Asia in Transition 23

Ahmed M. Khalid
Bruno Jetin *Editors*

Brunei Darussalam's Economic Transition in a Shifting Global Asia

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Abbreviations and Acronyms

ADF	augmented Dickey–Fuller
AEC	ASEAN Economic Community
AFTA	ASEAN Free Trade Area
AIC	Akaike information criterion
AMBD	Autoriti Monetari Brunei Darussalam (now Central Bank)
APSC	ASEAN Political-Security Community
APT	ASEAN Plus Three
ARCH	autoregressive conditional heteroscedasticity
ARDL	autoregressive distributed lag
ASCC	ASEAN Socio-Cultural Community
ASEAN	Association of Southeast Asian Nations
b/d	barrels per day
BAB	Brunei Association of Banks
BATP	Brunei Agro Technology Park
BDPC	Brunei Darussalam Deposit Protection Corporation
BEDB	Brunei Economic Development Board
BIBD	Bank Islam Brunei Darussalam
BIMP-EAGA	Brunei–Indonesia–Malaysia–Philippines East ASEAN Growth Area
BITA	Brunei Insurance and Takaful Association
CAR	capital adequacy ratio
CIA	Currency Interchangeability Agreement
CIBFM	Centre for Islamic Banking, Finance and Management
CIMB	Commerce International Merchant Bankers
CPTPP	Comprehensive and Progressive Agreement for Trans-Pacific Partnership
CUSUM	cumulative sum
CUSUMSQ	CUSUM of squares
DARe	Darussalam Enterprise
DiT	development in transition
DVA	domestic value added

ECM	error correction model
EIP	employee involvement and participation
ETF	Employees Trust Fund
FCE	final consumption expenditure
FD	financial sector development index
FDI	foreign direct investment
FSBP	Financial Sector Blueprint
FTA	free trade agreement
FVA	foreign value added
GCC	Gulf Cooperation Council
GDP	gross domestic product
GPS	Government Pension Scheme
GQ	governance quality
GVA	gross value added
GVC	global value chain
HHI	Herfindahl–Hirschman index
HS	Harmonised System
HSBC	Hongkong and Shanghai Banking Corporation
ICT	information and communication technology
ILO	International Labour Organisation
IMS-GT	Indonesia–Malaysia–Singapore growth triangle
IOT	input–output table
KNK	Kenali Negara Kitani (Get to Know Your Own Country)
LCB	lower critical bound
LNG	liquefied/liquid natural gas
LU4	composite labour underutilisation
MDG	Millennium Development Goal
MFN	most favoured nation
MIB	*Melayu Islam Beraja* (Malay Islamic monarchy)
MINDEX	Multidimensional Indicator of Extractives-based Development
MNC	multinational corporation
MoU	memorandum of understanding
MRIO	multiregional input–output
MSME	micro, small and medium enterprise
MUIB	Majlis Ugama Islam Brunei (Brunei Islamic Religious Council)
NDP	National Development Plan
NEI	new economy indicator
NFLC	National Financial Literacy Council
NIM	net interest margin
NPL	non-performing loan
OECD	Organisation for Economic Co-operation and Development
OLS	ordinary least squares
OPEC	Organization of the Petroleum Exporting Countries
PDC	pure double-counting

PENGGERAK	Peneraju Gagasan Gemilang untuk Rakyat (Piloting Exclusive National Goals, Gearing Excellent Results and KPIs)
PISA	Programme for International Student Assessment
PMP	performance management policy
PP	Phillips–Perron
PPP	purchasing power parity
R&D	research and development
RCA	revealed comparative advantage
RCEP	Regional Comprehensive Economic Partnership
RGDPPC	rents and real GDP per capita
ROA	return on assets
ROE	return on equity
SDG	Sustainable Development Goal
SFSB	Syariah Financial Supervisory Board
SIC	standard industrial classification
SITC	standard international trade classification
SME	small- and medium-sized enterprise
SPN21	National Education System for the 21st Century
SUT	supply–use table
SWOT	strengths, weaknesses, opportunities and threats
TAIB	Tabung Amanah Islam Brunei
TEU	twenty-foot equivalent units
TII	trade intensity index
TiVA	Trade in Value Added
TPP	Trans-Pacific Partnership
UCB	upper critical bound
UN	United Nations
UNCTAD	United Nations Trade and Development
UOB	United Overseas Bank
WTO	World Trade Organisation

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Chapter 1
Introduction: Brunei Darussalam's Economy—Transition towards Development

Ahmed M. Khalid and Bruno Jetin

Abstract The global economy is experiencing a major transformation which requires countries, specifically developing countries, to adopt new policies for economic development. Many developing economies need policies to cope with the emerging challenges of environmental change, technological revolution, the high volume of globalised trade and financial flows, cross-border labour movement, rising inequality, and frequent occurrences of economic crises and natural disasters. The United Nation's 2030 Agenda for Sustainable Development Goals (SDGs) suggests that economic development should have a multidimensional context that includes economic, social and environmental aspects and not just income. Given the recent trends of globalisation, such development is also linked to regional and global factors. Although the development experience of some emerging economies since the 1990s suggests that the fast pace of economic reforms has led to high gross domestic product (GDP) growth, the benefits are not equally distributed. As a consequence, the notion of 'development in transition' (DiT) requires not only a mix of well-designed policies but also timely implementation, enforcement and monitoring of such policies, as well as international cooperation to ensure sustainable development and distribution of benefits on an equitable basis. This introductory chapter discusses the evolution of development models suggested in the literature and practised by developing countries. It then provides an overview of Brunei Darussalam's transitions towards development. Finally, it presents a summary of all the chapters in this volume. The deliberations suggest that more commitments towards policy implementation would help the country achieve the targets set out in its Wawasan Brunei 2035 development blueprint.

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1.1 Introduction

The Association of Southeast Asian Nations (ASEAN) is among the world's most successful economic blocs. Established in 1967 with only five members from the Southeast Asian region, the group now has 10 member states (Weatherbee 2019). Having multiple objectives, the main focus of ASEAN in the context of economic integration between member states is to achieve sustainable economic growth (Jetin and Mikić 2016). Despite a huge disparity between ASEAN states in terms of size—with Indonesia at 1.9 million km^2 and Singapore at only 734 km^2—and population—with Indonesia again at 275 million and Brunei Darussalam at only 445,000—as well as differences in income levels, culture, locally spoken languages and religious affiliations (Kingsbury 2007), the region has been able to make significant progress over more than five decades. The success of ASEAN has been well acknowledged by developed nations, with the region's policies being followed by other emerging economies and economic blocs to collaborate in achieving certain goals, particularly the facilitation of cross-border movements of labour and goods. An effort is made in this introductory chapter to provide a theoretical discussion of development models, an overview of ASEAN's transition towards development and a summary of the chapters in this book. The introduction is organised in the following manner. Section 1.2 provides a brief overview of the theoretical and empirical literature on the economics of transition. Section 1.3 details the socioeconomic development of Brunei and its long-term plan to achieve economic diversification. A summary of chapters is provided in Sect. 1.4, while some concluding remarks are presented in Sect. 1.5.

1.2 Economic Transition: Moving towards Development

The global economy is experiencing a major transformation which requires countries, specifically developing countries, to adopt new policies for economic development. Many developing economies need policies to cope with the emerging challenges of environmental change, technological revolution, the high volume of globalised trade and financial flows, cross-border labour movement, rising inequality and frequent occurrences of economic crises and natural disasters. The United Nations' (n.d.) 2030 Agenda for Sustainable Development Goals (SDGs) suggests that economic development should have a multidimensional context which includes economic, social and environmental aspects and not just income. Given the recent trends of globalisation, such development is also linked to regional and global factors. Although the development experience of some emerging economies since the 1990s suggests that the fast pace of economic reforms has led to high gross domestic product (GDP) growth, the benefits are not equally distributed (IMF 2000). As a consequence, the notion of 'development in transition' (DiT) requires not only a mix of well-designed policies but also timely implementation, enforcement and monitoring of such policies, as well as international cooperation to ensure sustainable development and distribution of benefits on an equitable basis.

A number of models have been developed in economic theory detailing what is needed for countries to achieve economic development. The Harrod–Domar growth model is considered the first such paradigm to initiate the debate on factors determining economic growth. The model places emphasis on a strong saving–investment relationship as a precondition for economic growth. Accordingly, higher investment can exert two effects—an income-generating effect and a productivity effect by creating capacity, thereby leading to higher growth. W.W. Rostow's (1959) seminal work on the 'five stages of growth/development' further extends this debate on how less-developed countries could pursue economic development (for more details on Rostow, see PennState 2015). Again, the model focuses on a saving–investment relationship, and it suggests that economic development requires substantial investment in capital. The deep-rooted financial sector reforms adopted by some Asian countries during the late 1980s and early 1990s were partly the result of policies intended to provide incentives for savers and investors. However, the Harrod–Domar portfolio of policies did not work in some countries due to: (1) low saving rates; (2) a lack of markets that could channel savings into the most productive applications (investment); and (3) the poor quality of investments.[1] Some developing countries were thus trapped in a vicious circle with low saving rates to low capital formations resulting in low productivity and income.

The 1990s also witnessed the rapid growth of some countries in Asia and Latin America, along with the transformation of the so-called 'command economies' to 'market economies'. The assessment of reforms during the transition period was important to determine the pace of reforms. Martin L. Weitzman (1993) describes two different models of economic transition or transformation. The first is called the 'revolutionary' model (or the East European model), requiring transition at a fast pace through establishing well-defined property rights as a precondition to the 'proper functioning of a capitalist market economy', enabling the privatisation of state-owned enterprises. The second is called the 'evolutionary' model (or the Chinese model), based on a gradualist approach towards economic transition, 'allowing market oriented competitive enterprises to develop from within'. Although, both models emphasise privatisation, the Chinese model focuses more on establishing competition. David Lipton and Jeffrey Sachs (1990) also propose a 'big bang'

[1] Rostow's five stages of development have received considerable criticism in the academic literature. Some critics believe that it focuses only on the Westernised path to economic development. Many countries do not follow the steps Rostow lists, while others simply have a different goal than mass production. For instance, many countries shifted from agriculture and minerals to industry plus services. See Gerald Meier (1989).

approach to transition, suggesting all reform policies be implemented quickly and as a package. The same approach is also advocated in Oliver Blanchard et al. (1993). Consistent with the Washington Consensus, this policy model advocates a reform package consisting of liberalisation, privatisation and fiscal discipline (Berglöf and Roland 2007). Jan Svejnar (2002) suggests two types of reforms that transitional economies should follow. Type I requires macroeconomic stabilisation, price liberalisation and institutional changes. Type II reforms call for regulatory restructuring and enforcement to establish a market-driven mechanism. This includes the privatisation of state-owned enterprises, labour market regulation and a prudential regulatory structure.

However, the successful experience of the emerging and developing economies in the late 1980s and early 1990s suggests that a gradualist approach works better to achieve sustainable growth. The risks associated with rapid development were also exposed during the 1997 Asian financial crisis. Indonesia is a good example. Despite accomplishing high growth through fast-paced reforms, without establishing a regulatory structure to ensure the safety of private investment and rights of ownership, it paid a huge price with economic growth declining from a positive 10% growth at the beginning of 1997 to a negative 13% growth during the crisis (Ariff and Khalid 2005). Accordingly, institutional building and regulatory reforms were strongly emphasised during the transition period.

Marcin Piatkowski (2002) emphasises the role of information and communication technologies (ICT) during the transition process. He constructed a 'new economy indicator' (NEI) and used a sample of Eastern European countries to measure the capacity of transitional economies in exploiting the potential of innovation and technology diffusion to help economies in transition catch up with developed countries. Kenneth L. Kraemer and Jason Dedrick (2001) suggest that due to a lack of investment in complementary investment in infrastructure, human capital and research and development (R&D), developing countries have not been able to adapt to high-tech, innovative and efficient production models.

Later, policies of openness, use of information technology and innovative business models would change the whole scenario. As a result, investment was differentiated between public, private and foreign investment. Southeast Asian countries adopted policies to attract foreign investment and encourage domestic investment. The sectoral developmental approach moved from being agriculturally based to manufacturing and services. Diversification became a buzzword in national economic planning. The quality of public sector investment was emphasised. Public–private partnership was now considered an important element of public sector projects. The governance system was reshaped where the government role was seen more as a facilitator through market reforms instead of market controls. The successful experience of East and Southeast Asian economies or what the World Bank (1993) called the 'East Asian miracle' was based on sound principles of competition, decontrol and decentralisation, and restructuring to ensure the efficient use of resources and meeting the market demand for goods and services (Ariff and Khalid 2005). Based on this successful experience, the literature suggests four main ingredients of the transition process towards development: (1) liberalisation in the real and financial sectors; (2) macroeconomic stabilisation, including both monetary and fiscal sectors to achieve sustainable current account and balance of payments; (3) restructuring of the private sector (to increase its role) and public–private partnership; and (4) legal and institutional reforms and strict standards of prudential and financial management (IMF 2000; Ariff and Khalid 2005). Although there is no one-size-fits-all solution for the sequencing of such reforms, the International Monetary Fund (IMF 2000) suggested that liberalisation, macroeconomic stabilisation and privatisation of small-scale enterprises be initiated first, followed by privatisation of large-scale enterprises and legal and institutional reforms.

In the wake of fast-paced innovation and technological development, new challenges are being faced by businesses and stakeholders. To accommodate these emerging challenges, Nadeem Ul Haque (PIDE 2020) proposed a new framework: a new growth process (Fig. 1.1). According to this process, the quantity and quality of investment are enhanced through market reforms and public sector investment while productivity is improved through innovative practices, entrepreneurial skills and technical knowledge. In this framework, innovations, markets and entrepreneurship work as key instruments, whereas vital interventions include policy, procedural and institutional reforms to create an enabling environment.

In sum, this overview of the literature provides interesting details on how economies should transition towards economic development. The experiences of Eastern European countries and socialist economies in East and Central Asia show that there is no single model or formula for transitional economies to follow. Each country needs to devise a strategy based on its own socioeconomic and geopolitical environment. However, it is very clear through this debate that reforms must look at changing market conditions. Further, sound macroeconomic planning, friendly business environments, and regulatory and institutional restructuring are key to the success of reforms. From a theoretical perspective, policymakers need to think beyond economic theory and make use of the development of contract theory, political economy, law and economics, regulation theory, corporate finance and other areas in applied economic theory (Arrow 2000). Finally, reforms should have a dynamic focus and a regular assessment of gains and losses.

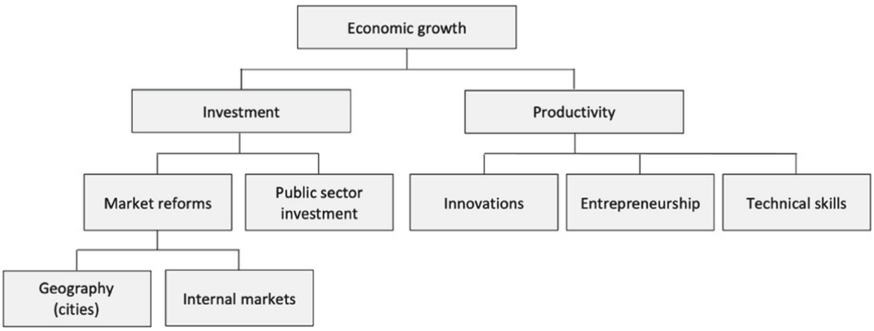

Fig. 1.1 New processes of economic growth. *Source* Adapted from PIDE (2020)

In the context of the above discussion, the next section considers some interesting features of Brunei's economy and its aspirations towards economic development.

1.3 Brunei Darussalam: Transition towards Economic Development

On the basis of GDP per capita derived from purchasing power parity (PPP), Brunei is the second richest country after Singapore in ASEAN and ranks ninth in the world (World Population Review 2023; IMF 2023) (Table 1.1). However, Brunei's economy is heavily dependent on oil and gas resources. Given the depleting oil reserves and high volatility of oil prices, this has led to significant uncertainty in the sustainability of Brunei's economic growth. It is therefore imperative for the country to diversify its economy, reduce dependence on oil and gas, and expand its sources of income to other sectors.

The call for diversification was first made in the Second National Development Plan (NDP) (1962–1966), long before Brunei gained full independence in 1984. The need for diversification was further reiterated in the mid-1970s in the Third NDP with a clear stated objective: 'Diversify the economy through accelerated development of agriculture and industry'. This was broadened in 1996 with the Seventh NDP with 'economic development through economic diversification' as the main objective (Mohd Rozan and Milojević 2016) (Fig. 1.2).

In 2007 the government announced Wawasan Brunei 2035 (Brunei Vision 2035) as a national vision and long-term development plan for the country. It outlined three specific goals to be achieved by 2035 through the use of eight strategies (Brunei Darussalam 2019). The three goals are:

Table 1.1 Per capita GDP of ASEAN (PPP-based)

Country	PPP, constant 2011 international USD						IMF
	1990	1995	2000	2005	2010	2015	2023
Singapore	34,298	44,860	51,636	61,890	72,018	80,192	140,280
Brunei Darussalam	85,281	86,753	82,717	83,717	79,603	73,605	79,408
Malaysia	10,451	14,439	16,146	18,479	21,102	25,312	33,353
Thailand	6,651	9,417	9,228	11,449	13,584	15,347	22,644
Indonesia	4,477	6,023	5,806	6,838	8,465	10,385	15,766
Philippines	4,010	3,960	4,227	4,786	5,638	6,938	11,106
Vietnam	1,501	2,042	2,650	3,485	4,486	5,667	14,248
Laos	1,617	1,908	2,340	2,946	3,974	5,345	9,658
Myanmar	719	896	1,263	2,207	3,608	4,931	5,137
Cambodia	–	1,099	1,371	1,962	2,513	3,278	6,081

Sources World Population Review (2023), IMF (2023)

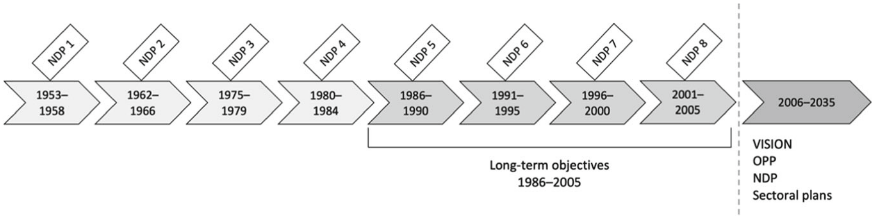

Fig. 1.2 Chronology of Brunei's National Development Plans, 1953–2035. *Source* Adapted from Mohd Rozan and Milojević (2016)

1. The accomplishment of its well-educated and highly skilled people, measured by the highest international standards
2. A high quality of life that is among the top 10 nations in the world
3. A dynamic and sustainable economy with income per capita within the top 10 countries in the world

The eight strategies identified to achieve these goals are:

1. Education
2. Economical
3. Security
4. Institutional development
5. Local business development
6. Infrastructure development
7. Social security
8. Environmental

Data suggest that the process towards economic diversification could not attain the planned momentum, restraining the economy's heavy dependence on natural resources such as oil and gas.[2] Table 1.2 presents the movement of the basic economic indicators since 2000 and confirms the same volatile pattern.[3] Continuing volatility in global oil prices impacted on the growth pattern over the years with positive and negative growth correlated to global oil prices rising and falling respectively.

Although several initiatives were taken to accelerate economic diversification, the implementation process was a bit slow. These initiatives focus on improving productivity by taking advantage of innovative technology and the creative industry, as well as creating a friendly business environment. For instance, Darussalam Enterprise (DARe) was established in 2016 as a statutory body to monitor and nurture the development of small- and medium-sized enterprises (SMEs) in an effort to diversify the economy. The *halal* industry aimed to become a hub for *halal* products and services in the region. At the same time, attention was given to the Islamic finance industry, including Islamic bonds and Islamic insurance (*takaful*) as another area of focus. Plans were also put in place for establishing the securities exchange and for

[2] See Chaps. 2–4 and 6 for more on diversification.

[3] We have restricted this table to 2019 to avoid the negative impact of COVID-19.

Table 1.2 Brunei Darussalam: Basic economic indicators, 2000–2019 (% of GDP)

	2000	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Real GDP growth (%)	2.85	0.39	2.6	3.75	0.91	–2.13	–2.51	–0.39	–2.48	1.33	0.05	3.87
Inflation (%)	1.56	1.24	0.36	0.14	0.11	0.39	–0.21	–0.49	–0.28	–1.26	1.03	–0.39
Gross fixed capital formation	13.1	11.4	23.7	34.6	0.1	0	0.2	0.3	34.4	34.6	40.9	38.5
Foreign direct investment (net)	1.0	1.8	3.5	3.7	4.5	4.3	3.3	1.3	-1.3	3.9	3.8	2.7
Government expenditure	24.8	22.5	14.7	21.2	25.8	18.4	22.2	26.2	39.35	37.58	32.15	32.44
Trade	83.5	80.7	83.3	86.7	86.9	83.2	83.0	74.0	66.2	85.2	93.9	108.5
Current account balance	51.5	47.3	36.5	34.8	29.8	20.9	30.6	15.9	12.9	16.4	6.9	6.6
Fiscal balance	10.9	21.1	15.6	25.6	15.7	10.1	–0.7	–14.0	2.9	–13.2	0.15	–1.58

Source World Bank (2020)

capital market to start operating in 2017–2018. However, this has been delayed in part due to the COVID-19 pandemic.

To further accelerate the diversification process, the government issued an Economic Blueprint in January 2021 with specific goals of achieving macroeconomic stability, low unemployment and sustainable growth (MoFE 2020: vii–viii). The blueprint highlighted six aspirations:

1. Productive and vibrant businesses
2. Skilled, adaptive and innovative people
3. Open and globally connected economy
4. Sustainable environment
5. High quality and competitive economic infrastructure, and
6. Good governance and public service excellence

In sum, Brunei has made some progress but more needs to be done since economic conditions are changing at a much faster pace. The slow process of policy implementation could risk the country's strategic and competitive advantages. For instance, to establish Brunei as a hub for the *halal* industry the country faces tough competition within the region with much larger markets and population base. There also needs to be a change of attitude away from a preference for government jobs. This obviously requires policies for a more efficient public sector as well as incentives for the private sector to grow in the market and increase competition. The data from 2019 show that micro and small enterprises comprise 41.8% and 40.9% respectively, while 14.5% consist of medium enterprises. This means that micro, small and medium enterprises (MSMEs) constitute 97.2% of the total (MoFE 2019: 5). There are huge potential gains to be had through policies encouraging the engagement of MSMEs in national productivity. Production and efficiency can be enhanced through entrepreneurial skills development, the use of technology and resource availability to finance SMEs' initiatives. SMEs should also look at the global market by expanding cross-border business activities.

With this background, the contributing chapters in this book highlight the progress made in different sectors of the Brunei economy, challenges faced and suggestions to accelerate the reform process to ensure that the goals of Wawasan Brunei 2035 are achieved. The next section provides an overview of the chapters.

1.4 Summary of Chapters

In addition to this introduction, the book consists of 16 substantive chapters split into three parts plus a conclusion. Part I discusses Brunei's economic growth in a shifting Asia. Part II deliberates on the transition of Brunei's economy. Part III focuses on managing the public sector.

The analysis in Chap. 2 by Hafiizh Hashim, Stephen Druce and Abdul Hai Julay on Brunei's economic diversification drive looks at socioeconomic and geopolitical issues. It provides a historical perspective on Brunei's independence and the challenges faced by the country with a predominantly oil-dependent economy. An interesting element of this chapter is the detailed examination of the importance of institutional reforms and how institutional changes can help achieve economic diversification. The chapter then focuses on the unique religious and cultural identity which manifests in its *Melayu Islam Beraja* (MIB, Malay Islamic monarchy) philosophy. Brunei's political and economic relations within the region, including China, are also addressed.

This topic is further explored by Ly Slesman in Chap. 3. It provides a detailed deliberation of Brunei's economic development using socioeconomic indicators and the country's historical dependence on the oil and gas sector. The discussion considers if such dependency could be understood as a 'resource curse' or 'resource blessing'. This is linked to the theoretical debate on the natural resource curve which argues 'that countries endowed with abundant natural resources tend to grow slower than countries without such resources'. The author extends this debate through new empirical evidence using data from Brunei. The results support a 'resource blessing' view where oil and gas positively contribute to economic growth. However, the empirical investigation finds economic growth to be sensitive to variations in oil and gas prices or rents. These results obviously support a move towards economic diversification and further development of the non-oil and gas sector of the economy.

This is followed by a discussion on demographic trends and labour market conditions in Brunei in Chap. 4 by Bruno Jetin. This looks at long-term demographic trends and points to a predicted decline in the working-age population which is forecast to begin from the middle of the century (around 2050). A declining younger age dependency ratio will be superseded by a growing old age dependency ratio after 2055. This trend will clearly have implications for the labour market and social care, particularly for a country that already has the highest unemployment rate in ASEAN (Global Economy 2022).[4] The author argues that the people's preference for working for the government and a lack of private sector alternatives have created a segmented labour market. One reason for the preference for public jobs are the much higher salaries the public sector offers compared to the private sector, a phenomenon that is different to what prevails in most other countries. Jetin then discusses resource abundance and the dependence on natural resources that he compares with similar countries in order to assess Brunei's slow progress. He shows that, among the countries receiving high rents from their natural resources, Brunei is one of the top three in terms of the share of public employment. He concludes that more active efforts towards diversifying the economy and building a stronger private sector would be the way to address the challenges the country could face moving forward.

The debate on economic growth dynamics is not complete without an exploration of financial sector development. Seminal works by Ronald I. McKinnon (1973) and Edward Stone Shaw (1973), which argue for the importance of financial sector

[4] The Global Economy ranking places Brunei at the top in terms of the unemployment rate in ASEAN in 2021. However, *ASEAN statistical yearbook 2022* ranks Brunei as third highest in 2021 after the Philippines and Indonesia (no data are reported for Cambodia, Laos and Myanmar) (ASEAN 2022).

development and liberalisation, led to an extensive theoretical and empirical study. Although the finance–growth nexus is still inconclusive, a majority of empirical research suggests that the development of financial institutions, financial instruments and financial innovations can impact on economic growth in a positive manner.

Chapter 5 by Biswa Nath Bhattacharyay focuses on the evolution of Brunei's financial sector over the last few decades. Although the Brunei Currency Board was established in 1967—renamed the Brunei Currency and Monetary Board in 2004—a formal central bank/monetary authority was only formed in 2011, namely the Monetary Authority of Brunei Darussalam (Autoriti Monetari Brunei Darussalam). The chapter also examines the 2016 release of the Financial Sector Blueprint (FSBP) (2016–2025), thus providing a roadmap to transform the financial sector into a dynamic and diversified one. The objective is to 'guide the development of Brunei Darussalam's financial sector during the next decade' and sets out the strategic framework within which the Central Bank will be working with other ministries and stakeholders to reach the objectives of Wawasan Brunei 2035 (Autoriti Monetari Brunei Darussalam 2016). Besides a comprehensive review of the literature on the issue of financial sector development in the region and beyond, this chapter also details Brunei's financial sector development from 2014 to 2018. It focuses on the banking sector and highlights major prospects and challenges. Bhattacharyay observes a below target performance (relative to the region) of the banking sector in Brunei during the study period. For instance, the reported statistics suggest that 67% of bank deposits (domestic savings) are invested offshore while the yield for domestic loans/financing is much higher than that of offshore placement and offshore investment. Brunei needs to focus on Islamic fintech to attract Islamic finance and investment from the region. At the same time, Brunei should develop its non-banking financial sector and accelerate the process of developing an active and efficient capital market.

The following three chapters deal with Brunei's external trade and main foreign partners. Global value chains (GVCs) are considered a growing trend for developing countries to increase their participation in global trade and diversify exports in business and economic development globally. In Chap. 6 Angelo Jose Lumba, Mahinthan Mariasingham and Arushi Gupta contribute to an interesting debate on how Brunei can benefit through GVCs. They argue that, given Brunei's goal of economic diversification, GVCs can serve as an opportunity to build much-needed infrastructure to enhance trade beyond the traditional oil and gas industry. Using the Multiregional Input–Output (MRIO) database and a comprehensive input–output analysis, the empirical findings of this chapter suggest that, besides existing GVC participation of the downstream oil and gas industries, the country should also expand investment in other priority areas such as the *halal* industry, aquaculture and ICT.

As noted, the issue of economic diversification is centre stage in Brunei. Many policies have been formulated and measures taken towards achieving the goal of less dependency on oil and gas. The export-led growth experience of many East Asian countries can be taken as a good example of how high and sustainable growth can be achieved. The recent development of the Regional Comprehensive Economic Partnership (RCEP), in which Brunei is a signatory member, also focuses on ways to enhance regional trade. Chapter 7 by Pang Wei Loon looks into Brunei's potential to expand its export partnerships, specifically with China. This chapter explores the prospect of increasing trade and investment partnerships with ASEAN Plus Three (APT), that is ASEAN plus China, Japan and South Korea. Moreover, it provides a detailed analysis using descriptive data and by measuring interindustry and intra-industry trade (for products and sectors) to identify Brunei's trade linkages with members of APT. The findings suggest that Brunei is mostly engaged in inter-industry trade (trade in different products) although some diversification has been observed recently. Even though Brunei started its campaign to diversify the economy in the mid-1990s, the country is still heavily dependent on oil and gas. The results of some recent initiatives to encourage foreign investment account for an increase in China's funding of important industries in the country. Recent numbers show an increase intra-industry trade in crude oil as Brunei started production of processed petroleum. The country needs to accelerate its diversification policy to achieve the goals stipulated in Wawasan Brunei 2035.

Part II emphasises the policies and initiatives undertaken by the government of Brunei to facilitate the transition towards development and diversification also brings about changes in the skill levels of the workforce. This impacts on the employability of workers (especially young people) and could result in high employment rates as recently experienced by Brunei. In Chap. 8 Adilah Hisa, M. Muzamil Naqshbandi and Fadzliwati Mohiddin focus on the changing conditions in Brunei's labour market and skill mismatch issues. Using survey data, they highlight the skills needed in this changing environment. The findings identify listening, oral communication, learning, leadership and interpersonal skills as the top five abilities demanded by employers. More communication between tertiary institutions and stakeholders (potential employers) is needed to restructure the present curriculum to meet market demand.

Wei Lee Chin and Siti Fatimahwati Musa's Chap. 9 is devoted to agritourism as a means of diversifying economic activities. Agritourism is a popular concept not only in developed countries but also in emerging economies, especially in Southeast Asia. The chapter admits that the agricultural sector in Brunei does not make any significant contribution to the economy. However, the potential for agritourism is discussed in detail. Brunei's advantage is its natural environment; it is an asset that could be used to promote tourism. The study uses semi-structured interviews from communities in three selected farming areas to perform a strengths, weaknesses, opportunities and threats (SWOT) analysis. It suggests that 'the number of strengths outweighs the weaknesses of agritourism'. One of the main issues identified in this chapter is the lack of institutional support. This is not limited to agritourism. There is a need to provide institutional support and improve communication among major stakeholders. Tourism should also be promoted as a package, including the travel industry, hotel industry, hospitality and communication development. There is no doubt that Brunei has good potential to use its tourism industry as an important sector and source of income for the country.

Chapter 10 by Wei Lee Chin covers a related topic, cross-border tourism between Brunei and East Malaysia. The chapter finds that during 2018–2019 a total of 2.4

million Brunei residents travelled to Miri in Sarawak, Malaysia, basically for shopping. This is a significant number, and one factor that is highlighted as the main reason for this high cross-border tourism is the low cost of goods (cheaper in Miri than Brunei). This could also be due to differences in the value of the currencies of the two countries. The findings could serve as a lesson for planners. It is important to note that cross-border travel restrictions during COVID-19 increased domestic tourism and domestic spending in Brunei, though since the pandemic cross-border tourism has resumed its previous pattern. Perhaps it is time to develop a more state-of-the-art shopping mall in Brunei and promote local competition. This could add value to the domestic economy while also attracting tourists.

Hairul Azrin Besar in Chap. 11 discusses the state of the financial services industry in Brunei and its growth potentials. It can be observed from the discussion that Brunei aimed to make itself an Islamic financial hub in the region. Although efforts were made to revamp the financial system by establishing financial institutions, restructuring the regulatory framework and introducing financial instruments in compliance with *syariah* laws, the transformation process has been slow. The main constraint identified is the absence of a capital market to attract both local and foreign investors. The government has recently implemented important policies through the Central Bank and the Ministry of Finance and Economy, along with other relevant entities, to accelerate development and the restructuring of the financial sector. It is expected that these efforts will help develop Brunei's Islamic financial market as an emerging and competitive market in the region.

The wave of globalisation at the beginning of the twenty-first century called for an infrastructure necessary to facilitate digital trade and business. The inception of platforms such as the ASEAN Economic Community (AEC) and the RCEP include the promotion of digital economic activities as one of the main agendas of their future plans (Jetin and Mikić 2016). The COVID-19 pandemic further increased the importance of digital transactions, not by choice but by necessity. It is therefore not only important but opportune to investigate where Brunei stands vis-à-vis neighbouring countries. In this context, Chap. 12 by Mohammad Nabil Almunawar and Mohammad Alif Azizi Abdullah takes up the important issue of digital marketplaces in Brunei. The chapter provides a detailed analysis of challenges faced in developing a digital marketplace, especially in a small population-based economy such as that of Brunei. The chapter then investigates the state of the existing digital marketplace through interviews with selected digital businesses. It reveals that the current digital marketplace is new (with the first one established in 2015) and only caters to local market demand. Transaction costs (such as delivery time) from offshore markets increased during the pandemic, thus giving a boost to the local digital marketplace. Domestic consumers also prefer transactions through this market so as to mitigate issues surrounding refunds or delays. Perhaps it is a good opportunity for local digital businesses to expand their dealings both horizontally and vertically.

Chapter 13 by Pg Md Hasnol Alwee Pg Hj Md Salleh and Roslee Baha advances the interesting topic of financial literacy and the importance of financial planning for retirement. Based on data from Brunei, the analysis reveals that there is no discrimination in terms of education when it comes to individuals lacking formal financial planning; even some educated individuals do not have any financial plans for retirement. Given that Brunei is going to face the issue of an ageing population soon (similar to many other countries in the region), it is important for policymakers to improve financial literacy and financial planning for the public, especially senior citizens. Perhaps the Central Bank, financial institutions and higher education institutions can play an important role in educating the public and improving social awareness of financial planning.

As detailed in Chap. 4, the public sector is the main employer in Brunei. This makes public sector management the main policy focus of the economic plan. In this context, Part III is devoted to measures and policies to improve productivity through a more efficient public sector. Four chapters take up this important area of concern. Chapter 14 by Thuraya Farhana Said looks into the performance management policies (PMPs) designed and implemented by the government of Brunei to achieve its goals under Wawasan Brunei 2035. Though this chapter uses data based on interviews conducted in 2012, so that any assessment may not reflect current practices, it does help to understand the evaluation of improvement in PMPs. The much-debated issue of slow progress in economic diversification can be partly attributed to inefficiencies in management performance and decision-making.

In Chap. 15 Mahani Hamdan focuses on operational excellence, which means ‘the execution of the business or management strategy in an excellent way’. Besides detailing the historical background of this topic, the chapter also collects some interview-based data to make an assessment and highlight issues in Brunei’s public sector inefficiencies. The findings suggest improvement in the areas of transparency, human capacity development, technology tools, quality management approaches, monitoring and control, systematic evaluation procedures, policies for human development and not least a sense of ownership.

In Chap. 16 Wardah Azimah Sumardi emphasises the management issue in Brunei’s public sector, particularly employee involvement and participation (EIP). The evaluation is based on interview-based surveys of different levels of management teams. However, prior to data analysis, a detailed and interesting literature review is provided to improve the understanding of EIP. The main point highlighted is that EIP should be viewed from the context of a country’s environment. The chapter observes that a number of initiatives have been taken by the government to improve public sector efficiency and delivery. Nevertheless, more actions are needed to fill gaps in capability, competency and expertise, and to provide an effective public service delivery system as targeted under Wawasan Brunei 2035 (see Chap. 2). The chapter suggests operational excellence—a process-based approach combined with an integrated management system, including human intelligence, innovation and technology—as a way to move forward.

1.5 Concluding Remarks

The deliberations and discussion provided in this book consider Brunei's transition towards development. The observations and evidence of the authors suggest the great potential the country has to transform itself from a developing to emerging economy. It is interesting and encouraging to note that all the contributions show that Brunei is changing and modernising to better adapt to a globalised world in constant evolution. The changes taking place are not brutal or dramatic, but they are nonetheless real. Accumulated over several decades, these changes profoundly transform a country that attaches particular importance to stability. We hope that the recommendations gathered in this book will be useful in pursuing this change.

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Part I
Brunei Darussalam's Economic Growth in a Shifting Asia

Chapter 2
Brunei Darussalam's Economic Diversification Drive: An Assessment of the Socioeconomic and Geopolitical Issues and Challenges. Overcoming Path Dependence?

Hafiizh Hashim, Stephen C. Druce, and Abdul Hai Julay

Abstract This chapter uses an institutionalist approach to present an assessment of the key issues Brunei Darussalam currently faces in relation to its pressing need for economic diversification. Given that institutional arrangements can hinder or enhance economic growth, the institutional approach has been central in explaining policies associated with economic growth and development in various countries. The approach also offers a wealth of literature that can be used to explain Brunei's difficulties in reducing its long-standing dependency on hydrocarbons, the extent to which institutions play a role in its economic development and in understanding the complexity of Brunei's political economy. The discussion does not claim to provide a solution to Brunei's economic diversification problem but rather offers some contextualisation that can be of benefit to scholars and policymakers in understanding its symptoms. The chapter also addresses current geopolitical issues and the increasing interconnectivity between Brunei's international relations and economic diversification as it attempts to attract more foreign direct investment.

Keywords Brunei Darussalam · Economic diversification · Institutional changes · Geopolitical issues · Connectivity

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2.1 Introduction

Brunei Darussalam has a long history of reliance on hydrocarbon exports. Oil was discovered in 1929 and first exported in 1932 while the country was under the British residential system.[1] Since then, revenues from oil—and from liquid natural gas (LNG) since 1972—have dominated the economy and fuelled Brunei's economic and social development. Together they account for some 65% of gross domestic product (GDP) and 90% of all exports and government revenues, making the sultanate a textbook example of a 'rentier state'. These revenues have provided citizens with a high standard of living and various socioeconomic benefits since 1953, when Sultan Omar Ali Saifuddien III decided that the creation of a welfare state was the best way forward for the country's social, economic and political development and stability. Consequently, Bruneians have enjoyed free education through to tertiary level, health care, housing and various subsidies on daily necessities such as petrol, electricity and rice without the burden of income tax. In addition, the government has long been the main employer in the sultanate. The 1950s also saw the commencement of a series of five-year National Development Plans (NDPs) which in part have recognised the need to diversify the economy away from reliance on oil and gas, and set out various policies and initiatives to achieve this. While these plans have been a major success in terms of modernising the sultanate, developing infrastructure, and raising living and education standards, it is only in the last decade that any meaningful progress has been made in relation to economic diversification. Expanding the source of government income to generate non-oil-exporting revenue is a major challenge but one that both scholars and policymakers agree is the primary recipe for the country's economic sustainability and perhaps even its survival (DEPS 2021; Druce and Asiyah Az-Zahra 2022: 54).

Using an institutionalist approach, this chapter presents an assessment of the main issues Brunei faces today for economic diversification. Institutional arrangements can hinder or enhance economic growth, and the institutionalist approach has proved to be central in explaining the economic growth and policies associated with the economic development of various countries (Peters 2019). It also offers a rich literature that can help explain the difficulties Brunei faces in reducing its hydrocarbon dependency, the extent to which institutions play a role in economic development and the complexity of Brunei's political economy. The discussion does not claim to provide a solution to Brunei's economic diversification problem but rather delivers some contextualisation that can be of benefit to scholars and policymakers in understanding its symptoms. The chapter also addresses current geopolitical issues and the increasing interconnectivity between Brunei's international relations and economic diversification as it attempts to attract more foreign direct investment (FDI).

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[1] Brunei signed a protectorate agreement with Britain in 1888. The British residential system was established in 1906. For an overview of these and other periods in Brunei history, see Stephen C. Druce and Nani Suryani Haji Abu Bakar (2022).

2.2 Background and Context

The residential system came to an end with the 1959 Anglo-Brunei Agreement through which Brunei became internally self-governing, with Britain retaining responsibility for foreign affairs and defence. This agreement paved the way for the promulgation of a written constitution later that same year which set out a monarchical form of government that continues to the present. Full independence was attained in 1984 and Brunei began to play an active role in foreign affairs in order to gain recognition in the international arena. The earliest steps were to join the Association of Southeast Asian Nations (ASEAN) and the United Nations (UN). It was a progressive posture in the search for Brunei's role in international foreign policy.

To fully participate in the global economy, Brunei has since adopted successive development strategies that reflected the growing economic interdependence in the international system while continuing to develop its domestic conditions through NDPs. By the 1980s Brunei had become one of Southeast Asia's richest countries based on GDP per capita due to its vast wealth from oil and gas. This wealth was continually used as part of investments to upgrade infrastructure and redistributed in the form of well-paid government jobs and generous socioeconomic programmes that saw the sultanate steadily rise in various UN indexes, outperforming all Southeast Asian neighbours with the exception of Singapore (Druce and Abdul Hai 2020).

While strong economic performances followed full independence—driven largely by an ever-increasing global demand for energy—Brunei has been vulnerable to exogenous shocks, similar to other oil export-reliant countries. In the post-independence period, these shocks include the 1997–1998 Asian financial crisis, the 2014 oil crisis and the recent COVID-19 pandemic, all of which have considerably affected its economic model and exposed its shortcomings. Perhaps more critical today are the sultanate's ageing oil fields and unproven oil reserves that have led some to estimate that Brunei's current proven reserves may run out in about 27 years (BP 2022). Economic diversification is thus an increasingly pressing concern for the country. While some progress in diversification has been made over the last decade, hydrocarbon exports continue to dominate and dependency remains high, with these exports accounting for 47.4% of GDP in 2020 (DEPS 2021).

Perhaps as pertinent as the inevitable depletion of oil reserves is the 2015 Paris Agreement. This international treaty provided a new shift in the paradigm around the future prospective demand for oil as an energy source, and whether oil-exporting countries such as Brunei can continue to sustain their economies due to their extensive welfare systems, large public sector wage bill and absence of income tax. Given the increasing contribution of carbon dioxide to global environmental changes—such as increasingly unpredictable weather patterns and more frequent natural disasters—there is a growing consensus that demand for oil and gas will slowly phase out as demand for alternative renewable energy sources increases (Dale and Fattouh 2018).

Meaningful economic diversification can only be achieved through deep structural reforms that will lead to sustainable economic development. Although the government has managed to redistribute some of its wealth from oil and gas towards economic development, Brunei's rapid population increase from 1984 and the government's socioeconomic commitments to this population reveal other challenges.[2] Brunei's structural reforms conform to other international norms, which ensure that even an absolute monarchy such as Brunei must adopt the rules enforced by international institutions. For instance, Brunei's foreign policy principles consist of mutual respect and benefit, non-interference, and maintenance of its territorial integrity, sovereignty and independence, while still considering it of fundamental importance to be part of the established international system. Furthermore, the country hopes to maintain its prosperity and the economic and social well-being of its people that are aligned with international standards, namely the UN's Sustainable Development Goals (SDGs) and their replacement, the Millennium Development Goals (MDGs) (Abdul Hai 2022).

Brunei's political economy is often associated with the so-called 'Dutch disease' and 'rentier state' oil syndrome, a mechanism whereby an increase in natural resource revenue causes appreciation in the exchange rate, which results in a higher price in exports while the non-oil sectors become less competitive (Ross 2001). However, the case of Brunei does not necessarily signify that the country suffers from a resource curse. Brunei, as with other oil monarchies in the Middle East, is often characterised as neither cursed nor blessed (Haber and Menaldo 2011: 6). The stability of Brunei can be regarded as a long-term successful process in that it has consistently been able to maintain peace and economic stability, but at the same time has largely failed to diversify its economy. In other words, Brunei has thus far not been able to overcome the oil syndrome but has managed to avoid the so-called resource curse that has affected most oil-rich states in the Middle East and Africa, many of which have been embroiled in conflicts they have failed to overcome. For example, Matthias Basedau and Jann Lay (2009: 769) show how oil wealth and civil conflicts are associated in countries that are highly dependent on net oil exports.

As with many other so-called rentier states, overcoming economic path dependency is a major challenge for the sultanate. As the energy-intensive economy has been paramount in Brunei's economic development, investments that focus on the oil and gas industry have created institutional lock-ins which ultimately lead to path dependence. Hence, as these institutions become 'sticky', current efforts to diversify the economy have been difficult as the cost of changing the economic institutions to other non-oil and gas industries may create uncertainties in generating state revenues. As such, other sectors often find it challenging to imitate the revenue-generating success of the oil and gas sectors. Can Brunei shift away from being a rentier state to a production state? To what extent can Brunei overcome the institutional lock-in of its oil-dependent economy? What kind of institutional arrangements emerge in Brunei that can either hinder or enhance economic growth? To what extent do institutions play a role in the country's economic development?

[2] Brunei's population has more than doubled since 1984, from 214,582 to 455,858 in 2024, although this trend has slowed considerably in the last few years (Macrotrends 2024).

2.3 The Institutional Turn towards Economic Development

The notion that institutions matter in economic development has been widely discussed (Bell 2002; Williamson 2009). At a fundamental level, institutions are unique to individual states as they reflect a particular national model. They constitute a state's political, social, legal and cultural beliefs which, prior to their adoption, are often discussed between policymakers and social actors to define a national model for economic strategies. Institutions are commonly referred to as the 'rules of the game' in society that are devised through human interactions that influence political and economic outcomes (North 1991). More importantly, institutions are non-monolithic as different states have different institutional setups because their formation is based on a unique historical legacy, norms and culture (Hall 2016). Studies on institutionalism put emphasis on the context, historical configuring and processes to understand policy outcomes. William H. Sewell Jr (1996), for instance, points out that what has happened in an earlier period of history will likely have a possible outcome for later events.

Institutionalists argue that the origins of institutions are inherently incorporated in the state's antecedent conditions that are linked to its past legacies (Pierson 2000). The central assumption of institutionalism is that political actors are subjected to the context of rules arranged by a coalition of policymakers, which gradually structures individual behaviours because once rules, norms and values are institutionalised, institutions generally remain stable and 'sticky' over a period of time (Hall and Taylor 1996; Steinmo 2008). Institutions are also important in how social actors behave in that they provide incentives or disincentives to decision-making within the society's logic as institutions arise to help capture gains from cooperation (Sanders 2006). Political and economic actors adapt these strategies in a way that reinforces their logic as the latter is embedded in the institutional system over time (Thelen 1999). Since institutions are structured by interactions between policymakers and other social groups, certain policy decision-making will subsume other policy initiatives, which explains the differences in policy outcomes (ibid.).

These institutions can be formal and informal. Formal institutions can take different forms such as rules and regulations that are encapsulated in formal structures like constitutions, political systems or judicial systems. In a basic formal institutional model, rules are implemented through a legal framework. Informal institutions, on the other hand, typically correspond to the social embeddedness of such norms, customs and traditions in society (Helmke and Levitsky 2004). Informal institutions are normally social behaviours that are regulated by socially shared rules, usually unwritten and enforced in unofficial settings (ibid.). Once implemented, institutions determine how social actors behave for a long period of time. This is because institutions affect social actors and can influence their perception to act in a certain way given that their behaviour is constrained by existing institutional designs. Based on institutionalist perspectives, formal rules are usually enforced by official entities such as bureaucrats, courts, police and other actors, while informal institutions are largely self-enforcing, implemented through obligations such as traditions, patron–client relationships or simply because following the rules set in society will benefit the interests of the individuals (North 1990). Institutions are commonly stable features of a nation, often termed as ‘institutional lock-in’ because social actors that benefit from the institutional settings can constrain any institutional changes.

The positive reinforcement provided to social actors enables these institutional arrangements to persist for a long time. This is because even though institutional changes can lead to new policy initiatives and implementations, such changes may be slow and incremental and as such may not necessarily undermine the previous institutions that were created by these policymakers (Firdausi 2019). Thus, even when actors attempt to redesign certain institutional settings, they are sometimes constrained in what they can conceive due to cultural limitations to avoid conflict.

However, this does not mean that institutional change cannot take place. Institutional change can occur with a significant renegotiation of the regulated social market economy. Building on work by Wolfgang Streeck and Kathleen Thelen (2005), there are instances where certain factors may arise that lead to institutional changes—for example, critical junctures which create new paths for institutional development such as, in the case of Brunei, the 2014 oil crisis. Based on institutional logic, institutional changes may also occur when a certain endogenous or exogenous ‘shock’ takes place within a state. According to James Mahoney and Kathleen Thelen (2010), institutional changes can occur in various forms that do not lead to an institutional breakdown. Rather, institutional changes can be accommodating, complementary, substitutive or competing depending on the effectiveness of the enforcement.

The interplay between policymakers and society has a decisive effect on the level of institutional change that occurs within a polity that can be evolutionary from the previous institutional arrangements. Therefore, even though new institutional arrangements are introduced and formalised, this does not necessarily undermine the informal institutions, which results in an incremental change. Gretchen Helmke and Steven Levitsky (2004) argue that informal institutions should not be neglected because they tend to persist even though formal institutions are introduced. This is because informal institutions tend to shape how actors behave.

Based on the discussion above, it is clear that institutions matter as they shape and facilitate policymakers’ interactions. It is fair to say that there is an intellectual consensus that institutions play a crucial role in economic growth (North 1991; Acemoglu and Robinson 2012). However, as Frances D. Cook and Karen Nielson (2011: 199) point out, a ‘one-size-fits-all’ approach may not work for all countries. While economic diversification is necessary for countries such as Brunei, achieving sustainability requires not simply economic reforms but also social and environmental changes. Although previous studies have concluded that economic development depends on institutional quality and requires institutional changes, institutions are complex and unpredictable. A state’s developmental project cannot be prophesised without an understanding of how informal institutions, such as culture and norms, can either hinder or enhance an optimal outcome.

It is important to consider institutionalist perspectives which point out that institutional arrangements are not homogenous. Instead, different societies have distinctive sets of rules, norms and values that are embedded in the state. In turn, the manifestation of institutional designs that are being shaped in a particular polity cannot be compared to those of so-called developed countries (Haggard 2004). The historical legacies and social context have significant implications on the role of institutions in policy decision-making processes. Understanding these legacies and social context provides us with the tools to build a more accurate picture of the specific way certain policy implementation is conditioned. However, the success rate tends to vary.

The institutionalist perspective fits well with our explanation of Brunei's current dilemma in diversifying its economy. Brunei's economic diversification challenges are a function of timing, sequencing and path dependence. The institutional lock-in rests on the timing of the state's discovery of oil and the path-dependent nature of the economy. The existing institutions provide Brunei's policymakers with mental maps of the economic and social realities that are locked.

2.4 Background to Brunei's Economy: The Oil Boom and Economic Development

The foundation of Brunei's economy can be traced back to the British residency period in which the discovery of oil essentially rendered Brunei a 'rentier state'. Historically, the discovery of large oil reserves at the Seria field in 1929 was a blessing for Brunei and made the sultanate a significant oil producer, especially to the British. Economic development advanced rapidly between 1930 and 1940 following the discovery of oil, as did economic restructuring as the British developed Brunei, paying specific attention to infrastructure such as roads, water piping, electricity, sewage systems and so on (Saunders 2002: 116–120).

Due to the increasing importance of energy demands for the British Empire as a result of economic development, Brunei's oil exports became one of the most important commodities in the world (Mukoyama 2020). However, like most oil-producing countries, abundant natural resource endowment can be a blessing or a curse, depending on how a state chooses to manage its resources. Hazem Beblawi (1987) and Daniel Lederman and William F. Maloney (2007) describe how oil countries associated with rentier states and the resource curse can lower participation of human activity and physical capital, since they are weak in diversification, have lower economic productivity and are public dominant, among other things.

The importance of oil and gas grew further after the discovery of offshore oil reserves in the early 1960s. With new state-of-the-art technologies, oil was discovered in South West Ampa in 1963, making it a powerhouse for oil and gas in the region. By the time of the Second NDP (1962–1966), the primary product exports deriving from oil and gas contributed around 80% of Brunei's GDP (Abdul Amin 2010).

More importantly, the large endowment of natural resources spurred the government to invest heavily in modernising the state. In the First NDP (1953–1958), the state spent considerable funds on high-quality infrastructural projects, such as roads, airports, schools and hospitals. Conversely, with the generosity of its public expenditure, the government entered into a social contract with the population which provided Bruneians with a wide range of free or low-cost services, including pensions, education, housing, health care, staple food and fuel subsidies, making Brunei the first welfare state in Asia (Cheung 2017). On the other hand, the rentier nature of Brunei's political economy also provided the country with huge foreign exchange reserves, similar to other oil-producing countries in the Arab Gulf (Gunn 2008). With strong economic performances derived from hydrocarbon resources, Brunei managed to lift the population out of poverty with a GDP per capita second only to Singapore in Southeast Asia. The rapid expansion of Brunei's economy also resulted in the creation of a large administrative state whereby the public sector became the main source of employment while the oil and gas sector became the second-largest employer (Bhaskaran 2010). By 1987, some 47% of the labour force in Brunei was employed by the government (Abu Bakar 1989).

Similar to the Gulf countries, the rentier nature of Brunei's economy based on hydrocarbon rents became embedded over time but would be undone by global changes. We identify two critical periods that have led to significant changes in Brunei's political economy: the Asian financial crisis of 1997–1998 and the 2014 oil crisis. The Asian financial crisis caused oil prices to plunge below USD10 in late 1998, which caught many oil-producing countries off-guard. While the petrodollar had helped Brunei increase its developmental projects, the two financial crises were to affect both the public and private sectors. These financial crises caused a slowdown in economic development which led to a severe recession, especially in the local construction industry. As businesses predominantly relied on contracts awarded by the government, the financial crisis heavily affected the private sector, consequently leading to higher unemployment among the local population (Ismail 2003). Although the impact on Brunei's economy was not as severe as other Southeast Asian states, it nevertheless served as a critical juncture for Brunei.

Driven by a paradigm shift around the prospect of diversifying away from oil, Brunei released a number of NDPs that more firmly recommitted itself towards the promotion and development of non-oil industries. In 2007 Brunei adopted an ambitious long-term development plan called Wawasan Brunei 2035 (Brunei Vision 2035) that set out a more detailed strategy to achieve economic diversification and shift away from its long-standing overdependence on one economic sector to avoid future economic downturns. Since the introduction of Wawasan Brunei 2035, Brunei has implemented a series of institutional reforms to address these formidable challenges. For instance, prior to the 2014 oil crisis, Brunei's GDP was growing at a steady pace as a result of high oil prices (Fig. 2.1). However, the global financial crisis in 2008 followed by the oil crisis in 2014 led to a deterioration in the current account balance. This weakening fiscal balance was a critical juncture for the sultanate. In particular, the 2014 crisis created a sense of urgency for the Brunei government and led to increased attention on economic diversification.

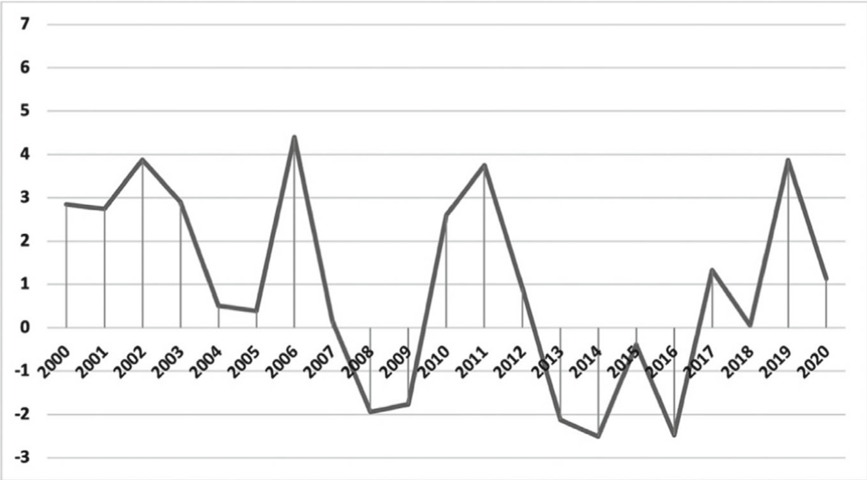

Fig. 2.1 Brunei Darussalam GDP growth, 2000–2020 (%). *Source* World Bank (2020)

2.5 Institutional Changes in Brunei: Response and Implications for Economic Diversification

To accommodate the changing global economic landscape, Brunei has increased efforts to develop its human capital. As the economy started to recover from the 1997–1998 recession, especially as oil prices began to stabilise, it enabled the country to again earn large budget surpluses. Under the Ninth NDP (2007–2012), the government allocated BND9.5 billion to be implemented in developmental projects to further accelerate the non-oil sectors. Under the Tenth NDP (2012–2017), a total of BND8.2 billion was invested in developmental projects that saw Brunei oversee major structural reforms in relation to diversification. These implemented strategies, with certain long-term goals such as economic, human, social and environmental development, aimed to significantly reduce Brunei's overreliance on the hydrocarbon sector.

These structural reforms saw Brunei incrementally changing its institutions in an attempt to move away from a rentier state to a productive state. As a consequence, Brunei's institutional qualities have improved considerably over the last decade. Based on the World Bank's highly cited Worldwide Governance Indicators, Brunei scored highly for five out of six measures: above the 90th percentile for maintaining 'political stability' and 'government effectiveness' in 2020, while improving its scores on 'control of corruption' and 'rule of law'. However, its score on 'regulatory quality' saw a slight dip compared with its 2010 score (Table 2.1). Clearly, this shows that Brunei is on the right path in conditioning itself for good governance and prosperity.

Table 2.1 Brunei Darussalam: Worldwide Governance Indicators, 2010–2020

	2010	2014	2018	2020
Control of corruption	78.1	69.7	79.8	87.0
Government effectiveness	77.5	82.2	86.5	90.4
Political stability and absence of violence/terrorism	93.4	94.8	92.9	90.6
Regulatory quality	82.3	79.8	74.0	76.9
Rule of law	72.9	69.2	74.5	80.3
Voice and accountability	29.8	29.0	24.2	22.2

Source World Bank (2022)
Note Percentile indicators are ranked between 0 and 100 with 100 being effective

Acknowledging the importance of attracting FDI, Brunei authorities stepped up institutional upgrading to further accelerate diversification initiatives. They also achieved a relatively meaningful transformation by reducing red tape and bureaucratic processes. Since the Ninth NDP, Brunei has recalibrated its economic policy agenda away from a rentier-driven developmentalism to one that is more market oriented. This strategy saw a large number of reform programmes, privatisation of major public assets, cuts to public spending as well as the creation of more private sector jobs. For example, prior to the COVID-19 pandemic, the government introduced regulatory and institutional reforms to create appropriate incentives and a better business environment that was more conducive to economic diversification. This improved Brunei's institutional quality, which saw significant progress in the World Bank's Ease of Doing Business index, rising from a rank of 105 out of 190 economies in 2014 to 66 out of 190 economies in 2019 (World Bank 2020).

Perhaps a more meaningful policy that has been implemented is Brunei's attempts to reindustrialise its economy, especially in the downstream sector. To date, Brunei is slowly diversifying through downstream sectors such as the Brunei Methanol Company, the Hengyi refinery and petrochemical plant and the recently established Brunei Fertilizer Industries. Over the past decade, Brunei's path towards economic diversification has been commendable and the impact of institutional changes will play a determinant role in Brunei's economic survival and macroeconomic performance.

While these downstream projects are still in their infancy, the upgrading of Brunei's economic institutions, especially within the oil and gas sector for productivity improvement, can further accelerate the goal to achieve Wawasan Brunei 2035. Yet the process of economic diversification remains relatively insufficient. While these downstream activities support Brunei's overall export growth, oil and gas exports continued to account for 80% of total exports in 2020. A more perennial issue is that the unemployment rate, especially among the youth, remains significantly high, despite it falling from 28% in 2018 to 16% in 2021 (DEPS 2022). The downstream sector, however, encompasses capital-intensive industries that require specialist skills that Brunei cannot fully offer. For example, Hengyi Industries employed 1,665 people in 2020, only 40% of whom were local (AMRO 2022).

Although Brunei has implemented new rules and regulations to accelerate its diversification policies, this may not necessarily undermine its informal institutions. The unintended consequences of Brunei's welfare system have also created a high dependency on the government to create employment and it remains expected that they continue to ensure the availability of well-paying and prestigious jobs for the population. The persistence of informal institutions in the face of attempts to move towards a more market-friendly ecosystem means that these attempts have so far been limited. Despite seeing improvements in Brunei's Ease of Doing Business index, the country has thus far been less successful in fostering business environments that support the growth of entrepreneurs and small- and medium-sized enterprises (SMEs). The success of economic diversification thus requires a change in both the government and society.

Despite this, overcoming the path dependence of institutions and their jurisdictions following the policy implementations of the late 1950s creates a trajectory that is difficult to deviate from. It highlights the importance of sequencing in which of society's perceptions influence these policy choices that were conditioned and institutionalised in the culture of the sultanate. As Manu Bhaskaran (2010) observes, the rentier nature of the state left Brunei confronted with a population that is likely to induce an aversion to risk and a lack of accountability. To tackle these problems, the sultan of Brunei stated in a 2019 order (*titah*) that the public should not be plagued with 'lazy syndrome' (*Borneo Bulletin* 2019). Brunei's dependence on one sector has nevertheless caused other industries to stagnate as the public payroll for the vast majority is far more lucrative than the private sector. In 2020 a total of 70,700 people (32.6%) in the labour force were employed in the government sector. As Siti Fatimahwati Pehin Dato Musa and Siti Rozaidah Pg Hj Idris (2020) highlight in their study of unemployment issues in Brunei, the young local population seeking job opportunities clearly prefer to enter the public rather than private sector, primarily because of higher salaries, better perks and job security. Moreover, this appears unlikely to change in the short term.

2.6 The Geopolitical Context

Since full independence in 1984, the sultanate's main foreign policy objectives have been to maintain and preserve its sovereignty, independence, territorial integrity and unique religious and cultural identity which manifests in its *Melayu Islam Beraja* (MIB, Malay Islamic monarchy) philosophy. As a small state, it has also been an active member and supporter of regional and global organisations such as ASEAN and the UN which promote regional and global security and stability. Like many other countries, Brunei has also used foreign policy to seek opportunities that can enhance its prosperity and economic development. In recent years, however, foreign policy and economic diversification have become increasingly interconnected, particularly as FDI is seen by the sultanate as a main strategy in its economic diversification drive. This has led to an increasing bilateral and multilateral economic push, the latter of which has seen greater active participation in the ASEAN Free Trade Area, the Asia-Pacific Economic Cooperation, the Brunei Darussalam-Indonesia-Malaysia-Philippines East ASEAN Growth Area and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, which developed from the now defunct Trans-Pacific Partnership (TPP) after the US withdrawal under the Donald Trump administration. Bilaterally, the sultanate has enhanced economic ties with various countries. However, with the exception of China which is eager to push its own Belt and Road Initiative projects in the region, FDI remains limited.

Brunei–China partnerships were first established in 2013 and subsequently developed rapidly. The largest and most important project is a USD17.1 billion crude oil refinery and petrochemical plant complex initially established in 2019 (Xinhua 2020). This plant represents a joint venture between China's Zhejiang Hengyi Group and the Brunei Economic Development Board, with the former holding a 70% stake and the remaining 30% held by the latter.[3] In 2021 the plant contributed some 7.5% to Brunei's GDP. China has also become one of Brunei's largest trading partners, accounting for about 15% of the sultanate's global trade (*Borneo Bulletin* 2022).

China has thus become a major partner for Brunei in its economic diversification drive. However, as with several other ASEAN countries that receive FDI from China or Chinese companies, the relationship is complicated by the ongoing South China Sea dispute, which supposedly places Brunei in opposition to its main investor (Druce and Abdul Hai 2019; Hafiizh 2020). However, unlike many of the other claimants, Brunei has been largely silent on the issue and, as a small state, its overriding concern is with regional security and stability. While Brunei quietly maintains its claim and, together with other ASEAN nations and China, is currently working on an ASEAN–China code of conduct in the South China Sea, it has not allowed the dispute to influence its foreign policy or investment opportunities. As Stephen C. Druce and Asiyah Az-Zahra Ahmad Kumpoh (2022: 56) point out, 'For Brunei, the ascendancy of the PRC and its growing geopolitical and economic influence in Southeast Asia is an inexorable reality that presents both challenges and opportunities'. The East Asian giant has made significant contributions to the sultanate's economic diversification drive but, as with its ASEAN counterparts, Brunei is wary of a Chinese-led regional order developing and has no wish to see revisions to the current international order system that has served it so well since 1984. As with most of its neighbours, Brunei will continue to maintain close ties with extra-regional powers, such as the United States, in order to try and maintain a balance in the region while continuing to accommodate China and any other potential investor.

[3] For an overview of the development of Brunei–China relations and economic partnerships, see Stephen C. Druce and Abdul Hai Julay (2019, 2020).

2.7 Conclusion and Policy Recommendations

There is no question of Brunei's endorsement and commitment to economic diversification in order to achieve a more sustainable growth model. The changes in the global economy, particularly during the Asian financial crisis and the 2014 oil crisis, played a fundamental role in transforming Brunei's socioeconomic strategies. The consequences of exogenous as well as endogenous shocks have driven policymakers to initiate various socioeconomic reforms. Despite the numerous criticisms of Brunei's economic performance (Gunn 2008), there is clear evidence that Brunei is increasingly committed to taking on the responsibility of being a more productive state. Based on Dani Rodrik et al.'s (2004) work, it is clear that good institutions play a critical role in economic development. However, to reiterate Cook and Nielson (2011: 199), institutional upgrading and real changes depend on the individual state's capacity as there is no one-size-fits-all approach in ensuring successful economic diversification.

Nevertheless, Brunei can gain some insights from other countries in developing further its resources to accelerate its economic development. As the pace and depth of globalisation accelerate, the development of a strong educated base is crucial to Brunei's sustainable development. It is clear that Brunei has paid particular attention to education and has made significant strides in enrolling children and youth in education programmes from early ages. As we can observe from the Organisation for Economic Co-operation and Development (OECD) countries, a fundamental building block to economic expansion is a high-quality educated workforce. However, Brunei's 2018 Programme for International Student Assessment (PISA) ranking has been underwhelming in comparison to high-income countries in East Asia and OECD countries, given the sultanate's income level (World Bank 2019). To make Brunei more competitive in the global value chains, major efforts are required to modernise the educational system and to continue to invest in human capital, which are essential in promoting valuable skills beneficial to high value-added industries and service sectors. Education and training within an industry are highly significant in generating human capital as they are a prerequisite for the success and effectiveness of an efficient professional labour force (Fakhro 2011).

In relation to developing human capital, the ability of Brunei to successfully adopt and utilise technology from abroad depends on its existing human capital. With technology continuing to evolve at a rapid rate and the constant introduction of new products, Brunei must continuously adapt for other non-oil sectors to participate in global value chains. Hence, human capital accumulation is important especially for Brunei to attract FDI as these multinational companies require human resources for the diffusion of advanced technology. More importantly, deeper human capital stocks make it possible for Brunei to absorb new technologies into local production processes that can create a spillover effect towards other sectors.

Brunei has also been relatively ineffective at marketing itself to potential FDI. It is vital for Brunei to acquire the right marketing skills, advice, strategies and effort to attract global investors. Thus, instead of outsourcing to foreign firms and consultants, Brunei policymakers should consider increasing engagements with local institutions to increase collaboration in developing Brunei's own brand of developmentalism. By fully utilising its own local scholars and experts, policymakers will be able to reduce public spending while also providing better opportunities for local people in serving specialist needs. Local experts and scholars have a better understanding of the institutional arrangements in Brunei which are conducive for the state to achieve favourable developmental outcomes and inclusive economic growth. Such considerations have been put in place in countries like Oman where its government has increasingly relied on local Omanis to meet its policy goals.

Lastly, Brunei needs to create more jobs with higher technological or knowledge content that will provide better-paying jobs targeted at local people. However, these types of jobs are only conceivable in the private sector as the market forces private companies to employ technology to be more productive. Brunei's labour market is of a dual nature wherein public sector employment is part of a social contract that is deeply institutionalised in the country, offering better pay and high-level job security with shorter working hours than the private sector. To make private sector jobs more attractive to local people, reforms should increase the productivity of the private sector by shifting the economic activity to higher value-added sectors, more technology-intensive production, diversified and more sophisticated exports, and technology-driven FDI (Hvidt 2020). The inclusion of more local people in the private sector remains a contentious subject as it requires the population to be motivated and willing to take jobs in this sector. Nevertheless, policymakers can have a major impact in changing the Bruneian mindset based on the government's capacity and willingness to enforce its will. As Indra de Soysa and Johannes Jütting (2007) point out, governments set the rules of the game whereby they can induce particular types of behaviour to evolve into a production state.

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Chapter 3
Natural Resource Rents and Economic Development: Evidence from Brunei Darussalam

Ly Slesman

Abstract This chapter examines Brunei Darussalam's economic development from the perspective of an oil and gas-dependent economy. First, using relevant socio-economic indicators, it assesses the economic structures, tracing their evolution to their current forms, the dynamics of Brunei's reliance on the oil and gas sector, and the relative importance of the non-oil and gas sector in its economic progress. Is Brunei's experience with oil and gas dependency in line with the 'resource curse' or 'resource blessing' viewpoints? What do the data say? The analysis provides answers to these questions by quantifying short- and long-run effects of oil and gas rents on economic growth over the 1970–2019 period using the dynamic time series econometric modelling framework of the autoregressive distributed lag (ARDL) model. Given the importance of economic diversification in achieving Wawasan Brunei 2035 (Brunei Vision 2035), the chapter further discusses its progress and challenges.

Keywords Brunei Darussalam · Natural resource rents · Oil and gas industry · Economic development · Diversification · Resource blessing

3.1 Introduction

The sultanate of Brunei Darussalam is a small Southeast Asian country that is rich in oil and gas reserves. It has relied on its natural resource wealth to fuel its development needs—and has consistently ranked as a high-income economy and as very high on human development indexes. Like many resource-rich countries, especially those in the Middle East, Brunei has a generous welfare system with highly subsidised basic necessities (such as staple food, petrol and electricity), free education, affordable health care services, low-cost housing and old-age pensions. However, Brunei's economy has been growing at a slower pace with a gross domestic product (GDP)

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average growth rate of 1.7% over the period from 1975 to 2019 (World Bank 2024). Its non-oil private sectors are still relatively small (less than 30% share of GDP) and mostly made up of micro, small and medium enterprises (MSMEs) in the service sector. The manufacturing sector is dominated by downstream oil and gas manufacturing goods while agriculture accounts for just 1% of the total output. The Brunei government has been actively seeking, through its National Development Plans (NDPs), to diversify the economy towards the non-resource sector with various policy initiatives, institutional reforms and large investment projects, as well as by modernising its business and economic infrastructure. This is guided by Wawasan Brunei 2035 (Brunei Vision 2035) which aims to transform the country into a dynamic and sustainable economy.

This chapter addresses three objectives. First, it seeks to provide an overview of the resource and non-resource structures of Brunei's economy using various economic indicators to gauge their evolution over time. Second, there is a debate in the academic literature that countries that are well-endowed with abundant natural resources tend to grow more slowly than those without such abundance. This view is known as the 'natural resource curse'. It draws on the experiences of many developing countries in Africa, Latin America and the Middle East that tend to have disappointing economic performances, suffer from macroeconomic volatilities, inefficiencies and low productivity, and even social conflicts. The opposing 'resource blessing' view argues that subsoil assets can be transformed into surface assets that benefit the development of resource-rich countries. This chapter examines empirically the long-run and short-run effects of oil and gas rents on Brunei's economic growth in the period from 1970 to 2019. Finally, further assessments on the progress of economic diversification in Brunei are provided, using various economic indicators. The conventional policy wisdom suggests that structural economic transformations away from the resource-based to non-resource-based economy would promote long-run sustainable economic progress. To what extent have such structural transformations taken place over time?

3.2 Brunei's Economic Structure

3.2.1 Resource Sectors

The oil and gas sector has played a vital role as the generator of the Brunei economy. Since the oil discovery in 1929 and the establishment of the Brunei LNG plant in 1969, Brunei's economy has been highly dependent on the export earnings of oil and gas. After earlier fluctuations, oil production slowly picked up speed and settled at a high of 221,2448 barrels per day (b/d) in 2006, after which it declined to 111,6231 b/d in 2018 as oil reserves depleted from 1.35 billion barrels in 2006 to 1.1 billion barrels since 2007 (Fig. 3.1). Oil exports have closely correlated with this trend in oil production, reflecting the high proportion of exports relative to the small and highly

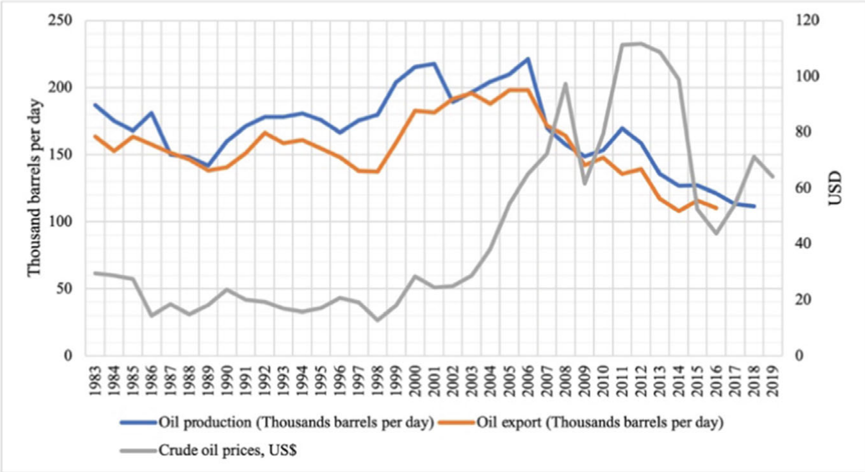

Fig. 3.1 Brunei Darussalam: Total crude oil production and exports, and oil price, 1983–2019. *Source* US Energy Information Administration (2022) and British Petroleum (2022)

subsidised domestic oil consumption. There is also a clear correlation between oil production and export with oil price at least until 2006, when the pattern of this relationship became less visible.[1] This pattern of correlations may expose Brunei's economy to volatility caused by changing oil prices that may hit its fiscal policy (government expenditure) stance as most government revenues come from oil and gas earnings. For example, Wee Chian Koh (2017b) shows that any unanticipated decline in the oil price would negatively affect government expenditure.

Furthermore, the sectoral share in GDP of the oil and gas sector has been very high, at about 66% in 2010–2014, though it declined to 54.5% in 2015–2019. This falling off is mainly caused by the decline in oil production since 2013 and in oil prices since the third quarter of 2014. The dominance of the oil and gas sector can be seen in the GDP shares of the sub-industry sector of oil and gas mining: an average of 47% in 2010–2019 (Fig. 3.2). The second largest share of the industry is the downstream sector—the manufacturing of liquefied natural gas (LNG) and other petroleum and chemical products—with an average of 13.5% in the same period.[2] There are a few firms producing oil and gas in Brunei, the main one being Brunei Shell Petroleum, the joint venture with equal shares between the Brunei government and the Royal Dutch Shell Group. Brunei Shell Petroleum's production capacity is 10,000 b/d. There are other major companies that dominate Brunei natural gas and oil supply chains: Brunei LNG, Brunei Shell Tankers, Brunei Gas Carriers and Brunei

[1] The correlation coefficients between oil production and oil exports with oil price were 0.61 and 0.73 in 1983–2006 but declined to 0.53 and 0.12 in 2007 and 2018 respectively.

[2] In other words, the sectoral shares of 'oil and gas mining' and 'manufacture of liquefied natural gas and other petroleum and chemical products' in total industry are more than 70% and 20% respectively.

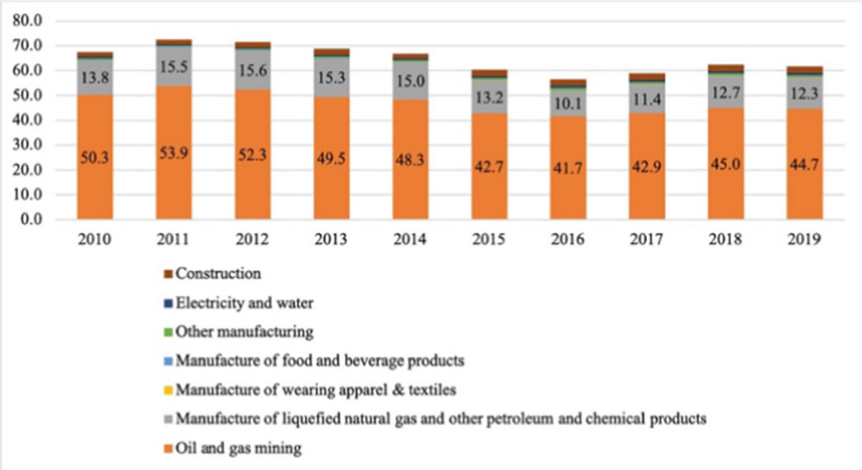

Fig. 3.2 Brunei Darussalam: Sub-sectoral shares of industry in GDP, 2010–2019 (%). *Source* DEPS (2020a)

Shell Marketing. Brunei LNG operates the country's sole liquefaction plant and LNG export terminal; Brunei Shell Tankers transports LNG sold to Japan and South Korea; Brunei Gas Carriers manages LNG carriers; and Brunei Shell Marketing is the sole supplier of petroleum products for the domestic market (Koh 2020).

The Brunei Economic Development Board (BEDB) has also actively promoted the development of downstream oil and gas sectors through several initiatives, such as the Sungai Liang Industrial Park that currently houses the Brunei Methanol Company which produces 850,000 tonnes of methanol annually; or the development of Pulau Muara Besar which currently hosts an oil refinery and an aromatics and cracker plant of China's Zhejiang Hengyi Group, with a production capacity of 175,000 b/d of refined crude oil for export. This may explain the reversing trend in the share of oil- and gas-related manufactured goods from a trough of 10% in 2016 to 12.3% in 2019. The centrality of hydrocarbons is also evident in the utilities sector as Brunei's electricity is sourced entirely from its natural gas. Moreover, Brunei subsidises most of its domestic energy consumption, having one of the lowest retail petrol and diesel prices in Asia, at BND0.53 and BND0.31 per litre respectively. This clearly shows how Brunei's economy depends highly on the oil and gas sector, though less so on oil and gas mining and with increasing downstream activities.

The dependency of Brunei's economy on the non-renewable resource sector can be approximated using the ratio of total natural resource rents (and oil and gas rents)—net market monetary values of natural resource production including oil and gas production—over GDP (a detailed explanation is provided in Table 3.1 below). With the availability of data for an earlier period, total rents, oil and gas rents and real GDP per capita (RGDPPC, measured using 2010 US dollars) for 1975–2019 can be plotted to gauge their historical coevolution and possible correlation (Fig. 3.3).

Table 3.1 Measurement and unit root tests

Variables		A. Variables and measurements	
		Unit of measurement	Sources of data
$RGDPPC_t$	Real GDP per capita	Constant 2010 USD	WDI, World Bank
$RENT_t$	Total natural resource rent	Percentage share of GDP	WDI, World Bank
$OGRENT_t$	Oil and gas rents	Percentage share of GDP	WDI, World Bank
$GFCF_t$	Gross fixed capital formation	Percentage share of GDP	UNCTAD, United Nations
GOV_t	Government expenditure	Percentage share of GDP	UNCTAD, United Nations
$OPEN_t$	Trade openness	[(Import + export)/GDP] × 100	UNCTAD, United Nations

	B. Unit root tests					
	Augmented Dickey-Fuller (ADF) Test			Phillips and Perron (PP) Test		
	Level	First differenced	Result	Level	First differenced	Result
$LRGDPPC_t$	−3.0319	−5.5655***	$I(1)$	−2.5450	−5.5996***	$I(1)$
$RENT_t$	−3.2673*	−4.9841***	$I(0)$	−3.2673*	−5.4453***	$I(0)$
$OGRENT_t$	−3.2681*	−4.9782***	$I(0)$	−3.2681*	−5.4565***	$I(0)$
$GFCF_t$	−1.7399	−6.2582***	$I(1)$	−1.8697	−6.2590***	$I(1)$
GOV_t	−1.9390	−8.6351***	$I(1)$	−1.9075	−8.5998***	$I(1)$
$OPEN_t$	−1.8882	−6.7330***	$I(1)$	−1.9330	−6.7153***	$I(1)$

Note $LRGDPPC_t$ is the natural logarithmic value of RGDPPC. WDI: World Development Indicator; UNCTAD: United Nations Trade and Development

First and foremost, the total rents and oil and gas rents move in an almost identical manner, confirming the fact that most rents are from oil, with gas rent accounting for less than 10% of the total rent share of GDP. Second, as expected, we observe that the movement of these rent series over time (like the oil production and export in Fig. 3.1) move closely with oil prices. Third, RGDPPC and total and oil rents were relatively high before the 1980s, a period marked by a sharp spike in oil prices, but have dropped to lower levels since the 1980s. There is a moderate correlation, especially in 1981–2019.[3] It follows that, after a dip in 1983 from the peak in 1976, resource rents share in GDP has fluctuated between the two peaks of 1984 (36%) and 2006 (38%), hitting a trough (13.3%) briefly in 1998 that coincided with the 1997–1998 Asian financial crisis. Since then rents have decreased to about 22% in 2019.

[3] The correlation coefficient between total resource rents and RGDPPC is –0.4 for 1975–1980 and 0.5 for 1981–2017.

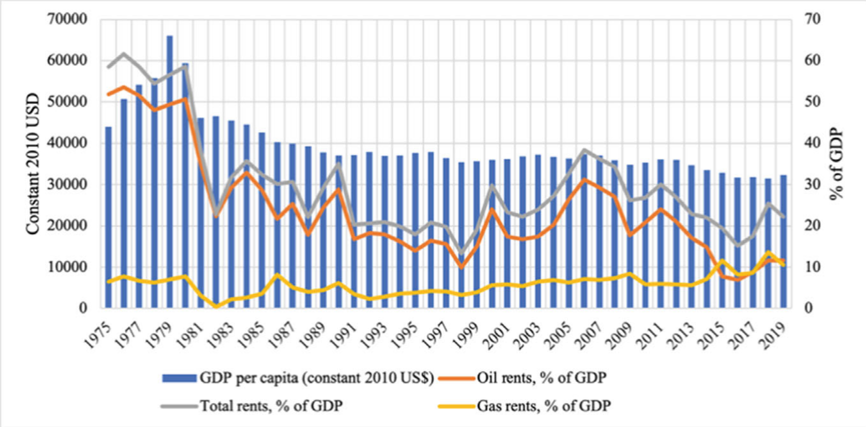

Fig. 3.3 Brunei Darussalam: Natural resource rents and GDP per capita, 1975–2019. *Source* Adapted from data from World Bank (2024)

These patterns are suggestive of some form of dynamic correlation between the natural resource rents, including oil and gas rents, and income per head in 1975–2019. In the next section, an empirical analysis takes stock of the possible correlation between oil and gas dependency and the real GDP per person in the long and short run.

3.2.2 Non-resource Sector

With the slowly declining shares of the resource sector, the non-oil and gas private sector has seen a modest increase from a 34% share of GDP in 2010–2014 to 45.5% in 2015–2019. Increments mostly occurred in the service sector with a 9.2% increase between the two periods. The increase included business, financial, real estate and communication services. Government services also increased by 2.4% during this same period. Overall, the non-oil and gas sector comprised 62% of the private sector and 38% of the public sector in 2010–2019, with a modest decrease in the public sector and a corresponding increase in the private sector from 2010–2014 to 2015–2019.

Brunei has made significant improvements in its ranking in the Ease of Doing Business index published by the World Bank over the years. Its ranking has considerably improved from 97 in 2016 to 72 in 2017, 56 in 2018 and 55 in 2019. However, its 2020 ranking dropped to 66, mainly due to the decline of 0.8 from the previous year in the Ease of Doing Business's component of 'registering property' score. Despite the overall drop in ranking, the notable 2020 reforms made by Brunei are that contract enforcement and resolving insolvency are now easier. Moreover, the ease of doing business component of the 'ease of starting a business' indicator had a structural break from past trends of low average scores (about 50 from 2007 to

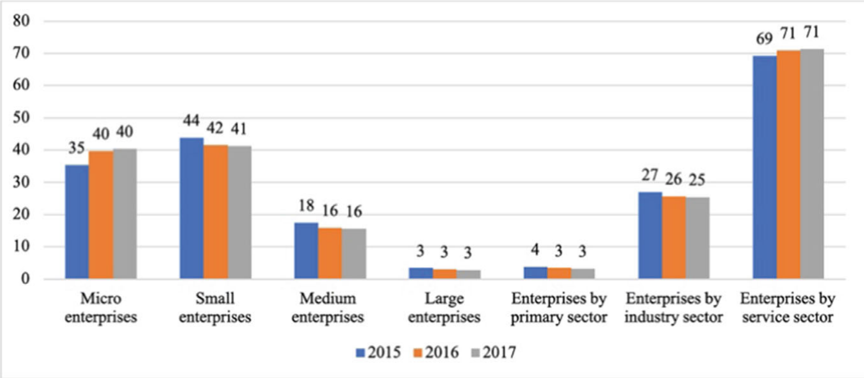

Fig. 3.4 Brunei Darussalam: Private enterprise share by business size and industry, 2015–2017 (%). *Source* DEPS (2020a)

2015) to a higher average score of 90 (2016–2020). The cost of starting a business (number of days and procedures used to get necessary licences and permits) indicator showed a similar trend—dramatically reducing from more than 100 days to fewer than 20 days—during the same periods. These favourable institutional and policy reforms can be expected to spur growth in the private sector moving forward.

Data from the World Bank's entrepreneurship surveys show that, compared to other countries in the Association of Southeast Asian Nations (ASEAN), business density in Brunei has grown considerably from a 1.3 share of new limited liability companies (per 1,000 adults aged 15–62) in 2011 to 2.4 in 2018. This may be corresponding to the uptake in the ease of doing business and ease of starting a business. However, the private sector is dominated by MSMEs, accounting for 97% of total enterprises, and most of these enterprises are in the service sector (Fig. 3.4).

Over the years, the Brunei government has initiated favourable business environment reforms to support growth in the private sector, particularly for local enterprises and start-ups and most notably through the establishment of Darussalam Enterprise (DARe). DARe is the accumulated outcome of earlier BEDB initiatives and provides an industry business academy, start-up bootcamps, the iCentre (Brunei's first information and communication technology [ICT] incubation centre) and the Knowledge Hub (a technology-based research and development [R&D] centre). DARe also microcredits financing, manages industrial sites and operates a dedicated business support centre (Koh 2020). However, growth constraints in MSMEs in Brunei remain and, according to Koh (ibid.), these include weak entrepreneurial skills, limited financing and a lack of a specific policy for small- and medium-sized enterprises (SMEs).

Researchers have argued that inflows of foreign firms through long-term greenfield foreign direct investment (FDI) may have a spillover effect on domestic entrepreneurship in the forms of new knowledge and advanced technological know-how, efficient managerial practices, exposure of local firms/entrepreneurs to new supply chains and international markets for export, access to international networks, learning-by-doing and observing, and other backwards and forwards spillover effects into the local firms, entrepreneurship and the economy. Brunei's policy initiatives aim to attract FDI into five key priority sectors: downstream oil and gas, food, tourism, ICT and services. As of 2018, there were 15 FDI projects, including a crude oil refinery (Hengyi Industries), methanol production (Brunei Methanol Company), oil company tubular goods supply and services (SC Tubular Solutions Brunei), ammonia and urea production (Brunei Fertilizer Industries), steel pipe manufacturing (HLDS (B) Steel), aluminium casting (Dongyang Gangchul), margarine manufacturing (Western Foods and Packaging), fisheries (Hiseaton Fisheries (B)), animal feed mill (Gold Coin), logistics (Amann Shipping Group), *halal* pharmaceuticals (Simpor Pharma), biotechnology (MC Biotech), a molecular diagnostic laboratory (Sengenics), aquaculture (Golden Corporation) and a multipurpose training facility (CAE Brunei MPTC) (see ibid.: 114).

