cooperation and Development (OECD-DAC), and the United Kingdom Department for International Development (DFID), the three organizations that use this category the most (Harttgen and Klasen, 2012).

Diverse factors explain the accumulation of existing categories for countries. On the one hand, donors have approached country categories as a tool to allocate resources and support for development on the basis of supposedly technical criteria, even though the aid allocation processes are primarily political. On the other hand, the developing countries have

found in country categories a way to attract the attention of donors to their respective problems and to facilitate the process of lobbying that takes place in international forums and organizations. Lastly, the dynamics of the multilateral bureaucracies, and of their experts, has also supported this trend of generating new criteria to classify countries since those processes offer a means of justifying the relevance of their task organizing the complex and disorder international reality. In the end, categorization and classification are bureaucracy's important source of power (Vaubel, 1990). In fact, some international institutions seem to be involved in an intellectual competition to invent new acronyms to reclassify and rearrange groups of developing countries (van Bergeijk and van Marrewijk, 2013).

Not all the classifications referred to were created with a similar aim. Some of the categories were generated for merely analytical purposes or for pushing a particular view on development (human development groups, for example), while others were created with an international policy goal, linked to an administration with targeted means of support (that is the case, for instance, with the definition of the LDCs or the HIPCs). Experience has shown that, even classifications initially formulated for analytical purposes only, end up being used to set guidelines for international action (that is the case, for example, with the World Bank's income classification).

The proliferation of classification systems also indicates limitations of these systems in organizing the international landscape in a satisfactory manner. In fact, several—if not all of existing available systems—share, to some extent, three basic problems. First, they are based on fragile analytical and doctrinal foundation. In many of the cases, the relationship between the criteria shaping the classifications and the conclusions offered by the theory about the obstacles to development is rather vague or merely intuitive. Second, the very process of classifying countries assumes a political and normative choice (even if hidden in technicalities) about what is understood as development and about which problems or countries deserve special attention by the international community. The classifications, therefore, imply political choices; that explains why no one of them attracts unanimous acceptance. Lastly, some of the adopted criteria have been of very limited use in tracking the growing diversity of the international system in a coherent way. The tension between the need for the criteria to be stable and the rapidly changing reality of countries has led to very noticeable failures in the classification systems. In some of the categories, the level of diversity among countries belonging to a single group has progressively grown, reducing the relevance of the classifications themselves.

The LDC category is a case in point: the group currently includes not only 30 low-income countries, but also 14 lower-middle, two upper-middle, and one high-income country which, however, is earmarked to graduate in 2017. Similarly, as shown in Harttgen and Klasen (2012), the various attempts to define "fragile" countries have led to groupings where the heterogeneity within the fragile and nonfragile subgroups is much larger than the average difference between fragile and nonfragile states. In other cases, the problem is not so much diversity within a given group but the progressive loss of relevance of some of the categories. The income classification offered by the World Bank is a case in point: as a result of the growth of the world economy during the last decade as well as of the setting of absolute thresholds, the group of low-income countries now includes just thirty-four countries, barely 11 percent of the world's population.

The above shortcomings suggest it is time for a careful diagnosis of the current situation. It is also necessary to ask whether there is a better way to manage and organize the increasingly complex international system. Several issues arise: should we persist in looking for a convincing classification system for countries or should we focus on identifying issues (more than countries) and then define ad hoc groups for particular issues when discussing international solutions to these issues? How could we improve the current categories to make them more useful? How could we make classifying developing countries less complex and more rigorous?

This chapter is concerned with answering these questions. We argue that great caution should be exercised when devising new country categories. In general, we have problems with developing additional categorizations that classify countries in a comprehensive fashion and are then used for aid allocation or general development rankings. Instead, we argue for issue-based classifications which often lead to more clearly targeted special support measures to tackle the issue in question. We also argue that the LDC category has a range of advantages as a comprehensive classification system but needs to solve the problems and incentives associated with graduation. This chapter is divided into seven sections in addition to this introduction. Section 2 provides evidence about the growing diversity that currently characterizes the developing world; Section 3 analyzes the main features of the LDC category; Section 4 discusses the foundations and limitations of selected classifications; Section 5 analyzes the problems linked to the use of comprehensive classifications; Section 6 discusses possible alternatives and, finally, some closing comments are made in Section 7.

2. Increasing heterogeneity in the developing world

Development theory was born in the 1950s, based on the conviction that developing countries confronted a socially specific reality that was relatively homogeneous and different to that of industrialized countries. International aid was built on the same assumption, implying the existence of a sharp North-South divide. That was quite a reasonable assumption then. As estimated by Maddison (2007), per capita income levels among European countries, the United States, Canada, Australia, and New Zealand were more than twice as high as the next richest group, Latin America, and about 8–10 times larger than in Asia and Africa. Now the reality is very different: the heterogeneity among developing countries has increased, with economies located along a more continuous scale of levels of development (Alonso, 2013).

Figure 10.1 illustrates the trend mentioned above. The level of heterogeneity among countries is measured by the coefficient of variation of the countries' per capita GDP (converted in PPP) for the period 1950–2008. The world's coefficient follows a visible increase after the 1980s and up to mid-2000s when it becomes stagnant. In the case of the developing world the coefficient of variation experiences a sustained increase from 1950, becoming particularly intense after the 1980s.[2]

Figure 10.2 offers another way to illustrate the same process. In this case four standardized density functions of the countries' GDP per capita (in PPP), are

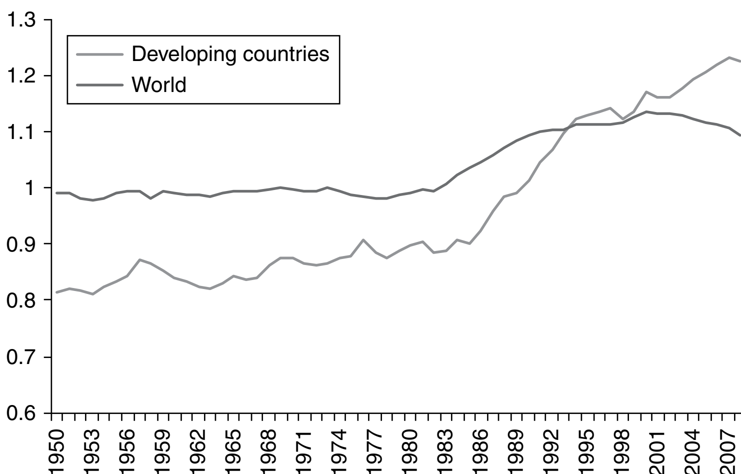

Figure 10.1 Heterogeneity (coefficient of variation among GDP pc PPP)

Source: Maddison (www.ggdc.net/MADDISON/oriindex.htlm).

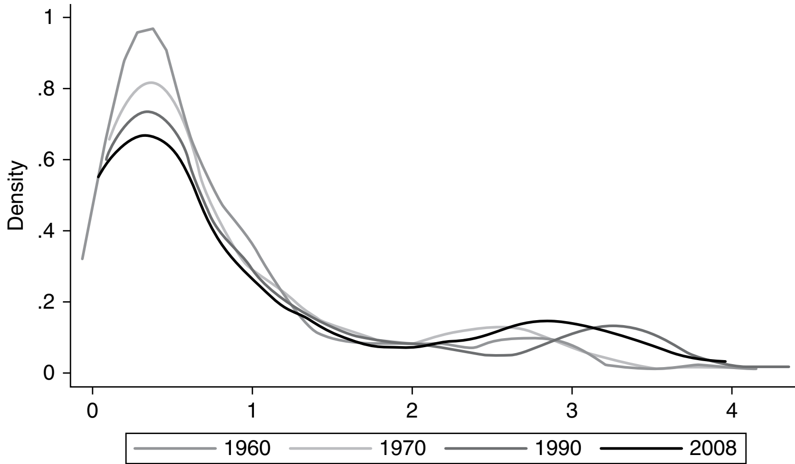

Figure 10.2 Standardized distribution of GDP pc (PPP)
Source: Maddison (www.ggdc.net/MADDISON/oriindex.htlm).

presented, with data from 1960, 1970, 1990, and 2008. The figure reveals that the level of concentration in the lower tail of the distribution (the left hand of the graph, corresponding to the bulk of developing countries) decreases over time; and, conversely, the level of dispersion in the upper tail (the richest countries) increases, particularly in the last density function (that of 2008).

As a consequence of this trend, the very term "developing world" has lost part of its accuracy as it now refers to very different national realities. In fact, some developing countries have a GDP per capita that is closer to that of developed countries than that of other developing countries. For example, Portugal (an OECD country) has a GDP per capita in PPP that is 1.35 times that of Argentina (a developing country belonging to the middle-income group); but Argentina has a GDP per capita that is fifteen times that of Zambia (another middle-income country) and forty-three times that of Burundi (a low-income country). On the whole, the ratio of per capita income between the richest and the poorest country is three to one in the case of industrialized countries, but that relationship is close to fifty to one in the case of the developing world (both in PPP).

The need to respond to this growing heterogeneity is a challenge for any system of classification of the developing world. Taxonomies will have to choose between two extremes: defining too many categories in order to preserve certain homogeneity among countries within the groups, or defining only a few categories and accepting high levels of heterogeneity among the countries within the groups. In the first case the taxonomy will be rather difficult to use (because

of the large number of groups) and in the second case it will be of limited use (because of the heterogeneity within the groups). The challenge is to find a well-defined option in-between.

3. The least developed countries (LDCs)

3.1. The category: Criteria and processes

3.1.1. The origin

The origin of LDC category dates back to the first session of the United Nations Conference on Trade and Development (UNCTAD I), held in Geneva in 1964. In 1969, the General Assembly acknowledged the need to alleviate the problems of underdevelopment of the less developed countries to enable them to draw full benefits from the Second UN Development Decade (IDS-II). In 1970, a separate section was devoted to the "least developed among the developing countries" within the framework of the IDS-II. Subsequently, the Assembly invited the relevant entities, including the Committee for Development Planning (the predecessor of the current Committee for Development Policy), to give high priority to the question of the identification of such countries and to report back on their findings.