The distribution of FDI stock in Brunei for 2010–2019 was concentrated in mining and quarrying (traditionally embodied by the presence of Brunei Shell Petroleum and its sister companies), manufacturing, financial and insurance activities, wholesale and retail trade, construction and others (Fig. 3.5). Though slightly declining from the peak of 66.9% oil and gas sector share in total FDI stock in 2016, the average over 2010–2019 shows that the sector absorbs half of the total stock. The only percentage share that shows an increase is manufacturing, from just 9.6% in 2010 (or 10.5% in 2010–2014) to 34.3% in 2019 (or 21% in 2015–2019), reflecting the FDI projects noted above. There is also a dramatic shrinking of financial and insurance activities from 51.5% in 2010 (or 32% in 2010–2014) to 10% in 2019 (or 13% in 2015–2019). This may reflect the withdrawal of Hongkong and Shanghai Banking Corporation

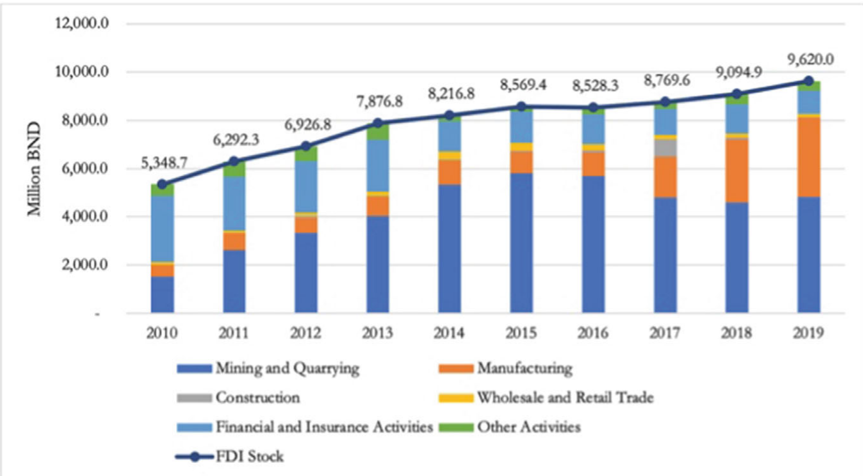

Fig. 3.5 Brunei Darussalam: Foreign direct investment stock by economic activity, 2010–2019. *Source* DEPS (2020a)

(HSBC) from nine branches in 2017 after selling all its retail and commercial banking portfolios to Baiduri Bank. All in all, the inflows of FDI are mainly concentrated in the oil and gas sector and its related downstream activities. Recently, the Brunei government has put forward a clear policy direction in its Economic Blueprint that aims to achieve medium- and long-term goals to create a dynamic and sustainable economy. Many of these policies emphasise the transformation of non-oil and gas private sectors along MSMEs and FDI inflows. When these policies and reforms take effect, high value-added local enterprises will flourish.

3.3 Natural Resource Wealth and Economic Development

3.3.1 Theoretical Review

There is a cross-country divergence of experiences in using endowments of abundant natural resources to promote long-term economic growth and development. Gavin Wright and Jesse Czelusta (2004) provide powerful historical accounts of the US natural resource-based economic transformation and development that helped propel the country as a world leader in non-resource-based manufacturing industries and technology. Ugo Fasano (2002) argues that the United Arab Emirates is also a case in point where oil resource endowment is turned into blessings, such as low government debt, low inflation, modernised infrastructure and a generous welfare system.

However, the success stories seem to cluster around the experiences of developed countries while similar accomplishments have been lacking in some resource-rich developing countries across the Middle East, Latin America and Africa. The heterogenous experiences of these resource-abundant countries are reflected in the contradictory findings of many recent empirical studies on the impacts of resource dependency and endowment on economic performance and development.

The seemingly straightforward transformation of subsoil assets into surface assets to generate employment and economic growth can, in practice, be paradoxically difficult, especially in developing countries (Venables 2016). The tendency of resource-abundant economies to grow less rapidly compared to non-resource-abundant economies has become a phenomenon known as the resource curse, as opposed to the resource blessing. The literature proposes various explanations as to why resource windfalls, if not well managed, can negatively affect long-term domestic economic performance. Though the fine line between the two views is sometimes blurred, resource-exporting economies can transform their economic structure towards a non-resource-based economy with diversified exports and a stable macroeconomy to turn the curse into a blessing.

A well-known view is the ‘Dutch disease’ effect that W. Max Corden and J. Peter Neary (1982) theoretically coined to capture the undesirable effects of the real exchange rate appreciation, as the consequence of a booming resource sector, in reducing the competitiveness of all non-resource sectors.[4] According to the Dutch disease model, the economy comprises three sectors: a tradeable natural resource sector, tradeable non-resource sector and non-tradeable sector.[5] The booming natural resource sector puts a general equilibrium pressure on other sectors (Corden 1984). The resource windfalls from the sale of natural resources such as crude oil, natural gas and other mineral resources would increase factor income in the booming resource sector. Such positive income effects (or spending effects) would increase consumption demand for non-tradeable goods, causing upward pressure on the relative prices of non-tradeable goods and the corresponding real exchange rate appreciation. The higher relative prices of non-tradeable goods would induce the expansion of non-tradeable goods (that is, increase its supply) and further shift some resources (labour and capital) away from the non-resource tradeable sector towards the non-tradeable sector (and booming resource sector)—the so-called resource movement effects (Acosta et al. 2009). The net effects of real exchange rate appreciation (and a shrinking labour supply) would thus make production and export of goods produced by non-resource tradeable sectors more expensive and less competitive in international markets. This Dutch disease-induced structural change in the economy may have a direct effect on the competitiveness of the non-resource sector, including the manufacturing industry and agriculture sectors. If such sectors induce increasing returns through their backward and forward linkages[6] with other sectors and

[4] Other explanations include the volatile commodity price induced by macroeconomic volatility, unproductive spending and investment in physical and human capital, and procyclical fiscal policy. Overreliance on a single source of income derived from resource export that correlates with highly fluctuating world commodity prices would make resource-dependent countries' macroeconomy more susceptible to destabilising volatility (Venables 2016). As fiscal policy in many oil-exporting countries is procyclical, Koh (2017a) shows in a panel of 42 oil-exporting countries that sovereign oil funds can reduce this procyclical tendency and thus minimise macroeconomic volatility, which is effective in a high-quality institutional setting.

[5] The non-tradeable goods sector (including service sector) denotes goods and services that can only be consumed in the economy in which they are produced—they cannot be exported or imported. Classic examples are barber services, housing rentals, homebuilding/construction, lawyers and doctors. Transportation cost and the extent of trade protection determine whether goods are tradeable or non-tradeable. According to Sachs and Larraín (1993), using the United Nations's standard industrial classification (SIC), goods and services can be broadly classified into different tradeable industries: (1) agriculture, forestry and fishing; (2) mining and quarrying; and (3) manufacturing; and non-tradeable industries: (4) electricity, gas and water; (5) construction; (6) wholesale and retail trade, restaurants and hotels; (7) transport, storage and communications; (8) financing, insurance, real estate and business services; and (9) community, social and personal services. The list was revised by the United Nations (2008) but as a rule, construction, services and domestic transportation are not easily traded.

[6] Backward linkage refers to the impact of any change in the output of a sector on the sectors producing its input requirements, implying the interdependence of a sector with its input suppliers; forward linkage is the impact of any change in the output of a sector to the sectors consuming its output as an input in their own production, suggesting an interconnection of a sector with sectors buying its output (ADB 2018: 5–6).

'learning-by-doing' externalities, then they serve as important engines of employment and economic growth, whereas natural resource booms would stunt economic growth.[7]

In addition, the Dutch disease model assumes that final natural goods of the booming resource sector are wholly exported, ignoring domestic absorption as oil is also partly consumed domestically in producing countries (Apergis et al. 2014). Besides export, oil is domestically used as a final good for consumption as well as an intermediate good in the production of other goods. In this case, Nicholas Apergis et al. (ibid.) suggest that the following dynamics would take place. First, if an exogenous high oil price causes a boom in the oil sector of oil-exporting countries and if that price passes through to the domestic oil market, then the increased spending effects in the oil/resource sector would be eroded as daily oil consumption now costs more. However, in most cases, the domestic oil price is subsidised by oil-exporting countries, so the net spending effects would still be positive. Second, when oil is an intermediate good, there are substitution effects, along with resource movement effects, between the non-resource and non-tradeable sectors, depending on which sector is less oil-intensive and hence more profitable. For example, if the non-tradeable sector is less oil intensive, it would need less oil as input and hence have a lower production cost. Then it would produce higher output at any prevailing prices, which in turn would slow down the upward pressure on its relative prices, creating less real exchange rate appreciation. Thus, given the fact that oil is produced for both export and domestic consumption, the net effects of the Dutch disease may be ambiguous.

How could resource-abundant economies avoid the adverse effects predicted by the Dutch disease? The literature offers some remedies to this problem depending on the context. If the economy experiences un-(or under-)employment, which is mostly the case in resource-abundant countries, the expanding non-tradeable sector (and booming resource sector) would absorb (unemployed) labour into employment, hence positively contributing to economic growth.[8] According to Anthony J. Venables (2016), such a positive adjustment is most likely to take place when two conditions are met. First, there must be flexibility in the economy with minimal supply bottlenecks; this leads to trade openness, ease of doing business and entry of new firms, labour market flexibility, accessible skilled labour and ease of migration to urban and city centres with supporting transport and utility infrastructure. Such flexibility would make it easier for entrepreneurs, firms and labourers to take new opportunities offered by the changing economic structure. Second, an offshore 'parking fund' for instant oil funds, better known as a sovereign wealth fund—savings from

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[7] Learning by doing is relative to the size of the manufacturing industry. The assumption that it only exists in the manufacturing sector (and not in the resource sector) lacks historical evidence as the experiences of the United States, Australia and the Netherlands, among others, demonstrate that resource booms led to the technological advances that propelled modern manufacturing and economic development (Stijns 2005; Wright and Czelusta 2004; de Ferranti et al. 2002).

[8] This will work in the opposite direction if the economy operates at full employment: shrinking the labour supply in the non-resource tradeable sector, causing its contraction and hence lower economic growth.

resource windfalls—must be in place to support smooth fiscal expenditures given volatile oil/resource revenue. Since oil-exporting countries' fiscal policies tend to be procyclical (Haseeb et al. 2008; Koh 2016)—increasing government expenditure (expansionary) when the economy is expanding or booming and decreasing government expenditure (contractionary) when the economy is in recession—and this links closely with oil revenues that correlate with volatile oil prices, a sovereign wealth fund would help minimise dependence on (commodity/oil price-induced) volatile oil revenue, alleviating fiscal procyclicality and destabilising macroeconomic volatility (Koh 2017a).

Koh (ibid.) provides a schematic depiction of the stylised transmission mechanism of oil windfalls following positive oil price shocks in a typical oil-exporting economy that captures the important role of government fiscal policy and expenditure (Fig. 3.6). It shows that, following an exogenous increase in world oil prices, there will be a booming oil sector that sees an increase in oil export earnings, government revenue and GDP. Assuming fiscal policy is procyclical,[9] the positive oil price shock would increase demand for imports and domestic goods (spending effects). The increased factor income (credit expansion of the household and corporation) would increase demand for domestic and import goods, putting upward pressures on aggregate price levels (inflation) and real exchange rate (appreciation). Such real exchange rate appreciation may possibly crowd out the non-oil sector as predicted by Dutch disease model, though the extent depends on net spending and substitution effects. As noted above, a sovereign wealth fund can mitigate fiscal volatility induced by oil price shocks and offset the boom-and-bust cycle in fiscal policy (Fig. 3.6).

3.3.2 Empirical Review

There is evidence supporting both resource curse and resource blessing views. This reflects the mixed empirical evidence on the effects of natural resource endowment and dependence (such as resource rents and export) on economic growth and development for resource-exporting countries (Badeeb et al. 2017). Jeffrey D. Sachs and Andrew M. Warner (1995) empirically show a negative correlation between resource export intensity (GDP share of natural resource export) and economic growth in 1970–1990, thus supporting a resource curse hypothesis. The literature has since checked the robustness of this negative result.[10] In line with their findings, Thorvaldur

[9] Aasim M. Husain et al. (2008) show that, in oil-exporting countries, there is no significant effect of oil price shocks on output in the absence of a fiscal policy response to the shocks.

[10] We restrict this brief review of empirical evidence to the nexus of resource abundance or dependence and economic growth. Suffice to note here that there are two other strands of empirical studies that investigate the resource curse or blessing. First, there are studies looking at the channels of the curse or blessing along other economic development outcomes such as saving, investment, education, human capital development and financial development. These studies find no consensus in many of these issues. For example, there are studies that find natural resources crowd out human capital development (Gylfason 2001), while others show the opposite that natural resources (subsoil

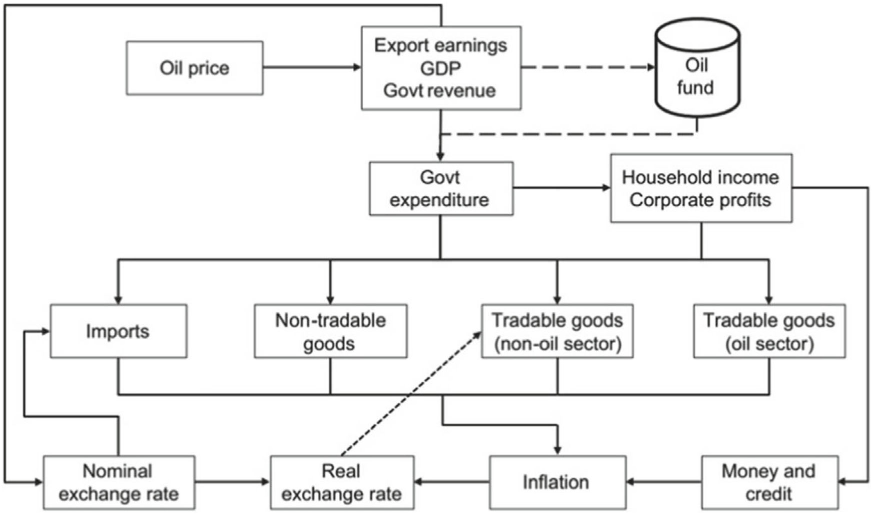

Fig. 3.6 Transmission mechanism of oil windfalls. *Source* Koh (2017a)

Gylfason and Gylfi Zoega (2006) identify negative effects of resource dependence on savings, investment and economic growth in 1965–1998. In a more recent study that focuses on 37 Asian economies, Hiroyuki Taguchi and Ni Lar (2016) investigate two subperiods of 1980–1995 and 1995–2014 and find that resource abundance crowded out manufacturing activities in 1980–1995 but not in 1995–2014. The authors attribute this to the recent improved governance and policy efforts in these Asian countries.

The most comprehensive critical checks and challenges to Sachs and Warner's resource curse was conducted by the World Bank, led by Daniel Lederman and William F. Maloney (2007) under the title *Natural resources: Neither curse nor destiny*. This collection of studies examines the resource curse view using cross-national panel data, theoretical and historical evidence, and detailed country case studies. Lederman and Maloney show that the negative effects found in Sachs and Warner (1995) disappear when an additional set of controlled variables and panel data estimations that control for intrinsic country-specific factors are employed. Instead, Lederman and Maloney find a positive correlation between natural resource abundance (including using Sachs and Warner's natural resource export measure) with economic growth, even after controlling for a host of other theoretical driven variables such as physical and human capital accumulation, terms of trade variations and macrostability, export concentration (export Herfindahl index) and intra-industry trade.

wealth and resource rents) crowd in human capital accumulation (Stijns 2006). The second strand is recent studies that take resource curse as a given and investigate whether the nexus is conditional on moderating variables such as financial development (Moradbeigi and Law 2017) and institutional quality (Mehlum et al. 2006; Abdulahi et al. 2019).

This resource blessing view is also supported by other studies (Stijns 2005; Brunnschweiler and Bulte 2008; Alexeev and Conrad 2009; Boyce and Emery 2011; James 2015; Ben-Salha et al. 2021; Haseeb et al. 2021). For example, Michael Alexeev and Robert Conrad (2009) provide strong evidence for the positive effects of oil and mineral resource dependence and endowments on economic growth, even after controlling for institutions and their interaction with natural resource variables found by an earlier study to help turn the resource curse into a blessing (Mehlum et al. 2006). Similarly, Ousama Ben-Salha et al. (2021) restrict the sample to a panel of the top resource-rich countries and exploit time series information over 1970–2013 to examine the nexus between resource rents and economic growth. They find that resource rents have a positive effect in the long run, supporting a resource blessing view, but there is no statistically significant evidence in the short run. Muhammad Haseeb et al. (2021) investigate five Asian countries—Malaysia, Indonesia, Thailand, China and India—and find similar support for the resource blessing view. Overall, the literature suggests that the resource curse is far from universal, and some scholars even argue that it may be a ‘statistical mirage’ (Alexeev and Conrad 2009; James 2015).

So far there is no time series study conducted on Brunei that investigates the impacts of natural resource dependence on long-run and short-run economic growth. Earlier attempts investigated the drivers of economic growth in Brunei. For example, Kwabena A. Anaman (2004) examined the long-term effects of government expenditure, total investment, labour force and exports on Brunei output growth in 1971–2001. The study finds that only the growth of export followed by a moderate government size increase promote growth in the long run. Koh (2011) provides a sectoral macroeconometric analysis and forecast on key macroeconomic variables. His findings highlight the potential transmission of exogenous oil price volatility-induced fluctuation in export and government revenues and hence volatile government expenditure and GDP growth. His findings also emphasise the important short-run role of government expenditure in promoting growth and employment. Using quarterly data between 2003 and 2014, Koh (2016) further suggests that Brunei’s fiscal policy to be procyclical, while Koh (2017b) finds negative transmission effects of declining oil prices on government expenditure and the non-oil sector. As Brunei depends on the oil and gas sector, the net implication from these studies is the important role of smooth government expenditure. Koh (2017a, 2017b) and Venables (2016) suggest using oil funds to support budget deficits during downturns and low oil price periods to support economic growth and development.

Though these studies draw attention to the important role of external shocks on macroeconomic volatilities in Brunei—which warrant important macroeconomic policy responses, including fiscal policy and economic diversification strategies—they do not provide a direct test on the resource curse or blessing hypothesis for Brunei along natural resource dependency. This chapter is the first to fill this gap.

3.3.3 *Empirical Analysis*

3.3.3.1 Empirical Model, Data and Method

To investigate the long-term and short-term dynamic effects of resource rents on economic growth in Brunei, this chapter employs a time series empirical analysis using the autoregressive distributed lag (ARDL) model for 1970–2019. Consider the following empirical economic growth model specification that augments the role played by natural resource rents in the economic growth process in Brunei.

$$LRGDPPC_t = \alpha_0 + \alpha_1 NRESOURCE_t + \alpha_2 GFCF_t + \alpha_3 GOV_t + \alpha_4 OPEN_t + \mu_t \tag{3.1}$$

$LRGDPPC_t$ is the natural log of real GDP per capita. $NRESOURCE_t$ is natural resource rents measured by total natural resource rent ($RENT_t$) and oil and gas rents ($OGRENT_t$). $RENT_t$ is the sum of rents from oil, natural gas, coal (hard and soft), mineral and forest rents, and the sum is further divided by GDP. Each component of natural resource rents is computed as the difference between its value at world prices and its costs of production. $OGRENT_t$ is GDP share of the sum of oil and gas rents. $GFCF_t$ is gross fixed capital formation as percentage of GDP. GOV_t is government expenditure as percentage of GDP. $OPEN_t$ is total trade (such as import plus export) as percentage of GDP. μ_t is the normally distributed residual term. Table 3.1 details measurements and sources of data.

Equation (3.1) can then be expressed within the ARDL framework to test for the cointegrating/long-term relationship using the bound-testing approach proposed by M. Hashem Pesaran and Yongcheol Shin (1998) and Pesaran et al. (2001) in the following form.

$$\begin{aligned}\Delta LRGDPPC_t = {} & \beta_0 + \beta_1 LRGDPPC_{t-1} + \beta_2 NRESOURCE_{t-1} + \beta_3 GFCF_{t-1} \\ & + \beta_4 GOV_{t-1} + \beta_5 OPEN_{t-1} + \sum_{i=1}^{p} \gamma_i \Delta LRGDPPC_{t-i} \\ & + \sum_{j=0}^{q} \lambda_j \Delta NRESOURCE_{t-j} + \sum_{k=0}^{r} \pi_k \Delta GFCF_{t-k} \\ & + \sum_{l=0}^{s} \delta_l \Delta GOV_{t-l} + \sum_{m=0}^{u} \phi_m \Delta OPEN_{t-m} + \sigma CRISIS + \varepsilon_t \end{aligned} \tag{3.2}$$

Δ is the first-difference operator, ε_t is the residual term and *CRISIS* is a dummy variable that captures periods of crisis: oil price crises (1973, 1979, 1990–1991), the Asian financial crisis (1997–1998) and the global financial crisis (2007–2008).

Equation (3.2) constitutes an ARDL (p, q, r, s, u) model. Long-run elasticities can be obtained by dividing coefficients on the one lagged explanatory variable (multiplied by a negative sign) with the coefficient on the one lagged dependent variable (Slesman 2021). The dynamic short-term effects are the coefficients on the first-differenced variables (terms with the summation sign).

There are several advantages to using the ARDL approach. First, unlike traditional cointegration approaches that only hold when all variables are I(1), the ARDL cointegration approach allows us to test for the existence of cointegrating/long-term relationships between variables in levels with the mixture of stationary variables in level and first differenced form (Pesaran et al. 2001). In this case, the outcomes of the standard augmented Dickey–Fuller (ADF) and Phillips–Perron (PP) unit root tests (Table 3.1) show $LRGDPPC_t$ to be stationary in the first differenced form, hence integrated of order one [I(1)]; $GFCF_t$, GOV_t and $OPEN_t$ are I(1); while $RENT_t$ and $OGRENT_t$ are I(0), stationary in the level form. Thus, the ARDL model is warranted. Second, using sufficient lag structure (of p, q, r, s and u), the ARDL framework can satisfactorily correct for residual correlations that minimise the endogeneity problem (Pesaran and Shin 1998), thus distinguishing more clearly between dependent and independent variables. In this study, the Akaike information criterion (AIC) is employed to determine optimum lag length (p, q, r, s and u) for the ARDL model. Third, this approach has better finite sample properties than traditional cointegration approaches (Engle and Granger 1987; Johansen and Juselius 1990; Phillips and Hansen 1990), thus making it relatively more appropriate to test long-run relationships between variables using small sample sizes (Pesaran et al. 2001). Furthermore, the ordinary least squares (OLS) estimators for short-run and long-run coefficients of the ARDL framework are consistent and super-consistent respectively (Pesaran and Shin 1998). When the ARDL bound test confirms a unique cointegration among variables, the error correction model (ECM) can be estimated to assess the speed of adjustment from short-run disequilibrium to long-run equilibrium without the loss of long-run information (Ahmad and Du 2017). Equation (3.2) is estimated as follows.

First, we must determine the optimum lag order of p, q, r, s, and u using AIC in our estimation of the ARDL model via OLS criteria. The estimated ARDL model is then diagnosed with various tests—normality distribution in residuals (Jarque–Bera test), residual serial correlation (Breusch–Godfrey test), autoregressive conditional heteroscedasticity (ARCH) effect, heteroscedastic residuals (White test), model misspecification (Ramsey's RESET test) and model stability (cumulative sum [CUSUM] and CUSUM of squares [CUSUMSQ]) tests. Third, once the model is well specified, we conduct the ARDL bound test to determine the existence of a cointegrating/long-run relationship between the level variables, using the F test on the estimated coefficients based on the null hypothesis of no cointegrating or long-run relationship, $H_0 : \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$, against the alternative hypothesis of the existence of a cointegrating or long-run relationship, $H_a : \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq 0$. Pesaran et al. (2001) provide critical bounds values in the forms of lower critical bound (LCB) and upper critical bound (UCB) for this test but for a large sample. We thus rely on Paresh Kumar Narayan's (2005) LCB and UCB for a small sample to evaluate the above hypothesis. If the computed F-statistics is larger than the UCB we reject H_0, but we would fail to reject H_0 if it is smaller than the LCB. It is inconclusive if the computed F-statistics falls between the UCB and LCB. Fourth, if the bound test confirms the existence of a cointegration among the variables (that is, if the H_0 above is rejected), we then estimate a single cointegration vector to derive the long-run effect of $NRESOURCE_t$. Finally, we proceed to estimate the corresponding short-run effects from the following unrestricted ECM.

$$\begin{aligned}\Delta LRGDPPC_t = \beta_0 &+ \sum_{i=1}^{p} \gamma_i \Delta LRGDPPC_{t-i} + \sum_{j=0}^{q} \lambda_j \Delta NRESOURCE_{t-j} \\ &+ \sum_{k=0}^{r} \pi_k \Delta GFCF_{t-k} + \sum_{l=0}^{s} \delta_l \Delta GOV_{t-l} + \sum_{m=0}^{u} \phi_m \Delta OPEN_{t-m} \\ &+ \sigma CRISIS + \rho ECT_{t-1} + \varepsilon_t \end{aligned} \tag{3.3}$$

The ρ coefficient on the error correction term ECT_{t-1} in Eq. (3.3) captures the speed of adjustment towards long-term equilibrium from short-term shocks/deviations.

3.3.3.2 Empirical Findings and Discussion

Table 3.2 reports the empirical findings. With optimum lag length determined by AIC, the estimated ARDL models for oil and gas rents and total resource rents are ARDL (3, 4, 0, 0, 0) for both models. These ARDL models are well specified as they pass relevant diagnostic tests (Newey–West corrections were applied).[11] The ARDL bound test confirms that there exists a stable long-term relationship between included independent variables and RGDPPC. In Model 1, the long-run coefficient on oil and gas rent is statistically significant at the 1% level. Its coefficient assessments suggest that a 1% increase in its GDP shares would be associated with the 3.3% increases in long-run RGDPC. This finding confirms oil and gas rents (and total natural resource rents) have been an important driver of long-term economic growth in Brunei. Using resource rents to finance government expenditure, development of non-resource sectors (diversification) and socioeconomic development including generous welfare benefits have been an integral part of long-term development goals in Brunei (Abdul Amin 2010). This finding of positive long-term impacts corroborates with the resource blessing view and with similar findings recorded for other ASEAN countries such as Malaysia, Indonesia and Thailand (Haseeb et al. 2021). It is also noted that government expenditure and trade openness have positive and statistically significant effects on Brunei's economic growth, underlining the importance of the public sector and commodity trade in long-run economic development.

[11] The residual has a normal distribution and no ARCH effects; the model is also correctly specified and stable, as suggested by Ramsey's RESET test and the CUSUM and CUSUMSQ (not reported).

Table 3.2 Brunei Darussalam: Natural resource rents and economic growth, 1970–2019

	Model 1	Model 2
	$NRESOURCE_t =$ *Oil and gas rent*	$NRESOURCE_t =$ *total rent*
Long-run effects *(dependent variable: $LRGDPPC_t$)*		
$NRESOURCE_t$	0.0327 (0.0016)***	0.0322 (0.0014)***
$GFCF_t$	0.0013 (0.7366)	0.0012 (0.7439)
GOV_t	0.0305 (0.0114)**	0.0299 (0.0110)**
$OPEN_t$	0.0056 (0.0670)*	0.0056 (0.0640)*
Constant	8.3874 (0.0000)***	8.4148 (0.0000)***
Short-run effects *(dependent variable: $\Delta LRGDPPC_t$)*		
ECT_{t-1}	−0.3006 (0.0000)***	−0.3048 (0.0000)***
$\Delta LRGDPPC_{t-1}$	−0.1117 (0.4295)	−0.1072 (0.4461)
$\Delta LRGDPPC_{t-2}$	−0.3681 (0.0068)***	−0.3623 (0.0074)***
$\Delta NRESOURCE_t$	0.0082 (0.0000)***	0.0082 (0.0000)***
$\Delta NRESOURCE_{t-1}$	−0.0046 (0.0044)***	−0.0046 (0.0042)***
$\Delta NRESOURCE_{t-2}$	0.0005 (0.6697)	0.0005 (0.6626)
$\Delta NRESOURCE_{t-3}$	−0.0019 (0.0918)*	−0.0019 (0.0880)*
$\Delta GFCF_t$	–	–
ΔGOV_t	–	–
$\Delta OPEN_t$	–	–
Crisis	0.0250 (0.1060)	0.0252 (0.1030)
Cointegration tests		
ARDL bounds test (F-statistics)	3.7732*	3.7969*
Optimal lag length (AIC)	ARDL (3, 4, 0, 0, 0) [a]	ARDL (3, 4, 0, 0, 0) [a]
Diagnostic tests		
$\chi^2 NORMAL$ (p-value)	0.0956 (0.9532)	0.0932 (0.9544)
$\chi^2 SERIAL$ (p-value)	1.3243 (0.5157)	1.3126 (0.5187)
$\chi^2 ARCH$ (p-value)	2.0962 (0.1477)	1.9782 (0.1596)
$\chi^2 WHITE$ (p-value)	25.4773 (0.0127)**	25.2994 (0.0135)**
RAMSEY F statistics (p-value)	0.2429 (0.6258)	0.2112 (0.6492)
CUSUM	Stable	Stable
CUSUMSQ	Stable	Stable
F statistics (p-value)	83.0535 (0.0000)***	51.6121 (0.0000)***
Adjusted R^2	0.9351	0.9353

(continued)

Table 3.2 (continued)

	Model 1	Model 2
	$NRESOURCE_t =$ *Oil and gas rent*	$NRESOURCE_t =$ *total rent*
Durbin–Watson statistics	1.8981	1.8954
Period *(T)*	1970–2019	1970–2019

Note p-values are reported in the parentheses. Finite-sample bounds F critical values are based on Narayan's (2005) methods. ARDL models are estimated with restricted constant. Optimal lag length is determined by AIC. ***, ** and * indicate significance levels (to reject the null hypothesis) at 1%, 5% and 10% respectively. ARDL (p, q, r, s, u) with [a] superscript indicates the model is estimated with Newey–West corrections on the residual variance–covariance matrix after it was confirmed to have either serial correlation and/or heteroscedasticity problems

We now proceed to short-run coefficients to evaluate short-run dynamics. First, the negative signed coefficients on lagged error correction term ECT_{t-1} are statistically significant at the 1% level, confirming the existence of the cointegrating (or long-run) relationship between the variables. The annual speed of adjustment is about 30%, implying that it would take approximately three years for any short-run deviations (from long-run equilibrium) to disappear completely to restore long-run equilibrium between the variables. Second, both models show that changes in the GDP shares of oil and gas rents have statistically significant positive current and past negative effects (lagged one and three) on income per capita growth. A 1% increase in the current oil and gas rents to GDP ratio contributes about a 0.82% increase in income per capita growth rate, but in past years its increase is associated with 0.46% and 0.19% reduction effects on income growth. These give the net effects of a 0.17% increase in short-run real income per capita growth in Brunei. This suggests that there are fluctuating contributions from changing intensities of resource dependence on income growth in the short run. All in all, this empirical analysis suggests that oil and gas rents positively contribute to long-run real income per capita in Brunei, in line with recent growing literature that confirms the resource blessing view (Ben-Salha et al. 2021; Haseeb et al. 2021).

In other words, this study implies that any reduction in oil and gas rents would lead to economic slowdown in both the long and short run. The volatility of oil and gas prices would also induce volatility in government revenue, government spending and macroeconomic volatility (Koh 2011, 2017b). Furthermore, the non-renewable nature of oil and gas makes them unsustainable to promote economic growth indefinitely. Economic diversification is therefore an important solution. The next section looks at the progress and challenges of Brunei's quest for economic diversification.

3.4 National Development Plans and Economic Diversifications

Economic diversification has been a focus of Brunei's NDPs. Specifically, it was one of the pillars in the Ninth NDP (2007–2012), the first five-year plan of the 30-year long-term development plan. This plan aims to achieve Wawasan Brunei 2035 for Brunei to become a dynamic and sustainable economy, provide a high quality of life for its people and produce a well-educated and highly skilled workforce. In the Ninth NDP, the government placed a strong emphasis on economic diversification, knowledge-based economy and human resources as vital trusts. These emphases were further enhanced under the Tenth NDP (2012–2017). Goals were put forward to enhance economic productivities and provide a more conducive business environment, in addition to improving quality of life through comprehensive health care and medical services, access to a clean and healthy environment and access to necessities. The most recent Eleventh NPD (2018–2023) continued to emphasise strengthening the non-oil and gas sector by focusing on improving the private sector's dynamism and developing the workforce and human capital (DEPS 2020b).

Furthermore, an Economic Blueprint issued by the Ministry of Finance and Economy laid out specific and detailed strategies to promote economic diversification (MoFE 2020). This may indeed be the most important goal to achieve Wawasan Brunei 2035's economic dimension of becoming a dynamic and sustainable economy, in the context of heavy dependence on the oil and gas sector. While standard policy advice for resource-rich economies centres on short-run fiscal stabilisation, which is achieved through diligent fiscal rules and sovereign wealth funds, recent research argues that economic diversification 'is the best way to achieve macroeconomic stability in the long run, to sustainably escape the devastating effects of commodity price volatility, and to smoothen consumption over time' (Chang and Lebdioui 2020: 1).

In this sense, Brunei has been actively and cautiously striving to transition from a hydrocarbon-based economic structure towards a more diversified economic base. Joerg Beutel (2021: 108) defines economic diversification as 'the diversification of exports and domestic production away from extreme dependence on a single dominant industry or a few natural-resource-based products, as well as towards increased complexity and quality of output'. The conventional reasons are that, besides reducing dependency on volatile oil and gas sectors that correlate with international oil and gas prices, growing the share of the non-resource private economy, especially the export-oriented ones, would benefit small countries in terms of more dynamic and sustained economic growth and employment (Alsharif et al. 2017). Data from Brunei's Department of Economic Planning and Statistics show that there are reductions in the oil and gas sectoral shares from 74.6% of the industrial sector share, 96.5% of the export share and 51.2% of GDP in 2010 to 68.5%, 91.4% and 46.2% in 2019 respectively (DEPS 2020a). This corresponds with the increase in total shares of the non-oil and gas sector from 35.9% in 2010 to 44.3% in 2019 (Fig. 3.7). Furthermore, the private content of the non-oil and gas sector increases

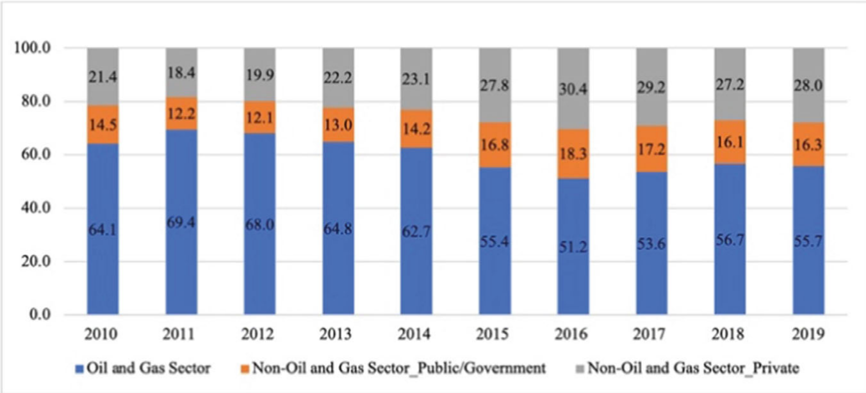

Fig. 3.7 Brunei Darussalam: Resource versus non-resource shares in current GDP, 2010–2019 (%). *Source* DEPS (2020a)

from 21.4% to 28% while that of the public (government) slightly increases from 14.5% to 16.3% during the same period. This suggests that the increase in the share of non-oil and gas is mainly driven by the private sector. The non-oil and gas private sectoral share of GDP has been growing at an average rate of 2.6% since 2010 (MoFE 2020).

Table 3.3 further shows the industrial shares in real gross value added (GVA) in the last 10 years. The bulk of shares in output produced are from the industrial sector, followed by services and agriculture sectors. There is an average reduction of about 10% in the share of the industrial sector in GVA from 2010–2014 to 2015–2019. This reduction appears to be driven by oil and gas mining (−9.5%) and oil and gas-related manufacturing (−7.5%) during the same periods. However, the corresponding increase in the shares of non-oil related manufacturing are small. At the same time, the share of the service sector increased by 9%, mainly in wholesale and retail trade (1.2%), finance (1.7%) and other modest increments in sub-service sectors. Government services also increased by 2.4%. Lastly, the agricultural sector shows a very modest increase to 1.1% in its share in GVA. While this may explain why Brunei imports most of its food, it does raise food security concerns in the long term. However, the agricultural share is expected to pick up speed moving forwards through agricultural projects such as the 500-hectare commercial paddy plantation at the Kandol agricultural development area in Belait district (established in 2019) and the current development of the Brunei Agro Technology Park (BATP), an advanced technology business-oriented site and agricultural research centre to promote products, including for the *halal* industry. All these are in line with earlier points that there is an incremental structural change towards the growing share of the non-resource sector.

Data from the ADB's input–output table show that the GVA content of domestic final demand has steadily increased from 40% in 2010 to 56% in 2017 (ADB 2018). This may be due to Brunei's growing market size as its population increases. It

Table 3.3 Brunei Darussalam: Shares of economic activity in real gross value added (%)

DEPS-MoFE classification	ADB (2018) classification	2010–2014	2015–2019
Agriculture, forestry and fishery	**Primary sector**	**0.7**	**1.1**
Vegetables, fruits and other agriculture	Primary sector	0.1	0.2
Livestock and poultry	Primary sector	0.3	0.4
Forestry	Primary sector	0.1	0.2
Fishery	Primary sector	0.2	0.4
Industry	**–**	**69.4**	**59.8**
Oil and gas mining	Primary sector	50.9	43.4
Manufacture of liquefied natural gas and other petroleum and chemical products	High and medium tech	15.0	11.9
Manufacture of wearing apparel and textiles	Low tech	0.1	0.2
Manufacture of food and beverage products	Low tech	0.1	0.2
Other manufacturing	Low tech	0.5	0.8
Electricity and water	Utilities/low tech	0.6	0.9
Construction	Low tech	2.1	2.5
Services	**–**	**29.9**	**39.1**
Wholesale and retail trade	Business services	3.9	5.1
Land transport	Business services	0.1	0.1
Water transport	Business services	0.7	0.9
Air transport	Business services	0.3	0.3
Other transport services	Business services	0.5	0.5
Communication	Business services	1.2	1.5
Finance	Business services	3.8	5.5
Real estate and ownership of dwellings	Business services	2.9	3.8
Hotels	Business services	0.1	0.1
Restaurants	Business services	0.6	1.0
Health services	Public and welfare services	1.1	1.5
Education services	Public and welfare services	2.5	3.5
Business services	Business services	2.0	2.2
Domestic services	Public and welfare services	0.3	0.4
Other private services	Business services	0.5	0.6
Government services/public administration	Public and welfare services	9.6	12.0

Source DEPS (2020a); ADB (2018)

also corroborates with the corresponding growth in domestic final demand which centres on public and welfare services, business, and primary and low-tech sectors (Fig. 3.8). Interestingly, the foreign final demand share in GVA is mainly concentrated in oil and gas-related products (primary, and high- and medium-tech sectors) (Fig. 3.9). This shows that exported oil and gas-related products constitute Brunei's biggest foreign final demand. We further plot the product concentration index from the United Nations Trade and Development (UNCTAD)—a normalised Herfindahl–Hirschman index of the product concentration of merchandise export or import—that captures the concentration of goods exported and imported for Brunei. The index ranges from 0 to 1, ascending in degree of product concentration. Brunei's exports are considerably concentrated in a few products such as oil and gas, albeit at a lesser degree since 2006, while its imports are sourced from a variety of items such as food, manufacturing goods, machinery and transport equipment (Fig. 3.10). International trade theories dictate that Brunei's high export concentration reflects specialisation in its comparative advantage in oil and gas products. Thus, high export concentration is expected. However, the volatility of the prices in the world market and their transmission to domestic macroeconomic variables are the reasons why export diversification from a few products to more diverse quality products is important. Brunei's economic structure is still dominated by the oil and gas sector and exports, despite slowly increasing its non-resource sectoral shares.

Moreover, though the non-oil and gas private sector is growing its share in the national economy, it is still relatively small (less than 30% of GDP). The Department of Economic Planning and Statistics Annual Census of Enterprises (DEPS 2020a) shows that the oil and gas sector (mining and quarrying and their related downstream manufacturing) employed 10–16% of the labour force in 2015–2017. It is expected that with diversification gaining momentum, the private sector would absorb a larger share of employment and hence reduce unemployment. However, the challenges for

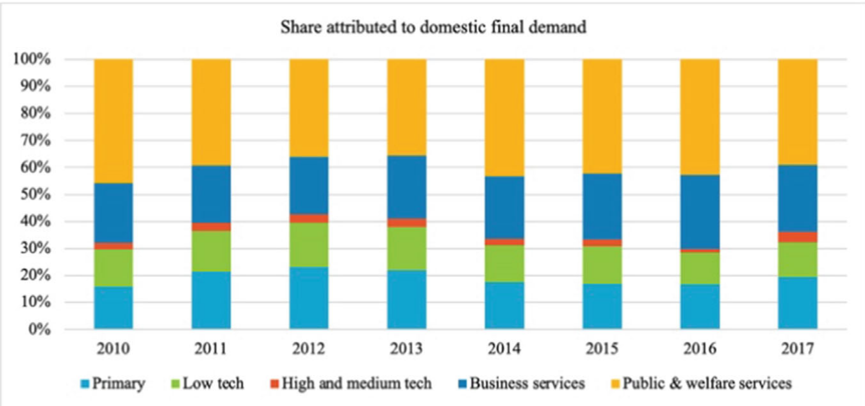

Fig. 3.8 Brunei Darussalam: Sectoral shares of GVA content in domestic final demand, 2010–2017. *Source* ADB (2018)

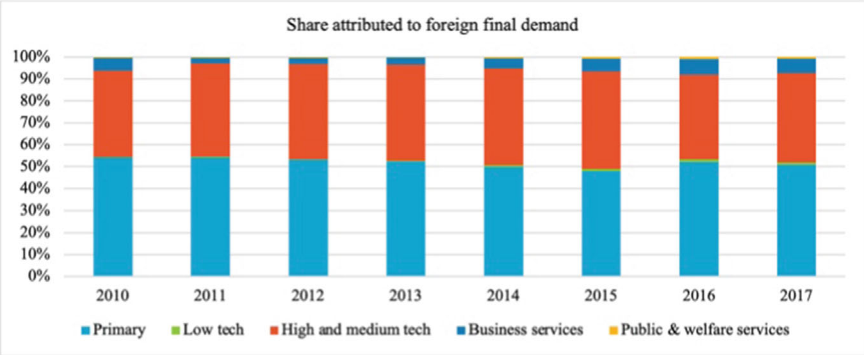

Fig. 3.9 Brunei Darussalam: Sectoral shares of GVA content in foreign final demand, 2010–2017. *Source* ADB (2018)

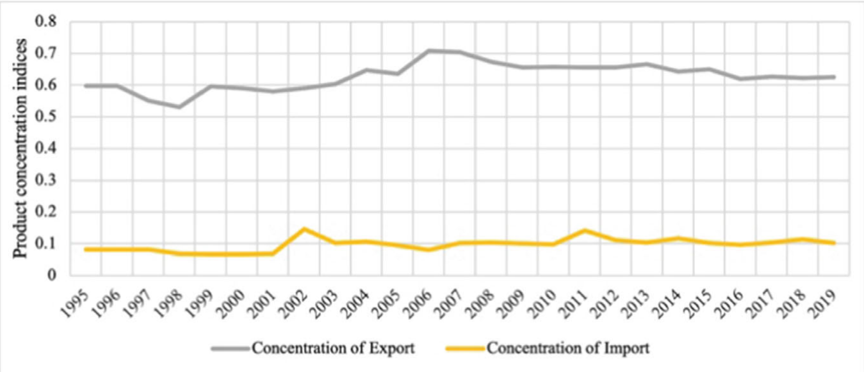

Fig. 3.10 Brunei Darussalam: Product concentration in exports and imports, 1995–2019. *Source* UNCTAD (2023)

the private sector are that 43.7% of employment is concentrated in only a handful of large firms while the remaining 31.5% and 24.7% are absorbed by medium (16.3%) and micro-small (80.6%) enterprises respectively (Fig. 3.11). Thus, policy directions in the Economic Blueprint aim to encourage entrepreneurship, promote FDI and export-oriented firms, and good governance, among others, to spur 'productive and vibrant businesses'.

FDI brings in capital and is normally export oriented. More importantly, it has the theoretically celebrated positive knowledge and technological spillover effects on domestic firms and entrepreneurial activities. In particular, the formal and informal forward and backward linkages and labour mobilities between foreign and local firms would potentially spur entrepreneurship. Local people will learn from the success and failure of foreign firms. Though there are empirical debates on the presence of crowding-in (positive spillover) and crowding-out (negative spillover) effects of FDI,

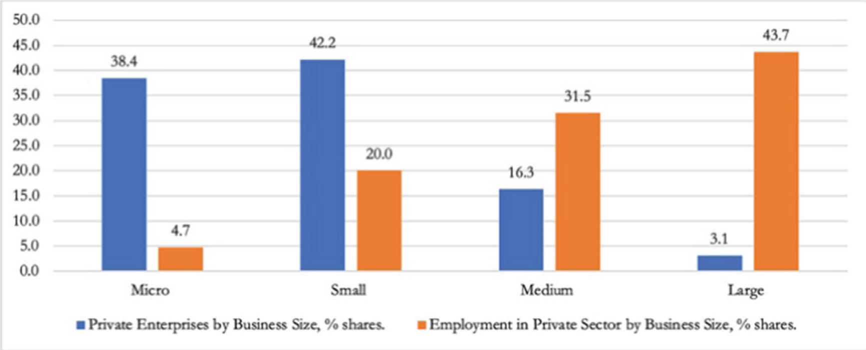

Fig. 3.11 Brunei Darussalam: Private enterprise by business size and employment share, 2015–2017. *Source* DEPS (2020a)

recent accumulated research provides clearer evidence on the crowding-in effects of FDI on domestic entrepreneurship when the absorptive capacities of local economies, such as governance quality and financial development, are considered (Slesman et al. 2021; Munemo 2017). Brunei's governance quality (GQ)—measured with the International Country Risk Guide—ranges from 73 (2006) to 84 (2016) over 100, and Ly Slesman et al. (2021) estimate, within the panel data context, that at GQ 73, a 1% increase in FDI inflows (as % of GDP) would crowd in Brunei's domestic firm creations by 0.08 (in shares of newly registered private and formal firms per thousand people of working age). It increases further to 0.09, 0.12 and 0.14 as GQ scores increase from 75 to 80 to 84 (a score Brunei reached in 2016) respectively. Ly Slesman et al.'s (ibid.) findings have important policy implications: Brunei stands to gain larger positive spillover effects from FDI inflows in the form of increased entrepreneurship by attracting more long-term capital inflows and improving its GQ. Thus, Brunei should improve its ease of doing business and corroborate the policy efforts prescribed by the Ministry of Finance and Economy (2020). Brunei's ease of doing business score shows an increase from 58 (2010) to 70 (2020) and is currently ranked 66 among 190 countries.

In sum, to achieve Wawasan Brunei 2035's goal of a dynamic and sustainable economy, the government places important emphasis on economic diversification, among other important goals, to transform the economy from a resource-based economy into a vibrant non-resource, private-led economy. Modest progress has been made in increasing the share of the private sector, in line with the long-term goals of the Ministry of Finance and Economy's (2020) Economic Blueprint. Challenges remain, as pointed out in a study conducted by the consultancy firm Monitor Group as long ago as 2003, which include slow government decision-making, a lack of government transparency, significant bureaucracy, a lack of an entrepreneurial culture and an underdeveloped private sector (Koh 2020). Moving forwards, policy reforms must remove these constraints, especially along policy directions proposed in the Economic Blueprint to further enlarge the share of the private sector, promote entrepreneurship and increase FDI inflows in the private non-oil and gas sectors. According to the 2003 Monitor Group assessment, the priorities should be in tourism and hospitality, financial services, business services, and transportation and logistics (ibid.).

3.5 Concluding Remarks

Endowed with natural resource abundance, Brunei has specialised in oil and gas production and export since the discovery of oil in 1929. This allowed the country to transform its subsoil hydrocarbon into surface wealth and become a high-income country. Empirical analysis on data from 1970 to 2019 shows that, in the short and long run, oil and gas rents promoted economic growth. This evidence is in line with the resource blessing viewpoint. However, due to the volatile nature of oil and gas prices and their non-renewable character, reliance on them to grow the economy indefinitely is not sustainable. To grow sustainably over time, structural transformations must rebalance towards the non-resource private sector that is presumed to be dynamic, job-generating and capable of adapting to changing economic circumstances. Economic diversification is imperative.

The oil and gas rents and growing economy would enable the government to finance the development of non-resource sectors, thus enabling it to diversify the economy. Based on various economic indicators, the overview of Brunei's resource and non-resource economy shows that progress has been made on economic diversification in the last 10 years or so. The non-resource private sector, though small, has grown at an annual rate of 2.6% in the last decade. Entrepreneurship has seen an increase as policy initiatives and institutional reforms are being implemented. The challenge remains, however, in increasing the non-oil and gas sector, including non-resource manufacturing, modern services and agriculture sectors. Specifically, efforts to attract more FDI into the non-resource private sector and promote vibrant and value-added employment-generating SMEs and entrepreneurial culture, skills and activities are crucial to promote non-resource-driven economic growth in the long run.

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Chapter 4
Demographic Trends, Employment and Diversification in Brunei Darussalam: An International Perspective

Bruno Jetin

Abstract This chapter looks at the growing mismatch between the labour force and employment in Brunei Darussalam and the policies that could lead to a better fit. The discussion is conducted from an international perspective to better understand the problems common to countries abundant in natural resources and the specificities of Brunei. Section 4.2 starts with an analysis of the demographic trends which shows that the labour force will peak around 2030 and decline slowly afterwards. Unemployment will get less severe in the long term. However, the total dependency rate will become more acute, which raises the issue of financing the social cost of an ageing population. In Sect. 4.3, we describe the highly segmented job structure that has been shaped by the Bruneian growth regime and the social context it has created. We look at unemployment and underutilisation of the labour force and show that labour market segmentation is one of their root causes. Section 4.4 is dedicated to a second driver of unemployment: the lack of diversification of the economy, despite the long-standing efforts of the Brunei government. We conclude with a discussion of the policies that could be adopted to contribute to better diversification of the economy that turns its small size into the basis for a new sustainable growth regime.

Keywords Brunei Darussalam · Demography · Unemployment · Labour market segmentation · Gender · Migrants · Diversification

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4.1 Introduction

Brunei Darussalam combines several specificities. It has an area of 5,765 km^2, a population of 445,400 in 2022 and a gross domestic product (GDP) per capita of USD37,152 in 2022. This places Brunei near the bottom at 163rd out of 202 countries and territories in terms of area, 168th in terms of population and 41st in terms of GDP per capita in current US dollars (DEPS 2021a; World Bank n.d.a). Brunei can be considered a small state, according to the pragmatic definition given by Dag Anckar (2020: 53). A small state has limited political, economic and administrative capacities, and finds itself in the weaker part of international asymmetric relations. Limited does not mean insignificant. Brunei has one of the highest per capita military expenditures in Asia, wields noteworthy diplomatic influence through its role in the Association of Southeast Asian Nations (ASEAN) and boasts a high living standard that ranks second in Southeast Asia after Singapore. However, in economic terms, small states face some disadvantages. Competition tends to be limited and monopolistic or oligopolistic structures play a greater role. Above all, small states cannot expect to follow the classical path to development: a large pool of abundant and underemployed workers in agriculture move to cities where they become industrial and service workers. When labour becomes scarce, wages rise and growth accelerates. Nor can small states take advantage of economies of scale that play a decisive role in manufacturing to lower costs and be competitive. Brunei has not experienced this kind of structural change because of its size and resource abundance, which have propelled its living standard to the level of high-income countries.[1] Oil and gas have made Brunei prosper since 1929 and have reinforced its specificity. Oil revenues are both a boon and an added difficulty. The oil industry tends spontaneously to dominate the whole economy, encourage the development of low-productivity sectors and discourage innovation in new sectors. The structure of employment becomes distorted in favour of public employment at the expense of the private sector. Only state intervention through sensible public policies can correct these growing distortions and recalibrate the growth trajectory in a new direction, combining innovation, productivity and high qualifications.

This chapter looks at the growing mismatch between the labour force and employment and the policies that could lead to a better fit. Section 4.2 starts with an analysis of demographic trends, which shows that the labour force will peak around 2030 and decline slowly thereafter. Unemployment will get less severe in the long term. However, the total dependency rate will become more acute, raising the issue of financing the social cost of an ageing population. In Sect. 4.3, we describe the highly segmented job structure that has been shaped by the Bruneian growth regime and the social context it has created. We look at unemployment and underutilisation of the labour force and show that labour market segmentation is one of their root causes.

[1] In 2020, Brunei's gross national income (GNI) per capita, purchasing power parity (PPP) (constant 2017 international $) was USD64,037, and the average in high-income countries was USD47,844 (World Bank n.d.a).

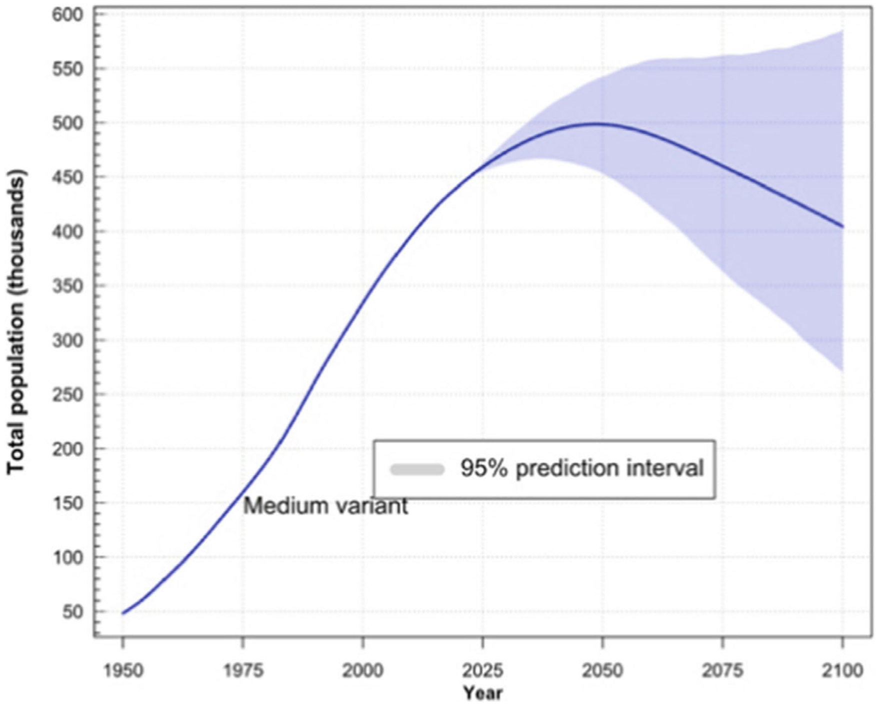

Fig. 4.1 Brunei Darussalam: Total population, 1950–2100. *Source* DESA (2022)

Section 4.4 is dedicated to a second driver of unemployment: the lack of diversification in the economy, despite long-standing efforts by the Brunei government. We conclude with a discussion of the policies that could be adopted to better diversify the Bruneian economy and turn its small size into the basis for a new sustainable growth regime.

4.2 Demographic Evolution

According to the United Nations *World population prospects 2022*,[2] Brunei's population will peak in 2050 at 493,000 and will later decline to 392,000 in 2100, close to its level in 2010 (Fig. 4.1).

This future decline can be explained by the fact that Brunei will have achieved its demographic transition. Around 2050 the crude death rate will exceed the crude birth rate (Fig. 4.2). The number of children per woman has decreased sharply in Brunei

[2] In this section, unless otherwise specified, all statistical data come from the United Nations, Population Division of the Department of Economic and Social Affairs (DESA 2022). Projections are based on the median projected trajectory.

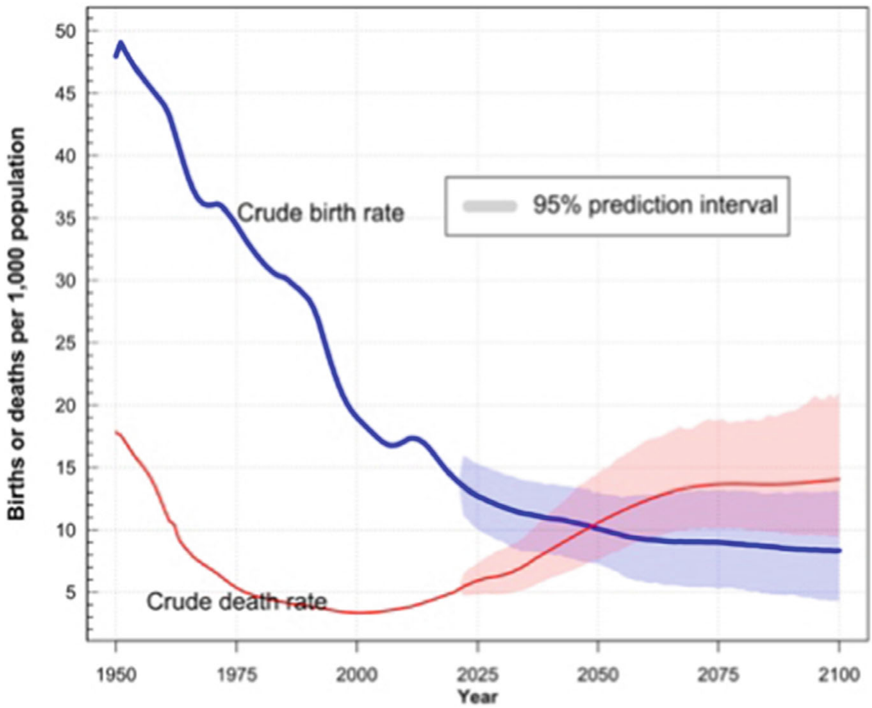

Fig. 4.2 Brunei Darussalam: Crude birth rate and crude death rate, 1950–2100. *Source* DESA (2022)

from 6.9 in 1950–1955 to 1.88 in 2005–2010, which is below the reproduction rate. Fertility is even projected to stay slightly below average in high-income countries until the end of the century. According to Norainie Ahmad (2023: 69), in the absence of an official population and family policy from the government, 'development has indeed functioned as "the best form of contraceptive"' and is the driving force of the demographic transition. Women participate more actively in the labour force because they can rely on their parents and on employed foreign workers to care for their children and do domestic work. Their share in the labour force has doubled and reached 39% in 2020 from 16.8% in 1971 (DEPS 2022a).

Because of the fast demographic transition, the working-age population (15 years and above) will increase until 2055 and then decline (Fig. 4.3).

Since most Bruneians retire between the ages of 55 and 60, the latter being the mandatory retirement age in the country, we can limit the working-age population to the 15–64 category.[3] The labour force will start to decline in 2030 and reach around 200,000 in 2100, 100,000 less than the population aged 15 years and above (Fig. 4.3). It will alleviate the pressure to create jobs to some extent if Brunei finds a way to

[3] In 2019–2020 only 1.5% of workers in Brunei were 65 years old and over. They were mostly employers and self-employed workers (DEPS 2022a: Table 1).

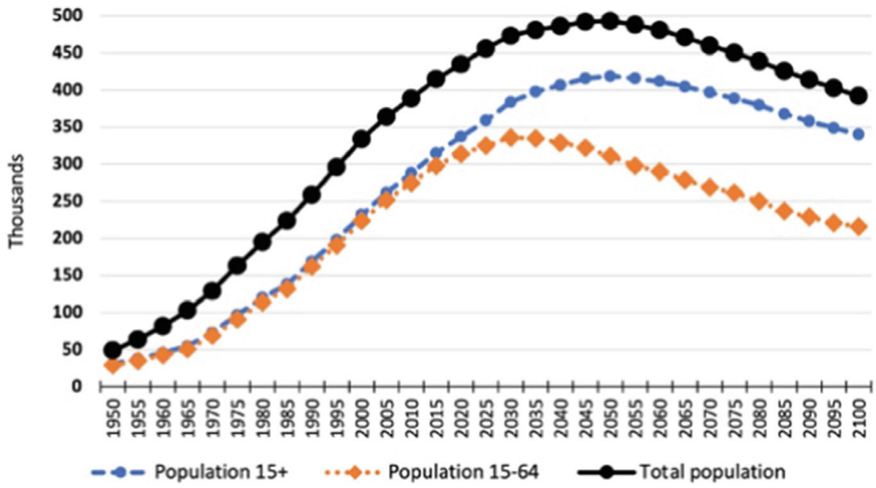

Fig. 4.3 Brunei Darussalam: Population and working-age population, 1950–2100. *Source* Author's computation with data from DESA (2022)

adapt to the ageing of its population. Because the median age will double from 20.2 in 1980 to 40.9 in 2040 and then continue to rise at a slower pace, old age dependency will be multiplied by 10, from a trough of 5% in 2000 to 51% in 2060, equal to the child dependency ratio (Fig. 4.4). It is projected to reach 70% in 2100. Of course, the youth dependency ratio will decline sharply from a peak of 169% in 1980 to around 50% in 2040, but then it will remain at that level. In other terms, after 2055, the rise of the old age dependency ratio will not be offset by an equivalent decline in the child dependency ratio.

As a consequence, total dependency will increase from its minimum of 39% in 2015–2020 to exceed 50% in 2045 and 80% by the end of the century, which places Brunei above the average of high-income countries (Fig. 4.5).

These observations show that the coming decades will be critical. Enough jobs must be created for the young generations to maintain unemployment at a low level. These jobs must have high productivity to justify the high salaries needed to maintain the current living standards and to finance, in some ways, the cost of an ageing population (Md Hasnol Alwee and Roslee 2020; Siddiqui 2014). In any case, the decline of the labour force will be slow, and one cannot solely count on demographic evolution to resolve one of the most pressing issues in Brunei: creating enough skilled jobs for an ever more educated young labour force.

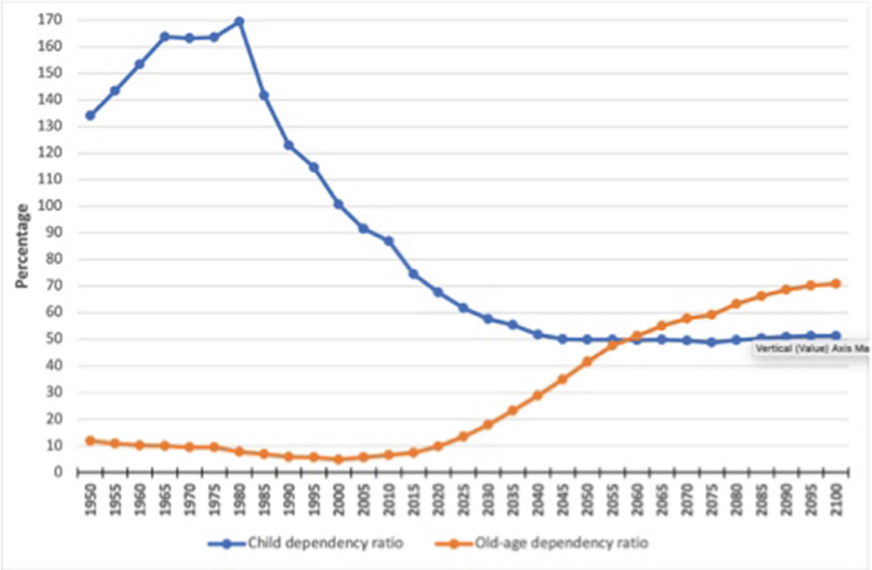

Fig. 4.4 Brunei Darussalam: Child and old dependency ratios, 1950–2100. *Source* Author's computation with data from DESA (2022). *Note* Old age dependency is a ratio of the population aged 65 and over per 100 population aged 25–64, expressed in percentage. Youth dependency is a ratio of the population aged 0–24 per 100 population aged 25–64, expressed in percentage

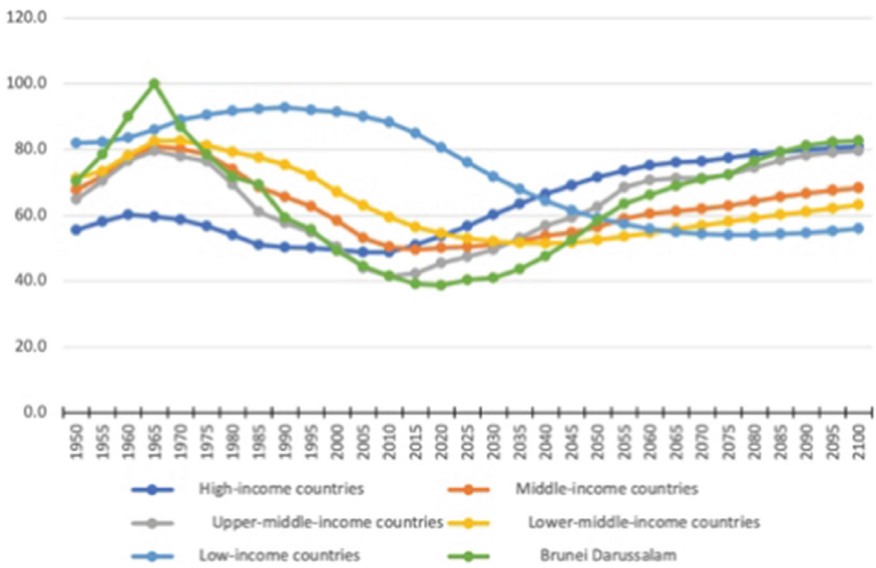

Fig. 4.5 Brunei Darussalam: Total dependency ratio and income level groups, 1950–2100. *Source* Author's computation with data from DESA (2022). *Note* Total dependency is a ratio of the population aged 0–24 plus the population aged 65 and over per 100 population aged 25–64, expressed in percentage

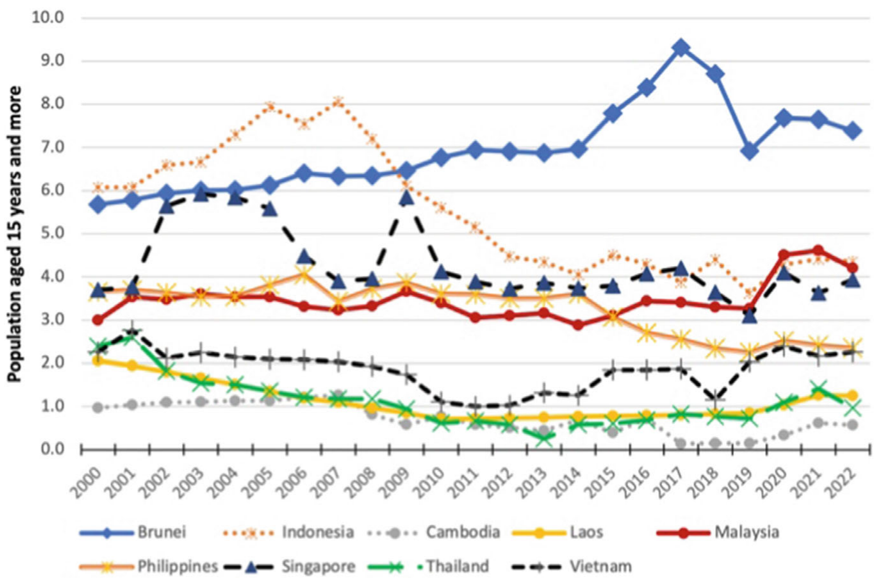

Fig. 4.6 Unemployment rate in selected ASEAN countries, 2000–2022. *Source* Author's computation with data from ILOSTAT (2024a)

4.3 Unemployment and the Segmentation of the Labour Market

Currently, Brunei has the highest unemployment rate in ASEAN (Fig. 4.6). It has risen steadily since 2000 and remained around or above 7% since 2010, while it has decreased below 5% in all other ASEAN countries.

The unemployment issue is even worse for young Bruneians. It was constantly above 20% since 2008 and peaked at 31% in 2018, while it decreased or stayed at a lower level in all other ASEAN countries (Fig. 4.7).

Unemployment gives only a partial view of the dimension of the employment problem. It is a good indicator of how many people in the labour force do not have a job, although they are ready to work and looking for a job. In many developing countries, however, the incentive for the unemployed to declare themselves at relevant institutions is weak in the absence of an unemployment allowance.

In the Brunei case, Shamim Ahmad Siddiqui (2012: 407) mentions additional problems, among them the fact that all the unemployed counted at the numerator are Bruneians while the denominator of the labour force includes foreign workers, which undermines the rate of unemployment.[4] Moreover, the unemployment rate says nothing about the quality of jobs of those employed or why discouragement and various kinds of inequalities lead some people to stay out of the labour force. The

[4] Foreign workers who do not have jobs cannot stay in the country.

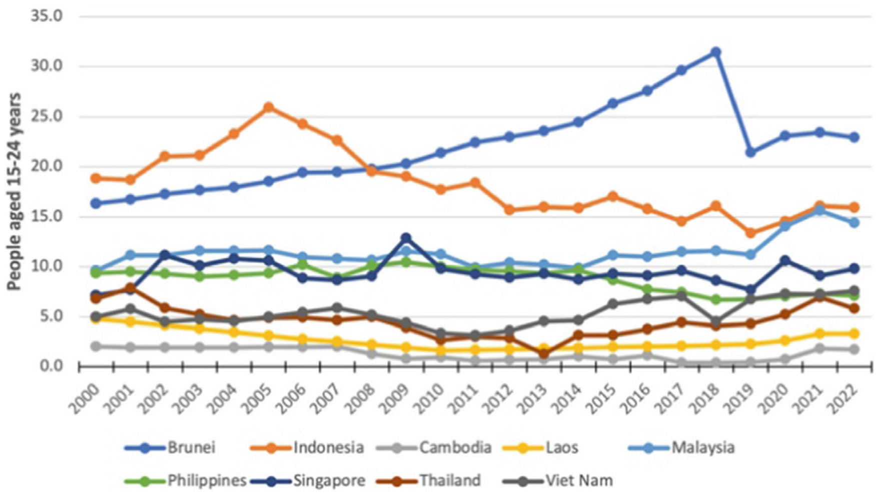

Fig. 4.7 Unemployment of young people in selected ASEAN countries, 2000–2022. *Source* Author's computation with data from ILOSTAT (2024a)

International Labour Organisation (ILO) has developed a composite rate of labour underutilisation to remedy this situation.[5] It includes those who work an insufficient time, the unemployed and the potential labour force who are not in the labour force for different reasons but express an interest in it.

The composite rate of labour underutilisation for ASEAN countries is shown in Table 4.1. This broader indicator confirms that Brunei is by far the ASEAN country with the highest labour underutilisation, greater than members with a lower living standard and far above Singapore which has a higher living standard. With an average of 20.4% in 2017–2019, unmet employment needs in Brunei are around 2.5 times higher than the unemployment rate suggests. Time-related underemployment (38.5%) counts as much as unemployment (38.9%) in the composite rate, and the potential labour force amounts to 22.6%, revealing significant discouragement or job search difficulties.

How can we explain this disappointing employment performance? Two intertwined factors contribute to unemployment and labour underutilisation: the highly segmented nature of employment and the lack of economic diversification, which is analysed in the next section.

Labour market segmentation is always an institutional, economic, cultural, gender and ethnic construct (Reich et al. 1973; Hudson 2007; Piore 2018). Each country combines a different set of segmentation according to its historical legacy, social norms and values, state intervention and growth pattern. In Brunei, the state has always played a central role in determining the rules and regulations that shape the labour market. The state is also the main employer. Table 4.2 shows the share of

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[5] LU4 − Composite measure of labour underutilisation = (time-related underemployment + unemployment + potential labour force) × 100/(labour force + potential labour force).

Table 4.1 Composite labour underutilisation (LU4) in ASEAN, 2017–2019 (%)

	2017	2018	2019	Average
Brunei Darussalam	23.2	19.6	18.5	20.4
Indonesia	12.6	13.0	11.0	12.2
Cambodia	2.2	2.2	2.2	2.2
Lao PDR	12.6	12.5	12.5	12.5
Malaysia	8.6	8.2	8.2	8.3
Philippines	16.8	16.4	16.1	16.5
Singapore	9.0	8.6	8.1	8.5
Thailand	2.2	2.1	1.9	2.1
Vietnam	2.2	2.1	1.9	2.1

Source ILOSTAT (2024a)

public employment in 22 countries whose rents are greater than or equal to 10% of GDP. None of the Southeast Asian countries registers such a high level of rents, and most of the countries that qualify are large oil and gas exporters. Brunei ranks third in public employment despite only being the tenth country in terms of rents. This proves that Brunei redistributes a large share of its rents in the form of public employment, far more than the average for other resource-rich countries.

Brunei has also set up its own brand of 'Islamic welfare state regime' (Wood and Gough 2006; Cheung 2017; Yuda 2019). It differs from the East Asian 'productivist welfare regimes' based on the Confucian ethical code that tends to attach welfare to work and prioritise economic development (Holliday 2000). Inspired by Islamic welfare ethics, Islamic welfare state regimes emphasise universal and inclusive social policies. According to Tauchid Komara Yuda (2019), the state in Brunei plays a greater role in the Islamic welfare regime than in Malaysia and Indonesia, where civil society also contributes significantly. In Brunei, the welfare state is generous and gives free access to health care and education up to university level, and a universal pension system allows people to retire between the ages of 55 and 60 (Md Hasnol Alwee and Roslee 2020).[6] Moreover, there is no personal income tax or sales tax. Petrol, electricity, water and some foods are subsidised. This explains how Brunei achieves a very high human development index score.

[6] From 1959 to 1993 civil servants were eligible for the Government Pension Scheme (GPS), which was a very generous non-contributory defined benefit retirement scheme. Civil servants received a maximum amount of three-quarters of their final paid salary, and the mandatory retirement age was 55. The system became too onerous and after 1993 only uniformed civil servants stayed eligible. An Employees Trust Fund (ETF) replaced the GPS. It is a defined contribution retirement that applies to the private sector. Both employees and employers contribute 5% of employees' monthly salaries to the fund, and employees receive the total amount of their contributions at the end of their working life. The mandatory retirement age was amended to 60 years old in 2010, and a supplemental contributory pension fund was introduced on a voluntary basis. Finally, an old age pension was created in 1959 to provide a 'minimum living subsistence to all citizens and permanent residents aged 60 and above' with BND250 monthly. In 2021 it was restricted to Bruneian citizens and stateless permanent residents, while permanent residents with foreign citizenship were excluded.

Table 4.2 High rents and public employment in selected countries

Country	Share of public employment (last year available)	Total rents, 2010–2019 (% of GDP)
Iraq	38.3	41.8
Algeria	36.9	21.6
Brunei Darussalam	34.1	22.4
Saudi Arabia	30.5	35.1
Mongolia	25.0	21.0
Azerbaijan	23.4	25.5
Kazakhstan	23.3	18.8
Timor Leste	22.8	57.6
Venezuela	20.1	16.4
Yemen	19.4	10.8
Kuwait	18.6	46.0
Iran	15.8	22.3
Angola	14.6	26.4
Zambia	11.9	12.6
Oman	10.5	34.3
United Arab Emirates	10.3	20.7
Qatar	9.3	27.4
Congo, Democratic Republic	8.7	22.6
Nigeria	8.6	11.4
Papua New Guinea	7.5	12.8
Mozambique	4.4	13.8
Chad	3.4	21.9

Source Author's computation. Rents: World Bank (2024). Public employment: ILOSTAT (2024b)

Getting a government job is the dream of many Bruneians. In addition to the higher salary and guarantee of employment, it makes it possible to obtain a set of material advantages (rent subsidy, low-interest housing, car loans, various allowances) amounting to about 70% of salary (IMF 1999: 8), and, above all, a high social status. Having a government job is a symbol of success. Many young Bruneian graduates prefer to wait until they get a public job (Koh 2020: 53) or else consider it temporary when they work in the private sector to make a living. These traits are not specific to Brunei but are found in all high-rent countries (Hertog 2017). Soon after independence in 1984, the government adopted a 'Bruneisation policy' that gave employment priority to local people to help absorb new graduates into the labour force (Abu Bakar 1989). In the 1990s it was largely achieved in the government, oil and gas, and financial sectors. The problem is that the government cannot provide public sector jobs to all Bruneians because it would not be fiscally sustainable and is not desirable from a long-term growth perspective. In 2014, when Brunei was hit by the fall of oil prices and unemployment surged, the government created more temporary jobs in the government sector and the state's workforce peaked at around 50,000 in 2015. In 2021 this number was reduced to 46,591 (DEPS 2022a). The scarcity of jobs led the government to adopt a series of measures to increase the share of Bruneians in the private sector. 'In 2014, work permits for the employment of foreigners for the posts of cashier, driver, supervisor, sales clerk, shop staff, butcher and baker were suspended' (Koh 2020: 20). Additional levies were imposed on the recruitment of foreigners in the service sector. In 2018 a new directive imposed hiring a minimum of 90% of Bruneians in the oil and gas sector. In 2019 it was extended to eight non-oil and gas industries (Wardi 2019), and certain government contracts are now reserved for Bruneian Malay contractors (Koh 2020: 20).

These measures were very effective. Up until 2018 more Bruneians were working in the public sector than in the private sector (Fig. 4.8). However, in 2021 the situation changed significantly. Compared to 2014, the public sector lost 21,725 workers because public companies cut jobs drastically during the COVID-19 pandemic. In the same period, the private sector created 44,535 jobs that primarily benefited local people. A closer look reveals that the private sectors that recruited Bruneians the most were wholesale and retail trade (+12,500), professional, technical, administrative and support services (+4,042), manufacturing (+2,196), accommodation and food service activities (+3,319), and agriculture, forestry and fishery (+1,405) (DES 2014; DEPS 2017, 2018, 2019, 2020, 2021a, b).

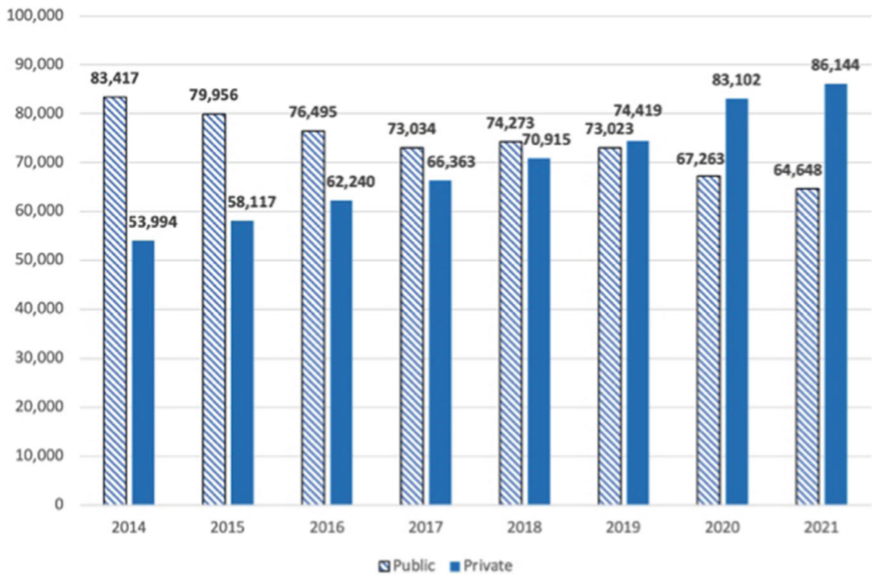


Fig. 4.8 Brunei Darussalam: Breakdown of local employment in the public and private sector, 2014–2021. *Source* Author's computation with data from DES (2014), DEPS (2014, 2017, 2018, 2019, 2020, 2021a, b)

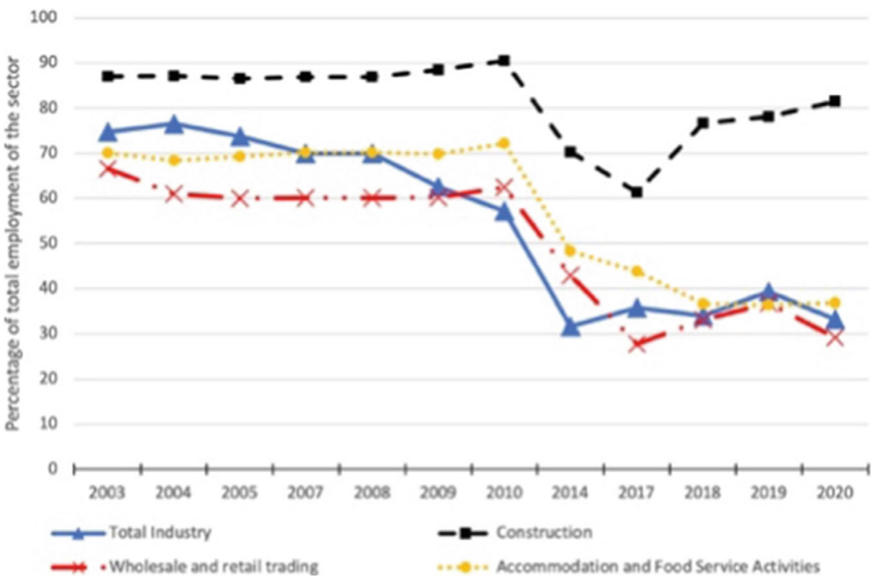


Fig. 4.9 Brunei Darussalam: Share of foreign workers in selected sectors, 2003–2020 (%). *Source* DEPS (2017, 2018, 2019, 2020, 2021b, 2022a, b)

However, the wage and prestige gap between the public and private sectors remains, and so the appeal is to work for the government. According to our estimations, in 2017–2021, the average salary in the public sector (BND2,237) was 30% higher than the average income for Bruneians for the whole economy (BND1,735).[7] This must be compared with a median income of around BND1,000 for Bruneians and BND600 for foreign workers.

The segmentation between the public and private sectors is redoubled by a segmentation within the private sector between Bruneian and foreign workers and a division between skilled and unskilled workers among the latter. Private sector companies producing goods and services for the domestic market find it more profitable to recruit foreign workers from neighbouring countries or South Asia because they can pay them much less than local workers. Therefore, most of these companies have specialised in domestic non-tradeable goods, which are both profitable and less risky than export markets. In the industry, accommodation, food service and commerce, the share of foreign workers has declined markedly to below 40%, but they are still the vast majority in the construction sector (Fig. 4.9).

Foreign workers, mostly from South Asian countries, have built most of the infrastructure and buildings in Brunei. Construction relies on unskilled or semi-skilled hard

[7] We divided the government salary bill reported in IMF Annex IV reports by the number of employees in the public sector that we compare with the monthly income for locals reported in the Department of Economic Planning and Statistics *Labour force surveys*. We estimated the average for 2017–2021.

manual labour. Most foreign workers still do manual labour, like craft and related trade work, plant and machine operations or elementary occupations that include female domestic workers (Table 4.3). Foreign workers' earnings are very polarised (Table 4.4). While foreign technicians, professionals and managers earn 10–50% more than their local counterparts, the opposite is true for semi- or low-skilled foreign workers. In 2014–2019 the latter earned 20–40% less than a local person for the same occupation.

The wage gap between public and private jobs and between local and non-local occupations in the private sector is an additional difficulty for strengthening a productive private sector and creating highly skilled, well-paid jobs. Private companies are

Table 4.3 Brunei Darussalam: Share of foreign workers by occupation, 2014–2021 (%)

Share of foreign workers	2014	2017	2018	2019	2020	2021
Employed population by occupation	27.5	25.4	28.0	33.5	28.8	29.0
Managers and senior officials	23.4	20.7	22.8	25.6	23.1	18.1
Professionals	14.0	12.2	13.7	15.0	11.2	11.2
Technicians and associate professionals	18.1	18.4	14.0	26.3	20.1	19.6
Clerical support workers	5.2	3.9	1.9	5.8	4.9	7.1
Service and sales workers	25.0	18.6	22.8	23.2	14.8	13.7
Skilled agricultural, forestry and fishery workers	17.8	22.7	11.2	3.2	32.2	20.2
Craft and related trades workers	61.4	48.7	53.8	66.4	57.3	46.9
Plant and machine operators and assemblers	33.1	27.5	42.1	37.2	42.7	66.8
Elementary occupations	56.0	59.3	64.3	72.4	66.1	64.2

Source Author's computation with data from DES (2014); DEPS (2017, 2018, 2019, 2020, 2021b)

Table 4.4 Brunei Darussalam: Occupation earning gap: Foreign workers earning/local workers earning, 2014–2019 (%)

Occupations	2014	2017	2018	2019	2014–2019
Managers	84	143	115	103	111
Professionals	145	151	152	153	150
Technicians and associate professionals	109	93	151	101	113
Clerical support workers	68	93	100	73	84
Service and sales workers	69	56	56	70	63
Skilled agricultural, forestry and fishery workers	111	56	86	50	76
Craft and related trades workers	73	90	49	69	70
Plant and machine operators and assemblers	61	123	57	83	81
Elementary occupations	54	64	64	76	64
Total	68	75	69	70	71

Source Author's computation with data from DES (2014); DEPS (2017, 2018, 2019, 2020, 2021b)

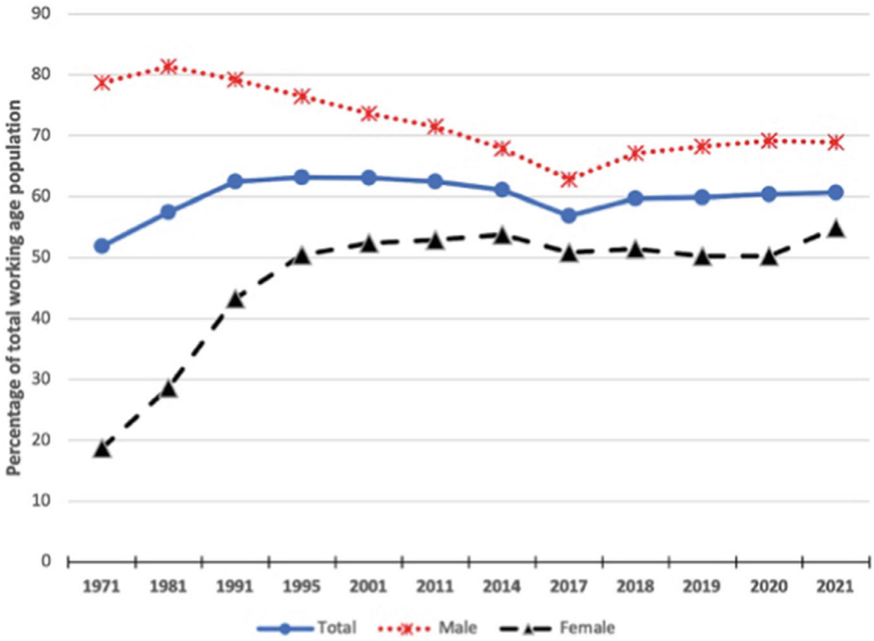


Fig. 4.10 Brunei Darussalam: Employment to population ratio by sex, 1971–2021. *Source* Author's computation with data from DEPS (2022a)

not induced to invest in technology upgrading and training, which are more expensive and riskier than hiring cheap labour. Foreign workers cannot move to another company without the consent of their present employer (Koh 2020: 52), which limits the possibility of market mechanisms leading to higher wages and reducing the wage gap.

Female labour is another segment of the labour market in Brunei. Although the female labour force doubled between 1971 and 2001, it has plateaued in recent years at 50% (Fig. 4.10).[8] This means that half the female working-age population is not employed, while around 70% of men are employed. Table 4.5 shows that the participation of female workers in employment is at the same level in Malaysia, Indonesia and some Arab Gulf countries, all far below the level reached in Singapore and Thailand.

It remains to be seen whether the increase in female employment observed in 2021 heralds a convergence towards these latter countries or is a temporary effect of COVID-19. Women in Brunei mostly work in the private sector, and this includes foreign women. In the government sector, where nearly 100% of workers are Bruneian, women have been the most numerous since 2011. In 2021 they accounted for 56% of government employees, up from 47% in 2003 (Author's calculations

[8] The employment-to-population ratio is the number of persons employed as a percentage of the total working-age population.

Table 4.5 Employment to population ratio of women, selected countries (2019–2020), except Kuwait (2015–2016) (%)

ASEAN	%	GCC	%
Brunei	54.2	Kuwait	52.5
Indonesia	53.7	Oman	34.9
Malaysia	53.2	Qatar	58.0
Singapore	66.5	Saudi Arabia	22.0
Thailand	66.2	United Arab Emirates	57.3

Source ILOSTAT (2024b)

with data from the Public Services Department, Prime Minister's Office). The second sector where Bruneian women dominate is the education sector, where they accounted for 72% of teachers in 2021, followed by human health and social work activities (68%) (DEPS 2021b). In short, Bruneian women are employed mostly by the central government and public services, where they can get promotions and occupy management positions. According to ILOSTAT (2023) data, 32.3% of female workers in Brunei are in senior and middle management positions, which is comparable to the Philippines or Thailand and much higher than Indonesia (19.4%) and the United Arab Emirates (15.7%). In the government sector in 2021, Bruneian women accounted for 41% of heads of departments and sections (division 1), 67% of senior officers (division 2) and 62% of supervisors (level 3).[9] Working for the government provides stability and opportunities, and is more compatible with family duties. The large presence of foreign female domestic workers (around 9,000 in 2021) also makes it possible for Bruneian women to reconcile a job with family responsibilities (DEPS 2021b).[10]

Foreign female workers represented 22% of female employment in Brunei in 2020 but occupied 65% of low-skill jobs and less than 20% of medium- and high-skill jobs (Fig. 4.11). Bruneian female workers accounted for 78% of female employment and around 85% of medium- and high-skill jobs, but only 35% of low-skill jobs. In 2020, female workers—mostly foreign domestic workers—in elementary occupations earned BND490 per month, which is around 50% of the median income of BND975 for the whole economy that year (DEPS 2020, 2024). This shows how much foreign workers, particularly women, contribute to lowering the labour cost.