In its reply to this request, the CDP indicated that there was a substantial gap between the poorest and the relatively more advanced developing countries. Apart from very low level of per capita income, which indicated severe financial constraints, the CDP identified other common features among the LDCs:

- Agriculture or primary activities dominate the generation of the GDP and in the absorption of the labor force; predominance of subsistence activities (limited capacity for mobilizing domestic resources) with low level of labor productivity, particularly in food production;
- Limited manufacturing and an undiversified production structure also reflected in the high export concentration and dependence on two or three primary commodities and high volatility of export earnings (upon which fiscal revenues rely);
- Low level of education and an overall shortage of skills to organize and manage development; limited capacity to absorb technological advances; poor health and nutrition outcomes;
- Lack of adequate physical and institutional infrastructure for development;

- Economically small (by population or national income), undiversified natural resource base (CDP, 1971).

Three indicators were selected as criteria to classify countries as LDCs:

- GDP per capita, which gives a general indication of the dimensions of poverty and overall level of development;
- The share of manufacturing in GDP, which conveys information on the extent of structural transformation of the economy; and,
- Adult literacy rate, which indicates the educational base for a skilled labor force.

Based on the criteria, adopted in a flexible manner, the Committee's list was approved by both the Economic and Social Council and the General Assembly in 1971.

The LDC category currently comprises forty-eight countries (see Table 10.1). The list grew over the years as countries gained independence and faced severe developmental challenges in some cases compounded by the devastating effects of independence war and conflict. A systematic review—the first of the triennial reviews—was conducted in 1991, the year when major refinements were introduced to the criteria (introduction of two composite indices on structural handicaps, the precursors of human assets index, HAI, and economic vulnerability index, EVI). The 1991 review also established graduation rules.

3.1.2. The criteria

Since it was first applied in 1971, the criteria to identify LDCs was refined and updated on several occasions to incorporate new development concerns, relevant advances in economic theory, and increased data availability. Yet, the criteria have always included the three components mentioned above: income, social progress, and economic vulnerability. Inclusion and graduation procedures have also evolved over the years.

The CDP defines LDCs as low-income countries suffering from severe structural handicaps to growth, whose identification is based on three criteria:

(a) Per capita gross national income (GNIpc), converted by exchange rates in constant terms; and two composite indices of structural handicaps:
(b) the human assets index (HAI), which gives an indication of the availability and quality of human capital; and
(c) the economic vulnerability index (EVI) which measures economic structural vulnerability to exogenous shocks (Figure 10.3).[3]

Table 10.1 List of least developed countries as of March 2015

Country	Year of inclusion	Country	Year of inclusion
Afghanistan	1971	Madagascar	1991
Angola	1994	Malawi	1971
Bangladesh	1975	Mali	1971
Benin	1971	Mauritania	1986
Bhutan	1971	Mozambique	1988
Burkina Faso	1971	Myanmar	1987
Burundi	1971	Nepal	1971
Cambodia	1991	Niger	1971
Central African Republic	1975	Rwanda	1971
Chad	1971	Sao Tome and Principe	1982
Comoros	1977	Senegal	2000
Dem. Rep. of Congo	1991	Sierra Leone	1982
Djibouti	1982	Solomon Islands	1991
Equatorial Guinea [a]	1982	Somalia	1971
Eritrea	1994	South Sudan	2012
Ethiopia	1971	Sudan	1971
Gambia	1975	Timor-Leste	2003
Guinea	1971	Togo	1982
Guinea-Bissau	1981	Tuvalu [b]	1986
Haiti	1971	Uganda	1971
Kiribati	1986	United Rep. of Tanzania	1971
Lao PDR	1971	Vanuatu [a]	1985
Lesotho	1971	Yemen	1971
Liberia	1990	Zambia	1991
Memo item: graduated countries			
Botswana	1994	Samoa	2014
Cape Verde	2007		
Maldives	2011		

a/Scheduled to graduate in 2017

b/Recommended to graduate by the CDP in 2012. ECOSOC decision postponed to 2015.

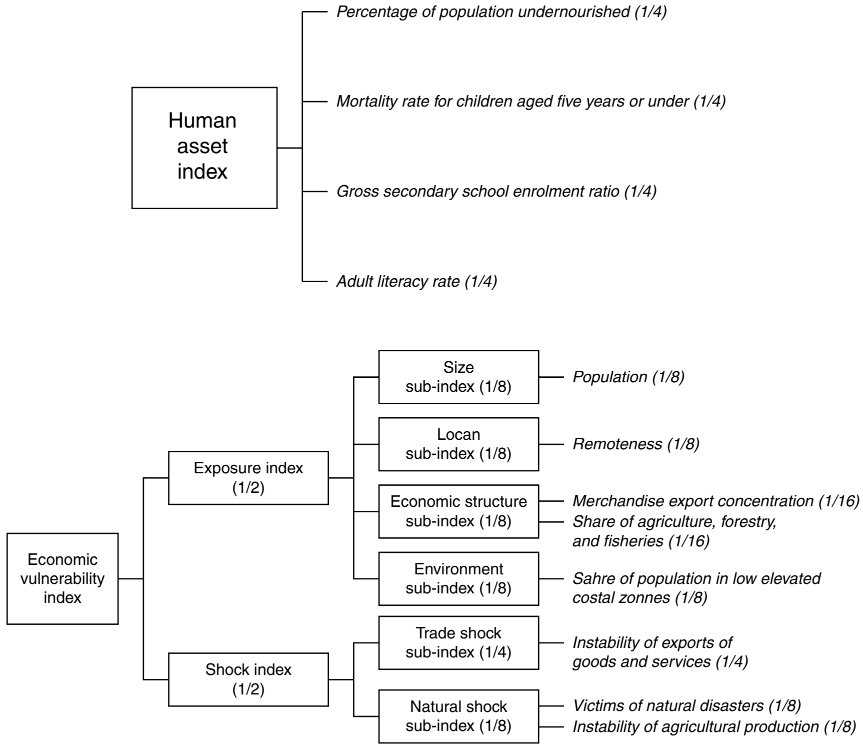

Figure 10.3 HAI and EVI

Note: Numbers in parenthesis denote the weight of each indicator in the composite index.

Source: CDP Secretariat.

Every three years, the CDP undertakes a review of the list of LDCs, on the basis of which it advises the Economic and Social Council on countries that should be added to or those that could be graduated from the list. Threshold levels for each of the three criteria are defined, with the thresholds for graduation established at a higher level than those for inclusion. To be added to the category, a country must satisfy the inclusion threshold levels of all three criteria and have a population smaller than 75 million people. To be eligible for graduation, a country needs to fail two, rather than only one, criteria. Alternatively, a country may be eligible to graduation when its GNI per capita exceeds at least twice the graduation threshold on an anticipated sustained manner.

Additional information is used to support the CDP decisions besides the indicators in the criteria. In the case of inclusion, a *Country Assessment Note* is prepared by DESA. The Note pays particular attention to the reasons for the recent deterioration of economic and social conditions in the country in

order to determine whether that deterioration is due to structural or transitory factors. In the case of graduation, UNCTAD prepares a *Vulnerability Profile* (VP) of that country which provides an overall background of the country's economic and development situation. In addition, DESA prepares an *Ex-ante Impact Assessment* (IA) of the likely consequences of graduation for the country's economic growth and development, in particular on the expected implications of a loss of LDC status with regard to development financing, international trade, and technical assistance.

3.1.3. The intergovernmental process

The CDP holds consultations with countries on graduation and inclusion decisions. Inclusion requires approval from the country concerned, whereas graduation does not. Additionally, graduation requires that the country meets graduation thresholds in two consecutive triennial reviews. CDP recommendations on inclusion and graduation are forwarded to the Economic and Social Council for endorsement. Once endorsed, the General Assembly must take note of the recommendation before a country joins or leaves the category. Inclusion is immediate, while graduation takes place only three years after the GA acted on the recommendation. This provides the country with time to prepare a transition strategy, in cooperation with its development partners. The strategy—to be implemented after the country has officially graduated—aims at ensuring that the phasing out of support measures resulting from its change of status will not disrupt the country's continued development efforts as mandated by General Assembly resolutions 59/209 and 67/221. During this three-year period, the country is still an LDC and has access to all special measures available to the category (UNDESA/CDP, 2008).[4]

3.2. How useful has LDCs category been?

Currently, the major support measures extended to countries with LDC status vary among development partners and fall into three main areas: (a) international trade; (b) official development assistance, including development financing and technical cooperation; and (c) other forms of assistance (UNDESA/CDP, 2009).

Nonetheless, there is a significant problem with the way the support measures are designed and it is that they do not take into account the diversity within the group and therefore they are not adequately tailored to circumstances prevailing

at the country level. Part of this diversity has to do with the way inclusion and graduation decisions are made as discussed above. In fact, the current list of LDCs—not considering those already recommended or identified for graduation for the first time—includes seventeen countries that no longer meet the inclusion criteria, that is to say, they do not meet the inclusion thresholds in all three criteria. Accordingly, not all LDCs are low-income economies. LDCs share many common features and on average have poorer outcomes in terms of income, human capital structural vulnerability than the average of developing countries, but these outcomes may reflect different circumstances at the country level (CDP, 2010). Among the current forty-eight LDCs, eight are islands, while sixteen are land-locked economies. There is wide range in population size: from tiny Tuvalu to Bangladesh. Twenty-three LDCs were identified to be in conflict or postconflict situations in 2010 (Cortez and Kim, 2012). Economic structures also differ greatly across LDCs: six are fuel exporters, other six are manufacture exporters (largely textiles and garments), while ten are mineral exporters, eight are agricultural exporters and ten are service exporters (classified according to which export category accounts for at least 45% of exports of goods and services).

Overall, however, the category does not seem to have attracted special attention by bilateral donors, except perhaps initially in the 1970s. Momentum was not maintained in the 1980s and the 1990s when ODA flows to LDCs grew less (or contracted more) than flows to other developing countries. This trend reversed after 2000 but it is not clear whether the change is due to increased recognition of the category or due to the adoption of the MDGs with its emphasis on poorer countries and on social targets whose indicators are included in HAI. Few countries have consistently met the commitment of allocating 0.15 to 0.20 percent of their GNI to LDCs over the years. Several other factors are taken into account in allocative decisions by donors, including conflict and postconflict situation, development partnership history, governance performance, etc. In fact, the results of an econometric exercise indicate a significant correlation between ODA flows and low levels of income per capita and a low HAI, while the association is statistically insignificant in the case of EVI (CDP, 2011). The results of a UN DESA-CDP survey on seventeen donor countries confirm these overall findings (UN-DESA/CDP, March 2012, available from http: www.un.org/ldcportal). While the share of multilateral ODA going to LDCs is larger than the share allocated to LDCs by DAC donors (see Figure 10.4), multilateral flows to LDCs seemed to have followed similar trends: they contracted more than the flows going to other developing countries in the 1990s and recovered in the 2000s but not sufficiently to compensate for the previous decline.