National accounts data support the view that the Bruneian growth regime results in a highly profitable corporate sector. As a share of GDP, the net operating surplus (including mixed income) was on average 75% for 2010–2014, 66.7% for 2015–2018 and 65.5% for 2019–2021, when the COVID-19 pandemic hit Brunei's economy.[11]

[9] There is a total of five levels.

[10] The 'Activities of households as employers of domestic personnel' registers 9,051 females. Among them, there are almost no Bruneian women (DEPS 2021b: 16).

[11] The net operating surplus plus mixed income published in the national accounts of Brunei is, in fact, very close to the concept of gross operating profit because taxes are very small and own account workers are around 5% of employment. The mixed income is therefore marginal and the net operating surplus plus mixed income can be readily compared to the adjusted capital share that

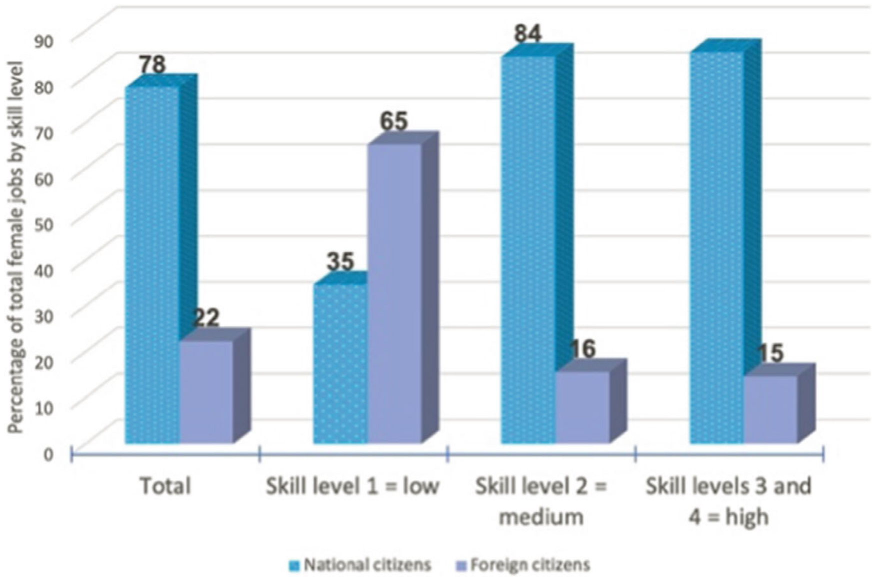


Fig. 4.11 Brunei Darussalam: Total female jobs by skill level and nationality, 2020 (%). *Source* Author's computation with data from ILOSTAT (2023), Employment by sex, occupation and citizenship

This capital share places Brunei at the high end of the spectrum.[12] Tim Callen et al. (2014: 24) report that the Gulf Cooperation Council's (GCC) capital share (gross operating surplus + mixed income) was around 75% in the first half of 2010, the same very high level found in Brunei at the time. The issue is that this high profitability is only realised in the non-tradeable sectors (construction, wholesale and retail trade, accommodation and food services) where productivity is traditionally low. An economy is sustainable when high profits and wages are based on high productivity in the tradeable sectors. This requires a diversification of the economy into new economic activities.

can be calculated with the AMECO database (https://economy-finance.ec.europa.eu/economic-research-and-databases/economic-databases/ameco-database_en).

[12] For instance, in the euro area (20 countries), the adjusted capital share is 43.6% (2010–2014), 44.2% (2015–2018) and 43.3% (2019–2021), and for the US it is 43.7% (2010–2014), 43.2% (2015–2018) and 42.4% (2019–2021), based on the author's calculations with the AMECO database.

4.4 The Quest for Economic Diversification

The second reason for unemployment is the lack of diversification in the economy. The oil and gas industry is a highly capital-intensive industry that does not create many jobs. Downstream oil-related industries, which are basically petrochemical industries, share the same characteristic. Diversifying the economy into more labour-intensive industries and services is therefore necessary to create jobs. The economic literature shows that diversifying the economy is required at the early stage of development when labour is abundant and underutilised. It is only after a rather high-income threshold that economies tend to specialise again in goods for which they are competitive (Imbs and Wacziarg 2003). Dani Rodrik (2005) demonstrates that the most successful countries of the last few decades, such as China, India, South Korea, Malaysia, Hong Kong and Singapore, are those that engaged in producing and then exporting a set of goods that are typical of countries much richer than they were at the time. These high-quality goods are technology intensive. They have boosted productivity which has spread to the rest of the economy with long-lasting positive effects on growth and employment (UNCTAD 2018). This export diversification is not explained by factor endowments and comparative advantages so dear to neoclassical theory but by idiosyncratic elements, most of all, suitable public policies.

Brunei's challenge is of a different nature. It does not belong to the category of low-income countries, which must embark on the diversification journey, but to the category of resource-rich countries with a high income level. Resource-rich countries must diversify their economies to reduce the dependence of their development on natural resources, reduce the volatility of their growth due to the fluctuations in the price of raw commodities, and create employment. They have an advantage because their wealth enables them to finance the diversification process. Nonetheless, they suffer from some specific disadvantages. The higher the dependence, the more the country is exposed to dependence challenges, such as the risks of shock and instability and the difficulty of diversifying to escape the dependence trap (UNCTAD 2021; Nkurunziza 2021).

Among the high-income resource-rich countries, Brunei stands as a unique case. It is the smallest country in terms of population and market size. This means it cannot attract foreign direct investment (FDI) that would come to exploit the local market or use the abundance of cheap labour to export with a competitive advantage like Southeast Asian new industrialised countries did in the past. It must therefore rely on diversified activities related to its expertise in oil and gas, and use its wealth to invest in completely new activities in which it can get a niche in export markets. Nicola D. Coniglio et al. (2021) analyse the specialisation patterns of over 200 countries in 1995–2015 to determine if their specialisation had been characterised by a strong level of path dependence from their initial comparative advantage. They find a large number of new specialisation products that defy their initial comparative advantage. They also conclude that 'path-dependent new entries in a country's export basket are associated with a lower growth performance' and that 'long jumps are more likely associated with a high growth rate and are far more common than the academic debate suggests'. In practice, there is no reason to oppose 'comparative-advantage conforming' and 'comparative-advantage defying' specialisation, and Brunei should do both to diversify its economy.

Brunei has recognised the necessity of diversifying the economy since the Second National Development Plan (NDP, 1962–1966), well before its independence in 1984 (CSPS 2024: 35). However, progress has been slow and very recent, and diversification has remained a crucial issue of public policy (Gunn 1993; Siddiqui 2012; see Chaps. 2, 3 and 6 in this volume). One reason is that, along with Saudi Arabia and Kuwait, Brunei consistently counts among the top countries that display both a high level of resource abundance and dependence (Lebdioui 2021: 6).

To illustrate this, we use Amir Lebdioui's (ibid.) data that we have updated to calculate his Multidimensional Indicator of Extractives-based Development (MINDEX). The MINDEX is based on a clear distinction between being resource rich and being resource dependent, and combines six relative and absolute measures on a scale of 0 to 1 that 'reflect the different steps of the resource revenue management policy chain to translate extracted commodities into developmental assets' (ibid.: 6).[13] Figures 4.12, 4.13 and 4.14 present the Indonesian, Malaysian and Bruneian cases for the years 1997, 2010 and 2016. The two years of low commodity prices were 1997 and 2016, while 2010 registered a sharp increase. The variation in prices illustrates the potential vulnerability of countries dependent on extractive resources.

In per capita terms, Indonesia is not particularly well endowed in extractive resources,[14] from which it gets low rents (Fig. 4.12). Fortunately, Indonesia is not dependent on minerals, oil and gas. Its scores in export and government revenues do not exceed 0.3 and 0.2 respectively. It is also very small in level per capita. Commodity prices have a clear impact. In 2016 the share of extractives in government revenues fell to a very low level.

Malaysia enjoys much higher resource abundance than Indonesia and gets high rents from its exports (Fig. 4.13). However, Malaysia's economy is not dependent on extractives. Even when commodity prices are high (such as in 2010), its share in exports remains low (0.2 EXP%). Still, price variation has a significant but limited impact on government revenues.

In comparison, Brunei epitomises the case of countries that are both extremely resource rich and dependent on resources (Fig. 4.14). Brunei has very large reserves per capita and manages to get the highest possible rents from them (with a score of 1). The flip side is that 90% of its export revenues are highly dependent on oil and gas (with scores between 0.9 and 1). Their price volatility impacts on government revenues with a score of 0.7 in low-price years (1997 and 2016) and up to 0.9 in

[13] There are four measures of resource abundance (all in constant 2010 USD per capita): (1) extractive exports (EXPPC); (2) extractives rents (RENTS); (3) extractives reserves (RESRV); and (4) government revenues from extractives (REVPC). Two measures of resource dependence are: (1) the share of extractives in government revenues (REV%); and (2) the share of extractives in total exports (EXP%). See Lebdioui (2021) for justification and detail of the methodology and sources.

[14] Indonesia has a RESRV per capita indicator of 0.3–0.4. This does not mean that Indonesia does not possess high levels of mineral reserves, but that their value has to be shared with a large population.

Fig. 4.12 Indonesia MINDEX, 1997–2010–2016. *Source* Author's computation with data from Amir Lebdioui (2021)

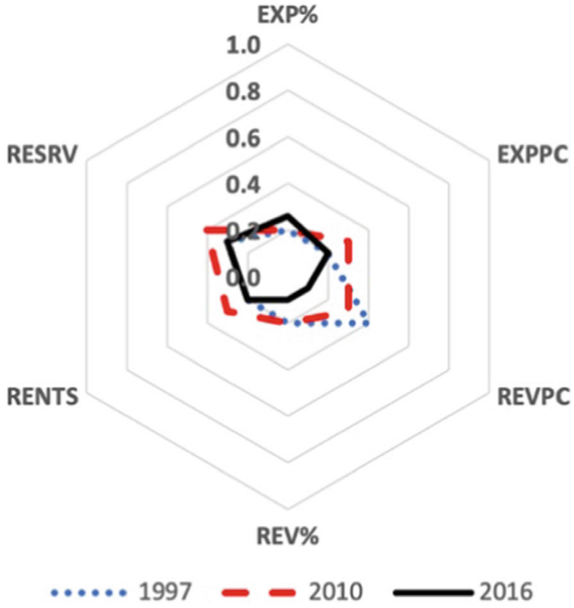
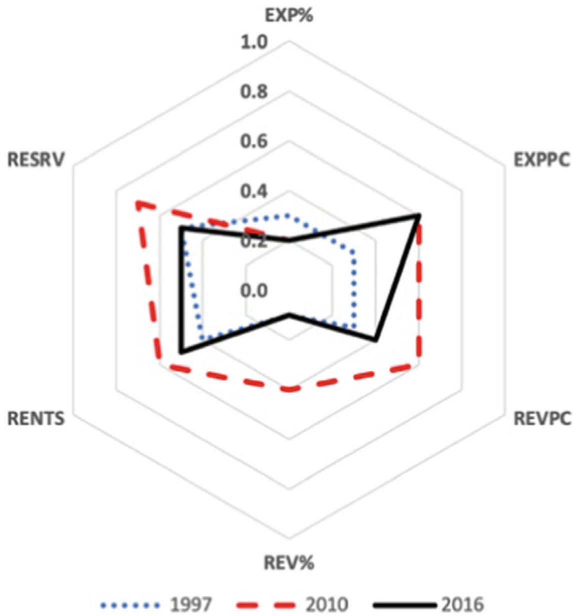


Fig. 4.13 Malaysia MINDEX, 1997–2010–2016. *Source* Author's computation with data from Amir Lebdioui (2021)



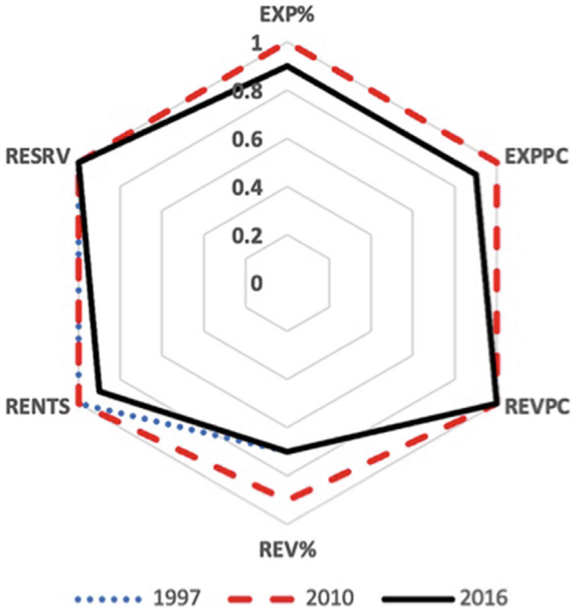


Fig. 4.14 Brunei Darussalam MINDEX, 1997–2010–2016. *Source* Author's computation with data from Amir Lebdioui (2021)

boom years (2010). The good news is that the high revenues Brunei gets from its resources mean that it can fund the needed economic diversification.

To assess progress regarding diversification from an international perspective, a widely used approach is utilised to observe the variety of the export basket. The United Nations Trade and Development (UNCTAD) provides an export diversification index (S_j) which is computed by 'measuring the absolute deviation of the trade structure of a country from world structure' using the following calculation where hij = share of product i in total exports or imports of country or country group j, and hi = share of product i in total world exports or imports:

$$S_j = \frac{\sum_i^n \left| h_{ij-h_i} \right|}{2}$$

The diversification index takes values between 0 and 1. A higher value indicates greater divergence from the world pattern, which is equal to 0.[15]

Brunei's economy is one of the least diversified economies in the world, much less compared to ASEAN, the Organization of the Petroleum Exporting Countries (OPEC) and high-income economies (Fig. 4.15). While ASEAN and OPEC countries' exports have become more diversified in 1995–2021, Brunei's export basket has remained basically the same, with a slight improvement in 2021. Compared to the GCC countries, Brunei shares the same low level of export diversification as Saudi Arabia and Qatar (Fig. 4.16). The diversification of the United Arab Emirates exports

[15] This index is a modified Finger–Kreinin measure of similarity in trade. See Finger and Kreinin (1979).

shows that there is no fatality for oil-rich countries and that they can successfully diversify their economies.

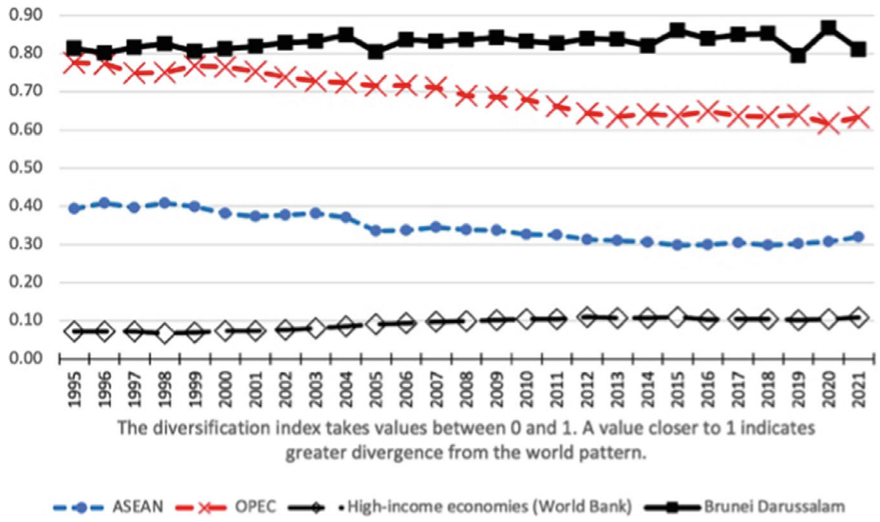


Fig. 4.15 Export diversification index of Brunei Darussalam and selected regions, 1995–2021. *Source* Author's computation with data from UNCTAD (2023)

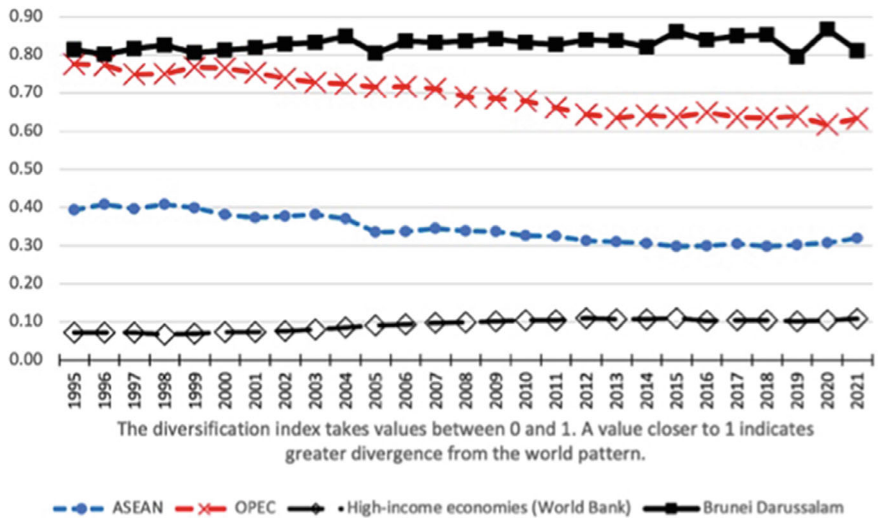


Fig. 4.16 Export diversification index of Brunei Darussalam and the Gulf countries, 1995–2021. *Source* Author's computation with data from UNCTAD (2023)

4.5 Conclusion

The first conclusion of our work is that the slow progress in economic diversification in Brunei cannot be explained by a single factor but by a combination of factors. Clearly, the state of the labour market, the private sector and the limited diversification of the economy are related phenomena. A second conclusion is that the success of diversification requires an overall policy that modifies the structure of incentives and unifies the various measures already adopted to attract foreign investment and local entrepreneurship.

Changing incentives must make working in the private sector as attractive as working in the public sector. For this, the income and benefits in the private sector must be as high as in the public sector. Several proposals have been made in this sense to increase labour mobility and flexibility and close the income gap (Koh 2020: 64–68; Hertog 2017: 6–14). The most innovative proposal addresses citizens' income: an unconditional cash grant to all citizens that would fill the wage gap between the public and private sector and serve as a basic income security during unemployment. This could be modulated to optimise a set of incentives. For instance, young entrepreneurs could receive a higher citizen income to reward their innovation efforts and secure their projects. This would encourage the creation of innovative small- and medium-sized enterprises (SMEs) in the private sector.

These changes in the labour market could be complemented by a comprehensive research and innovation policy to stimulate endogenous innovation. Developing a national innovation system would establish clear research clusters based on local research capacities in close collaboration with all institutions and entrepreneurs, particularly local SMEs (Jetin 2010). A proposal for implementing the concept of a national innovation system in the Bruneian context has already been made (Amirul et al. 2022). This would help the implementation of the long-term NDP called Wawasan Brunei 2035 (Brunei Vision 2035) that was adopted in 2007 with mixed success (CSPS 2024: 35).[16] A national innovation system also has the potential to foster other clusters.

One such research cluster would be to make the most of natural resources (apart from oil and gas), such as biodiversity and the existence of unique plant and animal species. By becoming a sanctuary for animal and plant species often endangered in the rest of the world, Brunei could develop a set of innovations in the field of environmental protection, develop medicinal and health applications, and attract foreign investment in the green economy and ecological tourism aimed at quality rather than quantity, like Bhutan does. This has an additional advantage of promoting a positive image of Brunei at the global level and strengthening Brunei's soft power.

Another research cluster could be energy transition. Several oil and gas-rich countries and oil companies are preparing the net-zero emission target and its impact

[16] Wawasan Brunei 2035 has selected the following clusters: energy and downstream activities; high technology and information and communication technology (ICT); tourism and hospitality; agrifood and *halal*; logistics and transport; and business and financial services. Recently, biotechnology, pharmaceuticals and the creative industries have been added.

on fossil fuel production and demand by investing heavily in renewable energy. Like other ASEAN member states, Brunei has signed the Paris Agreement and is committed to reaching the target. Brunei could make a virtue of necessity and become a leader in energy transition by investing massively in renewable energies, particularly solar energy, for individual and collective dwellings. There is a whole set of niche markets for producing, storing and delivering decentralised electricity. The use of the electric battery to store energy and develop local electrical circuits is one of the niches that correspond to real needs in Southeast Asia.

Brunei could also make the most of its small size by becoming a leading country in autonomous electric vehicles. The electric car is becoming a mass market in connection with the Paris Agreement and the energy transition (Jetin 2020). Brunei has one of the highest automobile densities in the world, which causes transport congestion and high levels of pollution. At the same time, car traffic is very regular, predictable and much safer than in many countries. These are ideal characteristics to make Brunei a pioneer in the field of autonomous electric vehicles, not only for private cars but also for autonomous low-speed public transport. As for the previous clusters, the activities related to mobility require a strong intensity in research and development, not only in engineering but also in social sciences. This could mobilise the universities of Brunei in partnership with foreign universities and likely attract numerous investments from foreign companies.

Ultimately, Brunei is well positioned to become a place where Southeast Asian students at primary, secondary and tertiary levels can become fluent in English and learn in the region's best international schools and universities. Brunei is obviously much closer to other countries in the region than Australia and New Zealand, not to mention Britain or the United States, and can be a cheaper alternative to Singapore for Asian students who want to learn in an English-speaking environment. English is one of the languages spoken in Brunei and teaching is one of the most preferred occupations of Bruneian female workers. By joining forces with Bruneian universities and the best international schools, Brunei has a vast potential to become a centre of excellence for learning in English in a safe environment. This would create many qualified and well-paid jobs with spillover effects on other services, from food to telecommunications.

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Chapter 5
Financial Sector Development in Brunei Darussalam: Trends, Prospects and Challenges

Biswa Nath Bhattacharyay

Abstract This chapter examines the trends in the financial sector development of Brunei Darussalam during the 2014–2018 period based on 24 indicators measuring depth/intermediation, financial access and financial inclusion and efficiency. It analyses these indicators in comparison with its peers among Association of Southeast Asian Nations (ASEAN) and Gulf Cooperation Council (GCC) countries. It also discusses the major prospects and challenges faced by the financial sector and provides salient policy recommendations. As part of the processes of globalisation and regional integration, the financial sector in Asia has also experienced increased integration and flows of cross-border funds. The financial sector in Brunei is at a developmental stage, though it is institutionally strong with the presence of both Islamic and conventional banks and other financial institutions. Brunei Darussalam Central Bank is slowly working to create a fully functional capital market, a must in order to compete with regional financial markets. Launched in 2016, the Financial Sector Blueprint 2016–2025 provides a roadmap and strategic framework to develop Brunei's financial services sector into one of Asia's most competitive and innovative hubs. The successful implementation of the roadmap will help achieve the objectives of Wawasan Brunei 2035 (Brunei Vision 2013), the country's overarching development strategy, to diversify the economy. The chapter argues that the Regional Comprehensive Economic Partnership (RCEP) agreement will further enhance economic integration and the growth of the region, including the financial sectors of the participating member countries such as Brunei.

This paper was written in 2021 and most of the numbers and discussion refer to data and policies relevant to the time period up to that date. Readers may refer to the Brunei Darussalam Central Bank (BDCB) website for the latest information and change of policies, as well as some restructuring of the bank (previously known as Autoriti Monetari Brunei Darussalam, AMBD) that took place in June 2021 (https://www.bdcb.gov.bn/).

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Keywords Brunei Darussalam · Brunei Darussalam Central Bank · Regional integration · Financial sector development · Financial technology · Islamic banks · Islamic financial hub

5.1 Introduction

During the past three decades many countries in Asia, including Brunei Darussalam, have integrated significantly with major world markets through the formation of more intensive trade and investment linkages. Most Asian economies, particularly those in East Asia, have done so through an economic development strategy based on export orientation and integration into international value chains and production networks. As a consequence, Asian financial sectors have also experienced increased integration and flows of cross-border funds. Though this rapid integration has produced enormous benefits, it has caused economic and financial instability and even crises through contagion effects and instability originating in other regions of the world economy. Coherent and sustainable financial sector development can play a critical role in facilitating the economic growth and welfare of a country. By contrast, financial sector instability or vulnerability can significantly deter growth and cause major disruptions.

Brunei is an open economy with a small geographic area and population and so its financial sector is also modest in size. However, its financial sector is still strong with the presence of Islamic and conventional banks, insurance companies, investment management and advisory companies, and foreign financial institutions. The Islamic bank and trust fund accounted for 65.1% of total assets, 65.6% of deposits and 60.8% of loans/financing in the banking sector in 2019 (AMBD 2019c: 5). This is a distinguishing feature that makes Brunei's banking sector unique in Asia. The banking sector has been going through some significant changes over the past two decades, such as the consolidation of banks since 2005 leading to fewer strong banks and the exit of some international banks. At present, the banking sector is sound and resilient, with high levels of liquidity, sound capital adequacy ratios (CARs) and manageable levels of non-performing loans (NPLs).

Households and businesses are highly dependent on the banking sector for financing, hence this sector accounted for 83.3% of the financial sector's total assets. There is a need to develop a bond or stock market for alternative financing. Brunei is also developing a securities or stock market. This will promote regional integration with other Association of Southeast Asian Nations (ASEAN) and Regional Comprehensive Economic Partnership (RCEP) economies and financial markets, as well as facilitate more local and foreign investment opportunities.

The overall health of Brunei's economy is explained by its robust institutions. The Brunei Currency Board was established on 12 June 1967 for the supervision of the financial sector and management of the Brunei dollar as the new currency replacing the Malaya and British Borneo dollar. On 1 February 2004 the board was dissolved and rechartered under the Brunei Currency and Monetary Board. In 2011 this was replaced by the Autoriti Monetari Brunei Darussalam (AMBD, Monetary Authority of Brunei Darussalam), which was in turn renamed the Brunei Darussalam Central Bank (BDCB) on 26 June 2021.

Regarding national policies and strategies, in 2016 the AMBD published the Financial Sector Blueprint 2016–2025 (FSBP), a roadmap and strategic framework to develop Brunei's financial services sector into one of Asia's most competitive and innovative hubs. The successful implementation of this roadmap will help achieve the objectives of Brunei's long-term development plan known as Wawasan Brunei 2035 (Brunei Vision 2035), which aims to diversify the economy away from the oil and gas sector by placing greater emphasis on the development of local businesses. The FSBP specifically supports Wawasan Brunei 2035's third goal of transforming Brunei into a dynamic and sustainable economy that delivers a level of income per capita within the top 10 nations in the world.

In recent years the world economy and financial markets have faced several major risks including: (1) volatile and low oil and gas prices; (2) the trade war between the United States and China; (3) elevated risks for emerging market economies and their financial markets; (4) a disorderly Brexit deal involving Britain and the European Union; (5) the continuous tightening of US interest rates and fall of major international and emerging market currencies against US dollar; (6) a slowdown in global economic growth, particularly in China, Germany and Italy; (7) vulnerability in the European banking sector; and (8) weak global stock markets and continued geopolitical tensions, particularly in the Middle East and Ukraine. These risks have made the global economy and financial markets vulnerable. In addition, in 2020 the world economy was severely affected by the COVID-19 pandemic. As a result, the global economy contracted by 3.4% in 2020, compared to a mere 0.1% decline in 2009 during the global financial crisis. ASEAN economies experienced a contraction of 3.3% in 2020—the first economic contraction in 22 years—compared to the 7.6% expansion in 2009 and average annual growth of 7% in the previous decade (IMF 2020; ERIA 2022). Asian economies and their financial sectors are facing downside risk, particularly increased credit default risk, decreased credit demand and low profitability in the near future.

Concerning trade agreements in Asia, on 14 November 2020 Australia, New Zealand, China, Japan, South Korea and the 10 member states of ASEAN, including Brunei, signed the Regional Comprehensive Economic Partnership (RCEP). On 2 June 2023 the RCEP agreement took effect for all member countries. This agreement is the largest trade bloc in history, covering 2.2 billion people with a combined GDP of USD29.7 trillion (30% of global GDP). It is expected to boost pandemic-weakened economies by reducing tariffs, strengthening supply chains with common rules of origin and codifying new e-commerce rules among others. The major benefits of this agreement include a tariff elimination of at least 92% on traded goods among participating countries, as well as stronger provisions to address non-tariff measures and enhancements in areas which include online consumer and personal information protection, transparency and paperless trading (Heijmans and Nguyen 2020). The RCEP is expected to enhance economic integration and growth, increasing integration among the financial sectors of the participating countries. This will bring more opportunities and benefits for Brunei's economy and financial sector. The effective implementation of RCEP goals together with ASEAN goals would bring increased financial integration, financial inclusion and financial stability to this region. However, as the financial sectors become more integrated in this region and wider trade bloc, this may create challenges such as increased vulnerability and instability, and the transmission of instability from one member country to another through the contagion effect.

To reap the maximum benefits of the RCEP, the region and its individual member states, including Brunei, need to:

1. Strengthen regional and domestic financial market infrastructure development;
2. Extend cross-border reach and connectivity;
3. Promote interoperability and standardisation;
4. Enhance cybersecurity and data protection;
5. Monitor and conduct macro-prudential surveillance of the economy and financial sector;
6. Extend of distribution channels;
7. Deepen and interlink the financial sector, including the banking sector and capital markets, across the region;
8. Develop cost-effective information and communication technology (ICT) and its infrastructure;
9. Establish strong connectivity in terms of domestic and cross-border infrastructure;
10. Strengthen analytical and compliance capabilities across the region.

In light of these circumstances, it is of utmost importance to examine the trends in Brunei's financial sector development and the emerging prospects and challenges faced by the sector. This chapter mainly focuses on the banking sector as it accounts for a large portion (82.5%) of Brunei's total financial system assets. Section 5.2 examines the role of the financial sector in economic development and financial stability, and summarises findings of the literature on the relationship between financial sector development and economic growth. Section 5.3 discusses policies and strategies for financial sector development in Brunei. Section 5.4 presents the structure of the financial sector of Brunei. Based on 24 indicators, financial sector development in 2014–2018 (as per the availability of data) is analysed in Sect. 5.5 in terms of depth/intermediation, financial access, financial inclusion and efficiency. Section 5.6 shows the major prospects and challenges faced by the banking sector, and provides recommendations to utilise the prospects and address the challenges. The last section provides concluding remarks.

5.2 The Role of the Financial Sector in Economic Development and Financial Stability

The major goals of the financial sector, particularly the banking sector, include the promotion of monetary and financial stability and financial access conducive to sustainable economic growth. In this regard, banks play an important role in creating a progressive, efficient and inclusive financial sector. By ensuring continuous financial stability and providing adequate financing to businesses and households through effective, inclusive and efficient financial intermediation, banks can promote economic growth and development. In order to assess the financial stability of a country, there is a need to define financial stability and instability. However, there is no universally accepted definition of what constitutes financial vulnerability or stress. Financial stress occurs when the financial sector is under strain and its ability to intermediate may be impaired. The stress is usually associated with internal and external imbalances, and characterised by:

1. Large shifts in asset prices, such as some financial institutions or assets suddenly losing a large part of their value;
2. An abrupt increase in financial risk/uncertainty;
3. Abrupt shifts in liquidity situation, such as increased liquidity risk;
4. Sudden weakness in the health of the banking system or in major banks, such as increased credit risks and capital adequacy risk. (Bhattacharyay 2009)

Many studies have concluded that financial sector development plays an important role in enhancing economic growth, strengthening resilience and promoting monetary and financial stability. The literature has established that there is a two-way relationship between financial sector development and economic growth, as measured by the level of per capita income. Increased financial sector development may cause higher economic growth. On the other hand, the growth of the real economy can also lead to the growth of the financial sector as demand for financial services grows from the real sector. Ratna Sahay et al. (2015) provide a detailed literature review of theoretical and empirical studies on the subject. The conclusions of selected major studies on the relationship between the development of the financial sector and economic growth are presented in Table 5.1.

Financial sector development usually enhances a country's resilience, stability and economic growth. However, trade-offs between economic growth and financial stability may arise. A large number of theoretical and empirical studies find that financial sector development can produce benefits through mobilising savings, facilitating increased information sharing and better resource allocation, and promoting diversification and management of various risks. A deep and liquid financial sector can strengthen financial stability with diverse financial instruments and assist in strengthening resilience to external and internal shocks. However, at high levels of financial sector development, there could be situations when there is 'too much easy finance'. In this situation, the costs are more significant than the benefits of financial sector development (ibid.).

Table 5.1 Main findings of literature review on the relationship between the development of the financial sector and economic growth

Author (date)	Objective of the paper	Main conclusions/findings
Sahay et al. (2015)	• To explore the effects of finance or financial sector development on economic growth • To examine if growth and stability can be obtained from further financial sector development in most emerging market economies using a new, broad measure of financial sector development • To conduct an empirical analysis on the relationship between financial sector development and economic growth based on a sample of 128 countries	• Sizeable impacts of improved financial intermediation on aggregate productivity and income • Effect of financial development on economic growth is bell-shaped as it reduces at higher levels of financial sector development. This reduction effect originates from financial deepening rather than from greater access or higher efficiency and reflects mainly the impact of financial deepening on total factor productivity growth, instead of on capital accumulation • When the pace of financial development progresses rapidly, deepening financial institutions may create economic and financial instability. It promotes greater risk-taking and high leverage, in the case of poor regulation and supervision • There is a small subset of many existing regulatory principles which is critical for financial development and stability. This implies that there is little to no conflict between promoting financial stability and financial development
Aizenman et al. (2015)	• To study the relationship between financial sector development and growth using the sector-level data of 41 economies	• Financial sector development caused a rise in growth, but only up to a point, beyond which additional financial deepening could actually reduce growth
Barajas et al. (2013), Nili and Rastad (2007), Khan et al. (2001)	• To study the empirical relationship between financial sector development and economic growth across countries in various regions	• The contribution of financial development to growth differs across regions, countries and income levels. This indicates that general results cannot be applied to any country
Levine (2005)	• To review theoretical models explaining the impact of financial sector development on economic growth based on endogenous growth and various functions of the financial sector	• Theoretical models show that major channels through which finance is expected to impact economic growth include: producing information; allocating capital to productive uses; monitoring investments and exerting corporate control; facilitating trading, diversification and management of risk; mobilising and pooling savings; and easing the exchange of goods and services

(continued)

Table 5.1 (continued)

Author (date)	Objective of the paper	Main conclusions/findings
King and Levine (1993)	• To undertake the first cross-country regression analysis to test the causality from the initial level of the financial depth (size of the assets of the banking sector relative to GDP) to economic growth, controlling for other explanatory variables	• Finds empirical evidence that financial deepening enhances economic growth, whereas financial institutions and markets assist in better financial intermediation and resource allocation • The diversification and management of risk enhance financial stability to the extent that deep and liquid financial systems with diverse financial instruments facilitate the mitigation of the impact of shocks
McKinnon (1973), Shaw (1973)	• To study the role of the financial sector in promoting economic growth	• Argues that obstacles to financial development (such as financial repression) are expected to adversely impact growth by limiting the amount of savings that could be mobilised for investment purposes, and by preventing financial intermediation from channelling these resources into the most productive activities in the economy
Gole and Sun (2013)	• To empirically examine the potential relationships between financial structures and economic outcomes	• Certain financial intermediation structures are expected to be more closely related to positive economic outcomes than others • Protective financial buffers within financial institutions are associated with improved economic performance, and a financial sector dominated by non-traditional bank intermediation or foreign banks has in some cases been associated with adverse economic outcomes, especially during financial crises • Positive relationships between financial buffers and economic growth may weaken above a certain relatively high threshold—a too-safe system may limit the available funds for credit and hence reduce economic growth

Source Ratna Sahay et al. (2015)

If financial instability persists for a long period, it can cause a financial crisis, as evidenced by the 1982 and 1994 Mexican and Latin American crises, the 1990s Asian and Russian crises, and the 2008 global financial crisis (Bhattacharyay 2009). The COVID-19 pandemic, which started in early 2020, caused serious instability in the financial sectors worldwide. It is therefore of utmost importance to examine the resilience and stability of a country at this juncture. In order to analyse this against domestic and external shocks, there is a need for a comprehensive and in-depth assessment of a country's financial sector and financial sector development, particularly in terms of depth, access, financial inclusion and efficiency.

5.3 Policies and Strategies for Financial Sector Development

In recent years, the government of Brunei has adopted several policies, strategies and reforms to develop the financial sector through long-term economic and financial sector development plans. For example, Wawasan Brunei 2035 is Brunei's long-term economic plan (see Chap. 1), while the FSBP 2016–2025 is a long-term financial sector development strategy aimed to help achieve the objectives of that plan, including enhancing Brunei's financial services sector into one of Asia's most competitive and innovative hubs. As a result, utilising large opportunities and based on the strength of Asia (the world's fastest-growing region), the financial sector's contribution to GDP is expected to increase to 8% in 2025 from 6% in 2015 (AMBD 2017b). The five pillars of the FSBP are:

1. Monetary and financial stability;
2. Competitive and innovative financial institutions and services;
3. Robust and modern infrastructure;
4. Enhanced international integration;
5. Human capital development.

The FSBP's long-term vision for the role of the financial sector includes:

1. Financial services as an enabler for growth;
2. Provider of niche financial services;
3. Competitive and innovative financial institutions and services;
4. Development of a supportive ecosystem;
5. Shift from government dependence to self-reliance.

The specific targets of the FSBP are:

1. Creation of a Brunei Association of Banks (BAB) business forum;
2. BAB participation in the ASEAN Banking Council;
3. Development of the small- and medium-sized enterprise (SME) sector;
4. Enabling and increasing financial literacy in the country and increasing public awareness on important issues. (BDCB n.d.)

To achieve these goals, it is necessary to maintain the stability, resilience and continuous development and modernisation of Brunei's financial sector. In light of this, the Central Bank (and formerly the AMBD) is developing and implementing an effective framework to monitor financial stability. As a result, one of the recommendations of the FSBP is in the area of macro-prudential policy: 'AMBD will continue to monitor international practices in the use of macro-prudential policy, with a view, judiciously, to use macro-prudential tools to influence the rate of expansion in the financial sector, where that is considered necessary to maintain macro financial and monetary stability' (AMBD 2016a: 34).

In addition to regulating the financial sector, the Central Bank also manages monetary policy, including the Currency Interchangeability Agreement (CIA) 1967 with Singapore, under which the Bruneian dollar is interchangeable at par with the Singapore dollar (AMBD 2017b; BDCB 2024a). The Singapore currency is accepted in Brunei and vice versa, with the Central Bank charged with maintaining parity between the two currencies. The monetary policy framework in Brunei is based on a currency board system with the Brunei dollar pegged to the Singapore dollar at par.

Under the CIA, the currency board under the Central Bank backs up the total amount of currency issued in the economy with an equivalent amount held in its reserves. As per the Currency and Monetary Order 2004, only the Central Bank can issue Brunei notes and coins, and the Central Bank needs to back up every note and coin issued with foreign exchange reserves to maintain confidence and stability in the Brunei dollar, thus promoting trade and investment. Due to the CIA, the policy of the Monetary Authority of Singapore determines the monetary conditions in Brunei. Instead of an interest rate policy, Singapore uses the management of the exchange rate as its monetary policy tool. Singapore's monetary policy has been effective for the macroeconomic stability of Brunei because its inflation has been low and stable, averaging 1.1% in 1983–2018. Consequently, the Brunei dollar is effectively managed by the Monetary Authority of Singapore through the management of the Singapore dollar. Pegging the Brunei dollar to the Singapore dollar is appropriate, providing a credible monetary anchor and stability to the financial sector. There are no exchange controls or forward markets for foreign exchange in Brunei.

5.4 Structure of the Financial Sector

Financial sectors include banks, non-bank financial institutions, and stock and bond markets. Brunei's financial sector consists of a dual financial system: domestic Islamic and conventional financial institutions, and foreign/international financial institutions. There are both Islamic and conventional banks, insurance and financing companies. Islamic financing institutions were dominant players accounting for a major portion (61%) of total financial assets as of 2017.

The main professional body of banks in Brunei is the BAB, which 'provides for the orderly conduct of banking business and activities in Brunei Darussalam … to protect and serve the best interest of its customers with improved and more transparent services and regulations' (BAB n.d.). The BAB accomplishes this by:

1. Acting as a platform for discussion with timely framing of rules to guide member banks;
2. Supporting the policies and initiatives set out by the Central Bank and other best practices;

3. Collaboration with similar bodies and other related stakeholders, both locally and internationally. (ibid.)

Meanwhile, the main professional body for the *takaful*/insurance sector is the Brunei Insurance and Takaful Association (BITA), which has both Islamic and conventional members. The objectives of BITA are to:

1. Lobby on behalf of the sector's *takaful* and insurance companies;
2. Promote the industry to the public;
3. Work to ensure best practices and common standards among members.

The central regulatory authority for the financial sector is the Central Bank (formerly AMBD). As per the Autoriti Monetari Brunei Darussalam Order 2010, it was established as a statutory corporate body and its major objectives are:

1. To achieve and maintain domestic price stability;
2. To ensure the stability of the financial system, in particular by formulating financial regulations and prudential standards;
3. To assist in the establishment and functioning of efficient payment systems and to oversee them;
4. To foster and develop a sound and progressive financial services sector. (AGC 2010)

In addition to the Central Bank (formerly AMBD), the Brunei Darussalam Deposit Protection Corporation (BDPC) was established in 2011 under the Deposit Protection Order 2010 to administer a deposit protection scheme. The objective of the BDPC is to protect depositors against the loss of their deposits in the unlikely event the member institution (banks/finance companies) is unable to meet its obligations to depositors. Under this scheme, the losses of deposits are limited to BND50,000 per depositor per member institution. The major functions of BDPC are:

1. To administer a deposit protection scheme for the member institutions;
2. To provide protection against the loss of part or all of the deposits of a member institution;
3. To provide incentives for sound risk management in the financial system;
4. To promote or contribute to the stability of the financial system. (MoFE 2023)

Furthermore, since 2006 Brunei has had a Syariah Financial Supervisory Board which oversees issues of *syariah* compliance across Islamic financial institutions. The Centre for Islamic Banking, Finance and Management (CIBFM) was also established as an education and training arm of the AMBD to improve the standards of professionalism and innovation in the Islamic financial sector.

For better access to credit information, the Credit Bureau was established in 2012 under the AMBD to collate information on the creditworthiness of loan applicants. The statistics provided by the bureau facilitate the Central Bank (formerly the AMBD) to monitor the health of the borrower and the amount of credit being extended. The objective of the bureau is to collect credit information from various sources and provide member banks and other institutions with references for each borrower. In 2018 the AMBD introduced a credit scoring system that promotes better financing conditions by assisting lenders to better price credit risks. The provision of consumer and commercial credit scores to banks and other financial institutions can assist them to better assess the credit risk of corporate and household borrowers, thus enhancing the sector's financial stability (AMBD 2019a).

There are four components of the financial sector: banking, non-banking, investment management and advisory companies, and money charger and money remittance businesses. The non-bank financial sector comprises insurance sector conventional and Islamic insurance companies, conventional financing companies and Islamic financing companies. At present, the Bruneian financial sector consists of:

1. Seven conventional commercial banks: four regional/foreign banks, one international bank and two local or domestic banks (one with restricted licence);
2. One Islamic bank;
3. One Islamic trust fund undertaking banking activities;
4. One Islamic SME bank;
5. Two financing companies, one conventional and one Islamic, both wholly owned subsidiaries of two domestic banks;
6. Twelve insurance companies: four Islamic and eight conventional;
7. Twenty-two money changers and 19 money remittance businesses;
8. Six offices of regional and international banks and other companies for asset/ investment management, investment advisory and corporate banking purposes only.

Other foreign banks also have local offices for asset management and corporate banking activities. For example, Malaysia's Commerce International Merchant Bankers (CIMB), France's BNP Paribas and Singapore's United Overseas Bank (UOB) Asset Management.

Brunei does not currently have a stock and a bond market, but the Ministry of Finance and Economy is spearheading a project to establish a stock exchange. In March 2020 the second finance and economic minister informed the Legislative Council that work was ongoing to establish Brunei's stock exchange, including the identification of companies to be listed initially. The minister affirmed that the establishment of the stock exchange would facilitate economic growth and business development by advancing and diversifying access to alternative financing (other than bank loans) for businesses in Brunei. An active and developed stock market would promote more business opportunities with other stock exchanges in the ASEAN region. He mentioned that the stock market will adopt best practices and international standards to enable interconnectivity with global financial markets and to bring in international investors and businesses. The activities below are being pursued by relevant agencies to implement the stock exchange:

1. Strengthening existing legislation such as the Companies Act, Securities Market Order and Securities Market Regulation;
2. Disseminating information on the capital market ecosystem to stakeholders;
3. Preparing listing and trading rules;

4. Allocating a BND414 million budget for the formation of the stock exchange and related infrastructure, technology and socioeconomic studies. (Nabilah 2020)

The regulatory foundations for Brunei's first stock market are expected to be completed soon, although there is no timeline for the launch of the stock market (Analisa 2023).

There have also been some major changes in the structure of Brunei's financial sector. For example, the merger of the Islamic Bank of Brunei and the Islamic Development Bank of Brunei to form Bank Islam Brunei Darussalam (BIBD) in 2005. On the other hand, two international banks exited Brunei: US-based Citibank left in March 2014 after 41 years; and the Hongkong and Shanghai Banking Corporation (HSBC) left in 2017 after 70 years, leaving behind its 500 employees and nine branches, as well as HSBC Finance (Brunei) which is a subsidiary of HSBC Holdings for car hire purchase. UOB also sold its retail banking division, including all assets and retail banking services, to the local Baiduri Bank on 20 October 2015.

Moreover, there was a closing of international offshore activities: no banks are licensed under the International Banking Order 2000; the Royal Bank of Canada surrendered its restricted banking licence in October 2016; and the last international offshore bank, Sun Hung Kai International (Brunei), exited in July 2017. A notice issued on 22 December 2016 ordered all offshore companies registered or licensed in Brunei to wind up and move to other jurisdictions no later than 24 December 2017. The main objective of this policy was to decrease the risk of money laundering and financing of terrorism.

Several investment, asset management and advisory companies also closed their businesses in Brunei, such as AmCapital and Amundi Asset Management. One final change is that the Bank of China (Hong Kong) opened its first branch in Brunei in December 2016. The structure of the banking sector remained unchanged in 2019 with eight full-fledged banks, including one Islamic bank, one Islamic trust fund, one restricted banking licence and one Islamic SME bank (BDCB 2024b). Table 5.2 presents the structure of the financial sector in Brunei, namely banks, financing and insurance companies, and investment management and advisory companies as of 2020.

5.5 Trends in the Development of the Banking Sector

This section uses multiple indicators to examine the trends in the development of Brunei's banking sector from 2014 to 2018. A country's financial development can be defined as a combination of:

1. Depth: the size and liquidity of financial markets;
2. Access and financial inclusion: the ability of individuals and companies to access financial services;
3. Efficiency: the ability of financial institutions to provide financial services at low costs and with sustainable revenues, and the level of activity of capital markets. (IMF 2019)

Table 5.2 Brunei Darussalam: Structure of the financial sector, 2020

Name	Type	Date of establishment	Country of incorporation, type of entity	Number of branches
Local/domestic banks				
Baiduri Bank	Conventional commercial bank	January 1993	Brunei, incorporated under Companies Act	13 branches including headquarters
Bank Islam Brunei Darussalam	Islamic bank	February 2005	Brunei, body corporate	15 branches including headquarters
Perbadanan Tabung Amanah Islam Brunei (TAIB)	Islamic trust fund undertaking banking business	October 1991	Brunei, body corporate	8 branches including headquarters
Regional and international banks				
RHB Bank	Conventional commercial bank	1964	Malaysia, registered under Companies Act	1 headquarters/ branch
Standard Chartered Bank	Conventional commercial bank	April 1958	United Kingdom, registered under Companies Act	7 branches including headquarters
State Street (Brunei) (restricted banking licence)	Conventional commercial bank undertaking custodian service in Brunei	2011	Brunei, incorporated under Companies Act	1 headquarters/ branch
United Overseas Bank	Conventional commercial bank undertaking corporate banking in Brunei	1974	Singapore, registered under Companies Act	1 headquarters/ branch
Bank of China (Hong Kong)	Conventional commercial bank	April 2016	Hong Kong, registered under Companies Act	1 headquarters/ branch
Malayan Banking Berhad	Conventional commercial bank	1960	Malaysia, registered under Companies Act	2 branches including headquarters
Bank Usahawan	Islamic bank undertaking financing to micro, small and medium enterprise (MSME) only	2017	Brunei, incorporated under Companies Act	3 branches including headquarters

(continued)

Table 5.2 (continued)

Name	Type	Date of establishment	Country of incorporation, type of entity	Number of branches
Non-bank financing companies				
Baiduri Finance	Conventional finance company	1996	Brunei, incorporated under Companies Act	2 branches including headquarters
Bank Islam Brunei Darussalam At-Tamwil	Islamic finance company	2005	Brunei, incorporated under Companies Act	2 branches including headquarters
Investment management and advisory companies				
CIMB Investment Bank	Investment adviser		Malaysia, registered under Companies Act	1 branch
BNP Paribas Asset Management	Investment adviser		France, registered under Companies Act	1 branch
UOB Asset Management	Investment management and adviser		Singapore, registered under Companies Act	1 branch
Lion Global Investors (subsidiary of the Oversea-Chinese Banking Corporation Group)	Investment adviser, a *syariah*-compliant private equity firm	2008	Singapore, registered under Companies Act	1 branch
SBI (B)	Investment adviser		Brunei incorporated under Companies Act	1 branch
Seri Venture Capital Management	Investment adviser		Brunei, incorporated under Companies Act	1 branch
Insurance sector				
Name of the *takaful*/insurance company	Classification	Date of establishment	Relation to other companies	Country of incorporation and type of entity
AIA Brunei	Life insurer	11 July 1923 (registered on 7 February 2007)	Branch of AIA Group	Hong Kong

(continued)

Table 5.2 (continued)

Insurance sector				
Name of the *takaful*/insurance company	Classification	Date of establishment	Relation to other companies	Country of incorporation and type of entity
Audley Insurance	General insurer	30 October 1996 (registered on 7 February 2007)	Subsidiary of Brunei Investment Agency	Brunei
Great Eastern Life Assurance	Life insurer	19 March 1975 (registered on 19 May 2009)	Subsidiary of Great Eastern Holdings	Singapore
Insurans Islam TAIB Family Takaful	Family *takaful* insurer	30 July 2013	Subsidiary of TAIB	Brunei
Insurans Islam TAIB General Takaful	General *takaful* insurer	30 July 2013	Subsidiary of TAIB	Brunei
MBA Insurance	General insurer	25 April 2007		Brunei
National Insurance	General insurer	24 December 1969 (registered on 23 June 2007)		Brunei
Standard Insurance	General insurer	1995 (registered on 17 July 2010)		Brunei
Takaful Brunei Am	General *takaful* insurer	22 February 2002 (registered on 18 October 2012)	Subsidiary of Takaful Brunei	Brunei
Takaful Brunei Keluarga	Family *takaful* insurer	22 February 2002 (registered on 18 October 2012)	Subsidiary of Takaful Brunei	Brunei
Tokio Marine Insurance Singapore	General insurer	11 July 1923 (registered on 11 March 2009)	Branch of Tokio Marine Singapore	Singapore
Tokio Marine Life Insurance Singapore	Life insurer	21 May 1948 (registered on 22 November 2010)	Branch of Tokio Marine Singapore	Singapore

Source AMBD (2017b, 2020)

As Brunei does not have a bond or stock market and the banking sector accounts for 83.3% of the financial sector's assets, this section focuses on banking sector development. However, analysis of the ratio of bond financing to GDP and stock market capitalisation to GDP can reveal the adequacy of a country's bond and stock market to the size of its economy.

Establishing a causality relationship empirically from financial sector development to economic growth remains challenging**.** A majority of the empirical literature since the 1970s uses the ratio of private credit to GDP and, to a lesser extent, stock market capitalisation as a ratio to GDP as proxies of financial sector development. However, in view of the diversity and heterogeneity of financial sectors across countries worldwide, there is a need to use multiple indicators to measure the level of financial sector development (Sahay et al. 2015).

Based on the availability of the time series data during 2014–2018 on the banking sector of Brunei, the following 24 indicators are considered to examine the trends in the development of the banking sector in terms of depth, financial access, financial inclusions and efficiency. These indicators are presented below in percentage (%) or percentage changes year-on-year (y-o-y). Nine indicators are used to assess the depth of the banking sector:

1. Asset and its percentage change (y-o-y)
2. Assets/nominal GDP (%)
3. Deposits and their percentage change (y-o-y)
4. Deposits/nominal GDP (%)
5. Credit and its percentage change (y-o-y)
6. Credit/nominal GDP (%)
7. Private sector credit and its percentage change (y-o-y)
8. Private sector credit/nominal GDP (%)
9. Credit to deposits ratio (%)

Domestic credit/financing to the private sector refers to financial resources provided to the sector, such as through loans, purchases of non-equity securities, trade credits and other accounts receivable. Meanwhile, 10 indicators are used to consider the financial access and financial inclusion of the banking sector:

1. Number of deposit accounts
2. Number of deposit accounts per 1,000 adults
3. Number of loan/financing accounts
4. Number of credit/financing accounts per 1,000 adults
5. Number of accounts per 1,000 adults
6. Number of banks
7. Number of bank branches per 100,000 adult population
8. Number of bank branches per 1,000 km^2
9. Number of automated teller machines (ATMs)
10. Number of ATMs per 100,000 adult population

The efficiency of the banking sector is considered by:

1. Return on assets
2. Return on equity
3. Non-interest expense to gross income (efficiency ratio)
4. Net interest margin
5. Lending–deposits spread

5.5.1 Trends in the Depth of the Banking Sector

Brunei witnessed a significant contraction in the economy as measured by nominal GDP in 2014–2018 and moderate growth in 2017–2018. As a result, per capita GDP (at current prices) declined by 22.2% (from BND53,149 in 2014 to BND41,367 in 2018). These contractions affected the financial sector's development. With the second highest GDP per capita among all ASEAN countries, Brunei remains one of the most advanced economies in the Southeast Asian region.

Table 5.3 presents trends in the depth of Brunei's banking sector in 2014–2018. One of the four major findings of the analysis is that the banking sector's depth and intermediation remained lower throughout the study period compared to most ASEAN and Gulf Cooperation Council (GCC) countries, as reflected in low asset, deposit and loans/financing, the credit to private sector ratio relative to nominal GDP and credit to deposit ratio. Second, the bank asset to GDP ratio was comparatively low at 86% in 2014 and 114% in 2016, with a contraction in the total volume of assets in 2014, 2015 and 2017. In 2017 the indicator was 104.4% compared to Singapore (151.7%), Qatar (150%), Thailand (139%), Vietnam (137.4%), Malaysia (131.9%), United Arab Emirates (UAE) (109.7%) and Kuwait (108.6%) (Global Economy 2024e). Third, in terms of deposit mobilisation, bank performance has been modest as the deposit to GDP ratio ranged between 74% in 2014 and 96% in 2016, with a contraction in the total volume of deposits in 2014, 2015 and 2017. This ratio was 83.8% in 2017, lower than Thailand (126.1%), Singapore (121.6%), Malaysia (113.4%), Kuwait (95.3%) and Qatar (88.5%). Fourth, the performance of banks in Brunei in terms of depth and intermediation has been weak and limited compared to ASEAN and GCC countries. This is reflected by:

1. Very low credit/financing to GDP ratio (from 26% in 2014 to 34% in 2015), with contraction in volume of credit in 2016 and 2017;
2. Very low private credit/financing to GDP ratio (from 24.6% in 2014 to 32.7% in 2016), with contraction in volume of private credit in 2016, 2017 and 2018;
3. In 2018 private credit/financing to GDP ratio was 25.8%, much lower than Vietnam (133.1%), Malaysia (120.4%), Singapore (118.9%), Thailand (112.2%), Cambodia (99.4%), Kuwait (89.3%), Qatar (76.9%), UAE (73.3%), Oman (70.5%), the Philippines (47.6%) and Indonesia (32.7%) (Global Economy 2024c);
4. Very low credit/financing to deposit ratio (from 34% in 2017 to 43% in 2015), declining in 2015–2017 against the backdrop of declining credit/financing growth

to the private sector in 2016–2018. In 2017 this ratio was much below Indonesia (91.6%), Malaysia (102.3%), the Philippines (67%), Singapore (105.4%), Thailand (99%), Cambodia (111.9%), Vietnam (676.3%), Oman (137.4%), Qatar (84.4%), Saudi Arabia (141.6%), Kuwait (102%) and UAE (93.2%). (Global Economy 2024d)

This low credit/financing to deposit ratio indicates that an excess of liquidity accumulated by the banking sector, which could not be invested domestically, is invested in offshore assets in the form of placements and investments. Instead of investing abroad, this excess liquidity can be utilised to provide suitable lending products to MSMEs to support Wawasan Brunei 2035 in developing local businesses. In addition, banks can lend to overseas customers and enhance income and profitability. The offshore assets of the banking sector in the form of placements and investments abroad accounted for 55.8% of total assets and 66.7% of total deposits in 2018. The

Table 5.3 Brunei Darussalam: Trends in the development of the depth of the banking sector, 2014–2018

Indicators	Units	2014	2015	2016	2017	2018
Nominal GDP	BND billion	21.7	17.8	15.7	16.7	18.3
	Year-on-year % change	–4.3%	–18.0%	–11.4%	6.4%	9.3%
Per capita GDP (at current price)	USD	53,149*	43,109	37,741	38,993	41,367
	Year-on-year % change	–5.3%	–18.9%	–12.5%	3.3%	6.0%
Assets	BND billion	18.7	17.0	18.0	17.5	18.3
	Year-on-year % change	–3.5%	-8.8%	5.3%	–2.6%	4.8%
Assets/nominal GDP	%	86.2%	95.9%	114.0%	104.4%	100.2%
Deposits	BND billion	16.0	14.2	15.1	14.9	15.3
	Year-on-year % change	–4.3%	–11.0%	6.0%	–1.6%	3.2%
Deposits/nominal GDP	%	73.9%	80.1%	95.8%	88.7%	83.8%
Credits/financing	BND billion	5.7	6.1	5.4	5.1	5.5
	Year-on-year % change	1.6%	7.0%	–11.6%	–5.1%	6.3%
Credit/financing to nominal GDP	%	26.4%	34.4%	34.3%	30.6%	29.8%
Private sector credit	BND billion	5.3	5.6	5.2	4.9	4.7
	Year-on-year % change	2.9%	4.5%	–7.6%	–4.7%	–3.8%
Private sector credit to nominal GDP	%	24.6%	31.4%	32.7%	29.3%	25.8%
Credit/financing to deposits ratio	%	35.7%	42.9%	35.8%	34.5%	35.6%

Source AMBD (2015, 2016b, 2017a, 2019a, b, c); DEPS (2023)
Note * Per capita GDP for 2013 was 56,134 (ADB 2024)

ratio of total offshore assets to total deposits increased from 60.1% in 2016 to 66.7% in 2018 (AMBD 2019b).

There is a need to closely monitor risks associated with cross-border placements and investments, such as currency risk, country risk, counterparty risk and liquidity risk. A significant loss of the net asset value of offshore assets may adversely affect the liquidity of banks. However, a major portion of offshore assets (76.8%) was in the form of placements in reputed foreign banks. This ensures adequate liquidity in the banking sector. The liquidity ratio of the banking sector as measured by the liquid assets to total assets and the liquid assets to total deposits were 51.7% and 61.8% in 2018.

5.5.2 Trends in the Financial Access and Financial Inclusion of the Banking Sector

Trends in the financial access and financial inclusion of the banking sector in 2014–2018 are shown in Table 5.4. The major findings of the analysis are as follows.

1. Access to banks and financial inclusion of Brunei on average have been significantly higher than its ASEAN and GCC peers due to a relatively large number of bank accounts, bank branches and ATMs compared to the adult population and geographical area.
2. Trends in the number of deposit and credit accounts can indicate the outreach or financial access to the banking sector. The number of deposit accounts maintained a moderate increasing trend, except for a 2.1% decline in 2017 compared to 2016 despite positive economic growth in 2017. After a small rise in 2015, the number of deposit accounts with banks per 1,000 adults showed a decreasing trend from 2,011 in 2015 to 1,910 in 2017, rising slightly to 1,946 in 2018.
3. The number of credit accounts declined significantly by 34% in 2014–2018, indicating a decrease in intermediation/outreach partially due to a loss of the existing client base, consolidation of multiple accounts by single borrowers and the exit of Citibank and HSBC. The indicator shows a continuous decreasing trend throughout the study period except for a slight rise in 2017. Consequently, the number of credit accounts per 1,000 adults declined to 345 in 2018 from 628 in 2014—a 45.1% decline.
4. The number of bank accounts per 1,000 adults remained high during the study period but witnessed a declining trend reaching 1,501 in 2017 from 1,624 in 2014. In 2017 the indicator for Brunei was second highest among ASEAN and GCC countries after Singapore (2,299), and much higher than Kuwait (1,393.2), Thailand (1,270.5), UAE (1,065.4), Saudi Arabia (1,046.0), Malaysia (846.3), Qatar (739.6) and the Philippines (510.1) (Global Economy 2024b).
5. The number of bank branches per 100,000 adult population in Brunei is the highest among most ASEAN and GCC countries. This indicator, however, declined continuously in 2015–2018, reaching 17.3 in 2018 from 21.0 in 2015. In

Table 5.4 Brunei Darussalam: Trends in the development of financial access and financial inclusion in the banking sector, 2014–2018

Indicators	2014	2015	2016	2017	2018
Total number of deposit accounts	616,206	633,406	633,912	620,350	642,717
Number of deposit accounts with banks per 1,000 adults	1,991.16	2,011.06	1,983.85	1,910.30	1,946.52
Number of loans/financing accounts	247,486	247,956	157,448	176,210	161,995
Number of loans/financing per 1,000 adults	627.99	635.65	392.09	405.45	345.64
Number of accounts per 1,000 adults	1,623.5	1,579.2	1,547.5	1,500.5	—
Number of banks	10	9	9	10	10
Number of bank branches per 100,000 adult population	20.36	20.95	19.72	18.48	17.26
Number of bank branches per 1,000 km^2	12.0	12.5	12.0	11.4	10.8
Number of ATMs per 100,000 adult population	78.8	81.0	75.3	68.5	74.3
Number of ATMs	253	251	244	226	226

Source AMBD (2019a); Fred Economic Data (2022a, b); Knoema (2021, 2024a)

2017 the indicator was 18.5, higher than Indonesia (16.9), Oman (14.8), Kuwait (14.5), Thailand (11.9), UAE (11.3), Malaysia (10.1), Qatar (9.2), the Philippines (9.1), Saudi Arabia (8.5), Singapore (8.5), Cambodia (7.5) and Vietnam (3.4).

6. The number of bank branches per 1,000 km^2 is high but declined continuously in 2015–2018, reaching 10.8 in 2018 from 12.5 in 2015. This may be due to the exit of Citibank and HSBC, a lack of expansion of bank branches or bank strategy to reduce fixed cost through the promotion of online banking.
7. The number of ATMs per 100,000 adult population followed a similar trend with high values that declined—from 81.0 in 2015 to 74.3 in 2018. In 2008 the performance of Brunei was better than Saudi Arabia (73.4), Kuwait (73.0), Singapore (66.5), UAE (63.9), Qatar (55.8), Indonesia (54.7), Malaysia (46.6), Oman (34.8), the Philippines (29.1) and Vietnam (25.3). Thailand (115.1), however, performed much better than Brunei (Global Economy 2024a).

5.5.3 Trends in the Efficiency of the Banking Sector

Table 5.5 exhibits the trends in the efficiency of the banking sector in 2014–2018. The major findings of the analysis are presented below.

1. The efficiency of Brunei's banking sector, on average, remained at a moderate level. In terms of most indicators, the performance of the country is weak compared to several ASEAN and GCC peers.

2. The banking sector remained profitable during the study period. As measured by return on assets (ROA), after falling to 1% in 2016 from 1.4% in 2014, the profitability rose moderately to 1.5% in 2018. Return on equity (ROE) followed a similar trend, declining to 6.4% in 2016 from 10.1% in 2014 and rising again to 11.4% in 2018. This may be due to the reduction in the non-interest expense to gross income (efficiency ratio), higher net interest margin and high spread between reference lending and deposit rates. The average deposit interest rate of the banking sector was 0.78% in 2018 whereas the average lending interest rate for the household and business sectors was 6.01% and 5.87% (AMDB 2019a: Tables 11 and 12, author's computation).
3. In 2017 ROA of the banking sector was 1.3%, lower than Indonesia (2.5%), Saudi Arabia (2%), Malaysia (1.9%), Qatar (1.6%), Oman (1.6%), Thailand (1.5%) and the Philippines (1.5%), and equal to Singapore and Kuwait (Global Economy 2024h). This may be due to the low intermediation level compared to the above countries, as reflected by the very low credit to deposit ratio.
4. ROE of the banking sector in 2017 was 8.9%, much lower than Vietnam (17.6%), Indonesia (16.7%), Malaysia (15%), Qatar (14.2%), the Philippines (13.9%) Singapore (13.2%), Saudi Arabia (12.6%), Thailand (11.5%), Oman (10.8%), UAE (10.3%), Bahrain (10%) and Kuwait (9.7%) (Global Economy 2024i). This may be due to the low intermediation level compared to the above countries as reflected in a very low credit to deposit ratio.
5. Expense to income ratio (non-interest expense to gross income) remained high compared to its GCC peers, from 53.4% in 2014 to 48.1% in 2018. In 2017 the ratio for Brunei was 52.4%, higher than Qatar (33.1%), Kuwait (36.9%) and the UAE (37%).
6. The net interest margin (NIM) is one indicator of a bank's profitability and efficiency. The NIM is defined as the ratio (as a percentage) of financial institutions' earnings on loans/financing and other assets minus the interest/profit paid on borrowed funds to the average amount of the assets on which it earned income in that time period.
7. The NIM of the banking sector remained high but witnessed a decreasing trend from 5.2% in 2014 to 3.7% in 2017. In 2017 the NIM was lower than Indonesia (6%), Cambodia (5.5%) and the Philippines (4.1%), but higher than Vietnam (3.6%), Thailand (3.5%), Saudi Arabia (3%), Kuwait (2.6%), Qatar (2.5%), Bahrain (2.4%), Malaysia (2.3%) and Singapore (1.9%) (Global Economy 2024g). This trend may reflect both higher income and cost reduction.
8. The banking sector on average had a comfortable lending and deposit rates spread of above 5.0 basis points in 2014–2018, contributing to improved income and profitability. In 2017 the spread was 5.1 basis points, much higher than Malaysia (1.7), the Philippines (3.7), Thailand (3.1), Indonesia (4.6), Vietnam (2.6), Qatar (1.8) and Kuwait (3.1) (Global Economy 2024f). This high spread may reflect the efficiency of the banking sector in deposit mobilisation at a low interest rate.
9. The average deposit rate of the banking sector was 0.78% in 2018 whereas the average lending rate for the household and business sectors was 6.01% and 5.87% (AMDB 2019a: Tables 11 and 12, author's computation). In order to expand the

Table 5.5 Brunei Darussalam: Trends in the development of the efficiency of the banking sector, 2014–2018 (%)

Indicators	2014	2015	2016	2017	2018
Return on assets (before tax)	1.4	1.3	1.0	1.3	1.5
Return on equity (after tax)	10.1	8.7	6.4	8.9	11.4
Non-interest expense to gross income (efficiency ratio)	50.0	52.4	53.6	51.5	48.1
Net interest margin	5.2	3.3	2.6	3.7	NA
Spread between reference lending and deposit rates—basic points	5.6	5.1	5.0	5.1	5.2

Source AMBD (2019a); Knoema (2024b)

borrowers' base and business, there is a scope for banks to narrow the spread to attract more borrowers, particularly MSMEs and low-income households.

5.6 Prospects, Challenges and Recommendations

This section examines the major emerging prospects and challenges faced by the banking sector in Brunei and provides recommendations to utilise the prospects and address the challenges.

5.6.1 Scope for Further Development in the Banking Sector

The analysis in earlier sections shows that Brunei's banking sector development in terms of depth and efficiency has been somewhat stagnant or fluctuating for a majority of the 15 indicators in 2014–2018. The depth and efficiency of the banking sector remained below most ASEAN and GCC countries. This indicates that there is scope or prospect for further development in these areas.

In terms of financial access and financial inclusion, Brunei's banking sector has performed better than most ASEAN and GCC countries for most indicators. The International Monetary Fund (IMF) study by Sahay et al. (2015) finds that the effect of financial sector development on economic growth is bell-shaped as it reduces at higher levels of financial development. The study is derived from a broad-based and comprehensive measure of financial sector development called the FD index. The level of financial sector development, including financial market development, had a positive impact on growth up to a certain point, namely between 0.45 and 0.7 on the

FD index and between 0.4 and 0.6 on the market index. Beyond this point, further financial sector development had a negative impact on growth. The analysis shows that the FD index of Brunei is below the optimum index value for both financial sector and financial market developments. This suggests that further development of Brunei's financial sector will have positive impact on growth (ibid.). Enhancing the depth and efficiency of the banking sector and developing efficient bond and stock markets could bring significant benefits for the country.

5.6.2 Enhancing Efficiency of the Banking Sector

The economy and financial sector of Brunei have unique characteristics which provide good opportunities and prospects as well as pose significant challenges. The Economic Census of Enterprises (DEPD 2016) shows that as of 2015 small enterprises accounted for 2,294 (42.9%) of a total of 5,342 active enterprises, followed by microenterprises with 1,920 (35.9%), medium enterprises with 944 (17.7%) and large enterprises with 184 (3.5%). This illustrates that the size of the private sector is small and dominated by MSMEs (96.5%). The small size of the economy, population and the private sector make it difficult for domestic companies, including banks, to exploit economies of scale. Like other major small oil-exporting countries, private sector activities remain weak while the preference for public sector employment and lack of export-oriented businesses except for oil- and gas-related businesses limit private sector growth.

In 2018 the average yields on loans/financing, offshore placements and offshore investments of the banking sector in Brunei were 5.8%, 1.8% and 3.4% (AMBD 2019a). This clearly shows that loans/financing provide the highest yield for the banking sector. Following the examples of banks in major economies in ASEAN and GCC countries, banks in Brunei, particularly domestic banks, can pursue overseas lending as well as overseas expansion as part of their strategy to achieve higher profitability, faster growth, improved funding costs and funding diversification. However, they must build capacity to effectively monitor credit risk and country risk of overseas lending, and develop a framework to mitigate these risks.

As previously discussed, Brunei's lending and deposit interest rates spread of the banking sector was much higher than several ASEAN and GCC countries. There is room to narrow the lending and deposit interest spread to attract more borrowers, particularly MSMEs, low-income households and overseas customers.

Brunei's expense to income ratio (non-interest expense to gross income) also remained higher than similar oil-exporting countries, such as Qatar, Kuwait and the UAE where bank staff costs are similar to Brunei. This implies that banks can improve efficiency through further reduction in non-interest expenses, particularly staff cost (the major portion on non-interest expenses) through appropriate strategies, such as increased automation and digitalisation.

5.6.3 Development of Efficient Bond and Stock Markets

Major reasons behind the Asian financial crisis in 1997–1998 included the excessive dependence of Asian economies on commercial banks for domestic financing. Corporate financing relied mainly on banks since other types of available financing, namely stock and bond markets, were still underdeveloped and quite small. During the crisis, Asian economies faced the ‘double mismatch’ issue or the ‘twin risk’ problem, namely currency and maturity mismatch risks. Corporate borrowers created these risks by borrowing short-term foreign currency loans from commercial banks, which they used to finance their long-term domestic investment in local currency. Furthermore, the 2008 global financial crisis and subsequent European debt crisis created constraints in acquiring foreign currency liquidity in the corporate sector in Asia as foreign banks withdrew their investments (Bhattacharyay 2013).

This clearly implies that the presence of an efficient stock market and secondary capital and bond markets can enhance the role of the financial sector through diversifying sources of business financing and cost-effective financial intermediation. At present, the financial sector of Brunei is dominated by banks with very low levels of financial intermediation and depth, as reflected by the low credit to GDP ratios compared to other ASEAN and GCC countries. At the same time, there is no stock exchange, secondary capital and bond market, or private sector *sukuk* market.

A stock exchange would promote transparency, accountability and good governance in listed companies, including banks and other financial institutions. This would also have a positive domino impact on other non-listed companies. High levels of transparency, accountability and governance would promote further economic development and enhance investors’ confidence to attract capital and technology in the long run. There is a need therefore to implement further financial sector reforms to develop a strong and efficient financial sector in Brunei.

As suggested by the IMF (2019), there are good prospects to further develop the non-bank financial sector. To reduce dependency of the business sector on the banking sector for long-term financing demand and addressing vulnerabilities arising out of maturity mismatch an efficient capital market needs to be developed. In this regard, the following reforms should be undertaken:

1. The development of an efficient interbank money market;
2. The development of a secondary bond market;
3. Creation of a market benchmark for risk-free interest rate;
4. Strengthening the primary market issuance framework for corporate bond;
5. Creation of a derivatives market.

As stated earlier, an efficient stock market could promote economic growth by diversifying access to alternative financing for businesses. Adopting best practices and international standards would facilitate interconnectivity with global markets and attract international investors. Brunei must also establish an appropriate legal and regulatory framework and building capacity for monitoring the capital markets, such as bond, stock and money markets, to maintain the stability of the financial sector.

5.6.4 Development of Islamic Digital Banks, Insurance/Takaful Companies and Capital Market Services or Wealth Management Fintech Companies

The COVID-19 pandemic has modified the operating and business models of banks, particularly in terms of the provision of banking services to consumers worldwide. In this situation, many banks are utilising digital channels to offer online banking services. The financial services industry is going through a large transformation due to digitalisation, moving to the cloud, remote workplaces and the entry of digital banks and fintech companies. Recently, fintech companies have established a strong presence, using innovative technologies and business models to deliver unique and cost-effective financial services and products to customers. Some have partnered with reputed banks. These companies can enhance financial inclusion and promote MSME development and job growth by providing consumers access to banking services and funds at a low cost.

With a high mobile internet penetration rate, the ASEAN region has recently witnessed an increased presence of digital banks (which mainly deliver retail banking services through the internet or other forms of electronic channels instead of physical branches). For example, two virtual banks, ING Group and CIMB Bank, first entered the Philippines in 2019 and today there are six digital banks. Meanwhile, UOB Indonesia set up ASEAN's first digital bank, TMRW, in August 2020 and there are now a dozen such banks. The Monetary Authority of Singapore approved its first digital banking licences in late 2020—two for digital wholesale banks and two for retail digital banks—and these are now fully operational. Bank Negara Malaysia had approved five digital banking licences by 2021 (CTN News 2020; MAS 2020; Devanesan 2024). Brunei still has no digital bank.

As part of the Wawasan Brunei 2035 strategy to diversify the economy and bring innovation to different sectors, Brunei plans to develop the country as an international Islamic finance hub in niche areas. In addition, there is a plan to strengthen and improve financial infrastructure through digitalisation to promote financial sector development and new international financial linkages. The establishment of appropriate fintech companies, including digital banks and other financial services companies, can position Brunei as a centre for financial innovation in Southeast Asia. Furthermore, fintech companies can enhance financial inclusion, create jobs and increase economic growth. Fintech companies can be defined as financial services companies that use technology to transform or enable businesses in the financial sector. These companies can provide many unique benefits, particularly cost-effective lending to SMEs and ordinary users.

At this juncture, Brunei is well placed to carve out a niche for itself as an international Islamic banking centre by establishing an Islamic digital bank, Islamic insurance/*takaful* company, Islamic capital market services or wealth management fintech companies. In view of the small domestic market, these Islamic finance companies need to promote their products to large neighbouring markets and local markets for the scale economy and sustainable profitability.

Major challenges in developing digital banks and fintech companies include:

1. Establishment of a good framework of regulations and guidelines;
2. Appropriate and cost-effective payment infrastructure supporting fintech;
3. Appropriate and cost-effective fintech supporting ICT infrastructure;
4. Availability of appropriate talent;
5. Establishment of rules and regulations on open banking, digital know-your-customer, e-money, digital wallets and anti-money laundering.

5.6.5 Managing Non-financial Risk of the Banking Sector

One of the major emerging challenges facing the banking sector is managing non-financial risk**.** Due to the pandemic, banks and other financial institutions moved services online, staff worked from home and more customers used online products or services. This caused an escalation of cyberattacks. Banks need to strengthen their cybersecurity measures.

According to a Deloitte Insights (2018) study of international banks, respondents found their institutions very effective in managing traditional financial risk, such as market risk (92%), credit risk (89%), asset and liability risk (87%) and liquidity risk (87%). However, these banks were not very effective in managing non-financial risks, such as reputation (57%), operational (56%), business resilience (54%), cybersecurity (52%), business model (51%), conduct and culture (50%), strategic (46%), third-party (40%), geopolitical (35%) and data integrity (34%). Effective management of these non-financial risks as well as cybersecurity risk and data and IT system risk by banks and other financial institutions and their regulators in Brunei is of utmost importance.

5.7 Conclusion

Financial sector development plays an important role in promoting economic growth and the welfare of the citizens of a country. On the other hand, financial sector instability or vulnerability can adversely affect economic growth and cause major disruptions in the country. Even though Brunei has one of the highest standards of living in ASEAN, the country faces a major challenge arising from its high dependence on oil and natural gas, resulting in volatile government revenues and unemployment. The country needs to diversify its economy and the financial sector can play an important role in this through enhancing finance to non-oil and gas sectors in a cost-effective manner. Given these circumstances and recent vulnerability in the economy and financial sector worldwide, including in Brunei, particularly due to the COVID-19 pandemic, it is important to examine the trends in the development of the financial sector in recent years and its prospects and challenges. This chapter has therefore examined these trends as well as its performance in terms of depth, access and efficiency. Furthermore, it discusses the emerging prospects and challenges faced by the sector.

The literature review on the role of the financial sector in economic development and financial stability shows that financial sector development can play an important role in enhancing economic growth, strengthening resilience and promoting monetary and financial stability. It can produce benefits through mobilising savings, facilitating increased information sharing and better resource allocation, and promoting diversification and management of various risks. A deep and liquid financial sector can strengthen financial stability with diverse financial instruments and assist in strengthening resilience to external and internal shocks. However, at high levels of financial sector development, there could be situations when there is 'too much easy finance', causing more costs than benefits.

In terms of policies and strategies, Brunei's government developed and implemented Wawasan Brunei 2035 to turn Brunei into a dynamic and sustainable economy with income per capita and quality of life within the top countries in the world. Financial sector development can play a significant role in achieving this. In 2016, AMBD developed the FSBP for 2016–2025 to develop Brunei's financial sector into one of Asia's most competitive and innovative hubs.

The effective implementation of RCEP goals together with ASEAN goals can bring increased financial integration, access, efficiency, financial inclusion and financial stability to this region, including Brunei. However, as the financial sectors become more integrated in this region, this may create increased vulnerability and instability, and the transmission of instability from one member country to another through the contagion effect.

In order to reap the maximum benefits of RCEP and address the increased vulnerability and instability Brunei should:

1. Strengthen domestic financial market infrastructure development;
2. Extend cross-border reach;
3. Promote interoperability and standardisation of the financial institutions;
4. Enhance cybersecurity and data protection;
5. Monitor and conduct regular macro-prudential surveillance of the economy and financial sector;
6. Extend distribution channels domestically and across the region;
7. Deepen and interlink Brunei's financial sector, particularly the banking sector across the region;
8. Establish a capital market, particularly a stock market;
9. Develop cost-effective ICT and relevant infrastructure;
10. Establish hard and soft infrastructure connectivity;
11. Strengthen analytical, regulatory and compliance capabilities.

This chapter examined the trends in the financial sector in Brunei in terms of depth, access and efficiency during 2014–2018. The chapter proposes 24 indicators and analysed the performance of the financial sector of Brunei in comparison with its ASEAN and GCC peers. The analysis of these indicators shows that the performance of Brunei in terms of access to banks and financial inclusion was, on average, significantly better than its most peers among the ASEAN and GCC countries. On the other hand, with respect to depth and intermediation, the performance of Brunei was lower throughout the study period compared to most ASEAN and GCC countries. Banking sector development in terms of depth and efficiency, on average, has been somewhat stagnant or fluctuating for a majority of 15 indicators during 2014–2018. The efficiency of the banking sector, on average, remained at a moderate level with most indicators lower compared to several ASEAN and GCC peers.

This analysis indicates that there is an opportunity for further development of the financial sector. This can be achieved through enhancing the depth and efficiency of the banking sector as well as the development of efficient bond and stock markets. This could bring significant benefits for the business sector which in turn can enhance growth.

This chapter also examined the major emerging prospects and challenges faced by Brunei's financial sector and proposes the following recommendations to address the issues for bring significant benefits to the country:

1. Opportunities for further development in the banking sector, particularly in terms of enhancing the depth, access and financial inclusion with a positive impact on its economic growth;
2. Strengthening the efficiency of the banking sector;
3. Establishment of efficient bond and stock markets for developing a non-bank financial sector in order to reduce the dependency of the business sector on the banking sector for long-term financing demand as well as addressing vulnerabilities arising out of maturity mismatch;
4. Development of innovative and cost-effective financial services including Islamic digital banks, insurance/*takaful* companies and capital market services or wealth and management fintech companies;
5. Managing the non-financial risk of the banking sector by banks and other financial institutions and their regulators, particularly cybersecurity risks and data and IT system risks.

Lastly, at this juncture Brunei could carve out a niche for itself as an international Islamic banking centre through developing innovative financial services, such as establishing an Islamic digital bank; Islamic insurance/*takaful* company and Islamic capital market services or wealth management fintech companies. Given the small domestic market, these Islamic finance companies need to promote their products to large neighbouring markets in addition to the local markets for the scale economy and sustainable profitability.

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Chapter 6
Examining Brunei Darussalam's Exports amid Developments in Global Value Chains

Angelo Jose B. Lumba, Mahinthan Joseph Mariasingham, and Arushi Gupta

Abstract In recent years, the architecture of production has developed into a vast network of interconnected processes known as global value chains (GVCs). Under this configuration, tasks and activities involved in producing goods and services are shared among participating businesses, making entry into complex production processes more feasible for certain economies. This chapter explores the evolution of Brunei Darussalam's participation in GVCs through a comprehensive analysis rooted in the input–output framework. Through an exhaustive decomposition of gross exports at the sectoral level using the Asian Development Bank's multiregional input–output database, the study reveals that the heavy reliance of Brunei on the oil and gas industry for international trade has led to limitations in its position within GVCs. While the short-term trade balance is likely to benefit from global oil price increases amid post-COVID pandemic recovery and geopolitical events, such as the Russian invasion of Ukraine, Brunei faces an imminent need for economic structural transformation. The intrinsic volatility of oil prices and the exhaustion of reserves necessitate diversification efforts to sustain long-term economic growth and stability.

Keywords Brunei Darussalam · Global value chain · Multiregional input–output database · Post-pandemic recovery · Russian invasion of Ukraine · Structural transformation · Diversification

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6.1 Introduction

The advent of global value chains (GVCs) has changed the shape of the global economy in the last 50 years. Today, most products are manufactured in production chains and assembly lines spread across multiple economies, with each step adding value to the product before it ends up with the final consumer. Amid increasing globalisation, competitive pricing and the drive to optimise production processes, the concept of GVCs has been amalgamated into mainstream trade-related nomenclature and is understood as a type of production arrangement wherein different firms in different territories undertake various stages of production of goods and services. GVCs integrate the technical knowledge and comparative advantage of offshore firms, which could ultimately drive economic productivity and create employment opportunities.

The COVID-19 pandemic severely impacted on GVCs and, by extension, the world economy. As governments scrambled in the face of the health crisis and introduced stringent lockdowns as containment strategies, the ensuing supply chain disruptions and changes in consumer behaviour transformed existing production-sharing networks globally. In 2022, just as recovery from profound adverse impacts was underway, the Russian invasion of Ukraine further crippled GVCs by disrupting the movement of essential commodities. Amid a high reliance on Russian and Ukrainian exports of commodities such as oil, agricultural products and minerals, especially in Europe, the ongoing conflict has not only resulted in logistical impediments to supply chains but has also exerted severe inflationary pressure on the global economy. While economic recovery from the pandemic and the resulting increase in demand had already led to a rise in the price of crude oil per barrel in the global market—from around USD50 per barrel in January 2021 to USD70 per barrel in December 2021—the price further skyrocketed to over USD110 per barrel in March 2022 because of the Russian invasion (EIA 2024).

These consecutive global shocks have unveiled vulnerabilities in GVCs and underscored the importance of integrating resilience to safeguard against future risks. In this milieu, new and innovative approaches that leverage digitisation and the power of novel tools, such as machine learning and artificial intelligence, are emerging as the next phase of the GVC revolution. However, a prerequisite for integrating robust risk management frameworks in production processes is to evaluate the scope of GVC integration in an economy for various upstream and downstream industries.

Brunei Darussalam is one such economy where the government is actively exploring new avenues for GVC integration. In the current scenario, the economy of Brunei remains heavily dependent on the oil and gas industry. An increase in GVC participation for the country is contingent upon its ability to build capacity and infrastructure to foster non-oil and gas industries at globally competitive prices while also creating a conducive policy environment that enables the same. This chapter explores the integration of GVCs in Brunei by showcasing some evolving trade patterns of its economy and sectors. It utilises measures of different dimensions of GVCs that were derived from cutting-edge accounting frameworks and analyses Brunei's current position in GVCs, particularly its nexus with its official trade blocs.

To this end, this chapter utilises data from the multiregional input–output (MRIO) database of the Asian Development Bank, which provides a collection of time series inter-economy input–output tables that contain information on cross-sector linkages for 62 economies, including a residual 'rest of the world' entity to capture the entirety of global flows (ADB 2023). The MRIO database is an extended version of the 2013 world input–output database. Each economy is divided into 35 sectors, based on Table A2 of Marcel P. Timmer et al. (2015). These input–output tables record intersectoral transactions of goods and services for 'intermediate use', along with the output produced by each sector to meet final demand. The MRIO database records five final demand categories: household final consumption expenditure (FCE), non-profit institutions serving household FCE, government FCE, gross fixed capital formation and changes in inventories. The database is available for the years 2000 and 2007–2023. More details on this database are available in Appendix A1.

6.2 Framework

Extensive research on GVCs in the recent past has led to the proliferation of a host of competing frameworks to study and measure the same (see Inomata 2017). Previous attempts to extract GVC-related quantities from exports include David Hummels et al. (2001) and Robert Johnson and Guillermo Noguera (2012), but it was Robert Koopman et al. (2014) who first proposed a framework for exhaustively decomposing exports at the economy level. This was subsequently extended to the sector level by Zhi Wang et al. (2013, revised 2018). Using this framework, Mahinthan Joseph Mariasingham et al. (2020) analysed GVC trends in Brunei, Singapore and Malaysia. Further refinements have since been introduced by Alessandro Borin and Michele Mancini (2019), offering a more precise and consistent measure of GVC indicators in value-added terms.

It is also important to understand the rationale behind measuring trade flows in value-added terms. As a simple example, consider that economy A exports vehicle parts, for which the domestic manufacturers utilise aluminium imported from economy B. In this case, a significant proportion of the revenue from selling the automobile parts may actually accrue in economy B to reflect the purchases of aluminium, thereby leaving only marginal profits for economy A. If this trade flow was to be measured in gross terms, it would imply that the original value of aluminium is counted twice—once in exports of economy B's aluminium output to economy A, and further as the value of aluminium embedded in economy A's gross exports of automobile parts. Therefore, simply accounting for gross exports may misrepresent the domestic national income or its components, such as profits, wages and employment. To this end, a decomposition of exports based on value added corrects for double counting, while also providing a measurement framework that accounts for the fragmentation of production processes in today's economic climate.

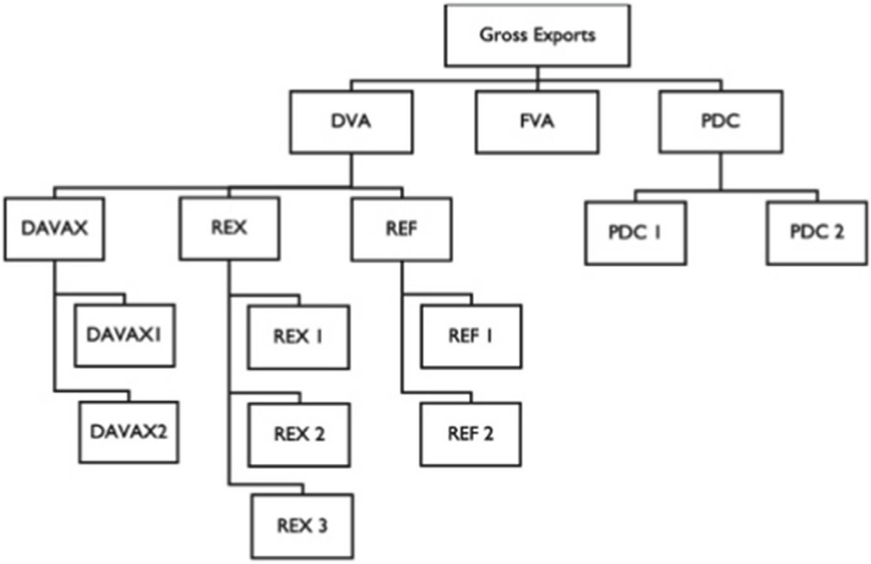

Fig. 6.1 Value-added accounting framework. *Source* Borin and Mancini (2019)

Figure 6.1 shows the main categories in the value-added accounting framework using the methodology in ADB (2022). Data from MRIO tables are used to decompose export flows into value-added categories.