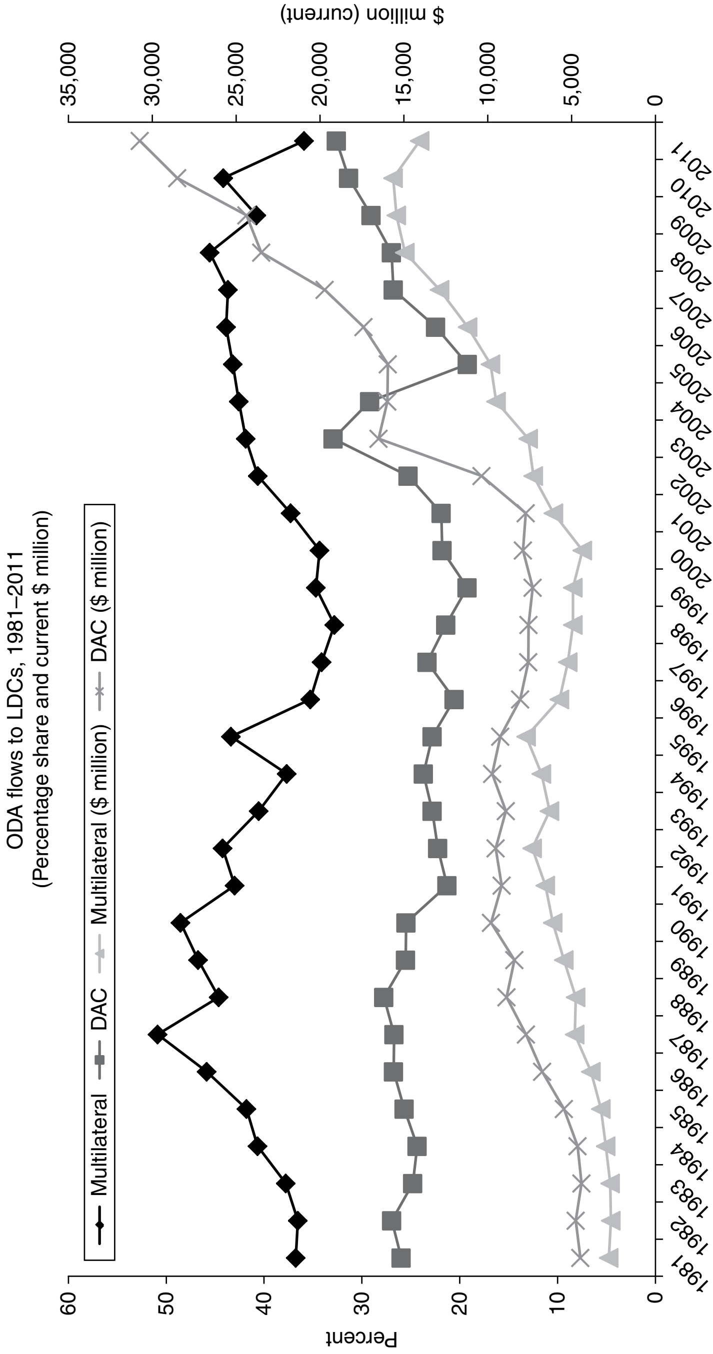

Figure 10.4 ODA flows to LDCs, 1981–2011 (percentage share and current $ million)

Source OECD/DAC online database

4. Other classifications

4.1. The World Bank's country classification

The World Bank's income groupings are originally based on the Bank's operational lending categories, which are related to a country's eligibility for concessional financing. GNI per capita was considered to be the best indicator to offer a broad measure of a country's economic capacity. This was partly because other variables related to development achievements (such as infant mortality, literacy, or poverty) seemed to be highly correlated to GNI per capita. While this is case on average, there are many outliers as has been pointed out by Drèze and Sen (1989) and UNDP (1990), among many others.

The initial classification distinguished between developing countries, industrialized countries. and capital-surplus oil-exporting countries.[5] In 1989 the current classification (low, lower-middle, upper-middle, and high income) was defined. The specific criteria used for determining the thresholds have never been published. Thereafter, the original thresholds have been updated to incorporate the effects of international inflation (measured by the average inflation of Japan, the United Kingdom, the United States, and the Euro zone).

For classifying countries, GNI per capita in US dollars is calculated with the World Bank's Atlas conversion factor. This factor takes into account in any year the average of the country's exchange rate for that year and those for the two preceding years, adjusted for the difference between the rate of inflation in the country and in a group of industrialized economies.[6] This last rate of inflation is measured by the change in the Special Drawing Rights (SDR) deflator. By using three-year averages, the Atlas method is trying to reduce the bias introduced by short-term exchange rate fluctuations.

There are, however, two main shortcomings with the approach. First, as long as there has been a significant shift in the distribution of the world wealth, a wider spectrum of countries, including China and other emerging economies, should be taken into account in the determination of international inflation. Second, as is well known, market exchange rates underestimate purchasing power in low-income countries (due to the systematic undervaluation of nontraded goods and services in these countries). In fact, if we compare the variable used to define World Bank's categories with countries' levels of GDP per capita or GNI per capita, both in PPP terms, we could observe that an important group of countries move outside of their respective category and not in a linear way (Figures 10.5 a and 10.5b). While the PPP estimates of GNI

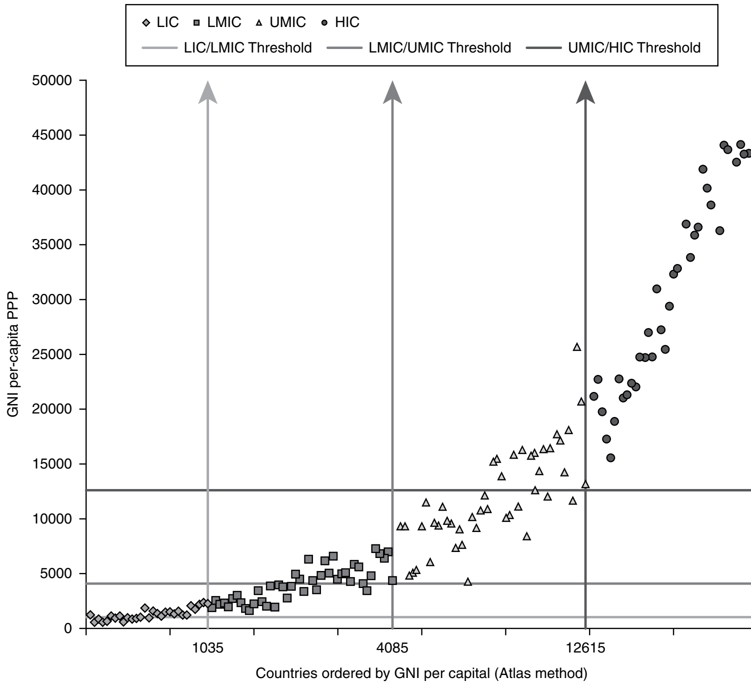

Figure 10.5a GNI per capita PPP and GNI per capita Atlas Method

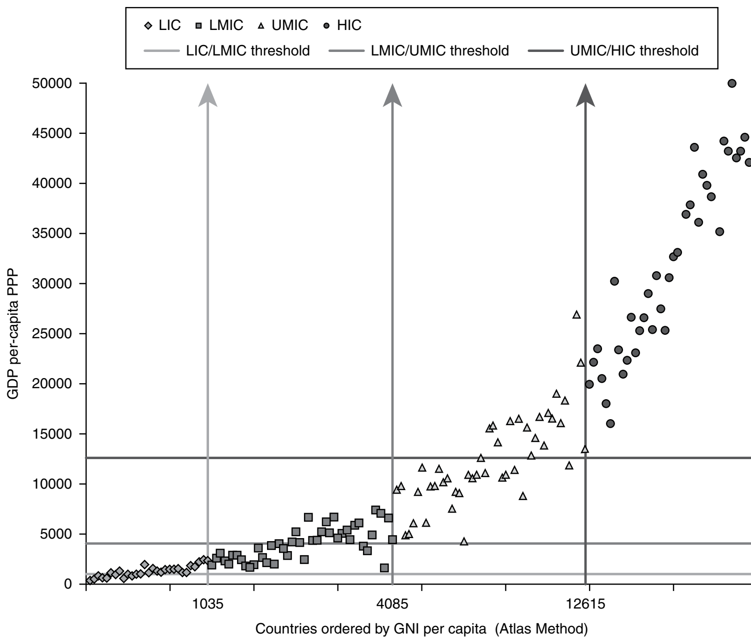

Figure 10.5b GDP per capita PPP and GNI per capita Atlas Method

provide a more realistic picture of relative per capita incomes across the world, they are not without problems.[7] Thus the choice to use the Atlas method by the World Bank has clear drawbacks and biases, but the alternative also has some drawbacks.

Based on GNI as the income concept and the Atlas method for exchange rates, all thresholds for the different income categories have been maintained constant in real terms over time. Therefore, the relationships between the thresholds are constant too.

This system has two related problems: (i) first, if the world economy evolves and continues to grow its income level, the thresholds risk losing their initial significance: for example, the high-income threshold could fall below the average world income level in the future; (ii) and second, if there is a continued trend of growth in the world economy, the number of countries belonging to the lower levels of income categories will fall further (and those belonging to higher levels of income will increase). That is what has happened in the last ten years. Although the number of reported countries has changed over time, the proportion of those belonging to the low income and lower-middle income categories has reduced significantly while the proportion of those belonging to the upper-middle and high-income categories has increased.

In the late 1990s, LICs (some sixty-three countries) represented 59 percent of the world's population, and close to 20 percent of the aggregated world GDP, when measured in PPP (see Table 10.2). However, over the period of 1999 to 2011, a great shift occurred within these groups. As a consequence, by 2010, LICs (only thirty-six countries) represented just 11 percent of the world population, and a minuscule 1.3 percent of world GDP (PPP). On the other hand, between 1998 and 2010, MICs (ninety-four countries in 1998 and 110 in 2011) increased

Table 10.2 The World Bank's income classification

	Number of countries				Population (in %)				GDP (PPP) (in %)			
	1990	2000	2010	2012	1990	2000	2010	2012	1990	2000	2010	2012
LICs	49	63	35	36	57,88	40,62	11,92	12,01	1,1	1,1	1,3	1,4
LMICs	56	54	56	48	11,91	33,80	35,99	35,58	8,8	9,0	11,3	11,6
UMICs	38	38	54	55	8,68	10,69	35,73	33,93	17,8	21,6	28,8	30,4
MICs	94	92	110	103	20,58	44,48	71,70	69,51	26,6	30,5	40,1	41,9
HICs	40	53	71	75	15,45	14,92	16,38	18,48	72,3	68,5	58,9	57,2
Total	183	208	216	214	100,00	100,00	100,00	100,00	100	100	100	100

Source: The World Bank.

their share of the world's population from 25 percent to 72 percent, and their contribution to world GDP (PPP) rose from 23 percent to 44 percent. Thus, the majority of the population of the developing countries no longer live in LICs (as in the past), but in the broader and more heterogeneous group of MICs. This is also the main reason why the majority of the world's income poor (using the $1.25 a day classification) now live in MICs (Sumner, 2012).

In summary, while the World Bank's income classification has the advantage of simplicity there are a range of problems associated with the income indicator and the way groups are being formed.

4.2. Small Island Developing States (SIDS)

There is no UN officially recognized SIDS category. Nonetheless, the challenges of small islands have been on the international agenda for quite some time. Within the UN, the term SIDS starts to gain currency with the adoption of Agenda 21 at the UN conference on sustainable development in Rio de Janeiro in 1992 and its section on "sustainable development of small islands" (chapter 17, section G). In 1994, the United Nations adopted the Barbados Programme of Action for the Sustainable Development of SIDS (BPOA), which identified fifteen priority areas and the necessary actions to be taken at the national, regional, and international level. Progress on implementation of the BPOA was assessed by the UN in Mauritius in 2005 when the Mauritius Strategy for the Further Implementation of the Programme of Action for Sustainable Development of Small Island Developing States (MSI) was adopted.

The fundamental development challenges of SIDS, as described in literature, are related to size and location. The size issue relates to the smallness of SIDS regardless of the way size is defined. Population is the most commonly used measure of country size, although land area and volume of economic activity are also relevant indicators. The second major development constraint relates to location as many of these economies are remote from major international markets and/or located in zones subject to adverse weather phenomena.

However, development challenges emanating from these two features are also confronted by other developing countries (small domestic markets, reduced possibilities for economies of scale, limited natural endowments, vulnerability to adverse natural phenomena, remoteness, exposure to external economic shocks, import dependency, narrow export base, etc.) which makes identifying this group of countries on the base of their developmental challenges, or establishing a distinct category deserving special support measures, a complex issue

(Hein, 2011; Bruckner, 2013). Moreover, there is no agreement of how much small a country should be to be considered as a "small developing economy." Membership in the group is largely by self-appointment. Thus far, there has not been sufficient political support across the UN membership, international donors, or developing countries for the creation of a criteria-defined category.

As a result, several unofficial lists of SIDS coexist. The lists by UN-DESA and Office of Higher Representative for LDCs, land-locked developing countries and SIDS (OHRLLS) are based on the membership of the Association of Small Island States (AOSIS). The AOSIS list includes entities where most of the land mass is not situated on an island (e.g., Belize, Guinea-Bissau, Guyana, Suriname) and had become members of the association due to being "low-lying coastal states." It also includes several entities that are nonsovereign states (e.g., New Caledonia). The list of the UN Office of the Higher Representative for LDCS, LLDCs, and SIDS (UN-OHRLLS) is based on the list of the Alliance of Small Islands States (AOSIS) membership, but it differentiates UN member states from and nonmember states and adds Bahrain. UNCTAD's list is more restricted, being limited to twenty-nine states, with populations not exceeding 5 million people, except for Papua New Guinea (see Table 10.3).

With self-selection underlying the composition of the group, heterogeneity prevails. A cluster analysis and principal component exercise indicated that while SIDS (DESA list but reduced to thirty-three countries due to data limitations) are more vulnerable to economic and natural shocks than other developing countries, there is a great deal of diversity. Even within the more homogenous subgroups of SIDS there seems to be need to have support measures designed to address specific development challenges (Bruckner, 2013).

4.3. Land-locked Developing Countries (LLDCs)

Land-locked developing countries constitute the third group of developing countries receiving special attention from the UN General Assembly and the UN system. Transport and transit issues of land-locked and transit countries were first addressed by the UN Conference on Transit Trade of Land-locked Countries in 1965, which was convened at the request of the General Assembly. In 1970, the General Assembly, within the context of the Second UN Development Decade (IDS-II), included a section on special measures in favor of LLDCs. In 1995, the GA endorsed the "Global framework for transit transport cooperation between land-locked and transit developing countries and the donor community." In 2003, a UN global conference was convened in Almaty, Kazakhstan to review

Table 10.3 SIDS by UN-DESA, OHRLLS, and UNCTAD

American Samoa	**Montserrat**
Anguilla	*Nauru*
Antigua and Barbuda	Netherlands Antilles
Aruba	New Caledonia
Bahamas	Niue
Barbados	*Palau*
Belize	*Papua New Guinea*
British Virgin Islands	Puerto Rico
Cape Verde	*Saint Kitts and Nevis*
Commonwealth of the Northern Mariana Islands	*Saint Lucia*
Comoros	*Saint Vincent and the Grenadines*
Cook Islands	*Samoa*
Cuba	*Sao Tome and Principe*
Dominica	*Seychelles*
Dominican Republic	Singapore
Fiji	*Solomon Islands*
French Polynesia	*Suriname*
Grenada	*Timor-Leste*
Guam	*Tonga*
Guinea-Bissau	*Trinidad and Tobago*
Guyana	*Tuvalu*
Haiti	United States Virgin Islands
Jamaica	*Vanuatu*
Kiribati	
Maldives	
Marshall Islands	
Mauritius	
Micronesia (Federated States of)	

*Note***:** DESA: used to monitor sustainable development trends (51 countries); UNCTAD: used for analytical purposes (29 countries): countries in italic font; OHRLLS: Member States that are SIDS (38 countries): countries in underlined font plus Bahrain.

the situation of transit transport systems, including the implementation of the Global Framework for Transit Transport Cooperation of 1995 and to formulate appropriate policy measures aimed at developing efficient transit transport systems in LLDCs. A Programme of Action is adopted as a result. It focuses on transport infrastructure development and maintenance, transit policies and trade facilitation measures.

Table 10.4 Land-locked developing countries

Afghanistan	*Malawi*
Armenia	*Mali*
Azerbaijan	Moldova
Bhutan	Mongolia
Bolivia	*Nepal*
Botswana	*Niger*
Burkina Faso	Paraguay
Burundi	*Rwanda*
Central African Republic	Swaziland
Chad	Tajikistan
Ethiopia	Turkmenistan
Kazakhstan	*Uganda*
Kyrgyzstan	*Zambia*
Lao PDR	Zimbabwe
Lesotho	

Note: Countries in italics are also LDCs.

The approach toward LLDCs seems to be similar to the approach on SIDS in the sense that there is a specific major framework umbrella governing the partnership relations among the various stakeholders as well as there is identification of problems to be tackled and the ways to go about them, but no group-specific support measure. Conversely, the identification of developing countries that are LLDCs is much less problematic than in the case of SIDS. There is a unique list of developing countries recognized as LLDCs (thirty-one countries, see Table 10.4), but these countries do not constitute a category with inclusion and graduation rules as it is the case of the LDCs.

4.4. Fragile states

In the late 1990s and early 2000s, a new category of "fragile" states was being created. Initially, fragile states largely referred to conflict and postconflict countries, following the pioneering work of Collier and his coauthors on the economic costs of conflicts (e.g., Collier and Hoeffler, 1998). To this, a group of countries was added, in which the state had basically ceased to function, or in which the writ of the state did not extend much beyond the capital city. Lastly, this discussion began to relate to an overlapping (but larger) group of countries, which the World Bank referred to as "low income countries

under stress" (LICUS).[8] These countries have increasingly become a focus of some donors concerned about meeting the MDGs (Stewart and Brown, 2009; World Bank, 2011).

In recent years, a large body of literature has attempted to conceptualize and to define fragile states more precisely (e.g., Stewart and Brown, 2009; World Bank, 2006; ODI, 2006, 2010; DFID, 2005; USAID, 2005; Carment et al., 2006; OECD, 2008; Mata and Ziaja, 2009; CIFP, 2008; Rice and Patrick, 2008). However, a uniform approach is hindered by both a lack of data and a suitable framework to classify "fragile states." In addition, many definitions do not consider the structural causes for fragility, nor do they differentiate between short-term shocks and long-term problems in individual fragile states. The selection of indicators to define fragile states is clearly crucial for the validity of the list of fragile states (Adcock and Collier, 2001). Existing lists differ by their theoretical background concepts but most concepts measure fragility along the four main dimensions: security, political, economic, and social dimension. These lists sometimes use objective criteria, sometimes value judgment seems to be involved, and, sometimes, a set of proxies is used to generate the list (see, also, Bourguignon et al., 2008).

Since 2006, the World Bank generated a list of fragile states using the Country Policy and Institutional Assessment (CPIA) rating of countries, thereby renaming countries previously referred to as low-income countries under stress (LICUS) (World Bank, 2006a, 2007a, 2009a) (Table 10.5). The CPIA rates countries against a set of sixteen institutional and policy criteria grouped into four clusters: (a) economic management (three indicators); (b) structural policies (three indicators); (c) policies for social inclusion and equity (five indicators); and (d) public sector management and institutions (five indicators). Countries that score less than 3.2 on the averaged indicator are defined by the World Bank as fragile states.

One of the main motivations of the fragile states category has been that these countries, as a group, need special and differential attention, particularly since they lag behind in achieving the MDGs (World Bank, 2010 and 2011).