Gross exports are decomposed into three main categories: domestic value added (DVA), foreign value added (FVA) and pure double-counting (PDC). DVA accounts for those exports whose value added originated domestically, FVA accounts for those that originated from foreign sources, while PDC refers to duplicated recordings of the same value added, crossing the same border more than once. DVA is further decomposed into three categories: DAVAX, REX and REF. DAVAX accounts for exports of DVA that are directly absorbed by the importer. It will be useful to subdivide this into DAVAX1 and DAVAX2, corresponding to exports of final goods and exports of intermediates, respectively. REX and REF are exports of DVA that are re-exported by the importer, to eventually be absorbed abroad (REX) or returned to and absorbed by the exporter (REF). FVA is value added embedded in exports, arising from the use of imported inputs. (See Appendix A2 for details on the subcategories of REX, REF and PDC.) The levels, shares and trends of each of these categories provide insights into an economy's engagement with GVCs.

Among these categories, not all components prescribe to GVC-related trade. DAVAX is a measure of the output produced domestically and consumed abroad—either in the form of final consumption or as intermediate inputs used by the importing economy to produce final goods for its internal market. In essence, DAVAX identifies the 'traditional' type of trade, as opposed to international shipments that take place under complex production sharing arrangements or GVC-related trade. Simply put, GVC-related trade includes all traded items that cross at least two international borders, meaning they are re-exported at least once before being absorbed in final demand (Borin and Mancini 2019).

6.3 Measuring GVC Indicators for Brunei

6.3.1 Value-added Decomposition of Gross Exports

Brunei's gross exports from 2000 and 2007–2021 can be decomposed into the five categories of value-added components (Fig. 6.2). The trend of Brunei's total gross exports shows a decline of about 30% from USD11.2 billion in 2008 to USD7.8 billion in 2009 as the economy experienced the impact of the global financial crises in the form of a fall in demand for its exports, particularly in the energy sector. While exports recovered noticeably in 2011–2014, the expansion of exports was short-lived as the global economy reached the cusp of the largest oil price decline between mid-2014 and early 2016. The 70% price drop during that period was one of the three biggest declines since the Second World War, and the longest lasting since the supply-driven collapse of 1986 (Stocker et al. 2018). Although exports have been on a gradual path of recovery since 2017, not only have they not reached the pre-crisis levels but they even declined since the onset of the COVID-19 crisis in 2020. However, as the pandemic seemingly receded and demand increased across the globe, fuel prices started to rise, particularly since the Russian invasion of Ukraine in February 2022, which potentially created a favourable scenario for Brunei's exports.

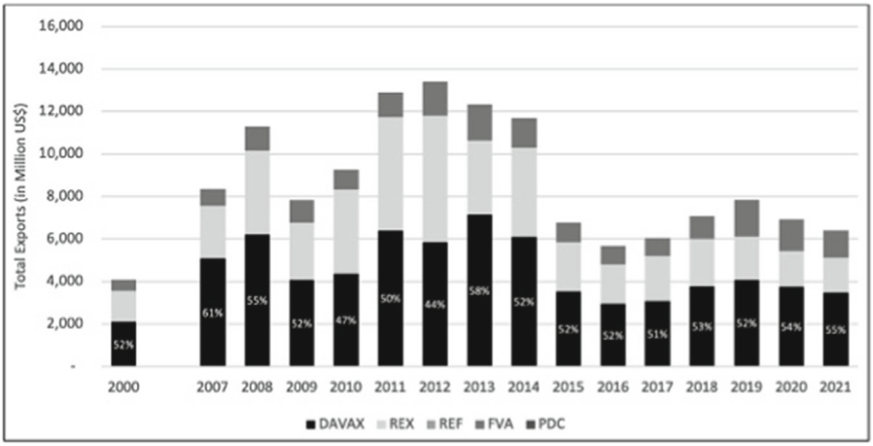

Fig. 6.2 Brunei Darussalam: Decomposition of exports into value-added categories, 2000, 2007–2021 (USD billion). *Source* ADB (2022, 2023) and ADB estimates. *Note* Gross exports are decomposed using the methodology in Borin and Mancini (2019). Data labels shown (%) refer to the DAVAX share in the total exports

The decomposition of gross exports into the five value-added categories shows that DAVAX, or the share of direct trading, consistently comprised the largest share of 45–60%. In other words, this is the amount of Brunei's value added flowing to its trading partners for consumption as final or intermediate goods in their own economy. Recall here that DAVAX is not a component of GVC-related trade and isolates the portion of gross exports for which this direct type of relationship applies. In 2021 the DAVAX component of Brunei's total exports amounted to USD3.5 billion against gross exports of USD6.4 billion. The predominance of DAVAX in Brunei's exports is a result of the high proportion of oil and gas exports, which are products primarily used as intermediaries. The remaining portion of exports is what comprises GVC-related trade or indirect trading. As evidenced from the export decomposition (Fig. 6.2), only the REX and FVA categories are significant for Brunei while REF and PDC constitute a negligible amount. REX indicates the continued flow of Brunei's value added down the value chain and is thus a measure of forward integration. FVA indicates the extent of imported inputs embedded in Brunei's exports, or backward GVC linkages, and is thus a measure of backward integration. In 2021 REX amounted to USD1.6 billion or 25% of total gross exports, while FVA amounted to USD1.3 billion or 20% of total gross exports. Total share of GVC-related trade for Brunei in 2021 amounted to USD2.9 billion or 45% of total gross exports.

Analysing Brunei's sectoral value-added decomposition of exports lends further insights towards understanding its participation in GVCs. Figure 6.3 shows the decomposition of Brunei's mining and quarrying sector, which mainly includes crude petroleum and liquefied natural gas and makes the highest contribution to the economy's gross exports. The sector entailed a persistently high share of DAVAX (55–65%) and a relatively low share of FVA (less than 10%). This makes intuitive sense as the sector consists of extractive industries that rely on factor endowments, leading to a higher proportion of trade in intermediates and a lower share of FVA in its gross exports. It is also pertinent to note the decline in the sector's overall share in gross exports and the simultaneous growth in its share of FVA in gross exports in the years 2020 and 2021. The sector's share in gross exports was 48% in 2020 and 43% in 2021 in comparison to 54% in 2019, while its FVA was 7.1% and 7.4% respectively in gross exports for the same period—the largest shares of FVA for this sector during the period of analysis. In tandem with global trends since the onset of COVID-19, Brunei's total output of the sector declined in 2020 due to a fall in oil prices and an unscheduled shutdown and maintenance of oil and gas facilities (IMF 2021). Consequently, production disruptions led to a decline in the sector's exports in 2020 and 2021, and increased the share of imported inputs embedded in its exports.

Figure 6.4 demonstrates the value-added decomposition of gross exports for the coke, refined petroleum and nuclear fuel sector, along with the sector's contribution to gross exports. This sector in Brunei primarily consists of petroleum oils and gases, and is one of the major contributors to gross exports, comprising about 35%, 43% and 45% of gross exports in 2019, 2020 and 2021 respectively. As the sector is closely linked to the oil and gas industry of Brunei, its DAVAX has followed a similar trend as the mining and quarrying sector, evidenced by the fact that the DAVAX shares have performed in accordance with the oil and gas prices for their respective

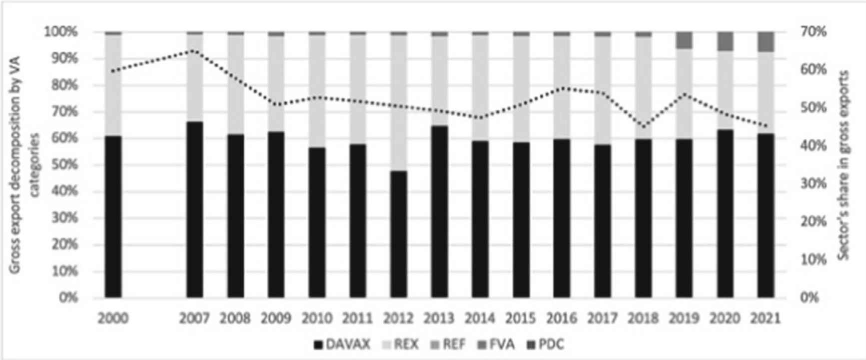

Fig. 6.3 Brunei Darussalam: Gross exports decomposition for mining and quarrying, 2000, 2007–2021 (%). *Source* ADB (2022, 2023) and ADB estimates. *Note* Gross exports are decomposed using the methodology in Borin and Mancini (2019). The line shows the share of the mining and quarrying sector in Brunei's gross exports for the given time frame

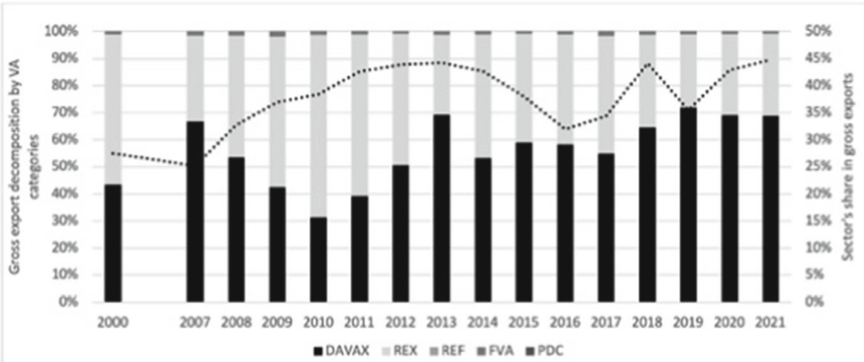

Fig. 6.4 Brunei Darussalam: Gross exports decomposition for coke, refined petroleum and nuclear fuel, 2000, 2007–2021 (%). *Source* ADB (2022, 2023) and ADB estimates. *Note* Gross exports are decomposed using the methodology in Borin and Mancini (2019). The line shows the share of the coke, refined petroleum and nuclear fuel sector in Brunei's gross exports for the given time frame

years. Further, the sector not only has negligible shares of REF and PDC but it also displayed a consistently limited share of FVA, as most of the trade is direct and involves intermediate inputs of extractive industries. On the other hand, although the sector has maintained relatively high shares of REX—as high as 67% in 2010—these shares have declined significantly in recent years—only 30% in 2021—possibly indicating more backward integration of the sector in GVCs.

In an economy dominated by the two aforementioned sectors, the sector for chemicals and chemical products, essentially a derivative of the oil and gas industry, gradually emerged as a major contributor to the gross exports of Brunei. An increasing trend has been witnessed in the sector's share of gross exports—particularly for

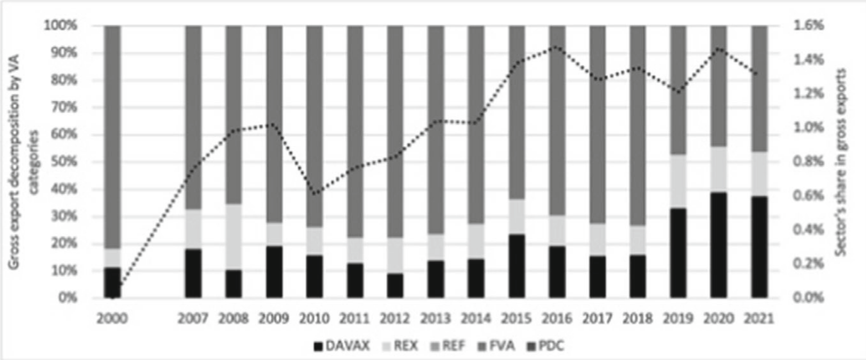

Fig. 6.5 Brunei Darussalam: Gross exports decomposition for chemicals and chemical products, 2000, 2007–2021 (%). *Source* ADB (2022, 2023) and ADB estimates. *Note* Gross exports are decomposed using the methodology in Borin and Mancini (2019). The line shows the share of the chemicals and chemical products in Brunei's gross exports for the given time frame

specific products like hydrocarbons and methanol—which have remained slightly above 1% since 2015 (Fig. 6.5). Further, a decomposition of the gross exports of this sector illustrates that the share of DAVAX increased by more than 100%, from 16% in 2018 to 33% in 2019. This substantial increase in the domestic production of the sector may be attributed to the newly built refinery and petrochemical plant in Pulau Muara Besar, a joint venture between the government of Brunei and China's Zhejiang Hengyi Industries, also known to be the largest foreign direct investment (FDI) in Brunei at USD3.4 billion (Hengyi 2024). Owing to such dedicated investments to augment the production of downstream segments of the energy sector in Brunei, it is reasonable to posit that the exports of this sector are likely to increase in the coming years.

6.3.2 GVC Participation Rates

The GVC participation rate enables a quantified assessment of the importance of GVCs in an economy. Although higher GVC participation can often stimulate economic activity, it can also increase an economy's susceptibility to external shocks through value chains, thereby increasing vulnerabilities. GVCs inherently assign specialised tasks within production chains, thus increasing the reliance on both upstream and downstream customers, wherein a disruption in any part could impact other segments of the chain.

The GVC participation rate may be analysed through two possible approaches: (1) a trade-based approach which calculates the share of indirect trading in exports; and (2) a production-based approach which looks at the share of DVA (that is, GDP) that is exported in an unfinished state. The trade-based approach may be divided into a

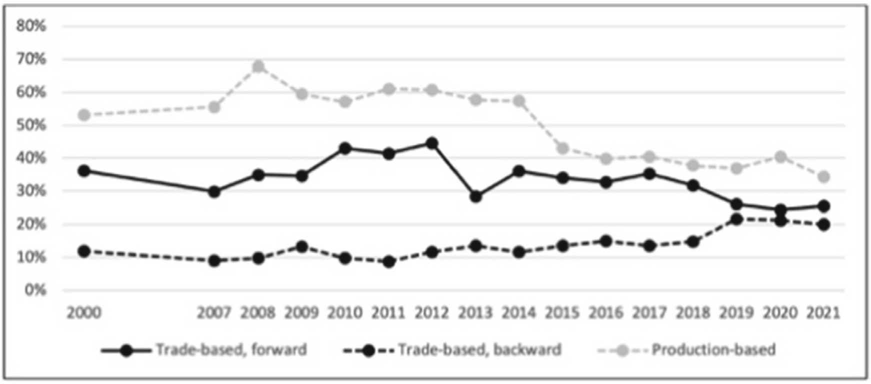

Fig. 6.6 Brunei Darussalam: Global value chain participation rates, 2000, 2007–2021 (%). *Source* ADB (2022, 2023) and ADB estimates. *Note* Production-based GVC participation rates are based on forward GVC participation rates as calculated in Zhi Wang et al. (2017a). Trade-based GVC participation rates are calculated following Borin and Mancini (2019)

forward and a backward participation rate. While a forward trade-based participation rate indicates the share of the DVA exports that is re-exported to a third economy by the direct importer in gross exports, a backward trade-based participation rate is the share of FVA and PDC in domestic gross exports. Analysing these linkages from a broader value chain perspective indicates that, on one hand, constraints from suppliers can lead to production delays for an economy with significant backward linkages. On the other hand, demand side shocks due to economic turmoil in recipient economies can create production limitations or shutdowns in an economy with significant forward linkages. Borin and Mancini's (2019) trade decomposition framework enables the calculation of the trade-based participation indices for Brunei, assessed in the MRIOs for 2000 and 2007–2021 (Fig. 6.6). The participation rates follow the methodology elaborated on in Appendix A3.

It is observed that the forward participation rate in Brunei has been consistently higher than the backward participation rate during the period of study, corroborating Brunei's position in the upstream sections of GVCs. In other words, Brunei's inputs are utilised by other economies to a greater extent than other economies' inputs are utilised by Brunei. In 2010–2012 the forward participation rate was about three times the backward participation rate. However, since 2017 there has been a noticeable downward shift and simultaneous upward shift in the forward and backward participation rates respectively. In 2021 the forward participation rate was 25% while the backward participation rate was 20%. A comparison of Brunei's GVC participation rates with other related economies and some of world's leading exporters will help illustrate Brunei's position in GVCs (Figs. 6.7 and 6.8).

The backward and forward participation rates among the selected economies studied for a particular time period show considerable variation. Brunei has opposite patterns in backward and forward participation, with relatively low backward participation and high forward participation. This characteristic is not unexpected for a

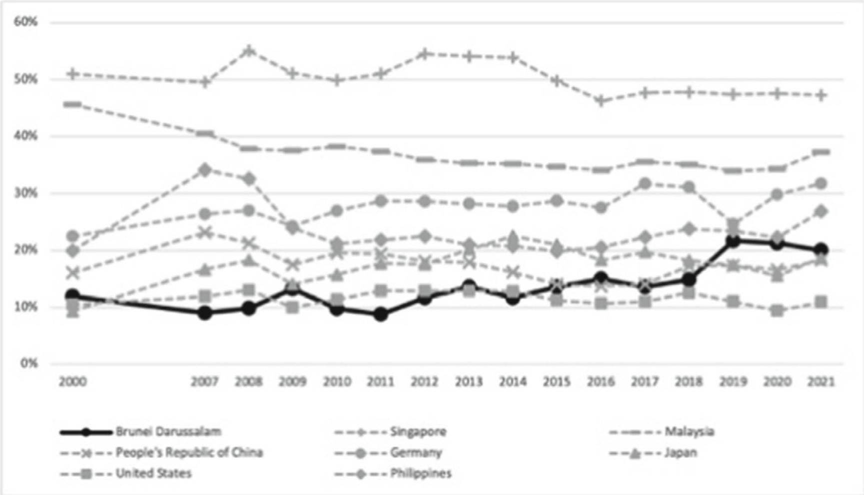

Fig. 6.7 Backward (trade-based) GVC participation rates, selected economies, 2000, 2007–2021 (%). *Source* ADB (2022, 2023) and ADB estimates. *Note* Trade-based GVC participation rates are calculated following Borin and Mancini (2019)

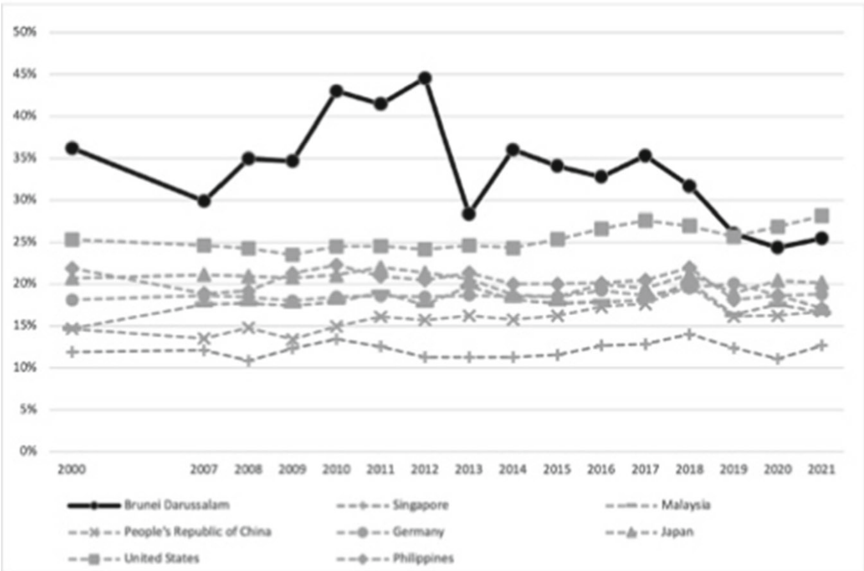

Fig. 6.8 Forward (trade-based) GVC participation rates, selected economies, 2000, 2007–2021 (%). *Source* ADB (2022, 2023) and ADB estimates. *Note* Trade-based GVC participation rates are calculated following Borin and Mancini (2019)

commodity-dependent economy such as Brunei's. As oil and gas (and other related activities) account for the bulk of the economy, high forward linkages represent their use as intermediaries in other economies, while the relatively low backward linkages indicate that these industries are rather independent from other industries as their inputs often emanate within their own sub-industries. Interestingly, Brunei's position contradicts that of Singapore's, which has consistently remained at a backward participation rate of around 50% and forward participation rate of around 12%. These ratios indicate that while Singapore uses large shares of value added that originate from other economies (the backward path), its reliance on other economies for the use of its products is relatively low (the forward path).

6.3.3 Top Trading Partners by Value-added Category

Figure 6.9 shows Brunei's top trading partners between 2018 and 2021, disaggregated by the main value-added categories relevant for the economy: DAVAX, REX and FVA. It should be noted that exports are calculated for 2018–2021 to discount for any potential impact of external shocks such as the COVID-19 pandemic. It can be observed that the top destinations for Brunei's gross exports were Japan (21.4%), Australia (16.1%), South Korea (10.8%), Singapore (7.8%) and Malaysia (7.2%). Further, as trading was predominantly in the direct form, it is expected that the rankings do not significantly change when comparing with DAVAX. Consequently, while the top three destinations remained the same, Malaysia emerged as the fourth leading destination for DAVAX at 6.85%, closely followed by the People's Republic of China (PRC) at 6.77%. In terms of indirect trade, while the top three destinations retained their position once again in terms of exports that would be re-exported (REX), the shares were lower. For example, Japan constituted 17.2% of REX, in contrast to 23.8% of DAVAX; Australia and South Korea accounted for 15.5% and 12.9% of REX, in contrast to 17% and 10.9% of DAVAX. In terms of imported inputs embedded in Brunei's exports (FVA), Japan and Australia emerged as leading partners, with 20.6% and 14.7% of FVA, followed by Singapore at 8.9%, while South Korea descended to the fifth position at 7.5%.

It is pertinent to note the role of Southeast Asian economies as Brunei's top trading partners, especially Association of Southeast Asian Nations (ASEAN) members such as Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam. Evidence based on economic modelling suggests that intra-ASEAN trade has substantially increased since the formation of the ASEAN Free Trade Area (AFTA) agreement in 1992, which intended to facilitate international supply chains and trade within the region (Kien 2009; Koh 2013). Brunei is also a signatory of the Regional Comprehensive Economic Partnership (RCEP), one of the world's largest free trade agreements, signed in 2020 between the ASEAN member states and the five ASEAN dialogue partners, namely Australia, China, Japan, South Korea and New Zealand. The RCEP took effect on 1 January 2022 and is expected to not only strengthen Brunei's existing

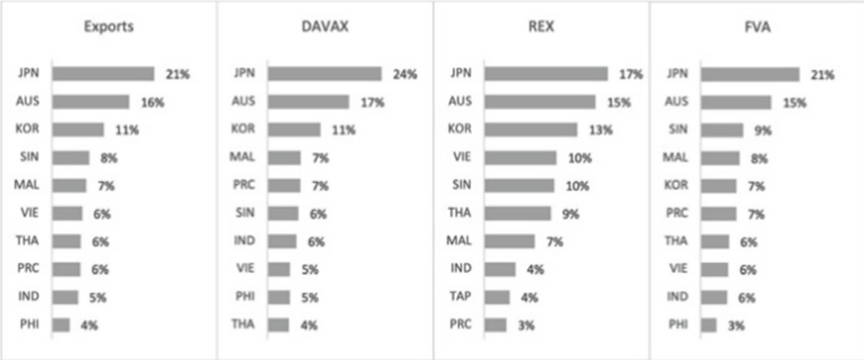

Fig. 6.9 Brunei Darussalam: Top trading partners by value-added category, 2018–2021 (%). *Source* ADB (2022, 2023) and ADB estimates. *Note* AUS = Australia, IND = India, JPN = Japan, KOR = Republic of Korea, MAL = Malaysia, PHI = Philippines, PRC = People's Republic of China, SIN = Singapore, TAP = Taipei, China, THA = Thailand, VIE = Vietnam. Gross exports are decomposed using the methodology in Borin and Mancini (2019)

trade relationship with Japan and Australia but also foster a multilateral trading system and contribute to post-pandemic recovery efforts.

6.3.4 Export Diversification

Although the revenues from Brunei's exploitation of its extensive oil and gas endowments have facilitated a high standard of living for its citizens in the form of one of the highest per capita incomes in Asia, they have also entrenched the economy's dependence on a single commodity that is vulnerable to price fluctuations. As mentioned above, the fault lines created in the economy due to such a concentrated basket of exports were exposed during the global financial crisis in 2008 and again during the global oil price decline in 2014–2016. The economy relies on imports for most of its manufactured goods and agricultural products. Any attempt to mitigate the impact of potential future economic losses triggered by plummeting oil prices would require the government to diversify its sources of income by strengthening other sectors.

The current measure of economic vulnerability can be assessed through diversification indices, which are instrumental in an evaluation of the dependence of an economy on a particular sector. One of the widely used indices of export concentration is the Herfindahl–Hirschman index (HHI) that is traditionally estimated using values of gross exports and ranges between 0 and 1. However, with increasing integration of economies into GVCs, diversification measurements based on gross exports may be inadequate in reflecting contemporary production structures which are often fragmented and complex. Hence, accounting for value creation at each stage within GVCs is imperative to quantify the full scale of export diversification, especially for Asian

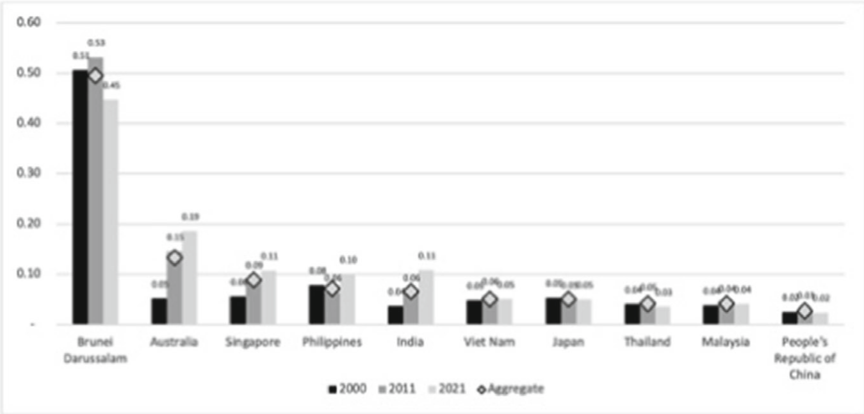

Fig. 6.10 Herfindahl–Hirschman index based on DVA embedded on exports, selected economies. *Source* ADB (2022, 2023) and ADB estimates. *Note* Diversification is measured by the HHI. The HHI based on value added is calculated using the Borin and Mancini (2019) exports decomposition by origin sector. The markers represent the aggregate HHI based on value added for 2000, 2007–2021

and Pacific economies with high trade linkages where measures of diversification based solely on gross exports may undermine results in comparison to the value-added approach. To this extent, estimating HHI using value-added exports instead of gross exports provides a more comprehensive picture of underlying economic structures and productive capacities of exporting economies (see Bajaj et al. 2022). Figure 6.10 shows HHIs based on DVA embedded in exports for Brunei, along with select ASEAN members and some major trade partners. Note that a higher HHI value implies higher specialisation or concentration, while a lower HHI value implies greater diversification. The indicators follow the principle of valuation adopted by the HHI and are elaborated in Appendix A4.

Among the 10 economies studied for the given time frame, Brunei showed the highest HHI (0.49) based on the value-added approach, implying that it was the least diversified. In comparison, Malaysia and the PRC had the lowest aggregate HHI, at 0.04 and 0.02 respectively, while other economies also appeared on the lower end of the scale with values of less than 0.1—except for Australia which had a relatively low aggregate HHI of 1.33. Brunei's high HHI is indicative of its high reliance on the oil and gas industry, which comprises a major share of its exports of DVA. Over the years, efforts to diversify the export basket of Brunei have been underway and shown positive results to some extent. The economy tended towards relatively higher diversification in 2021 with an HHI of 0.45. This could be attributed to the gradually enlarged share of chemicals and chemical products in exports due to increasing foreign investments in refineries and petrochemical plants since 2019.

While the surge in oil prices amid the Russian invasion of Ukraine may generate a significant trade surplus, the government of Brunei must also account for the negative externalities generated due to geopolitical and economic shocks, a growing population and depleting energy reserves. Moving forward, the presence of GVCs must be leveraged to develop a diversified export portfolio focusing on sectors that can stimulate other sectors, attract foreign investment and reduce dependence on imports. Recognising this, economic diversification is prioritised under goal 3 of Wawasan Brunei 2035 (Brunei Vision 2035) that envisages a dynamic and sustainable economy and aims to accelerate economic growth while moving beyond the oil and gas sector and bolstering production and employment in other downstream industries (Prime Minister's Department 2023). The Economic Blueprint released by the government in 2020 as a part of Wawasan Brunei 2035 echoes its resolve to increase the contribution of the non-oil and gas sector (MoFE 2020). To this end, the blueprint has identified five priority sectors for growth: downstream oil and gas, food, tourism, information and communication technology (ICT), and services to spearhead economic development and diversification.

6.3.5 Position and Production Length

In the previous sections, it was established that firms, sectors or economies can participate in GVCs from two perspectives. First, a producer may supply a component that is exported to an economy for integration to a composite product before being brought to more economies for further enhancement or assembly. In this 'forward' perspective, value added from the originating producer is passed down to those further down the value chain. The economy that will be responsible for assembly down the line is also part of the same value chain, albeit being more of a recipient than a supplier of value added. In this sense, its involvement is from a 'backward' perspective.

With this in mind, it can be deduced that there is an element of position inherent in the analysis of GVCs, with economies or sectors either being placed at more 'upstream' or 'downstream' stages of production. Understanding and operationalising this dimension may have valuable uses, especially for providing key insights to policy and research questions regarding fragmentation of production. One way of quantifying an economy sector's position in GVCs is through the upstreamness index proposed by Thibault Fally (2012) and Pol Antràs and Davin Chor (2013, 2018). (An economy sector is a sector belonging to a particular economy.)

Before output is finally consumed, it goes through a set of procedures and transactions along the process of its creation. Some sectors may be farther from final demand in the sense that their outputs are used intermediately by several more sectors directly or indirectly. This distance is what the upstreamness index estimates under a simple yet intuitive formula that assigns weights expressed as shares (to gross output) of estimated intermediate use of an economy sector's output to numbers starting from one. Higher values of the index correspond to a sector being more relatively upstream while lower values indicate output that is closer to final consumption.

From 2000 to 2015 Brunei was more upstream than most economies, with a peak of 3.23 in 2008 (Fig. 6.11). However, due to a persistent downtrend caused by a myriad of factors, including falling oil prices and increasing dependence on exports of goods

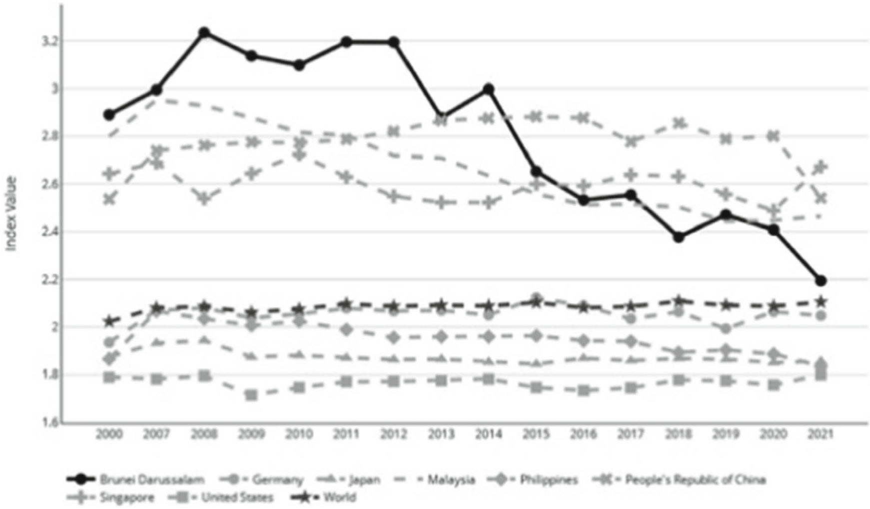

Fig. 6.11 Upstreamness, Brunei Darussalam and selected economies, 2000–2021. *Source* ADB (2023) and ADB estimates. *Note* Upstreamness indices are calculated following Fally (2012) and Antràs and Chor (2013, 2018)

and services that did not originate from the primary sector, it was eventually overtaken by its neighbours Malaysia, Singapore and the PRC. Immediately following the onset of the pandemic, Brunei's upstreamness fell to 2.19, which was still marginally higher than the world average of 2.10.

Another way of measuring position in GVCs is proposed by Zhi Wang et al. (2017b). To arrive at this indicator, average production lengths based on forward and backward linkages must be derived. The former estimates the 'footprints' of an economy sector's value added by estimating the total gross outputs it induces (ibid.). A sector's value added may travel down the line of a production chain if it is embedded in a component that is integral to production processes of composite products and/or services. Higher estimates of average production lengths based on forward linkages reflect this possibility, with larger values implying a larger number of downstream stages a sector's value added is used for.

On the other hand, average production length based on backward industrial linkages calculates the footprints of an economy sector's final goods and services by estimating the total intermediate inputs they induce (ibid.). When households, governments and investors demand output of a particular sector, it may rely on components or services offered by other sectors to meet these requirements. Higher estimates of this indicator therefore correspond to a greater number of upstream stages needed to satisfy an economy sector's final demand.

Average production lengths based on forward industrial linkages mirror upstreamness indices almost exactly, thereby preserving the narratives established above (Fig. 6.12, Panel 1). Minor discrepancies originate from the difference in economic interpretation and computation (ibid.). As for backward linkages, the reliance on

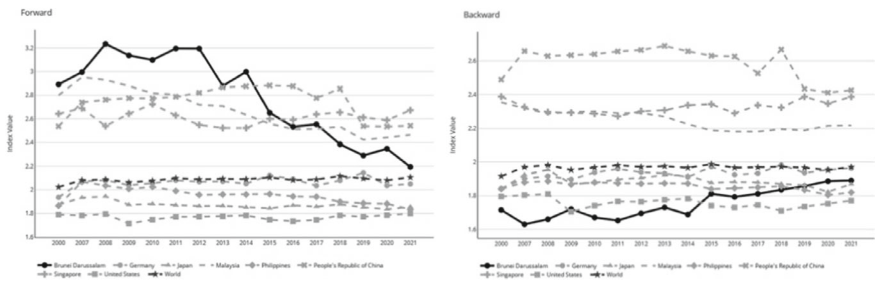

Fig. 6.12 Average production length based on forward and backward industrial linkages, Brunei Darussalam and selected economies, 2000–2021. *Source* ADB (2023) and ADB estimates. *Note* Average production lengths are calculated following Wang et al. (2017b)

primary sector exports, which have relatively less upstream production stages, is quite apparent with figures falling below the world average and most economies (Fig. 6.12, Panel 2). Despite this, moves towards economic diversification may already be displaying initial effectiveness as seen in the increasing trend of this indicator.

Using the framework of Wang et al. (2017b), average production lengths can be decomposed into three components: pure domestic production length, traditional production length and GVC production length. Pure domestic production length from the forward (backward) perspective refers to gross outputs (intermediate inputs) induced by an economy sector's value added (final goods and services) that do not involve any cross-border trade. Traditional production length and GVC production length, on the other hand, refer to the same transmission mechanisms but involve one border crossing and multiple border crossings respectively.

Panel 1 of Fig. 6.13 gives a breakdown of the average production length of Brunei based on forward industrial linkages. Across the years, the structure has been quite stable with component coefficients of variation ranging from 0.027 (traditional production) to 0.094 (pure domestic). GVC production has been the most dominant component with shares above 50% across all years. These suggest that Brunei's production follows a pattern of steady forward production length distribution, with value added inducing more gross outputs at higher levels of border crossings. A similar pattern of stability and shares dominated by the GVC production component is seen for the same economies in Fig. 6.1. Average production lengths based on backward industrial linkages present a similar structure for the case of Brunei, albeit with higher shares of GVC production—close to 60% (Fig. 6.13, Panel 2). Variability is also lower with component coefficients of variation ranging from 0.0128 (GVC production) to 0.0192 (pure domestic). Similar to production lengths based on forward industrial linkages, Brunei's production is in line with the relatively fixed structure of intermediate input dependence seen worldwide—a pattern that is more apparent for GVC-related transactions.

Based on the upstreamness and downstreamness analogues in Wang et al. (2017b), a measure of GVC position can be derived by getting the ratio between the two (that

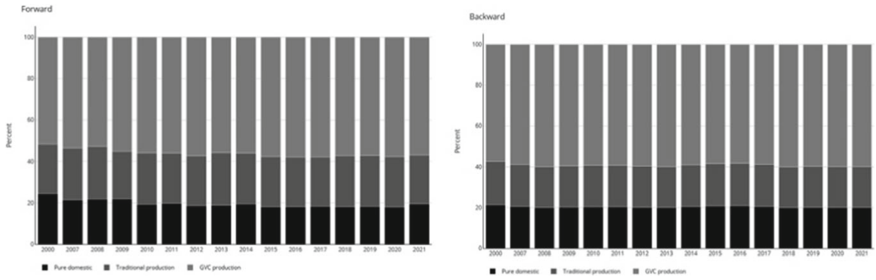

Fig. 6.13 Brunei Darussalam: Breakdown of average production lengths, 2000–2021. *Source* ADB (2023) and ADB estimates. *Note* Average production lengths are calculated following Wang et al. (2017b)

is, the ratio of average production length based on forward industrial linkages to that based on backward industrial linkages). This relative measure adjusts for the possibility of having a mixed set of industries playing varying roles (more upstream or more downstream) in their respective value chains that fall under the same aggregate sector. The index has a straightforward intuition with higher levels translating to an economy sector being more upstream. In addition, due to the use of relative rankings, it is consistent to say that an economy sector being more upstream than another translates to the latter being more downstream than the former—a relationship not afforded by previous position indices.

Brunei, for the most part, has always been a more upstream economy in GVCs relative to its neighbours and major hubs such as the United States and the PRC. Its reliance on a primary sector dominated by industries supplying products (such as petroleum) that enabled manufacturing and services worldwide often translated to higher forward production lengths compared to backward production lengths. This means that Brunei's role in stimulating gross outputs through its value-added contributions was more pronounced compared to the part it played in inducing intermediate inputs to produce its final products. The trend, however, has been quite inconsistent, with large drops in 2000–2008, 2016–2018 and 2020–2021. It is worth noting that as of 2021 Brunei's average production line position in GVCs (1.029) has fallen below the world average (1.033) and some key exporting economies (Fig. 6.14).

Drilling down to Brunei's sectors, most appeared more upstream across all years with average production line positions in GVCs from the forward linkage outweighing their backward counterparts (Fig. 6.15). In 2021 sectors with the highest position indices were 'renting of machinery and equipment and other business activities', 'manufacturing, not elsewhere classified; recycling', 'textiles and textile products', 'electricity, gas, and water supply' and 'food, beverages, and tobacco'. On the flipside, those with the lowest indices were 'public administration and defence', 'health and social work', 'education', 'agriculture, hunting, forestry, and fishing' and 'coke, refined petroleum, and nuclear fuel'.

Overall, looking at measures of GVC position and production length support economy-wide trends for Brunei, starting with a growing, heavy reliance on the oil

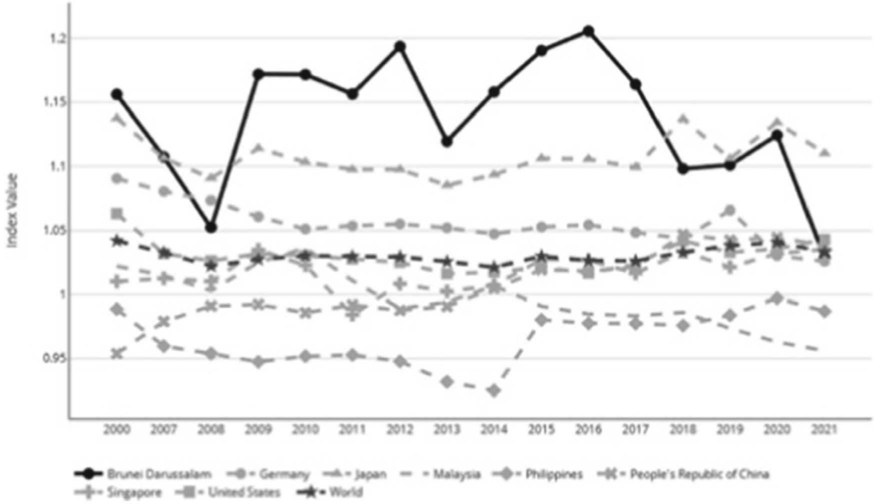

Fig. 6.14 Average production line position in GVCs, Brunei Darussalam and selected economies, 2000–2021. *Source* ADB (2023) and ADB estimates. *Note* BRU = Brunei, MAL = Malaysia, SIN = Singapore. Average production line positions are derived using the methodology of Wang et al. (2017b)

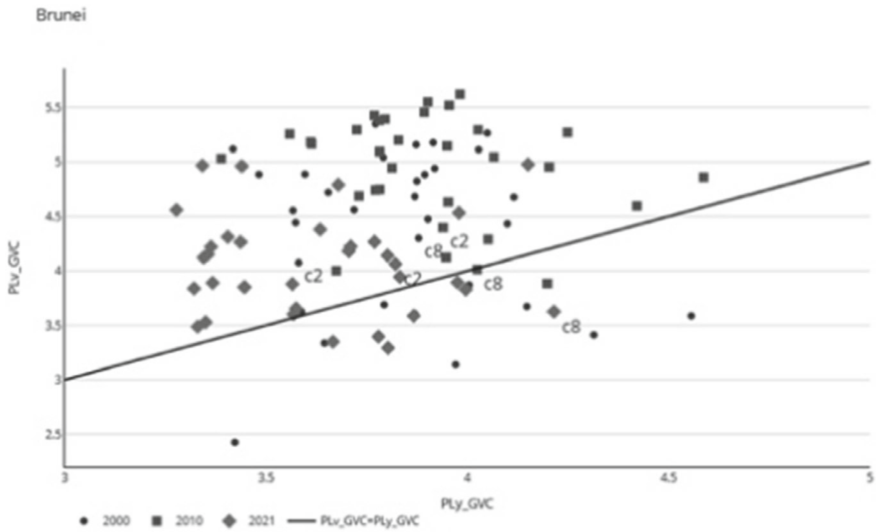

Fig. 6.15 Brunei Darussalam: Sectoral average production line position in GVCs, 2000–2021. *Source* ADB (2023) and ADB estimates. *Note* c2 = mining and quarrying, c8 = coke, refined petroleum and nuclear fuel. PLv_GVC = average production length forward, PLy_GVC = average production length backward. Average production length estimates are derived using the methodology of Wang et al. (2017b)

and gas industry following the discovery of their reserves in the mid-1990s before an eventual drop in oil prices that catalysed policy responses that pushed for increased product diversification. Based on position indices, it is clear that the economy's productive sectors were more upstream than those elsewhere in the world. In more recent years, however, this became harder to sustain as dependence on the primary sector weakened, albeit not drastically.

In terms of production length, almost all of Brunei's sectors had higher forward than backward indices, which means that industries comprising them were more involved in upstream than downstream production processes. Economy-wide values reveal forward production lengths higher than world averages and most economies, with a stable composition being consistently dominated by GVC production. Brunei's backward indices, on the other hand, are noticeably lower than those of other economies and are similarly concentrated to production involving multiple border crossings. Signs of structural change, however, are already showing as forward production lengths have consistently decreased while backward production lengths reflect a gradual uptrend. Two sectors deserve a closer look, namely mining and quarrying (c2) and coke, refined petroleum, and nuclear fuel (c8) as these relate to the production of oil and gas. The former stayed as a relatively upstream sector in the years considered, although its GVC position index dropped from 1.138 in 2000 to 1.063 in 2021, thereby indicating a gradual shift to relative downstreamness. For the coke, refined petroleum and nuclear fuel sector, a declining trend in the forward production length that coincided with an increase in the backward production length has led to a transition into a relatively downstream position.

6.4 Conclusion

This chapter evaluated the different indicators of GVCs for Brunei using robust and sophisticated methods based on MRIO tables from the ADB MRIO database. The analyses presented here have corroborated the dominance of oil and gas products in Brunei's gross exports, and the consequent limitations in its current position in GVCs. While the global increase in oil prices amid recovery from the pandemic and the Russian invasion of Ukraine may favour Brunei's trade balance in the short term, a structural transformation of the economy is impending, given the intrinsic volatility of oil prices along with exhausting reserves. The following points highlight some of the potential policy directions for improving Brunei's role in GVCs and its overall economic stability.

First, capitalise on low-hanging fruits. While Brunei has already ventured into expanding the production and GVC participation of the downstream oil and gas industries, it must also focus on building investments in other sectors such as *halal* food, aquaculture and ICT. As global demand for *halal* products grows, it is an industry with significant potential to contribute to the economy of Brunei. Similarly, local fisheries have expanded their output consistently over the years, creating opportunities for expansion of exports for this sector. The economy can also expand the contribution of services to GVCs by exploiting their role as intermediaries in manufacturing value chains that are highly dependent on communication, logistical and financial services.

Second, improve the ease of doing business. The economy consists of a fair number of small-scale businesses in the non-oil and gas sector. Reforms in creating a conducive business environment require policy interventions that streamline the regulatory requirements and licensing procedures for businesses. Bolstering the scale of these businesses, incentivising their exports and encouraging them to 'think global' will provide them a platform to compete outside the local market and participate in complex GVC structures.

Third, leverage trade agreements. Over the last few decades, Brunei has actively participated in free trade agreements with ASEAN members and other major economies like Japan, India, the PRC, Australia and South Korea on a bilateral basis. The increasing demand in ASEAN economies and the technological spillover from their production channels can be fundamental for Brunei to diversify its portfolio of exports while increasing its integration in GVCs. Brunei already has a host of prevailing regional trade agreements specifically designed to support the development of GVCs, such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the RCEP. In addition to these regional agreements, the economy could benefit from transpacific free trade agreements with major economies, including the United States, Canada, Mexico and Brazil, as duty-free access to these markets will boost the competitiveness of Brunei's manufacturers.

Lastly, embrace the digital. It has been recognised that digital technology has a pivotal role in enhancing the resilience of GVCs, especially by catering to the challenges ushered in by strict lockdowns and social distancing measures enforced during the pandemic, and by fostering economic recovery in a post-pandemic world. To this end, a digital transformation, including smart manufacturing processes, big data analysis and blockchain technology, can significantly support and sustain Brunei's economic growth. However, such a transformation necessitates bridging the gap between the digital competencies of developed and developing economies by increasing investments in digital infrastructure and equipping the workforce with adequate skills to adapt to the rapidly evolving digital landscape.

Although international experience has shown that diversification away from the oil and gas sector is a protracted and complex process, it is possible when backed by conducive policies, strong leadership and technological advancements. While diversification has been incrementally advocated by the government of Brunei and further underscored in Wawasan Brunei 2035, immediate implementation of these plans is vital for improved economic productivity and wider integration of Brunei in GVCs.

Appendices

A1: Asian Development Bank Multiregional Input–Output Database

The Asian Development Bank (ADB) multiregional input–output (MRIO) database is a time series inter-economy input–output table maintained by a dedicated team at the ADB. It is freely available at https://kidb.adb.org/globalization. Officially published national supply–use tables (SUTs) and/or input–output tables (IOTs) serve as benchmarks in the construction of the MRIO database. In each national SUT or IOT, sector and product classifications are harmonised to follow the 35 sectors, and whenever necessary SUTs are transformed into IOTs following the industry technology transformation assumption discussed in the European Commission (2008).

Benchmark IOTs also serve as the base structure for producing the time series of the ADB MRIO tables, using published estimates on gross output, gross value added, taxes-less-subsidies on products, imports and exports sourced from national statistical agencies and central bank databases as control totals. The structure of imports and exports is based on bilateral trade data extracted from the United Nations Comtrade database and government trade and balance of payments statistics. Once the national IOTs are integrated into the MRIO database, accounts for the sectors of the 'rest of the world' are manually and systematically adjusted to ensure consistency with economy sector totals in the MRIO database.

The basic structure of each MRIO table is given below. It is composed of:

$$\boldsymbol{Z} = \text{a matrix of intermediate uses}$$

$$\boldsymbol{Y} = \text{a matrix of final demands}$$

$$\boldsymbol{va} = \text{a vector of economy sectors value added}$$

$$\boldsymbol{x} = \text{a vector of gross outputs}$$

Read vertically, the table shows the purchases of each economy sector, distinguished between intermediate inputs and primary inputs, the latter also called value added. Read horizontally, it shows the sales of each economy sector, distinguished between intermediate sales and final sales. The market-clearing condition stipulates that total purchases and total sales for each economy sector must be equal. This amount is total output.

		Economy A	…	Rest of the world	Economy A	…	Rest of the world	Total output
		c1…c35	…	c1…c35	f1…f5	…	f1…f5	
Economy A	c1		***Z***			***Y***		***x***
	⋮							
	c35							
⋮	⋮							
Rest of the world	c1							
	⋮							
	c35							
Value added					***va***			
Total output					***x***			

Source ADB (2023)

A2: Description of Value-added Categories

Term	Description
DAVAX1	Exports of domestic value added absorbed by direct importer as final goods without passing through third economies
DAVAX2	Exports of domestic value added absorbed by direct importer as intermediate goods without passing through third economies
REX 1	Domestic value added in intermediate exports sent to and completed by partner economy and re-exported to third economy
REX 2	Domestic value added in intermediate exports sent to and re-exported by partner economy and eventually absorbed by third economy
REX 3	Domestic value added in intermediate exports sent to and re-exported by partner economy and eventually absorbed by partner economy
REF 1	Domestic value added in intermediates sent to and completed by partner economy then exported back to home economy
REF 2	Domestic value added in intermediates sent to and re-exported by partner economy and eventually absorbed in home economy
FVA	Portion of foreign value added in domestic exports excluding double counting
PDC 1	Pure double count of domestic origin
PDC 2	Pure double count of foreign origin

A3: Calculation of GVC Participation Rates

A useful statistic derived from the Borin and Mancini (2019) framework is the GVC participation rate. ADB (2022) identifies two approaches to measuring this. The trade-based approach, used by Hummels et al. (2001) and Borin and Mancini (2019), is computed as:

$$GVCP^{Trade} = \frac{REX + REF}{Exports} + \frac{FVA + PDC}{Exports}$$

This rate may be divided into a forward participation rate and a backward participation rate, given by the first and second terms respectively.

The second approach is by Wang et al. (2017b). This production-based GVC participation rate is computed as:

$$GVCP^{Production} = \frac{DAVAX2 + REX + REF}{GDP}$$

A4: Herfindahl–Hirschman Index

The Herfindahl–Hirschman index (HHI) is a formal measure of export concentration or the degree to which an economy's export basket is dependent on specific products or markets. It is calculated by squaring the shares of each sector or product group in the total exports of the economy, and taking the sum of the squares:

$$H = \sum_{n=1}^{N} (S_i^r)^2$$

The normalised HHI is estimated as:

$$H = \frac{\sum_{n=1}^{N} (S_i^r)^2 - \frac{1}{N}}{1 - \frac{1}{N}}$$

where $(S_i^r)^2$ is the share of gross output, exports or value added of sector i in the economy r. N is the number of sectors in economy r. The index is most sensitive to sectors or product groups that comprise a large share of an economy's export basket. The index values range between 0 and 1, where 0 implies a homogenously diversified economy wherein all sectors have a perfectly equal share of output, exports or value added to the total economy and 1 implies an extremely concentrated economy with only one sector.

To this end, following the Borin and Mancini (2019) framework, a sector's gross exports can be decomposed into various components, including DVA based on forward linkages or DAVAX. HHI can then be estimated using gross exports and DAVAX separately and the two estimates can be read in parallel for a detailed understanding of the layered production processes and resulting export composition.

A5: Upstreamness

Upstreamness estimates an economy sector's average distance from final demand. It is based on the index proposed by Fally (2012) and Antràs and Chor (2018) and is mathematically expressed as:

$$U_i^r = 1\left(\frac{F_i^r}{X_i^r}\right) + 2\left(\frac{\sum_{j=1}^{J} a_{ij}^{rs} F_j^s}{X_i^r}\right) + 3\left(\frac{\sum_{s=1}^{S}\sum_{j=1}^{J}\sum_{t=1}^{S}\sum_{k=1}^{J} a_{ij}^{rs} a_{jk}^{st} F_k^t}{X_i^r}\right) + \dots$$

where F is final demand, X is gross output, i and j are economies, and r and s are sectors. The coefficient, a, with subscripts ij and superscripts rs corresponds to the dollar amount of sector r's output from economy i that is needed to produce a dollar's worth of sector s's output in economy j. Intuitively, higher values of the index result from terms with bigger weights not being zero, which means that an economy sector's output goes through more stages of production before its final consumption (Mariasingham et al. 2020).

A6: Average Production Length

Indicator	Label	Description
PLv	Average production length based on forward industrial linkages	Total gross outputs induced by an economy sector's value added
PLv_D	Pure domestic average production length based on forward industrial linkages	Total gross outputs induced by an economy sector's value added that involve no border crossing
PLv_RT	Traditional average production length based on forward industrial linkages	Total gross outputs induced by an economy sector's value added that involve one (1) border crossing

(continued)

(continued)

Indicator	Label	Description
PLv_ GVC	GVC average production length based on forward industrial linkages	Total gross outputs induced by an economy sector's value added that involve multiple (>1) border crossings
PLy	Average production length based on backward industrial linkages	Total intermediate inputs induced by an economy sector's final goods and services
PLy_D	Pure domestic average production length based on backward industrial linkages	Total intermediate inputs induced by an economy sector's final goods and services that involve no border crossing
PLy_RT	Traditional average production length based on backward industrial linkages	Total intermediate inputs induced by an economy sector's final goods and services that involve one (1) border crossing
PLy_ GVC	GVC average production length based on backward industrial linkages	Total intermediate inputs induced by an economy sector's final goods and services that involve multiple (>1) border crossings
GVCPs	Average production line position in GVCs	Relative upstreamness index given by the ratio of average production length based on forward industrial linkages to average production length based on backward industrial linkages

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Chapter 7
Exploring Brunei Darussalam's Trade Dynamics: Leveraging ASEAN Plus Three and beyond from Its Production Base

Pang Wei Loon

Abstract This chapter provides an overview and analysis of the trade linkages between Brunei Darussalam and its main trading partners. Given its small domestic market, the country has relied heavily on oil and gas exports to promote growth and sustain its high standard of living. At the product level, Brunei is mainly dependent on two products, crude oil and natural gas. Its main export markets have been to neighbouring countries in the Association of Southeast Asian Nations (ASEAN), such as Singapore and Malaysia, while Japan has always been a major export market and in recent years China is becoming a very important partner, especially in terms of imports. ASEAN Plus Three is currently one of the most important trading partners for Brunei but there is still potential to further boost trade and investment opportunities within this bloc. As a resource-based economy, Brunei is mostly involved in interindustry trade (trade in different products), although in recent years there has been a tendency to diversify into exports of methanol. There is also a higher level of intra-industry trade in crude oil, as Brunei has started production of processed petroleum. The higher level of intra-industry trade in these products can be attributed to joint ventures with firms from China and Japan. Recently there has also been an increase in China's investments into important industries in Brunei. The domestic content of gross exports is very high though it is focused mainly on exports of raw materials.

Keywords Brunei Darussalam · Trade · Association of Southeast Asian Nations (ASEAN) · Comparative advantage · Value added · Diversification

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7.1 Introduction

Trade is commonly considered one of the most important tools for developing countries to expand their resource base and finance their development programmes. The positive spillover effects from global integration and international trade can be realised through employment creation, an increase in domestic savings, an expansion of tradeable sectors, a more competitive environment that generates efficiencies, the facilitation of technology transfer, economic growth, an increase in access to capital and higher standards of living. The global trade to gross domestic product (GDP) ratio has increased from 25% in 1970, peaked at 61% in 2008 and went down to 52% in 2020 (World Bank 2022). The significance of economies of scale and product differentiation gives rise to the importance of firms in shaping global trade. The role of firms in international trade is also important in the context of global value chains (GVCs), which refer to the different stages of production that take place across multiple countries (Melitz 2003; Helpman et al. 2004; Chap. 6 in this volume). The rapid rise of the global trade to GDP ratio during the 1980s may also be attributed to the emergence of GVCs instead of just increased trade integration worldwide (Antràs 2020a). According to Pol Antràs (2020b), the recent slowdown in the global trade to GDP ratio is a natural consequence of the hyper-globalisation experienced from the late 1980s to early 2000s. It is crucial to coordinate the role of governance structures and institutional frameworks in shaping the distribution of gains from trade and investment in GVCs.

Many developing economies have managed to grow rapidly through trade liberalisation policies and participation in global trade. It is believed that countries that have embraced globalisation with the necessary reforms of liberalising markets and pursuing disciplined macroeconomic policies are likely to benefit from trade, gain global market share and be rewarded with larger private capital flows. Most countries have experienced an increase in income and standard of living due to their integration into the global economy (Sachs and Warner 1995; Frankel and Romer 1999). However, there are many economists who argue that the benefits of trade have been unequal and might not benefit some developing countries (Rodriguez and Rodrik 2000; Rodrik 2006; Stiglitz 2007; Chang 2008, 2010; Engel et al. 2021). Smaller domestic companies that are unable to adapt to the increasing competition might be adversely affected, resulting in output and job losses in certain economies (ESCAP 2019). Many developing economies are now important players in the global merchandise market, accounting for about 44% and 41% of global exports and imports respectively—this is a tremendous increase from about 18% in both categories in the early 1970s (UNCTAD 2020).

Similarly, consumers can benefit from access to a wider variety of products at more affordable prices (Pavcnik 2019). International trade is especially important for small and resource-rich economies to generate growth (Lindert and Williamson 2007). Resource-rich economies tend to have a lower level of economic diversification and a slower pace of development as most activities are concentrated in resource sectors, thereby neglecting other tradeable sectors (Venables 2016). Overall, the role of firms in GVCs highlights the importance of understanding the dynamics of global production networks and the complex interactions between firms, countries and markets.

Brunei Darussalam is the fourth largest producer in Southeast Asia and a major exporter of liquefied natural gas (LNG) in the Asia-Pacific (CIA 2020). Brunei's economy is heavily reliant on the export of crude oil and natural gas, which comprise about 90% of the country's exports and about half of its GDP. This reliance has made the country's revenue particularly vulnerable to world fluctuations in oil and gas prices.

Table 7.1 presents the composition of Brunei's GDP using the expenditure approach from 2017 to 2021. It shows that the household consumption share of GDP was about 20% until 2020, with an increase to 24.85% in 2021, most probably due to the closed border effect of the COVID-19 pandemic. Given the small domestic market and an annual population growth of around 1% over the past decade, the country would need to rely on the global market to increase its GDP. Government consumption's share to GDP accounted for 22–26% of GDP. This is due to the fact that the economy is heavily driven by the public sector and the government provides a very generous social welfare system for its citizens. Further, over 80% of government revenues are derived from the oil and gas industry. Other revenue sources derived from rents, taxes, returns from investments and savings accounted for the remaining 20% in 2020 (DEPS 2021). Due to increasing government expenditure and declining revenues from oil and gas, the government has experienced a fiscal deficit over the past few years (ibid.). Hence, there is a need to enhance the role of the private sector to accelerate investment, generate more employment opportunities and reduce the burden on the government.

Brunei imports most of its products for consumption and the import to GDP ratio is normally 30–40%, but it increased to 67% in 2021.The increase is mainly in the mineral fuels and chemical sectors, especially starting from 2019. A reduction in imports would tend to increase GDP, reallocating income from foreign to domestic companies. However, the inward-looking policies of protectionism and import substitution tend to promote inefficiency—although they do improve food security. The country relies on imports for most of its consumption, though it has made strides in primary sectors such as vegetables and meat (DAA 2022). The country managed to achieve self-sufficiency in broilers and eggs, and 85% self-sufficiency for beef in 2021 (ibid.). There is a focus to attain self-sufficiency in the area of agriculture products such as tropical vegetables, fruits and mutton. In 2021 the country had 65% self-sufficiency in tropical vegetables, 42% in vegetables and 9% in rice (Kon 2021).

Exports and gross capital formation are the two main components to promote sustainable GDP growth for the country. Exports made up about 58% of GDP in 2019, with crude oil and natural gas accounting for more than 90% of export revenues. The decrease in revenue surplus and depletion of foreign reserves have made Brunei's economy more vulnerable to fluctuations in petroleum prices. Its revenue from oil and gas has dropped from about BND12 billion in 2011 to about BND1.2 billion in 2020 (DEPS 2021). It is expected that oil and gas will begin to deplete around 2035 (Sheith Khidhir 2018). This coincides with Wawasan Brunei 2035 (Brunei Vision 2035), a

Table 7.1 Brunei Darussalam: Gross domestic product (expenditure type) in current prices, 2017–2021 (BND millions)

Expenditure	2017	2018	2019	2020	2021
Household final consumption expenditure	3,429.20	3,574.60	3,757.90	3,986.5	4,677.6
	(0.20)	(0.20)	(0.21)	(0.21)	(0.25)
Government final consumption expenditure	4,434.30	4,418.10	4,601.20	4,186.9	4,225.2
	(0.26)	(0.24)	(0.25)	(0.22)	(0.22)
Gross capital formation	5,829.00	7,515.50	7,107.00	6,844.2	5,886.1
	(0.35)	(0.41)	(0.39)	(0.35)	(0.31)
Exports of goods and services	8,302.40	9,504.10	10,647.60	12,727.8	15,089.4
	(0.50)	(0.52)	(0.58)	(0.66)	(0.80)
Imports of goods and services	5,962.80	7,679.80	9,291.10	8,741.7	12,602.1
	(0.36)	(0.42)	(0.51)	(0.45)	(0.67)
Gross domestic product	16,747.70	18,300.70	18,375.00	19,315	18,822.0

Source DEPS (2021)
Note Numbers in parentheses are %

long-term development plan aimed to achieve a dynamic and sustainable economy by promoting a more robust private sector and cultivating an educated and skilled workforce. However, export diversification has been slow, despite improvements made in the past few years.

7.2 Literature Review

A traditional Ricardian theory of international trade is based on the concept of comparative advantage and it shows how the difference in the relative costs of two commodities is the main cause for trade. Countries specialise and export goods in which they have the highest comparative advantage. The Heckscher-Ohlin-Samuelson theory views differences in factor endowments as the main element determining comparative advantage. A country with abundant endowment exports the commodity which uses this factor intensively. Conventional theories of trade tend to support interindustry trade between countries. Interindustry trade refers to the international trade of different goods, such as the export of hydrocarbons for consumer goods. Under the classical theories of trade, there seems to be no reason for simultaneous export and import of any homogeneous product. In other words, countries that have similar technologies, endowments and preferences would have little reason to engage in trade. Brunei, being a resource-rich economy relying heavily on crude oil and natural gas, would fall under this category. However, since the establishment of the Hengyi petrochemical complex at Pulau Muara Besar in 2019 we can expect to see an increase in trade of similar products within an industry.

P.J. Verdoorn (1960), Bela Balassa (1965), Herbert G. Grubel and P.J. Lloyd (1975), and David Greenaway and Robert Hine (1991) show that much of the increase in trade in Europe took place in products within the same industry, also known as intra-industry trade. Paul Krugman (1983) stresses that most of the world's trade in manufactured goods is between countries with similar relative factor endowments. The expansion of the manufacture of differentiated products with brand-specific economies of scale leads to intra-industry trade.

Most trade between industrialised countries involves a bilateral trade of goods produced with similar factor proportions. The developments of intra-industry trade theory emphasise the role of increasing returns to scale and imperfect competition (Lancaster 1980; Helpman and Krugman 1989). These theories highlight economies of scale and product differentiation, contrasting classical theories of international trade. Economies of scale mean that more output can be produced at a lower cost. An industry characterised by such economies will tend to specialise in that product. Specialisation and trade will result in productive efficiency and an increase in welfare benefits to all trading countries. There will be a variety of products made in each industry under the conditions of increasing returns to scale. This argument is more apparent in manufacturing industries where goods are more complex in structure. The theory of intra-industry trade provides a better explanation of the empirical evidence of high volumes of trade between countries in similar goods (Brander 1981; Greenaway and Hine 1991; Greenaway et al. 1994; Davis 1995; Greenaway and Milner 2006; Brülhart 2009). Under imperfect competition and economies of scale, each country will only produce a certain subset of goods in each industry, following the intra-industry pattern, and trade will occur within the same industries but with different products.

Although interindustry trade still accounts for a major share of total trade in East Asia, there has been a surge in vertical intra-industry trade, involving trade in goods differentiated in quality (Fukao et al. 2003). Intra-industry trade may arise as different types of products are aggregated into one main category. Because of product differentiation, trade in goods within the same product category or simultaneous import and export of goods within the same industry are becoming more prevalent (ibid.; Greenaway et al. 1994). This seems to follow conventional theory by suggesting that each country will specialise and become an exporter in the industry in which it has a comparative advantage. James Brander (1981) has shown that trades in similar goods occur because of product differentiation or branding and such trade can improve welfare. The increasing scale of intra-industry trade and huge multinational enterprises have transformed conventional views on trade. In these models, markets are characterised by imperfect competition and increasing returns to scale. Because of consumers' love of variety, a country will import and export each variety, even if they fall under the same category of goods. The new source of gains from trade focuses on the importance of big enterprises where production is concentrated on the more efficient firms determining the export pattern of a country (Melitz and Trefler 2012).

Trade in sophisticated products normally involves multinational corporations (MNCs) where there is an export-oriented foreign direct investment (FDI) inflow to pursue efficiency in terms of production cost. These gains are driven by the segmentation of production across countries and the interconnectedness between firms which is defined by the GVC. Marcel Timmer et al. (2012) demonstrate that the share of intermediate inputs in total production has increased for almost all economies, especially East Asian economies, which shows strong bilateral trade between members. They also find that the global supply chain accounted for more than half the total trade value. Global supply chains are growing rapidly due to the advancement of technological innovation—countries move up the chain as they grow and develop (Baldwin 2012). The surge in the volume of international trade can be attributed to the rise in GVCs in the 1990s. As economies become more integrated, income levels and productivity rise as FDI flows into developing countries (World Bank 2020). This is especially true in manufactured products where many components are assembled to form the final product. Many high-technology products are assembled in developing countries because of their low costs; due to this, the domestic content of the value added from processed trade has been an integral part of growth in most developing countries. Timmer et al. (2014) find that the value added increases faster in emerging countries, especially China, compared to more advanced countries. While conventional trade theories focus on trade flows between countries, the concept of global supply chains emphasise the production process of a product with value added in each stage of production (Antràs 2020a).

7.3 Trade Relations in Brunei

7.3.1 Stylised Facts on Trade

Since the 1960s Brunei has maintained a trade surplus (Fig. 7.1). From the late 1970s to early 1980s, high oil prices and oil production resulted in a trade surplus of about USD3.9 billion. This surplus persisted even during the 1997–1998 Asian financial crisis, although it declined in the late 1990s, which can be attributed to the oil price depression. The oil price glut during the mid-1990s resulted in a record low surplus of about USD2 billion. After 1998 the country began to see another pattern emerging. Brunei's earnings from oil and gas started to decline substantially due to a reduction in oil production. The country attained a record surplus of around USD9.4 billion in 2012 when oil prices soared above the USD100 mark. The economy managed a significant feat of maintaining a trade surplus over the period. However, there has been a decline in exports over the past few years while imports have remained steady. The current account surplus has declined, and this is a concern for the government and policy planners.

The export basket consists of different heterogeneous products. Aggregating all products into an export basket or sector would be too crude to gauge trade linkages between countries. At an aggregated level, all electronics products would be classified in the same category but might be very different from each other. To avoid this,

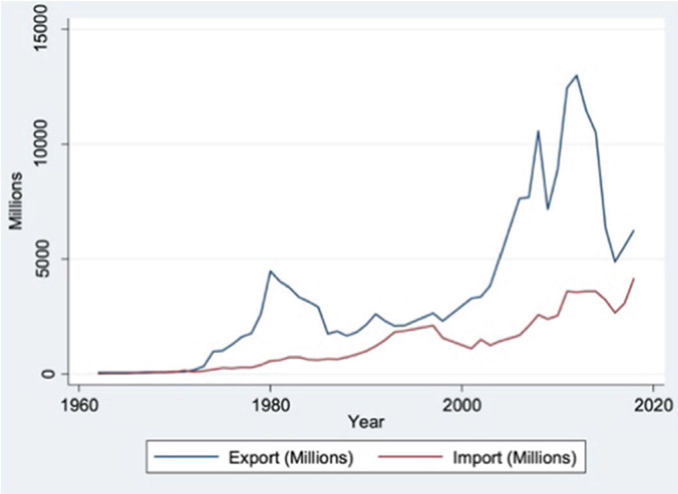

Fig. 7.1 Brunei Darussalam: Exports and imports, 1960–2020 (USD millions). *Note* The exports and imports can be further categorised into trade at the product level. This provides more information and interest on patterns of trade between countries

we use a disaggregated level of classification to investigate the trade linkages of Brunei. According to Peter K. Schott (2008), product-level data provide a better understanding as heterogeneity exists across products, even in the same industry. The Harmonised System (HS) is a standardised structure developed by the World Customs Organisation for classifying and coding goods for international comparison. The HS has been adopted by over 200 countries and accounts for about 98% of total world trade (WITS 2024). The system at the six-digit level (HS6) comprises approximately 5,300 product descriptions.

The total number of products exported and imported by Brunei is shown in Table 7.2. Brunei exported just under 100 products before 1997 and over 1,800 by 2019. Data at the product level are noisy and subject to measurement errors due to classification issues in HS revisions. Products recorded with 0 trade value are also dropped from our sample study. Many export earnings for products are negligible. We can see a considerable drop in exports once we filter out those with export values less than USD5,000. There are considerably more products imported due to the heavy reliance on imports for domestic consumption. There are 2,000–3,000 products which the country imported, and these numbers drop by around 30% if we filter out those valued at less than USD5,000.

Table 7.3 provides the top 10 exports and Table 7.4 the top 10 imports for Brunei. This is to offer a comparison of the trade structure for 2001 and 2019. In 2001, out of the total 1,129 products exported, Brunei's top two exports were crude oil (47%) and natural gas (46%). The textile industry prospered in the late 1990s and early 2000s, with exports going mainly to North America (ASEAN-Japan Center 2021). In 2001 manufacturing was mainly confined to the textile and apparel industry, with

Table 7.2 Brunei Darussalam: Total export and import headings at product level, 1992–2019

Year	Export headings (all)	Export headings (>USD5,000)	Import headings (all)	Import headings (>USD5,000)
1992	61	40	2,167	1,736
1993	35	19	2,215	1,770
1994	67	59	2,181	1,804
1997	1,362	683	3,783	2,920
1998	1,445	642	3,786	2,711
2001	1,129	74	3,479	2,533
2002	1,216	102	3,551	2,582
2003	1,195	96	3,467	2,564
2004	1,834	809	3,773	2,774
2006	1,599	662	3,617	2,700
2007	1,695	727	3,657	2,768
2008	1,711	696	3,635	2,741
2009	1,853	748	3,631	2,803
2010	1,938	828	3,599	2,738
2011	1,950	823	3,584	2,726
2012	1,884	860	3,521	2,751
2013	1,798	883	3,524	2,782
2014	1,763	829	3,499	2,713
2015	1,895	878	3,543	2,750
2016	1,905	868	3,537	2,730
2017	1,922	864	3,505	2,767
2018	1,629	144	3,537	2,740
2019	1,890	869	3,537	2,742

Source Compiled from WITS (2024) using HS-92 classification
Note Data for 1995, 1996 and 1999 are missing

a combined share of more than 10% of exports. However, this industry declined rapidly due to stiff competition from China and India when the quota system was abolished. Reliance on crude oil and natural gas seems to have reduced slightly in 2019, with an export share of about 82.6%. The two exports which have seen an increase in the export share are refined petroleum and methanol. The two products had a combined export share of 10% in 2019. Methanol is an industrial chemical and considered a downstream product processed from natural gas and steam. Brunei Methanol Company is a joint venture between Mitsubishi Gas Chemical, Itochu and Petroleum Brunei which was established in 2006 (Oxford Business Group 2011). There has been an increasing trend of FDI from Chinese companies, such as Hengyi Industries and Beibu Gulf, to further develop downstream petrochemical industries and improve port facilities and equipment provided by the Muara Container Terminal (see below). USD3.45 billion was invested in the first phase and another USD13.65 billion in the second phase, the largest investment in the country.

Table 7.4 shows the top 10 products by import share in 2001 and 2019. Crude oil and petroleum oil were the top imports in 2019. Since the Hengyi oil refinery became operational in 2019, the country has seen an increased share of import of crude oil. The two products were not on the list in 2001. At the product level, there are some products that are both exported and imported. We look next at the comparative advantage at the product level.

Table 7.3 Brunei Darussalam: Top 10 products by export share, 2001 and 2019

Rank	2019			2001		
	Product	Export value	(%)	Product	Export value	(%)
1	Liquefied natural gas	3,000.0	42.05	Petroleum oils and oils obtained from bituminous minerals	1,600	47.33
2	Petroleum oils and oils obtained from bituminous minerals	2,900.0	40.58	Liquefied natural gas	1,500	46.04
3	Petroleum oils, etc. (excl. crude); preparation	532.1	7.57	Petroleum oils, etc. (excl. crude); preparation	63.6227	1.93
4	Methanol (methyl alcohol)	150.7	2.14	Garments, made up of fabrics	29.0575	0.88
5	Derricks, cranes or work trucks	45.3	0.64	T-shirts, singlets and other vests	21.2406	0.65
6	p-Xylene	41.9	0.60	Men's or boys' shirts of cotton, knitted	15.2454	0.46
7	Aromatic hydrocarbon mixtures	36.8	0.52	Dresses of cotton, knitted or crocheted	12.0307	0.37
8	Aircraft parts (not elsewhere specified)	35.9	0.51	Parts of garments or clothing access	10.6613	0.32
9	Chemical products and residual products	31.8	0.45	Jerseys, pullovers, etc. of cotton	10.557	0.32
10	Petroleum gases	30.6	0.44	Clothing accessories	9.6744	0.29

Source Compiled from WITS (2024) using HS-92 classification
Note Export value is measured in USD millions

Table 7.4 Brunei Darussalam: Top 10 products by import share, 2001 and 2019

Rank	2019			2001		
	Product	Import value	(%)	Product	Import value	(%)
1	Petroleum oils and oils obtained from bituminous minerals	1,200.0	22.8	Parts of steam and vapour turbines	31.1	2.8
2	Petroleum oils, etc. (excl. crude)	411.2	8.1	Weft knits or crocheted fabrics	29.8	2.7
3	Automobiles with reciprocating piston	149.6	2.9	Unbleached woven fabrics of cotton	29.4	2.7
4	Parts of machinery, plant and equipment	112.2	2.2	Aircraft parts (not elsewhere specified)	27.3	2.5
5	Structures and parts of structures	110.8	2.2	Combed single cotton yarn	27.1	2.5
6	Taps, cocks, valves and similar appliances	103.8	2.0	Automobiles with reciprocating piston	22.3	2.0
7	Other medicaments	89.9	1.8	Live pure-bred breeding bovine animals	14.3	1.3
8	Coal gas, water gas, producer gas	86.8	1.7	Automobiles with diesel engine displacement	12.3	1.1
9	Aircraft parts (not elsewhere specified)	67.9	1.3	Pipeline, welded, riveted	11.9	1.1
10	Parts of aircraft engines	66.6	1.3	Tobacco	10.4	0.9

Source Compiled from WITS (2024) using HS-92 classification
Note Import value is measured in USD millions

7.3.2 Intra-industry Trade

The most common method for measuring intra-industry trade is the Grubel–Lloyd index. It measures the ratio of the net exports in a product category to its total trade. The index values vary between 0 and 1, with 0 representing complete interindustry trade and 1 representing complete intra-industry trade. When export equals import in a particular industry, the index equals 1. The index can also be considered a measure of the degree of trade overlap between exports and imports for a given commodity:

$$GL_{ijk} = 1 - \left(\left|X_{ijk} - M_{ijk}\right| / X_{ijk} + M_{ijk}\right) \tag{7.1}$$

where X_{ijk} and M_{ijk} define the exports and imports of country i to country k for product j.

At the product level, we found that the index for natural gas was very close to 0 before 2019, indicating interindustry trade. This is not surprising given that Brunei exports mainly oil and gas and imports manufactured goods. However, for 2019 we found a high level of intra-industry trade for crude oil and petroleum oil with values of 0.58 and 0.87 respectively. It seems Brunei imported a substantial amount of crude oil in 2019 (USD1.16 billion) from different sources, such as Nigeria, the United Arab Emirates and Kazakhstan. Brunei also imported USD411 million of petroleum oil in 2019, mostly from Singapore (68%) and China (14%). Hengyi started producing processed petroleum oil in 2019, coinciding with the massive imports of crude oil needed in the production process. There might be a need to import crude oil from other sources given that the country produces a daily average of 100,000 barrels of crude oil while the refinery plant can process more than 160,000 barrels a day.

7.3.3 Trade Agreements

Regionalism is a very important aspect of Brunei's international political and economic relations. It joined the Association of Southeast Asian Nations (ASEAN) in 1984 and, being a senior member, plays an important role. Today ASEAN consists of 10 member countries, with a population of 671 million and a combined GDP of USD3.6 trillion in 2022—it is considered the fifth largest economy in the world (ASEAN Secretariat 2023). The ASEAN Free Trade Area (AFTA) was established in January 1992 to promote regional economic integration by eliminating tariff and non-tariff barriers among its member countries. ASEAN now comprises about 8.5% of total world trade and is the fourth largest trading economic bloc after the European Union, the United States and China.

ASEAN Plus Three (APT), which includes China, Japan and South Korea, was initiated in 1997 and institutionalised in 1999 and has since become an important framework to promote political, social and economic stability in the East Asian region. APT is one of the biggest free trade agreements (FTAs) globally, with a population of about 2.1 billion people (over 28% of world population), GDP of about USD24 trillion (about 27% of global GDP) and total trade estimated at USD10.13 trillion. Already very large, and having generated massive FDI inflows and trade, APT still has huge potential for future growth (ASEAN Secretariat 2024a, b).

ASEAN's institutional deepening has continued apace over the last decade. A major development was the establishment of the ASEAN Community on 31 December 2015 which aims to incorporate the ASEAN Political-Security Community (APSC), ASEAN Economic Community (AEC) and ASEAN Socio-Cultural Community (ASCC). The AEC promotes free trade, services investments, skilled labour and capital mobility across the region. The objective of a single market and a single production base is currently a work in progress. The region has been successful in reducing tariffs in trade, though the problem of non-tariff barriers is on the rise

(Menon 2018). Christina Ruth Elisabeth (2019) notes that the majority of the non-tariff barriers were in the form of technical barriers to trade such as sanitary and phytosanitary export measures. Her report also finds that Brunei applies non-tariff barriers to animal, vegetable and food products, and adheres to a strict standard to protect its consumers and the environment.

FTAs and designating free trade regions are considered by policymakers to be the most effective instruments for trade liberalisation. With FTAs, trade and exchange rate regimes have been liberalised, with tariffs and non-tariff barriers lowered significantly in developing countries (Engel et al. 2021). Brunei has joined several FTAs through its membership of ASEAN, which include Australia, New Zealand, China, South Korea, Japan and India. The ASEAN–China FTA was signed in 2004 and tariffs on 7,000 product categories were eliminated in 2010. The ASEAN–Korea FTA was formed in 2007, and tariffs have been eliminated for 90% of traded products between the two partners. The ASEAN–Japan Comprehensive Economic Partnership in 2008 eliminated tariffs on 87% of product lines and facilitates cross-border investments between the partners.

Brunei was also one of the 11 signatories to the Trans-Pacific Partnership (TPP), which was effectively supplanted by the Regional Comprehensive Economic Partnership (RCEP) formed in December 2020, which is also an FTA between the ASEAN region and the Asia-Pacific countries of Australia, New Zealand, South Korea, Japan and China. As a small nation, Brunei does not have the power to voice its viewpoint at the international level on its own. These larger organisations provide a platform so that its aspirations have a better chance of being realised in a globalised world. Being a member of the World Trade Organisation (WTO), the country is entitled to most favoured nation (MFN) status. The MFN simple tariff rate declined to 0.21% in 2019 compared to 4.12% in 2001. The intra-tariff rate in ASEAN has been reduced from around 3% in 2005 to just 0.2% in 2017. Trade liberalisation under the FTAs helps to integrate the region more quickly and generate new economic activities.

7.3.4 Trade Partners

Brunei exports almost its entire export basket (99%) to the ASEAN Plus Six region (Australia, China, India, Japan, South Korea and New Zealand). China, South Korea and Japan are the most important market destinations for oil and gas. China's growth could create potential opportunities for the ASEAN region (Dizioli et al. 2016). China has been the largest investor in ASEAN since 2010 and its largest trading partner. However, it could pose a threat to some economies that cannot compete with China's overly competitively priced products. Given China's integration and huge market potential, especially in the ASEAN region, the expectation is that China will stimulate regional economic growth.

As mentioned above, Brunei's main export products are crude oil and natural gas; its main imports are food and consumer products. Table 7.5 shows the main export destinations for Brunei for 2010 and 2019. In 2010 Brunei exported about 43.5% of its products to Japan. The export share to Japan declined to 31.4% in 2019, when Brunei exported about USD2 billion of LNG and USD138 million of crude oil. (It is worth noting that in 1984 Brunei exported about 68% of its total exports to Japan.) Over the years, the country's exports seem to have moved towards intraregional trade with ASEAN, with the market share to the region increasing from 12% in 2010 to 35% in 2019. Within ASEAN, Singapore, Malaysia and Thailand are top export destinations while Myanmar, Laos and Cambodia are also important. In 2019 Singapore was the second-largest export market for Brunei, comprising 13.7% of its total exports. Brunei is also starting to export to the Philippines and Vietnam—mostly methanol products.

Australia is Brunei's third-largest market, with a 10.2% market share comprising USD640 million of crude oil and USD67 million of petroleum oil exports. Brunei exports a relatively small percentage of its products to China as exports experienced a slight decline from 6.6% in 2010 to 6.1% in 2018. Currently, China imports its crude oil primarily from non-Organisation of the Petroleum Exporting Countries such as Russia, Oman and Brazil.

Brunei's main imports used to be from the ASEAN region, which comprised about 51% of Brunei's import basket in 2010. At that time, within the ASEAN region, Malaysia and Singapore had the biggest import shares at 23.6% and 19.1% respectively. China has also emerged as an important source of imports as its market share in Brunei has increased dramatically from near non-existence before the 1980s to 13.2% in 2019. Products imported from China are mainly machinery appliances and parts, iron or steel articles, mineral fuels and chemical products. (In what appears

Table 7.5 Brunei Darussalam: Exports to major trading partners, 2010 and 2019

Rank	2010	Export value (USD millions)	%	2019	Export value (USD millions)	%
1	Japan	3,872.0	43.5	Japan	2,206.9	31.4
2	South Korea	1,486.5	16.7	Singapore	966.9	13.7
3	Australia	919.9	10.3	Australia	715.7	10.2
4	Indonesia	632.2	7.1	Malaysia	611.5	8.7
5	China	586.9	6.6	India	602.4	8.6
6	India	496.1	5.6	Thailand	552.1	7.8
7	South Asia	496.1	5.6	China	429.1	6.1
8	New Zealand	377.8	4.2	South Korea	338.1	4.8
9	Singapore	251.2	2.8	Vietnam	198.7	2.8
10	Malaysia	132.4	1.5	Philippines	119.0	1.7
	ASEAN	1,106.7	12.4	ASEAN	2,486.8	35.3
	APT	7,052.0	0.79	APT	5,460.9	0.78
	APS	8,845.7	0.99	APS	6,779.6	0.99

Source Compiled from WITS (2024)

Table 7.6 Brunei Darussalam: Imports from major trading partners, 2010 and 2019

Rank	2010	Import value (USD millions)	%	2019	Import value (USD millions)	%
1	Malaysia	599.6	23.6	China	672.0	13.2
2	Singapore	485.0	19.1	Singapore	639.7	12.5
3	Japan	252.5	10.0	Malaysia	605.3	11.9
4	United States	246.6	9.7	United States	322.6	6.3
5	China	199.2	7.8	Germany	322.1	6.3
6	Thailand	136.5	5.4	Nigeria	287.5	5.6
7	United Kingdom	109.4	4.3	United Arab Emirates	256.2	5.0
8	Germany	77.7	3.1	Japan	207.0	4.1
9	Indonesia	64.8	2.6	Kazakhstan	203.6	4.0
10	Korea, Rep	56.1	2.2	Indonesia	130.6	2.6
	ASEAN	1,298.9	51.2	ASEAN	1,637.5	32.1
	APT	1,806.7	71.2	APT	2,610.9	51.2
	APS	1,891.1	74.5	APS	2,760.6	54.1

Source Compiled from WITS (2024)

to be an outlier, Brunei imported USD1.6 billion from China in 2018, which is more than its USD1.3 billion of imports from the entire ASEAN region that year.) (Table 7.6).

7.3.5 Trade by Sectors

Although the product level provides a clearer understanding of trade between two regions, it is messy to tabulate and summarise trade flows for all 5,000 products. Tables 7.7 and 7.8 illustrate Brunei's trade with ASEAN Plus Three by 10 sectors classified by the standard international trade classification (SITC) at the 1-digit level. Not surprisingly, Brunei's exports to APT are concentrated in two sectors: mineral fuels (95%) and chemical products (4.6%). These two sectors account for a combined USD1.6 billion, which is more than Brunei's total exports to the combined ASEAN region. Mineral fuels are the main export sector to Japan and South Korea, accounting for more than 99% of Brunei's total exports to these two countries. Brunei's largest export sector to China is also the chemical and animal oil sectors (90%). China has been one of the world's largest net oil importers in recent years and is looking to acquire fuels from neighbouring countries. In terms of energy security, Brunei might have the potential to provide oil and gas to meet China's rising demand for fuels. Brunei's exports to APT in the other sectors are minimal and do not contribute much

Table 7.7 Brunei Darussalam: Exports to APT by sector, 2019 (USD1,000)

Sector	ASEAN	China	Japan	South Korea
Food and live animals	801.4	1,086.7	754.4	0.0
Beverages and tobacco	1.9	0.0	15.6	0.0
Crude materials, inedible, except fuels	181.0	0.9	0.0	368.4
Mineral fuels, lubricants and related materials	1,530,015.0	0.0	2,267,501.1	606,379.7
Animal and vegetable oils and fats	0.0	118,569.7	0.0	0.0
Chemicals and related products	74,048.2	109,064.3	13,487.0	6,173.1
Manufactured goods classified	1,838.9	63.9	0.0	13.8
Machinery and transport equipment	757.0	0.6	153.2	0.0
Miscellaneous manufactured articles	2,055.3	0.1	0.0	0.0
Commodities and transactions	207.5	11.0	7.5	0.8

Source Compiled from WITS (2024) using SITC 1 data

to the export share. A potential sector Brunei could tap into is agriculture, fishery and services products, given the increasing Chinese demand.

Brunei's main import source is China, followed by the ASEAN region. Its imports from China, Japan and South Korea are mainly machinery and manufactured goods. Imports from the ASEAN region are more evenly distributed between the sectors of food products, manufactured goods and machinery.

7.3.6 Trade Intensity Index (TII)

Ramkishen Rajan and Rahul Sen (2002) stress that trade shares are an incomplete indicator of the intensity of bilateral trade relations as they do not consider a country's trade exposure with the rest of the world. The degree of bilateral trade linkages between Brunei and APT can be more appropriately measured using the bilateral trade intensity index (TII). The TII is used to determine whether the ratio of a country's exports to a specific trading partner is relative to world exports, thus providing a basis for their importance in world trade. It is defined as the share of one country's exports to a partner divided by the share of world exports to the partner. The index can be represented as:

$$TII_{ij} = \left(\frac{X_{ij}}{X_{it}}\right) / \left(\frac{X_{wj}}{X_{wt}}\right) \tag{7.2}$$

Table 7.8 Brunei Darussalam: Imports from APT by sector, 2019 (USD1,000)

Sector	ASEAN	China	Japan	South Korea
Food and live animals	313,952.2	20,370.6	1,228.0	1,737.8
Beverages and tobacco	30,925.5	55.3	79.5	250.7
Crude materials, inedible, except fuels	25,875.7	4,008.9	2.3	983.4
Mineral fuels, lubricants and related materials	266,439.8	280.5	373.7	198.4
Animal and vegetable oils and fats	12,492.6	0.0	0.0	3.3
Chemicals and related products	160,103.4	45,407.3	5,755.7	5,684.5
Manufactured goods classified	180,127.3	818,537.4	46,345.4	44,600.0
Machinery and transport equipment	245,845.3	663,273.1	104,280.0	41,712.9
Miscellaneous manufactured articles	110,650.0	89,305.3	2,591.7	1,895.3
Commodities and transactions	527.9	173.0	5.1	56.5

Source Compiled from WITS (2024) using SITC 1 data

where X_{ij} and X_{wj} are the values of country i's exports and world exports to country j, and where X_{it} and X_{wt} are country i's total exports and total world exports respectively. A trade intensity of greater (less) than 1 implies that the bilateral trade intensity between the two countries is higher (lower) compared to the rest of the world.