But these statements about overall lower progress have to be treated with considerable caution. In particular, as shown in Harttgen and Klasen (2012), it is not the case that fragile states lag in MDG progress on average. Only if fragility is defined very narrowly and focuses on (relatively few) countries with multiple problems related to fragility, can one see somewhat slower progress.[9] Also, they show that the heterogeneity in performance on MDG progress among fragile states is so large that it does not make a lot of sense to treat them as a group. This

Table 10.5 Lists of fragile states using different fragility definitions

CPIA 2008	OECD	DFID	CIFP	Stewart and Brown (failure)	Stewart and Brown (at risk)	Conflict-affected between 2003 and 2007	Fragile in all definitions listed here
Afghanistan	**Afghanistan**	**Afghanistan**	**Afghanistan**	**Afghanistan**	Benin	**Afghanistan**	**Afghanistan**
Angola	**Angola**	**Angola**	**Angola**	Algeria	Cambodia	Algeria	**Angola**
Burundi	**Burundi**	Azerbaijan	Bangladesh	**Angola**	Cameroon	**Angola**	**Burundi**
CAR	Cambodia	**Burundi**	Burkina Faso	Azerbaijan	Colombia	**Burundi**	**CAR**
Chad	Cameroon	Cambodia	**Burundi**	Bahrain	Congo, Rep.	**CAR**	**Chad**
Congo, Rep.	**CAR**	Cameroon	Cameroon	Belarus	Djibouti	**Chad**	**Congo, D. Rep.**
Congo, D. Rep.	**Chad**	**CAR**	**CAR**	Bhutan	Gabon	Colombia	**Congo, Rep.**
Comoros	Comoros	**Chad**	**Chad**	Burkina Faso	Gambia, The	**Congo, D. Rep.**	**Eritrea**
Djibouti	**Congo, Dem. Rep.**	Comoros	**Congo, D. Rep.**	**Burundi**	Guinea	**Congo, Rep.**	**Guinea**
Côte d'Ivoire	**Congo, Rep.**	**Congo, Rep.**	**Congo, Rep.**	Cameroon	Indonesia	**Eritrea**	**Nigeria**
Eritrea	Djibouti	**Congo, D. Rep.**	**Eritrea**	**CAR**	Kyrgyz Republic	Ethiopia	**Sierra Leone**
Guinea	Equatorial Guinea	Cote d'Ivoire	Ethiopia	**Chad**	Madagascar	Georgia	**Sudan**
Guinea Bissau	**Eritrea**	Djibouti	Georgia	China	Malawi	Haiti	**Zimbabwe**
Haiti	Gambia, The	Dominica	Guinea	**Congo, D. Rep.**	Mauritania	India	
Kiribati	Guinea	**Eritrea**	Haiti	**Congo, Rep.**	Mozambique	Iraq	
Sao Tome and P.	Guinea Bissau	Ethiopia	Iraq	Cuba	Pakistan	Israel	
Sierra Leone	Haiti	Gambia, The	Kenya	**Eritrea**	Papua New Guinea	Liberia	
Sudan	Iraq	Georgia	Lao PDR	Ethiopia	Senegal	Mali	
Solomon Island	Kenya	Guinea	Liberia	Gambia, The	Singapore	Myanmar	
	Kiribati	Guyana	Madagascar	Guinea	Solomon Islands	Nepal	

Timor Leste	Korea, Dem. Rep.	Haiti	Malawi	India	Sri Lanka	Niger
Togo	Lao PDR	Indonesia	Mali	Iraq	**Sudan, The**	**Nigeria**
Zimbabwe	Liberia	Kenya	Mauritania	Israel	Tajikistan	Pakistan
	Mauritania	Kiribati	Mozambique	Kenya	Tanzania	Peru
	Myanmar	Lao PDR	Myanmar	Korea, Rep.	Thailand	Philippines
	Nepal	Liberia	Nepal	Lao PDR	Togo	Rwanda
	Niger	Mali	Niger	Liberia	Tunisia	Senegal
	Nigeria	Nepal	**Nigeria**	Libya	Uganda	Somalia
	Pakistan	Niger	Pakistan	Mali	Zambia	Sri Lanka
	Papua New Guinea	**Nigeria**	Rwanda	Nepal		**Sudan, The**
	Rwanda	Papua New Guinea	**Sierra Leone**	Niger		Thailand
	Sao Tome and P.	Sao Tome and P.	Somalia	**Nigeria**		Uganda
	Sierra Leone	**Sierra Leone**	**Sudan, The**	Oman		Uzbekistan
	Solomon Islands	Solomon Islands	Tanzania	Philippines		Yemen, Rep.
	Somalia	Somalia	Togo	Qatar		
	Sudan, The	**Sudan, The**	Uganda	**Sierra Leone**		
	Tajikistan	Tajikistan	Yemen, Rep.	Somalia		
	Togo	Timor Leste	**Zimbabwe**	**Sudan, The**		
	Tonga	Tonga		Swaziland		
	Uganda	Uzbekistan		Turkmenistan		
	Uzbekistan	Vanuatu		Uganda		
	Yemen, Rep.	Yemen, Rep.		Uzbekistan		
	Zimbabwe	**Zimbabwe**		Viet Nam		
				Zimbabwe		

Note: Countries in bold appear on all lists included in this table.

is, of course, related to the great heterogeneity of the conditions and factors that contributed to countries being included in the label "fragile." In particular, some end up in the category due to past or present conflicts. But in some, where the conflict is largely over (such as in Cambodia), this is no longer such a handicap in terms of preventing MDG progress, while in others (such as D. R. Congo) conflict remains a serious problem and prevents progress on many fronts. Similarly, some countries have institutional weaknesses that are serious barriers to MDG progress while others suffer institutional problems that are less constraining.

In short, it is unclear whether a category called "fragile states" is really that useful for classifying countries. The conditions under which these countries operate are so diverse that tailor-made approaches and solutions are required.

4.5. UNDP's human development classification

The UNDP's classification is based on the Human Development Index (HDI), defined by the institution and published in the *Human Development Report* in 1990. The HDI is based on the human development approach, that focuses on the process of the enlargement of people's capabilities and choices (Sen, 1998).

In spite of the difficulty to capture the full complexity of human capabilities in a single figure, the UNDP defined a composite indicator as empirical approach of countries' level of human development and as a way to shift the attention of policy makers from economic-based objectives to more ample human well-being purposes. Therefore, three aspects—income, health, and education—were identified as the most important dimensions for approaching human capabilities, being combined in a synthetic measure. Originally, these three dimensions were measured through the following indicators: GDP per capita in PPP (income); life expectancy (health); and adult literacy rate and the combined primary, secondary, and tertiary gross enrolment rate (education).

Over the years, the index has been refined, including some changes to the indicators chosen to approach the different dimensions or to the procedures to calculate the aggregated index. In 2010, the UNDP embarked on another overhaul of the index. The reviewed composition of the HDI is now as follows: income is measured by GNI per capita with local currency estimates converted into US dollars using PPP; health is measured with life expectancy at birth; and education is measured by a combined measure of actual and expected years of schooling. Each component is transformed into a standardized scale since the values of the sub-indices are bounded between zero and one. Finally, the aggregate index (the HDI) is a geometric average of the three components.

Table 10.6 UNDP's human development classification

	Number of countries				Population (in %)				GDP PPP (in %)			
	1988	2000	2007	2012	1988	2000	2007	2012	1988*	2000	2007	2012
LHD	44	36	24	45	31.0	39.5	5.8	18.2	2.8	10.7	0.5	2.8
MHD	40	84	75	47	40.0	44.1	65.6	49.9	8.5	34.2	25.9	26.2
HHD	46	53	45	47	28.9	14.5	13.8	14.7	88.8	55.0	17.4	17.0
VHHD	–	–	38	47	–	–	14.8	16.1	–	–	56.1	54.0
Total	130	173	182	186	100	100	100	100	100	100	100	100

Source: UNDP.*In US $.

The first Human Development Report divided the reported countries into three categories: low, medium, and high human development, in relation to the country value of its HDI. A new group was added in 2009: countries with very high human development. The UNDP did not explain the rationale of this classification, nor the thresholds that defined the different groupings.

In 2010, the UNDP changed its approach in defining categories: absolute thresholds were dropped in favor of relative ones. The distribution of countries' HDI was divided into four quartiles: developed countries are in the top quartile; the group of developing countries form the other three quartiles (low, medium, and high human development) (Table 10.6).

A relative classification system allows the thresholds to keep pace with the aggregate global level of human development. Therefore, this classification does not have the problem of the downward trend that characterizes those classifications that rest on absolute thresholds. On the other hand, it makes it harder for countries to "progress" from one category to the next. As to address this last problem, UNDP indeed went back to fixed cut-off points in its 2014 Human Development Report using the four categories used since 2009.

4.6. Highly Indebted Poor Countries (HIPCs)

The HIPC Initiative was initiated by the International Monetary Fund and the World Bank in 1996, with the aim of offering highly indebted low-income countries special measures of debt relief and low interest loans to cancel or reduce external debt repayment obligations (largely to official multilateral and bilateral donors) to sustainable levels.

To receive debt relief under the HIPC, a country must first meet certain requirements that define the "decision point." The main criterion was that

the country's debt remains at unsustainable levels despite full application of traditional, bilateral debt relief. Additionally, the country must be poor enough to qualify for loans from the World Bank's International Development Association or the IMF's Poverty Reduction and Growth Facility (PRGF). Finally, the country must establish a track record of reforms to help prevent future debt crises and must define a Poverty Reduction Strategy Paper (PRSP) through a broad participatory process.

After criticism, a comprehensive review of the HIPC Initiative was agreed in 1999 in order to provide faster and broader debt relief. The review affected, first, the thresholds to define debt sustainability. Debt was deemed unsustainable when the ratio of debt-to-exports exceeded 150 percent (previously was defined to 200–250%) or when the ratio of debt-to-government revenues exceeded 250 percent (previously 280%) *and* had an exports to GDP ratio of no more than 30 percent (from previous 40%) and a ratio of fiscal revenues to GDP no higher than 15 percent (from previous 20%).

In addition to the modified threshold requirements, the 1999 revision introduced other changes. First, the six-year structure was abandoned and replaced by a "floating completion point" that allows countries to progress toward completion in less than six years. Second, the revised HIPC allows for interim debt relief so that countries begin to see partial relief before reaching the completion point. Third, the PRGF heavily modified the previously existing Enhanced Structural Adjustment Facility (ESAF) by reducing the number and the complexity of IMF conditions and by encouraging greater input from the local community into the program's design. Finally, under the new practice of "topping up," countries that unexpectedly suffer economic setbacks due to external factors are eligible for increased debt forgiveness above the decision-point level.

In order to receive full reduction in debt, a country must establish a further track record of good performance in programs supported by the IMF and the World Bank, implement satisfactory key reforms agreed at decision point and implement its PRSP. Once a country has met these criteria, it can reach its completion point, which allows it to receive the full debt relief agreed at the decision point.

There are now thirty-nine countries classified as HIPC: thirty-five countries are at completion point and are receiving full debt relief; one country (Chad) has reached its decision point and has benefited from interim debt relief; and three countries are potentially eligible for HIPC Initiative but have not yet reached the decision point (Table 10.7).