Figure 7.2 provides the TII of Brunei–ASEAN and Brunei–APT. Brunei's TIIs with ASEAN and APT have values of more than 1, indicating strong trade linkages. However, there seems to be a downward trend in the APT TII over the years, falling from about 9 in the late 1980s to about 4 in 2018. Although the index is still high, this seems to indicate that the rest of the world's trade linkages with APT, one of the biggest trading blocs in the world, are getting more intensive. The results are as expected given the importance of ASEAN and APT to Brunei and how most of the country's exports and imports involve APT.

The revealed comparative advantage (RCA), also known as the Balassa index, has often been used to access a country's export potential (Balassa 1965; De Benedictis and Tamberi 2001; Reyes 2014). The RCA measures a country's relative export performance for a product as a ratio of the world's total export share of that commodity. Countries with similar RCA indices for a commodity are unlikely to have high bilateral trade intensities unless they are trading in similar goods. RCAs measured at very disaggregated levels might indicate a potential export advantage that should be capitalised on. The RCA index of country i for product k is often measured by the product's share in the country's exports to its share in world trade:

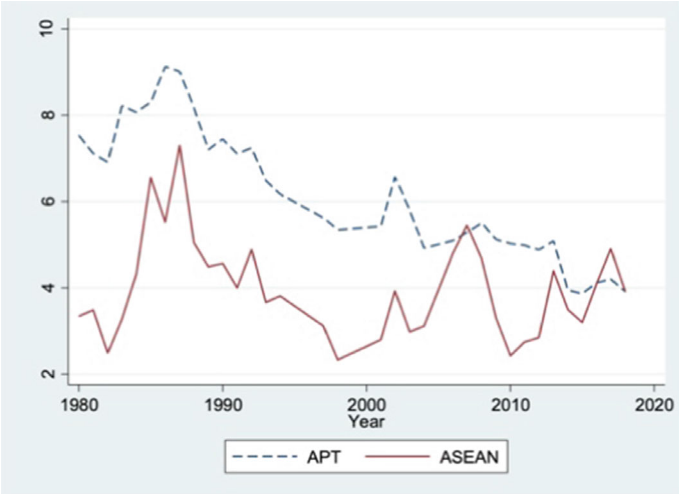

Fig. 7.2 Brunei Darussalam: TII with ASEAN and APT, 1980–2019. *Source* Author's calculations from data derived from WITS (2024)

$$RCA_{ij} = (\frac{X_{ik}}{X_{it}})/(\frac{X_{wk}}{X_{wt}}) \tag{7.3}$$

where X_{ik} and X_{wk} are the values of country i's exports of product k and world exports of product k, and where X_{it} and X_{wt} refer to the country's total exports and world total exports. If the index is greater than 1, the country has a comparative advantage in that product.

At the HS6 product level, we found that Brunei has a comparative advantage in 88 out of the 1900 products (4%) it exports. The top five exports were compiled with the RCA index (Table 7.9).

We also found that Brunei's major trading partners such as China, Japan, Singapore and Malaysia have a comparative advantage in manufactured goods, machinery, animal and vegetable oil, and miscellaneous products. Most economies in APT are developing countries that export such products. There are many products in which

Table 7.9 Brunei Darussalam: Top exports of RCA index, 2019

Rank	RCA	Product description
1	83.79	Natural gas, liquefied
2	10.69	Petroleum oils and oils obtained from bituminous
3	1.98	Petroleum oils, etc. (excl. crude); preparation
4	77.88	Methanol (methyl alcohol)
5	58.29	Derricks, cranes, or work trucks fitted with a c

Source Author's calculations from WITS (2024) countries like China do not have a comparative advantage, such as the fuels, food and mineral industries.

7.3.7 Processed Products Trade

Traded products normally consist of inputs assembled from different parts of the world, especially for manufactured products where many components are assembled to form the final product. However, when China exports assembled iPods, the full USD150 is recorded as an import from China though the value added is only USD4 (Linden et al. 2009). Similarly, Xing Yuqing (2019) shows that China's contribution to the iPhone's global value chain has improved significantly, rising from 1.6% for the iPhone 3G in 2009 to 10.4% for the iPhone X in 2018. However, concentrating solely on Apple products like the iPod and iPhone may not accurately reflect China's overall contribution to manufactured products. The value added during the production process might not be correctly reflected in conventional trade flows. The Trade in Value Added (TiVA) is a joint initiative by the Organisation for Economic Co-operation and Development (OECD) and the WTO to address the value added of a product by different producers globally using a world input–output table. The 2023 edition of TiVA currently provides input and output tables covering 45 unique economic activities for 76 economies (including ASEAN) with data from 1995 to 2020 (OECD 2024). The GVC advocates specialisation leading to an increase in firms' productivity and income, supporting growth and poverty reduction in developing countries. Almost all countries are involved in the GVA, which can be primarily classified into export primary products for processing, assembling and re-exports, and manufactures of sophisticated goods. Most of Brunei's exports are raw materials for further processing. In the past few years, it has ventured into the manufacture of downstream products such as methanol and petroleum oil.

The domestic value added (DVA) of gross exports for Brunei in each sector is shown in Table 7.10. A DVA ratio close to 1 indicates a high level of domestic content while a ratio close to 0 indicates a low level. We can see that the DVA for all industries is very high—in the range of 0.6–1. Most ASEAN economies are deeply integrated in GVCs, especially those involved in manufacturing sectors. Brunei is an exception in this region due to its reliance on crude oil and natural gas. In mining and quarrying, the DVA fluctuates from 0.85 to 0.95—this is expected given that oil and gas are resource materials. Manufacture of food products seem to have the lowest DVA at around 0.5 in 2020, probably due to the country importing the raw materials. However, their share of total exports is very small. Agriculture, forestry and fishing has a relatively low DVA as well, with a range from 0.6 to 0.8. Given that the country mainly exports locally sourced primary products, the DVA should be relatively higher. If Brunei does indeed diversify its export basket, we could see a higher level of intra-industry trade in the mining industry at the product level, which could lead to a drop in the mining and quarrying industry DVA.

Table 7.10 Brunei Darussalam: Domestic value added of gross export, 1995–2020 (ratio)

Sector	1995	2000	2005	2010	2015	2020
Agriculture, forestry and fishing	0.67	0.71	0.83	0.67	0.67	0.64
Industry (except construction)	0.94	0.92	0.93	0.92	0.90	0.82
Manufacture of chemicals and non-metallic mineral products	0.95	0.93	0.95	0.93	0.92	0.77
Manufacture of coke and refined petroleum products	0.95	0.93	0.94	0.93	0.91	0.77
Manufacture of food products	1.00	0.67	0.57	0.67	0.56	0.50
Manufacturing	0.84	0.89	0.73	0.84	0.86	0.77
Mining and extraction of energy producing products	0.95	0.93	0.93	0.92	0.90	0.85
Mining and quarrying	0.95	0.93	0.93	0.92	0.90	0.85
Other service activities	0.87	0.90	0.85	0.87	0.87	0.75
Total services (incl. construction)	0.85	0.85	0.88	0.83	0.82	0.78
Total—All activities	0.93	0.92	0.93	0.91	0.89	0.82

Source Compiled from the Trade in Value Added (TiVA) database (OECD 2024)

Export diversification is considered a pivotal factor for economic growth which can reduce a country's vulnerability to global world shock, leading to sustainable growth in the long run (OECD and WTO 2019). Export diversification infers the broadening of its production base, either for domestic or export purposes. With a small domestic market, the country will need to look beyond its borders to promote economic growth through an expansion of its export base. Ricardo Hausmann and Bailey Klinger (2007) develop the product space to investigate the structure and sophistication of exports. They find that a country's speed of export diversification depends on its current export basket and how closely it is related to more sophisticated products. The process of moving to new export products is a process of structural changes in comparative advantage through capital accumulation. Every product involves input that is slightly differentiated from every other product; however, the degree of input substitution is easier for closely related products because of knowledge spillovers and existing necessary infrastructure. Hence the structure of the product space will tend to predict the evolution of a country's potential exports. Manufactured products make up the core of the product space and are closely linked to many other products, while mining products in crude form lie on the boundary and have linkages to other products. This rationale forms the basis of the argument that countries producing manufactured goods will find it easier to diversify their production base due to the strong linkages of the more sophisticated goods. For a resource-rich country like Brunei which relies heavily on hydrocarbons it is more appropriate to diversify into the more sophisticated downstream petroleum refinery industries such as petrol, gasoline, diesel oil, jet fuel, lubricants and other forms of petrochemicals. This strategy is in line with the government's diversification policy.

Exporting firms self-select export markets and tend to be bigger and more productive than non-exporting firms, although exporting does not always increase productivity (Bernard and Jensen 1999). Domestic investments and business are usually of small scale, hence there is a need to attract FDI and capital accumulation into the country to promote exports.

7.4 Foreign Direct Investment in Brunei

Brunei's long-term vision of Wawasan Brunei 2035 aims to produce an educated and skilled workforce, a dynamic and sustainable economy, and a high quality of life. To achieve these objectives, the country needs to attract a large inflow of FDI to provide a huge boost to the economy. The government sees the need to enlarge the private sector and stimulate it to play a more active role in the economy. FDI provides access to new technology, capital, research and development facilities, and management know-how for a host region, which in turn increases economic development. FDI plays a more important role than domestic investment for the transfer of technology, contributing to growth. FDI can also contribute to GDP and income growth through technological improvement and capital accumulation (Zhuang 2008; Engel et al. 2021). The flow of FDI to ASEAN from the rest of the world reflects integration to the global economy in terms of investment and capital flows. ASEAN has remained a major destination of FDI inflows, with USD148 billion in 2018, which accounted for about 11% of total FDI flows. This is a significant increase from FDI inflows of USD102 billion in 2010.

ASEAN is a top destination for FDI inflows among developing countries, but the most significant FDI destinations are Europe (21%) and the United States (19%). Singapore, despite being the second smallest country in ASEAN in terms of population, accounted for 52% of total FDI inflows into the ASEAN region in 2018. Vietnam (10%) and Indonesia (15%) were the next largest recipients of FDI. Brunei had the lowest share in the region, with an inflow of USD504 million. We provide the ratio of FDI to GDP as it provides a better indicator (Fig. 7.3). The ratio is considerably high in 2019 (3%) and 2000 (15%). The FDI ratio peak seems to follow the global FDI trend where it builds up before the dot-com crash in 2000 and falling sharply to around 2%. Another period with a sharp drop was 2014, which coincided with the oil price slump.

The manufacturing sector, which mainly refers to the petrochemical processing industry, has the largest share of FDI, followed by the real estate and wholesale and retail trade sectors. The government has been actively looking to attract FDI into tourism and the business services, downstream oil and gas, *halal* foods, technology and creative industries. The two largest foreign investments received to this day are a methanol distillery, partially financed by the Japanese Mitsubishi Gas Chemical, and a petrochemical venture by the Chinese Zhejiang Hengyi Group.

Hengyi Industries is a petrochemical joint venture between Brunei and China in which the Brunei government has a 30% stake. The plant started its installation in

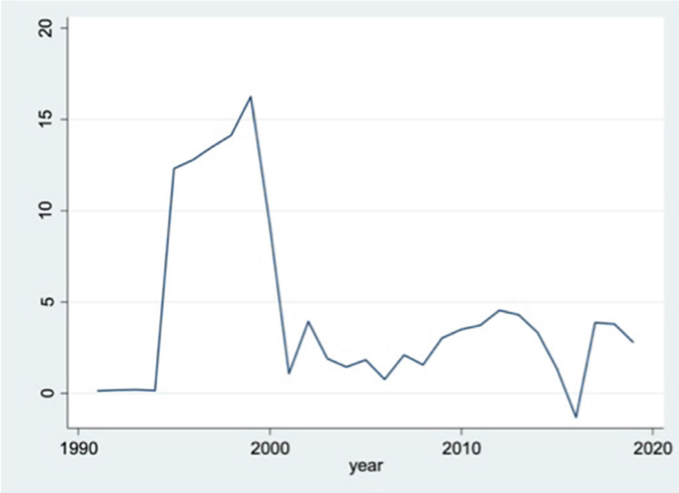

Fig. 7.3 Brunei Darussalam: FDI to GDP ratio, 1990–2019 (%). *Source* Data from World Bank (2022)

2017 to build a 935-ha integrated oil refinery and aromatics plant on Pulau Muara Besar. This is the biggest investment by a private Chinese company in Brunei, with USD3.4 billion allocated for phase 1 and USD13.65 billion for phase 2 (Chen 2020). The plant is expected to produce 1.5 million tonnes of paraxylene and 500,000 tonnes of benzene annually during phase 1, and to increase its output in phase 2 by 1.5 million tonnes of paraxylene and ethylene annually. The plant will diversify into downstream products to cater to domestic demand and export the rest to China. The plant has the capacity to produce 8 million tonnes of crude oil annually and 13 different types of petroleum products. Hengyi's production of processed oil started in 2019 and the company recorded USD3.5 billion of revenue in 2020—about 4.48% of Brunei's GDP. It reported a total export of 6.38 million tonnes of petroleum products and 1.7 million tonnes of petrochemical products (Wong 2021). The company also contributes to employment and currently employs about 447 local staff (40% of the workforce). The spillover effects include business opportunities for 87 local enterprises and indirect employment for 1500 individuals in the services sector (ibid.).

Another major investment is the joint venture between Mitsubishi Gas Chemical, Itochu and Petroleum Brunei launched in 2006. The biggest stakeholder is Mitsubishi Gas Chemical (50%) while Itochu and Petroleum Brunei have a 25% stake (Cobley 2007). The plant comprises a 16-ha plot in the 271-ha Sungai Liang industrial park zone, which Brunei wants to turn into a world-class centre for the oil- and gas-based industries. The joint venture, also known as the Brunei Methanol Plant, started production in 2010 and can produce 850,000 tonnes of methanol for export.

Both these joint ventures have contributed to exports and downstream industries experienced a four-fold increase in production from 2019 to 2020 (*Borneo Bulletin* 2021). Another ongoing project is the ammonia and urea plant operated by Brunei

Fertilizer Industries. The industrial plant started in 2018, is owned mainly by the Brunei government and is situated on a 55-ha site in Sungai Liang industrial park. Its first urea drop took place in January 2022. The plant consists of three parts: offsite and utilities, ammonia and urea plants. It can produce 2,200 metric tons of ammonia per day and 1.36 million metric tons of urea per year. This can be converted to 1.365 metric tonnes of fertiliser to be exported regionally for agriculture use (Wong 2020; BFI 2024).

In line with the Belt and Road Initiative, China's Guangxi Beibu Gulf International Port Group formed a joint venture with Darussalam Assets to privatise the Muara Port Company in 2017. The company will manage, operate, maintain and develop the Muara Container Terminal. The development is an ongoing plan to expand the port to accommodate two vessels, increasing its annual capacity from 280,000 twenty-foot equivalent units (TEUs) to 500,000 TEUs (Ain 2021).

7.5 Conclusion

Brunei needs to expand its industrial base to diversify its exports. Its export base is still very much concentrated on the oil and gas industry. The results showed that Brunei has a very low aggregate intra-industry trade with APT, and trade between the two partners involves different products. Brunei's exports are mainly oil and gas, while its imports are mainly equipment and consumer goods. It is no wonder that interindustry trade patterns dominate while intra-industry trade is almost non-existent. However, in recent years there has been an increase in Brunei's export in the downstream petrochemical industry, such as methanol and petroleum oil, leading to a rise in intra-industry trade in these two products and signalling export diversification. These are brought about by joint ventures and investments by Chinese and Japanese firms. Brunei's exports mainly make their way to Japan and some ASEAN members such as Singapore and Malaysia. China is currently not a major export destination. However, it could very well be one of the biggest markets in the future due to the establishment of Hengyi. The company is set to export processed oil back to China after meeting domestic demand. The emergence and growth of China have made it one of the largest consumers for energy and a major source for energy growth over the past few decades and there is also certainly potential for Brunei to cater to the growing demand for fertilisers in the region.

According to early forecasts, Brunei needs to sustain an annual GDP growth of 5–6% to achieve its Wawasan Brunei 2035 goals (DEPD 2007), and this might be a challenge considering all the factors discussed in this chapter. However, there are some positive notes to be taken, given that the country has branched out into the production of methanol and processed oil, which is a more sophisticated process of production. The value-added contribution for sophisticated goods is naturally higher due to advanced technology and innovation. Given the spillover effects of FDI, the government is aggressively trying to attract investments. Brunei's corporate tax rate stands at 18.5%, ranking second in the ASEAN region behind Singapore.

Additionally, there is the opportunity for 100% foreign ownership and joint ventures with the Brunei government. The relevant authorities are committed to improving the business environment through processing and regulations. Brunei was ranked fourth in the ASEAN region and 66th globally out of 190 economies in terms of ease of doing business in 2021. The country has consistently ranked first in the 'getting credit' category.

There has been an increasing trend of FDI from Chinese companies such as Hengyi Industries and Beibu Gulf to develop the downstream petrochemical industries and to improve port facilities and equipment provided by the Muara Container Terminal. China's FDI into Brunei is expected to increase in the near future. It should be noted that Brunei embarked on its development and diversification path at a later stage compared to other developing ASEAN countries. Overall, it is encouraging to see that Brunei's economy has made some progress over the years towards achieving its goal of export diversification.

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Part II
The Transition of Brunei Darussalam's Economy

Chapter 8
Meeting the Skills Demands of Employers in Brunei Darussalam: Where Do the Youth Stand?

Adilah Hisa, M. Muzamil Naqshbandi, and Fadzliwati Mohiddin

Abstract To better understand how young people are progressing in meeting changing workplace demands, it is salient to probe the sentiments of employers who hold a fundamental role in youth employability. This chapter presents the main ingredients for enhancing employability from the perspective of employers in Brunei Darussalam. It specifically explores the fundamental employability skills needed by youth in the marketplace and their current potential in executing such skills from the employers' standpoint. The discussion highlights key opportunities and provides recommendations to the relevant stakeholders about potential avenues to pursue in order to alleviate unemployment in Brunei. The findings enrich the extant literature by delivering empirical evidence on youth employability skills, a topic of significant interest and value to young job seekers. At the same time, the chapter provides insights for educators and practitioners to implement fruitful initiatives for managing unemployment in Brunei.

Keywords Brunei Darussalam · Youth employability · Employability skills · Unemployment · Job demands

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8.1 Introduction

In the current dynamic and competitive job market, developing employability skills becomes a central objective for young people to prosper in their future endeavours. Employers are now seeking a particular set of skills from young job seekers, with reference to the skills required to execute a specific job (Kenayathulla et al. 2019). With the ever-changing and demanding needs of the contemporary workplace, employers' expectations of such skills have inevitably shifted from a narrow focus on technical expertise to more generic soft skills (Teng et al. 2019). Such employability skills—characterised by an array of abilities and personal attributes necessary for youth to gain successful employment and thrive in their career—represent a fundamental antecedent to youth employability (Osmani et al. 2019).

To be employable in the twenty-first-century workforce, job candidates require essential skills, such as decision-making, problem-solving and analytics, time management and communication, as formal education may inadequately reflect the job experiences and training acquired (Kenayathulla et al. 2019; Adely et al. 2021). Scholars have argued that employers demand competent individuals as the capabilities they contribute to their work reflect an increase in organisational outcomes, including firm performance and organisational effectiveness (Pang et al. 2019; Jiang et al. 2012; Otoo 2019; Potnuru et al. 2021). While youth may see themselves as favourably competent in capability ratings due to their high level of skills satisfaction, employers may hold different judgments that reflect their work standards (Messum et al. 2017; Lisá et al. 2019; Al-Shehab et al. 2021). Therefore, gaps between employers' demands of generic skills and youth competence in those skills still prevail (Pang et al. 2019). Mitigating this mismatch is a huge challenge and remains a priority for the concerned stakeholders as it contributes to unemployment (Adely et al. 2021).

Against this backdrop, this chapter builds on the challenging youth marketplace in Brunei Darussalam, where the country is beset with responding to the employability skills desired by employers while concurrently facing a high unemployment rate among local youth. To better comprehend where youth lie in meeting the demands of employers in the job market, we explore the interaction between employers' expectations of youth employability skills and youths' competence in those skills from the employers' standpoints. Examining and understanding these viewpoints can help policymakers develop a strategic response to effectively overcome the skills mismatch among the youth that triggers unemployment issues in Brunei. The chapter also presents areas of opportunities for concerned stakeholders in Brunei to enhance youth employment outcomes, especially in terms of the generic skills they need to make themselves more employable in the job market.

8.2 Background Context: Brunei Darussalam

Being a small country with an area covering 5,765 km^2, Brunei is one of the Association of Southeast Asian Nations (ASEAN) countries struggling with unemployment rate fluctuations. Brunei comprises four districts: Brunei-Muara, Belait, Tutong and Temburong, with the majority (72.4%) of the total reported population of 450,500 in 2023 in the Brunei-Muara district. As the labour force comprises individuals aged 18 to 59 years, the total number of employed individuals was recorded as 208,449 in 2023 (DEPS 2023).

Nevertheless, Brunei faces unemployment problems like many other countries, especially among the local youth. The overall unemployment rate in Brunei showed an increase from 6.8% in 2019 to 7.4% in 2020 though this fell to 5.3% in 2023. In 2017 Brunei reported the highest youth unemployment rate of 28.9% compared to its peers in the ASEAN region (IMF 2019: 29). In the same year, its neighbour Indonesia occupied second place (14.6%), followed by Malaysia (11.6%) and Singapore (9.7%), with Cambodia having the lowest unemployment rate of 0.4% in the region (World Bank 2024). However, the rate of unemployed youth aged between 15 and 24 reduced in 2021 (16.5%) compared to 2020 (25.8%). Yet most unemployed youth in Brunei struggle to secure employment even after a year of job hunting, and the highest portion of them were those with secondary, vocational and tertiary education backgrounds (DEPS 2021).

Wawasan Brunei 2035 (Brunei Vision 2035) emphasises that one of Brunei's strategic goals is to produce highly educated, skilled and accomplished people. The national target is to focus on human resource development to achieve a skilled workforce that serves as the key driver of economic growth and development. Past studies have shown that an important factor of unemployment in Brunei is the significant disparity between the skill required for the job and the job expectations in the marketplace, and that younger graduates are more inclined to be unemployed (Cheong and Lawrey 2009; Siti Fatimahwati and Siti Rozaidah 2020; Rizzo et al. 2016). Scholars have also argued that employers are often challenged with locating skilful employees in a particular field and searching for candidates with the right skills adds to their concern (Siti Fatimahwati and Siti Rozaidah 2020).

Additionally, employers in Brunei find that the level of awareness of local youth on the critical employability skills needed for their employment journey is relatively scarce. This, in turn, may result in young individuals who are not ready for Brunei's dynamically changing workforce environment (ibid.). This is supported by Giuseppe Rizzo et al. (2016), who suggest that unemployed Bruneian graduates are apt to neglect the importance of soft skills and place relatively greater focus on hard skills such as information and communication technology (ICT), languages, literacy and numeracy skills. Along these lines, Siti Fatimahwati and Siti Rozaidah (2020) conclude that Bruneian youth do not receive adequate information on the requisite employability skills they need to prosper in their career journey. Such information, if greatly enriched, can help youth understand the significance of employability skills and likely facilitate their motivation to develop their competencies, which is crucial for meeting employers' demand in the marketplace.

Given the skills mismatch noted above and the high unemployment rate in Brunei, this chapter has three goals: first, to investigate the employability skills needed by youth as expected by employers; second, to examine the current potential of youth in executing these employability skills from employers' standpoints; and third, to provide critical recommendations for relevant stakeholders to reduce the skill imbalances and alleviate the unemployment issue in Brunei.

8.3 Methods and Materials

We used quantitative primary data to answer the objective of our study. The data were collected from 200 respondents working in Brunei's private and public sectors. Participants were surveyed through a questionnaire built upon the bases of competence model (Evers and Rush 1996). The questionnaire was distributed online and offline. Paper surveys were administered through personal visits to the organisations to ensure a higher response. The survey asked employers to rate their perceptions of the importance and competence level of the skills required by youth in their career journey. Employability skills were categorised under 14 major components: oral communication, written communication, listening, interpersonal skills, learning, leadership, decision-making, problem-solving/analytic, personal strengths, time management, coordinating, managing conflict, risk-taking and creativity/innovation/change. We used 30 items to capture employability skills, measured on a scale from 0 (no significance/competence) to 3 (major significance/competence). Sample items include: 'Ability to identify problems', 'Ability to make decisions in a short period of time' and 'Ability to give direction and guidance to others'.

Respondents were employers serving in organisations in Brunei. Out of 200 distributed questionnaires, 154 respondents returned a completed questionnaire (77% return rate). About 55% of the responses were completed by female employers and the remaining by male employers. Of the respondents, 44% were 40 years old and above, 34% were 30–40 years old and 22% were 30 years old and below. Employers serving in the government sector constituted a majority (77%) of total respondents and 56% of respondents had work experience of more than 10 years.

8.4 Analysis and Results

We present below the study's findings, focusing on employers' views on top employability skills and the competence level of youth in executing those skills.

8.4.1 Top Requisite Employability Skills

From the employers' standpoints, listening is the most valuable employability skill youth need in the job market, with a score of 92.9% (Fig. 8.1). This is followed closely by oral communication (91.6%), learning (91.1%), leadership (91.0%) and interpersonal skills (90.9%), each in the top five most essential employability skills as rated by the employers. Risk-taking (76.4%) and managing conflict (81.6%) were perceived as the least fundamental employability skills.

To determine if any significant differences related to sectors exist, we conducted an independent sample t-test and found a significant difference in the mean importance of employability skills between two groups ($t(152) = -4.562$, $p < 0.001$). In Table 8.1 we present the requisite employability skills rated by employers based on their sector. From the sectoral perspective, employers in private organisations highly value personal strength, listening, interpersonal and leadership skills. Meanwhile, in the government sector, listening, oral communication and learning were deemed the top three most important skills. The findings imply that employers in both sectors perceive managing conflict and risk-taking as the least important employability skills youth require in the marketplace.

We also compared the employers' perceptions of employability skills across different work experience groups. Employers who served their organisation for more than 10 years placed high importance on listening skills (92.7%), followed by oral communication (91.3%) and interpersonal skills (90.4%) (Table 8.2). Employers with work experience of 10 years and below indicated that the top three skills were listening (93.0%), leadership (92.5) and oral communication (92.0%). We conducted a t-test for the two groups of employers of different work experience and found no

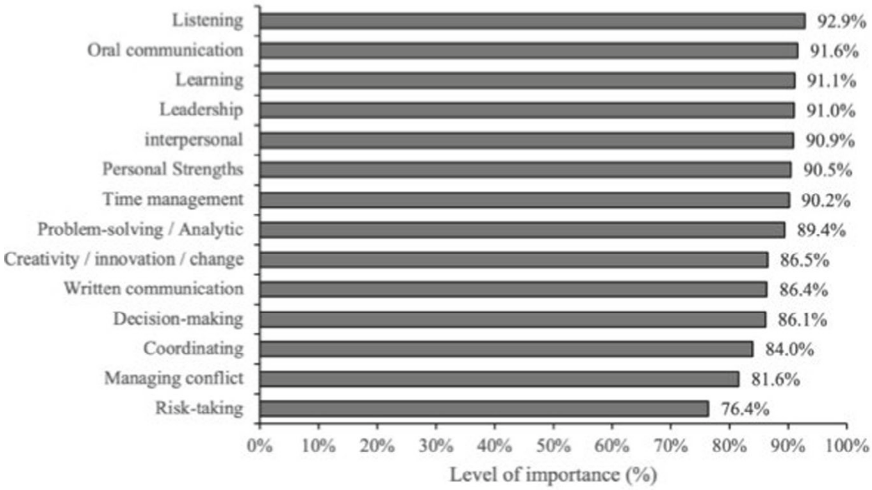

Fig. 8.1 Brunei Darussalam: Importance of employability skills (%)

Table 8.1 Brunei Darussalam: Employability skills importance by employers' sector (%)

Employability skills	Level of importance			
	Private	Rank	Government	Rank
Oral communication	85.8	5	93.4	2
Written communication	75.9	12	89.5	9
Listening	87.0	2	94.6	1
Interpersonal	86.6	3	92.2	5
Learning	85.2	6	92.9	3
Time management	85.0	7	91.7	6
Personal strength	87.7	1	91.3	7
Problem-solving/analytic	84.7	8	90.8	8
Coordinating	76.9	11	86.2	12
Decision-making	79.6	10	88.1	11
Leadership	86.1	4	92.5	4
Managing conflict	71.3	14	84.7	13
Risk-taking	73.1	13	77.4	14
Creativity/innovation/change	79.9	9	88.5	10

significant difference in mean employability skills importance ($t(152) = -0.340$, $p > 0.001$).

The findings suggest that employers with different work experiences have similar opinions on how they rate the importance of employability skills. Both groups included listening, oral communication and learning skills in their top five most important employability skills. In addition, these employers perceived employability skills associated with coordination, managing conflicts and risk-taking as skills with the least importance.

8.4.2 Competence in Executive Employability Skills

In the context of youth's overall level of competence in executing employability skills, employers view that youth lack employability skills associated with managing conflict (58.2%), risk-taking (58.4%), problem-solving/analytics (62.1%) and decision-making (63.1%). In contrast, employers perceive listening, oral communication and learning as the top three skills in which youth have major competencies (Fig. 8.2).

Comparing perceived competence in executive employability skills by sector, employers from private organisations viewed youth as lacking competence in skills related to managing conflict (61.1%) and problem-solving (63.4%) (Table 8.3). On the other hand, most employers in the government sector perceived that youth have a high level of competence in listening (78.0%) and written communication skills

Table 8.2 Brunei Darussalam: Employability skills importance by employers' work experience (%)

Employability skills	Level of importance			
	More than 10 years	Rank	10 years and below	Rank
Oral communication	91.3	2	92.0	3
Written communication	87.7	9	84.6	11
Listening	92.7	1	93.0	1
Interpersonal	90.4	3	91.5	6
Learning	90.4	4	92.0	4
Time management	88.9	7	91.8	5
Personal strength	89.9	5	91.2	7
Problem-solving/analytic	88.9	8	90.0	8
Coordinating	84.7	12	83.1	12
Decision-making	85.1	10	87.6	10
Leadership	89.8	6	92.5	2
Managing conflict	83.1	13	79.6	13
Risk-taking	77.4	14	75.1	14
Creativity/innovation/ change	84.9	11	88.6	9

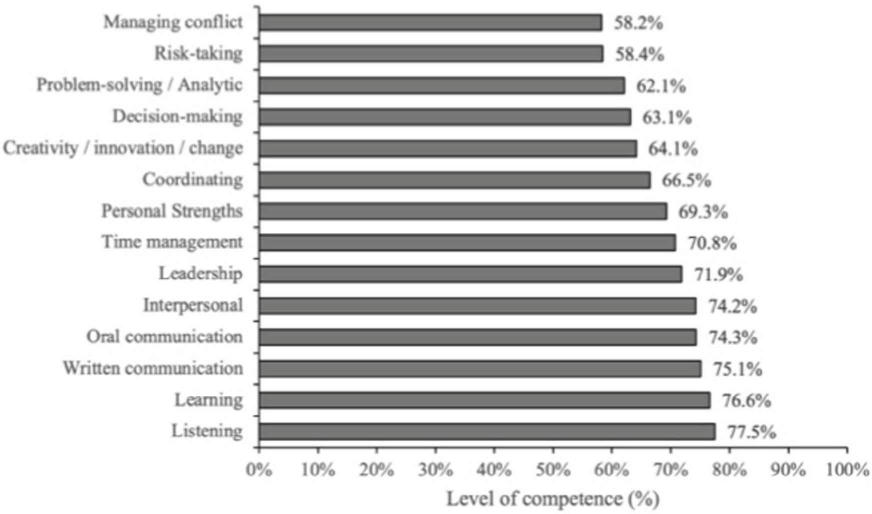

Fig. 8.2 Brunei Darussalam: Competence in executive employability skills (%)

(76.8%), and low competence in risk-taking (55.4%). An independent sample t-test showed no significant mean differences in employability skills competence between the two sectors ($t(152) = 0.703$, $p > 0.001$).

The findings therefore indicate that employers of different sectors perceive the level of competence of employability skills in a similar manner. Both groups agreed that youth have minor competence in employability skills associated with problem-solving/analytics, decision-making and conflict management. Regardless of employability skills rankings, the employers believe youth have major competence in oral communication, written communication, listening, interpersonal skills, learning, time management, personal strength and leadership.

Table 8.4 shows the competence in executing employability skills as reported by employers in different work experience groups. The data illustrate that employers with more than 10 years of work experience perceived that youth have major competence in listening (78.2%), written communication (75.9%) and learning (74.7%). Meanwhile, employers with work experience of 10 years and below believe youth have high competence in learning, listening and oral communication. However, a t-test showed no significant difference in the mean employability skills competence perceived by employers in different work experience groups ($t(152) = -0.764$, $p > 0.001$). With respect to their work experience, the findings suggest that both groups believe youth have major competence in oral communication, written communication, listening, learning and interpersonal skills. Further, these employers felt that youth lacked competence in executing skills associated with risk-taking,

Table 8.3 Brunei Darussalam: Employability skills competence by employers' sector (%)

Employability skills	Level of competence			
	Private	Rank	Government	Rank
Oral communication	76.9	2	73.5	5
Written communication	69.4	7	76.8	2
Listening	75.9	4	78.0	1
Interpersonal	74.1	5	74.3	4
Learning	77.8	1	76.3	3
Time management	76.9	3	68.9	7
Personal strength	73.1	6	68.1	8
Problem-solving/analytic	63.4	13	61.7	12
Coordinating	65.7	12	66.7	9
Decision-making	66.3	11	62.1	11
Leadership	68.5	8	72.9	6
Managing conflict	61.1	14	57.3	13
Risk-taking	68.5	9	55.4	14
Creativity/innovation/change	67.3	10	63.2	10

Table 8.4 Brunei Darussalam: Employability skills competence by employers' work experience (%)

Employability skills	Level of competence			
	More than 10 years	Rank	10 years and below	Rank
Oral communication	73.3	5	75.6	3
Written communication	75.9	2	74.1	5
Listening	78.2	1	76.6	2
Interpersonal	73.9	4	74.6	4
Learning	74.7	3	79.1	1
Time management	68.9	7	73.3	6
Personal strength	66.9	8	72.3	7
Problem-solving/analytic	60.5	12	64.2	11
Coordinating	66.7	9	66.2	10
Decision-making	62.3	11	64.2	12
Leadership	71.6	6	72.1	8
Managing conflict	59.8	12	56.2	14
Risk-taking	55.2	14	62.7	13
Creativity/innovation/ change	62.3	10	66.5	9

managing conflict, problem-solving/analytics and decision-making, suggesting that young people need to make efforts to develop these skills.

8.4.3 *Summary of Results*

To summarise the findings of our study concerning unemployment in Brunei, the chapter explores employers' expectations of employability skills and their perceptions of youth's competencies in those skills. The findings help comprehend better where youth stand in meeting the demands of employers in the job market.

Overall, the data show that the top five skills employers' demand are listening, oral communication, learning, leadership and interpersonal skills. Youth are perceived to be competent in these skills. However, slight differences in percentage between the level of significance and perceived competence explain that employers still expect more from youth in their execution of the requisite employability skills. This is because communication skills, such as effective listening and interpersonal skills, are evident in increasing employees' well-being in the workplace and reflects positively on the organisation through desirable job outcomes (Dehghan and Ma'toufi 2016; Bregenzer et al. 2020; Mencl et al. 2016; Johanim et al. 2019).

Past studies also show that leadership competencies are a significant predictor of managerial performance and that the learning skill contributes to superior job performance (Jena and Kumar Sahoo 2014; Park and Choi 2016). In addition, employers believed that youth lack competence in managing conflict and risk-taking, though surprisingly both skills were rated least important. Organisations tend to steer clear of conflicts at all costs because managing conflict poses a substantial challenge to the management (Ongori 2009). Further, even though risk-taking is vital for improving the performance of organisations, employers may not value such skills as risky behaviour can have a detrimental effect on organisational outcomes (Games and Rendi 2019; Wicks et al. 1999).

8.5 Policy Recommendations

In mitigating the evident skills mismatch, higher education institutions are central to connecting young graduates to the labour market (Mohammad Fauzan and Naqshbandi 2022). They are the key players driving youth employability, enabling graduates to engage with relevant employers and actively meet market needs. However, recent studies have suggested that youth are not sufficiently exposed to the proper application of employability skills and information on the requisite skills for their career journey is not available (Kenayathulla et al. 2019; Siti Fatimahwati and Siti Rozaidah 2020).

Universities should therefore consider modifying their academic curricula to equip young graduates with the appropriate skill set to remain relevant and attractive in the job market. This is because academic qualifications alone are no longer enough to gain employment (Adely et al. 2021). As a result, the education system needs to be more responsive to job market demands by aligning its strategies to enable students to develop skills that reflect the requirements. Embedding employability attributes within the curriculum can be a starting point to fulfil this initiative. As such, attention may be focused on implementing practical projects and assignments to expose youth to labour market realities. University career talks are important, especially for final-year students, so they can become more aware of the job market and better understand the job skills demands and requirements. Additionally, coordination among employers of different sectors can ease youth's access to up-to-date information (Siti Fatimahwati and Siti Rozaidah 2020).

However, higher education must be connected to training needs. Fida Issa J. Adely et al. (2021) argue that the nature of skills acquired does not merely come from education but from training and on-the-job learning. A mandatory industrial work placement or an internship programme can thus assist youths' career development, provided that the goal is not only to expose youth to real workplace settings but also to develop the knowledge, skills and abilities necessary for their successful transition to the workplace. These on-the-job training programmes need comprehensive evaluation to ensure that youth can competently apply the capabilities learned to their work-related tasks.

Moreover, studies have shown that unemployed youth lack vocational skills and are more interested in office-based work in the government sector rather than manual, skilled and semi-skilled sectors in technical, agricultural and business environments (Siti Fatimahwati and Khairul 2019). This will likely hinder their motivation to explore the diverse skills available outside their expertise, affecting their access to the job market (Siti Fatimahwati and Siti Rozaidah 2020). Rizzo et al. (2016) find that about one in five unemployed graduates participate in training programmes and their participation becomes more frequent after 12 months of being unemployed. Given this, collaboration between higher education institutions and the job industry needs to be strengthened further to meet the needs of the dynamic workforce. Through these collaborations, youths' skills can be developed to ensure that highly competent and job-ready youth equipped with skills relevant to the nation's growth and development can be produced. The outcomes of discussions among institutions and industries concerning the skills required for a particular job can also be disseminated publicly to enhance youth's awareness of key employability skills. Further, industry representatives can work together to highlight the importance of skill development and training programmes among youth and encourage their participation in these programmes to boost their employability skills acquisition.

The government should also take stock of the effectiveness of its employability programmes. Since early 2017 a government body through JobCentre Brunei has implemented initiatives such as the i-Ready programme, a job training scheme aimed at providing local youth graduates with genuine workplace environment experience (Siti Fatimahwati and Siti Rozaidah 2020). Such initiatives aim to create job opportunities for local job seekers, stimulating their employability and marketability and consequently addressing the unemployment issue in the country (JobCentre Brunei 2024). Although the current initiatives may be making a difference in the lives of jobseekers, a measurement of the actual effectiveness of such programmes, especially in equipping youth with the skills needed for them to be industry-ready, seems to be missing (Siti Fatimahwati and Siti Rozaidah 2020). Hence, authorities must consider a profound and comprehensive evaluation of such programmes. For instance, they may use the peer evaluation approach and the self-assessment questionnaire through Donald Kirkpatrick's four-level approach: reaction, learning, behaviour and results (Reese-Durham 2005; Tamkin et al. 2002). This can further improve current employability programmes to provide better preparation for youth's transition to the workplace and address the gaps between youth's skills and employers' demands.

8.6 Conclusion

The chapter shows that employers put high expectations on youth candidates regarding their employability skills. In particular, a gap is evident in the competence of youth in executing employability skills and the importance of those skills as perceived by employers. Bruneian youth must therefore seek opportunities to develop their skills, especially those employers demand in the job market. Such development is crucial to meet the expectations of employers and minimise the mismatch between the skills of youth and the skills sought by employers. Youth must first develop an awareness of the skills that are in demand in the job market and then take initiatives to close the gap. Young people enter the workforce and progress their career journey towards prosperity through employers, whose high expectations of youth open doors for young workers with potential for skill development and shun those with low-level competencies.

At the same time, the role of higher education institutions is paramount in preparing youth to be an integral part of the workforce once they graduate. Specifically, the higher education system can focus on developing skills and capabilities by restructuring the existing curricula to produce job-ready youth. Youth employability can further be bolstered through cooperation between the government and industry players.

Youth must also clearly understand their skill development objectives. Gaining the right skill set will allow them to thrive in their career journey and increase their capacity to gain promising employment, perform better and contribute meaningfully to national development. Lastly, it may be an opportune time to evaluate the effectiveness of job training initiatives such as the i-Ready programme and make timely amendments if required.

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Chapter 9
Exploring the Potential of Community-based Agritourism in Brunei Darussalam

Wei Lee Chin and Siti Fatimahwati Pehin Dato Musa

Abstract The purpose of this chapter is to explore the potential of community-based agritourism in Brunei Darussalam. Agritourism is developing across Southeast Asia as an important form of tourism. However, it is not integrated into Brunei's national tourism framework as in other Association of Southeast Asian Nations (ASEAN) member states where there are designated areas for agritourism to be developed and assistance for the local farming community. This study applies a strengths, weaknesses, opportunities and threats (SWOT) analysis to leverage the strengths and opportunities, rectify the weaknesses and overcome the threats of community-based agritourism in Brunei. A total of 23 respondents—volunteers, government officials and farm owners from three small farms in remote villages—were interviewed. This study reveals that community-based agritourism has led to positive impacts in four main facets—economic, environmental, sociocultural and educational—all of which greatly benefit farm owners, villagers, farmers and local youth. Although agritourism farms struggle from internal and external disadvantages such as funding deficiencies and small-scale production, those problems can be eased with more support from public and relevant organisations to secure the operations of farms. Grassroots initiatives can achieve state-wide significance if incorporated into the nation-building strategy as supporting a growing sector.

Keywords Brunei Darussalam · Agriculture · Agritourism · Community-based tourism · Meliponiculture · Farm-to-table · SWOT analysis

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9.1 Introduction

Agritourism is defined as 'visiting a working farm or any agricultural, horticultural, or agribusiness operation for the purpose of appreciation, enjoyment, education, or recreational involvement with agricultural, natural or heritage resources' (Tew and Barbieri 2012: 216). This definition is highly pertinent to Brunei Darussalam and neighbouring states as it encourages a strategy of diversifying a working farm or other agricultural settings to include recreational or leisure activities for visitors in order to generate revenue or add value to the farm (Barbieri and Streifeneder 2019). This form of tourism is increasingly being adopted due to the numerous economic and non-economic benefits that the affected communities and destinations could obtain. Studies have shown that agritourism assists smaller or family farms to stay in business and maximise farm productivity by offering recreational activities while preserving their agricultural heritage (Tew and Barbieri 2012). This is important as direct economic benefits might signify an improvement in the quality of life of residents (Chin 2017; Chin et al. 2017; Chin and Hampton 2020). Recreational activities for agritourism include U-pick (where tourists harvest crops for themselves), orchard tours, wildlife observation, foraging, hunting, fishing and other outdoor activities.

Agritourism is increasingly recognised as an important side activity or diversification of family farming businesses into tourism or hospitality activities. Several studies focus on established farms and plantations in Southeast Asia that are now popular agritourism attractions, particularly in Indonesia (Ummiroh and Hardiyani 2013; Budiasa and Ambarawati 2014), Malaysia (Norudin et al. 2015; Ling et al. 2017), Thailand (Songkhla 2012), the Philippines (Manalo et al. 2019) and Vietnam (Nguyen et al. 2018). Labels such as agrotourism, agritourism, rural tourism, farm tourism and farm-based tourism are often used interchangeably; agritourism is used in this chapter for consistency and clarity (Barbieri and Mshenga 2008). However, we wish to reiterate that agritourism goes beyond visiting a working farm or doing only farming-related activities and includes educational and recreational opportunities such as culinary activities, culture and heritage, and health and wellness.

Agritourism is also not identical to rural tourism but is seen as a branch or subdivision of it. For instance, Thailand's agritourism concept includes other tourism categories such as community tourism, agribusiness, culinary tourism, as well as health and wellness tourism (Srithong et al. 2019). Malaysia's agritourism is often seen as a combination of farm-based and cultural tourism. Brunei is significantly less visible in the agritourism field within the region and little research has been done on its agriculture let alone agritourism. Brunei's agritourism concept includes a combination of community-based tourism, such as homestays, culinary experiences and agricultural activities (Najib and Chin 2021; Amalena and Chin 2021; Siti Fatimahwati and Chin 2021, 2022). There are no official farms or plantations that identify themselves as agritourism spots, but several agritourism areas have been developing over the years and showed great resilience during the COVID-19 pandemic (Chin and and Siti Fatimahwati 2021). Agritourism has become a recent topic of debate as it is considered a significant tool for rural development policies to diversify the economy and encourage entrepreneurship in the countryside. The lack of research on this topic has cut off the opportunity for Brunei to pursue economic diversification via agritourism. To remedy this paucity, this chapter looks at various economic, environmental, social and community potentials of agritourism in Brunei. This study is based on field research, interviewing 23 respondents of three study areas: Sumbiling Eco Village, Eco Ponies Garden and Tasbee Meliponiculture Farm. It examines the context of agritourism in Brunei by applying the strengths, weaknesses, opportunities and threats (SWOT) analysis framework.

Among Association of Southeast Asian Nations (ASEAN) countries, Brunei's agritourism is still in its infancy compared to popular agritourism destinations in neighbouring states. In most ASEAN countries, there are designated or gazetted areas where agritourism can be developed to assist the local farming community. In Malaysia, for instance, Cameron Highlands has historically been predominantly used for agriculture plantations and the government has gazetted the location to be used for agritourism development (Norudin et al. 2015; Ling et al. 2017). Although agritourism may not be firmly established in Brunei, it is slowly becoming more popular with some small farms. At a glance, Brunei is an oil- and gas-reliant state, but historically agriculture has been ingrained in the lives of local communities in the form of subsistence farming (Siti Fatimahwati et al. 2020). In 2018 Brunei reframed its agriculture industry towards a market-oriented goal. Various policies and efforts have been undertaken by government departments to improve agricultural production over the years.

The country has been making significant progress in the tourism industry, with a slow but steady growth rate from 218,214 visitors arriving by air in 2015 to 333,244 in 2019 (Tourism Development Department 2021). However, tourism was badly affected globally during the COVID-19 pandemic and Brunei was no exception. International tourism came to a standstill during the pandemic, but fortunately Brunei's environment provides an abundance of natural assets that could potentially accommodate agritourism and help the sector rebound. The development of community-based tourism became synonymous with the concept of village homestays in rural areas, advanced in conjunction with the ASEAN community-based tourism programme (ASEAN Secretariat 2016). Other types of community-based tourism or its connection to agritourism have not been officially recorded under related ASEAN–Brunei programmes. There are established community-based tourism locations in Brunei that are more than just homestay programmes, involving agriculture, indigenous food and cultural heritage of certain ethnic groups such as Dusun and Iban that have been featured in local media (Wardi 2018). The Ministry of Primary Resources and Tourism has initiated some efforts to market Dusun heritage and tradition in the Tutong district as part of community-based tourism. In other words, Brunei's agritourism is seen as community-based tourism on a working farm for the purposes of recreation and education, including a range of different cultural, culinary, and health and wellness activities. Some tourism activities involve learning about the farm and its people, indigenous ancestral cooking methods, jungle foraging in their own forest conservation area, harvesting fruit and vegetables in the garden, cooking classes and agriculture workshops.

9.2 Methodology

The data collected in this research are based on three study areas: Sumbiling Eco Village, Eco Ponies Garden and Tasbee Meliponiculture Farm. Sumbiling Eco Village has been operating since 2007 and is considered by the international media as a successful model for a sustainable forest stay that has adopted the popular glamping concept (Board 2018). It is located in Temburong district, on what used to be an abandoned paddy field owned by indigenous Iban villagers. It has since been developed and now consists of an outdoor dining hall, several cabins on the riverbank, a wooden tower, an organic farm, a river tubing base, a jungle camp and a forest trekking area. The organic farm is a working farm that the Iban manage. It is akin to a small backyard farm, seamlessly joining as part of the forest. Many wild fruit and vegetation endemic to Brunei grow naturally there, such as different types of wild ferns (*pakis*), local coffee trees, bananas, rambutan, bamboo shoots (*rebung*), wild herbs, wild ginger (*tuhau*), herbal tea (*misai kucing*), pineapple, passion fruit, longan, local sweet corn, lemongrass, peanuts, sugar cane, water spinach (*kangkong*), tapioca (*ubi kayu*) and cassava leaves (*pucuk ubi*). The yield of the farm is too small to sell in the market consistently, but it is sold to neighbouring villagers. Due to the inconsistent yield, the owner and Iban community decided to switch their strategy to concentrate on providing experiences for tourists. The agritourism activities in Sumbiling Eco Village include forest exploration and culinary experiences. Tourists trek in the forest with a local guide and learn about the different types of forest herbs or wild vegetables, which they are encouraged to harvest for themselves. There are also cooking classes in the forest using the harvested ingredients, and all dishes are based on Iban food heritage.

Eco Ponies Garden, the second study area, is located in the remote village of Lamunin in Tutong district. It has been officially operating since 2015 and it has established its reputation as the pioneer of the farm-to-table experience and is known for its esoteric gastronomy, with a unique dining style in an outdoor hideout kitchen attached to an open farm cottage (Wardi 2020). Also known as a village getaway destination, the 2-ha farmland has a lot of on-site agritourism activities such as jungle foraging in its very own forest conservation area, harvesting fruit and vegetables in the garden, cooking classes, agriculture workshops, planting local vegetables in designated plots and using indigenous Tutong ancestral cooking methods for an alfresco jungle farm dining experience. The farm incorporates polyculture of various local vegetables and fruit, paying particular attention to wild herbs and flowers. Similar to Sumbiling Eco Village, the farm itself is an extension of the forest and most plants are transplanted from the jungle to different parts of the garden. Eco Ponies Garden is also active in off-site activities, claiming to be a community platform for local food producers. The system of Eco Ponies Garden is altruistic, often sharing the villagers' agricultural knowledge of the wild jungle herbs needed to prepare their unique cuisine.

Tasbee Meliponiculture Farm is a tiny stingless bee farm that has been operating since 2009 in a remote village permeated by the jungle in Tutong. It is an acclaimed international tourist attraction that headlined the local media for years (*Pelita Brunei* 2016; Wardi 2018, 2020). The bee farm sits on a hill next to the owner's house, accompanied by a gallery, a looking tower overviewing the dense jungle below and a walkway balcony at the edge of the hill with a top that serves as a hanging garden for a passion fruit vine. About 18 species of stingless bees inhabit the meliponary in various wooden hives attached to tree logs and scattered from the hilltop towards the downslope. While there are many other commercial and non-commercial meliponists in Brunei, only Tasbee Meliponiculture Farm decided to adopt a less lucrative approach by not charging entrance fees or mass-producing honey. It advocates a travel-to-farm concept, focusing on attracting tourists to come to harvest the raw honey themselves. Tasbee Meliponiculture Farm is more than just a bee-keeping farm—the meliponary is surrounded by unorganised intercropping of various fruit and flowers such as strawberries, apples, grapes, dragon fruit, durian, passion fruit, rambutans and simpor. Honey extraction is the core agritourism activity, but tourists are also allowed to U-pick fruit during season and learn to make value-added products such as raw propolis resin, propolis serums, honey soaps, beeswax aromatherapy candles and keychains.

Past studies indicate that holding interviews is a common data collection method in the field of agritourism research (Songkhla and Somboonsuke 2012; Budiasa and Ambarawati 2014; Hepburn 2015; Rambodagedara et al. 2015; Choenkwan et al. 2016; Liu et al. 2017). This exploratory study employed semi-structured interviews to collect data. This method is less restrictive and provides more opportunity to better understand respondents' viewpoints on their agritourism businesses. The farms are small operations with a limited number of respondents, so on-site interviews were possible and a direct communication approach was more appropriate. Interviews were conducted with farm owners, staff, team members, farmers, volunteers, collaborators and relevant government officials. The list of respondents shows the stakeholders involved in the agritourism community (Table 9.1). Interviews were only carried out with respondents who were actively involved to ensure in-depth details were gathered. Volunteers in this study were younger individuals who were paid to work on a short-term basis on site. All the interviews lasted more than an hour. Questions were tailored according to the respondents' roles to get an in-depth understanding about their contributions, perspectives or activities on tourism, culture, environmental sustainability and financial progress. Although the research is focused on the farms, additional data were gathered from two relevant government officials to understand institutional perspectives of agritourism in Brunei. A SWOT analysis was carried out by structuring the data into main categories: strengths, weaknesses, opportunities and threats.

Table 9.1 Community-based agritourism fieldwork research: List of respondents

No	Role	Age (years)	Length of service/ operation	Interview duration (minutes)
P1	Founder	40–50	5 years	240
P2	Cofounder	40–50	5 years	80
P3	Farmer	40–50	4 years	66
P4	Farmer	30–40	5 years	66
P5	Volunteer	30–40	2 months	63
P6	Volunteer	30–40	2 months	72
P7	Volunteer	30–40	2 months	66
P8	Volunteer	30–35	2 weeks	78
P9	Adviser	50–60	2 years	64
P10	Staff	20–25	4 years	72
P11	Owner	50–60	11 years	82
P12	Volunteer	20–25	2 weeks	72
P13	Volunteer	20–25	2 weeks	75
P14	Volunteer	20–25	2 weeks	84
P15	Owner	50–60	13 years	95
P16	Manager	50–60	13 years	78
P17	Staff/farmer	70	13 years	63
P18	Staff/farmer	50–60	13 years	60
P19	Staff/guide	25–35	10 years	65
P20	Tour guide	45–55	5 years	72
P21	Marketing collaborator	30–40	3 years	60
P22	Government official	–	–	60
P23	Government official	–	–	66

9.3 SWOT Analysis of Community-based Agritourism

The study aims to evaluate the present status and potential of community-based agritourism in Brunei by applying a SWOT analysis to disclose internal strengths and weaknesses as well as external opportunities and threats (Mondal 2017). Internal factors are the relevant strengths and weaknesses within the system, whereas opportunities and threats are exogenous factors that enable or hinder the organisation from achieving its goal (Wasike et al. 2011). In the field of tourism, SWOT strategies are mostly used to develop strategies in relation to a destination (Bhatta et al. 2020). Table 9.2 outlines the results of the SWOT analysis on the potential of community-based agritourism in Brunei.

Table 9.2 Brunei Darussalam: SWOT analysis on the potential of community-based agritourism

Strengths	Weaknesses
1. Income generation • Tourism income to the farms • Income to the community • Alternative agrifood production • Established agritourism assets	1. Financial constraints • Limited funding resources • Difficulty in pricing products and packages
2. Sustainable environmental practices • Preservation of the natural environment • Eco-friendly practices • Multifunctional farm • Agroforestry • Ecological awareness	2. Lack of institutional support and collaboration • Agritourism still in the developing stage in comparison to neighbouring countries • No proper national framework to set up agritourism • No proper management system • Insufficient domestic tourism promotion
3. Sociocultural awareness • Sociocultural exchanges • Preservation of local cultures and heritage • Appreciation for local food and agriculture • Farm-to-table experience	3. Small-scale and seasonal nature of farms • Small-scale production • Small and unstable income • Seasonal produce/agrifood • Inconsistent tourist reviews
4. Human resource development • Educational • Temporary employment for local volunteers • Upskilling and reskilling local staff	4. Lack of human resources and expertise • Lack of human capital/staff • Unsustainable voluntourism
Opportunities	Threats
1. New tourism strategy for Brunei • Diversifying tourism at agriculture farms • Strengthening community-based tourism	1. Stiff competition domestically and regionally • Competition from neighbouring countries • Cheaper prices in other countries • Domestic competition • Conventional tour operators
	2. Environmental challenges • Environmental degradation

9.3.1 Internal Analysis of Strengths

The literature confirms that agritourism has positive economic impacts on the farming community (Songkhla and Somboonsuke 2012; Budiasa and Ambarawati 2014; Ling et al. 2017; Nguyen et al. 2018; Manalo et al. 2019). The findings show that agritourism activities in Brunei provide additional revenue to farm owners and local communities. One of the most lucrative agritourism events at Eco Ponies Garden is its annual farmers market where farmers from around the village are invited to sell their own products, typically fruit and vegetables, at the farm cottage. Interviews reveal that farmers were able to earn around BND1,000 individually in one day. The farmers market provides an additional source of income for farmers at the Eco Ponies Garden village. This suggests that proper employment and income from agritourism can create a better standard of living for the community.

The findings concur with the existing literature and highlight that the income received is usually reinvested for maintenance, the production of alternative agrifood products, harvesting local produce and promotional marketing. The intention to reinvest implies that owners see long-term economic advantages and are eager to plan for future agritourism products. Brunei's untapped rare biodiversity and expansive forests are two of its largest natural assets that require minor infrastructural construction to accommodate tourism activities. The farmers and owners of all three areas studied saw this as an opportunity to build on their individual agritourism products. An advantage of investing in agritourism is that it can be done with a modest amount of capital by utilising pre-existing forest resources with care to ensure sustainability. For instance, Eco Ponies Garden started in 2015 with zero budget, relying solely on tourism and food sales to gradually build facilities. With Brunei's abundance of natural resources and proper planning, agritourism can be a productive industry.

Moreover, sustainable practices to safeguard and maintain the environment's ecosystem are crucial to the livelihoods of the three agritourism farms. All operations and tourism activities at the farms practise sustainability to avoid environmental degradation such as pollution, habitat destruction and irresponsible foraging. Sumbiling Eco Village is a pioneer in being an ecovillage, diligently promoting sustainable living practices (Siti Rozaidah et al. 2019). It implemented its own forestry system which includes tree planting to preserve the pristine rainforest. Staff are encouraged to plant one local tree for every visitor they bring into the forest. Plastic waste used to pollute the riverbank but vegetation was able to flourish once again after years of rehabilitating the village into the reduce, reuse and recycle (3R) concept by reducing plastic usage, reusing old tyres as tubing floats and recycling food waste as compost.

Eco Ponies Garden addresses environmental concerns by advocating sustainable foraging, limiting the quantity of harvests and replanting rare jungle plants in the garden for conservation. It emphasises ethical food sourcing: in just a few years it has been able to reduce over-foraging of rare ingredients endemic to the village and grow organic food using its own biochar fertiliser by mixing burned soil and dried leaves. It also incorporates a green building strategy by constructing cottages according to the contours of the jungle path to avoid cutting down any trees and using old repurposed wood or recycled materials for furniture. The clay hut and oven are a few defining features of sustainability at Eco Ponies Garden, built using only a mixture of biodegradable materials such as sand, soil, grass and bamboo scaffolding in place of nails.

Tasbee Meliponiculture Farm also imposes strict rules to protect the surrounding environment, such as prohibiting the use of pesticides and chemical fertilizers to avoid harming the bees. The forest remains an important food source for the meliponary. The three farms are multifunctional in the sense that they rely on agroforestry. Combining recreational farm activities and agroforestry brings more value to the farmland, such as through wind or flood protection, so it can have stronger multi-functionality (Barbieri and Valdivia 2010). At Tasbee Meliponiculture Farm the forest provides extra heat protection for the stingless bees, which cannot survive in high temperatures, and its leaves can be additional food for the bees during the dry season when flowers and fruit are scarce.

Additionally, tourism activities at the farms have heightened the sociocultural awareness of international and domestic tourists on indigenous food heritage. Many community-based destinations around Southeast Asia have experienced sociocultural exchanges through interactions between international tourists and local staff (Ling et al. 2017; Nguyen et al. 2018; Manalo et al. 2019). The presence of Iban and Dusun indigenous communities at the farms allows for a full immersion in their local cultures, lifestyles and languages. Local staff and farmers reported that their communication skills, such as the use of the English language, have improved and they are able to hold discussions and exchange lifestyle experiences due to constant interactions with international tourists. Likewise, international tourists can increase their cultural capital by learning local languages, experiencing village life during the farmstays and participating in the daily routines of the farms. Indigenous cultures get disseminated into a wider cultural setting while local and foreign tourists can immerse themselves in the indigenous cultures.

Indigenous groups in Sarawak, Malaysia, have discovered that tourism can be a functional tool to preserve their culture and agricultural heritage, especially for the once nomadic Penan tribe in Long Lamai village (Falak et al. 2016). Meanwhile, Chiphat village in Cambodia was reportedly able to revive traditional ethnic Khmer culture by teaching visitors their culture at the homestay and producing practical handicrafts such as sustainable woven food containers (Reimer and Walter 2013). Similarly, in Brunei, farms have received positive benefits in preserving and reviving indigenous cultures through food and cultural activities. Sumbiling Eco Village pays homage to the Iban culture by teaching visitors how to cook village specialties, demonstrating how to use the traditional blowpipe hunting tool and occasionally having villagers perform the *ngajat* dance in full traditional attire.

Eco Ponies Garden has revived the traditional food of Tutong, Kedayan and Dusun communities through organised public events, such as fruit-tasting festivals, farm-to-table dining and cooking classes. Its farm-to-table menu is customised to the availability of the local harvest—healthy meals infused with wild herbs and presented in a gourmet style. Gourmet ethnic food is a way to show that local flavours can be creatively plated and refined to invoke appreciation for organic food and local agriculture. The farm involves a type of food tourism that gives people space to explore the dining setting while directly corresponding with the food producers or participating in the cooking of the cuisine. A neighbouring tourist destination in Bario, Sarawak, has proven that slow food tourism of organising food events featuring sustainable and traditional food in rural areas can be used as a strategy to attract high-rolling ecotourists (Adeyinka-Ojo and Khoo-Lattimore 2013). Although Eco Ponies Garden does not identify as a slow food tourism spot, it works in a similar way by staging traditional ethnic food or seasonal fruit in a contemporary aesthetic styling at its rustic farm to create awareness of the capabilities of locally sourced produce to modern consumers.

All three study sites are located in remote villages far from the capital city, so the village life is accentuated in their tourism experience. Although authentic agritourism concepts emphasise a stark difference between authentic and countryside tourism, both are intricately intertwined in this case as the agritourism activities involve working participation in the village culture. When tourists visit or stay overnight, they are hosted by different family members who they spend time with during various activities and meals. The Sumbiling Eco Village and Eco Ponies Garden overnight stay programmes are intended to show tourists the daily lifestyles of Iban and Dusun villagers as well as how they exercise their intangible agricultural heritage. Several villages across Sarawak have applied the 'cultural theme park' concept of organising village infrastructure to exhibit various Sarawakian ethnic traditions, food, cultural objects and rituals—equivalent to living museums. Villages have living props for tourists to engage with and, inadvertently through the cultural activities, some domestic tourists are able to reconstruct their own ethnic identities and reconnect to their ancestral roots (Hamzah 2017). Unlike the cultural theme parks in Sarawak, Sumbiling Eco Village and Eco Ponies Garden are situated in authentic villages and although some cultural activities are simulated as tourist activities, the communities and ethnic groups were consulted. The traditional dance is authentic and not cut short to accommodate tourist turnover. Experts from the ethnic community are consulted for games such as blow-piping. In fact, the two farms are identity-building mediums for domestic tourists, especially youths who are alienated from past cultures. They can learn intangible village heritage such as wildcrafting herbs and the disappearing Dusun art of steaming rice in animal-shaped woven leaves.

Finally, there is the strength of human resource development. Agritourism farms often blend education and recreation to sell novel experiences as tourism products, subsequently classifying agritourism as an educational tool, especially for youths (Petroman et al. 2016; Maharjan and Dangol 2018). Agritourism activities at the three study sites involve experiential learning, such as the skill of extracting stingless bee honey and sustainable cooking using bamboo or edible leaves, which are uncommon forms of knowledge that can only be obtained by participating at the farms. The multifunctional farms also organise events for public and educational institutions, for instance agriculture workshops, school trips, student summer camps, cooking lessons and academic projects.

Besides educating tourists, agritourism also helps in boosting human capital by employing local staff and volunteers at the farms. Although the farms are small, they provide employment to local staff, especially local farmers and villagers. When there are big groups of tourists or large events, young volunteers or temporary staff are hired to help set up, host and make arrangements. Increased job opportunities at farms due to an uptake of tourism activities is a common benefit of agritourism (Ummiroh and Hardiyani 2013; Bwana et al. 2015; Ling et al. 2017; Nguyen et al. 2018). Data show employment in agriculture at an average of 1.38% from 2020 to 2022 (World Bank 2022). The development of human capital also stems from the capacity-building aspect of agritourism activities. Despite the absence of formal training, staff are able to upskill and reskill themselves by learning different knowledge about farming, culinary skills and event management. Obtaining new skills is part of the contribution of agritourism to the local community (Tiraieyari and Azimi 2012). The farmers, villagers and volunteers became multiskilled from basic farming tasks to hosting tourists, cooking, building constructions, maintenance works, event management, carpentry, tour guiding, developing products and entrepreneurship.

9.3.2 Internal Analysis of Weaknesses

A major weakness of agritourism in Brunei are financial constraints. Its abundance of natural assets does not equate to financial capital, particularly for community-based agritourism operators. Even though they are small-scale, they still need stable financing as tourism activities and visitors increase to accommodate developments of the farms. Villagers rely heavily on tourists to bring business to their accommodation services, gastronomy services and agrifood products. During the off-season, such sites struggle to match their peak season earnings, so owners tend to use their personal funds to pay the salaries of the villagers and staff. In some Indonesian examples, agritourism income is managed by groups of farmers' cooperatives represented by farmers, agriculture experts and various stakeholders, with the sole purpose of easing the farms' financial burden (Ummiroh and Hardiyani 2013; Budiasa and Ambarawati 2014). However, in Brunei there is no centralised management such as a farmers' cooperative or association that provides financial aid. Farms can only receive whatever financial support the government decides to provide.

Another common issue faced by the three sites is the difficulty of setting value-based pricing. Tourism sites often price their products or services according to their values from the perspectives of tourists (Monyane 2014; Armoni et al. 2018). The difficulty lies in matching the value of the products with the perspectives of both domestic and foreign tourists who frequently find the prices to be expensive for the local market, which staggers the supply and demand of local tourism products. As such, the three farms must creatively alter their production and pricing to a range that is acceptable to local consumers.

There is also a lack of institutional support and collaboration. Brunei's agritourism is still in its infancy stage, although established as long ago as 2008. The development thus far has been slow compared to neighbouring countries with more expansive framework and infrastructure. In Malaysia and Indonesia, for instance, there are managing institutions such as farmers' cooperatives and the integration of agritourism into national tourism plans (Ummiroh and Hardiyani 2013; Budiasa and Ambarawati 2014; Liew and Ong 2018). In contrast, Brunei has not integrated agritourism into its national tourism framework or guidelines to consolidate the operations of the farms. The main priorities of the national tourism framework are to develop adventure and sports, diving, cruise, Islamic, gastronomy, and meetings, incentives, conferences and exhibitions tourism (Tourism Development Department 2021). Relevant state departments have acknowledged the operations of the three study sites, but without a directive role in the agritourism sector there is no sanction to corroborate official collaborations between the state and the agritourism community. The enterprising farm owners and staff stated that although they have been self-reliant institutional support is still needed for making advances, especially for domestic tourism promotion. The local population has shown less support in purchasing experiences compared to international tourists because local people are less informed about the farms, suggesting that existing efforts to promote local tourism sites by relevant agencies still need vast improvement.

Furthermore, the small-scale and seasonal nature of farm produce represents a weakness. The capacity of the three sites is limited to small-scale harvests suitable to cater to their regular number of customers, so their income from produce sales is not high. Tasbee Meliponiculture Farm is the smallest in terms of production capacity—even though the meliponary houses 18 stingless bee species only two can be harvested for commercial use. Out of all the agriculture activities, honey extraction is the most delicate process and each extraction produces only about one or two spoonfuls of raw honey. It takes two to three extractions to fill a 15-ml jar. This has led to a mismatch of supply and demand as tourists seek to purchase larger amounts of honey than the farm can produce. Likewise, Eco Ponies Garden and Sumbiling Eco Village harvest seasonal fruit and vegetables, so tourists cannot receive the same experience or try similar local food as described on social media platforms such as TripAdvisor or by word of mouth. Gastronomy activities and menus have to change according to the season. This has created inconsistent tourist experiences and reviews. Due to the unavailability of continuous supply, the three sites are unable to depend on agrifood production alone and have incorporated value-added products such as outdoor sports as an alternative strategy. This study therefore has shown Brunei's agritourism as a combination of community-based tourism on a working farm which includes other main activities rather than farming alone.

Lastly, there is a lack of human resources and expertise. Despite developing human capital through capacity building among the locals, only Sumbiling Eco Village has hired villagers as permanent staff. Both Eco Ponies Garden and Tasbee Meliponiculture Farm have resorted to recruiting international and local temporary project-based volunteers to minimise costs, which highlights a lack of economic sustainability. Eco Ponies Garden is a well-known host for international volunteers, volunteer tourists or voluntourists. In volunteer tourism, tourists bear a responsibility to create positive impacts within the host community while also gaining an authentic and deep understanding of them (Terry 2014). Voluntourism brings a number of benefits as evidenced by Eco Ponies Garden, such as overseas innovative ideas, different skill sets and structure to assist local farms. However, this kind of temporary workforce has its own problems. The argument is that volunteer tourists are 'vacation minded', where they only use volunteering to provide themselves with personal growth, camaraderie and a sense of globetrotting adventures (Brown 2005). Despite their positive reputation, voluntourists' travel desires outweigh their sense of commitment. They stay for a maximum of two months at Eco Ponies Garden, but they are still inherently tourists who have prearranged travel plans. Meanwhile, local temporary volunteers get paid a minimal wage and hence are unlikely to stay for long.

9.3.3 External Analysis of Opportunities

The global evolution of agritourism has contributed to a change in the agriculture landscape. It is now seen as a product offering in situ cultural experiences that can promote better understanding of agricultural practices, traditions and knowledge to the general public (Barbieri and Streifeneder 2019). This can perhaps be seen as an additional tourism promotional strategy to encourage domestic tourism. This was particularly relevant when international travel bans were imposed in Brunei due to the COVID-19 pandemic. All three farms reportedly experienced a surge in local demand due to international travel restrictions. There was a burgeoning interest in tourism activities at the farms. Mori Farm, a large moringa herb garden, collaborated with a local art gallery to hold an outdoor painting event with a guided tour at their farmland (Lau 2020). The emerging interest implies an opportunity for proposing new tourism strategies or packages in Brunei. Instigating agritourism activities at farms would potentially extend the capacities of the local agriculture industry by augmenting farm experiences with value-added products in tourism packages. The agritourism model in Brunei is community based in tandem with pooling village resources and joint action with local youth. As previously mentioned, community-based tourism is being evaluated by a relevant tourism agency, so there is already a moderate foundation for inaugurating community-based agritourism in the national tourism plan.

9.3.4 External Analysis of Threats

Although initiatives such as the Visit ASEAN tourism campaign were inaugurated, high and intense competition still exists between the member countries. Besides an underlying spirit of collaboration, there is intense competition for tourist arrivals. Brunei is faced with competitive neighbours offering a variety of different agritourism products with more choice and competitive pricing. For instance, the community-based agritourism of a salak (snakeskin fruit) plantation in Bali was able to competitively lower the price of its agritourism packages to about USD1 per person for large groups, inclusive of entrance fees and U-picking of the fruit (Budiasa and Ambarawati 2014). Conversely, Sumbiling Eco Village offers a day-trip ‘rainforest discovery trek’ package which costs a steep USD66 for two visitors. The argument for the high cost in Brunei is that local people and ethnic groups are not exploited and are paid well for their contribution. In addition, the price of maintenance for all farms is costly as production is not at an optimum.

Aside from regional competition, the three study sites have to compete with larger tourism operators within Brunei. For instance, Freme Rainforest Lodge is the main competitor of Sumbiling Eco Village, located in the same area and with more outdoor sports facilities. The cheapest day-trip package is about USD65, inclusive of refreshments and access to outdoor and water sports facilities (Freme Rainforest Lodge

2024). Conventional tour agencies can also be a threat because they can accommodate more tourists and have more resources. They can facilitate accommodation and transportation for larger groups of tourists across districts, although this might not be particularly in line with the principles of sustainability and could create a different experience for tourists. However, authentic experiences based on local knowledge and genuine products are not emphasised by the three farms' marketing. This has created a disadvantage for them.

Environmental degradation is also often associated with rapid urban and agricultural development. Cameron Highlands in Malaysia, for instance, has been facing issues where modernising tourism developments pollute the natural environment and subsequently cause immense flooding and landslides in residential areas. Additionally, the use of pesticides and fertilisers is a rising concern (Ling et al. 2017). In the case of Brunei, Eco Ponies Garden revealed an issue of over-foraging or irresponsible foraging in their village which caused a scarcity of the roselle flower, an important ingredient in their food and drinks. This might have been caused by the lack of awareness of local villagers and tourists on the scarcity of wild ingredients. There was also a dearth of other ingredients, such as the butterfly pea flower and soft bamboo shoots. Farmers were not trained to replant wild ingredients gathered in remote parts of the jungle. Despite the benefits of agritourism, such as job opportunities for villagers and positive economic and social impacts, its promotion and implementation should be carefully planned to reduce adverse impacts on the environment.

9.4 Conclusion

The slow yet persistent developments of Sumbiling Eco Village, Eco Ponies Garden and Tasbee Meliponiculture Farm are testament to the ingenious capabilities of the community of villagers and farmers in their pursuit of participating in the tourism industry. The SWOT analysis based on the interviews reveals that the number of strengths outweigh the weaknesses of agritourism. Community-based agritourism in Brunei has resulted in positive impacts in four main facets: economic, environmental, sociocultural and educational, all of which greatly benefit farm owners, villagers, farmers and local youth. The weaknesses described in the analysis provide reasons as to why agritourism is still underdeveloped, despite operating since 2008. Agritourism farms struggle with rapid growth due to internal and external disadvantages. The internal disadvantages are based on the deficiencies of farm resources in terms of funding, fluctuating income, premium pricing, small-scale production, limited seasonal harvests and unreliable human resources in the form of volunteer tourists. The external disadvantages are caused by a lack of institutional support or collaboration from relevant agencies, the absence of agritourism in the national tourism framework to guide the farms, the non-existence of centralised management such as associations to represent the welfare of the farms and farmers, and inadequate promotional marketing to attract domestic tourists.

Nonetheless, the recent burgeoning interest in farm tourism can be an opportunity to catalyse agritourism as a tourism strategy. However, accelerating agritourism development can prove to be challenging, with threats from stiff regional and domestic competition. Small farms are in a precarious position as their competitors are larger and fully equipped with more resources, facilities and recreational activities at cheaper prices. Moreover, the farms are reliant on nature as their main asset, hence depleting natural resources from unsustainable practices should not be taken lightly. Even so, the research findings suggest that agritourism can indeed be beneficial in building sociocultural and environmental resilience in Brunei, as it has done for other countries around the globe. As revealed from the developments of the three study areas, agritourism will be able to appraise the farming community's capabilities and highlight the significance of local agricultural heritage while preserving the rare biodiversity that nurtures the growth of native wild plants and hinders ecological deterioration.

It is important to note that although the farms have been operating since the late 2000s, their agritourism ventures are still ostensibly at an early development stage and the farm owners are still deliberating their next tourism activities, such as expanding their agrifood programmes based on responses from international and domestic tourists. The recent budding interest of local people in organising recreational events at farmsteads is indicative of a positive inclination of the community towards accelerating the scope of agritourism to a multitudinous range of farms. The different themes identified from this SWOT analysis present an overview of the significant parts of Brunei's agritourism to compensate for the limited literature and information in the local scene. However, given that it is still gradually developing and transforming, further in-depth investigations are required to understand the various ramifications of community-based agritourism. Based on this exploratory study, the proliferation of agritourism farms is possible in the near future with more support from the public and relevant organisations to secure the operations of the farms. Grassroots initiatives can achieve state-wide significance if incorporated into the nation-building strategy as supporting a growing sector.

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Chapter 10
Cross-border Tourism between Brunei Darussalam and Sarawak, Malaysia

Wei Lee Chin

Abstract Borders set the authorised limits of national sovereignty or the frontiers up to which a state may exercise its authority. In recent years, cross-border tourism has become an increasingly important economic activity between Brunei Darussalam and the East Malaysian state of Sarawak. This chapter focuses on factors influencing the frequency of cross-border tourism and investigates the cross-border shopping behaviour of Bruneian visitors crossing between Brunei and Miri in Sarawak. The surge in visits to Sarawak may have profound implications for Brunei's revenue as high outflows of expenditure are believed to have contributed to a significant number of economic leakages. The approximate number of times people leaving Brunei was recorded as high as 2.4 million in 2018–2019, before the COVID-19 pandemic. This analysis aims to examine the purchasing patterns of Bruneian visitors as well as their motivating factors. The latter are alluded to as drivers of cross-border tourism with major reasons including price benefits, a favourable exchange rate as well as non-price factors such as the availability of choice.

Keywords Brunei Darussalam · Sarawak, Malaysia · Cross-border tourism · Motivational factors · Tourist behaviour · Purchasing patterns

10.1 Introduction

International boundaries were traditionally delineated to act as constraints on the movement of people, goods and services, and which, as a result, could prevent economic, social and political interaction between countries. However, in an age of deepening global integration, the relationships among nations are becoming more permeable and cross-border economic activities are intensifying, supporting greater trade and other forms of exchange. Boundaries have become points of contact or convergence (Timothy 1995). One of the most significant examples of such cross-border activities is international tourism. Conventional tourism is defined by UN

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Tourism (formerly the United Nations World Tourism Organisation) as the movement of people across international borders for a plethora of different reasons, such as business tourism, leisure tourism, medical tourism or visiting friends and relatives, which includes at least a night or 24 hours away from home. Although there is a lack of agreement in defining cross-border tourism, Dallen J. Timothy and Richard W. Butler (1995) and Mark P. Hampton (2010) agree that it should include day-trippers regardless of the purpose of the visit (business, leisure or shopping) and time frame (a minimum time period or overnight stay), as long as there is some sort of geographical proximity or common border as seen between countries like the United States and Canada or Singapore and Malaysia. The case study presented in this chapter looks at this phenomenon with regard to Brunei and the East Malaysia state of Sarawak, particularly the city of Miri. In light of this, tourists who stay overnight can also be considered as contributing to cross-border tourism, just like conventionally defined international tourism. Similarly, a cross-border tourist is identified as ‘an individual tourist or consumer visiting neighbouring countries with the purpose of directly consuming goods and services which are cheaper in that country and/or are unavailable in the country of origin’ (Anaman and Rose Aminah 2002).

Cross-border tourism is an important driver that is encouraged by governments and international bodies due to the positive impact it brings to the economy (Boonchai and Freathy 2020). With the rapid economic development of Southeast Asia as one of the world’s fastest-growing tourism destinations, it is important to recognise the huge impact that cross-border tourism has on the economies of the region. Understanding the reasons for a destination’s competitiveness is essential in ensuring sustainable economic development (Chin 2017; Chin et al. 2017; Chin and Hampton 2020). Greater cross-border development was intensified in the 1990s within the Association of Southeast Asian Nations (ASEAN) region with projects such as the Indonesia–Malaysia–Singapore growth triangle (IMS-GT) as well as the Brunei–Indonesia–Malaysia–Philippines East ASEAN Growth Area (BIMP-EAGA), aiming to encourage subregional economic cooperation and cross-border tourism within the participating areas through intergovernmental collaboration, destination marketing and increased investment (Hampton 2010).

Cross-border tourism between Brunei and Sarawak, East Malaysia, reveals 2.4 million trips were made by Bruneian residents crossing the border to Sarawak before the onset of the COVID-19 pandemic in March 2020 (DINR 2019). Given the population of Brunei is estimated to be 450,500, 2.4 million represents an average of 5.3 cross-border visits per person per year. The sheer volume of visits clearly calls for a study in examining the motivating factors and purchasing patterns of Bruneians during these trips. In this study, Miri is chosen as a destination of interest due to its long tradition of Bruneians crossing the border for shopping. Fifty respondents were interviewed at the Brunei immigration post from October to December 2019, not long before the outbreak of the pandemic. The main objectives are to identify the factors influencing cross-border tourism between Brunei and Miri as well as to investigate cross-border shopping behaviour and motives. Reasons such as shopping for groceries and essential household items are identified for both day-trippers and short-term visitors. Entertainment activities like pubs, bars and live music as well as leisure and recreational activities such as unisex facial and massage parlours, and spending a night in a hotel outside Brunei are all factors identified in this survey. Although this research was done before the COVID-19 pandemic, it is already evident that Bruneians have resumed their visits to Miri for the same purposes. To illustrate, Bruneian visitors to Sarawak have returned to pre-pandemic levels of around 848,075 visitors from January to August 2023 (*Dayak Daily* 2023).

10.2 Borders and Tourism

Cross-border tourism has attracted a significant interest among scholars due to its impact on economic revenues and retail sales on both sides of the border. Alon Gelbman and Dallen Timothy (2010) suggest that this kind of tremendous economic growth is due to a unique form of borderland attraction where communities living in between two societies have the potential to create circumstances that are favourable for cross-border tourism. For example, the arrival of tourists from Singapore has triggered economic growth in Johor Bahru in Malaysia, just 1 km away. Another border town that continues to record remarkable economic growth as a direct result of cross-border activity is Miri (as well as Kuala Lurah and Limbang) due to the presence of tourists from Brunei.

A growing literature looks at the related effects of cross-border tourism: purchasing patterns (Lukić 2012; Krainara and Routray 2015); shopping and economic restructuring (Karlsson and Lindgren 2010); and the close relationship between motivation and marketing (Park et al. 2019; Woyo and Slabbert 2019). In addition, various studies examine different geographical locations for such cross-border activities: the United States and Canada (Di Matteo and Di Matteo 1996; Ferris 2010; Lipovic et al. 2015); the United States and Mexico (Guo and Wang 2009; Fullerton and Walke 2019; Sullivan et al. 2012); Singapore and Malaysia (Piron 2002; Hui and Wan 2008); Brunei and Malaysia (Subramaniam et al. 2008, 2013; Anaman and Rose Aminah 2002); and Hong Kong and China (Wang 2004; Lau et al. 2005; Zhang et al. 2018; Baek et al. 2020).

According to a study of cross-border trips between the United States and Mexico, the majority of respondents used a car and their spending per trip was recorded as USD500 on average (Sullivan et al. 2012). Francis Piron (2002) reports that approximately 900,000 day-trippers cross from Singapore, a high-income country, to Johor Bahru in Malaysia, a middle-income country, for shopping, recreation and food. Kwabena A. Anaman and Rose Aminah Ismail (2002) examine a decline in retail sales in Brunei during the festive season as Bruneians spent their money in nearby Malaysian towns like Limbang and Miri. Similarly, a survey by Peng Ju (2011) on cross-border tourism between Hong Kong and Shenzhen in China finds that most respondents were day-trippers and spent most of their money on low-end goods, with an average spend of USD39–64 (for 50% of respondents) and USD13–39 (for 30% of respondents). The study also shows that 80% of Hong Kong residents visited Shenzhen more than once in a month. Other studies investigate visitors' purchasing behaviour and motivation factors. Motivation is a ‘psychological state that drives an individual towards achieving a desired target’ and is a significant factor to understand, explain, and conceptualise travel behaviours (Park et al. 2019: 65). Travel motivation can be affected by a number of factors: culture, as tourists may be spurred by linguistic and cultural similarities or uniqueness in cultural attributes (Weidenfeld 2013); value for money (Frenţ 2016); natural beauty such as beaches and architecture (Shida Irwana et al. 2014); and psychological aspects of human needs such as taste, relaxation and social belongingness (Mustaffa et al. 2017). Economic, social and environmental factors are antecedents of tourist satisfaction, and thus affect tourist behaviour and their revisit intentions (Jarvis et al. 2016). The study by Jonghyun Park et al. (2019) shows that economic factors are seen as the most influential causes affecting tourist behaviour and revisiting intentions, followed by nature and cultural aspects.

10.3 Cross-border Framework and Methodology

One useful insight from the model of cross-border shopping presented by Thirunaukarasu Subramaniam et al. (2008) is their emphasis on day-trippers or short-term visitors and their ability to group market characteristics into three different attributes which are more applicable to the ASEAN context. Their integrated model builds on the work of Terry Clark (1994) and Ho-fuk Lau et al. (2005) to create a framework for analysing cross-border shopping patterns. The framework synthesises consumer and market characteristics as the main influences on cross-border shopping. Consumer characteristics comprise socioeconomic characteristics such as age, gender, income, occupation and employment, as well as motivational characteristics (Fig. 10.1). On the other hand, market characteristics include three main attributes: product and service attributes, which look at price, promotion, quality as well as the availability of products and services; shopping area and related attributes, which comprise the environment and level of comfort of the premises; and physical and other factors, which deal with distance, exchange rates and boundary management.

As shown in previous studies, pricing is directly linked to the effects of cross-border shopping behaviour (Piron 2002; Lau et al. 2005; Sullivan et al. 2012; Park et al. 2019). The relative strength of a country’s currency does have an impact on the behaviour of shoppers which determines the flow of the currency. Singaporeans crossing the Causeway in Johor Bahru, Bruneians shopping in Miri and Limbang, and Hongkongers travelling to Shenzhen are commonplace due to attractive low retail prices. Subramaniam et al.’s framework takes into account consumer characteristics such as income, age and gender to identify whether the behaviour of shoppers is influenced by differences in these variables. This provides significant information on the link between the frequency of cross-border visits and tourist incomes. In addition, market characteristics such as shopping attributes, products and service availability are also taken into account. These attributes are significant to vendors in providing an understanding to satisfy consumer needs and wants. Factors such as

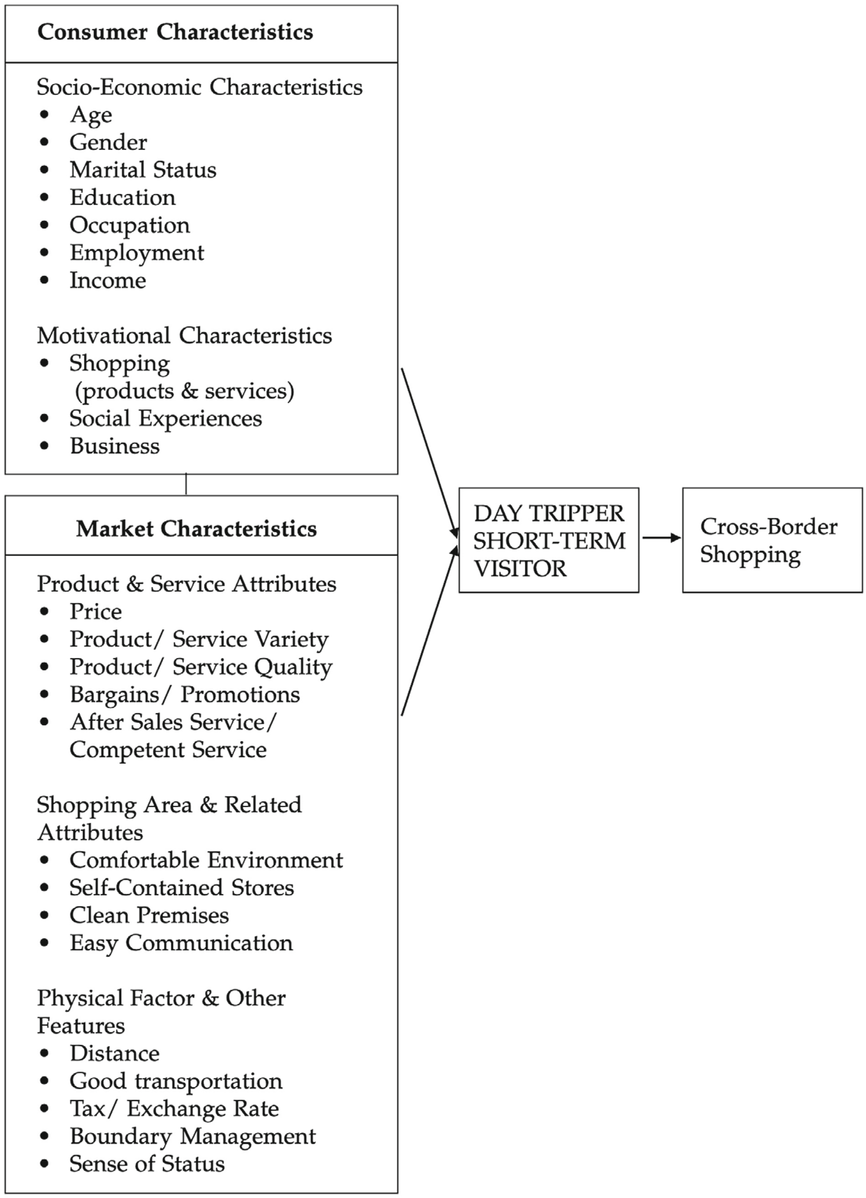

Fig. 10.1 Framework for analysing cross-border shopping patterns. *Source* Subramaniam et al. (2008: 64)

accessibility, the variety of shops and products, prices, facilities and entertainment are all examples of market characteristics that can add value to a shopping retail space. It is therefore helpful to identify whether such attributes affect the decisions of cross-border visitors. Furthermore, physical factors such as distance and boundary management are also highlighted in this framework. Distance and cost might be two significant factors that affect the motivation and decision-making of cross-border shoppers, including the time spent on travelling and the waiting time at customs checkpoints. Boundary management is also deeply associated under physical factors as one of the key attributes. Strict or lenient boundary management might also affect the decisions and motivations of cross-border tourism. All these factors included in the framework provide a more comprehensive picture of consumer behaviour and motivation in crossing borders, which helps explain and predict motives that influence travel decision-making.

This study adopts a qualitative approach using semi-structured interviews encompassing an intense two and a half months of research using a rapid rural appraisal approach. The limited budget and logistical constraints made this approach suitable as I used my pre-knowledge to maximise qualitative data collection. In terms of positionality, I did a pilot study and discussed and amended the interview questions before going into the field to ensure questions were clear and easily understood by the respondents. During the pilot study, it was observed that respondents had no major difficulties answering the questions, but a few minor changes were made to facilitate analysis. Besides interviews, direct observations and notes were collected and detailed in a field journal to echo the significance of self-reflection in qualitative fieldwork.

The target population for this study were Bruneian visitors, identified by their car registrations, at the border checkpoint in Sungai Tujoh. Respondents included were both day-trippers (same day return visitors) and short-term visitors (overnight/more than 24 hours). During the fieldwork, 50 semi-structured interviews were conducted during the peak season (October to December) with an average interview duration of 45 minutes to an hour. Interviews were intentionally carried out during the peak season and during peak times, as respondents were more willing to be interviewed while waiting in the queue for immigration and customs checkpoints. The interviews were carried out at different times of the day and week to reduce any form of bias. Interview respondents were selected using convenience sampling, based on proximity and availability on the day of the interview. Semi-structured interviews were used, allowing a high degree of flexibility for respondents to convey their viewpoints and perceptions more freely on issues they felt relevant to the topic discussed. The semi-structured format also meant that respondents could be asked to elaborate or clarify the reasoning behind their answers. Data collected were then analysed to examine key themes based on testing the framework's components. The information collected from respondents are detailed to understand their motivational or behavioural factors relating to crossing the border and to recognise visitors' purchasing patterns and willingness to spend money on goods and services. Sungai Tujoh was chosen for fieldwork as no previous research has been undertaken on the border between Brunei and Miri.

I recognise some limitations of this study. The results are not necessarily definitive or conclusive given the small sample size. Additionally, fieldwork was conducted during the pre-COVID period and therefore might not accurately represent the current post-COVID situation when boundaries have been reopened. Nonetheless, the results reflect interesting cross-border patterns that existed and persist, and provide a comprehensive picture in understanding and predicting motives that influence travel decision-making between Brunei and Miri. Not least, the data collected for this study provide significant information on the reasons behind the outflow of Bruneian tourists.

10.4 Cross-border Tourism between Brunei and Miri, Sarawak

Globalisation, advances in technology and improved telecommunications, transportation and infrastructure have combined to stimulate an escalation of cross-border tourism between Brunei and Miri in Sarawak. The completion of the ASEAN Bridge (Batang Baram Bridge) in 2003, connecting Miri and Brunei across the Baram River, created a significant and permanent link between these places, which quickly resulted in a much higher number of tourist movements. One of the many factors that influences cross-border tourism between Brunei and Miri is clearly the ease of travel in terms of infrastructure (the bridge instead of slower ferries), and the absence of visa requirements for Bruneian citizens and permanent residents. In addition, the extension of border operating hours from 6.00 a.m. to 12.00 a.m. since September 2015 has made crossing the border even more convenient. This has enabled a smoother flow of people and vehicles and, as a result, thousands of Bruneians flock to Miri for shopping and entertainment, especially during weekends, and visitors are able to make day trips instead of overnight trips (*The Star* 2020).

Table 10.1 shows the number of Bruneian residents leaving the country for East Malaysian states in 2018–2019, mainly from three areas, namely the Sungai Tujoh immigration control post (a two-hour drive from Brunei-Muara district) for Miri; the Kuala Lurah control post (a 25-minute drive from Bandar Seri Begawan) for Limbang; and the Serasa ferry terminal (about 30 minutes from the capital), where visitors leave for the Malaysian federal territory of Labuan and Kota Kinabalu, the state capital of Sabah. The enormous figures demonstrate the frequency of trips made by Bruneians leaving the state.

Table 10.2 shows a breakdown of the quarterly trips via the same three departure points in 2018–2019. The data help to indicate the peak periods of travel and thus identify important trends throughout the year. The peak period is the last quarter of the year, likely due to the long school holidays in December and the Christmas and New Year festive season. Educators and teachers account for a significant proportion of the workforce and they take their annual leave during school holidays (DEPS 2019).

Table 10.1 Bruneian residents leaving for East Malaysia states, 2018–2019

Control post	Number
Sungai Tujoh	1,129,050
Kuala Lurah	1,261,023
Serasa ferry terminal	36,343
Total	2,426,416

Source DEPS (2019)

Table 10.2 Bruneian residents leaving for East Malaysia states, by yearly quarters, 2018–2019

Control post	Jan–Mar 2018	Apr–Jun 2018	Jul–Sep 2018	Oct–Dec 2018	Jan-Mar 2019
Sungai Tujoh	278,598	247,978	272,698	329,776	316,109
Kuala Lurah	313,662	284,358	312,674	350,329	313,661
Serasa ferry terminal	9,677	6,762	8,121	11,783	9,313

Source DINR (2019)

In this study, the Sungai Tujoh figures are highlighted as Miri is chosen as a destination of interest due to the long-standing tradition of Bruneian residents crossing the border for shopping trips. Further, there are no previous studies specifically on cross-border behaviour and spending patterns between Brunei and Miri, and indeed there are only a few studies on cross-border tourism between Brunei and Malaysia more generally. Table 10.2 shows a large increase of 57,078 people leaving Brunei via Sungai Tujoh in October–December 2018 compared to July–September 2018. This phenomenon raises a major policy concern about whether Bruneians were 'overspending' in Miri since this could lead to serious economic leakages in the long run. According to Tourism Malaysia, Bruneians spent BND1.16 billion (MYR3.5 billion) in Malaysia in 2019, indicating an increased from BND1.12 billion (MYR3.4 billion) in 2018 (Rasidah 2020). The increase in economic leakages (the outflow of money) was evident with the high number of visitors crossing the border and their high-spending behaviour. The Brunei government has launched several campaigns such as Kenali Negara Kitani (KNK, Get to Know Your Own Country) and the Brunei December Festival in the hope of promoting domestic tourism and to encourage spending within the country. During the COVID-19 pandemic, the government temporarily suspended non-essential travel and cross-border activities between Brunei and Malaysia. This compelled Bruneians to spend locally and this has boosted local tourism businesses during that period, especially in community-based tourism and agritourism activities (Chin and Siti Fatimahwati 2021; Najib and Chin 2021). In addition, the Ministry and Finance and Economy imposed new entry and exit charges from 1 August 2020. The BND6 return trip tax charges applied to all land and sea border arrivals and departing passengers once the border reopened. This raises the potential for further study to examine the scale of Bruneians resuming their visits to Miri for the same purposes or whether the imposition of a tax affects the frequency of tourists crossing the border.

10.5 Findings and Discussion

The motivational factors and purchasing patterns of cross-border Bruneian visitors were investigated. The personal profiles of respondents such as age, gender, marital status, occupation, motivational characteristics and income are presented in Table 10.3.

Visitors to Miri are mostly from the working population and were relatively young; only five respondents were aged 50 and above. There were more female respondents (29) than males (21). The majority of respondents were from those working in various sectors such as the government (42%), semi-government entities (14%) and the private sector (8%), while 6% were retirees, 6% unemployed and 20% entrepreneurs (self-employed). Half of the respondents had a personal income of less than BND2,000, 32% earned from BND2,001 to BND4000, while 12% were categorised in the higher-income group with earnings of BND4,001 to BND6,000 and 6% at BND6,001 and above.

The home areas of respondents were mostly from Kuala Belait (48%), the district nearest to Miri, while 42% were from Bandar Seri Begawan and 10% from Tutong district. No respondents were recorded from Temburong. The frequency of cross-border trips was then compared with the distance respondents travelled. More trips were taken by people residing nearer to the border of Sungai Tujoh such as residents from Kuala Belait in comparison to those in the capital. Most of the Belait residents reported frequent trips to Miri, once a week and some more than that. The proximity of Miri to Kuala Belait allowed a steady flow of people to Miri which might create competition with local businesses. Residents who lived further away from the border mostly recorded going to Miri once a month or less often.

The socioeconomic characteristics of cross-border visitors were inextricably linked to motivational and purchasing patterns. Interviews reveal that the main reason for cross-border activity was shopping, mentioned as one of the most common activities and reasons by all the respondents, both day-trippers and short-term visitors. Entertainment was in second place and included activities such as karaoke, pubs and bars, live music, smoking and drinking in public, arcades and nightclubs. Leisure and recreational activities ranked third as respondents preferred the cheapness and availability of such activities during short holidays where families stayed in hotels for a day or two to use their facilities. Further, there were similar tastes in terms of food and culture, unisex massage parlours where both husband and wife could share a room, hair and nail salons, spas and unisex facial parlours. Respondents emphasised the importance of three motivational characteristics, with shopping (100%), entertainment (82%) and leisure/recreation (76%) as the highest ranking.

Surprisingly, 56% of respondents used Miri as a point of transit to a variety of other destinations. For example, one respondent said, ‘Flying to Kuala Lumpur is

Table 10.3 Brunei–Miri cross-border visitors: Socioeconomic profile of respondents

Consumer characteristics	Number of respondents (n = 50)	Percentage (%)
Age		
20–29	5	10
30–39	27	54
40–49	13	26
50 and above	5	10
Gender		
Male	21	42
Female	29	58
Marital status		
Single	20	40
Married	30	60
Occupation		
Student	2	4
Employed	32	64
Unemployed	3	6
Self-employed	10	20
Retired	3	6
Job (employed)		
Government	21	42
Semi-government	7	14
Private	4	8
Income		
Less than BND 2,000	25	50
BND2,001–4,000	16	32
BND4,001–6,000	6	12
BND6,001 and above	3	6
Motivational characteristics (free to choose more than one option)		
Shopping	50	100
Entertainment	41	82
Leisure/recreation (facial, nails, hair,	38	76
massage)	28	56
Transit	25	50
Medical services/postal services	10	20
Visiting friends and relatives	6	12
Business	6	12
Weddings		
Place of residence		
Bandar Seri Begawan	21	42
Tutong	5	10
Kuala Belait	24	48
Temburong	–	–
Frequency of cross-border trips		

(continued)

Table 10.3 (continued)

Consumer characteristics	Number of respondents (n = 50)	Percentage (%)
Once a week	19	38
More than once a week	3	6
Once a month	16	32
More than once a month	9	18
Once every two months	2	4
Others	1	2
Types of tourists		
Day-tripper	31	62
Short-term visitor	19	38

Source Compiled from primary data collection

cheaper if we fly via Miri because of its domestic flight from Miri to KL'. Others used Miri as a point of transit to Europe via budget airlines like AirAsia X. Similarly, 50% of respondents crossed the border for both medical and postal services. Respondents mentioned the cheaper alternatives for health care such as check-ups, gynaecology, ultrasound and minor surgery like dental fixtures, cataracts and myopia correction, which are all common procedures undertaken by Bruneians in Miri. The long waiting time for minor procedures in government hospitals in Brunei was the main reason suggested by all respondents who had had their procedures in Miri. Some added that they wanted a second opinion and that Miri was a cheaper alternative than private hospitals in Brunei such as Jerudong Park Medical Centre. Postal services were another common reason that attracted Bruneians to Miri. A lot of international online platforms do not ship directly to Brunei and even if they do the shipping costs are usually more expensive than shipping to East Malaysia. Respondents were willing to cross the border to collect their purchases made via online shopping. Vendors such as Taobao, one of the world's biggest online shopping platforms and owned by the Chinese multinational Alibaba, ship directly to East Malaysia destinations like Miri but not to Brunei. Moreover, respondents pointed out the efficiency of postal services in Miri while collecting parcels and the lenient customs checks when crossing borders. Some 20% of respondents crossed the borders to visit friends and relatives, although this was not usually the sole purpose. Such visits were normally accompanied by other activities. The findings also show that a handful of respondents (12%) travelled for business activities, such as buying goods, printing name cards, buying car parts for their businesses as well as engaging wedding services such as banquet caterers, decorators and photographers.

When asked, all respondents mentioned that significant market characteristics like price and the availability of a variety of products and services played an important role in attracting them to make visits. All respondents agreed that buying groceries and shopping in Miri were cheaper than in Brunei. One respondent said,

> Buying groceries is a must when in Miri. Groceries like vegetables, canned food, toothpaste, tissues, shampoos are cheaper in Miri. We can save a lot if we shop across the border while having more choices to choose from. They have high street brands like H&M, places to buy

> working attire, their Guardians and Watsons are better stocked than the Brunei ones. Even their Toys 'R' Us are cheaper and better stocked than in Brunei.

Another respondent said,

> Why not getting the most out of our trip? We wanted to go see our relatives but at the same time we will shop as well and occasionally have a drink or two. We will sometimes bring the whole family to the cinema which is cheaper or shop for things that we couldn't get in Brunei. For example, we couldn't find a lot of winter clothing in Brunei so we went to Uniqlo in Miri. They have a lot of variety to choose from.

In addition, all respondents mentioned the limited choices available in Brunei in terms of goods and services. Even if they are offered in Brunei, respondents could get the same goods and services at a fraction of a price across the border.

> Starbucks or Coffee Bean are cheaper than in Brunei. KFC and McDonald's are all the way cheaper in Miri. Having a massage costs BND80 in Brunei while I can get a good massage for MYR120 (BND40) in Miri. I don't mind doing day trips because I feel my money spent is worth more across the border.

Other respondents remarked on the availability of weekend promotions that attracted them to cross the border.

> There are a lot of two for one sales in supermarkets across Miri during the weekends. Mummies like me will buy our baby products like Pampers and formula from Miri. My other family members will go for household goods like detergents and toilet rolls to smaller products like yoghurt and so on. They are all value for money if you have a loyalty card of that particular supermarket. It is very attractive and value for money.

Surprisingly, respondents did not see product quality and after-sales service as significant in motivating their spending behaviour. They did not expect great after-sales service in Miri as compared to Brunei. 'You get what you pay for. I am happy to buy a computer or phone accessories in Miri, but I wouldn't expect great after-sales service due to the price I pay'. This might be due to low expectations because of the cheaper price paid by cross-border shoppers. However, most respondents noted that they would not purchase expensive electronic items like laptops and iPads in Miri. They would rather purchase such expensive items in Brunei due to convenience, copyright installation issues, warranty issues and fake goods, although they might have a slight price differential.[1] Although product quality was not seen as significant to respondents, service quality was. Most respondents mentioned good leisure and recreational services did play a role in motivating them to spend and would determine whether they returned to that particular service. 'Service is important to me. I always like to try out new hair salons and nail services. If the service isn't good, I will not return although it is cheap'. Another respondent said, 'My husband and I are frequent visitors of V Spa [a beauty salon and wellness centre]. Their massage service is extremely good. We are hooked and we keep going back every time we go to Miri'. All the female respondents had used facial services in Miri before and all agreed on the importance of service quality as a significant motivating factor.

[1] This might not be specific to Bruneian cross-border tourists but also to customers across the world.

Shopping area conditions is one of the market characteristics in the framework, entailing a comfortable environment, clean premises and easy communication. However, respondents in this study did not find this a significant motivator or deterrent. Most respondents agreed that Brunei has cleaner premises in comparison to Miri and yet this did not stop them from crossing the border. 'Cleaner premises and comfortable malls are a bonus but this does not stop us or hinder us to go to Miri because the overall price and variety still win'. Another respondent said, 'This is something that is out of our control. It is the same as going to Bangkok or any overseas destination. We cannot ensure that their malls, markets or food courts are clean and comfortable. We don't go to a mall because it is clean. We go there to make a purchase'. This finding shows that less priority is given to market characteristics like the environment as customers are free to choose shopping malls they think are cleaner. The shopping-related environment is seen as an insignificant market characteristic in this case.

However, other factors, such as the exchange rate and boundary management, did play a critical role in affecting respondents' spending behaviour. All respondents mentioned that they made more frequent trips to Miri when the exchange rate was in favour of the Brunei dollar. This means that they would be willing to spend more, subject to the exchange rate. One respondent said, 'When the exchange rate is good, I would change more money than my usual trip with the intention to safeguard for future use. But I always end up spending more. My family would even consider doing health checks too when the exchange rate is good'. Another respondent said, 'I will usually bring my family to stay overnight in Miri like at the Marriot or Pullman when the exchange rate is good so the children can swim. The adults can relax at the same time by going to spas'. Others said that they tended to spend more on impulse purchases and on wants instead of needs as they felt it was more value for money due to the exchange rate. Border management, such as lenient customs checks, was also a factor mentioned in the interviews. One of the respondents said, 'Parcels that are sent to Brunei directly go through a more stringent process in customs than through Miri'. Others mentioned that the lenient border checks allowed them to get items such as meat products, cosmetics and soft drinks that would otherwise be taxed.

The question of distance of travel was investigated during the interviews. Interestingly, respondents from Tutong and Brunei-Muara did not express distance as an issue though the results show the frequency of visits was less in comparison to those who reside in Belait. Normally, most Belait residents were day-trippers while more than half the residents from Tutong and Brunei-Muara were short-term visitors with at least one overnight stay. Results also show that respondents who travelled furthest tended to spend more per trip in comparison to respondents who lived nearby. On average, respondents who lived further spent about BND500–800 per trip with a frequency of once or more a month. On the other hand, respondents who lived nearer made more frequent trips (at least once a week) but spent only around BND200–300 per trip. However, both cohorts might end up spending the same amount per month due to the frequency of trips of respondents who lived nearer. The results make sense as the amount of money spent correlates with the frequency of the trips and distance travelled. Another result is the difference in spending behaviour between day-trippers and short-term visitors. Day-trippers tended to spend money on food and beverages, shopping for goods like bags, books, household products, clothes, toys, cosmetics and shoes. Short-term visitors normally spent on accommodation, entertainment facilities like karaoke, live music and drinking, leisure activities such as spas, massage and nail services, household products, medical check-ups and dental services.

10.6 Conclusion

Given the significance of cross-border spending behaviour as a legitimate issue of economic leakages, this study, based upon the case of Brunei–Miri cross-border behaviour, provides valuable insights on the motivating factors and purchasing behaviour of Bruneian visitors. The top three motivational characteristics were shopping, entertainment and using leisure and recreational facilities. Other factors included using Miri as a point of transit to other destinations, cheaper and alternative medical and health care facilities as well as efficient postal services. All respondents mentioned that significant market characteristics like price and the availability of a variety of products and services played an important role in attracting them to cross the border. This confirms the findings of Thomas M. Fullerton and Adam G. Walke (2019) in their study of cross-border activities between the United States and Mexico. The benefits and presence of price differences in neighbouring countries often outweigh the costs of travel. This also concurs with Cristi Frenţ's (2016) measurements of the impact of tourism, in which value for money for goods or services is the main criterion attracting people to cross borders.

In addition, one of the motivational factors highlighted in the findings is the similar taste in food and culture. Travel motivation can be affected by cultural similarities (or differences), which resonates with Adi Weidenfeld's (2013) and Mustaffa Jaapar et al.'s (2017) findings on how cultural similarities encourage a sense of belongingness. This is highly relevant in this study as Brunei and Miri share a similar cultural background and language, which creates a sense of familiarity. The results also show respondents did not see product quality and after-sales service as significant in motivating their spending behaviour due to cheaper prices. Rather, they mentioned good leisure and recreational services played a role in motivating them to spend and helped determine whether they would return to that particular service. This falls in line with Diane Jarvis et al.'s (2016) notion of economic, social and environmental factors being antecedents of tourist satisfaction. Cross-border tourists are more likely to develop revisit intentions when they are satisfied with the price and services offered. However, the findings do not agree with Jarvis et al.'s environmental factors, as respondents did not find a comfortable environment and clean premises to be significant motivators. The shopping-related environment is seen as an insignificant market characteristic in this case.

Another factor, such as the exchange rate, played a critical role in driving cross-border visitors from Brunei to Miri. This coincides with the study by Jonghyun

Park et al. (2019) which shows that economic considerations are seen as the most influential factor affecting tourist behaviour. No respondents in this study mentioned the importance of natural beauty such as beaches or architecture as motivational factors, as claimed by Shida Irwana Omar et al. (2014). This could be due to the limitations of the small sample size of this study.

Future studies could include a higher number of respondents or different times of the year. The framework offered by Subramaniam et al. (2008) for analysing cross-border shopping patterns is therefore partially accurate for this study as some elements such as shopping area attributes were not seen as characteristics to motivate respondents to cross the border. There is no one size fits all model. Hence, it is hoped that this study provides preliminary empirically based insights into cross-border issues and acts as a baseline for more studies to be conducted, especially in the period of rebuilding tourism after the COVID-19 pandemic.

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Chapter 11
Fuelling the Brunei Darussalam Economy: Opportunities for Islamic Financial Services

Hairul Azrin Besar

Abstract Since the establishment of the first bank in Brunei Darussalam, the banking industry has assumed its traditional role as a place of safekeeping, investment and clearing of financial transactions. During the 1980s banks served corporations as remittance institutions and Brunei's window to settle international trade. The late 1990s and early 2000s marked a change of culture in the banking industry where banks were considered as a source of credit, contributing to the growth of personal debt and a source of funds to businesses. This chapter examines the historical development of banking in the country and the rise of Islamic finance in the 1990s. Ideally, Islamic finance, with its strict requirement of *syariah* compliance, emphasises the relationship between the respective transactions and its economic substance, which influences the economic development of the country significantly. With this premise, the study investigates the opportunities of Islamic financial instruments in contributing to the growth of Brunei's economy. The movement towards a fair and inclusive financial structure through the offering of Islamic social financial instruments such as *waqf* and *zakat* is also scrutinised.

Keywords Brunei Darussalam · Banks · Islamic finance · *Waqf* · *Zakat* · Economic growth

11.1 Introduction

The operation of Islamic finance in Brunei Darussalam started in 1991 when the sultan remarked on the importance of opening an Islamic bank and providing Islamic banking services as a religious obligation, referencing the success of such banks in other Islamic countries around the globe. Tabung Amanah Islam Brunei (TAIB), a statutory entity, was launched in 1991 with the main aim of providing a trust fund

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for the *hajj* pilgrimage (Ebrahim and Tan 2001). This was followed closely by the establishment of Islamic Bank of Brunei (IBB) in 1993, the country's first Islamic bank. IBB was converted from the International Bank of Brunei following its offering of shares to the public. At that time, it was the only public company in Brunei with shares owned by the government and the public.

The establishment of TAIB and IBB led to the initiation of the Islamic insurance industry, which comprises subsidiary companies of these institutions to support their financial and operational risks. Brunei saw further development of Islamic finance companies and securities with the establishment of IBB Kredit and IBB Securities, also in the early 1990s, marking the growth of the Islamic finance industry in the country. Peripheral services providers such as accountants, auditors, lawyers and educational institutions also contributed resources to support this growth. The rise in industry knowledge and understanding over the years has led the public to raise questions on the validity and strict requirement of *syariah* compliance of the industry (which highlights its similarity with the conventional banking and finance industry).

This chapter examines the opportunities the finance industry has in offering Islamic contracts for businesses and individuals. Islamic contracts of transactions (*muamalah*) are mostly inherited from their application in the early Islamic period when they were developed and dynamically improved by scholars, making such contracts retain their validity and practicality in the current period. The main objectives of the contracts are to comply with *syariah* requirements and ensure the protection of all parties, preserving their rights and ensuring obligations are properly executed. Revisiting Brunei in the early 1900s, the discussion closely examines the country's economic and financial environment, tracing the development of the banking and finance industry to the present. Looking forward, the chapter discusses commercial *muamalah* contracts and social contracts which can be used by financial institutions to offer dynamic services that contribute productively to the country's economic growth.

11.2 Historical Review of Brunei's Economy and Financial Industry

11.2.1 The Colonial Era

Brunei is a country with rich historical accounts that trace back to the 1400s. Without going into the historical details, it may be important to state that Brunei entered the colonial era in 1839 with the arrival of James Brooke, who was offered the governorship of Sarawak by Sultan Omar Ali Saifuddin II for helping to crush a rebellion (Naimah 2002). In 1888 Brunei became a British protectorate under which foreign relations would be managed by the colonial authorities and a consular office was set up (Hughes-Hallett 1940). Finally, in 1906 Sultan Hashim Jalilul Alam Aqamaddin entered into a supplementary agreement with the British to embrace a residential system (ibid.; Horton 1986, 1994; Naimah 2002). During this period, Brunei was in a poor state, with no funds to fuel government activities. The country's income was dependent on forest products such as catechu, an extract of acacia trees, and coal. This forced the country to take a loan of $200,000 (Straits dollars) from the Federated Malay States in 1906—which was exhausted by 1908 (Horton 1994). An interest payment of $48,000 was overdue before the disbursement of two loans of $200,000, making the total loan $400,000. Most of the loan was used to buy the old taxation rights which had been practised by the sultanate before the residency era.

11.2.2 Financial Institutions in Brunei

Before the introduction of the Banking Act in 1957, banks were governed through English law administered by a British resident in Brunei. The first bank to be established was the Post Office Savings Bank in 1935, which was later destroyed during the Japanese occupation. Hongkong and Shanghai Bank (now HSBC) was established in 1947 after the war (Ebrahim and Tan 2001). This was followed by the establishment of Standard Chartered Bank in April 1958. Malaysian banks started operating in the country with Malayan Banking opening its doors in November 1960, followed by the United Malayan Banking Corporation (now Rashid Hussein Bank, RHB). The National Bank of Brunei was established in 1965, while Citibank started its services in the country in 1972. In 1981 the Island Development Bank marked a joint venture between the Bank of Philippines, Dai-Ichi Kangyo Bank of Japan and the sultan (Saunders 1994). In 1986 Brunei embarked on a National Development Plan to diversify its economy away from the oil and gas industry, acknowledging the need for proper banking facilities in the country.

Unfortunately, in the same year, the banking industry was hit with a financial scandal involving the National Bank of Brunei in which loans amounting to BND1.3 billion were extended to companies owned by Singaporean shareholders (Singh 1988: 64). The scandal marred the banking industry in Brunei, leading to the permanent closure of the bank. With Island Development Bank the only local bank, it enjoyed the patronage of the government and later changed its name to the International Bank of Brunei. In 1992 the country established the first Islamic financial institution, namely TAIB (Ebrahim and Tan 2001). Later, the International Bank of Brunei was converted to Islamic finance services, donning a new name, the Islamic Bank of Brunei. Another local bank, Baiduri Bank, was established in 1994 and provided conventional banking services. Reaffirming its commitment towards economic diversification, low interest loans were granted to small businesses through the then Ministry of Finance (MoF). This led to the establishment of the government-owned Development Bank of Brunei to manage those loans.

To strengthen the local banking institutions to compete with international financial institutions, a merger was proposed between IBB and the Islamic Development Bank of Brunei in 2005, forming Bank Islam Brunei Darussalam (BIBD), the largest local bank with high capitalisation. BIBD continued as a public entity, being the only Islamic bank operating in the country. Enhancing the banking industry and regulation of financial institutions, the government revised the Banking Act 1957 with the issuance of the Banking Order in 2006, followed by the amendment of the Finance Companies Act 1973 in the same year. With the revised Banking Act, the Islamic Banking Order was repealed to its 2008 iteration that incorporated changes to banking requirements. Under the new regulation, banks were required to have a minimum capital of BND100 million while finance companies were required to have a minimum capital of BND25 million to operate. This was in accordance with the international requirement for banks and financial institutions to be appropriately capitalised. From this survey, it is evident that Brunei's financial industry has been growing slowly but steadily since the early 1990s. This growth was impacted by the 1997 Asian financial crisis but quickly recovered in the early 2000s, partly due to increased emphasis by the government to make the country an international financial centre.

The growth of Islamic finance in the country necessitates the governance of the industry by a central *syariah* body so that its operation and products can be monitored. Previously, Islamic banking clientele and the bank itself faced hardships, especially in any legal disputes as they would be heard in the civil court rather than the *syariah* court. Thus, the Syariah Financial Supervisory Board (SFSB) was established under an order gazetted in 2006 whereby the board is the authority on Islamic laws for Islamic banking, Islamic insurance (*takaful*), Islamic finance or other related business regulated by the MoF.

Acknowledging the growing complexity of the financial industry, the Autoriti Monetari Brunei Darussalam (AMBD) Order 2010 was issued to establish a monetary authority to act as a central bank for the country, effective from 1 January 2011. Since then, the authority has been the main reference and supervisor for the finance industry. The AMBD was also entrusted with the management of Brunei's currency, reserves and settlement operations. In the aftermath of the global financial crisis in 2007–2008, the Deposit Protection Order was issued in 2010, incorporating the Brunei Darussalam Deposit Protection Corporation under the Ministry of Finance with the main aim of protecting depositors in the event of financial institutional failure. Enhancing credit information in the financial industry, a Credit Bureau was also established in 2012 under the AMBD to ease the banks in accessing the credit information of customers before they grant any banking products and services. In June 2021 the AMBD was renamed and is now Brunei Darussalam Central Bank (BDCB).

Another major development of Brunei's financial industry was the issuance of Islamic bonds (*sukuk*) by the government through the MoF in 2006. The initial issuance was for BND150 million three-month *sukuk* bonds at an indicative return rate of 3.4%. Since then the government has issued BND9 billion in 122 issuances. The return rate for the bonds drastically decreased from 3.4% to a low point of 0.1% in 2011, and slightly improved to 1.98% for 14-day bills and 3.625% for three months tenor (the length of time remaining before a financial contract expires) in December 2022.

Citibank closed its operation in Brunei in March 2014, followed by HSBC in 2017, reducing the number of foreign banks. The low return rates of investment products, such as term deposits and Islamic bonds, have also affected finance companies in the insurance industry that rely on investments for returns. With the absence of a local capital market and limited domestic financial instruments to generate returns, finance companies have to look at other measures such as cost-cutting to ensure their returns are still favourable for their shareholders. Although the financial industry is facing these challenges, it is still considered a viable contender in the diversification of the country's economy. With diversification efforts being encouraged, especially through micro, small and medium enterprises (MSMEs), a financial institution with the aim of serving the MSMEs was established in September 2017, known as Bank Usahawan, offering Islamic financing products based on two kinds of contracts: an Islamic financing structure in which the seller and buyer agree to the cost and mark-up of an asset (*murabaha*); and a financial instrument in which a buyer purchases a commodity from a seller on a deferred payment basis and the buyer sells the same commodity to a third party on a spot payment basis (*tawarruq*).

11.2.3 Finance Industry: Part of Economic Diversification

Efforts to diversify the economy of Brunei have been increasingly undertaken since 1953 through the First National Development Plan (NDP). During that period, the concern mainly centred on the possibility of natural resources being exhausted, which would immediately deprive the country of the accumulated wealth generated by the oil industry (Stockwell 2004). The lack of skilled resources to venture into industrial activities dampened diversification activities, but steps were made to ensure that people were appropriately educated to provide skilled resources in the future. Unfortunately, the government was also in dire need of a skilled workforce to assume administrative posts temporarily filled by expatriates from Malaysia and Britain (Horton 1986). Most of the resources were thus channelled towards attaining religious understanding, education and administrative knowledge and skills. The discovery of new oil wells and later natural gas provided temporary relief in ensuring the revenue and income from the industry to generate its development agenda.

Since achieving independence from the British in early 1984, Brunei has revisited the move towards economic diversification through the launch of the Fifth NDP (Naimah 1996). The main areas identified for the diversification programme were agriculture and industrial activities. In the short term, the agriculture sector aimed to provide self-sufficiency, especially in the production of rice, which would then reduce imports of the commodity. On the other hand, the government would improve infrastructure and provisions of commercial sites to attract industrial activities. The diversification plan was not materially successful as most of the education endeavours found few people interested in acquiring agricultural skills. In addition, the attractive salaries and benefit schemes provided in public service encouraged many people to work for the government rather than in the private sector (Blomqvist 1998). Industrial activities would require the population to be skilled in manufacturing activities which were not readily available. Labour costs were also high as the country had a small population and the allure of government posts made it challenging to retain employees in the private sector. Thus, by strengthening the private sector, the government had initiated the privatisation of state-run services (Naimah 1996).

The finance industry was identified as a potential contributor and efforts were made to establish an international financial hub (Menon 1987). The government decided to set up the Brunei International Financial Centre in 2000 through the MoF in order to attract the financial industry to operate from the country. Several laws were then enacted to provide respective regulations as part of the financial infrastructure. These laws included the International Banking Order 2000, International Business Companies Order 2000, International Limited Partnership Order 2000, International Trusts Order 2000, Investment Incentives Order 2001 and International Insurance and Takaful Order 2002. This attracted several international financial institutions to set up base in Brunei as the country was having excess liquidity locally. At the same time, another Islamic bank was established through the merger of IBB and the government-owned Development Bank of Brunei into the Islamic Development Bank of Brunei in 2001, pursuant to the provisions of Islamic finance (Mohd Yusop 2007).

11.3 Challenges of Islamic Finance: Deferred Payment Sale (*Bai Bithaman Ajil*)

Since its inception in 1992, Islamic finance in Brunei has been mirrored by the industry in Malaysia which has been established, and is successful and accepted by the community. Safekeeping contracts (*wadiah*) are used for deposits while financing and advances utilise the sell and buy back contract called *bai bithaman ajil*, where one sale is executed at a lower cash price and another at a higher price deferred. The difference between the two prices is considered as 'profit' to Islamic banks (Khan and Mirakhor 1989). This is acceptable to the industry as it closely resembles the conventional loan contract where loans and advances are expected to be paid deferred with the addition of interest. The main difference is that a loan is executed in a single contract whereas *bai bithaman ajil* is basically a combination of two sales contracts executed with different payment terms and prices.

Perusing the classical view, the transactions are actually classified under one of the controversial sales contracts of *bai inah* (Zuḥaylī 2001). This contract is only allowable by the Shafi'i school of Islamic jurisprudence which posits that the intention of the transaction is ignored as it is not visible. However, in banking practices where the transaction is repeatedly executed, the intention of the transaction is clear. The matter of sale (commodity) is not important and if this is taken out of the sales contract there is a clear form of funds in cash (at a lower amount) against a deferred flow of funds (a higher amount), a net result of access of funds due to the element of time or deferral which may fall under the definition of usury (*riba*).

In the Malaysian context, *bai bithaman ajil* has been heavily criticised as being more oppressive compared to conventional banking practices (Nuarrual Hilal and Sharifah Zubaidah 2010). As a result, the Islamic finance industry in Malaysia has tried to find an alternative contract to replace *bai bithaman ajil*. Such instances give rise to the area of financial engineering in Islamic finance where the industry tries to search, mix and match *muamalah* contracts to deliver a product similar to that of conventional finance on the basis of public interest (*maslahah*) and competitiveness. Unfortunately, this has produced incoherent contracts claimed as *syariah* compliant but detached in its legal form and economic substance (El-Gamal 2007a). This leads to further debate on the compliance of Islamic finance institutions, particularly those that still provide financing and advances based on sales contracts. The Islamic finance industry focuses on utilising other Islamic contracts which are universally acceptable as such contracts could be used to finance international projects and attract international collaborations.

11.4 Viable *Muamalah* and Social Contracts

The challenges brought forward by the utilisation of sales contracts in Islamic financial institutions warrant a search for other *syariah* compliant contracts which can deliver and achieve the objectives of *syariah*. More importantly, it is envisioned that the industry should be able to provide *syariah* compliant products with harmonised legal form and economic substance. After all, the introduction of the industry in the Bruneian context is aimed at attaining the fulfilment of the legal obligation that must be discharged by the Muslim community as a whole (*fard al-kifayah*) and addressing the financial needs of the community. In the early stages of Islamic finance, equity-based contracts were always pushed to the forefront as fair and practical agreements which could benefit the industry and the public (Seniawski 2000). By offering financial products utilising such contracts, Islamic financial institutions did not need to combine the contract with others.

In recent years, there has been increasing interest in the use of two types of social contracts to fuel the economy, providing finance to entrepreneurs who cannot access financing from banks: *zakat*—the third Pillar of Islam, the official alms tax levied on certain types of property and payable by every adult Muslim of sufficient means; and *waqf*—the endowment of a certain property for the sole benefit of a certain philanthropy. Although there is the notion of microfinance introduced at a later period, it still requires the generation of expected returns, which may not be fulfilled by these entrepreneurs. Hence, *zakat* or *waqf* can fill this space and encourage them to run sustainable ventures, raising their standard of living and contributing to economic growth.

11.4.1 Equity-based Contracts of *Mudarabah* and *Musyarakah*

Mudarabah and *musyarakah* are equity-based contracts which preserve the right of the partners. *Mudarabah* is a legal contractual arrangement under Islamic law between two partners for profit sharing—one provides capital and the other provides entrepreneurial or management skills. *Musyarakah* is a joint venture investment or equity raising (shareholder capital) by a group of partners, each of whom can participate in the management of the business and work for it. Although risk is high, considering the unknown return generated by the venture, they ensure the entrepreneur is able to concentrate on the project or business without the worry of repayments (El-Gamal 2007c). Profit is shared between the partners in accordance to the agreed rate while losses are limited to the extent of capital contributed to the venture. As a small country encouraging MSMEs to play an active role in the economy, Brunei would benefit from these equity-based contracts.

The main hindrance of a loan with fixed payment is that it is detached from the economic activities financed by the loan. Should an entrepreneur acquire loans from the banking industry, the banks would be mainly interested in the immediate repayment of capital with additional returns, regardless of the performance of the business. Even if businesses are facing hardships, banks do not see this as their problem and will demand payment be made as usual if the regulators or government do not step in—as demonstrated during the COVID-19 pandemic. Consequently, the businesses will suffer not only from their hardships but also from the pressure of fulfilling their monthly payment obligation.

Risk is borne by the businesses and not the banks, leaving the banks with only a credit risk from the instances where businesses are not able to pay, which is softened by the collateral securing the finance. Thus, conventional loans are basically a burden to businesses where they are on the losing end. One-sided contracts are drafted by financial institutions to protect their own rights and interest. Indirectly, this shows that the loans extended to businesses are not in sync with economic development as they are not related to business activities or economic contribution.

On the other hand, the contracts of *mudarabah* and *musyarakah* are embedded with the respective conditions and rules to ensure all parties are properly protected. Additional conditions can be infused into the contracts if they do not contradict the classical conditions and rules. Implementing this contract would safeguard businesses and give banks the opportunity to undertake active participation in projects and business risks. As such, financing is channelled to productive economic activities which will directly affect the bank should there be an unfavourable economic environment. Undertaking these contracts would foster mutual risk-taking by Islamic financiers and businesses, positively contributing to society rather than concentrating on gaining profit at the expense of others (El-Gamal 2007b).

11.4.2 Zakat

Zakat is an obligatory social contribution levied on Muslims to assist defined members of society. It has been labelled as a form of wealth redistribution to the less fortunate members of society (AlMatar 2015). Although it is levied and defined in Islam by types of wealth, the modern contextual definition of wealth subject to *zakat* differs across Islamic countries depending on the respective religious authorities. The same goes for the interpretation of the receiver of *zakat* (*asnaf*). Appropriate religious authorities are expected to interpret the recipient eligible in respective groups. In the Qur'an, the recipients of *zakat* are generally mentioned as eight broad groups which may all or partially be present in society:

> The Alms are for the poor and the needy, and those employed to administer the (funds); for those whose hearts have been (recently) reconciled (to Truth); for those in bondage and in debt; in the cause of Allah and for the wayfarer: (thus is it) ordained by Allah, and Allah is full of knowledge and wisdom. (At-Tawbah 9:60)

In the modern context, the interpretation of the recipient of *zakat* has dynamically changed, not only providing funds but also extending seed funds to improve recipients' standard of living and turning them from recipients to givers of *zakat*. In this interpretation, *zakat* is used to provide training, capital for businesses and necessary tools and resources. It can be used to finance entrepreneurs who are considered not bankable to be more productive and contribute positively to the economic growth of the country. In this way, *zakat* is similar to the use of equity-based financing where payments or returns are only expected if the businesses are making a profit. Once businesses perform and accumulate assets, they will be subject to pay *zakat*. It is also useful to note that *zakat* is not based on profit but on the net assets of a business (Oran 2009; Bashir and Nurul Nabilah 2012). Even though a business is suffering losses, as long as its net assets are higher than the *zakat* threshold (*nisab*), it is compulsory to pay *zakat*.

In the Bruneian context, *zakat* collection and distribution fall under the purview of Majlis Ugama Islam Brunei (MUIB, Brunei Islamic Religious Council), mandated under the Islamic Religious Council Act and Kadi Courts Act (Cap. 77). A notable contribution of *zakat* in financing and empowering its recipients is the capital assistance programme introduced in the 1990s (Bashir et al. 2012). The programme was enhanced in 2001 to provide not only cash as capital but assets such as fishing boats, grass cutter machines and agriculture resources like seeds and fertilisers (Zaki and Khairul 2021). However, there were issues where the assets were sold for cash, disrupting the sustainability of the respective businesses. Acknowledging other issues related to sustaining businesses, such as skills and knowledge, the empowerment *zakat* recipient programme was introduced in November 2007 in collaboration with the Youth Development Centre (Bashir et al. 2012). Recipients were trained through this programme to undertake future businesses or at least gain skills to secure employment. This gave recipients the opportunity to improve themselves and encouraged them to be contributors rather than recipients of *zakat*.

Implementing *zakat* as a social finance tool can create more opportunities to uplift non-bankable members of society. This is sustainable if businesses strive to positively contribute to the economy and become *zakat* payers in the future.

11.4.3 Waqf

Unlike *zakat*, *waqf* is not mandatory for Muslims. It is a benevolent contract where a person donates their wealth in the way of Allah and does not require any worldly return. The wealth is manged by a custodian and is accessible to the public or in special cases to specific people named by the donor. One of the conditions attached is that the wealth must be preserved and sustained to provide benefits to the public.

Classically, *waqf* has been utilised to benefit the community, especially by the provision of public goods (Saduman and Aysun 2009; Babacan 2011). This includes goods for religious purposes such as mosques, social purposes such as roads and schools, and economic purposes such as water channels, shops and bazaars. Common provisions of facilities for entrepreneurs are irrigation for the agricultural sector, ports, roads and water channels for the transportation of goods, warehouses and physical stores for businesses. These will ameliorate production costs and expenses such as rent, which could affect the performance of the entrepreneur as these are normally expensive and could be considered sunk costs (Ahmed 2007). In addition, machines which are not frequently used, such as harvesting machines in agriculture, can be donated through *waqf*. The machines can then be accessed by all farmers, eliminating the common cost of the machine across the industry. Current information technological advances have provided online platforms for traders to market their services. The cost of such technology—from development, housing, maintenance and cost of servers—can be provided through *waqf* and benefit the public. This would also contribute to economic growth as most of the common needs of entrepreneurs have been covered through *waqf*.

Similar to *zakat*, *waqf* is under the jurisdiction of MUIB in Brunei, mandated under the Islamic Religious Council Act and Kadi Courts Act (Cap. 77). In comparison to other Muslim countries, the management of *waqf* properties in Brunei needs further development. Most *waqf* properties assisting entrepreneurs and economic activities are managed by Badan Tanmiah Brunei (Hubur 2019). These include business complexes and fuel stations. There is a move to explore cash *waqf* in the country but this has yet to materialise, especially in service of economic activities (Mas Nooraini 2022). Generally, *waqf* properties in Brunei are used as religious sites such as mosques, burial grounds and religious schools. Exploring the use of *waqf* properties would contribute greatly to society, especially to MSMEs undertaking high start-up costs, including rental, business space and technological platforms.

11.5 The Way Forward

In the early 1900s Brunei was not in a financially good position—the country had to resort to loans which resulted in huge amounts of debt servicing, much higher than the original debt, which impacted on people's welfare. The discovery of oil as the primary export resource helped to create financial stability and reduced dependence on foreign debt. The country has always promoted Islam as the formal religion of the state and believes it is not merely a religious practice but a holistic way of life. As such, it is only natural that the country implements Islamic practices in all aspects of life, including finance. Moving forward, it is anticipated that Islamic financial instruments, both commercial and social, would provide access to capital for entrepreneurs without the heavy burden of debt and oppressive interest charges which deter business development. The COVID-19 pandemic showed that even when businesses were not operating—with movement restrictions on both businesses and customers—fixed costs such as rental, loan payments and maintenance of fixed assets were still due, which caused businesses to incur further losses and even cease operations. At the same time, the period provided unexpected business funding through Islamic social finance platforms such as charitable contributions (*infaq*), where people contributed as a group to fund small businesses in providing goods and services, such as foods, toiletries and basic necessities, to the frontliners. To some extent, this offered continuity and sustainability for small businesses.

Islamic instruments through *muamalah* contracts offer good opportunities to finance businesses, whether they are start-ups or established corporations. These instruments are flexible and aimed at maintaining the rights of both parties and a fair shouldering of risks. Currently, most Islamic finance products utilise the contract of sale combined with other contracts, creating debt and resulting in financial institutions resembling creditors who are only collecting profit from the transactions. They do not participate in risk-taking in the utilisation of the funds extended and assume rent-seeking behaviour (El-Gamal 2007b), hence the emergence of the debate about their *syariah* compliance. The application of *muamalah* contracts would ease the burden of business as partnership or equity financing denotes the sharing of profit based on performance rather than fixed monthly payments as practised in loans. This will be more beneficial in agriculture financing as Brunei is encouraging youth and society to engage in such activities. Agriculture in itself carries uncontrollable natural risks, such as floods, drought and diseases which could disrupt productivity. Exploring Islamic finance to provide the required funding will benefit those engaged in agricultural activities in the country.

Implementing *muamalah* contracts without the need of combining contracts will preserve contractual rights and provide a pure Islamic product which is more acceptable and equitable for businesses. Considering the pandemic, the government and regulators issued new regulations to defer the principal payment of loans or financing (partly or fully) to ease financial burden (MoFE 2020). If the financing had initially been given through equity contracts, the businesses would not need to pay any amount should there be no profit. Furthermore, should there be losses, it would be shared in accordance to the capital contributed, which can instil empathy from the financier.

On the other hand, *waqf* can complement a business with the provision of public facilities to reduce the cost of operation. *Waqf* can also prevent businesses from incurring fixed charges such as rent and cost of seasonal machinery if they are provided as public goods. Evidence during the pandemic revealed that building owners showed compassion by deferring or reducing rentals on their premises, including discounts on rental rates on government buildings to MSMEs. Entrepreneurs, especially of start-ups, would find this helpful and conducive in promoting their growth. Such a concept has been seen in the establishment of the iCentre in Brunei where budding technology entrepreneurs house their companies without worrying about having an expensive physical office.

For entrepreneurs who need funding but do not qualify to access funds from formal financial institutions, *zakat* can provide them with the required initial capital. Coupled with *waqf* facilities, they can concentrate on developing their businesses without worrying about initial set-up costs, renting properties or warehouses and, if available, the respective equipment needed. This will foster their growth and positive economic contribution to the economy, rather than concentrating on the repayment of debts.

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Chapter 12
Challenges and Opportunities of Digital Marketplaces in Brunei Darussalam

Mohammad Nabil Almunawar and Mohammad Alif Azizi Abdullah

Abstract Digital marketplaces are sites that provide online transaction facilities for their customers. As such, business transactions can be done anytime and anywhere between sellers and buyers through digital platforms, making them very flexible compared to physical stores or traditional marketplaces. Digital marketplaces are not new as they were among earlier e-commerce business models introduced in the 1990s, such as eBay and Amazon. However, local digital marketplace platforms are relatively new in Brunei Darussalam, as most such platforms started only a few years ago, although Bruneians are used to buying products from well-known global platforms. Several reasons have caused the emergence of local digital marketplace platforms, such as the very high internet penetration, the limitations of social media in supporting business transactions, the experience in making transactions using global digital marketplaces, the impact of the COVID-19 pandemic which forced people to conduct online transactions to avoid physical contact and the availability of digital technology for setting up platforms. This chapter discusses Brunei's digital marketplace. It examines theories of the digital marketplace, such as transaction cost economics and multisided markets. Four examples of Brunei's digital marketplace are analysed—Al-Huffaz Management, Babakimpo, Naindah and Super Squad Soccer—and opportunities and challenges for them to survive and grow are discussed.

Keywords Brunei Darussalam · Digital marketplace · Transaction cost economics · Multisided markets · Value network · E-commerce

12.1 Introduction

The internet and its related technologies have changed the way people communicate, interact and transact. The term e-commerce is used to describe transactions happening digitally, mostly through the internet. Nowadays, many firms, including firms in

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Brunei Darussalam, utilise the internet to market and sell their products and services to customers directly or through intermediaries. To do so, a firm needs to have an operational e-commerce system in place, which consists mainly of a secure e-commerce server and a user-friendly website to allow customers to order products and services confidently and make payments digitally and securely.

For micro, small and medium enterprises (MSMEs), putting in place an e-commerce system is the main obstacle to trading online. The total cost of ownership of the e-commerce system is rather high and MSMEs may lack the necessary capital and technical knowledge to develop and operate the system. This is especially true in Brunei as more than 90% of companies are MSMEs. For these reasons, and after intense discussions in the early 2000s, the government of Brunei formed a dedicated committee to help increase the adoption of e-commerce systems in the country. Until recently, the creation of online sales systems through ownership of an e-commerce site has met with limited success. Besides the total cost of ownership and lack of technical expertise for developing e-commerce systems, there are two other main reasons for this. The first is the emergence and widespread use of social media platforms that do not require technical expertise and allow companies to engage their customers at a very low cost. The second is the creation of a few digital marketplaces in the country in the last few years. They provide opportunities for MSMEs to market their products and services through the platforms provided by digital marketplace firms.

Many MSMEs in Brunei utilise social media, especially Instagram and Facebook, to market their products and services (Alif Azizi et al. 2020, 2021; Nasshata Fatiha et al. 2021). There are a few identifiable advantages of utilising social media: 1) it is easy to create a social media page; 2) the cost to develop and operate a social media site is very cheap; 3) social media can reach many customers easily; and 4) customers can be served and engaged interactively. However, social media do not support business transactions. Hence, business transactions are done separately through a manual method or directed to an e-commerce site that can handle online transactions and payments. A business transaction is an action in which two business actors, such as a seller and a buyer, exchange value (Almunawar and Anshari 2020, 2021). For example, a seller gives a good or product to the buyer and receives a monetary value from the buyer. For a business transaction to happen, a series of activities or a transaction process need to be conducted, such as a buyer searching for and finding a seller of a product, negotiation (including price negotiation if any), confirmation of the transaction and payment. This is followed by the delivery of the product.

An online business transaction occurs when the process is done virtually. Most online business transactions nowadays, especially business-to-consumer or consumer-to-consumer transactions, are conducted through the internet. Essentially, the main e-commerce function is to support online business transactions. To provide this, a firm can develop its own e-commerce site or join a digital marketplace. As mentioned earlier, developing an e-commerce site is expensive and many MSMEs cannot afford to have their own e-commerce sites. With the recent technological advances in digital marketplaces, MSMEs can sell their products or services online through them, which is simple, and they can reach a wider pool of customers online.

What is a digital marketplace? A marketplace is a location that provides facilities for buyers and sellers to conduct business transactions. A digital marketplace is a virtual space that provides online transaction facilities for its customers. However, in a digital marketplace location is not relevant; rather, it offers digital space for buyers and sellers to transact digitally through a computer network such as the internet (Almunawar et al. 2020). In a digital marketplace, business transactions can be done anytime and anywhere, making it very flexible compared to the traditional marketplace.

Business transactions through e-commerce, especially through digital marketplaces, are growing as internet penetration in Brunei is very high at about 120%, the highest in Asia (Internet World States 2022). According to the Authority for Info-communications Technology Industry of Brunei Darussalam, 76% of Bruneians experienced using e-commerce in 2018 (AITI 2018). The survey also finds that global marketplaces such as eBay, Zalora, Amazon, AliExpress and Lazada are popular among Bruneians; taken together, their market share for online transactions was 95%, leaving only 5% of the market for local e-commerce transactions. This is normal as local e-commerce sites were not very well developed at that time. Local digital marketplaces started appearing in Brunei in 2016–2017, including Babakimpo, Naindah and J3sMart. However, the number of local digital marketplaces grew significantly during the COVID-19 pandemic as the need to conduct digital as opposed to in-person transactions increased significantly.

There are a number of reasons that explain the recent growth of local digital marketplaces in Brunei. First, the high internet penetration indicates consumers can be approached digitally. However, as noted above, creating an e-commerce site that can handle online transactions and payments is difficult and not cost-effective for most MSMEs. Second, although using social media is an easy way to promote business and reach customers, social media hardly handle online business transactions. Third, Bruneians have long-term experience of buying products through global digital marketplaces (Alif Azizi et al. 2020, 2021). Fourth, the COVID-19 pandemic created some difficulties or limitations for people to interact and transact physically, so digital marketplaces allowed people to fulfil their needs, such as buying food and having it delivered to their homes. Food vendors and restaurants were therefore still able to serve their customers, helping them to sustain their businesses at a very difficult time. Fifth, the advances in information and communication technology, such as cloud computing and mobile computing, allow operators to set up their digital marketplaces easily and serve their customers efficiently through collaborations with digital business ecosystems.

To expand digital marketplaces, operators need to embrace MSMEs and offer them the capability of providing online transactions and payments at a very affordable cost. In fact, some operators ask for sales commission and offer free registration and subscription fees. Some digital marketplaces act as enablers, linking producers or vendors with consumers for exchanges, which were previously difficult to transact.

This will spawn new businesses. In Brunei, for example, HeyDomo, GoMamam and Ta-Pow! are enablers between food vendors and their customers.

The discussion in this chapter is organised as follows. In Sect. 12.2 we review the development of e-commerce and digital marketplaces, followed by a summary of the theoretical literature on transaction costs, two-sided markets and value networks. This is followed by a discussion on how a digital marketplace operates. The methodology is discussed in Sect. 12.3. Section 12.4 presents our findings and a discussion of four digital marketplaces in Brunei: Al-Huffaz Management, Babakimpo, Naindah and Super Squad Soccer. Section 12.5 offers a conclusion including some limitations of the study and future directions for research.

12.2 Literature Review

12.2.1 E-commerce

The advance of computer networks, especially the internet, has not only changed the way people communicate but also the way people transact. Although e-commerce-like activities were conducted through electronic data interchanges from business to business, which still exist, the main driver that spread e-commerce globally was the internet and especially the World Wide Web information system (Manzoor 2010). Essentially, e-commerce is an exchange of goods, services and money between two parties conducted electronically. The parties directly involved in the exchange are usually businesses and consumers, involving exchanges between businesses, businesses and consumers, and between consumers. Third parties that enable exchanges include financial institutions like banks that mediate the payment electronically, digital marketplaces and delivery agents.

E-commerce can be classified into pure e-commerce, in which everything is conducted digitally, and partial e-commerce in which only the transaction process is conducted digitally (Almunawar and Anshari 2020). We can see this easily through digitisation in e-commerce. Digitisation is a transformation of non-digital or physical objects or processes into digital objects or processes. There are essentially three types of digitisation in e-commerce: of product/service, of the transaction process and of delivery. Whenever possible, the transaction process and the delivery are digitised because it is cheaper and faster. For example, e-commerce for information products such as software and music are pure e-commerce. Previously, buying software, which is a digital product, was conducted manually and the delivery was done manually too since the software was normally stored in a physical medium such as a CD-ROM. Today, buying and selling software is pure e-commerce, which can be done swiftly as all three dimensions of e-commerce—products, transaction process and delivery—are digitised. Despite this, most e-commerce transactions are actually partial e-commerce as physical products such as food and clothes and services such as transportation and car maintenance cannot be digitised, and therefore their delivery cannot be digitised either (ibid.). Hence, for partial e-commerce only the transaction process is digitised. In other words, the digitisation of the transaction process is the minimum requirement for commerce to be called e-commerce.

Globally, e-commerce has continued to grow steadily in the last decade. This growth is strengthened by improvements of internet speed connections and the widespread adoption of smartphones with access to 5G technology which started to be deployed worldwide in 2019. That year the total value of e-commerce reached USD9.09 trillion. The COVID-19 pandemic precipitated a surge in online sales as online shopping increased dramatically. The annual growth of e-commerce is expected to reach 14.7% in the period up to 2027 (Grand View Research 2020). E-commerce in Association of Southeast Asian Nations (ASEAN) member states is also growing fast. ASEAN is the fifth-largest economy in the world (after the United States, China, Germany and Japan) with a combined gross domestic product (GDP) of USD3.6 trillion in 2022 (ASEAN Secretariat 2024). ASEAN has a young population as 65% of its nearly 700 million people are under 35 years of age and it is estimated that 50% of ASEAN's population will join the ranks of the middle class by 2030, doubling the size of the region's middle-class population of 2020 (Kao 2023). It is estimated that there are 460 million active internet users, accessing mainly via mobile devices (*The ASEAN* 2022: 22). ASEAN clearly offers huge business opportunities through e-commerce. Although e-commerce is still relatively small compared to traditional business transactions, there is fertile ground for e-commerce to grow in the coming years. Brunei has the smallest population of ASEAN member states at only 445,000, but Brunei is the second richest country after Singapore in ASEAN on the basis of GDP per capita derived from purchasing power parity (PPP) at USD79,408 (IMF 2023). And as already noted, internet penetration in Brunei is very high indeed, as is the proportion of the population making use of e-commerce.

12.2.2 Digital Marketplace

Major businesses can afford to have e-commerce systems so that they can sell and sometimes deliver their products or services directly to customers through their websites. Companies cut transaction costs and make more profits if transactions can be done in this manner. In addition, customer services may also be enhanced since they can analyse buying patterns to generate customer profiles for targeted selling. In contrast, most MSMEs do not have the financial and technical means to run their e-commerce websites. As a result, most of them need a third party that can link them to their customers in order to participate in e-commerce. There are two main options for MSMEs, including those in Brunei, to pursue e-commerce: social media or digital marketplaces (Alif Azizi et al. 2021).

Many MSMEs in Brunei have opted for social media platforms such as Facebook and Instagram for marketing their products or services (Bouargan et al. 2020). Although social commerce is on the rise, the use of social media for exchanges or transactions has a significant limitation, as the main e-commerce feature, the digitisation of transaction process, cannot be done through current social media platforms. In other words, social media can be used efficiently for identifying products or services, but placing an order must be done separately as current platforms do not provide buying and selling options. In other words, MSMEs use social media platforms only for marketing their products and providing some customer engagement and services.

As noted previously, another way for MSMEs to pursue e-commerce is through digital marketplaces, where transaction and payment processes can be taken care of by dedicated operators. MSMEs can reach and transact with their customers efficiently through digital marketplaces so they do not need to prepare an e-commerce system, thereby saving on investment and operating costs. Depending on the revenue model of the digital marketplace, it is most likely that an MSME only needs to pay a commission fee for products or services sold and an additional fee if they want to have a premium service from the digital marketplace. Many MSMEs in Brunei participate in e-commerce through social media and digital marketplaces.

12.2.3 Transaction Cost Economics

Business transactions are at the heart of any form of commerce, including e-commerce. A transaction happens if two economic actors exchange values, such as goods or services, with money. The exchange process can be done directly or mediated by a third party or intermediary. The transaction cost is the cost incurred in leading to and conducting a transaction. This may include search, negotiation and related legal costs, such as the cost of establishing a memorandum of agreement. The need for intermediation in performing transactions can be understood through the lens of transaction cost economics theory, first proposed by R.H. Coase (1937) and further discussed and refined by Oliver Williamson (1981, 1998, 2008). Instead of a production function, transaction cost economics sees a firm as a governance function. If the cost to acquire a component or input in producing output through a market is high, higher than internalising it in the firm, the firm will internalise the process to produce the component in a hierarchy or vice versa. In general, a firm or an economic actor will seek to minimise the transaction cost in acquiring its needs.

We can apply transaction cost economics theory in the context of acquiring needs with or without an intermediary. Suppose S is a supplier or seller, C is a consumer or buyer, and I is an intermediary (Fig. 12.1). An intermediation is likely to happen if $T_{SC} > T_{SI} + T_{CI}$, where T_{SC} is the transaction cost between S and C, and T_{SI} is the transaction cost between S and I, and T_{CI} is the transaction cost between C and I (Klein and Selz 2000; Sarkar et al. 1998). There are some cases where I is necessary and becomes the enabler for S and C to transact. However, according to Mitrabarun Sarkar et al. (1995), intermediaries, especially cyberintermediaries, should not be seen purely from the lens of transaction cost economics as they add value to specific services.

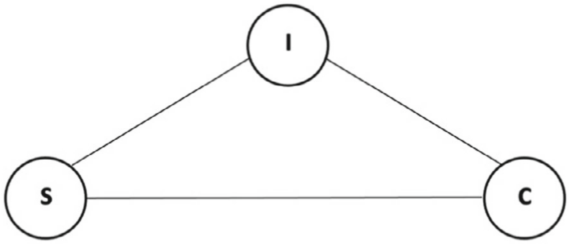

Fig. 12.1 Supplier, consumer and intermediary

Williamson (1979, 1981) states that the two main assumptions of transaction cost economics are bounded rationality and opportunism. Bounded rationality is the limitation of humans to process information and to acquire resources to exercise their rationality, such as solving complex problems or processing information. Opportunism is the tendency of humans to fulfil their self-interest. With these two assumptions, according to Williamson (1979), there are three critical dimensions or variables in transaction costs: uncertainty, frequency of recurring transactions, and asset specificity or the degree of specificity in an asset. An asset with a high asset specificity hardly has a substitute and an asset with a low asset specificity has many substitutes. Besides these three main variables, other variables can be added, such as trust and a customer's interest (Stabell and Fjeldstad 1998; Williamson 1979). A customer is interested in transacting if they gain a good value or benefits from the transaction.

12.2.4 Two-sided or Multisided Markets

Digital marketplaces like eBay, AliExpress and Gojek operate on the basis of two-sided or multisided markets. One of the important strategies for the expansion of a digital marketplace is to exploit the network effect of the market's expansion (see below). Network externality is the effect of additional customers or users of a particular product or service on the utility of existing customers or users of the same product or service. Positive externality means an increase in the utilisation of products or services resulting from additional consumers or users, while negative externality is the opposite. A classic example of a product that exhibits network externalities is the telephone. The utility or value of a telephone increases if the total amount of telephones increases.

Michael Katz and Carl Shapiro (1985) highlight indirect network externalities, a topic discussed further by Matthew Clements (2004). Complementary products or services create indirect network externalities. For example, the utility of a smartphone increases along with the rise in social media available applications, and the number of social media applications grows with the total number of smartphone users. Indirect network externalities can take place in more than one related network linked by intermediaries. For example, the utility of a credit card platform to its customers is proportionate to the total number of merchants that accept the credit card issued by the platform. Similarly, the utility of a credit card platform to merchants rises with the growth of customers on the platform. Intermediated indirect externalities are two-sided markets or networks where the network externality of one side is dependent on the size of the other side (Roson 2005; Rochet and Tirole 2006).

A two-sided market has two or more different types of customers or users who transact through an intermediary or a platform, in which the volume of transactions is sensitive to the allocation of price between the two sides. Jean-Charles Rochet and Jean Tirole (2004) provide a formal definition to a two-sided market by comparing and contrasting it to a one-sided market in two connected markets. Some literature on two-sided markets also discusses how an intermediary creates a price structure that attracts both sides to join the platform (Rochet and Tirole 2003; Roson 2005; Armstrong 2006; Chakravorti and Roson 2006; Rysman 2009; King 2013).

Price structure or price allocation between two-sided networks is the key to internalising the value of the platform to make profit and growth. In general, a platform can design two prices, fixed and variable prices (such as subscription and usage fees) for consumers from both sides to attract and retain them. Geoffrey G. Parker and Marshall W. Van Alstyne (2005) develop an intriguing model of two-sided networks that explains how a platform creates a price structure to stimulate the growth of one side, such as giving incentive to customers to grow the customer market, which will in turn stimulate the growth of the other side such as the seller market. A proper price allocation will help bring growth to both sides of the network. However, price allocation should be accompanied by strategies of expansion of the networks by developing and maintaining the business ecosystem centring on the platform. The key for this strategy is to properly manage the platform, which can be done systematically using value network.

12.2.5 Value Network

There are several value network concepts discussed in the literature with different approaches (Stabell and Fjeldstad 1998; Peppard and Rylander 2006; Allee 2008). Their value network concepts are briefly highlighted. Verna Allee (2008) considers that networks are interactive agents that carry specific roles and values geared towards the achievement of a specific task or outcome by converting intangible and tangible assets into negotiable offerings. The fundamental concept of Allee's value network is value conversion, where agents engage in intangible and tangible exchanges to achieve economic or social good. A value network is divided into two categories, internal value networks and external-facing value networks. Internal value networks are interactions between or among agents (individuals or workgroups) that make up an organisation. External-facing value networks are interactions of an organisation with other organisations, institutions or customers.

According to Joe Peppard and Anna Rylander (2006), a value network is a network of connected entities such as suppliers, collaborators and intermediaries that facilitates complex relationships of different players to deliver services to end customers. Value is created through these relationships. How value is created, and its position in a network, is described by network value analysis, which can be used to construct a competitive strategy.

Charles B. Stabell and Øystein D. Fjeldstad (1998) extend Michael Porter's (1985) value chain concept into three generic value configurations—value chain, value shop and value network. A business applies a value network if it mediates customers or clients. Note that the business itself is not a network, but it provides a networking service to facilitate exchange between customers; the network is the interaction among customers and the value network is the service that facilitates the matching among customers. Value network defined by Stabell and Fjeldstad fits with a digital marketplace that mediates multisided markets. The value network diagram defined by them is a very useful framework to guide a digital marketplace operator to manage a platform to properly serve all customers and to grow both sides of the market.

12.3 Methodology

We adopt the case study method to describe the development of digital marketplaces in Brunei. A case study of a digital marketplace platform helps to gain a deep understanding of why the platform was developed, how the platform addresses challenges and opportunities as well as its likely future direction. For this purpose, several digital marketplaces were selected. We visited the chosen digital marketplace and interviewed managers or leading representatives from Al-Huffaz Management, Babakimpo, Naindah and Super Squad Soccer to obtain information. Face-to-face interviews were conducted from March to May 2019 with a particular focus on opportunities and challenges for operating digital marketplace platforms in Brunei. To attain a better perspective, a questionnaire was created specifically to collect relevant information. The interviewees were identified and selected through common characteristics established initially that included high-level knowledge of their respective businesses, media appearances as the main spokespeople of their businesses and an understanding of the transition of their businesses to a digital marketplace. Interviewees were aged from 23 to 55 years old. The average time to complete an interview was approximately 20 minutes. Conversations were recorded using a smartphone through a voice memo application.

12.4 Results and Discussion

With a very high internet penetration and almost everyone in Brunei having a smart mobile device, especially a smartphone, the growing adoption of the digital marketplace is highly anticipated. As noted, although most Bruneians still prefer to use global-based digital marketplaces such as eBay, Alibaba and Lazada, the limitations on movements and physical distancing enforced by the government in response to the COVID-19 pandemic helped the adoption of locally based digital marketplaces. These opportunities were clearly felt by Babakimpo and Naindah. Both are local e-commerce digital marketplaces established in 2017. Consumers from both sides of the marketplace can be easily reached through their platforms and their capacity can be expanded flexibly. Both Babakimpo and Naindah are enablers for sellers and consumers to interact online, negotiate and transact regardless of time and space. Another notable opportunity established by them is the availability of their headquarters and warehouses in Brunei. This speeds up delivery as well as potential returns or exchanges of products.

Many companies market their products and services on social media due to the flexibility, wider penetration and the minimal cost it brings to the companies. Notable examples are CityMobile, Porterabia, Grab Dobi and Intracorp. However, as already highlighted, social media do not provide a mechanism for buyers and sellers to transact directly. If consumers were to purchase their products and services, a third-party application such as WhatsApp or BIBD Mobile needs to be used. Transactions are therefore done manually (by cash) or using other payment mechanisms such as digital wallets (BIBD QuickPay, BruPay or Pocket) which are usually made on the firms' premises.

As should be clear, a digital marketplace platform is needed for efficient business transactions as it handles all transactions swiftly, including payment. Companies can still advertise and engage their customers through social media but need to adopt a digital marketplace to provide better transaction experiences and security. Applying the transaction cost economics theory, a digital marketplace acts as an intermediary between the MSMEs (as sellers) and consumers. However, a digital marketplace does not only act as an intermediary but more importantly is an enabler for MSMEs to transact with their consumers (Almunawar and Anshari 2021). Our survey indicates that the digital marketplace is growing and has a positive impact both for businesses and their customers. For example, a restaurant can reach more customers through the digital marketplace beyond their traditional customers, which can be translated into more revenue. In addition, digital marketplaces attract consumers as they give them many benefits such as easy access and convenience, and offer them many choices, which is a value option. Although local digital marketplaces can rival foreign marketplaces in terms of faster delivery and faster exchanges or refunds, they lack the same variety of products where international known brands are not available. As a result, local digital marketplaces have a lower value option compared to global marketplaces.

It is vital for any digital marketplace to have an efficient payment system to conclude transactions and it is much better if the payment system is integrated into the digital marketplace platform. Digital marketplaces in Brunei are keen to integrate e-wallet capability into their business so as to enable customers to store points or e-cash that can be exchanged for products or services in their respective marketplace. By doing so, customers can access and pay with e-cash and points through their smartphone, limiting the use of cash and promoting cashless payments. The presence of an online marketplace also allows customer reviews to be seen by businesses and potential consumers, which provides transparency and relevant information of the credibility and quality of products and services offered. The transparency and track record of good services of companies provided by a digital marketplace will not only enhance customers' trust but also attract new customers.

While the high internet penetration in Brunei has a direct influence on the rise in use of digital marketplaces, consumers are still leaning towards buying products and services through social media due to a lack of proper marketing strategy and exposure. However, through the digital marketplace, businesses do increase their channels to reach customers and serve them better, without leaving the benefits of social media for their marketing channels.

An interesting finding from this study is that the current digital marketplaces in Brunei create value for customers of current and upcoming businesses. Problem-solving is valuable for consumers and is offered by some of the digital marketplace platforms to solve some issues, such as making bookings for specific services (sports and religion-related services), religious expertise and platforms for local products. One example is Babakimpo, which is primarily digital marketplace that offers 1K1P (1 kampong 1 product). 1K1P is an initiative of the Ministry of Home Affairs to encourage each village to develop, produce and market its products and services. The e-commerce marketplace arranges products based on categories and sellers are not allowed to register on the platform, while a digital marketplace has various sellers that have their own products and the platform allows third-party sellers to register on the platform. Local products such as stingless bee honey (*madu kelulut*), intricately woven cotton and silk cloth (*jongsarat*) and the Indian jujube fruit (*bidara*, *Ziziphus mauritiana*) can potentially reach a bigger market in ASEAN if it can compete with similar products. For small and medium-sized enterprises (SMEs) and individuals, digital marketplace platforms offer great value to reach large markets with ease, as they do not need to worry about handling transactions and delivery. Most platforms can arrange the delivery through trusted companies such as Go Rush, JiFEE and other reliable couriers.

While Zalora, eBay, Amazon and AliExpress all ship to Brunei, other popular marketplaces such as Lazada and Shopee only ship to Malaysia. However, there is an alternative way of using a 'runner' service where customers make additional arrangements with their business to bring back products ordered from Lazada and Shopee through Limbang and Miri in Sarawak. 'Runner' businesses provide a specific address in Limbang and Miri for customers to use for a delivery and collect them at their business premises back in Brunei.

Despite the increase in use of digital marketplaces in Brunei, companies and consumers are still uncertain about implementing them. From a business's perspective, the uncertainty is due to the lack of expertise in terms of maintaining an online marketplace and establishing an online payment mechanism that can be expensive. From a consumer's standpoint, the uncertainty is due to the trust factor in buying and making transactions through a digital marketplace. The trust factor would be higher in Brunei due to the habit of buying from physical shops where customers can touch and feel the products, while purchasing online is based on a description and images of the products. This can generate a feeling of anxiety and uncertainty towards buying and making transactions online.

12.4.1 Current Digital Marketplace in Brunei Darussalam

International marketplaces such as e-Bay, Zalora, Amazon, AliExpress, Lazada and Shopee have been predominantly used by Bruneians to shop online. A survey by the Authority for Info-communication Technology Industry (AITI) in 2018 showed that only 5% of local e-commerce sites are used by Bruneians. The survey identified e-Bay, Zalora and Amazon as the top three marketplaces in Brunei, while clothing and accessories are the top items purchased online. Significant factors that have been identified in online usage of these marketplaces are the absence of crowds online, discreet purchases, the ease of comparing prices from other sellers and the availability of reviews from other online shoppers.

As Table 12.1 shows, there are several notable digital marketplaces in Brunei. Most are relatively new, dating to 2016–2017. The types of businesses are categorised into service-based and transaction-based digital platforms. A service-based digital platform is much more personal and usually involves a single firm marketing its products and services, giving it control over the content and functionalities of the platform. A transaction-based digital platform has various sellers and vendors displaying their products and services whose accessibility is rather limited since the content and functionalities are controlled by marketplace operators.

Al-Huffaz Management is a platform launched in 2016 that provides Islamic religious-based services, which are primarily of Qur'an recitations, and it features over 1,500 students and 150 active tutors. Foreign competitors such as Asatizah (Singapore), QuranHour (Malaysia) and Umma (Indonesia) provide similar services. Super Squad Soccer is a platform for local football/futsal enthusiasts to play in different venues throughout Brunei and has over 1,000 active users. Babakimpo, J3sMart, MondeB2B and Naindah are transaction-based digital platforms that offer an extensive range of products, a platform for 1K1P, and a means for MSMEs to import and export products internationally. Dart Brunei is the first transport network company in Brunei that provides ride-hailing services through a mobile application, hoping to follow in the successful footsteps of foreign companies such as Grab and Gojek. Dart Brunei offers a transportation booking service and school run services to its customers, with certain clear benefits such as going to places with limited

Table 12.1 Brunei Darussalam: Digital marketplaces

Company name	Year established	Type of business	Product/service	Features
Al-Huffaz management	2016	Digital platform	Services (Qur'an recitations)	Over 1,500 students, with 150 active tutors A platform to learn the Qur'an
Babakimpo	2017	E-commerce marketplace	Products (online shopping)	Over 6,000 products Provides a platform for 1K1P
Naindah	2017	E-commerce marketplace	Products (online shopping)	An intermediary to inspect products Provides a platform for local and international sellers
Dart Brunei	2017	Digital platform	Services (transportation)	First ride-hailing platform in Brunei Provides employment opportunities
J3sMart	2017	E-commerce marketplace	Products (online shopping)	Provides a variety of products that are not available locally Owns personal logistics company
Super Squad Soccer	2018	Digital platform	Services (football/futsal platform)	Over 1,000 active players, with 2 venues A platform for recreational football
MondeB2B	2019	E-commerce marketplace	Products (online marketplace)	Businesses validated by government and private organisations ensuring trust Platform for MSMEs to export and import products

parking, providing international students with transportation in order to avoiding needless driving. Dart Brunei has generated employment opportunities, contributing a positive impact to the community by reducing unemployment.

12.4.2 Case Studies

12.4.2.1 Al-Huffaz Management

Al-Huffaz Management's primary role is to teach the Qur'an, matching tutors with students, with the platform acting as an intermediary in order to ease the learning process. The company was originally a group of experienced individuals who had been providing Qur'an classes since 2003. There was an increase in demand for these classes as the company developed and this growth led to the employment of tutors to accommodate these demands. Al-Huffaz was well received by the public due to the nation's status as an Islamic monarchy that practises religious teachings in daily life. The employment of a digital marketplace for the company enables Al-Huffaz to provide the convenience of attending classes at the user's request rather than fixed classes that could conflict with people's daily schedules. Most of the users are young parents and elderly people. One of the challenges Al-Huffaz faced was gaining the trust of the public to use their services, given that people are accustomed to traditional ways of studying Qur'an recitations, mostly at mosques on public holidays. The platform enables users to study with tutors based on their current location, view the tutor's live schedule, book a desired slot and attend the class. A few hours before a class begins, a reminder is sent via email to both the student and tutor.

Al-Huffaz aims to become the world's largest Qur'an platform, focusing on developing in Southeast Asia in the future. This will be a massive challenge but is achievable through collaboration with non-digital platforms that offer similar services. Through these non-digital platforms, Al-Huffaz can expose its brand, starting with Southeast Asian countries, and provide its services and expertise through videoconferencing. With a stable user base, Al-Huffaz can open offices in neighbouring countries that are managed by non-digital platforms. While there are competitors in neighbouring countries, the large number of Muslims in Southeast Asia suggests there is a big enough market to support a number of similar providers.

12.4.2.2 Babakimpo

Babakimpo was established in 2017 when it began hiring employees. It is a transaction-based digital platform that generally markets household appliances, groceries, cosmetics and electronics. Babakimpo is a subsidiary of Goldmyne Hardware, founded in 1991 as a locally owned company that initially operated as a hardware and roofing materials supplier that dedicates itself to 'Made in Brunei' products. Goldmyne is today a large corporation that has moved into sanitary ware, furniture and building materials, and supplies safety equipment and maintenance products to the oil and gas industry. The company also owns a logistics company that manages its procurement operations.

Goldmyne created Babakimpo to provide opportunities for local entrepreneurs to engage in e-commerce and to encourage Bruneians to shop within the national borders. Its products are stored in a warehouse which is located in a separate place from its principal office. Initially, the company bought a server to assist in its operations and the storage of data. The presence of an online marketplace enables the company to monitor the number of purchases and makes it convenient for customers to browse various products through their smartphones. Since Babakimpo is fairly new, it is still developing its brand to provide people with a local platform comprising both local and foreign sellers. It provides fast delivery for customers buying from local sellers while it may take up to two weeks for purchases from foreign sellers. Data collected from customers enable the company to create statistics which are used to improve efficiency by determining frequently purchased products (electronics, clothing, groceries) and recognising the time when transaction traffic is at its highest. These factors have helped the company in making promotions and discounts to increase sales and revenue. Babakimpo is advantageous for Bruneians because of the presence of a physical store and headquarters where product exchanges and refunds can be done promptly. The company also offers a platform where local people can sell their products, including 1K1P products from rural parts of the country.

Babakimpo is confronted with a number of challenges such as the difficulty of raising awareness among local people of the benefits of using its platform. This issue emerged due to the established preference for businesses marketing their products through social media rather than an online marketplace and the habit of customers searching for products and services on Facebook. By contrast, Babakimpo's digital platform provides shopping and payment under one platform, enabling orders and transactions to be processed immediately after purchase. This contrasts with buying from social media sites where processing orders are subject to the responsiveness of sellers, making payments and communicating through a third-party app (such as WhatsApp). Businesses can benefit from the available platform specifically provided for them to market their products and services since this can increase their credibility and marketability when the legitimacy of sellers is often questioned on social media. This relates to the challenge of gaining users' trust to conduct transactions through the platform. This issue arises due to the lack of secure payment connections, where SSL certificates and third-party logos act as indicators of trusted shopping platforms which Babakimpo does not have. One of the features that has been introduced to improve the shopping experience is the cash on delivery option.

12.4.2.3 Naindah

Naindah was established in 2017 and is funded by its parent company, TechBru Solution. It is a platform that acts as an online marketplace for businesses and local people to advertise used and new products such as clothing, electronics, furniture, groceries and sports equipment. Naindah hopes to encourage Bruneians to buy from local businesses to stimulate a shopping culture of spending within the borders of the country. As such, its primary function is to act as an intermediary between buyers and sellers that checks the products before putting them on its online platform. However, Naindah's personnel do not possess the qualifications to check these products. While it does eliminate some consumer concerns regarding the quality of products in relation to defects and authenticity, the company does not indicate the level of eligibility in product inspection. Naindah simply guarantees that products are undamaged and in the best condition before delivering them to customers via its logistics service NaindahGo, which provides customers with tracking options and same-day delivery.

Naindah offers competitive prices to vendors using its marketplace, including two seller plans: MyNaindah (BND50) and Warehouse (BND1 + 10%). The company has been trying to attract international vendors to give the platform a greater variety of products, but it has struggled to attract foreign sellers due to the low level of recognition in the market compared to AliExpress and Lazada. So the absence of foreign sellers on the platform is a challenge. There is also the issue of whether to outsource or insource the expertise to maintain, troubleshoot and add new features to the platform. At the moment, Naindah uses a website and a mobile app to attract customers. Its next step is to create a mobile app to incorporate grocery shopping, international payment mechanisms and mobile payments. The company has the potential to be successful by incorporating well-known international brands into its marketplace, improving the platform's features by including a live-chat facility for customers, and providing its own personnel with certified product checking training to enhance the credibility of its oversight before reaching customers.

12.4.2.4 Super Squad Soccer

Super Squad Soccer was initially known as Weekend Warriors and emerged in 2018. It functions as an online platform for football/futsal enthusiasts, the most popular sports played by men in Brunei. With such a demand for football and futsal it was opportune to provide a platform where people could play as a team or individually across different venues in all districts. The platform is the first of its kind in Brunei. The digital marketplace accessed through the Super Squad Soccer website enables users to book their slots and pay fees with a debit or credit card through the online mechanism. The platform aims to ease the convoluted process of gathering players, getting the proper equipment and securing venues. The platform enables Super Squad Soccer to attract players through the use of social media, mainly Instagram and Facebook, and by verbal communication. The company markets its brand through social media and the services it offers through its dedicated platform. An online website is available to register players and create their profiles, buy credits to play, and book slots for upcoming sessions and attend them.

Super Squad Soccer faces several challenges like the difficulty of hiring personnel with a specific skill set such as Avalon programming skills that can potentially improve its business features. Avalon is a statistically typed language supported by algebraic data types that offers users the ability to generate more powerful functions in programs. Due to the urgency of hiring personnel who could use Avalon, it is time-consuming for the company to consider sending fresh graduates or current employees abroad for training. Another challenge of having an online platform is the inability to maximise its full potential due to the small size of the market in Brunei.

Only a small fraction of the population uses the platform. In comparison, a platform that has a market reach to include Malaysia and Indonesia would have enormous potential to flourish and create a huge user base compared to that of Brunei alone. Due to the limited local demand, potential developments of the platform are restricted unless exposed to a bigger population. The platform currently boasts around 1,000 active users. However, due to the need to generate consistent profits to pay for salaries, equipment and fees for venues, it remains to be seen whether Super Squad Soccer can be a successful business in the long run. A potential solution to counter this issue is to open more venues in different districts and allow higher educational institutions with football/futsal facilities to use the brand's name, which can generate more profits. The company aims to go global, possibly developing the platform and expanding to the rest of Southeast Asia. Golazo from Malaysia and Stranger Soccer from Singapore are Super Squad Soccer's main competitors. Some significant advantages Super Squad Soccer has over its rivals are providing match referees and team bibs across different venues; customised bibs can be purchased, letting their players personalise them.

12.5 Conclusion

A digital marketplace is a two-sided or multisided market that manages the interaction and transactions between two or more distinctive users. Although the use of the digital marketplace by Bruneians has been around since the early development of e-commerce such as through eBay and Amazon, the digital marketplace in Brunei is relatively new, with the first one appearing as late as 2016. All these digital marketplaces are still relatively small and only cater to local market demand. Yet they are competing with global digital marketplaces such as e-Bay, AliExpress, Zalora and Lazada which have already established a strong foothold in the country due to their vast inventory of well-known and trusted brands and general popularity among consumers.

However, issues regarding the length of time taken for delivery (usually up to two weeks, especially during the COVID-19 pandemic) and the cumbersome process involved in exchanging or refunding products created an opportunity for the local digital marketplace to survive and grow. Delivery takes longer even if products are shipped to nearby Miri and Limbang in Sarawak; they incur additional charges and the risk of damage is high. A number of obvious steps will enable Bruneian digital marketplaces to compete with global competitors: managing delivery times more efficiently, incorporating a larger number of popular well-known brands, and improving the processes for exchanges and refunds. If these conditions were met, Bruneian consumers would favour buying from local marketplaces. In particular, local digital marketplaces can collaborate with trusted services in Brunei that can provide same-day delivery, facilitated by local offices and warehouses. The management of a digital marketplace is crucial, where each platform needs to develop a good business ecosystem to survive and grow. By considering these factors to expand their businesses, there is an opportunity for them to grow and be a first-choice marketplace for Bruneians. Digital marketplaces help local goods such as 1K1P to reach consumers, either local or potentially in the wider Southeast Asia market.

There are some limitations to the analysis presented in this paper. First, the case studies try to cover several digital marketplaces operating in Brunei and most of them are relatively new. Although the case studies provide important information, they are brief and do not cover all the digital marketplaces in the country. Second, the case studies are snapshots; they do not cover in detail how the various digital marketplaces have developed and operated over time. We are interested in studying the adoption of digital marketplaces in Brunei from both sides of the market. In light of this, we are currently developing a framework for understanding the digital marketplace ecosystem. It will be interesting to see how economic actors contribute to the wider business ecosystem and their connections as well as the emerging forms of governance.

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Chapter 13
The Role of Financial Literacy on Retirement Preparedness in Brunei Darussalam

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Abstract In this chapter, the role of financial literacy vis-à-vis retirement preparedness in Brunei Darussalam is assessed through structured interviews with 700 public sector employees. The analysis examines not only their retirement preparations but also the challenges or concerns they foresee in retirement. An attempt is also made to understand the justifications of those without an additional retirement plan. Using Pearson's chi-squared test, the results indicate that financially literate respondents are more knowledgeable about retirement needs, attend financial seminars and invest further into their retirement schemes on a voluntary basis. For those with an additional retirement plan, financially literate respondents also tend to seek professional guidance, and include land and insurance in their retirement plans to a greater extent compared to less financially literate respondents. For those without an additional plan, other current pressing commitments and the availability of family support are the main justifications. Despite the limitations of purposive sampling, the chapter underlines the value of financial literacy in retirement planning, which provides impetus for policymakers to incorporate financial literacy initiatives in the workplace, education system and other teachable opportunities, notably for older employees who earn relatively modest salaries and possess lower educational attainment.

Keywords Brunei Darussalam · Public sector employees · Financial literacy · Pension schemes · Retirement planning · Insurance · Family support

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13.1 Introduction

The challenge of preparing for retirement lies in the uncertainty of the future and its assumptions such as life expectancy, possible investment returns and post-retirement needs. Despite these uncertainties, retirement remains an important event that should be planned for. As employability diminishes with age, it is critical to ensure sufficiency of post-retirement resources to avoid financial difficulties, an adverse social impact on families and dependency on welfare payments in old age.

In Brunei Darussalam, the two main retirement schemes for government employees prior to 1993 were the government pension scheme and the old age pension. The government pension scheme was a defined benefit plan with retirees attaining at least 75% of their final salary as lifetime income (Hajah Sainah 2010). The old age pension is a universal pension scheme applicable to all Bruneians provided they reach the age of 60, and are either born in Brunei and resided in the country for at least 10 years or born outside Brunei but resided in the country for at least 30 years (AGC 2017). In 1993 the retirement scheme changed from the government pension to a defined contribution plan named Tabung Amanah Pekerja, compulsory for local employees in both the public and private sectors, with few exceptions. This scheme involved compulsory contributions by participants at the rate of 5%, matched by the employer at the rate of 5% (AGC 1993). Further, participants may voluntarily provide additional contributions to their Tabung Amanah Pekerja account, though employers are not required to match these voluntary contributions. The old age pension remains in place in Brunei and falls under the jurisdiction of the Ministry of Culture, Youth and Sports (AGC 2017).