Table 10.7 Heavily indebted poor countries (2014)

Completion point (thirty-five countries)	Between decision point and completion point (one country)	Pre-decision point (three countries)
Afghanistan	Chad	Eritrea
Benin		Somalia
Plurinational State of Bolivia		Sudan
Burkina Faso		
Burundi		
Cameroon		
Central African Republic		
Comoros		
Côte d'Ivoire		
Republic of Congo		
Democratic Republic of Congo		
Ethiopia		
The Gambia		
Ghana		
Guinea		
Guinea-Bissau		
Guyana		
Haiti		
Honduras		
Liberia		
Madagascar		
Malawi		
Mali		
Mauritania		
Mozambique		
Nicaragua		
Níger		
Rwanda		
São Tomé Príncipe		
Senegal		
Sierra Leone		
Tanzania		
Togo		
Uganda		
Zambia		

Source: World Bank.

In general terms, the HIPC Initiative has proved effective in handling the severe indebtedness of poor countries. It is also a positive example of a grouping of countries that is based on a particular issue with direct (and substantial) measures of support attached to it, rather than an all-purpose categorization to

group developing countries. As the debt issue has receded for most HIPCs, the category is also fading away which seems to be a good approach for an issue-based grouping of countries.

5. Problems with comprehensive classifications

The proliferation of systems for classifying countries is not coherent and represents a problem for international coordination and governance of the development cooperation system. Instead of creating predictability, order, rationality, and transparency in terms of rules, principles, and approaches, this multiple classification results in the uneven treatment of individual countries and the existence of overlapping groups. Table 10.8 illustrates the extent of this overlap, indicating how many of the countries in each category also belong to other categories.

Overall, we could group the classification systems mentioned in the previous sections into two different types.

i) The first type refers to those systems that classify countries according to wide development criteria: in these cases, a variable (or a set of variables) is sought to characterize the country's level of development. These classifications aim to be comprehensive and to classify all countries participating in the world economy. We could call these comprehensive or "country-based" classifications. Examples include the World Bank income classification system and the UNDP's human development index classification.

Table 10.8 Overlapping categories

	LDCs	SIDS*	LLDCs	LICs	LHDCs	FS**	IDA	HIPC
LDCs	48	8	17	30	37	24	44	29
SIDS		52	-	3	6	5	12	5
LLCs			29	15	15	8	18	11
LICs				36	30	26	32	26
LHDCs					45	33	42	33
FS						43	25	23
IDA							62	37
HIPCs								39

*SIDS by UN-DESA, ORGLLS, and UNCTAD.

**FS by OECD.

ii) The second type relates those systems based on defining a relevant development challenge and identifying countries that suffer from it. This is a selective, rather than comprehensive, classification of the international system; and it tends to be based on particular issues identified rather than on a country's general features. We could call these selective or "issue-based" classifications. HIPCs, SIDS, LLDCs, and Fragile States are examples of this type. But as argued earlier, only the HIPC category has largely stuck to its direct issue-based mission.

The LDCs classification is somewhere between these two systems. On the one hand, it can be understood as a classification based on identifying a specific type of problem (extreme structural impediments to growth), and grouping together those countries suffering from that. However, on the other hand, the problems identified are so general and comprehensive that the system could be understood as follow-on from a generic distribution system of countries' developmental levels.[10]

5.1. Country groupings and aid allocation

As we highlighted at the start, some country classification systems are designed for purely analytical reasons, while others are associated with defining criteria for countries' eligibility for certain international aid measures. Frequently, though, even those classification systems that are not conceived to assign aid have ended up being used by some donors as part of their aid allocation process. This is particularly the case of the World Bank's income classification. There are hardly any bilateral donors that rely solely on the World Bank's thresholds for country eligibility or aid allocation. Instead they usually employ, in a discretionary and flexible way, additional criteria for that, including those related to donor's interest and strategic purposes. But most of them use countries' income per capita and even those crude income thresholds as major factors in that decision.

The same procedure is followed by an ample range of international financial institutions and global funds that use GNI per capita as a central factor in eligibility and graduation of countries' access to their measures of support (Table 10.9). More precisely, IDA defines for eligibility a maximum level of GNI per capita that is ($1195) close to the threshold that the World Bank's classification uses for defining LICs. The same threshold is employed by the International Fund for Agricultural Development (IFAD), the African Development Fund, the

Table 10.9 Eligibility and graduation processes in some international institutions

Institution	Eligibility	Allocation	Graduation
IDA	GNI per capita ($1195) Lack of credit worthiness	GNIpc Population CPIA	GNI pc Creditworthiness
IFAD	GNI per capita ($1195) Lack of credit worthiness	GNIpc CPIA Rural population	GNI pc
African Development Fund	GNI per capita ($1195) Lack of credit worthiness	GNIpc Population CPIA	GNI pc Creditworthiness
Asian Development Fund	GNI per capita ($1195) Lack of credit worthiness	GNIpc Population CPIA	GNI pc Creditworthiness
Inter American Fund for Special Operations	GDP per capita ($2587)	GDPpc Population CPIA	GDPpc
IMF Poverty Reduction and Growth Trust	GNI per capita ($1195) Lack of credit worthiness	GNIpc Program-based conditionality	GNIpc Creditworthiness
GAVI Alliance	GNIpc ($1510)	DTP3 Coverage GNIpc	GNIpc
Global Fund	World Bank income categories Disease burden Non-G20 Eligibility for ODA Population	Disease burden Indicative funding Performance	Transition to UMIC Member of the G20
European Commission	Income categories Country size	Income per capita (LICs and LDCs) Fragile states Other criteria	Size: more than 1% share of global gross domestic product (GDP) Income: Upper-middle-income countries, according to the OECD-DAC classification Other criteria (including HDI, economic growth, etc)

Source: Based on Salvado and Walz (2013).

Asian Development Fund, and the IMF's Poverty Reduction and Growth Trust. In accordance with the level of development of the region in which it operates (mainly composed by MICs), the Inter American Fund for Special Operation set the threshold in a higher level of GDP per capita ($2587). Among the global funds, GAVI Alliance, the Global Fund and the Global Agriculture and Food Security Program (GAFSP) also use GNI per capita (and a similar threshold to the World Bank threshold) as criterion for countries' eligibility.

Although not being an exhaustive list, the cases mentioned are enough for confirming how a comprehensive category (the World Bank's classification) is used by an ample group of bilateral and multilateral donors as criterion for countries' eligibility and graduation for their measures of support. However, in this kind of classification, such a procedure can create problems related to equity, to incentives, and the necessary international coordination.

Problems of equity stem from the fact that systems for assessing eligibility and graduating countries link a reality that is continual and progressive internationally—the developmental level of countries—to a dichotomy: either a country is eligible or not eligible (*in or out*). That can lead to a situation where countries with very similar conditions receive notably different treatment because they are on either side of a threshold that in many cases is arbitrary. That can cause comparative grievances that are difficult to justify.

Second, there are problems of incentives that come from the way in which the criteria of graduation are defined. These have to do with general synthetic variables (per capita income level or human development level). In these cases, the removal of international aid seems to be associated with achievements in the level of countries' development. This is not the most ideal way to properly align the incentives of the international system. In some way, what the system is doing is penalizing success (and rewarding failure) by tying achievements to the removal of international aid.

Lastly, given the generic character of the classification criteria, there are many donors that share the same threshold for countries' graduation for aid, which could lead to resources being simultaneously withdrawn, without proper coordination, affecting the stability and progress of a country. Here we are not talking purely hypothetically. First, because there is strong interdependence of donor giving (Davies and Klasen, 2015); and, second, because there are many donors (particularly multilateral ones) who base their graduation criteria on the per capita income of the recipient country, defining the threshold for ending eligibility close to that which defines middle-income countries. As a result, Salgado and Lah (2013) estimate that, between 2013 and 2030, forty-one

countries will graduate from the IDA, fifteen will graduate from the African Development Fund, fifteen from the Asian Development Fund, and about thirty-eight from the GAVI Alliance. The simultaneous graduation from various organizations will mean some middle-income countries may lose between 25 and 40 percent of the international aid funds they receive. Such an abrupt withdrawal of funds, as well as severely limiting the total volume of resources available for the country, could affect the composition of spending since it will principally affect those elements—such as education and health—where aid financing is crucial (Salvado and Waltz, 2013). The costs of both processes may be significant.

In fact, where comprehensive classification systems are used, the processes by which countries graduate from receiving aid seems to be particularly inadequate. Nothing substantive has changed for a country when it overcomes an income (or HDI) threshold that is somewhat arbitrary (Alonso et al., 2014). In these cases, it would be better to substitute the current *graduation* procedure by a process of *gradualness;* in other words, it would be better to support national efforts, modulating aid intensity (and its content) to the abilities and needs of the recipient. Furthermore, support should be maintained until the risk of a country slipping backwards in terms of development are small, something that is impossible to ascertain by a simple variable such as GDP per capita or the HDI. Additionally, a well-designed transition period should be defined, to allow for a gradual (rather than abrupt) withdrawal of international aid, offering the country clear alternative cooperation mechanisms and supervision of its evolution, in order to ensure that withdrawing aid does not have serious costs to the processes of development. In the case of the LDCs, General Assembly resolutions 59/209 and 67/221 are positive steps in this direction.

5.2. The case of LDCs

The LDC category is a particular case among existing country groupings. It is sanctioned by the UN General Assembly which takes decisions on inclusion and graduation. It has a long history and a clear set of criteria, grounded on sound analytical foundations and the CDP (an independent body of experts) plays a substantial role in monitoring the process of countries' inclusion and graduation.

In contrast, most of the other groupings are either generated by a particular institution that is pushing a certain agenda with these categories, or by countries lobbying for a category. None of these categories have been officially approved

by any global body, in most cases not even by the governing bodies of the institutions that promoted them.

The CDP category also relies on a set of approved procedures for phasing out LDC-specific support. Yet, development and trading partners' compliance with these provisions has been uneven. In general, ODA flows have been maintained to LDCs that have graduated. This seems to be a logical outcome since as seen above donors do not necessarily allocate ODA according to LDC status. Yet, other types of support—of which the most relevant is arguably preferential market access—have been discontinued, sometimes abruptly by some partners,. It is worth noting however that in the specific case of market access, several LDCs participate in regional free trade agreements. Change of LDC status has no implications for market access in these cases. In any case, the potential loss of benefits creates a great deal of concern in graduating countries.

6. Alternative classification by issues

The problems that affect "country-based" classification systems do not affect "issue-based" classifications in the same way. At least, they do not if the aid measures are specifically designed to tackle the problems that define the category. Equity does not seem to be affected if aid measures designed to tackle a particular problem are not applied to a country without that problem (or one which no longer has the problem). It is nevertheless important to ensure that the problems identified are considered properly as shortcomings deserving of international support in order for the problem of equity not to arise. And the support should focus on the particular issue and not become an all-purpose category for special support, as the category of SIDS or fragile states might easily become. Nor do issue-based systems seem to suffer from the problem of simultaneous withdrawal of international support which appears in the graduation processes associated with the "country-based" system types. Given that support is associated with specific problems, the fact that a country overcomes one of the problems mentioned will not mean that it ceases to receive aid for the remaining problems it has that international aid tackles. Lastly, if issues and measures of support are properly defined, the problems of poor incentives associated with classification could also be avoided.

Notwithstanding the above, "issue-based" systems have two disadvantages worth considering. One refers to the possible fragmentation of the international system, as long as there are numerous development issues deserving of

preferential treatment by the international community. The other relates to the loss of a comprehensive approach to issues that are tightly interconnected.

In order to avoid the risk of a disorderly proliferation of categories and aid measures four basic criteria should be followed:

- First, given the proliferation of country classification, the creation of new categories should be subject to careful study. Some issues could give rise to support measures without necessarily defining a new group of countries subject to this treatment. For example, aid could be allocated in relation to the Economic Vulnerability Index (which is one of the indicators used for the LDC category), without creating any category for that. This approach has already been acknowledged by the General Assembly, in resolution 67/221, paragraph 23.
- Second, a category could be defined when the issue is important, deserves a specific set of support measures that is distinct from any other sets of measures applied to developing countries and requires certain international coordination (because implies a problem of collective action). It is important that the chosen issues do not raise problems of moral hazard (generating perverse incentives) nor link international support with policy options that should be freely decided by affected countries.
- Third, in order to evade the proliferation of groups, the issue-based classifications need to be designed from a relatively comprehensive view, taking into account the best way to order the complex and changeable reality of the developing world. Overall the issue-based classification systems appear to better address development issues pertinent to developing countries, as long as the issue is defined with objective criteria and monitored with sound data. The systems can avoid disorderly increases in the number of categories as long as the issues at hand are kept minimal.

On the other hand, in order to avoid a fragmented treatment of the interlinked aspects of development, it could be useful to maintain a comprehensive category for the process of aid allocation. But, in this case, the LDCs category is the best option for preserving the required comprehensive approach to basic development problems. It is the best founded category, based on a complex set of different development dimensions, and includes an ample list of the more needy countries in the world. Therefore, international donors should strengthen the role of LDCs in their measures of international support, avoiding the creation of new or alternative comprehensive categories that could compete or partly overlap with the LDCs category (such as the World

Bank's income-based category). This option is compatible when donors adopt an issue-based approach in order to identify sub-sets of more homogeneous countries that face similar challenges in the LDCs group or in the developing world as a whole, and design a set of specific measures of support to each cluster, complementary to those that are associated to the LDCs group.

A last point to consider is the legitimacy of particular categorizations. There is a strong case to be made that any country grouping—particularly those that are linked to countries' eligibility for measures of international support—ought to be transparent and carry legitimacy of the institutions who decide on inclusion and exclusion and its criteria. Here the LDC category has substantial advantages too.

7. Concluding remarks

We have considered various ways to group developing countries and assessed the merits and problems of each of these systems of classification. Clearly, the recent proliferation of categories has created a lot of confusion and fragmentation and many categories generate substantial problems. In this chapter we have argued that many of the country-based groupings and some of the uses of issue-based groupings are deeply problematic, create perverse incentives, and lead to problems of inequality in treatment. Additionally, often these groupings do not reflect homogeneity in the countries concerned and thus these groupings are simply not a valid way to sort countries. We would suggest two ways forward.

First, the creation of new comprehensive, country-based classification systems should be avoided. Donors can identify development issues that deserve international support, without defining any new category. In most cases, international donors could allocate aid and other measures of support based on sound and objective criteria linked to these identified issues. If new categories are needed at all, issue-based classifications are more useful and special support should be targeted to that issue. The HIPC category is a good example for such a grouping. Similarly, one could imagine that instead of generating an "all-purpose" SIDS category, it would be better to turn this proposal into a real issue-based categorization. For example, one could group countries that are severely threatened by rising sea levels, including not only pertinent small island states but also continental countries with a large land mass of low-lying areas. Such a category should then receive special support in particular programs of adaptation to climate change. Similarly, another group of small island states

(and some other remote countries) which are particularly remote from markets and trade routes could receive special support in "aid-for-trade" programs. Such issue-based groupings would be much easier to generate and maintain and would be more defensible for targeted support measures.

Second, for country-based systems, we believe that the LDC category has a range of advantages over other country-based groupings. They include a clear and transparent process and indicators, a track record and high legitimacy, and an independent body to monitor its implementation. In this regard, difficulties linked to graduation decisions in the intergovernmental process need to be addressed not to undermine the legitimacy of the category. At the same time, in view of the continuous or gradient nature of most development challenges, we also suggest that there should be no sharp distinctions made between those on the list, and those who are slightly better off or have recently graduated. Instead a more gradual approach to support measures is required to address some of the equity and incentive problems discussed above.

Notes

1 In this chapter, we focus particularly on classifications of the universe of developing and emerging economies. Of course, there has also been a multiplication of classifications and groupings at the rich end of the income spectrum, ranging from official groupings defined, for example, by membership in the OECD, to informal groupings such as the G8 or now the G20.

2 When using market exchange rates, the increase in heterogeneity of per capita incomes among developing countries over the past four decades would be even larger.

3 Detailed information on how the indices are calculated and respective data sources are available at the CDP website http://www.un.org/en/development/desa/policy/cdp/ldc_info.shtml and UNDESA/CDP, 2011. For a comprehensive historical background see Guillaumont (2009).

4 On smooth transition see also CDP Secretariat (2012). Strengthening Smooth Transition for the Least Developed Countries. *CDP Background Paper Series No. 14*, available from http://www.un.org/en/development/desa/policy/cdp/cdp_background_papers/bp2012_14.pdf.

5 The World Bank initially used membership of the OECD, with some unexplained exceptions, as the criterion to define the category of industrialized countries.

6 Initially, international inflation was defined by the average rate of inflation in the G-5 countries; after 2000, the average rate of inflation of the Euro Zone, Japan, and the United States was used.

7 Among the main problems, PPP factors of conversion are estimated based on complex and contested procedures. Second, they are only valid for particular benchmark years. Comparing per capita incomes across benchmark years can, however, lead to estimates that are inconsistent with the real growth rates measured in national currencies in the intervening period. Also, sometimes the estimates from benchmark years have led to massive revisions of PPP adjusted per capita income levels. For example, in the revisions made as a result of the 2005 benchmark year, China's and India's PPP adjusted GDP per capita was estimated to be 40 percent lower than previously believed. For a discussion, see Klasen (2013).

8 Apart from posing challenges for MDG progress, fragile states also pose challenges for development and aid policies as traditional models of engagement often do not work in fragile states. For example, the capacity to absorb aid is found to be lower in fragile states than in nonfragile states (McGillivray and Feeny, 2007), while the need for aid is, at the same time, considerably greater in fragile states than in nonfragile states. Consequently, in recent years, the international community has made a significant effort in attempting to develop strategies and instruments that effectively address the particular problems of fragile states (e.g., World Bank, 2006a, 2011; ODI, 2006; Dollar and Levin, 2005).

9 At the same time, it is true that fragile countries, regardless of the definition, perform worse in terms of levels of MDG achievement. So they are further away from the goals, but their rate of progress has not been slower.

10 In fact, the creation of the LDCs category seems to be linked to a desire by the international community to pay special attention "to the less developed among them [the developing countries]."

References

Adcock, Robert and David Collier, D. (2001). Measurement Validity: A Shared Standard for Qualitative and Quantitative Research. *The American Political Science Review*, vol. 95, no. 3, pp. 529–46.

Alonso, José Antonio (2013). Cooperation with Middle-Income Countries: An Incentive-Based Approach. *AECID Working Paper, 1*, Agencia Española de Cooperación Internacional, Madrid; available at: http://www.aecid.es/Centro-Documentacion/Documentos/Eficacia%20y%20calidad/DT03%20AECID_CooperationMiddleIncomeCountries_030414-final.pdf

Alonso, José Antonio y Carlos Garcimartín (2013). The Determinants of Institutional Quality. More on the Debate. *Journal of International Development*, vol. 25, no. 2, pp. 206–26.

Alonso, José Antonio, Jonathan Glennie, and Andy Sumner (2014). Recipient and Contributors: MICs and the Future of the Development Cooperation; UN DESA *Working Paper no. 35;* available at: http://www.un.org/esa/desa/papers/2014/wp135_2014.pdf

Arndt, Cristiane and Charles Omar (2006). *Uses and Abuses of Governance Indicators.* París: OECD.

Bergeijk, Peter A. G. van and Charles van Marrewijk (2013). Heterogeneity and Development: An Agenda. *Journal of International Trade and Economic Development*, vol. 22, no. 1, pp. 1–9.

Bhattacharya, Debapriya and Syed Saifuddin Hossain (2011). *Least Developed Countries in the Next Decade. What Is There in the Istanbul Programme of Action?* Berlin: Friedrich-Ebert-Stiftung.

Bourguignon, Françoise, Agnes, Benassy-Quere, Stefan Dercon, Antonio Estache, Jan WillenGunning, Ravi Kanbur, Stephan Klasen, Simon Maxwell, Platteau, Jean-Phillipe, and Amedeo Spadaro (2008). Millennium Development Goals at Midpoint: Where Do We Stand and Where Do We Need to Go? Paper written for the DG Development of the European Commission as a background paper for the 2009 European Report on Development.

Bruckner, Matthias (2013). Effectively Addressing the Vulnerabilities and Development Needs of Small Island Developing States. *CDP Background Paper Series No. 17*; available at: http://www.un.org/en/development/desa/policy/cdp/cdp_background_papers/bp2013_SIDS2.pdf

Carment, David, Souleima El-Achkar, S. Stewart Prest, and Y. Yiagadeesen Samy (2006). The 2006 Country Indicators for Foreign Policy: Opportunities and Challenges for Canada. *Canadian Foreign Policy*, vol. 13, no. 1, pp. 1–35.

CDP Secretariat (2012). Strengthening Smooth Transition for the Least Developed Countries. *CDP Background Paper Series No. 14*; available at: http://www.un.org/en/development/desa/policy/cdp/cdp_background_papers/bp2012_14.pdf

CGD (2004). On the Brink: Weak States and US National Security. Centre for Global Development, Centre for Global Development, Washington.