In January 2010 an additional defined contribution plan scheme referred as the supplemental contributory pension was introduced under the Supplemental Contributory Pensions Order 2009, S58 (AGC 2009). Similar to Tabung Amanah Pekerja, the supplemental contributory pension is a defined contribution plan that requires compulsory contributions by participants and is matched by the employer. Similarly, participants may voluntarily add further contributions which employers are not required to match. However, a difference is that the principal and returns from Tabung Amanah Pekerja are provided to participants at the age of 55 (the previous retirement age), while the supplemental contributory pension is an annuity with monthly disbursement provided at the age of 60 for a period of 20 years (ibid.; Tabung Amanah Pekerja 2023). Aside from the supplemental contributory pension, 2010 also witnessed a change in the retirement age, which was increased from 55 to 60 years under the Retirement Age Order 2010, S4 (AGC 2010).

Given the prevalence of defined contribution plan schemes in Brunei, it should be noted that the sufficiency of the defined contribution plan schemes (Tabung Amanah Pekerja and supplemental contributory pension) to fulfil retirement needs partly depends on the principal invested and investment returns. This highlights the importance of understanding aspects of personal finance in general and financial literacy in particular. The Organisation for Economic Co-operation and Development (2018: 4) defines financial literacy as '[a] combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing'. Arguably, the more financially literate an individual is the likelier the chances of a better financial outcome and enhanced well-being.

With regard to financial knowledge, numerous studies have analysed the relationship between financial literacy and retirement. For instance, in the United States, Annamaria Lusardi and Olivia S. Mitchell (2011a) find that financially literate respondents were more likely to plan and succeed in their retirement, relying on formal retirement tools, compared to less financially literate respondents who relied on family or co-workers. In Germany, Tabea Bucher-Koenen and Lusardi (2011) similarly report that those with higher financial literacy were associated with retirement planning. In Singapore, financial literacy is linked to respondents holding a more diversified investment portfolio, higher net financial wealth and insurance uptake for those approaching retirement (Koh and Mitchell 2019; Koh et al. 2021).

The emphasis on financial literacy has led to government initiatives, including the creation of frameworks to include financial literacy in the educational system and the declaration of a 'financial literacy month' in Canada. In the United States, increased concerns about financial illiteracy led to the establishment of the Financial Literacy and Education Commission and April was proclaimed as the National Financial Literacy Month (US Treasury 2024; Jump$tart 2024). As of 2024 there are 35 states in the United States that require high school students to take a course in personal finance to graduate (Council for Economic Education 2024). In Singapore, a national financial education programme known as MoneySense was created in 2003 to promote sound financial decision-making and longer-term planning (MoneySense 2024). In Malaysia, the importance of this issue is reflected in the creation of the National Strategy for Financial Literacy 2019–2023 (Financial Education Network 2019).

In view of the importance of retirement preparedness, there is a need to understand the role that financial literacy plays in relation to it. This chapter aims at ascertaining insights on the role of financial literacy for the retirement preparedness of public sector employees in Brunei. The discussion is organised as follows. A survey of the existing literature is detailed in Sect. 13.2, followed by the research design and summary profile in Sects. 13.3 and 13.4. Key findings and conclusions are presented in Sect. 13.5.

13.2 Review of Literature

Recent decades have witnessed growing interest in financial literacy, especially given its benefits. Studies of financial literacy, such as that by Lusardi and Mitchell (2007), indicate that those knowledgeable in financial matters, such as compounding, tend to plan their finances and this affects wealth accumulation. In terms of debt, individuals who are less financially literate are likely to pay higher fees and experience the high cost of borrowing and are likely to engage in negative credit card behaviour, such as incurring late fees and over-the-limit fees (Mottola 2013; Lusardi and Tufano

2015). Where financial distress on debt is concerned, Lusardi et al. (2018a) find that those with higher financial literacy were less exposed to financial distress as they approached retirement compared to those less financially literate who had excessive debt. Managing debt is especially important at a time when individuals are likely to possess more debt in old age compared to the previous generations (Lusardi et al. 2018b). In terms of financial fragility in old age or where financial emergencies are concerned, Benedict Koh et al. (2021) suggest that those who are financially literate and aged between 50 and 70 years were more likely to hold long-term care and health insurance, enhancing their well-being in retirement. Further, financial literacy leads to active participation in the stock market, potentially enhancing retirement returns, and is also linked to possessing a more diversified investment portfolio and higher net wealth (Mahzdan et al. 2017; Koh and Mitchell 2019).

In other studies, seemingly basic financial questions highlight alarming issues of financial illiteracy. In assessing early baby boomers, aged 51–56, Lusardi and Mitchell (2007) report that 17.8% were able to correctly answer a basic compounding question (compound interest) and only 55.9% accurately answered a question related to divisions (lottery division).[1] Knowledge of compounding is found to be the most important variable, among the four types of questions asked, as it is statistically significant across groupings of retirement planners, while those who were not able to answer the 'lottery division' question correctly were likely to be non-planners. In more complex aspects of retirement decision-making, Cäzilia Loibl et al. (2018) suggest that financially literate respondents were able to make better decisions in choosing retirement options, since the financially literate were able to take into account complex annuity-linked considerations to make an effective decision. Similar findings on the value of financial literacy vis-à-vis retirement planning, including the causality effect of financial literacy towards retirement planning, can be found in Bucher-Koenen and Lusardi (2011), Lusardi and Mitchell (2011b, 2017) and David Boisclair et al. (2017).

Where retirement planning is concerned, Lusardi and Mitchell (2007) find that planning is associated with wealth holdings; those who planned their retirement were relatively well-off compared to those who did not. Harold W. Elder and Patricia M. Rudolph (1999) hypothesise that those who did not plan for retirement may belong to the 'surprise group', finding retirement funds insufficient to sustain their lifestyle and forced to make downward adjustments to their spending patterns. Their findings indicate a positive relationship between retirement planning and retirement satisfaction, even as income, health, marital status and wealth are taken into account. Similar findings are found in the Certified Financial Planner Board of Standards segmentation survey in which high-income earners and those with high levels of educational attainment were found to be more positive on their future well-being if they started saving for retirement at an early age (CFP Board 2016). The importance of preparing

[1] Compound interest: Let's say you have 200 dollars in a savings account. The account earns 10% interest per year. How much would you have in the account at the end of two years? Lottery division: If five people all have the winning number in the lottery and the prize is USD2 million, how much will each of them get?

for retirement is also substantiated by financial customers. When respondents were asked their motivation for hiring a financial professional and the rationale for beginning to plan their finance, they appeared to rank retirement planning or a desire to build a retirement fund as the main reason (CFP Board 2004, 2009, 2012).

In planning for retirement, Lewis J. Altfest (2017) highlights numerous steps undertaken in financial planning to ascertain if retirement funds are sufficient, given current savings and retirement schemes. These include computing the desired amount for retirement, assessing current assets and investing if current assets fall short of the desired amount. With regard to investing, two financial concepts fundamental to achieving the investment objectives are compounding and diversification. Given the long-term nature of investing for retirement, the benefits of diversification and compounding in uncertain long-term investments cannot be underestimated. It is therefore not surprising these two concepts are used in numerous financial literacy studies to ascertain respondents' level of financial literacy, including Lusardi and Mitchell (2011c) and the 2014 Standard and Poor's Ratings Services global financial literacy survey (Global Financial Literacy Excellence Center n.d.).

Aside from acknowledging the potential benefits of financial literacy, studies have also underlined those currently at a disadvantage or facing low financial literacy. In the United States, studies have indicated low levels of financial literacy among certain groupings; Hispanic as well as African American students/adults are less financially literate than white students/adults, and women are also found to have lower financial literacy scores than men, notably African American and Hispanic women (NCOEE 2005; Yakoboski et al. 2020; Clark et al. 2021).

There are relatively few published studies examining retirement preparedness in Brunei. Pg Md Hasnol Alwee (2013) assesses savings motives of welfare and non-welfare recipients in the largest district, Brunei-Muara, and finds non-welfare recipients or those with surplus cash highlighted savings for retirement or old age as one of the top three reasons for savings. However, when asked whether they had a financial plan, 80% of welfare recipients and 57% of non-welfare recipients stated they had none. The lack of a retirement plan for non-welfare recipients is not surprising as high-income earners are 2.1 and 2.7 times more likely to plan for retirement compared to middle-income and low-income earners respectively. When assessed on knowledge of retirement planning, high-income earners were 4.75 times more likely to answer the question correctly than low-income earners, highlighting the relationship of earnings with retirement planning knowledge (ibid.). It is also found that the private sector, self-employed, and those working in agriculture and fisheries were 2.37 times more likely to save for retirement (excluding Tabung Amanah Pekerja and supplemental contributory pension) compared to government sector employees. This is interesting because the government had introduced the supplemental contributory pension aimed at increasing retirement savings, notably for lower-paid employees. It is therefore possible that government employees were underestimating their retirement needs compared to non-government employees. However, these findings are not generalisable to the Bruneian population due to the non-random sampling nature of the study.

There has been an increasing emphasis on improving financial literacy since the mid-2010s led by the Brunei Darussalam Central Bank (previously known as Autoriti Monetari Brunei Darussalam [AMBD]). In 2015, 28 May was proclaimed National Savings Day in Brunei and has been celebrated annually ever since. The same year, the AMBD commissioned the financial literacy survey and national strategy project to assess financial literacy. In 2016 the Financial Planning Association of Brunei Darussalam was established to raise awareness on financial planning (BruDirect 2016), followed by the sultan establishing the National Financial Literacy Council (NFLC) in 2017, aimed at ensuring 'the people of Brunei Darussalam are able to reach the highest level of financial well-being, in line with Wawasan Brunei 2035 to have highly knowledgeable and skilled citizens, with an enhanced quality of life as well as a more sustainable economic growth. Financial literacy is achievable through the provision of access to quality and trusted products, information and advisory services.' (Ministry of Education 2022). More recently, the Ministry of Education, which is part of the secretariat to the NFLC, along with the Central Bank and Tabung Amanah Pekerja, launched the Brunei Darussalam Financial Literacy Competency Framework for School Children and Adults in April 2021 (Ministry of Education 2021). The Central Bank is also active in promoting National Savings Day programmes which aim to promote a savings culture, highlight the importance of prudent financial management and increase awareness on financial products and services in Brunei (BDCB n.d.).

13.3 Research Design

This quantitative study utilises proxies of financial literacy via financial knowledge questions similar to Lusardi and Mitchell (2007) and Lusardi et al. (2014). However, certain aspects of the questions differ as the context of this study is more geared towards retirement planning rather than a general inquiry on financial well-being. To gauge financial literacy, three questions were posed and responses were noted as 'financial sophistication 3' if all three questions were answered correctly, 'financial sophistication 2' for two correct answers and so on.

Question 1 (Compounding)

Let's say you have BND100 in a savings account. The account earns a 10% return per year. How much would you have in the account at the end of two years? [BND110/BND115/BND120/BND121**/None of the above/I don't know]

Question 2 (Mutual fund)

A mutual fund is: [Similar to a savings account/Similar to a fixed deposit/Similar to a bond/*sukuk*/None of the above**/I don't know]

Question 3 (Diversification)

In general, when an investor spreads money between 20 stocks, rather than two, the risk of losing a lot of money: [Increases/Decreases**/Does not change/I don't know]

Questions 1 and 3 are adopted from financial literacy studies, gauging compounding and diversification knowledge respectively (Lusardi and Mitchell 2007; Lusardi et al. 2014). Question 2 is ascertained given that investing in a mutual fund would provide a cost-efficient approach to investment for Bruneians compared to individual stocks.[2]

Pearson's chi-squared test is used to ascertain significant relationships between groupings and selected variables; use of the chi-squared test and logistics regression is pertinent considering categorical variables were involved (Pallant 2020). In terms of sampling, the study is based on a cross-sectional design employing structured interviews and purposive sampling of 780 government employees in 2016. Out of 780 interviews, 686 (88%) were deemed valid.

13.4 Summary of Respondents' Profiles

To provide a summary of profiles, respondents are divided into those who answered at least one question correctly ('financial sophistication 1') and those who did not answer any question correctly ('no correct answers') (Table 13.1). In terms of similarities, across both groupings the majority (over 90%) are Malay and male (67%). With regard to marital status, both groupings are largely composed of married respondents (around 60%), though there are 10% more respondents who are single who fall into the 'financial sophistication 1' group.

The mean shows the differences in age are minimal, around four years apart; however, the median indicates the differences are larger with a 13-year gap between the two medians, indicating the 'financial sophistication 1' group is relatively younger. In terms of education, there is a sizeable proportion (46%) of 'financial sophistication 1' respondents who have at least a bachelor's degree, while the largest proportion of the 'no correct answers' group have a pre-college qualification (36%). In terms of government employees, nearly half of the 'financial sophistication 1' respondents are in division 1 and 2 (42%), while a sizeable portion of the 'no correct answers' respondents are in division 4 (42%).[3]

In line with these descriptive statistics, Pg Md Hasnol Alwee and Roslee Baha (2020) affirm through logistic regression that, in this sample, the financially literate respondents are those who have higher education, are younger and have relatively high salaries/posts. In the next section, findings on the role of financial literacy on their additional retirement plans and perceived challenges are highlighted.

[2] This question may appear basic, but during the interviews conducted by Pg Md Hasnol Alwee (2013), some respondents faced significant challenges in understanding the mutual fund concept, which required the question to be amended to a simplified context.

[3] In Brunei, division 1 is the highest level of classification for government employees with higher salary levels and positions.

Table 13.1 Financial literacy: Summary of respondents' profiles

Variable			N		Mean	Median
1 Age	Financial sophistication 1		308		36.30	32
	No correct answers		378		40.56	45
2 Gender	Male		Female		Total	
Financial sophistication 1	204 (66%)		104 (34%)		308 (100%)	
No correct answers	254 (67%)		124 (33%)		378 (100%)	
Total	458 (67%)		228 (33%)		686 (100%)	
3 Marital status	Single		Married		Divorced/widowed	Total
Financial sophistication 1	122 (100%)		178 (58%)		8 (2%)	308 (100%)
No correct answers	114 (30%)		254 (67%)		10 (3%)	378 (100%)
Total	236 (34%)		432 (63%)		18 (3%)	686 (100%)
4 Education	Up to Year 9	Pre-college	College/ Diploma	Advanced/Higher National Diploma	Bachelor's degree/Postgrad	Total
Financial sophistication 1	11 (4%)	46 (15%)	41 (13%)	66 (21%)	143 (46%)	307 (100%)
No correct answers	35 (9%)	135 (36%)	73 (19%)	46 (12%)	88 (23%)	377 (100%)
Total	46 (7%)	181 (27%)	114 (17%)	112 (16%)	231 (34%)	684 (100%)
5 Race	Malay		Chinese		Others	Total
Financial sophistication 1	282 (92%)		21 (7%)		5 (1%)	308 (100%)
No correct answers	367 (97%)		4 (1%)		7 (2%)	378 (100%)

(continued)

Table 13.1 (continued)

Variable			N	Mean	Median
Total	649 (95%)		25 (4%)	12 (2%)	686 (100%)
6 Division	Division 1 & 2	Division 3	Division 4	Division 5	Total
Financial sophistication 1	130 (42%)	108 (35%)	50 (16%)	17 (6%)	305 (100%)
No correct answers	84 (18%)	104 (26%)	148 (42%)	37 (15%)	373 (100%)
Total	214 (32%)	213 (31%)	198 (29%)	54 (8%)	678 (100%)

Source Authors' calculations

13.5 Key Findings

13.5.1 Is Financial Literacy Linked to Retirement Preparedness?

In ascertaining if financial literacy is associated with a better sense of retirement preparedness, this section assesses whether (1) respondents who possess some level of financial literacy know how much is needed upon retirement, and (2) they pursue any activities to prepare for their retirement aside from the existing default retirement schemes. The statistical differences of these variables are shown in Table 13.2. Those with statistical significance are in bold, indicating differences between respondents under 'financial sophistication 1' and those with 'no correct answers'.

In terms of whether respondents had calculated the amount needed for retirement, there is a statistically significant difference between those who were financially literate ('financial sophistication 1') and those less financially literate ('no correct answers') (Fig. 13.1). There is a higher incidence of financially literate respondents who stated they had attempted to calculate the amount needed for retirement (50%) compared to less financially literate respondents (38%).

Once an individual knows how much is needed for retirement, they may decide to undertake actions voluntarily to achieve the amount needed. In this study, respondents were assessed on whether they attended financial seminars/roadshows and made voluntary contributions to their Tabung Amanah Pekerja and/or supplemental contributory pension (for those with the relevant schemes).

Figure 13.2 shows that those financially literate ('financial sophistication 1') were more likely to attend financial seminars, roadshows and briefings (53%) compared to those less financially literate (35%). There were also incidences of financially literate respondents who made additional voluntary payments to their Tabung Amanah Pekerja and/or supplemental contributory pension schemes, though the figures are

Table 13.2 Chi-squared results: Retirement preparation

No	Source of financial advice	Results
1	Have you ever tried to calculate how much you need to save for retirement?	**$\chi^2(2) = 10.244, p < 0.05$**
2	Have you ever attended any seminars, roadshows or briefings on financial literacy, financial awareness or planning?	**$\chi^2(1) = 23.235, p < 0.00$**
3	Aside from the Tabung Amanah Pekerja percentage paid by yourself, do you make any voluntary contributions to Tabung Amanah Pekerja?	**$\chi^2(1) = 11.352, p < 0.05$**
4	Aside from the supplemental contributory pension percentage paid by yourself, do you make any voluntary contributions to supplemental contributory pension?	**$\chi^2(1) = 8.315, p < 0.05$**

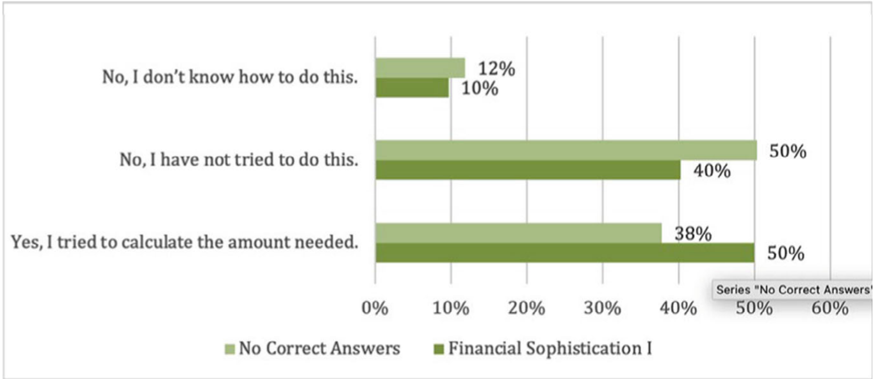

Fig. 13.1 Respondents who tried to calculate retirement needs (%). *Source* Authors' calculations

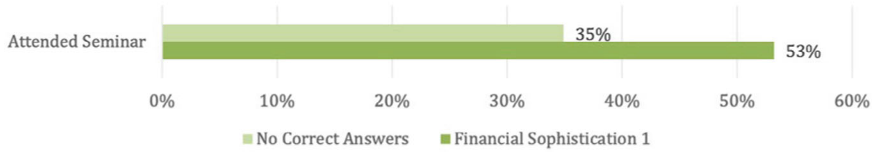

Fig. 13.2 Respondents who attended financial events (%). *Source* Authors' calculations

relatively low. Figure 13.3 shows a higher proportion of financially literate respondents who had a Tabung Amanah Pekerja and/or supplemental contributory pension contributed to their schemes voluntarily (11–16%) compared to those who were less financially literate (5–7%). Note that similar findings were also found when 'financial sophistication 2' were assessed against attending financial events and making voluntary payments; a higher proportion of those financially literate attended financial events and contributed additional funds to their Tabung Amanah Pekerja and/or supplemental contributory pension schemes.[4]

Aside from the nature of preparation for retirement, the quality of respondents' preparedness is also gauged through the additional retirement plan created on top of their default retirement schemes, as the chi-squared results indicate (Table 13.3). Figure 13.4 shows that although both groups of respondents have an additional retirement plan (around 40% of respondents), the quality differs in terms of the input from professionals. Of those with an additional retirement plan, there is a higher proportion of 'financial sophistication 1' respondents (53%) who have plans prepared with assistance from a financial professional compared to those with lower levels of financial literacy (28%). Similar findings are also found vis-à-vis 'financial sophistication 2'.[5]

[4] The specific figures and chi-squared results are available upon request.

[5] The specific figures and chi-squared results are available upon request.

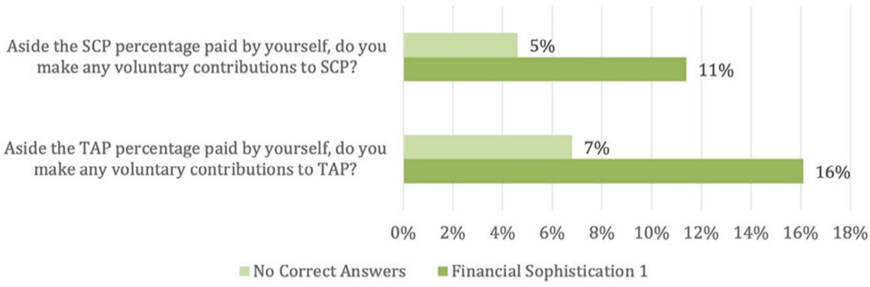

Fig. 13.3 Respondents with voluntary Tabung Amanah Pekerja and/or supplemental contributory pension payments (%). *Source* Authors' calculations

Table 13.3 Chi-squared results: Quality of retirement preparation

No	Source of financial advice	Results
1	Yes, aside from my Tabung Amanah Pekerja/supplemental contributory pension/government pensions, I have other preparation for my retirement	$\chi^2(1) = 1.183$, $p > 0.10$
2	Yes, a financial professional helped me to prepare this plan	**$\chi^2(2) = 21.539$, $p < 0.00$**

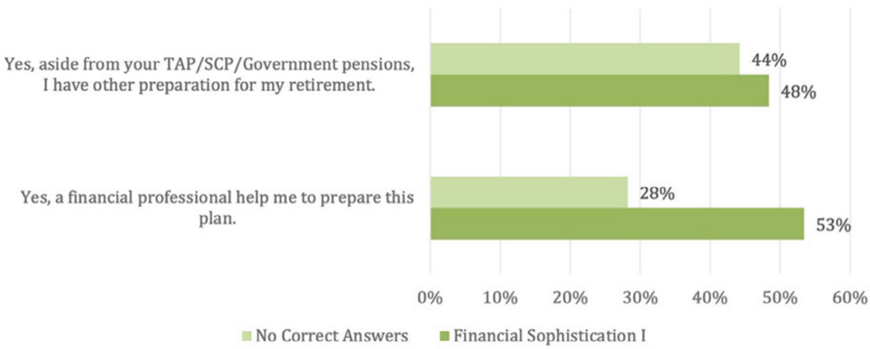

Fig. 13.4 Respondents and additional retirement plans (%). *Source* Authors' calculations

13.5.2 Is Financial Literacy Linked to Lower Retirement Concerns?

The value of financial literacy is also notable when concerns of meeting expenses and basic needs in retirement were assessed against those possessing 'financial sophistication 1 and 2', that is those correctly answering at least one question and two questions respectively. This is indicated in Table 13.4 as all four relationships are statistically significant.

Table 13.4 Chi-squared results: Meeting basic needs and general expenses upon retirement

No	Retirement needs	Results
1	Financial sophistication 1 versus meeting basic needs	**χ^2 (2) = 15.524, p < 0.00**
2	Financial sophistication 1 versus meeting retirement expenses	**χ^2 (2) = 19.918, p < 0.00**
3	Financial sophistication 2 versus meeting basic needs	**χ^2 (2) = 14.352, p < 0.05**
4	Financial sophistication 2 versus meeting retirement expenses	**χ^2 (2) = 17.911, p < 0.00**

Figure 13.5 shows respondents who answered at least one question correctly were more confident of meeting their two retirement needs (expenses and basic needs) compared to respondents who were less financially literate. With regard to basic needs, 60% of those who were either confident or very confident could answer at least one question correctly compared to 46% of those who could not answer any questions correctly.

Additionally, there is a higher incidence of respondents being confident/very confident in meeting retirement expenses (46%) if they answered at least one question accurately compared to those who could not correctly answer the questions (31%). Similar trends were found when retirement concerns were assessed against 'financial sophistication 2' (Fig. 13.6). As a whole, these findings indicate the importance of financial literacy in mitigating retirement concerns.

In terms of specific retirement concerns, Table 13.5 shows all the groups shared similar specific retirement concerns, with the top three concerns being rising cost of living, sudden expenses in retirement and cost of education for their children. The only difference can be found when the cost of health care as a concern was

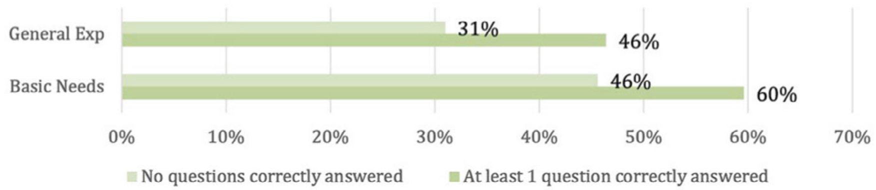

Fig. 13.5 Respondents confident/very confident of meeting basic needs and general expenses in retirement, by 'financial sophistication 1' (%). *Source* Authors' calculations

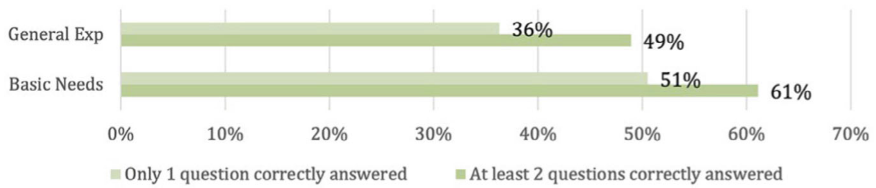

Fig. 13.6 Respondents confident/very confident of meeting basic needs and general expenses in retirement, by 'financial sophistication 2' (%). *Source* Authors' calculations

assessed against financial literacy with both ‘financial sophistication 1 and 2’ being statistically significant (Table 13.6).

Figures 13.7 and 13.8 show a higher proportion of the financially literate were concerned on their health care during retirement. For instance, Fig. 13.8 shows 53% of those answering at least two questions correctly were concerned with health care costs in retirement, while only 32% of those who were less financially literate felt the same. Such concerns are interesting considering public health care for Bruneian citizens is generally accessible with a nominal fee of BND1. A possible reason for this significant concern may lie with expectations of the future. Given Brunei’s dependency on oil exports and falling oil prices in recent times, these respondents may believe the cost of health care will increase, notably when old age brings about increased health concerns.

Table 13.5 Weighted scores of ranked retirement concerns

No	No correct answers	Score	Financial sophistication 1	Score	Financial sophistication 2	Score
1	Rising cost of living	1.06	Rising cost of living	0.99	Rising cost of living	0.91
2	Unexpected expenses	0.83	Unexpected expenses	0.76	Unexpected expenses	0.74
3	Cost of children’s education	0.53	Cost of children’s education	0.58	Cost of children’s education	0.67
4	Cost of health care	0.19	Cost of health care	0.24	Cost of health care	0.32
5	Unable to pay debt/ credit	0.17	Unable to pay debt/ credit	0.20	Unable to pay debt/ credit	0.19
6	Cost of housing/ rental	0.14	Cost of housing/ rental	0.16	Cost of housing/ rental	0.12
7	Falling returns on savings/investment	0.08	Falling returns on savings/investment	0.07	Falling returns on savings/investment	0.05

Source Authors’ calculations

Table 13.6 Chi-squared results: Cost of health care, by financial sophistication

No	Retirement concerns	Results
1	Cost of health care versus financial sophistication 1	$\boldsymbol{\chi^2 (2) = 3.622, p < 0.10}$
2	Cost of health care versus financial sophistication 2	$\boldsymbol{\chi^2 (2) = 16.072, p < 0.00}$

Source Authors’ calculations

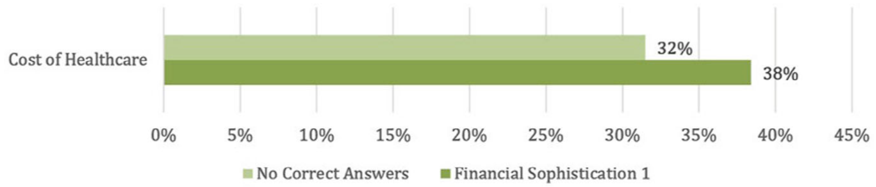

Fig. 13.7 Respondents with concerns about health care cost, by 'financial sophistication 1' (%). *Source* Authors' calculations

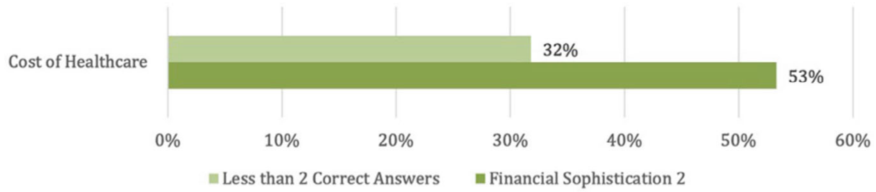

Fig. 13.8 Respondents with concerns about health care cost, by 'financial sophistication 2' (%). *Source* Author's calculations

13.5.3 Do Financially Literate Respondents Have Different Composition of Assets in Their Additional Retirement Plan?

As depicted earlier in Fig. 13.4, around 45% of respondents had an additional retirement plan. In terms of similarities between groups, Fig. 13.9 shows both groups had the highest proportion of respondents with four main assets in their retirement plans, namely savings, business, land and insurance. The data depict the variation of these assets among the grouping, with insights provided on land and insurance. With regard to land and insurance, there appears to be a higher proportion of those financially literate who included land and insurance in their retirement plans, which provides certain distinct advantages for those who are financially literate. Land is generally deemed a valuable asset due to price appreciation and the potential use to earn rental income, while insurance provides a buffer for sudden shocks.

With respect to differences, Table 13.7 shows that among the assets that respondents had in their retirement plans, three forms of assets were significantly different between those with at least one question correct ('financial sophistication 1') and those with no correct answer. These assets are land, insurance and mutual funds.

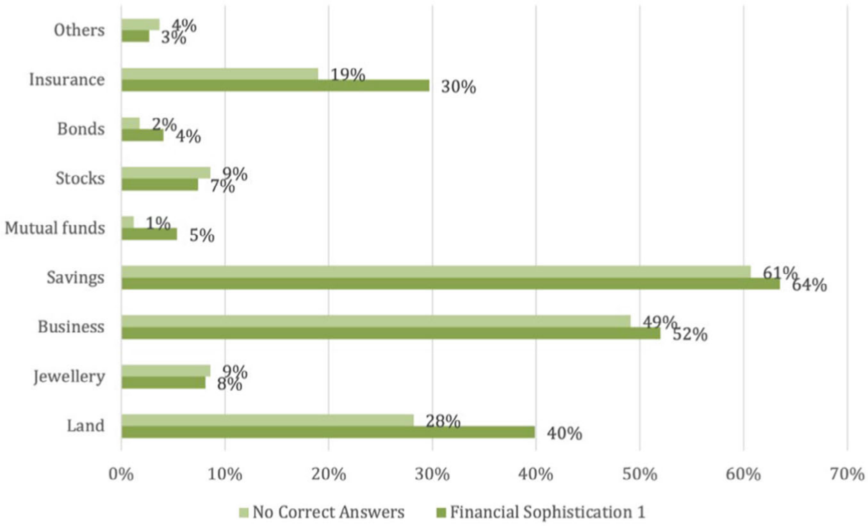

Fig. 13.9 Concerns about retirement, by 'financial sophistication 1' (%). *Source* Authors' calculations

Table 13.7 Chi-squared results: Assets involved in retirement plan (aside from Tabung Amanah Pekerja/old age pensions/pensions), by 'financial sophistication 1'

No	Assets	Results
1	Land	$\boldsymbol{\chi^2(1) = 4.703, p < 0.05}$
2	Jewellery	$\chi^2(1) = 0.023, p > 0.10$
3	Business	$\chi^2(1) = 0.270, p > 0.10$
4	Savings	$\chi^2(1) = 0.254, p > 0.10$
5	Mutual funds	χ^2 **(1) = 4.352, p < 0.05**
6	Stocks	$\chi^2(1) = 0.140, p > 0.10$
7	Bonds	$\chi^2(1) = 1.352, p > 0.10$
8	Insurance	χ^2 **(1) = 4.863, p < 0.05**
9	Others	$\chi^2(1) = 0.239, p > 0.10$

Source Authors' calculations

13.5.4 The Lack of an Additional Retirement Plan among Financially Literate Respondents

Given that only around 45% of respondents in each grouping had an additional retirement plan, an attempt is made to understand the rationale for the remaining 55% for not having an additional plan. The three possible opinions put forward to respondents were: (1) their default pension is sufficient for them; (2) they have other pressing financial commitments; and (3) they place a measure of dependence on their family for future support. They were asked to select 'strongly disagree', 'disagree',

'agree', 'strongly agree' or 'not sure'. Note that the responses shown in Fig. 13.10 only pertain to those who stated agreement, that is those who selected 'agree' and 'strongly agree' to the above three opinions.

Table 13.8 and Fig. 13.10 show the responses between those who did not get the financial literacy questions correct against the 'financial sophistication 1' group. Most respondents who had no additional plan acknowledged its importance but had other financial commitments. Here, a higher proportion of those financially literate (83%) acknowledged that having an additional plan was more important than the less financially literate (70%).

When 'financial sophistication 2' is taken in account, the only statistically significant variable relates to those who believed family support would be possible if a retirement shortfall occurred (Table 13.9). There is a higher incidence of 'financial

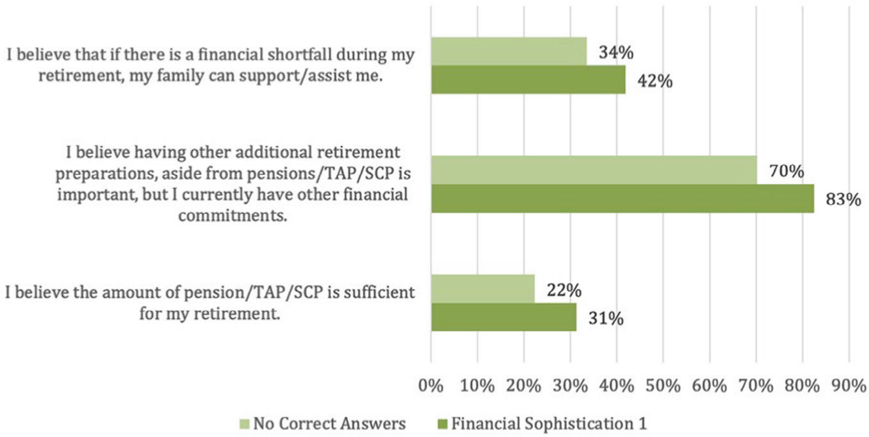

Fig. 13.10 Opinion of respondents on lack of additional retirement plan, by 'financial sophistication 1' (stated 'agree' and 'strongly agree') (%). *Source* Authors' calculations

Table 13.8 Chi-squared results: Opinion of respondents on lack of additional retirement plan, by 'financial sophistication 1'

No	Expectations	Results
1	I believe the amount of pension/Tabung Amanah Pekerja/supplemental contributory pension is sufficient for my retirement	$\chi^2(2) = 3.818, p > 0.10$
2	I believe having other additional retirement preparations, aside from pensions/ Tabung Amanah Pekerja/supplemental contributory pension is important, but I currently have other financial commitments	$\boldsymbol{\chi^2(2) = 7.768, p < 0.05}$
3	I believe that if there is a financial shortfall during my retirement, my family can support/assist me	$\chi^2(2) = 4.553, p > 0.10$

Source Authors' calculations

Table 13.9 Chi-squared results: Opinion of respondents on lack of additional retirement plan, by 'financial sophistication 2'

No	Expectations	Results
1	I believe the amount of pension/Tabung Amanah Pekerja/supplemental contributory pension is sufficient for my retirement	$\chi^2(2) = 3.026, p > 0.10$
2	I believe having other additional retirement preparations, aside from pensions/ Tabung Amanah Pekerja/supplemental contributory pension is important, but I currently have other financial commitments	$\chi^2(2) = 1.178, p > 0.10$
3	I believe that if there is a financial shortfall during my retirement, my family can support/assist me	$\boldsymbol{\chi^2(2) = 10.272, p < 0.05}$

Source Authors' calculations

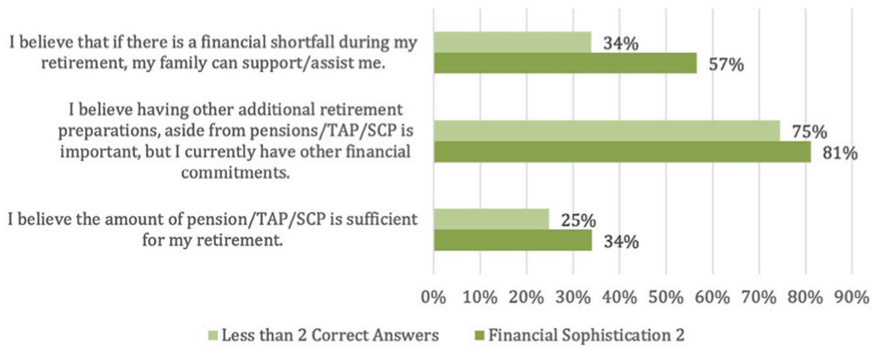

Fig. 13.11 Opinion of respondents on lack of additional retirement plan, by 'financial sophistication 2' (stated 'agree' and 'strongly agree') (%). *Source* Authors' calculations

sophistication 2' respondents (34%) who proposed the possibility of family support compared to the relatively less financially literate (25%) (Fig. 13.11).

13.6 Discussion and Conclusion

Given the research undertaken that demonstrates the significance of financial literacy around the world, the same can be argued in the context of this sample in Brunei. Even though the respondents are not a representative sample, the findings do indicate the value of financial literacy given the relationship between financial literacy and variables such as retirement preparedness. In light of this, it is possible to contend that knowledge of personal finance is vital to prepare for retirement. For instance, knowing how to calculate the amount needed for retirement requires some understanding of compounding and, once calculated, an individual has a better idea of whether there is sufficient income from the default retirement scheme. If deemed insufficient, a person is more likely to prepare effectively by, among other things, attending financial events or roadshows and making investments if needed through voluntary payments to a retirement scheme to supplement compulsory contributions. A good understanding of investments would also require knowledge of diversification and mutual funds, the latter being important for a country such as Brunei where there is currently no capital market for stocks and other such investment products.

Taken as a whole, such understandings of personal finance linked to retirement, and the subsequent decisions that follow, would mitigate retirement concerns. Further, the findings also indicate that financially literate respondents who have an additional retirement plan would also have a quality retirement plan, given that they tend to include the advice of a financial professional to prepare this additional plan. They are also likely to include land and insurance, which would mean the existence of an asset that appreciates over time and may provide rental income for retirement. Land and insurance can also be used for emergency planning purposes should the need to liquidate the land and file an insurance claim arise.

This study also investigates respondents without an additional retirement plan and finds that those without such a plan also include the financially literate. These people are likely to state either that they acknowledge the importance of an additional retirement plan but have other commitments ('financial sophistication 1' group) or that they have the financial support of family members should there be a shortfall in retirement income ('financial sophistication 2' group).

Aside from insights that emphasise the value of financial literacy, this analysis also suggests some areas for future research. The specific retirement concerns with cost-of-living standards, unexpected expenses and education costs are consistent across various groupings of financial literacy. Do the cost-of-living standards relate to inflation concerns, the lack of wage increases or other similar factors? Is the concern with unexpected expenses connected to a lack of emergency preparedness, through a dearth of savings and insurance? And do concerns about the cost of education and health care arise because of uncertain oil prices and government welfare sustainability? Aside from the specific concerns, the lack of an additional retirement plan also warrants further research. Qualitative research may be able to identify other reasons for not having an additional retirement plan and this may uncover factors outside of the remit of the current research.

As well as research on financial literacy, policy measures are equally important to consider. Based on the findings presented here, those with low-level financial literacy are relatively older, possess a pre-college qualification and are or have been employed in low-paying occupations. The challenge is that although Brunei is starting to manage financial illiteracy through public initiatives by the Central Bank and structural educational changes through the Ministry of Education, there is a transitionary period when the older, low-paying people and those with a more basic education may face retirement with low-level financial literacy and potentially insufficient retirement funds. The impetus here is the need for government policies to manage those who may get into financial difficulty in old age and fall into the 'surprise group' who realise their current standard of living is not sustainable after retirement. To combat this, more data on retirement fund sufficiency and the number of years away from retirement are needed to consider potential solutions, such as the viability of voluntary investments, expansive financial literacy initiatives at the workplace, an increase in the retirement age or other such policy implications.

Overall, this chapter aims at understanding the value of financial literacy for a sample of respondents in Brunei. Its value lies in specific aspects of preparations to retire, concerns on reaching retirement age and the composition of assets in a retirement plan. However, this merely scratches the surface in understanding other aspects that may be insightful and may add further context to understanding retirement issues. Such contexts may include socioeconomic and policy-related factors such as understanding preparedness for sudden shocks in old age, and the need to manage low financial literacy and a lack of retirement planning for those approaching retirement.

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Part III
Managing the Public Sector

Chapter 14
Leading through Performance Management in the Brunei Darussalam Public Sector

Thuraya Farhana Said

Abstract Brunei Darussalam has been undergoing significant changes as it takes on national and international challenges, particularly in diversifying its economy. These changes have provoked the need for a shift in the style and methods of government administration. In order to accomplish these reforms, performance management was initiated, falling under the umbrella of new public management. The primary goal of performance management is to improve performance by setting individual and team goals that are aligned with National Development Plans and Wawasan Brunei 2035 (Brunei Vision 2035). Performance management practices, such as strategic planning, balanced scorecards and key performance indicators, have been integrated into public sector organisations in order to measure the attainment or otherwise of objectives and targets achieved. However, aligning goals with the different levels of management within public sector organisations has proved to be a multifaceted and non-linear process as organisations have historically diverse and complex roles and strategic goals. Despite performance management being perceived as a solution to improve the effectiveness and efficiency of the public sector, it is necessary to understand how this practice, developed in a Western context, can be implemented for improvement in developing countries like Brunei, especially with different political and institutional systems that might constrain its implementation. This chapter provides insights into how performance management was introduced and implemented within Brunei's public sector, and assesses the extent to which it has brought about intended changes in the organisations, that is whether performance management was implemented ceremonially or instrumentally.

Keywords Brunei Darussalam · Public sector reform · Performance management · Key performance indicators · Institutional change · Strategic alignment

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14.1 Introduction

In recent years, there has been significant recognition of new public management ideas and approaches for public sector reform in both developed and developing countries in order to improve efficiency and effectiveness. New public management, developed in a Western context in the 1980s, has contributed to the efficiency of public administration practice by using private sector tools and practices (Bevan and Hood 2006; Harun et al. 2012; Rana et al. 2021). Performance management, a central feature of new public management, has emerged as a critical element in modern public sector governance, including in Brunei Darussalam. Introducing performance management into the public sector consciously aims to direct employees' activities towards achieving organisational goals by instituting a quality planning process. Teresa Curristine (2008: 211) defines performance management as 'a management cycle under which program performance objectives and targets are determined, managers have the flexibility to achieve them, actual performance is measured and reported, and this information feeds into decisions about program funding, design, operations and reward, and penalties'. This practice contrasts with the guiding principles of traditional public administration, where performance is driven by adherence to rules and procedures and controlling inputs based on what is expected to happen rather than efficiency and results.

Performance management is underpinned by several theories, particularly goal setting and expectancy (Vroom 1964; Locke and Latham 2002). Goal setting theory highlights that connecting goals to performance outcomes can motivate employees because they know what is expected of them and, at the same time, can be guided in their performance (Simpson 2013; Locke and Latham 2019; Varma and Budhwar 2020). Goal setting theory is in line with the concept of management by objectives which is associated with a strategic planning process. This involves cascading organisational goals and objectives to the different levels of management and individuals within the organisation, thereby helping to align the efforts of all organisational members towards a common goal. On the other hand, expectancy theory suggests that individuals can be motivated to excel in work and, in turn, deliver if they believe there is a relationship between effort and performance (Sloof and Praag 2008; Lee 2019). Drawing on goal setting and expectancy theories has made performance measurement and appraisal integral elements of performance management. Performance measurement quantifies the input, output or level of activity of a project or process to enable an evaluation of the broad organisational goals and mission (Fryer et al. 2009; Lee 2019). First, it is vital for organisations to specify goals and indicators clearly to reduce ambiguity and confusion and allow organisational alignment. Aligning the performance measures and targets between organisational and individual levels can motivate employees to arrange their actions to attain the goals. Second, these goals and indicators must be evaluated to understand the organisation's performance. The next stage is where performance appraisal becomes essential to performance management as they link the performance and the reward expected. In this case, the performance measures, appraisal and rewards system must be integrated. Otherwise, performance management can be meaningless without an apparent compensation for achieving the performance target.

Although studies reveal that many public sector organisations have undertaken new public management reforms, it should be noted that the reforms operate differently in various countries (Athmay 2008; Samaratunge et al. 2008; Harun et al. 2012; Sutheewasinnon et al. 2016; Nitzl et al. 2018; Lee 2019). The same applies to the practice of performance management, as scholars point out that contextual factors can moderate the effect of performance management in public sector reform. As a result, it is important to consider adapting performance management in light of the local organisational context due to differences in administrative and political structure, prevailing culture and fundamental needs (Bevan and Hood 2006; Koike 2013; Spekle and Verbeeten 2014; Lee 2019). Nevertheless, according to the Organisation for Economic Co-operation and Development (1997) and Curristine (2005), performance management has common objectives: efficiency and effectiveness, improved decision-making in the budget process and savings, and enhanced external transparency and accountability. While some countries have incorporated all these objectives (such as Britain, the United States and New Zealand), others may have rejected some and only embraced one or two (such as France, Lithuania and Indonesia) (Ferlie and Steane 2002; OECD 2002; Harun et al. 2012). The reason is that reforming according to new public management entails lessening or removing the contradictory nature or differences between public and private sectors to emphasise transparency, performance evaluation and accountability based on results (Bevan and Hood 2006; Pollitt and Bouckaert 2011). What will ensue is a fundamental shift in terminology and the basis of decision-making in the public sector. It can pose a challenge to the public sector's existing culture and identities to implement in its totality, as epitomised by Zoe Radnor and Mary McGuire (2004) posing the question regarding public sector reform in Britain: 'Performance management in the public sector: fact or fiction?'.

Nevertheless, developing countries, such as those in the Association of Southeast Asian Nations (ASEAN), began applying new public management ideas over the years. For example, Osamu Koike (2013) gathers public administration studies of Malaysia, Thailand, Singapore and Indonesia with regard to performance management, which was based on new public management reforms of the public sector (Table 14.1).

From Koike's data, the performance management experience in each country appears somewhat different in scope according to their context. Reform style and capacity are heavily influenced by different political, economic and social contexts, and so some reforms are subject to modification. While Malaysia, Singapore and Thailand introduced performance-based budgeting as part of their performance management initiative, this was not evident in the Indonesian public sector (ibid.; Jurnali and Siti Nabiha 2015). The idea of having budget reform was to achieve the efficiencies and resource savings by moving away from traditional and centralised line-item budgeting towards performance-based budgeting that can improve budget management and promote flexibility to focus on performance and results. Strategic planning tools such as performance agreements, performance measurement, balanced

Table 14.1 Introduction of performance management initiatives in selected Asian countries

Country	Programme	Key features	Year introduced
Indonesia	Government agency performance accountability system	Five-year performance, annual performance agreement	1999
Malaysia	Integrated results-based management system	Results-based budgeting system, results-based personnel performance system	1999
Singapore	Performance-informed budgeting system	Ministry report cards, focus on outcome	2006
Thailand	Performance agreement, strategic performance-based budget	Four-year performance plan, balanced scorecard	2003

Source Osamu Koike (2013: 348)

scorecards, key performance indicators and performance reviews were used as part of performance management initiatives in Indonesia, Malaysia, Singapore and Thailand. Each country has also established a dedicated government agency with some organisational restructuring, whether in local or central government, to implement a performance management system in their public sectors, such as the Performance Management and Delivery Unit in Malaysia and the Office of Public Sector Development Commission in Thailand (Lorsuwannarat and Buracom 2011; Siddique 2012; Xavier 2014; Sutheewasinnon et al. 2016). The idea of having a dedicated agency points to the critical roles of leadership and top management support committed to implementing performance management, as they are the ones who will oversee and advise the process.

However, implementing performance management in the public sector is not without unintended and deliberate managerial consequences (Bevan and Hood 2006; Fryer et al. 2009; Jurnali and Siti Nabiha 2015; Modell 2004). For example, developing measures for public sector organisations' multifaceted nature is more challenging than for the private sector and using performance information can be complicated. Some authors critique that public sector organisations have measured too many things and the wrong things, which can lead to perverse learning instead of a positive one (Waggoner et al. 1999; Locke and Latham 2002; Modell 2008; Nakrošis 2008; Fryer et al. 2009; Waal and Counet 2009; Jurnali and Siti Nabiha 2015). As performance improves, indicators can lose their sensitivity in detecting bad performance or identifying areas that require attention, or organisations may use performance information to manipulate their evaluations. This can result in a performance paradox where the reports do not reflect the actual situation. Even with the concept of balanced scorecards that many public sectors have begun to apply as a framework for performance evaluation, Sven Modell et al. (2007) argue that its usage can be limited, or even fail, because of the complex range of stakeholders involved in the government administrative system. Also, though some governments have claimed that they implemented performance-based budgeting and performance appraisal to support performance management reform, they were still loosely integrated (Hassan 2005; Athmay 2008; Norhayati and Siti Nabiha 2009; Jurnali and Siti Nabiha 2015). When this happens, it can serve little purpose and give minimal accountability to the organisation because it means performance targets can be disintegrated with resources, leading to performance indicators and information not being adequately set and used for improvement. As a result, performance management practice can become simply a data collection and reporting exercise rather than focusing on achieving efficiency and improving accountability (Nakrošis 2008; Jurnali and Siti Nabiha 2015; Surianti and Dalimunthe 2017).

In addition, ensuring the evolution of the right organisational management style and culture is vital to generating the desired behaviour within the public sector to produce improved performance (Nakrošis 2008; Nitzl et al. 2018). Organisational culture and management style can moderate the production and usage of information for the performance management process. Some studies find that the prerequisite result-oriented culture for performance management implementation was absent during public sector reform (Neely and Bourne 2000; Athmay 2008; Ferreira and Otley 2009; Jurnali and Siti Nabiha 2015; Fairul Rizal and Thuraya Farhana 2018; Harahap 2021). It becomes more about behaviour and procedural compliance than a real commitment to performance and has implications for the motivation to implement performance management. It is especially apparent when some public sectors used performance management tools, such as the 'traffic light colours' system for the balanced scorecards framework. Such a system tends not to be effectively used in a public sector organisation with high-power distance, hierarchical culture and high collectivism (Goh 2012; Fairul Rizal and Thuraya Farhana 2018; Harahap 2021). Studies show that hierarchical and high-power distance can inhibit employee ability to report and assess performance evaluation properly if the top management is not open to seeing actual progress, particularly regarding those targets in the 'red' zone that are not achieved. In some cases, the practice of performance management has resulted in impression management behaviour if there is pressure from the top management to show good progress and if there is a perception of possible punishment for failure. Christopher Pollitt (1986), Frank Ohemeng (2011) and Sanja Korac et al. (2020) believe that where there is a culture of blame, objective measurement becomes almost impossible since nobody wants accurate data made available. Employees may intentionally select and measure easier targets or suppress poor progress to show good progress, at the expense of the quality of the performance information provided and used.

Having proper integration of supporting reform policies is also essential for the performance management practice to influence the extent to which the performance information produced is used for organisational purposes. Some studies find that even though performance management practice existed in public sector organisations, the use of performance information was limited (Nakrošis 2008; Spekle and Verbeteen 2014; Nitzl et al. 2018; Korac et al. 2020). In other words, the performance information or results were not necessarily used—for making or supporting decision-making, improving public sector performance, determining budget allocations for resources or rewarding good performance. As mentioned earlier, if the supporting policies are loosely integrated, performance management practice can be less instrumental and become a data collection and reporting exercise. However, because of the pressure on public sector organisations to introduce and implement performance management as a reform, conforming to it can make the organisation appear legitimate and accepted in the political arena. Yet if performance management is not perceived as beneficial for the organisational members, it can adversely affect all performance management processes and the organisational buy-in to performance management (Nor Aziah and Scapens 2007; Korac et al. 2020; Harahap 2021). In other words, it does not necessarily shift the attitudes and behaviour of organisational members to become more performance oriented. Another critical aspect is the implementer's knowledge and technical capacity to introduce performance management and its processes at the organisational or individual level. Without a complete knowledge of performance management, it can complicate and prevent implementing performance management to transform the public sector instrumentally and achieve performance management objectives.

Regardless of concerns raised by some studies on performance management in the public sector, there is still strong enthusiasm for implementing performance management and its uptake is also apparent in the Brunei public sector. This chapter's aim is to explore its implementation as there is little discussion in the literature about the commitment to performance management in the country. From an initial analysis of public media prior to 2012, little progress appears to have been made in the efficiency of resources despite the introduction of performance management. This study aims to contribute to knowledge about reform in the Brunei public sector by drawing on participants' experiences of how performance management practice has been adopted and implemented. It provides valuable insights for policymakers to understand the dynamics of performance management practice within the managerial, organisational and institutional context and the extent to which the adoption and implementation of performance management are instrumental. This chapter is divided into four parts. Section 14.2 describes when and how performance management was introduced in the Brunei public sector. Section 14.3 explores the key policies that support the implementation of performance management. Based on empirical findings, Sect. 14.4 presents insights into the nature of performance management implementation within some organisations. Section 14.5 provides a conclusion and some recommendations.

14.2 The Introduction of Performance Management in the Brunei Public Sector

The economy's over-dependency on the hydrocarbon industry has become a concern for Brunei. Economic diversification was adopted as a national plan goal as early as the 1960s, but it was only in the 1990s (almost a decade after independence) that efforts and attempts at diversification became more vigorously expressed (Bhaskaran

2010). However, diversification has proved incremental so far, which is surprising given that Brunei has considerable financial and infrastructure resources and a high degree of political stability (Neville 1985; Athmay 2008; Abdul Amin 2010). Brunei has not lacked for plans to diversify its economy, and some key industries, such as information technology, tourism, banking and finance, were identified to foster economic growth. However, not all plans could take off and progress has been much slower than anticipated, implying that the diversification plans were not easy to implement. This shortfall highlights the crucial role of the public sector in national development goals, but it seems that the centralised bureaucracy has taken its toll on the efficiency of the government, which has indirectly restrained diversification (Azaharaini 2007; Athmay 2008; Bhaskaran 2010; Lawrey 2010). An example is mentioned in an early report on diversification: ‘Brunei is unnecessarily slow and bureaucratic with respect to private sector activity. Brunei suffers from much needless bureaucracy, red tape, and slow decision-making, affecting private businesses’ (Crosby 2007: 6).

The centralised bureaucratic system has set the policy environment for economic growth and development for a long time. It devised and implemented a succession of national development plans from 1954 to the present (Ismail and Tharumarajah 2010). In such an economy, where the public sector is considered the main agent of economic growth, it becomes imperative to have an efficient and effective bureaucracy, especially if it is by any measure large. It could be argued that if the size of the public sector is too large, it can lose its effectiveness in organising efficiency due to a high degree of formalisation and centralisation. In the case of Brunei, the dominance of the public sector in the labour market is evident, since most graduates opt to work in the sector due to a more reliable and sustained source of income (Siti Fatimahwati and Siti Rozaidah 2020). In 2019 the public-to-private sector employment ratio was around 40:60 and in 2022 it was 30:70 (DEPS 2019, 2022). The civil service was divided into five divisions: the first division for directors and managerial staff, including permanent secretaries, the second division for executives, the third for supervisory and skilled technical staff, and the fourth and fifth for support staff (Brunei Resources 2005). It thus became imperative for Brunei to improve its public sector efficiency due to its large size, especially since the public sector has experienced both success and failure with the National Development Plans. As a result, reform was deemed necessary in order to build an enabling environment for diversification to happen (Crosby 2007; Siddiqui 2012; Mohd Rozan and Milojević 2016).

Like neighbouring countries, Brunei has been subjected to many new public management ideas before performance management in the search for solutions to improve its public sector. A list of some reform policies and initiatives based on new public management ideas that were introduced and implemented is outlined in Table 14.2.

There are no apparent records of the success or otherwise of policies and initiatives introduced as reforms, as they were not disclosed to the public. However, according to previous studies, several reasons were identified that appeared to impede diversification progress from the public sector side: lack of ownership of programmes; lack of

Table 14.2 Brunei Darussalam: Reform policies and initiatives for performance improvement

Year	Programmes
1988	Performance appraisal
1990	Review annual plans for public service
1992	Annual bonus
1993	Civil Service Excellence Award
1995	Clients Charter
2000	Civil Service Vision of 21st Century
2000	Annual report
2002	Manual work procedures
2003	National Strategic Alignment Programme
2007	Introduction of Wawasan Brunei 2035 (Brunei Vision 2035)
2014	Establishment of Peneraju Gagasan Gemilang untuk Rakyat (PENGGERAK, Piloting Exclusive National Goals, Gearing Excellent Results and KPIs*)* steering committee
2015	Public sector performance grading programme
2017	Performance management system

Sources Brunei Resources (2005), Pang (2017)

business management capability; lack of consultation and coordination among relevant key players; lack of commitment by senior leaders and the existence of some non-business-minded civil servants (Azaharaini 2007; Siddiqui 2012; Mohd Rozan and Milojević 2016). Ayman Adhair (2005: 24) also points out some common issues faced by governments of developing countries, including Brunei, which include ‘the role of the ministry is often not clearly stated; service delivery is generally poor, and performance measurement is not practiced efficiently’. These shortcomings highlight the need to cultivate effective organisational planning, aligning, monitoring and reviewing process. The importance of implementing the practice was recognised as early as the 1990s when the sultan gave a speech as a directive to the civil service: ‘Ministries must analyse and assess their existing organisational structure and policy planning in their respective ministries … to ensure they are meeting the needs and the requirement of the nation’ (Hajah Sainah 2005: 97).

The initial requirements of performance management in the public sector resulted in the introduction of the National Strategic Alignment Programme in 2003. The programme aimed to drive government organisations towards achieving the national vision via strategic planning with performance targets and justifying the organisational plans for budget allocation. However, it should not be assumed that there was no prior system measuring organisational performance. Organisational performance was assessed through annual reports, a financial statement audited by the auditor general, and individual performance was assessed through performance appraisal. However, the National Strategic Alignment Programme intended more transparency and effective coordination between ministries and with better tools. Since then, performance management tools such as balanced scorecards and key performance indicators,

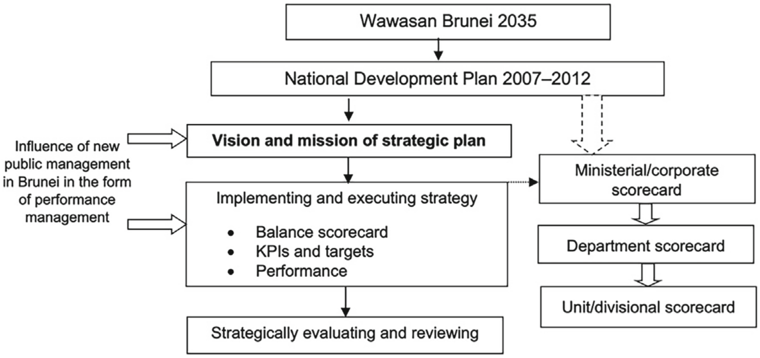

Fig. 14.1 Brunei Darussalam: Strategic planning process with performance management practices

were introduced in public sector organisations to measure performance objectives and targets achieved or otherwise.

All public sector strategic plans were supposed to align with the Civil Service Vision of the 21st Century, which was introduced in 2000 (Brunei Resources 2005). However, in 2007, when the Brunei government introduced the Ninth National Development Plan (2007–2011), it prompted a shift in the strategic planning process. This plan was formulated to provide a long-term development framework of 30 years, in time becoming Wawasan Brunei 2035. Through this strategy, the government aspires to achieve an educated and highly skilled population, a high quality of life and a conducive business environment (Brunei Darussalam 2024). Starting in 2007, all strategic plans had to align with Wawasan 2035 and cascade down the government hierarchy from the ministry level to the division level (Fig. 14.1).[1] However, there was a lack of attention to the integration of organisational-level and individual-level performance management.

The Ninth National Development Plan also highlighted a crucial issue that accompanied most of the country's plans—the implementation of development programmes and projects. Adhair's (2005) argument about the poor practice of performance measurement can be seen in the statistics of the Seventh National Development Plan (1996–2000), in which '53% were completed, 12% were approaching completion, and 12% were being implemented by the end of the Plan period, while the rest were either still at preliminary stages, suspended or cancelled' (see also Azaharaini 2007; Mohd Rozan and Milojević 2016). A similar concern was seen in the statistics of the Ninth National Development Plan, as reported by Ubaidillah Masli (2013) in the

[1] With performance management in the Brunei public sector, a three-level strategic planning system was put in place, linking long-, medium- and short-term strategic documents into one framework (Abdul Amin 2010). In the first stage, strategic planning attempted to systematically link the ministry's strategy to government strategy. For example, the national vision and the respective national development plan goals would be cascaded down to the ministry level and the incorporated into a five-year plan for each organisation. The five-year plan would include goals, key performance indicators and balanced scorecards. In implementing and executing strategy stage, action plans were established and risk analysis conducted in accordance with organisational strategies.

Brunei Times: 'Two-third of projects (from) the 9th NDP would be carried forward to the 10th NDP (2012–2017), accounting for just 36% of the projects (in 9th NDP) approved and completed'.

To meet the need for better implementation of national development plans and projects, the executive committee of the Tenth National Development Plan (2012–2017) called for several public sector reforms to be introduced. The objectives to ensure transparency and accountability, especially in terms of more objective project and programme monitoring and evaluation, were included so that the implementation of the plan would be of a higher quality and achieve the targeted goals on time (DEPS 2012). In other words, efficient and robust governance in the public sector was seen as a catalyst in achieving Wawasan Brunei 2035. This view has implored the need for performance management to be implemented in public sector organisations over time by setting specific directions through strategic planning and objectives and measuring what has been accomplished, thereby ensuring that all public organisations are strategically focused on progressing the country according to its national vision and goal of diversification. The movement towards implementing performance management within public sector organisations has steadily gained importance over the last two decades, since the introduction of the National Strategic Alignment Programme. The programme was to have a biennial symposium for all government ministries to foster strategic alliances and coordination between them. The permanent secretaries and directors of ministries would attend and share their strategic plans, performance development and key results. Consequently, the organisations involved in the symposiums would work to align their strategies to the national vision, hoping to avoid wastage and duplication in the administration (MSD 2004, 2006). Before the programme started, most ministries did not have or produce strategic plans; as a consequence, every ministry attempted to introduce strategic plans and utilise performance management practices and tools to conform to the programme.

However, there was no standard rule or guideline on implementing performance management. Instead of a dedicated agency, only an ad hoc committee existed to guide performance management implementation and monitor strategic plans and reviews. It was up to each ministry and department to modify and make the existing strategic plan consistent with the government strategies. Nevertheless, a consultant was hired by the central government to help the ministries implement the national strategic alignment programme and performance management. In 2005 the guru of the balanced scorecard, Robert S. Kaplan, was invited to Brunei to educate its public sector and civil servants about balanced scorecards and how they could be used as a performance management tool. Although balanced scorecards were initially developed for profit-making organisations, it was suggested that they could be adapted for public sector organisations (Northcott and Taulapapa 2012). The balanced scorecard can serve a dual role in public sector contexts: as a measurement instrument to guide performance and a means of enhancing accountability and responsibility (Kaplan and Norton 1992; Goh 2012). Relevant training courses for performance management, such as strategic management and balanced scorecards, were and still are offered at the Civil Service Institute, a government training institute, but have yet to be made compulsory for all officers, only for selected middle managers and above.

Unfortunately, the National Strategic Alignment Programme became inactive after a few years. The compilation of performance information and the gathering of ministries' top executives at the symposiums seemed challenging to implement.[2] The National Strategic Alignment symposium was to be organised every two years starting in 2003, but since then, only two more symposiums have been held, in 2005 and 2007. The next one was supposed to happen in 2009, but it was postponed. The Management Services Department, which was directed to organise the symposium, had little authority to push for implementation as its role was an ad hoc committee-like function. In the three symposiums, not all ministries participated despite it being mandatory. There were also occasions when agencies were prompted not to discuss and share their strategic plans and progress due to 'confidentiality issues'. This view corroborates the findings of Mahani Hj Hamdan and K.C. Patrick Low (2013) on the wariness towards 'sensitive' issues within the Brunei government. To some extent, the concept of a strategic plan and performance management tools was not yet fully understood, which affected its implementation (Adhair 2005). Thus, in terms of capability, the poor readiness was reflected in the National Strategic Alignment symposium reports, despite improvements in each symposium. By 2007 the symposium report shows that the use of performance management tools, such as balanced scorecards, was still at an unsatisfactory level, and key performance indicators were unclear and inconsistent within the strategic plans. As a result, over the years performance management's role became of utmost importance as the sultan has repeatedly mandated through his speeches that his ministries employ performance management-related tools, such as performance measurements or key performance indicators, to assess their project's performance. For example, in conjunction with the sultan's 64th birthday in 2010, he declared: 'I want our civil service, on an ongoing basis, to assess the strengths and weaknesses based on the key performance indicators that respective ministries and departments have set … can measure the extent to which the civil service is unable to perform its obligations and meet the expectations of the public' (PMO 2012). Ten years later, in conjunction with Brunei's 28th National Day celebration in 2020, the sultan declared: 'In our journey towards achieving the target of Vision 2035, we need to be more agile and assertive. Any target missed or delayed needs to be accelerated and put back in place. Well-mapped-out plans are a basic necessity. Moreover, for accomplishments, the targets need to be measured more objectively'.

Despite some performance management tools and processes being practised by some public sector organisations as early as 2003, the government formally mandated a performance management system in 2019 to be implemented in all public sector organisations (PMO 2019). This move has made the prominent role of the performance management in the public sector even more apparent. It can be argued that through the introduction of the performance management system the government

[2] Based on interviews with the Management Services Department (2012) that was mandated as an ad hoc team to look after the National Strategic Alignment Programme.

signalled its intention to produce a comprehensive performance-based culture for organisational success when a new individual-level performance management was introduced to compensate for the previous performance management format. In other words, performance targets and key performance indicators were imposed to connect the individual level with the existing organisational performance management to ensure greater alignment. At this time, the concept of performance measurement and key performance indicators were again emphasised through the sultan's speech during the Public Service Day celebration in 2017:

> the New Performance Management System [is] for all civil servants. The objective is to ensure that the assessment of work … is carried out fairly and transparently, reflecting true contributions of every employee… the assessment system must focus on key performance indicators (KPIs), besides competency evaluation … [that] will contribute more to productivity and competitiveness in providing quality public services as well as promote innovation as a work culture … which will greatly benefit the economy. (PMO 2017b)

In 2014 Majlis Tertinggi Wawasan Brunei 2035 (Supreme Council of Wawasan Brunei 2035) was formed to provide policy direction and ensure the implementation of policies of strategic vision are consistent, coherent and sustainable. The council is performance management at the national level. In the same year, Peneraju Gagasan Gemilang untuk Rakyat (PENGGERAK, Piloting Exclusive National Goals, Gearing Excellent Results and KPIs) steering committee was also established to assist the Supreme Council in coordinating related strategies and policies of the national development plan agenda at the highest level. The committee is in charge of producing a framework of key performance indicators that would monitor Brunei's performance towards achieving Wawasan Brunei 2035 (Abu Bakar 2016; Government of Brunei 2024). At this point, performance management's crucial role became even more obvious. It was needed to move the public sector towards a dynamic, results-based form of governance that could strengthen its institutional capacity to carry out its national objectives as outlined in Wawasan Brunei 2035. However, the PENGGERAK steering committee was dissolved in 2018 and the Supreme Council absorbed its role. The main achievement of PENGGERAK before its dissolution was that Brunei's ranking in the World Bank's Ease of Doing Business index improved from 105 in 2014 to 72 in 2017 and Brunei was named the most improved country in the 2017 Ease of Doing Business report (Pang 2017).

14.3 Key Policies Supporting the Implementation of Performance Management

The previous section showed how the public sector was moving in the direction of new public management with an emphasis on performance management, which was initially adopted in 2003 and revised several times in 2007 and 2017. Because of the performance management-related speeches from the sultan, public sector organisations decided to implement performance management as it was deemed to have a high degree of rationality. However, to understand the reality of performance management implementation, the policies and systems that shape and influence its implementation must be considered. For example, performance management should be aligned with critical management policies such as budgeting and human resources; otherwise, the extent to which organisations implement it effectively and meaningfully is debatable. As previous studies report, when governments have adopted performance management to become more results oriented, the performance management system and budgeting would be linked (Curristine 2008; Samaratunge et al. 2008). Curristine (2008) defines performance budgeting as relating allocated funds to results measured in the form of outputs and outcomes. This is to ensure efficiency in managing public resources. However, this would require shifting the emphasis of budgeting and accountability from controlling inputs to achieving results by linking the budgeting allocation to productivity through performance indicators. While the public sectors in other countries have introduced budgetary reforms following the adoption of performance management, the budgetary system and public auditing in Brunei are still in line with traditional financial controls and compliance with rules and regulations governed by legal requirements that are quite dated, such as the Audit Act 1960 and the Financial Regulations 1983 (Athmay 2008; Koike 2013).

The budget process still follows a traditional incremental approach with changes decided mainly on the basis of items in the previous budget. It is passed through negotiations and adjustments between the Budget Section at the Ministry of Finance and Economy and each of the relevant ministries. Any balance remaining after the lapse of the financial year cannot be carried forward to the next year (Hajah Sainah 2005). In terms of the financial audit, the main task is to make sure that financial activity conforms to the regulations concerning the budget allocated and to report non-compliance with financial regulations or any mismanagement of funds, without considering whether the objectives of government programmes or projects have been achieved (Yapa 1999; Athmay 2008). Although the Audit Act, Section 67(2) authorises the Audit Department to inquire whether ministries and departments have achieved efficiency and effectiveness in the use of public resources, this is still not the primary purpose of an audit nor mandatory for them to do since they do not control performance measures. Moreover, financial accountability does not lie with the public or the legislature but with the prime minister (Yapa 1999, 2014; Athmay 2008). This is because most government revenue is not derived from taxation and the budget is approved by the Legislative Council. As a result, the issue of a lack of external transparency has become common, something highlighted by the World Trade Organisation concerning trade policies:

> Brunei's institutional framework is characterised by a lack [of] [external] transparency … [which can be] to the detriment of government accountability. In particular, there is no independent body to evaluate government policy, and, as a consequence, [it can] provide an impetus for reform of policies that are found to be ineffective. (cited in Yapa 2014: 11–12)

Although moving towards being performance oriented may theoretically stimulate demand for performance budgeting and auditing to ensure strategic plans and budgeting are linked towards output/results and set key performance indicators to achieve them, the processes related to performance management in public sector organisations were not necessarily linked to budgeting.

Aside from the budgeting process, the human resources process regarding rewarding employees can be seen as separate from the performance management in the public sector. The performance appraisal used by the government was introduced in 1989 and underlined the principles of promotion and financial incentives. The appraisal was conducted in September each year. As time passed, the reliability of the performance appraisal has been questioned. Many perceived and accepted it as an annual ritual, in which inadequate or unclear job descriptions made appraisal difficult (Brunei Resources 2005). In 1992 the government introduced an annual bonus system to complement the performance appraisal system (PMO 1992). The yearly bonus was given out after a performance appraisal on which at least a 'satisfactory' assessment was obtained. However, this was not seen as an incentive to perform as managers and employees received the same bonus (one month's salary) irrespective of their performance grades (between A and D). Thus performance appraisal has been mainly used to decide bonuses, approvals for studies (and training abroad) and promotion. In 2000 an attempt was made to implement a performance-based bonus system where employees would get their bonus based on their grades of performance appraisal and the annual bonus system was restructured (PMO 2000). The differences between the annual bonus system concerning appraisal grades in 1992 and 2000 are shown in Table 14.3. It should be pointed out that government organisations are non-profitmaking; practising pay-for-performance to reward employees, as in the private sector, can be a challenge. The 2000 annual bonus system was not received well. Consequently, it was revoked, and the government readopted the 1992 bonus system, which is still in use today despite the introduction of the 2017 performance management reforms. In sum, a noticeable lack of a performance-based reward policy advocated by performance management practice can affect the intention of inculcating a performance-based culture in public sector organisations.

One of the more significant processes of performance management is the translation of organisational/departmental/unit goals into individual key performance indicators in order to link organisational and individual performance (OECD 2002). However, with the 2003 National Strategic Alignment Programme, such a link appeared to be missing in the performance management process and most strategic

Table 14.3 Brunei Darussalam: Difference between the bonus rate in 1992 (still in use) and 2000 (revoked)

Category	Evaluation	Circular No. 7/1992	Circular No. 12/2000
A	Excellent	100	100
B	Very good	100	85
C	Good	100	75
D	Satisfactory	100	50
E	Needs improvement	50	25
F	Unsatisfactory	0	0

planning and alignment (Brunei Resources 2005). According to the OECD (2002), a performance appraisal should be closely linked with performance management to assess to which extent the individual could achieve the agreed targets and why specific goals could not be achieved. The missing link between performance appraisal and key performance indicators affected managers' and employees' motivation to implement performance management activities. Azaharaini Hj Mohd Jamil (2007) also argues that the performance appraisal did not emphasise individual personal and professional development, as anticipated in performance management practice. Even with the introduction of Wawasan Brunei 2035 in 2007, the lack of integration between performance management and performance appraisal processes still prevailed and, as a result, the ministries' performance management process focused primarily on the organisational and departmental (or divisional) levels. In 2017, when the performance management system was introduced, there was an attempt to link performance appraisal to individual performance management via key performance indicators. In other words, the outcomes of individual key performance indicators are reflected in the performance appraisal. Instead of being appraised annually, managers and employees are to be monitored and reviewed three times a year.

Two critical processes—budgetary and human resources—have yet to be reformed to support the full implementation of performance management. Theoretically, public sector organisations' strategic planning must cohere with the national vision, national development plans and budget. Without this integration, conflicting organisational priorities and objectives can result. The integration was also supposed to enable the status quo to be challenged in favour of a structural, cultural and behavioural shift to establish a more transparent, accountable and effective public sector in achieving its national goals. Despite shortcomings, public sector organisations have taken the initiative and begun formulating their strategic planning and implementing their performance management system.

14.4 Exploring the Nature of Performance Management Implementation in Public Sector Organisations

Although several new reforms were introduced in the public sector, at this point of writing the key empirical findings presented here are only based on the data collected between March and August 2012.[3] The data revealed the development of performance management practices in the Brunei public sector, the influencing factors to its implementation, and how a practice developed in a Western context unravelled in a different context. Thus, to generate an in-depth understanding of performance management in the Brunei public sector, a case study approach was adopted, and five

[3] While the 2017 performance management reforms are not included in the data analysis, the findings are still highly relevant to learning about the development of performance management in the public sector and how it was implemented. This offers an opportunity to understand the complexity within a certain period and suggest an improvement for current or future practice.

governmental organisations were selected at the time based on the following criteria: (1) a performance management system had been introduced and was available to be studied in the organisation, and (2) the period of initial performance management implementation was different for each case to provide the opportunity to compare and understand the events that took place in the process. This is an approach that enables researchers to generate an in-depth, multifaceted understanding of an issue, in this case performance management, in its real-life context. The selected case organisations are shown in Table 14.4. Once the research access was obtained from the respective organisations, interviews with 80 organisational members from different organisational levels (top, middle and lower-level management) of all five organisations were carried out to gather primary information. Document review was used as a complementary data collection method before the analysis was drawn. Thus several internal documents such as organisational strategic plans, reports, consultancy and conference papers, minutes of meetings and other related documents were also reviewed. Informal conversations and observations were also made during the research visits to the case organisations.

The findings show that although there was strategic compliance within the organisations to implement performance management, given the institutional pressures and directives from the government, its performance management-related activities and processes were primarily decoupled from the existing organisational practices. The concept of decoupling is used to describe a different but interdependent relationship between ceremonial and operational practices. The previous section highlighted some elements of prevailing processes, such as budgetary and human resources, which can be seen later to have contributed to the decoupling of performance management. This raised questions about the objective of performance management in the public sector. In hindsight, this study suggests that the purposes of performance management in the public sector were not necessarily related to saving and improving efficiency, as budgeting was not one of the main instruments of performance management. The budgetary process was not integrated accordingly. Therefore, the contribution of performance management to this objective has been limited. It was still apparent in some organisations that even though performance management was not used to determine budget allocation, performance management can be seen as instrumental in diagnosing the issues related to organisational improvement. In other words, external transparency may not be one of the objectives of implementing performance management, as reporting of their performance to the national strategic alignment committee was limited. However, as a diagnostic tool, performance management helped increase internal transparency and accountability.

When the National Strategic Alignment Programme started in 2003, there were no standard guidelines or a dedicated agency to assist in developing strategic plans and implementing performance management processes, setting the proper key performance indicators, and aligning goals and targets to the national developments (Brunei Resources 2005). An ad hoc department was assigned to administer the programme and collect performance reports for the symposium. However, they had limited capacity to handle the programme. Moreover, this was not part of the ad hoc members' core business and so they were not specially trained for scrutinising performance

Table 14.4 Comparison between the case study organisations of the implementation of performance management

	Ministry A	Ministry B	Ministry C	Department D	Department E
When the strategic plan was introduced	2004 (first) 2007 (second) 2011 (third)	2000 (unofficial) 2009 (first official plan)	2008	2010	2008
Performance management framework	Balanced scorecard and key performance indicators	Balanced scorecard and key performance indicators	Key performance indicators	Balanced scorecard and key performance indicators	Balanced scorecard and key performance indicators
Team that looked after performance management process	Office of strategic management (OSM)*	Ad hoc OSM under strategic planning unit	OSM (previously a division)	Ad hoc administrative service transformation initiatives unit	Strategic management unit
The position of OSM/ strategic team in the organisation	Dedicated department	Ad hoc unit under a division	Department with multiple responsibilities	Ad hoc division with multiple responsibilities	Dedicated unit under a division
Performance management reporting system	In-house system (Excel) After 2010: performance management information system	Email or paper document	Email or paper document	Email or paper document	Email or paper document
Strategic committee	Strategic management group	Strategic planning group	Management group	Management group	Management group
Chair of strategic committee	Deputy minister of the ministry	Deputy permanent secretary of the ministry	Deputy permanent secretary of the ministry	Director of the department	Director of the department

Note Ministry A, B, C, D and E refer to specific ministries, but for confidentiality they are not named

* The office of strategic management (OSM) is deemed very important for the performance management process as it is the institution within the organisation to support implementation. The OSM prepares and designs, oversees and monitors all strategy-related activities and ensures all departments and units support and align their activities with the corporate strategy. The OSM also collects performance information and conducts performance reviews for decision-making and creates meeting agendas with the strategic committee (Razak and Hidayat 2016)

reports in the performance management way. As a result of there being no lead agency of performance management in the whole government, the individual organisations took the initiative to prepare their strategic plans and developed performance management reporting. This led to divergences in performance management practice between the organisations in terms of when performance management was formally introduced, the framework created for performance management, teams that looked after the process and the position of the team/office (Table 14.4). The performance management tools and framework adopted were coherent in all organisations—the balanced scorecards and key performance indicators. Perhaps this resulted from the constant government reminders to use such tools in their performance management process. It was also consistent in all organisations that their performance management processes were established only down to departmental and divisional levels without a link to the individual level, which meant individual key performance indicators were unavailable.

The findings strongly suggest that the variation in performance management practice stemmed from the differing ranks of the organisations' strategic committee chairs who held the authority to influence implementation. The role of leadership and top management is crucial for implementing performance management because their commitment and prioritisation influence the way organisational members act and feel about performance management and the way strategies and performance measures are established, determined and adopted. Kaplan and Norton (1992), who are well-known pioneers of balanced scorecards, suggest that having an office of strategic management is essential to managing performance management processes and that this office will be most effective when it has direct access to a chief executive officer (CEO) of the organisation because the execution of strategy requires ongoing changes that only the CEO has the power to authorise. However, as seen in Table 14.4, there were variations in how the office of strategic management was established (whether ad hoc or dedicated) and positioned within the hierarchical layers of management—how close it was to the CEO of the organisations for decision-making—and established the reporting system—whether using information technology or a paper-based system. Ministry A was seen as the most active in implementing performance management among the case studies. The ministry took the lead in timing as its first strategic plan was published in 2004, while the others started after Wawasan Brunei 2035 was introduced in 2007. The ministry also seemed to closely follow Kaplan and Norton's suggestion by putting the office of strategic management close to its second-highest hierarchical authority, the deputy minister, and making the critical organisational members involved in the process report directly to him. To improve the implementation of performance management, the ministry also hired consultants to assist with its related strategic activities and selected only those who had graduated in strategic management or had an equivalent background to office of strategic management directors. An information system was created to help the ministry collect, monitor and report performance information to ensure timely information for performance evaluations.

Because the chair of the strategic committee at each organisation was at a different management level, the findings show that such an arrangement appears to have influenced the extent of the organisational members' willingness to comply with performance management implementation. It was because the chair at various hierarchy levels had different understandings of how performance management should be implemented and gave different degrees of importance and priority to the implementation process in their organisations. For example, each organisation positioned its office of strategic management differently from its existing organisational structure (Table 14.5). The table shows that the offices of strategic management in Ministry B and Department E were somewhat bound by bureaucratic reporting to the chair of the strategic committee, which can slow down performance management processes. Also, the offices of strategic management in Ministry B and Department D were ad hoc units, meaning performance management processes were carried out more on a makeshift basis rather than as part of the unit's core activities.

Nevertheless, rather than expecting some differences in the effects of performance management across the case organisations because of their variations in the implementation, the findings show that there was significant similarity in the practice of performance management across the cases as they were subjected to similar institutional constraints such as limited integration between strategic planning, budgetary and human resource processes. This had implications for how performance management was legitimised by the chair of the strategic committee of all organisations and their members, as the influence of existing processes was stronger than implementing performance management. For example, since there was no connection between strategic planning and budgeting, performance information was not a source of decision-making. Performance management was perceived more as an optional than a core practice; it became a matter of 'habitual reporting' (Fairul Rizal and Thuraya Farhana 2018). It was apparent in the accounts of most senior officers that there was some frustration that information from the performance management process could not be used to support and justify the additional financial resources needed for the organisations' projects according to their priorities. Even if there was

Table 14.5 Position of office/unit of strategic management

	Ministry A	Ministry B	Ministry C	Department D	Department E
The position of OSM/strategic team in the organisation	Dedicated department	Ad hoc unit under a division*	Department with multiple responsibilities	Ad hoc division with various responsibilities	Dedicated unit under a division
Based on the position of OSM, the members report to:	Director with direct access to the deputy minister	Unit head who is three levels below the permanent secretary	Director with direct access to the deputy permanent secretary	Director	Unit head who is two levels below the director

Note * In this context, a department is further divided into divisions, and so a division is smaller than a department; the head of a division reports to a head of a department an attempt to use the performance reports to determine budget reallocation, the budget was still a constraint. As a result, according to most interviews, this had implications for performance measurement setting and the reporting and use of performance information. In all cases, it was apparent that most of the key performance indicators were process indicators rather than performance indicators, risking inducing ‘tunnel vision’ or merely ‘box ticking’ to fulfil the government’s requirement in implementing performance management. There were instances when key performance indicators were not regarded as necessary because, when some key performance indicator targets were not met due to budgetary explanations, the reasons seemed to be routinely accepted without a penalty being imposed. For example, because of budget/resources constraints, some targets that required resources resulted in delayed projects and targets became unachievable. These constraints were considered acceptable to justify all actions or inactions because strategic planning and budgets were not linked.

At the same time, the insufficient link between performance management and performance appraisal could result in an unintended consequence, such as a lack of commitment and motivation from the organisational members to implement performance management (cf. Fryer et al. 2009; Northcott and Taulapapa 2012; Jurnali and Siti Nabiha 2015; Sutheewasinnon et al. 2016). The performance management processes, such as developing targets, collecting and analysing data, and presenting performance information and/or reports, were perceived by most interviewees to have increased their workload and led to a digression from their primary tasks. This resulted in less commitment and more compliance, where ownership had little meaning. Instead of seeing the benefits of the performance management process, it appeared to have increased a kind of ‘formalisation’ that was burdensome and created dissatisfaction among the interviewees. It was the norm to give reasons, such as ‘busy’ or ‘other important work’, for not meeting targets or submitting their reports on time. The role of performance management as an accountability system was not materialised. It was thus customary for performance management activities, such as reporting and monitoring performance, to get sidelined and eventually dismissed, as the process was considered optional. This is inconsistent with the literature that suggests that performance management can enable or direct employees to prioritise organisational objectives. When performance management was decoupled from performance appraisal, most interviewees did not feel they needed to support or trust the system. They felt psychologically disconnected from the process without a proper reward, resulting in low priority performance management. In other words, the organisational members perceived performance management as irrelevant to their role; hence they lacked real commitment. In turn, this had become a challenge for offices of strategic management in respective organisations to get performance information and reports on time for the strategic review meeting. Nonetheless, despite lacking linkages between performance management, budgeting and appraisal, performance management was still seen as beneficial for the organisations to provide ‘checks and balances’, which suggests that when in use it had a diagnostic purpose of identifying areas that required attention and that improved the internal transparency of organisational activities.

However, shortcomings were not necessarily the result of a lack of commitment in some cases but rather a lack of competence. While some organisational members understood and knew how to execute performance management processes, the findings show that a low level of understanding of these processes was also prevalent. Even interviewers at the senior level had negative accounts of performance management-related training, which led to a poor level of readiness in terms of cascading down information, setting targets and analysing performance data or information for reporting. Those organisations with inadequate information technology to support the process had to do performance evaluation and reporting manually. In some cases, adopting 'tunnel vision' was inevitable and was not done on purpose but was due to a lack of skills and understanding of how targets were to be measured and reports produced. However, the lack of priority given to training might have come from the low perceived usefulness of performance management as an instrumental tool.

What also needs to be taken into account is the challenging nature of quantifying the outcome of the activities in the public sector (Modell 2008; Fryer et al. 2009). In other words, setting outcome-based targets in the public sector was considered problematic. That could be a reason why the targets being process indicators were apparent in all case organisations. As a result, the evaluation of performance information tended to focus more on the process than results, but this may lead to ossification. When an indicator is no longer relevant, it is not revised or is removed to give a superficial appearance of its existence (Thiel and Leeuw 2002; Norhayati and Siti Nabiha 2009; Rautiainen and Järvenpää 2012). Most organisations had hired consultants to help put a performance management system/framework in place, but the performance management process still appeared to be carried out intermittently. As Mohd Rozan bin Dato Paduka Haji Mohd Yunos and Ivana Milojević (2016) argue, many plans done by external consultants were usually commissioned for a limited period, thus affecting the continuity in implementation, especially when there was limited capacity to take over. This had implications for strategic management reviews or meetings when performance report submissions tended to be low.

From this discussion, it can be argued that, due to the missing link between existing human resources and budgeting processes and performance management, the latter was perceived as a secondary priority. Not all organisations were enthusiastic about performance management. The leadership's role therefore became of utmost importance for the implementation as a formal obligation to the government. Although the idea of performance management was supposed to be underpinned by performance-driven goals, in practice it was perceived as justified by the principle of hierarchical authority. In other words, the commitment from the organisational members towards implementing performance management was generated and maintained by the obedience culture that existed, which was highly dependent on hierarchical authority. This could be because Brunei is a 'high power distance' country (Blunt 1988; Chan and Pearson 2002; Mahani and Low 2013).[4] With a lack of incentives to implement

[4] The power distance culture believes that organisational power should be distributed unequally. In the workplace where high power distance is prevalent, power is emphasised in cultures which are

performance management, an obedience culture was seen as beneficial and encouraged to generate and ensure compliance, even though this undermined the idea of being driven by performance.