CIFP (2008). *Country Indicators for Foreign Policy*. Carleton University.

Collier, Paul (2000). The Political Economy of Fragile States and Implications for European Development Policy. Oxford University.

Collier, Paul and Anke Hoeffler (1998). On Economic Causes of Civil War. *Oxford Economic Papers*, vol. 50, no. 4, pp. 563–73.

Committee for Development Planning (1971). *Report on the Seventh Session* (March 22–April 1, 1971). Economic and Social Council Official Records: Fifty-first Session, Supplement No. 7.

Committee for Development Policy (2008). *Report on the Tenth Session* (March 17–20, 2008). Economic and Social Council Official records, 2008, Supplement No. 13 (E/2008/13).

Committee for Development Policy (2010). *Strengthening International Support Measures for the Least Developed Countries*. CDP Policy Notes. United Nations Publications, Sales No. E.10.II.A.14.

Corbridge, Stuart (2007). The (Im)possibility of Development Studies. *Economy and Society*, vol. 36, no. 2, pp. 179–2011.

Cortez, Ana Luiza (2011). Beyond Market Access: Trade-related Measures for the Least Developed Countries. What Strategy*? DESA Working Paper Series No. 109*; available at: http://www.un.org/esa/desa/papers/2011/wp109_2011.pdf

Cortez, Ana Luiza and Namsuk Kim (2012). Conflict and the Identification of the Least Developed Countries: Theoretical and Statistical Considerations. *CDP Background Paper Series*, no. 13, February; available at: http://www.un.org/en/development/desa/policy/cdp/cdp_background_papers/bp2012_13.pdf

Davies, R. and S. Klasen (2015). Of Donor Coordination, Frer-Riding, Darlings, and Orphans: The Dependence on Bilateral Aid on other Bilateral Giving. *Courant Research Center 'Poverty, Euity, and Growth in Developing and Transition Countries' Discussion Paper* No. 168.

Devarajan, Shanta (2013). Africa's Statistical Tragedy. *Review of Income and Wealth*, vol. 59, pp. S9–S16.

DFID (2005). Reducing Poverty by Tackling Social Exclusion. *DFID Policy Paper.* Department for International Development, London.

Easterly, William (2009). How the Millennium Development Goals Are Unfair to Africa. *World Development*, vol. 37, no. 1, pp. 26–35.

Fialho, Djalita and Peter A. G. van Bergeijk (2013). Spaghetti and Noodles. Why Is the Developing Country Differentiation Landscape So Complex? *ISS Working Paper*, no. 563, The Hague: International Institute of Social Studies.

Francois, Monika and Inder Sud (2006). Promoting Stability and Development in Fragile and Failed States. *Development Policy Review*, vol. 24, no. 2, pp. 141–60.

Guillaumont, Patrick (2009). *Caught in a Trap. Identifying the Least Developed Countries*. Paris: Economica.

Harttgen, Kenneth and Stephan Klasen (2013). Do Fragile Countries Experience Worse MDG Progress? *Journal of Development Studies*, vol. 49, no. 1, pp. 134–59.

Hein, Philippe (2004). Small Island Developing States: Origin of the Category and Definition Issues, in UNCTAD, *Is a Special Treatment of Small Island Developing States Possible?* Geneva: UNTACD (UNCTAD/LDC/2004/1).

Hein, Philippe (2010). Views and Perspectives on UN Support for SIDS. *CDP Background Paper Series* no. 10; available at: http://www.un.org/en/development/desa/policy/cdp/cdp_background_papers/bp2010_10.pdf

Hirschman, Albert O. (1981). *Essays in Trespassing. Economics to Politics and Beyond*. Cambridge: Cambridge University Press.

ICP (2005). *Global Purchasing Power Parities and Real Expenditures.* Washington, DC: The World Bank.

IMF (2010). *World Economic Outlook—Rebalancing Growth.* Washington, DC: IMF.

Jackson, Robert H. and Carl G. Rosberg (1982). Why Africa's Weak States Persist: The Empirical and the Juridical in Statehood. *World Politics*, vol. 23, no. 1, pp. 1–24.

Jerven, Morten (2013). Comparability of GDP Estimates in Sub Saharan Africa: The Effect of Revisions in Sources and Methods since Structural Adjustment. *Review of Income and Wealth*, vol. 59, pp. S16–S36.

Klasen, Stephan (2013). Is It Time for a New International Poverty Measure? *Development Cooperation Report, 2013. Ending Poverty.* Paris: OECD.

Levin, Victoria and David Dollar (2005). The Forgotten States: Aid Volumes and Volatility in Difficult Partnerships. Summary paper prepared for the DAC Learning and Advisory Process on Difficult Partnerships, Washington, World Bank.

Mata, Javier F. and Sebastian Ziaja (2009). *User's Guide on Measuring Fragility.* Bonn and New York, German Development Institute and United Nations Development Programme.

McGillivray, Mark and Howard White (2006). Measuring Development? The UNDP's Development Index. *Journal of International Development*, vol. 5, no. 2, pp. 181–92.

McGillivray, Mark and Simon Feeny (2007). *Aid Allocation to Fragile States: Absorptive Capacity and Volatility*. United Nations University, World Institute for Development Economic Research, Helsinki.

Migdal, Joel S. (1998). *Strong Societies and Weak States: State-society Relations and State Capabilities in the Third World.* Princeton, NJ: Princeton University Press.

Milliken, Jennifer and Keith Krause (2002). State Failure, State Collapse, and State Reconstruction, Lessons and Strategies. *Development and Change*, vol. 33, no. 5, pp. 753–74.

Ndulu, B. J., S. O'Connell, J.-P. Azam, R. H. Bates, A. K. Fosu, J. W. Gunning, and D. Njinkeu (eds.) (2009). *The Political Economy of Economic Growth in Africa 1960–2000.* Cambridge: Cambridge University Press.

Nielsen, Lynge (2011). Classifications of Countries Based on Their Level of Development: How It Is Done and How It Could Be Done. *IMF Working Paper* WP/11/31. Washington: International Monetary Fund.

ODI (2006). *Annual Report 2006: What's Next in International Development?* London: Oversears Development Institute.

ODI (2010). *Millennium Development Goals Report Card: Measuring Progress Across Countries.* London: Overseas Development Institute.

OECD (2008). *Resource Flows to Fragile and Conflict Affected Countries.* Paris: OECD.

OECD (2009). *Ensuring Fragile States Are Not Left Behind—Summary Report March 2009.* Paris: OECD.

Rice, Susan E. and Stuart Patrick (2008). *Index of Sate Weakness in the Developing World, Brookings Global Economy and Development.* Washington: The Brookings Institution.

Salvado, Rodrigo C. and Jenny Lah (2013). Growing Pains: Aid Graduation and the Financing of Human Development. Bill and Melinda Gates Foundation, *PAF Working Paper Series* 2013/01.

Salvado, Rodrigo C. and Julie Walz (2013). Aid Elegibility and Income Per Capita: A Sudden Stop for MICs? Bill and Melinda Gates Foundation, *PAF Working Paper Series* 2013/05.

Sen, Amartya (1999). *Development as Freedom.* Oxford: Oxford University Press.

Shiferaw, Admasu (2010). Assessing the UN Programs of Action for LDCs and the Allocation of ODA to LDCs. Background paper prepared for the CDP expert group meeting on Special measures for LDCs and on UN support for SIDS. New York, January 25–27, 2010.

Stewart, Frances and Graham Brown (2009). Fragile States. *CRISE Working Paper*, no. 51, CRISE, Oxford University.

UNCTAD (2010). *The Least Developed Countries Report 2010. Towards a New International Development Architecture for LDCs*. United Nations publications. Sales No. E.10.II.D.5.

UNDESA/CDP (2008). *Handbook on the Least Developed Country Category: Inclusion, Graduation and Special Support Measures.* United Nations publications. Sales No. E.07.II.A.9.

UNDESA/CDP (2011a). Survey on International Support Measures Specific to the Least Developed Countries (LDCs) Related to Bilateral Official Development Assistance (ODA) Responses by Donor Countries. Summary and Analysis; available at: http://esango.un.org/ldcportal/documents/10179/15001/Summary%20%26%20Analysis%20Bilateral%20Donors.pdf

UNDESA/CDP (2011b). Survey on International Support Measures Specific to the Least Developed Countries (LDCs) Related to Multilateral Official Development Assistance (ODA) Responses by International Organizations. Summary and Analysis; available at: http://esango.un.org/ldcportal/documents/10179/15001/Summary%20%26%20Analysis%20Multilateral%20Donors.pdf

USAID (2005). *Fragile States Strategy.* Washington, DC: USAID.

Vaubel, R. (1996). Bureaucracy at the IMF and the World Bank: A Comparison of the Evidence. *The World Economy*, vol. 19, no. 2, pp. 195–210.

Wolff, Hendrik, Howard Chong, and Maximilian Auffhammer (2011). Classification, Detection and Consequence of Data Error. Evidence from the Human Development Index. *Economic Journal*, vol. 121, no. 553, pp. 843–70.

World Bank (2006a). *Annual Review of Development Effectiveness 2006—Getting Results.* Washington, DC: World Bank.

World Bank (2006b). *Engaging with Fragile Sates—An IEG Review of World Bank Support to Low-Income Countries Under Stress.* Washington, DC: World Bank.

World Bank (2007a). *Global Monitoring Report.* Washington, DC: World Bank.

World Bank (2007b). *Selectivity and Performance: IDA's Country Assessment and Development Effectiveness.* International Development Association (IDA). Washington, DC: World Bank.

World Bank (2007c). *Additions to IDA Resources: Fifteenth Replenishment IDA: The Platform for Achieving Results at the Country Level*. International Development Association (IDA). Washington, DC: World Bank.

World Bank (2007d). *World Development Indicators 2007.* Washington, DC: World Bank.
World Bank (2008). *Global Monitoring Report.* Washington, DC: World Bank.
World Bank (2009a). *Global Monitoring Report 2009.* Washington, DC: World Bank.
World Bank (2009b). *Country Policy and Institutional Assessments. 2009 Assessment Questionnaire.* Washington, DC: World Bank.
World Bank (2010). *Global Monitoring Report 2010: The MDGs after the Crisis.* Washington, DC: World Bank.
World Bank (2011). *World Development Report 2011: Conflict, Security and Development.* Washington, DC: World Bank.

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