The downside of such practice was that the pace of performance management implementation would depend on the leadership and whether it was being used in a strategic manner. Because the implementation of performance management depended on hierarchical instruction, its monitoring and reporting depended on the frequency of strategic review meetings, which resulted in on and off implementation in most organisations and a separation from the day-to-day operational and decision-making process. In other words, most organisational members only complied with the performance management process when instructions from the chair of the strategic committee or the offices of strategic management reminded them of the next performance management cycle. It also undermined the objective of having performance management because it discouraged proper dialogue and instead encouraged acquiescence to authority and rules. When there were concerns related to the performance management process, targets or reports, they were not formally voiced out since it was not the norm for employees to overtly criticise, even though this might be constructive. This may point to a collective culture of non-confrontation as confrontation appeared not to be socially acceptable in this context because interviewees seemed to 'keep their opinions to themselves' to show respect for seniority (Blunt 1988; Chan and Pearson 2002; Korac et al. 2020). This notion affected the dynamics of strategic management group meetings where strategic dialogue could be limited. However, if the commitment to implement the performance management process is needed, the findings show that the frequency of meetings can play a crucial role in securing it from the members. Otherwise, there might be no solid urge to implement performance management, especially when the accountability system and performance evaluation were not adequately integrated with their existing organisational activities. However, if the commitment to performance management activities was only prompted by instruction of the hierarchy, they would become an imposition of extra work, which affected the buy-in of organisational members towards the implementation. The advantage of evaluation and monitoring lies in its regularity and the timely availability of monitoring and reporting results in the performance management process. Nevertheless, when organisational members faced competing demands for their time and effort between their core and performance management activities, and when there were no legal punitive actions applied for doing performance management work sporadically, this led to performance management being decoupled from their activities.

oriented to hierarchy. This hierarchical culture is common in Brunei. The authority of a leader is often not questioned, especially by their subordinates, for to do so or even to show any signs of disagreement would be considered rude and improper on their part (Blunt 1988; Mahani and Low 2013).

14.5 Conclusion and Recommendations

Performance management started in the Brunei public sector in the 2000s, but its use has been limited. On reflection, performance management may be seen as having been implemented ceremonially. Although it has yet to turn entirely into a results-oriented form of management in most organisations, it was still a useful diagnostic tool. However, among all the objectives promised by the literature its main achievements were limited to internal transparency and the presentation of performance (OECD 1997). This suggests a number of key conclusions.

First, this highlights performance management's important role for integration, performance-based budgeting and performance appraisal, while the case organisations' efforts to implement performance management ultimately resulted in a loosely coupled system. The findings demonstrate the process and challenges of implementing performance management in linking targets, setting targets and performance evaluation that resulted from the lack of deep integration. The study thus provides evidence to help the Brunei public sector develop a new perspective for performance management in the government by reflecting the need to integrate performance appraisal and performance-based budgeting. There is an urgent requirement to have a lead national agency in the government, as other countries do (such as Singapore and Thailand), to help with the strategic coordination of performance management implementation.

Second, the implementation of performance management was constrained by insufficient human resources, especially for the offices of strategic management with ad hoc membership. It also suffered from the burden of a large workload, which constituted one obstacle to having continuous performance management. Further, implementation was also restricted by a lack of technical capacity. Performance management was underutilised because obtaining a supply of performance information was challenging and so implementation was carried out sporadically. For performance management to be impactful and to encourage conducive behavioural change will require greater intensification in terms of regular monitoring of actual information and having more robust analytical capacities of the organisational members because they have a prominent role in preparing sound findings for review. This is in order to fulfil the calls in the sultan's speeches that repeatedly signalled the need for efficiency and cost savings in government.

Third, the findings show how organisational culture, which is incredibly hierarchical, had an impact on performance management implementation. At that point, performance management was viewed as merely an 'addition' by the organisational members. This was because actions and resources were limited, and organisational accountability and performance appraisal systems were not changed. In other words, performance targets and key performance indicators were not included in their appraisals or the organisational budget documents—they did not play a role in decision-making on resource allocations. Performance management was thus formulated and communicated on the basis of ad hoc instructions from the hierarchical authority rather than driven by an alignment between the strategic plan and organisational and individual objectives. This study raises the possibility of the coexistence of both change and stability. Suffice to say that performance management was decoupled in practice, reinforcing the idea of performance management as merely ceremonial.

Nevertheless, this study has provided evidence for the current public sector policy-makers to analyse and consider past issues when developing a performance management system for the government. It may not have to take a rigorous approach and could instead pursue an incremental approach that would appear more suited to improving performance management implementation. As noted earlier, in 2017 another mandate came from the government for implementing a new performance management system in all public sector organisations (PMO 2017a). The new aspect was that the performance appraisal system linked the organisational, departmental and individual performance management through individual key performance indicators (which were missing in the earlier approaches) and the use of the bell curve method. The method was proposed to set the percentage limit for awarding pre-service grades in all ministries and departments. Regardless of the changes made to performance appraisal in 2017, there was still a noticeable lack of a performance-based reward policy, as advocated by the new public management model. Furthermore, the 2017 performance management system was revised in 2019 and the use of the bell curve was discarded. In view of this, the changes made in the new policies in 2017 and 2019 indicate that implementing a well-designed performance management system to realise its full potential in the public sector still faces critical challenges.

Looking at the current design and its integrated programme is recommended to improve all stages of the performance management cycle. Second, it is crucial to reform supporting policies for performance management in the public sector. For example, there is a need to link programme-based budgeting and its implementation based on performance information and government priorities. The same applies to human resources management and its integration with performance management to create ownership of performance management activities and, hopefully, change to a more results-oriented organisational culture. Third, there is a need to develop technical competence or expertise in carrying out performance management activities to address poor levels of readiness. Training should be provided and workshops organised to address employees on the benefits of the performance management system and to carry out the activities effectively, especially to collect and use performance information. At the same time, it would be helpful to have dedicated external support that can involve the main stakeholders more actively to develop a structured, consistent and continuous dialogue between relevant government organisations. Inter-ministerial coordination and partnership need to address and set targets for government priorities that are highly important. It is also necessary to strengthen the capacities of organisational members via training or coaching.

As for all research, this analysis has some limitations. The findings are based on a cross-sectional study rather than a longitudinal one. A longitudinal perspective would have enriched this research with more informative data regarding institutional change across several periods, especially now that the Brunei public sector has a different performance management system to the one being studied. Further studies investigating the integration of organisational- and individual-level performance management may help to understand what other factors influence its implementation and if any issues and challenges persist over time. Nevertheless, the experience shared in this chapter can benefit other public sector organisations, the late implementers, whose performance management is still an ongoing process. Finally, it would be interesting to find out to what extent the recent performance management has been institutionalised and whether new initiatives are being introduced to support performance management that brings about changes. Future research might shed a different light and show different outcomes. If not, contextual factors would have been the most influential in shaping reform.

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Chapter 15
Operational Excellence through Managing Values in the Brunei Darussalam Public Sector

Mahani Hamdan

Abstract Operational excellence and continuous improvement are conceptually distinct but closely related. Operational excellence aims to achieve a long-term change in organisational culture while continuous improvement focuses on the process. Operational excellence (including lean manufacturing, Six Sigma and total quality management) has been applied extensively by private firms and companies in the industrial field and today these methodologies are also widely utilised in public organisations to achieve quality excellence in public services. Increases in global competition have put pressure on public services to be as productive and efficient as private services. This chapter aims to explain and uncover the conceptual definition of operational excellence in the context of Brunei Darussalam, analyse the methodologies used to frame it and discuss the challenges faced by public services in implementing it. The study presents data from two sources. The primary data derive from semi-structured interviews with 17 middle management officers from various government departments and agencies using a convenience sampling technique. Secondary data are based on a review of journal articles, reports and news. Results show that operational excellence in Brunei's public services is defined in terms of processes measured by quality management, productivity, efficiency and effectiveness, and can be achieved through total quality management, balanced scorecards, and programme and performance budgeting. Other elements include value congruence, leadership, human resource management practices, service strategy and cultural involvement which are also critical in pushing excellence within an organisation, together with innovation, technology and policies appropriate to the national stages of socioeconomic development.

Keywords Brunei Darussalam · Operational excellence · Public services · Quality management · Productivity · Value congruence · Human resource management

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15.1 Introduction

Operational excellence is the pursuit and execution of a business or management strategy in an exemplary way. It focuses on delivering sufficiently good quality products and services against the lowest cost (Treacy and Wiersema 1995). Many studies use operational excellence to refer to continuous improvement and other widely used methods such as Six Sigma or lean production and total quality management.[1] Continuous improvement is an organisation-wide process of focused and continuous incremental innovation (Bessant et al. 1994). Operational excellence and continuous improvement are conceptually distinct but closely related. Continuous improvement focuses on the process, while operational excellence aims to achieve a long-term change in organisational culture.

Operational excellence has been extensively applied by private firms and companies in the industrial field, such as Toyota using lean manufacturing, General Electric and Motorola using Six Sigma principles and methodologies, and Toyota and Ford using total quality management. Today these methodologies are also widely applied in public organisations to achieve quality excellence in public services. Although total quality management is recognised as an essential part of business operations in the private sector, it is not necessarily an aspect of activities in public services. Increases in global competition have put pressure on public services to be as productive and efficient as private services (Hsieh et al. 2002).

Research shows that total quality management can bring advantages to public services, yet its implementation in the public sector remains problematic (Lewis 1995; Maram 2008; Salman 2022). Several studies argue that total quality management cannot be well implemented in public services for a number of reasons: low commitment from top managers; public services focus on outputs rather than inputs and processes; fewer incentives to drive employees to become customer oriented; rigid rules and systems in bureaucracy; difficulty in defining service quality concept and to make the output uniform; and employee attitude and behaviour (Dewhurst et al. 1999; Hsieh et al. 2002). Avia Enggar Tyasti and Rezzy Eko Caraka (2017) examine the challenges of implementing total quality management in public services in four aspects: the system structure, customers, employee perception and culture. Although the implementation of total quality management as a means to achieve operational excellence in public services is more difficult than in the private sector, Tyasti and Caraka's arguments are mainly based on theories discussed in journal articles and books with limited practical insights and applications.

[1] Six Sigma is a business strategy that seeks to identify and eliminate causes of errors, defects or failures in business processes by focusing on outputs that are critical to customers (Snee 1999). Total quality management is a revolutionary concept in the management of quality that depends upon tangible investments in machines, processes or facilities and intangibles such as the integration and management of these resources, the corporate and cultural environment and personnel motivation. It is also viewed as a total (social, organisational and operational) commitment to manage a firm's resources to achieve the highest levels of performance in everything in which the firm is involved (Tapiero 1996).

This chapter aims to uncover and explain the conceptual definition of operational excellence in the context of Brunei Darussalam and the methodologies used to implement it. I then discuss the challenges faced by Brunei's public sector in implementing operational excellence. Brunei's public sector is used as a case study for two reasons. First, limited research has been conducted on assessing the public sector and its services. Second, despite some improvements, the inefficient government bureaucracy score was reported at 15.2 in 2016, as reflected in the country's Global Competitiveness Index (with the lowest scores being better), compared to Singapore (3.1), Malaysia (8.9), Indonesia (11.1) and Thailand (12.1) (World Economic Forum 2018). This situation warrants further investigation into the reasons behind the poor public service delivery processes, which include long queues, delayed approval flow and limited information sharing and transparency.

This study employs a qualitative approach and the data derive from two sources. The primary data come from semi-structured interviews with 17 middle management officers from various government departments and agencies using a convenience sampling method. Secondary data are based on a review of journal articles, reports and news. The perspective of middle management officers is selected for two reasons. First, they are more easily accessible and therefore convenient sources of data. In this respect, I was involved in the training activities of Executive Development Programme for Middle Management Officers throughout the interview period (PSD 2014). Second, these departmental managers or officers are directly accountable to top management for the functioning of their respective departments, devoting more time to organisational and directional functions and operational activities. Sample identities and the organisations they work for remain confidential as requested by the respondents. The chapter is organised as follows. Section 15.2 presents analyses and discussion on the conceptual definition of operational excellence in Brunei's public sector. Section 15.3 examines the value congruence approach as a means to achieve operational excellence and the challenges of implementing it. Recommendations are presented in Sect. 15.4, while Sect. 15.5 is a summary of the major conclusions of the study.

15.2 Operational Excellence in Brunei's Public Services: A Middle Management Perspective

In general, the middle management officers selected in this study had largely defined the concept of operational excellence in Brunei's public services in terms of processes measured by quality management, productivity, efficiency and effectiveness.

15.2.1 Quality Management

The middle management officers referenced quality management to two things: quality standards and quality management systems, as similarly identified in a study conducted by Jan Wynen et al. (2016) based on evidence from six European Union countries; and the use of technology for high-quality service delivery. The international standard on quality management, the ISO 9000 certification process, began to take place in Brunei's public sector only in the early 1990s, initiated by the Ministry of Development. This practice was followed by other government departments with the implementation of ISO 9001 over time: Directorate of Development and Work Services (2009), the Meteorological Department (2014), Telekom Brunei (TelBru) (2017), Politeknik Brunei (2017), the Management Services Department at the Prime Minister's Office (2019), Universiti Teknologi Brunei (2019) and Universiti Brunei Darussalam (2019). Several respondents said that their respective departments had also continued to invest in digital technologies to improve their internal processes. Indisputably, technological development has not only changed the world of work but given rise to new expectations of public services on the part of citizens.

15.2.2 Productivity

Germà Bel and Mildred E. Warner (2015) describe public sector productivity as the relationship between what is produced, in terms of goods and services—outputs—and the resources used in the processes of achieving them—inputs. Technically, it is the ratio of output to input. They highlight the role of inter-organisational collaboration in reducing the cost of delivering public services to citizens. Many respondents in this study, however, viewed productivity as a broad social and economic concept. The social concept aspect relates to an attitude of mind, based on the belief that one can do things better today than yesterday and better tomorrow than today. This aligns with one of the strategic goals in Wawasan Brunei 2025 (Brunei Vision 2035), that is 'ensuring the highest quality of life' (Brunei Darussalam 2024). The government elucidates quality of life through 'the capability lens, as having a population that is well-educated, highly skilled and healthy, among other elements; lives harmoniously and peacefully; and engages effectively in economic and social activities' (Gweshengwe et al. 2020: 1). It is essential to invest in quality of life to increase productivity and accomplish national objectives. The economic concept of productivity is about creating value through expansion in labour and capital or producing the same or more output with less labour and capital. In this regard, the essence of economic development is not merely associated with industrialisation but also technology catch-up and innovation (Baumol 2002; Ohno 2020). A few respondents were sceptical about the outlook for Brunei's civil service but many also remained positive about creating a culture where civil servants feel empowered and confident enough to raise concerns and issues pertinent to existing policies or processes within the department where appropriate, and to give recommendations towards achieving operational excellence. Similar to Siti Nabiha Abdul Khalid and Robert W. Scapens (2005), the current study indicates that there was some resistance to this change to new key performance indicators for managing performance. Respondents suggested the government should review promotion incentives for civil servants and improved service delivery. They posited that clear promotion incentives would improve public sector efficiency and thus must be integrated in the government's public service modernisation agenda. Razali Mat Zin (2013), who studied the budgetary process of the Brunei public sector, shares a similar view and further highlights that productivity improvement and national planning really depend on the incentives the government creates for public organisations.

Continuous improvement, as an integral part of operational excellence, has also been conducted to review work processes in public sector organisations, but with little progress (Asif et al. 2010). Some respondents stated that their organisations once applied lean management in 2016, but that it was for certain operations or tasks and only happened for a short period. Lean management is a technique that was implemented by Toyota in 1990 with the aim of minimising the process waste, maximising the value of the product or service to the customer without compromising the quality, generating growth in total output attributable to effective allocation of resources and factors of production, and reducing flow times within processing systems in which goods are produced and services are performed just as they are needed, that is just in time innovations (Womack and Jones 2003). For continuous improvement culture to take off, respondents viewed that it takes leadership vision and influence. It also requires evaluation, teamwork and management discipline at scale. They observed that some leaders did not manage to achieve the ongoing, incremental impact they wanted mainly because they had not fundamentally changed how they lead and manage, lacked clear targets and faced difficulties fostering collaboration between multiple stakeholders. Respondents said that continuous improvement is or should be an ongoing journey and operational excellence a strategy. Leaders who can think and act strategically can accelerate operational excellence. They further said that bureaucracy that was once considered the best form of administration, coordination and control is no longer appropriate in today's environment as it had stifled their creativity and innovation at work. Another aspect raised by the respondents was role conflict. The fact that the government plays many roles is not a question the civil service can take lightly.

15.2.3 Efficiency and Effectiveness

Efficiency and effectiveness are management concepts. Efficiency means doing things right and effectiveness is doing the right things (Drucker 1974). In the context of public administration, Harry P. Hatry (1978: 28) defines efficiency as the 'extent to which government produces a given output with least possible use of resources' and effectiveness as 'the amount of end product, the real service to the public, that the government is providing'. Out of 17 respondents in this study, only two described efficiency in technical terms as a measure of the ratio of output to input. Eight respondents added value and accountability dimensions (quality of governance) as a way to measure efficiency, while others pointed out that efficiency and effectiveness are interchangeable terms in relation of inputs, outputs and outcomes (see Mandl et al. 2008). Today, implementing Brunei's e-governance using technology has brought unprecedented changes to improve the efficiency and effectiveness in public services. These initiatives include the Treasury Accounting and Financial Information System (2002), Bru-HIMS (2012), Tabung Amanah Pekerja e-Amanah (2014), Land Application and Registration Information System (2016) and Sistem Sumber Manusia (Human Resource System) (2021). Though all these have been introduced to facilitate solutions, new technologies also bring about new challenges in public services. To meet the needs of the country's digital society and economy, the government allocated a budget of BND91.4 million in 2019–2020 for information and communications technology infrastructure to create value for Brunei's economy and ensure social development for its citizens (Ain Bandial et al. 2019).

15.2.4 Methods Used for Achieving Operational Excellence

Operational excellence in Brunei's public services encapsulates major themes such as total quality management for improving quality and efficiency, balanced scorecards for enhancing performance and results, and programme and performance budgeting for improving cost effectiveness and accountability. Overall, respondents defined total quality management by identifying three aspects—creating value for public service users, citizens and society through public service delivery; innovative approaches to service delivery; and citizens' perception and assessment of services offered. The balanced scorecard was described as a framework for organisational performance measurement consisting financial, customer, internal process, and learning and growth perspectives (Kaplan and Norton 1996). It is a tool for achieving strategic alignment and strategic balance among citizens, public sector employees, the government and other stakeholders. Nonetheless, when defining programme and performance budgeting, none of the respondents gave a clear description of it. While acknowledging that it is a budgeting technique, how it works remained a puzzle. Indeed, programme and performance budgeting provides a proper allocation system of scarce resources efficiently and effectively through planning and implementing programmes and activities, measuring performance and establishing proper monitoring mechanism in a way that would guarantee the control of government expenditure (Moynihan 2006).

These methods or tools have already been integrated in Brunei's civil service reforms for decades now and there has been a national quality movement to support and promote total quality management and other tools for achieving operational excellence in public services, including the establishment of quality awards. Public complaints as a quality improvement tool must also be properly managed. It is a key component of good customer focus, meaning the interests of society at large. Rosdi Bin Haji Abdul Aziz (2016) argues that the mechanisms for realising customer value were not in place in public services and that in practice only a few government departments managed complaints in any systematic manner. These methods or tools in new public management theory have also inspired many reforms in the public sector encouraging the government to be more ‘business-like’. They started in Britain in the 1980s and have also been pursued in Australia and New Zealand (Mascarenhas 1993). The reforms involve drastic changes in public services and calls for competition with the private sector. Respondents in this study agreed that there is a need for public service transformation in Brunei and further indicated that their respective organisations had partially applied or at least attempted to use the various methods. Regrettably, the progress and evaluation of the use of these methods were never recorded or documented.

Results from the interviews highlight three key real scenarios. First, there was the need to deliver an effective training management system. The majority of employees had received some training on tools, approaches and techniques for use in public management (a few if not all) but limited implementation guidance in the execution plans. A political buy-in from key stakeholders was viewed as essential for addressing technical and institutional challenges. Second, as much as public sector employees valued stability in leadership, changes in leadership can lead to instability in public management and administration. At least some of a leader’s plans to implement new governance tools, approaches and techniques could have been completed at the time of leadership changes. While a new leader will have different plans which they also want to be executed and applied, the plans of the previous leader and commitment to continue them ended in the middle of their execution. Third, the government’s implementation plans sound persuasive. But is this enough? How to fund change and who will apply and be affected are not adequately addressed. Hence, public sector leaders are increasingly expected to have a sense of purpose, clear direction in their plans and focus on the big picture.

A few respondents shared an interesting view that the management methods or instruments deployed towards achieving operational excellence were difficult to implement in their organisations due to strongly institutionalised culture. Organisational age as a proxy of organisational culture and institutional norms in Wynen et al. (2016) seems to suggest that older departments or agencies have more enshrined culture, values and norms, which makes it harder to introduce and use novel management methods or instruments effectively (see also Lægreid et al. 2006). Unless there is strong leadership and top management support, organisations can achieve operational excellence through standardisation of processes and automation, but fundamentally it is the people who contribute to operational excellence. Among the challenges facing Brunei’s civil service in the twenty-first century are inefficient services, globalisation, a government-driven economy, financial crises and the ongoing process of nation-building. Regardless of the level of sophistication and the methods used in public services such as ISO, total quality management, balanced scorecards, and programme and performance budgeting, inefficient services cannot be simply resolved without having employees with the right skills and attitude. Employees’ attitude and behaviour are shaped by their personal values and beliefs, and these values and beliefs which manifest in behaviours are rooted in the tenets of new public management and reinforced more recently by austerity pressures. Thus one of the key drivers of operational excellence, among other things, is the presence of shared values—value congruence—between individual and organisational values because employees who feel that their own values match those of their organisations will be more likely to have a strong desire for success and high motivation to strive for excellence.

15.3 Value Congruence for Building Operational Excellence

Both organisational and employees' personal values, as well as the congruence between these two values (person–organisation value fit) are critical but challenging steps towards operational excellence. In the context of this study, the person–organisation value fit is defined as the compatibility of work core values between employees and an organisation, from the perspective of supplementary fit to predict individual and organisational outcomes (Muchinsky and Monahan 1987; Kristof 1996; Edwards and Cable 2009). Strong, clearly articulated values and person–organisation value fit are imperative for building not only a culture of continuous improvement but also a positive culture in an organisation. In the work context, personal values are the set of beliefs and principles that guide and influence employees' behaviours, actions and decisions. They can also be referred to as core values that employees apply and put into their daily practice in the workplace. Organisational values, on the other hand, refer to beliefs about socially or personally desirable end states or actions that are explicitly or implicitly shared by members of an organisation. They function as guides to what is seen as good and important in the organisation, and thus represent the core ethics or principles which an organisation will abide by unconditionally, inspire employees' best efforts and constrain their actions that prevent the organisation from making progress towards its goals (Schwartz 1992; VandenBos 2007). Organisational values can be examined as espoused and enacted values (Gopinath et al. 2018). The former are a set of values and norms that directly influence how an organisation operates and how employees function. Unfortunately, these values are not always being translated perfectly into practice. The latter refer to the standards and norms that are exhibited by an organisation and the employees on a daily basis.

The level of person–organisation value fit of the 17 middle management officers in this study was assessed using subjective person–organisation fit. Subjective person–organisation fit was measured using a three-item scale developed by Daniel Cable and Timothy Judge (1997) and it directly assessed an employee's perceptions of their fit with an organisation. To suit the study design, I modified the three-item scale in the form of interview questions. Respondents were asked: 'To what extent do you feel your values match or fit the organisation and the current employees in the organisation?'; 'To what extent do you think the values and personality of the organisation reflect your own values and personality?'; and 'To what extent do your values match those of current employees in the organisation?'.

The results present two groups of respondents. Group 1 included 12 middle managers who indicated that their work values were similar to the values of their organisations from some to a moderate extent. Group 2 were the remaining respondents who stated that their work values were similar to the values of their organisations but only to a small extent. Group 1 identified four reasons why their person–organisation value fit was from some to a moderate level: low levels of work commitment and motivation, weak top management support and lack of role clarify which can lead to stress, poor prioritisation, lack of alignment with strategy and operational inefficiency. Group 2 highlighted that their person–organisation value fit was at low levels because value for excellence (achievement, success and competence) was not their most desired value or goal. They prioritised other value dimensions such as stability, security, respect for individual rights, teamwork, collaboration and fairness. Second, there was poor leadership characterised by the lack of leaders' ability to provide direction which may stem from their own lack of vision. Third, there was the lack of a conducive working environment which had great influence on employees' performance, mood, behaviour and wellbeing. This may include aesthetic ambient lighting, noise, visual distraction, thermal comfort and other related interior settings (Mohd Yazid et al. 2015). Last but not least is a low level of organisational justice or fairness. Organisational justice has been described as the perceived justness and fairness with which organisations treat their employees, and is generally concerned with individuals' perception of fairness of treatment received from the organisation and their behavioural reactions to such perception (Greenberg 1990, 1993). Respondents in group 2 perceived a low level of fairness with respect to the practices in organisational settings—the procedural justice dimension—and the treatment that employees receive from others as well as from organisations—the interactional justice dimension. Such findings were also found in a study conducted by me on the relationship between person–organisation value fit, organisational justice and cognitive styles (Mahani 2011). The two justice dimensions complementing each other implies that procedure is considered or perceived to be fair only when individuals are valued by their authority figures or others in the organisation, as supported by the findings of Russell Cropanzano et al. (2001).

To understand the mechanism of person–organisation value fit for achieving operational excellence, the next section describes how shared values are translated into actions, practices and processes in Brunei public sector organisations through the lens of other dimensions of operational excellence—leadership, human resource management practices, operations strategy and culture involvement—along with some challenges facing public services. These dimensions were highlighted by the Prime Minister's Office in June 2019 when the public sector performance grading programme towards excellent service delivery was widely formalised across ministries (Kon 2019).

15.3.1 Translating Values and Value Congruence into Practice

Values vary between individuals and among different groups, and it can be challenging for individual employees to change or adapt to different organisational cultural values that are not core or are less meaningful to them because personal values are assumed to be relatively stable over time (Cohen 1995). Nevertheless, employees' personal values may alter when there are unforeseen monumental changes or increased friction that affects their roles, and the ways they support, relate to or work with people. About a third of the respondents said that the attainment of value internalisation across the organisation was trivial with a socialisation approach because they regarded coffee chats, get together events and organisational retreats, either formal or informal, as reciprocity rather than mutual obligation in social exchange. Both reciprocity and mutual obligation share similarities but they operate efficiently at different levels of status and responsibility (Hammer 2003). Employees' reactions towards accepting or rejecting the process of value internalisation in the organisation also greatly depend on their perception of the leader's integrity and leadership style (Cha et al. 2020).

15.3.2 Leadership

The effects of person–organisation value fit on individual and organisational outcomes are as important as understanding the personal values and innovative behaviour of leaders towards achieving operational excellence. Five respondents highlighted the significance of leadership integrity and asserted that leaders must behave in a way that they perceive as consistent with the organisation's espoused values such as respect for people and teamwork. Respondents in group 2 said that not only did they feel overwhelmed that their leaders kept giving them work, they also got confused with their key roles and responsibilities. Moreover, when things did not happen as planned in the organisation, they were blamed—a classic 'blaming culture'—and only got reprimanded by their superiors. There was no proper discussion with the superiors and there was a lack of guidance on how to deal with some issues. They felt that their leadership and decision-making skills were often underestimated, with instances when the superiors superseded their decisions without informing the person or people involved, and that their ideas got rejected and criticised harshly. They also pointed out that it was not the rejection of ideas that bothered them a lot but the way the criticisms were communicated to them. Overall, these presented three organisational problems: a lack of transparency, ineffective or negative communication and an unhealthy working environment, which had resulted in strained relationships between employees and leaders, low employee morale and a decline in productivity and the quality of public services.

Top leaders are assumed to have greater understanding about the organisation's vision, strategies and values. In order to work towards operational excellence, all respondents strongly agreed that leaders must lead by example and that their actions must be consistent with the organisation's espoused values. To gain trust and confidence of public employees, leaders must also be mindful of their actions because employees want to know if what they say and do is consistent. More than half the respondents expected their leaders to be innovative, risk-taking, proactive and anticipative in order for the organisation to keep up with the changes and be more responsive by talking to them over important issues. Although legislation and bureaucracy largely command the roles and duties of public leaders, leaders must stay flexible in their conceptual state of thinking to be able to respond to diverse scenarios, otherwise known as situational leadership (Ojala 2013). Situational leadership can help navigate employees towards operational excellence and address pressing challenges in today's work environment (McCleskey 2014). Along with effective managerial practices, respondents further said that changes in operational excellence required public leaders to stimulate and encourage staff innovation. This kind of transformational leadership is a style in which leaders encourage, inspire and motivate employees to innovate and create change that will help grow and shape the future success of the organisation (Bass and Avolio 1994). Although transformational leadership style has a positive effect on the achievement of operational excellence, there is no clear direct relationship between transformational leadership, value congruence and public sector innovation (Oon and Hartini 2014). In essence, employees need the ability, motivation and opportunities to contribute to innovation. As the Organisation for Economic Co-operation and Development highlights, 'human resource management (HRM) is an important lever for supporting public sector innovation by enabling managers and front-line staff employees to formulate ideas that result in new and improved ways to deliver public services' (OECD 2017: 196).

15.3.3 Human Resource Management Practices

Human resource management practices play a critical role in enhancing value internalisation and increasing the level of person–organisation fit between individual employees and the organisation. Edgar Ennen and Ansgar Richter (2010) refer to the human resource routines that are undertaken to manage specific skills, values and knowledge of employees. The practices also include policies and systems that influence employees' behaviours, attitudes and performance (De Cieri et al. 2008). Much of the role of human resource management in today's dynamic operating environment is not only transforming but its focus is also changing. About two-thirds of respondents said that improvements in Brunei's human resource management practices have determined changes in the way the public sector cooperates with and forms partnerships and collaborations with outside organisations. Performance management systems are changing and evolving with the assistance of technology. A shift from job-based to performance-based culture is expected to address inefficiencies in the government's administration and services. The respondents indicated that the value internalisation process is achievable in two settings: across smaller departments with fewer employees; and with new employees who become accustomed to the organisation. Another aspect of human resource management practices in Brunei's public sector that requires review is the recruitment process. A few respondents suggested the government should create a clear hiring strategy and improve the interview and assessment processes in order to hire the right people for the job.

Values, even though shared, 'are complex in the sense that they are capable of very different interpretations by different people and in different situations' (Fulford et al. 2012: 41). Organisational values in the public sector conform to the Brunei Civil Service Code, but with a varied degree of importance of actions and interpretations by government agencies and departments at all levels. In response to the sultan's speech in 2018 reminding top public management leaders not to fall into the trap of cronyism and nepotism (Hadthiah 2018), several respondents emphasised that the recruitment and selection process in the public sector must be transparent and based on merit and best-fit with the organisational goals and values and not based on connections or relationships. Overall, for an organisational value system to work in the public sector, values need to be translated into behaviours and sustained actions which in turn lead to organisational performance. This must also be complemented with skills and knowledge for employees to offer excellent public services and performance as service strategy can help to ensure that public sector organisations are in a better position to handle the costs and risks associated with their service portfolios.

15.3.4 Service Strategy

A majority of the respondents in this study related service strategy to the service offering and service delivery system. The service operations concept refers to all tangible and intangible elements of service delivered to the customer (Roth and Menor 2003). The delivery system converts the inputs into services in a controlled and planned manner (Armistead 1990). Marcel van Assen (2011) also operationalises service strategy in terms of culture of continuous improvement. To design an effective public service delivery system for operational excellence, four respondents highlighted the value of collaboration between employees and leaders to look for innovative ways to satisfy stakeholders with improved quality and service and advanced technologies. They said that although collaboration efforts among public sector organisations and other agencies—a 'whole of government' approach—are increasing, they lasted a short time and not after a project or programme was completed. The issues with collaboration in the public sector are the lack of ownership, especially when problems arise, and weak coordination among employees and leaders within and outside the organisation which have caused long delays in delivering public services.

Two respondents said that their leaders tended to overlook service strategy because they spent too much time micromanaging at work. The leaders revised their work instead of giving them feedback on what could be improved (a one-way conversation only), complained constantly and always looked for their mistakes. The leaders might think that they push them for excellence but the reality is that they are sapping the motivation of their employees, which in turn could lead to employee grievances. Several respondents also said that their office leaders acted more like managers than real leaders. The leaders failed to see the big picture given that they were so much involved with activities at the operational level and spent less effort dealing with strategic matters. Skills and knowledge transfer was not perceptible and the direction of organisational change was unclear to the employees.

15.3.5 Cultural Involvement

Involvement is one of the cultural traits classified by Daniel Denison et al. (2004) as organisational culture. It is the best value dimension to push excellence within the organisation (Oon et al. 2013). Cultural involvement requires all employees in an organisation to have a strong commitment and sense of ownership and to be able to connect themselves to the goals of the organisation. Although many respondents supported the idea of having a cultural involvement trait in the organisation, four of them were not convinced that it could be exercised for two reasons. First, not all public sector employees had the authority and the right knowledge to be involved in government affairs. Second, employee participation included a broad range of activities through which employees may have been able to express their opinions on how the government should conduct its business.

Building a culture of involvement in an organisation is undoubtedly the most challenging of all leadership endeavours, and value conflicts can be difficult due to differences in perspectives and practices at different levels. For example, one respondent said that his interpretation of the organisational value 'respect for people' was to avoid conflicts at all costs, which implies that when he disagreed with other people's views in a meeting he kept quiet and omitted his thoughts. This may be the safest thing to do to avoid unnecessary conflicts, but the problem is the organisation failed to realise that the respondent's thoughts or ideas might contribute to more innovation success. If such behaviour continues over time, it not only affects employees' productivity at work but also undermines their confidence and willingness to take appropriate risks. It can also lead to low morale and creative paralysis. Five respondents who perceived themselves as having a low level of person–organisation fit argued that did not always and necessarily mean it was based on value conflicts. It could just mean that the organisation needed to make greater effort to facilitate the value internalisation process and create platforms where discussion on the organisational value system could take place for employees' learning and growth. Stability is necessary to keep employees continuously engaged positively, but so is adaptability. A few studies have shown that value congruence can lead to a better adaptability of employees to the work environment and involvement in the work itself, and that it unites and focuses members of the organisation (Vandenberghe 1999; Li et al.

2015). Seven respondents said that managing value conflicts, employee involvement and participation, and empowerment are all processes, and that everything falls back on leadership to achieve operational excellence in public services.

15.4 Recommendations

This section offers several recommendations towards achieving operational excellence in Brunei public services, through building value congruence and strong leadership, enhanced human resource management practices, service strategy and increased culture of employees' involvement in the public sector.

- Descriptions of the organisation's desired level of excellent performance and expectations must be communicated clearly to all employees in the organisation in a cogent and straightforward manner.
- With the increased use of digital technology in the public sector, a comprehensive set of policies that covers a wide range of technical and non-technical aspects—from a proper use of government computers to deliver services, issues of privacy, security and data integration, to technology disposition—should be put in place in order to sustain operational excellence improvement efforts.
- The process of making employees accept a set of norms or values established by the organisation—value internalisation—can be done in two ways: a 'soft' approach through socialisation and 'hard' approach by abiding with policy. Employees are more likely to abide with policy if they see their managers and leaders consistently following policies and procedures.
- To increase employees' sense of understanding of the organisation's goals, values and missions—value alignment—two-way communication, such as open and transparent dialogue, can help the employees to intrinsically understand the organisation's core values and align themselves with its goals. Employees can truly work towards excellence once they understand the goals. This can also help to reduce value conflicts between employees and the organisation.
- While encouraging employees to embrace organisational values, organisations should also leverage the employees' work values to accomplish many goals. For example, although being team-oriented, action-oriented, focusing on results rather than processes, and having high expectations for performance are among the most important values to operational excellence, a majority of the respondents underlined the value importance of respect for people. This is not surprising given the prevalence of Brunei's collectivist culture—a tightly knit relationship among individuals in a conservative society (Blunt 1988). When people feel respected, they are more likely to become emotionally invested in achieving the desired organisational outcomes (Hanna 2019).

- Value incongruence that may arise from value conflicts is not always a bad thing, although it can lead to negative effects (Vogel et al. 2016). Employees with different values can bring creative and innovative ideas into the service operations. Given that operational excellence relies on a dynamic combination of people, processes and environments in which public services operate, an organisation must put in place mechanisms that reinforce the case for change in the value system, maintaining momentum and strategically building on the improvements as well as their delivery.
- Creating a positive work culture and building cultural involvement contribute significantly to operational excellence. A blaming culture must be replaced with a learning culture.
- Fostering a culture of service excellence requires human capacity development, technology tools and quality management approaches. Technology can help to strengthen the public management of integrated service delivery by creating value-driven operations and aligning them with organisational strategies. Some issues that require human judgment and technological advancements are also nowhere near to human decision-making abilities. The government requires a balance in the use of information and communication technologies and human resource development and, more importantly, good governance for achieving efficiency at all levels (Denhardt 1999; Manzoor 2014). Overall, operational excellence balances the triad of people, process and technology to generate benefits for an organisation.
- Transparency must be part of the operational excellence equation. It helps in building trust with employees and society at large in the delivery of public services. Without trust, creating a high involvement culture through a value-driven change process would be tough. Without transparency, trust, participation and empowerment, creating operational excellence becomes unsustainable (Lashley 2011). Furthermore, bureaucracy must be eliminated to promote openness and responsiveness in the organisation.
- Leaders must walk to talk. Regular monitoring and control and systematic evaluation procedures must be undertaken to ensure sustainable development goals through effective delivery of public services and innovation transformation can be achieved. Leaders should find ways to break the ‘working in silos’ dilemma and get everyone at all levels in the right frame of mind to create full engagement and accelerate the journey towards operational excellence.
- Human resource management practices in the public sector must go beyond traditional goals and functions. Leaders of human resource management need to have organisational intelligence in order to adapt and sustain in a continuously changing environment (Liebowitz 2000). Design strategic human resource management practices to develop and manage harmonious relationships among employees and, more importantly, strike a good fit between individual and organisational values, goals and work ethics.
- Strengthening employees’ sense of belonging within the organisation. This is crucial for lasting change to take hold. Employees need to be convinced of the urgency of the value change, why they are being asked to adopt, change and

adapt to other value dimensions, goals and behaviours, and how these benefit the organisation and the roles they serve.

15.5 Conclusion

Achieving operational excellence requires transformational rather than discrete changes—that is, transforming with respect to the way leaders and employees think about operational excellence, what they work on to achieve it and the environment to make those efforts successful. There have been a number of initiatives and programmes carried out by the Brunei government to improve public service delivery, including the introduction of a performance-based system, the creation of digital platforms, the use of digital payment services, streamlining workflow through coordination and communication with multiple stakeholders, and greater transparency in human resource management practices. Nonetheless, according to the respondents' interviews, there were still noticeable gaps in the performance of public utilities and capability gaps with respect to inadequate availability of competencies, expertise and experience. Awareness of these issues is slowly improving, and this study calls for the government to continue efforts to strive for a more effective public service delivery in the future.

Operational excellence, which is often associated with efforts to create continuous improvement, has brought into practice several methods like total quality management, balanced scorecards, and programme and performance budgeting, but these methods alone will not deliver operational excellence. It requires an integrated management system that aligns or pulls everyone in the same direction, supporting the same values, goals and objectives. With the pace of change and increased uncertainty facing most organisations today, leaders of Brunei's public sector across ministries have come together to deliberate and select how processes get locked in by standards, procedures, and how technology allows them to make faster decisions when needed and introduce changes where relevant.

Operational excellence is a process-based approach that also requires human intelligence to make good decisions. The process-based approach not only improves decision making within the organisation's value chain processes but also allows clearer ownership and accountability across organisations. In effective organisations, all individual employees are expected to know the overall objectives and their individual role in achieving operational excellence. Technology is adopted and adapted to enhance the delivery of public services and enable and maximise the value of technology. All this calls for effective governance, and governance is about leadership. Leaders must ensure that their organisations conduct public services and manage resources effectively and properly. Operational excellence further requires leadership by example and a change of mindset within the organisation itself. Leaders cannot expect employees to follow the standards and procedures but not do so themselves. They must be able to work together as a team with employees to ingrain the organisational value for excellence in public services.

Building a cohesive culture, including the culture of involvement, is a primary source of sustained advantage. As service strategy and operating models change, organisational values that are prescribed by leaders are expected to be continuously and fairly enforced for every employee and embedded within many processes. Similar to continuous improvement, innovation is a value dimension that must align with service strategy and be fully integrated into organisational culture. The governance structure and organisational structure play key roles in facilitating innovation in an organisation, but bureaucracy and organisational hierarchies can be a major obstacle in the Brunei public services if not tackled properly.

Leadership, human resource management practices, service strategy and a culture of involvement account for a very large element of operational excellence. Innovation and technology, together with policies appropriate to the national stages of socio-economic development, are urgently needed to improve public services. Last but not least, this study calls for future research that examines a number of crucial areas of change: the manifestation of public sector innovation, particularly on different types of innovation, in the relationship between value congruence and operational excellence in an organisation; key performance indicators and metrics for use in public services; and the overall perspective of public sector employees, not limiting this to a middle management perspective. Future studies may consider gathering data from primary sources using questionnaires or interviews to understand the real difficulties in depth and provide insights on the implications of implementing operational excellence in public services.

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Chapter 16
Understanding Employee Involvement and Participation in Brunei Darussalam: A Public Sector Organisation Undergoing Change

Wardah Azimah Sumardi

Abstract Most studies on employee involvement and participation, particularly those in Western Europe, North America, Britain and Japan, are conceived within a landscape that opens up the mechanism of giving employees a voice. By contrast, researchers have called for studies to look at developments in employee involvement and participation in limited or non-trade union settings in order to determine the route they follow and their implications. Addressing this call, this chapter presents an account of the development of employee involvement and participation in a public sector organisation in Brunei Darussalam, framed against the backdrop of organisational change—particularly in a system that offers minimal outlet for employees' voice in its governance process, borne from an assertive government presence. Key findings reveal that employee involvement and participation in such a context could be interpreted as part of an efficiency control programme, which takes the form of managerial and operational-oriented processes and structures such as autonomous meetings and teamwork. Brunei is generally ruled by a strong sense of conformity and consensus in which human resource management practice in the public sector is shaped by general orders and state circulars that date to the early 1960s, covering key elements such as appointments, promotions, benefit entitlements, work etiquette and discipline. This practice seems to paint a picture of a system based on 'unity', where everyone allegedly strives jointly towards a common objective, following the leadership of an appointed manager or supervisor. Given such unitarist employment relations, employee involvement and participation in Brunei are primarily focused on fostering ideas to help improve organisational effectiveness rather than being about grievance procedures.

Keywords Brunei Darussalam · Employee involvement and participation · Employee voice · Organisational reform · Public sector

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16.1 Introduction

Many scholars, such as David J. Glew et al. (1995: 417), have raised a concern that understandings of employee involvement and participation have been inhibited by a variety of factors, particularly 'failing to establish what we actually mean when we talk about it' (see also Budd 2020). It comes as no surprise that there are various interpretations of the practice in the literature. This growing multiplicity of definitions has resulted in a further misapprehension of the subject matter and indeed has not always assisted in clarifying the meaning of employee involvement and participation. Despite the shifting terminology, a review of the literature suggests that the concept simply highlights the role of the 'influence' and 'involvement' of employees in decision-making, which can be found iterated in many definitions (Blyton and Turnbull 2004).

Most studies on employee involvement and participation, particularly those in Western Europe, North America, Britain and Japan, are conceived within a landscape that opens up the mechanism of giving employees a voice. By contrast, researchers have called for studies to look at developments in employee involvement and participation in limited or non-trade union settings in order to determine the route they follow and their implications. Addressing this call, this chapter presents an account of the development of employee involvement and participation in a public sector organisation in Brunei Darussalam, framed against the backdrop of organisational change—particularly in a system that offers minimal outlet for employees' voice in its governance process, borne from an assertive government presence. This leads to an overarching research question: how are employee involvement and participation developed in a non-traditional voice environment?

Given how context-dependent the concept of employee involvement and participation is and the absence of any academic research on employee involvement and participation in Brunei, a theoretical explanation for the 'what' and 'how' questions related to employee involvement and participation in the country, particularly in the public sector, adds significant value to the literature. Key findings reveal that employee involvement and participation in such a context could be interpreted as part of an efficiency control programme, which takes the form of managerial and operational-oriented processes and structures such as autonomous meetings and teamwork. According to Jawad Syed and Dk Nur'Izzati Pg Omar (2012), Brunei is generally ruled by a strong sense of conformity and consensus in which human resource management practice in the public sector is shaped by general orders and state circulars that date to the early 1960s, covering key elements such as appointments, promotions, benefit entitlements, work etiquette and discipline. This practice seems to paint a picture of a system based on 'unity', where everyone allegedly strives jointly towards a common objective, following the leadership of an appointed manager or supervisor. Given such unitarist employment relations, employee involvement and participation in Brunei are primarily focused on fostering ideas to help improve organisational effectiveness rather than being about grievance procedures.

The analysis set out here is of value in shedding light in two main ways. First, it provides a new contextual perspective on the issue of employee involvement and participation in a setting not commonly discussed in the literature, those countries with limited or non-union settings. Second, given that existing theory has its cultural boundaries, examining current practices in Brunei allows us to extend knowledge within the setting of an emerging economy. The discussion chapter begins, in Sect. 16.2, by providing an outline of employee involvement and participation as discussed in the literature. Section 16.3 presents an account of a public sector organisation in Brunei and specifically examines the spaces enabling employee involvement and participation, and its forms and functions in such a context. Section 16.4 offers a short conclusion that suggests that context is crucial in explaining the dynamics of employee involvement and participation.

16.2 Literature Review

16.2.1 Understanding Employee Involvement and Participation

In the human resource management literature, scholars tend to closely link the study of employee involvement and participation with notions of voice. The study of employee voice can be traced back over four decades ago to Dan Farrell's (1983) use of Albert Hirschman's (1970) classic concept of voice in relation to employees. According to Adrian Wilkinson et al. (2020a), the human resource management perspective in particular has broadened the notion of voice away from a single channel of worker representation—trade unions or collective forms of voice—to include other mechanisms—non-union or direct forms—for employees to express their interests, such as through suggestion schemes or quality circles. Even though the term 'voice' has been used widely in the human resource management literature, George Strauss (2006) argues that voice is a somewhat weak concept compared to other related terms such as employee involvement and participation because voice does not necessarily denote influence or power-sharing and may thus be no more than 'spitting in the wind'. However, Glew et al. (1995: 402) argue that 'without voice, there can be no enactment of participation'. As such, voice is considered as the prerequisite or vehicle for employee involvement and participation to be exercised. From an human resource management point of view, the extant research examining employee voice focuses primarily on the 'definitions, structures, processes and effective employee involvement and participation' (Gollan and Patmore 2013: 499).

Wilkinson et al. (2020a) acknowledge the difficulties when defining employee involvement and participation. Given the elasticity of the term, they agree that it can elicit different meanings to different groups of people. As a result, a meta-analysis by Richard B. Freeman and Morris M. Kleiner (2000) reveals varying definitions, countless practices and discrepancies in its effects on performance in the employee involvement and participation literature. Many scholars believe that these differences may be brought about by the different disciplinary perspectives that display considerable interest in employee involvement and participation (Dundon and Wilkinson 2021). As such, considering the dilemma surrounding its conceptualisation, Wilkinson et al. (2020c: 5) develop a broad definition of employee involvement and participation, which is ‘the ways and means through which employees attempt to have a say, formally and/or informally, collectively and/or individually, potentially to influence organisational affairs relating to issues that affect their work, their interests and the interests of managers and owners’. Resonating with such an approach, this chapter believes that this would add value when discussing employee involvement and participation.

16.2.2 The Shifting Landscape of Employee Involvement and Participation

The employee involvement and participation literature has witnessed a considerable shift in the ways employees can have a say on matters that affect them at work. From the 1980s onwards, a single channel of an indirect form of employee involvement and participation, such as trade union representation and works councils, was no longer the dominant method. A whole variety of direct techniques, ranging from non-union works councils, quality circles, teamworking and problem-solving taskforces, among others, are part and parcel of the employment relations agenda for most employees and organisations in the modern workplace (Budd 2020).

The popularity of direct practice was prompted by the surge of deregulation and privatisation which heightened the movement towards delayering, decentralisation and debureaucratisation. Its use started in the private sector in the 1980s in Western countries and was later extended in the 1990s to the public sector. Legal and political frameworks are also seen as supportive of this movement, following the adoption of the neoliberal agenda in public policies. The micro level, meanwhile, saw organisations being influenced by consultants and top management gurus, such as Jeffrey Pfeffer (1994), on best practices which reject compliance, hierarchy and rules in today’s work environment. Pfeffer claims that employers need to loosen the strict leash on the workforce so that creativity and motivation can flourish in order to achieve positive results. Prompted by such structural change, many organisations worldwide have demonstrated a preference towards management-sponsored employment relations strategies that emphasise individualised communication with employees in the search for greater workplace efficiency and productivity (Wood and Fenton-O’Creevy 2005).

Direct employee involvement and participation refer to mechanisms that allow for individual employee input. Mick Marchington and Adrian Wilkinson (2005) broadly catgeorise them as downward communication, upward problem-solving, task-based participation and teamworking.

Downward communication usually takes multiple forms, ranging from formalised documents, such as newsletters and corporate magazines, to face-to-face verbal interactions between line managers and staff, such as team briefings. The main objective of such tools is keeping employees well informed of any managerial actions and intentions aimed to reinforce employee commitment. Marchington and Wilkinson (ibid.) assert that this limited involvement strategy may achieve management's motives of ensuring they have a continuously informed workforce but may have limited impact on employees' attitudes and behaviours. Furthermore, since the type of communication is not integral to the work tasks of the employees, the level of influence and control employees have in this method is usually non-existent. Within a critical perspective, the motive for downward communication calls into question the extent to which management really seeks true participation.

Upward problem-solving is seen to offer greater influence and control for some employees, but management can be seen as shifting its motives from merely educating employees to utilising employees' ideas to enhance management decisions. Even though many merits are associated with this method, such as creating a climate of cooperation, critics insist that managers are taking advantage of employees' ideas and ironically with their active consent (ibid.). Miguel Martinez Lucio (2010: 123) defines this as a form of 'self-harm', where employees are placed under pressure in certain circumstances and feel compelled to participate continuously in providing ideas and suggestions, as in the case of Japan during the 1980s and 1990s.

Task-based participation is seen as an attempt by managers to devolve some management responsibilities to employees, often understood as a mechanism to maintain control at the same time, with a view that employees are resourceful for the organisation (Marchington and Wilkinson 2005). This demonstrates both hard and soft elements of human resource management. While some even claim that it can be seen as a means to enrich employees' tasks in order to minimise task routinisation, critics see no extra involvement being introduced to the work setting, especially when it takes place horizontally which often requires minimal skill improvement. While vertical participation seems to offer more autonomy to employees, as they usually acquire more knowledge of the nature of their work and that of their managers, sceptics regard this as a form of job intensification due to the added stress of new responsibilities (Wilkinson et al. 2013).

Teamworking is seen to give employees the highest level of influence and control compared to the other mechanisms (Marchington and Wilkinson 2005). This is because the groups or individuals involved are given responsibility for a complete task, and are given full autonomy in terms of work methods and time, without direct supervision and influence over the selection of members. The literature in Britain suggests that, although a large number of organisations report the use of teamworking, very few seem to be allowing teams real autonomy (Geary 2003). Despite having the advantage of working with synergies, teams are not always seen as positive. From a critical perspective, it is argued that self-managing teams represent the ultimate in terms of management control in that they work on the basis of peer pressure and surveillance and are not genuinely liberating because they are always under the control of management (Sewell and Wilkinson 1992). In particular, some authors state that self-managing teams are the worst form of work arrangement. Some see them as management's intention to heighten control over employees as the pressures of working with peers replaces management's need to ensure that every member performs.

In the literature, direct forms of employee involvement and participation are observed to be developing slowly in other Asia-Pacific countries although Japanese companies invented many direct forms of employee involvement and participation such as quality circles, which spread across the world in the 1980s (Wilkinson et al. 2020b). Such a landscape can be demonstrated in a study of India by Vidu Badigannavar (2016) that shows voice to be quite low in the public services and weak in the private manufacturing and private services. This occurred despite the labour regulatory framework in India offering a conducive environment for participation in the organisational decision-making process. Additionally, Sriji Edakkat Subhakaran and Lata Dyaram (2018) find that the culture in India is perceived to be discouraging to upward communication. Meanwhile, in China authoritarian leadership is observed to hinder employee voice (Li and Sun 2015).

In sum, there are optimistic accounts of employee involvement and participation claiming that direct employee involvement and participation improve employee attitudes and behaviours in terms of their loyalty, commitment and performance, and also benefit managerial systems in terms of greater efficiency and perceived managerial responsiveness. However, also present is the critical perspective where there are many concerns over the excessively favourable limelight that direct employee involvement and participation practices have been given. Increased stress levels, conflicts and work intensification are just some of the negative effects mentioned by studies as being associated with these forms of employee involvement and participation. For example, Karen P. Harlos's (2001: 335) research suggests that direct employee involvement and participation can 'restrain autonomy or worker discretion and that opportunities to have voice do not in themselves confer perceptions of effectiveness'.

16.2.3 Varying Perspectives on Employee Involvement and Participation

The human resource management perspective has an established foothold in the employee involvement and participation literature, demonstrated in its prevalence in most models. For example, if we take the Harvard Business School model of Michael Beer et al. (1984), voice is central to the espoused strategic aims with the inclusion of voluntary delegation of responsibility, authority and power to both employees and their representative bodies. In the 'AMO' model proposed by Eileen Appelbaum et al. (2000), employee involvement and participation represent the foundation where employees utilise their abilities 'A', have the motivation 'M' and opportunities 'O' to participate, which is believed to increase performance. Many authors such as Pfeffer (1998) see employee involvement and participation as part of the universal 'best practice' ingredient for better performing firms. Christine M. Riordan et al. (2005) argue that harnessing employees' skills and knowledge through employee involvement and participation schemes can add economic value to the firm. This is also supported by Jay Barney's (1991) resource-based view of the firm which claims that employees' skills and knowledge are a source of unique sustainable competitive advantage. All these human resource management models appear to present arguments in favour of employee involvement and participation, and management texts and gurus are increasingly suggesting that successful organisations are those that 'involve', 'empower' and 'listen' (Collins 2005: 34).

Despite this fascination with employee involvement and participation in management agendas, tensions and anxiety have always been present within academic analysis and various practitioners. Many critical writers are doubtful about the perceived logic of a 'win–win situation which sees participation as a solution to satisfy employees' needs while simultaneously achieving organisational objectives' (Strauss 2006: 778). Critical writers are particularly sceptical about the impact of participation on employees in the light of many studies reporting negative consequences such as intensification of work, higher levels of job strain and increased surveillance and control (see Danford et al. 2005; Jenkins and Delbridge 2013). In retrospect, this highlights the relevance of 'responsible autonomy (hands-off control)' introduced by Andrew L. Friedman in 1977. His core idea is that employees are given scope to have a voice, but only under conditions that are appropriate for management and perhaps only as a perception of having a voice rather than really being heard. It is claimed that responsible autonomy does not, however, remove alienation and exploitation, but simply softens their operation or draws employees' attention away from them. Its ideal is to have employees behave as though they were participating in a process which reflects their own needs, abilities and wills, rather than a process aimed at accumulation and profits. Despite such pessimism, Wilkinson et al. (2020a) believe that the advance towards employee involvement and participation will persist given the increasing market and competitive pressures faced by firms today, which have prompted many governments to formally advocate employee involvement and participation.

16.2.4 A Framework for Analysing Employee Involvement and Participation

The work by Marchington and Wilkinson (2005) appears to have received much recognition in the employee involvement and participation literature, evident from its citation and reference in almost all contemporary analyses. Marchington et al. (1992) deconstruct the concept into a four-dimensional matrix—depth, form, level and scope. According to Wilkinson et al. (2013), this framework can help to unpick the purpose, meaning and subsequent impact of employee involvement and participation.

First, the depth of employee involvement and participation refers to the amount of influence employees have in various aspect of management. Marchington et al. (1992) illustrate this in terms of an escalator of participation. This categorisation implies a progression in terms of the level of influence which ranges from simply being informed of changes (information) to being consulted (consultation) to actually making decisions (control), rather than simply the absence or presence of employee involvement and participation. Second, employee involvement and participation can take the form of direct or indirect participation or a combination of both, where the indirect form involves the use of representatives, usually elected from the wider group. Third, employee involvement and participation can take place at different levels—task, department, establishment or corporate headquarters. It is important to see whether employee involvement and participation are adopted at an appropriate managerial level. Fourth, employee involvement and participation are seen as comprising a range of decisions over which the non-managerial employees have some input, ranging from long-term strategic decisions that impact on the business to mundane matters such as cleanliness that have little or no influence on key management decisions. Some may argue that this wide range of issues does not by itself indicate the form of employee involvement and participation practices that can be used to cover the issue, but Paul Blyton and Peter Turnbull (2004) assert that it nevertheless still provides a useful indication to understand the degree of influence that employees have in organisations.

This tool is important as it serves to break down the components of employee involvement and participation. The four-dimensional matrix approach is recognised as overcoming some of the problems associated with the elasticity and uncertainty of definition. Marchington et al. (1992) claim that it provides a more accurate description of employee involvement and participation as it does not treat this phenomenon as a dichotomous variable, but acknowledges the fact that it is open to varying levels, thus providing an indication of the extent to which employees are engaged.

16.3 Understanding Employee Involvement and Participation in Brunei

To understand employee involvement and participation in Brunei, a qualitative case study was carried out in one public sector organisation undergoing change. The research employs a single case study approach, involving 65 in-depth interviews supported by documentation analysis and non-participatory observation. The study takes the organisation as the unit of analysis and is carried out in an educational institution. This institution was purposely chosen on the basis that it was undergoing major organisational changes with the implementation of Brunei's National Education System for the 21st Century (SPN21).[1] This provided the research with the best platform to study employee involvement and participation, as theoretically efforts towards employee involvement and participation are believed to be intensified in a situation of change. Within the educational institution, three research sites were approached—its headquarters, Site B and Site C. Both Site B and Site C are under the purview of the headquarters. These sites were selected based on the expectations about their information content and the variation they offered (Denzin and Lincoln 2011). In particular, Site C is structurally different from Site B, where it supports direct reporting to the headquarters. Site C is also reported to have benefited from greater autonomy which suggests a case favourable to employee involvement and participation. This study relied on three groups of respondents: 1) board members/ policymakers, 2) senior management, and 3) middle- and lower-level employees. The latter are identified as the recipients and enactors of the reform programme whereas the first two groups are seen as the instigators and coordinators.

16.3.1 Spaces Enabling Employee Involvement and Participation

Due to Brunei's small geographical size, there was an absence of immediate pressure for decentralisation in the public sector in the early years after independence in 1984 (Lim and Nuttman 1991). There were suggestions at that time that the constraints of scarce manpower resources meant centralisation helped to simplify the task of the public sector by managing issues centrally. With a strict requirement to follow general government procedures on issues such as budgeting and procurement, a high degree of standardisation was observed. However, in view of deepening globalisation and the need for socioeconomic development, there were increasing pressures for reform in the Brunei civil service over the years. Prompted by these pressures, a series of reform initiatives have taken place, which can be traced back to the launching of the civil service review in 1991 (Haji Abd Ghani 2007). This review focused on constantly assessing the competency, quality and management performance of the civil service. Since then, modernising the civil service has reportedly been at the top of the government's agenda, with a particular desire to expand the role of the private sector, develop human resources, create a quality service culture and ensure efficient delivery of services.

In pursuit of these aspirations, Brunei undertook visible reforms in the public sector. The educational institution under study in particular embarked on reforms in 2009, with decentralisation emerging as one of the two strategies forming the central planks of the reform policy. The educational institution claimed to materialise this

[1] Examining the SPN21 reform is not within the scope of this study. Rather, it is primarily aimed at exploring the structural changes following the reform and the spaces created surrounding employee involvement and participation.

by empowering its employees and revising its reporting system. In this study, these changes are perceived as the spaces created and developed which might nurture or sustain employee involvement and participation.

As part of the decentralisation initiative, a clustering system was introduced as one of the policy directives issued by the headquarters. The cluster system entails grouping a number of individual sites together. To demonstrate, this means that Site B was grouped together with other sites which enabled the cluster members to share information, ideas, good practice and current issues and formulate necessary action plans or interventions for improvement. This could in turn be rolled out at their individual sites. Each clusters reported to an office at the headquarters. This structural change appears to have demonstrated a shift from the traditional hierarchical command structures to a more decentralised organisation, which might open up potential spaces for devolved authority and responsibility.

It has been argued that the problem of limited and unclear autonomy in the Brunei public sector in general might be linked to its traditional and hierarchical organisational structures and management systems (ACCSM 2009). As such, the clustering system in particular might signal an aspiration towards employees becoming industrious actors by attaining greater autonomy in terms of the management of their respective sites, which in turn implies greater space for employee involvement and participation. These desires, however, need to be set against Brunei's centralised governance system and its minimal provisions for and traditions of employee voice.

16.3.2 Forms and Functions of Employee Involvement and Participation

Based on Marchington et al.'s (1992) four-dimensional matrix, there were a number of mechanisms initiated by the senior management that supported or had the potential to support employee involvement and participation in the decision-making process. At the headquarters, the use of direct downward communication was common practice, with heavy reliance placed upon information-passing techniques such as briefings and training, in particular to socialise the reform. The logic might be so employees would be clearer about the motives for reform and therefore might have been more committed to it.

The data also revealed that direct mechanisms were widely used in both Site B and Site C. This included the use of dialogues, direct consultation, contact time and various types of meetings. These methods largely took the form of face-to-face communication techniques such as staff meetings, departmental meetings, contact time and individual appraisal meetings. These meetings were said to differ in terms of their set-up, such as size, frequency and scope of issues. Some took the form of downward information passing and others appeared as alleged upward problem-solving mechanisms which seemed to provide employees with varying degrees of influence in the decision-making process. Directives and instructions from the headquarters were usually cascaded down to the employees through these layers of communication lines. This top-down management style appeared to be the standard management procedure generally accepted and complied with by the employees.

At the cluster level, employees had more opportunities for influence through so-called upward problem-solving techniques. Employees usually met in smaller specialised groups which were believed to allow for more room to exercise influence in the decision-making process. Prior to the introduction of the cluster system, there were limited formal platforms that facilitated interactions between the individual sites. With the clustering system, there was a greater tendency for employees to be given authority and responsibility. This was even more so for Site C as it enjoyed greater autonomy than Site B, where it could also report directly to the headquarters without being bound to the cluster. This suggests a case favourable to employee involvement and participation. However, despite having direct access to the headquarters, the limited scope of discussion engaged in by the employees with those at the headquarters raised questions about the arrangement offered to Site C. Given what the relationship entailed, it prompts questions on the motives of the decentralisation policy—employees appeared to be have been given scope to have a voice, but primarily under conditions that were appropriate for management. As such, one may challenge whether it was indeed a true form of participation or a form of organisational control driven by the need for efficiency—an administrative tool to gain quick cooperation in carrying out new initiatives.

16.3.3 Interpreting Employee Involvement and Participation

Following decentralisation, spaces for employee involvement and participation appeared to be opening up. However, given the limited arrangement of practices and processes that provided employees with the opportunities for influence which followed, what does this say about employee involvement and participation?

One may interpret employee involvement and participation in this context as an efficiency control programme which took the form of managerial and operational-oriented processes and structure such as ‘autonomous’ meetings and teamwork. The critical perspective, such as that of Martinez Lucio (2010), would explain this by arguing that this type of employee involvement and participation does not always work, and also reveals the inbuilt tensions within the paradigm of employee involvement and participation—the exposure of employee involvement and participation as management rhetoric which was played out on management’s and not employees’ terms. As Miguel Pina e Cunha et al. (2018) point out, providing employees with a mechanism to voice out on improvements may signal that employees can challenge management to some extent, but this appears not to have been the case. Despite such an arrangement, there was no strong evidence to suggest any intended challenge to the basic power relations of those in authority. Instead of an anticipated manifestation of employee resistance, evidence of high compliance and consent among the employees was broadly observed. A strong sense of loyalty was evident.

Given how largely context-dependent the concept of employee involvement and participation is, the importance of context needs to be emphasised. It can be argued that studying employee involvement and participation in a country that does not fit the context generally discussed in the literature might bring a different meaning to popular concepts. As such, we should be wary of attempting to explain phenomena in accordance with the mainstream literature. For example, relative to how Friedman (1977) sees control as a mode of exploitation, the control-oriented form of employee involvement and participation in Brunei's public organisation might not be exploitative in nature. Owing to the country's distinctive political system, unitarism seems to best define the employment relations context, with a paternalistic management seeming to govern the workplace. This is supported by Syed and Dk Nur'Izzati's (2012) study which shows that Brunei's close-knit socioculture, claimed to promote family relationships, has a significant impact on workplace relations. This view is consistent with the findings of the research conducted by Hazel Markus and Shinobu Kitayama (1991), in which a strong preference for a leader who uses a paternalistic style is common in highly collectivist cultures, such as those demonstrated in Brunei. In effect, as asserted by Geoffrey Wood (2010), organisations characterised by paternalist managerial strategies might accord little room to employee involvement and participation.

The paternalistic model is characterised by dependence on the 'fatherly' support of seniors in return for loyalty and obedience (Fleming 2005). Alhajie Saidy Khan and Peter Ackers (2004: 130) claim that this trend remains common in many parts of the world, which is characterised strongly by the 'community relationship interweaving the employment relationship'. Arguably, even though it acknowledges some responsibilities towards employees, the concentration of power remains in the hands of managers, affording little room for employee involvement and participation. In the workplace, it is suggested that paternalist managerial strategies might see frequent meetings between management and employees, likely to be top-down (Webster and Wood 2005). Peter Fleming (2005) claims that some space may be open to feedback and dialogue as a way of strengthening the close and personal nature of the relationship. Hence, Wood (2010) believes that any participation within the paternalist model is likely to be closely confined and directly aimed at ensuring that the individual provides adequate service in return for the organisation's support and vice versa. Based on John Purcell and Keith Sisson's (1983) typology, trust is central to the cooperation developed in these contexts which serve as a prerequisite for such relationships (see also Johnstone and Wilkinson 2016). This logic might be appropriate in a unitarist employment relationship with its emphasis on common purpose and shared goals, as in the case of Brunei.

16.4 Conclusion

Drawing on the case study described here, it is important to note that when studying employee involvement and participation, context should not be treated merely as a binary classification—East and West, developing versus developed countries. Despite it being helpful to have such a classification, more emphasis should be placed on the sensitivities of the challenges raised by the context and how they influence the employee involvement and participation set-up. Processes that may look similar may not necessarily be the same, or rather, may not possess the same significance in a variety of different national contexts. Morover, when studying employee involvement and participation in a constrained setting, the meaning of employee involvement and participation should be stretched to recognise the significance of other potential explanations apart from those largely recognised in the literature. Perhaps what is clearly much more important is what those practices actually mean to the actors involved. This is particularly important for those contexts where formal mechanisms are constrained.

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Chapter 17
Conclusion: Moving Forward

Ahmed M. Khalid and Bruno Jetin

Abstract This chapter provides a summary of the contributions in this book. One key argument presented throughout is that economies going through a transitional phase face several challenges such as rising unemployment, a lack of entrepreneurial and innovative skills, a dearth of expertise in economic planning and management and more. The recent economic changes experienced by Brunei Darussalam are driven by a structural transformation that occurs in all emerging countries during their development process. This shifting global Asia offers many opportunities for growth if Brunei accelerates policy implementation to innovate and diversify its economy. This is necessary to meet the challenges of the energy transition and the digital economy that are propelled by shocks like climate change and global pandemics. Brunei must also be ready for a demographic change, and invest in and modernise its education system to provide young people with the new skills that companies need. The contributions provide clear evidence that Brunei is increasingly committed to taking on the responsibility of being a more productive state. Oil and gas rents, which are an important driver of the long-run economic growth process, have been increasingly used to finance diversification and socioeconomic development, including generous welfare benefits. This chapter highlights certain niche areas, such as the development of financial sector including a focus on Islamic finance, strengthening agritourism, the services sector, an efficient public sector and more vibrant business sector, which are all key to the future success of Brunei and its ability to meet the anticipated targets as set out in Wawasan Brunei 2035 (Brunei Vision 2035).

Keywords Brunei Darussalam · Economic transition · Diversification · Demographic change · Socioeconomic development

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17.1 Introduction

This book synthesises the recent socioeconomic changes that Brunei Darussalam has experienced in the course of the early decades of the twenty-first century. These changes are driven by the structural transformation that occurs in all emerging countries during their development process. This economic transition is all the more complex for a small resource-rich country in so far as Asia is a hotspot of globalisation and there are many competitors taking initiatives to get their share of the wealth created in this dynamic region. This shifting global Asia offers many opportunities for growth, provided Brunei accelerates policy implementation to innovate and diversify its economy. This is necessary to meet the challenges of the energy transition and the digital economy that are propelled by shocks like climate change and global pandemics. Brunei must also be ready for a demographic change, and invest in and modernise its education system to provide young people with the new skills that companies need.

17.2 Major Observations and Findings

This book presents multifaceted aspects of Brunei's economic transition and identifies several issues and recommendations. The chapters in Part I deal with the overarching theme of Brunei's economy in the context of shifting dynamics in Asia. Hafiizh Hashim, Stephen C. Druce and Abdul Hai Julay in Chap. 2 inaugurate one of the central issues of this volume—Brunei's economic diversification. They rely on an institutionalist approach to explain the difficulties the country faces in reducing its hydrocarbon dependency because good institutions play a critical role in economic development. For the authors, there is clear evidence that Brunei is increasingly committed to taking on the responsibility of being a more productive state. They observe that the government has invested heavily in education to make sure that all young Bruneians have access to learning. However, its international ranking performance shows that Brunei must continue to modernise the education system to become more productive and be on a par with its more proximate competitors. Updating its human capital is decisive in attracting foreign investment and absorbing new technologies that will spill over to local companies. The authors also advise policymakers to rely more on local scholars and experts and use their talent to promote and market Brunei's own brand of developmentalism. Local experts know the institutional arrangements that are conducive to success better than outsourced foreign firms. They also recommend reforms that will improve the productivity of the private sector such as shifting technology intensive activities to private companies and a strong involvement of policymakers to change the mindset of Bruneians and stress the advantages of private sector jobs.

In Chap. 3 Ly Slesman shows that this diversification away from the oil and gas industry is not only desirable but possible. Using advanced econometric estimations, he finds that oil and gas rents have been an important driver of the long-run economic growth process in Brunei and that these rents have been used to finance diversification and socioeconomic development including generous welfare benefits. In other words, natural resources have been a blessing rather than a curse that blights some other resource-rich countries. Progress has been made in economic diversification in the last 10 years or so. The non-resource private sector, though small, has grown at an average annual rate of 2.6% since 2010. However, most of the progress in the diversification of manufacturing is located in oil and gas downstream activities. Further improvement in non-resource manufacturing, modern services and agricultural sectors must be accomplished with the help of foreign investment.

Bruno Jetin in Chap. 4 draws similar conclusions. Based on the calculations of the Multidimensional Indicator of Extractives-based Development (MINDEX), he shows that Brunei is both extremely resource-rich and dependent on resources and, according to the United Nations Trade and Development (UNCTAD) export diversification index, is one of the least diversified economies of the world, much less than other Association of Southeast Asian Nations (ASEAN) and Organization of the Petroleum Exporting Countries (OPEC) economies (UNCTAD 2018; Lebdioui 2021). Brunei derives high rents from these resources which it largely uses to finance Islamic welfare state objectives that emphasise universal and inclusive social policies. Brunei ranks third in public employment despite only being tenth in terms of rents. Despite this, Brunei's employment underutilisation index calculated by the International Labour Organisation is the highest in ASEAN. The absorption of this underutilised labour force can only come from the private sector, but the problem is that the majority of private jobs are in non-tradeable activities where productivity is low and salaries 30% below public sector ones. These sectors also employ a large number of migrant workers who are paid less, which does not induce private companies to invest in technology upgrading and training. Jetin concludes that these different features form a system that can only be changed with an overall policy that modifies the structure of incentives so that the private sector becomes as attractive as the public sector. This can be achieved with increasing labour mobility and flexibility. Another proposal is the citizens' income, an unconditional cash grant to all citizens that would fill the wage gap between the public and private sectors and serve as basic income security during periods of unemployment. Young entrepreneurs would receive a higher citizen income to reward their innovation efforts. Another proposal is to develop a national innovation system to contribute to the implementation of the long-term national development plan, Wawasan Brunei 2035. It could also foster innovation in new clusters linked to the energy transition, biodiversity and electric vehicles.

In Chap. 5 Biswa Nath Bhattacharyay defends the idea that the financial sector can play a significant role in achieving the national development plan. To this aim, Brunei Darussalam Central Bank (previously Autoriti Monetari Brunei Darussalam) has developed a long-term 10-year financial sector strategy to advance the country as a competitive and innovative hub. He observes that Brunei has a bank-based financial system which performs better than ASEAN and Gulf Cooperation Council (GCC) countries in terms of access to banks and financial inclusion, but below the average with respect to efficiency, depth and intermediation. He makes proposals to enhance the depth and efficiency of the banking sector as well as to resolve the maturity mismatch. To control risk, banks tend to loan for a shorter period than what businesses need. The development of efficient bond and stock markets can reduce the dependency on the banking system and the maturity mismatch. This could be achieved with the adoption of a new and appropriate legal and regulatory framework. Bhattacharyay also proposes that Brunei tries to develop a niche in international Islamic banking to provide innovative financial services that could be marketed to neighbouring countries.

The next two chapters analyse Brunei's foreign trade and investment with Asia and ASEAN. Using cutting-edge techniques and the multiregional input–output (MRIO) database of the Asian Development Bank, Angelo Jose Lumba, Mahinthan Mariasingham and Arushi Gupta, in Chap. 6, examine Brunei's exports amid developments in global value chains (GVCs). This is the first time that Brunei's inclusion in GVCs has been scrutinised in detail. The authors show the country is positioned in the upstream sections of GVCs, which means that its inputs are utilised by other economies to a greater extent than other economies' inputs are utilised by Brunei. It is the opposite in Singapore which uses large shares of value added that originate from other economies and relies less on other economies for the use of its products. Brunei's forward participation rate to GVC is higher than any other Asian country, China included. This is due to the high share of oil and gas in total exports and reveals that Brunei's export vulnerability does not come so much from its suppliers' constraints but from a potential demand shock stemming from an economic crisis in its main customers which are Japan, Australia and South Korea. The diversification of the export basket and therefore of the economy is the solution to reduce this vulnerability. The authors recommend to capitalise on the low-hanging fruits, which means going beyond the rising participation to downstream oil and gas industries and increasing investment in other sectors such as *halal* food, aquaculture, and information and communication technology. The latter comprises communication, logistical and financial services that are amenities to GVCs. More broadly, Brunei should embrace the digital economy actively. The authors also recommend improving the ease of doing business and leveraging trade agreements. Brunei has signed several regional and global trade agreements and should use them more to diversify its export basket and increase its participation in GVCs.

In Chap. 7 Pang Wei Loon dovetails the previous chapter's findings and conclusions. Due to Brunei's high dependence on oil and gas, interindustry trade patterns largely dominate, while intra-industry trade is almost non-existent, which differs from ASEAN member states that have a large manufacturing base. However, due to a recent massive influx of foreign direct investment (FDI) from Japanese and Chinese companies in the downstream petrochemical industry a rise in intra-industry trade is expected. China is bound to become an important partner of Brunei because most petrochemical exports are destined for it. This is due to the investment of two major Chinese companies. Hengyi, a petrochemical company, invested USD3.45 billion in the first phase and USD13.65 billion is committed in the second phase, which makes it the largest private Chinese investment in ASEAN. Beibu Gulf International Port Group is another important Chinese company with a global stake in many major deep seaports across the world and which operates Brunei's largest container terminal in Muara. This shows that the diversification of Brunei's economy and exports implies increased FDI and the stronger participation of multinational companies in Brunei.

Part II deals with the prospects for economic transition. Chap. 8 by Adilah Hisa, M. Muzamil Naqshbandi and Fadzliwati Mohiddin analyses the skill demands of Brunei's employers. These include not only technical expertise but also more generic soft skills or employability skills such as decision-making, problem-solving and analytics, time management and communication. Their findings reveal that employers believe Bruneian youth have major competence in oral communication, written communication, listening, learning and interpersonal skills. However, these employers felt that young people lack competence in executing skills associated with risk-taking, managing conflict, problem-solving/analytics and decision-making, suggesting that youth need to make efforts to develop these skills. The authors recommend that higher education institutions should change their curricula to fill the gap between the soft skills of the youth and employers' demands. Employability attributes should be embedded in their programmes. Employers could coordinate in order to express their expectations so that young people can be better prepared. Internships should go beyond exposing youth to the realities of the workplace and develop their knowledge, skills and all-round abilities. Internships should also be evaluated accordingly. Given the youth's preference for government office jobs, better information should be given regarding the opportunities and interests in the private sector and the requisite skills. The government training programme should also be evaluated based on the peer evaluation approach and a self-assessment questionnaire to ensure they are the most effective.

Chapter 9 by Wei Lee Chin and Siti Fatimahwati Pehin Dato Musa provides an example of diversification in community-based agritourism where specific skills are needed. Agritourism is considered a valuable tool in diversifying the economy and encouraging rural entrepreneurship. Based on field research, their study explores the potential of agritourism in Brunei. The analysis reveals the economic, environmental, sociocultural and educational benefits of agritourism but also the difficulties it faces such as the lack of internal funding, fluctuating income, premium pricing, small-scale production, limited seasonal harvests and unreliable human resources. On top of that, there are external disadvantages like the institutional support or collaboration from relevant agencies, the absence of agritourism in the national tourism framework to guide the farms, the non-existence of centralised management such as associations to represent the welfare of the farms and farmers, and inadequate promotional marketing to attract domestic tourists. These difficulties must be overcome if Brunei wants to fully develop an activity that attracts significant interest and can contribute to the much-needed diversification of the economy.

In Chap. 10 Wei Lee Chin looks at cross-border tourism between Brunei and Sarawak, Malaysia. Because wages are higher in Brunei and the exchange rate is favourable, Bruneians go en masse to Sarawak during weekends to take advantage of cheaper goods and services, including entertainment, leisure, transit to other destinations, alternative medical and health care facilities as well as efficient postal services. This has a significant impact on Brunei's GDP because a big share of Bruneian household expenditure is being spent in Malaysia. In 2019 this was estimated at BND1.16 billion or 8.6% of GDP. It is very difficult for Brunei to compete in price for these consumer goods and services because of its small size and higher living standards.

In Chap. 11 Hairul Azrin Besar analyses the Islamic financial services available in Brunei. As seen in Chap. 5, financial services are part of the diversification of the economy envisaged by Wawasan Brunei 2035. The author retraces the development of these services, in particular the creation of the Brunei International Financial Centre in 2000 in order to attract the financial industry to operate from the country. Several Islamic banks were also established. This has provided young entrepreneurs, who could not get access to conventional financial services, with the required initial capital, allowing them to concentrate on developing their businesses without worrying about the set-up costs, renting properties or warehouses and capital equipment. The author concludes that Islamic financial services have fostered growth.

Chapter 12 by Mohammad Nabil Almunawar and Mohammad Alif Azizi Abdullah focuses on digital marketplaces in Brunei. Nowadays, many firms use the internet to advertise and market their goods and services. The COVID-19 pandemic boosted the digitalisation of transactions and pushed for the creation of local marketplaces. The drawback in a small country like Brunei is that more than 90% of enterprises are micro, small, and medium enterprises (MSMEs) and a comprehensive e-commerce system is too costly and complex to manage. The problem is not so much the marketing of goods and services that can be accomplished easily on social media. The main issue is the payment of the transaction for which a dedicated application is needed because social media do not provide a payment system. Transactions are often paid in cash or with the use of digital wallets which are on the firms' premises. The solution is the use of a digital marketplace platform that can handle all transactions swiftly, including payments. Local digital marketplaces are growing in Brunei, and they have some advantages like faster delivery and faster exchanges or refunds. Several global marketplaces do not deliver in Brunei and goods are shipped to Malaysia, and Bruneians must use additional delivery services which adds cost and delivery time. However, the main disadvantage of Bruneian marketplaces is that they do not provide a large variety of goods marketed by global brands that the consumer wants. This is why most Bruneian digital marketplaces are still relatively small and only cater to local market demand. To become a first-choice marketplace, Bruneian digital marketplaces must include global brands in their portfolios and offer same-day or speedy deliveries which implies covering the cost of logistics and storage. These improvements would also benefit local products.

Chapter 13 by Pg Md Hasnol Alwee Pg Hj Md Salleh and Roslee Baha tackles the issue of financial literacy and its effects on retirement preparedness among government employees. As we have seen previously, the government is one of the main employers in Brunei and the chapter presents the past and current retirement schemes of its employees. The capacity of current schemes to satisfy retirement needs depends on the return on investment on the principal invested, which underlines the importance of employees' financial literacy. The authors estimate the level of financial literacy of a sample of 700 government employees. Their findings reveal that around 45% are considered financially literate. They are more prone to calculate the amount needed for retirement, attend financial seminars/roadshows and make voluntary contributions on top of the mandatory schemes, and the quality of their investments is higher. The conclusion is that policies that improve financial literacy will contribute to better retirement preparedness. Those with low-level financial literacy are relatively older, possess only a pre-college qualification and are employed in low-scale posts. They will probably get an insufficient income when they retire and the government may have to adopt specific measures to address this issue.

The last three chapters in Part III focus on the management of the public sector, a key actor and employer in Brunei. Chapter 14 by Thuraya Farhana Said analyses performance management in the public sector. Like other countries, the objective is to increase the efficiency of public administration by using private sector tools and practices. Since the 1990s several reform policies and initiatives based on new public management ideas were introduced and implemented in the Brunei public sector. Citing Ayman Adhair (2005: 24), the author states the main motives for such reforms are that 'the role of the ministry is often not clearly stated; service delivery is generally poor, and performance measurement is not practised efficiently'. Her main findings are that the use of the new tools in the Brunei public sector is limited and may be seen as implemented ceremonially rather than substantively. Its main achievements are limited to internal transparency and the presentation of performance. One key recommendation is to integrate performance appraisal and performance-based budgeting.

In Chap. 15 Mahani Hamdan offers an extended reflection on the means of improving the management of the public sector thanks to the organisational innovations of the private sector regrouped under the umbrella concept of operational excellence. Operational excellence is closely linked to the various tools of continuous improvement in use in the private sector but is oriented towards long-term change in organisational culture while continuous improvements are aimed at short-term refinements of processes. The author focuses on the definition and implementation of operational excellence in the Bruneian context. This topic has not been much researched and public services need to improve their performance for Brunei to compete favourably with neighbour countries. Mahani employs a qualitative approach based on semi-structured interviews with middle management officers from various departments. In sum, her findings show that technical innovations, such as the digitalisation of public services, have made tremendous progress and brought improvement in efficiency and effectiveness. However, organisational innovation, like continuous improvement, has been implemented to review work processes in various administrations but has made little progress. Employees have received some training but there is limited implementation guidance in the execution of the plans. Progress is slower in departments where there is a strong institutional culture. However, it turns out that operational excellence can only be successful if the need to change to achieve improvements is a shared value among leaders and employees. This value congruence is key to motivating employees to strive for excellence. The author concludes with a long list of recommendations to better implement operational excellence in Brunei's public services.

Chapter 16 by Wardah Azimah Sumardi complements the previous studies by precisely analysing the ways to stimulate employee involvement and participation in decision-making in public services. The concept of employee involvement and participation is largely context-dependent. Brunei is ruled by an essence of conformity and consensus, which favours a system based on unity where employees accept their place and function and follow leaders who make use of a paternalistic style. The author introduces the concept of employee involvement and participation presented by Adrian Wilkinson et al. (2020: 5), where it is broadly defined as 'the ways and means through which employees attempt to have a say, formally and/or informally, collectively and/or individually, potentially to influence organisational affairs relating to issues that affect their work, their interests and the interests of managers and owners'. The Bruneian context influences the practice of employee involvement and participation because the concentration of power in the hands of leaders leaves little room for employee involvement and participation, favours collective expression rather than individual expression, and focuses on ways to help improve organisational effectiveness rather than being about grievance procedures. This employee involvement and participation style is not prone to radical change but is more congruent with incremental improvement which is a way to achieve continuous improvement.

17.3 Moving Forward

Economies going through a transitional phase face a number of challenges such as rising unemployment, a shortfall in entrepreneurial and innovative skills, a lack of expertise in economic planning and management and more. As noted, this book covers a number of topics dealing with the economic transition and transformation of Brunei from a developing country to an emerging or developed economy. The topics include fine-grained analyses of socioeconomic development, geopolitical challenges, the country's place in the changing world order, new business models to deal with the fast pace of technological development and innovations, labour issues and employee management. The deliberations and assessments presented here suggest that Brunei has designed a good set of reform policies to move towards economic transformation and away from oil and gas dependency. However, the authors also observe that the implementation of economic reform policies has been slow. The government needs to expedite this process to meet the anticipated targets stipulated in Wawasan Brunei 2035.

The debates examined in the various chapters also suggest that Brunei has great potential to diversify the economy if policies are properly designed and possess coherent mechanisms for implementation, enforcement and monitoring. The service sector is the main vantage point to improve its non-oil and gas diversification strategy.

Here we highlight some of the niche areas that Brunei should focus on to better place itself in competitive regional markets.

- Tourism is a major industry and a focus on national economic planning. However, this sector is currently not prioritised enough to attract a significant number of new tourists. To develop a thriving tourism sector, a collaborative approach is needed by engaging communications, hotel and hospitality sectors, Royal Brunei Airlines (the national carrier) and appropriate infrastructure. Brunei should follow the approach used by neighbouring countries through initiatives such as a potential Visit Brunei 2025 scheme with attractive and affordable packages targeting both visitors and local businesses. *Halal* tourism can also be explored. The Strategic Plan (2020–2022) of the Tourism Development Department identifies specialities such as culture, heritage, nature and Islamic tourism as emerging products and these should be followed through (TDD 2022).
- Islamic finance could be another attractive area for growth. But this will require the establishment and development of a domestic capital market and stock exchange, a transparent regulatory framework as well as investment in information technology. This is in line with the long-term strategy under Wawasan Brunei 2035 to achieve the goal of a dynamic and sustainable economy and to increase the Islamic finance contribution to GDP to 8% by 2035. As a key element of the overall development strategy, alternative sources of finance are needed to support business expansion and innovation and to transform the domestic financial sector into an international financial centre, with a special expertise in Islamic finance. For example, with proper infrastructure and a regulatory structure in place, Brunei can tap into the huge *syariah*-compliant bond market in the region. Given that Malaysia has emerged as the main provider of Islamic financial products creates major competition with neighbouring countries, which include Indonesia and Singapore. The current need is to improve the understanding of and develop expertise in Islamic financial technology as a way to compete in this regional market.
- As already highlighted, Brunei should focus on developing its services sector. The country has the advantage of having a large youth population that can communicate in English and possesses good technical knowledge. The outsourcing of services in banking, the financial sector and insurance industry is very common in Australia, New Zealand and Britain. Countries such as India, the Philippines and Thailand are taking advantage of these offshore services. Brunei should explore how its young people can enter this market.
- Besides service industries, Brunei should also educate local businesses, and especially MSMEs, to explore offshore markets and expand their market reach. Brunei Halal, established by the government to play a key role in the development of the food industry and diversification, could serve as an exemplar since Brunei's *halal* certification is widely accepted. There is a huge market for *halal* products in the broader Asia-Pacific region (including China, Australia and New Zealand). Brunei should take advantage of its bilateral and multilateral free trade agreements to tap into these markets with a rising demand for *halal* products including food and beverages, pharmaceuticals and cosmetics.

In summary, there is good potential for Brunei to improve the non-oil sectors' contribution to growth and diversification. We hope that the observations and suggestions provided in this book will help to plan an effective policy framework for the timely achievement of the goals and targets of Wawasan Brunei 2035.

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Glossary of Non-English Terms

asnaf receiver of alms (*zakat*)
bai bithaman ajil deferred payment sale or credit sale contract
bai inah loan in the form of a sale
bidara Indian jujube (*Ziziphus mauritiana*)
en plein air outdoor painting
fard al-kifayah legal obligation that must be discharged by the Muslim community as a whole
hajj Muslim pilgrimage to Mecca
infaq charitable contribution, disbursement
jongsarat hand-woven cotton and silk cloth
kangkong water spinach (*Ipomoea aquatica*)
madu kelulut stingless bee honey
maslahah public interest
Melayu Islam Beraja Malay Islamic monarchy
misai kucing herbal tea
muamalah contract of transactions under Islamic law
mudarabah legal contractual arrangement between two partners for profit sharing
murabaha form of cost-plus trade financing
musyarakah joint venture investment or equity raising by a group of partners
ngajat traditional Iban dance
nisab minimum threshold for giving alms (*zakat*)
pakis edible wild fern (*Diplazium esculentum*)
pucuk ubi cassava leaves
rebung bamboo shoots
riba interest or usury in business and trade
sukuk financial certificate, bond
syariah Islamic divine law
takaful cooperative insurance model
tawarruq purchase of a commodity on a deferred payment
titah order, declaration
tuhau wild ginger (*Etlingera coccinea*)

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ubi kayu tapioca
wadiah safekeeping or custodial arrangement in Islamic finance
waqf endowment of a certain property for the sole benefit of a certain philanthropy
Wawasan Brunei 2035 Brunei Vision 2035
zakat form of alms, considered a religious obligation

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