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MACROECONOMIC OUTLOOK

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3 | MACROECONOMIC OUTLOOK

Overview

The Malaysian economic outlook remains resilient with domestic demand anchoring growth. The GDP expansion of 4.7% (y-o-y) in the first half of 2019 is expected to continue for the rest of the year while improving marginally to 4.8% in 2020. Notwithstanding the steady economic performance, the balance of risks to outlook remains on the downside as Malaysia has a high degree of openness. Disruption to global supply chain emanating from the prolonged trade dispute between major economies, geopolitical tensions, electronics slowdown as well as volatility in the global financial and commodity markets are anticipated to affect Malaysia's growth momentum in the near-term.

Accounting for about 58% of GDP, household spending will continue to spearhead growth, supported by a stable labour market and benign inflation. Meanwhile, gross fixed capital formation is expected to gain traction in 2020 following revival of strategic projects coupled with on-going capital spending in the services and manufacturing sectors. On the supply-side, projection of a broad-based expansion led by the services sector will support growth backed by household spending. In addition, the rapid expansion of the digital economy and the launch of Visit Malaysia 2020 (VM2020) will boost the growth of the sector. The manufacturing sector is expected to perform moderately in subsequent quarters before gaining momentum in the second half of 2020 in line with the anticipated upturn in the global electronics demand. Meanwhile, higher production of crude palm oil (CPO) and natural gas will support the growth of the commodity sectors. The construction sector is projected to improve with activities in the civil engineering segment cushioning the subdued performance of the residential and commercial property segments.

Resulting from the softer global demand amid trade and technology tensions, exports are estimated to record a moderate growth in

2019. Nevertheless, forecast for 2020 indicates a gradual pick up in the external sector in line with the projected improvement in global trade activities following the resumption of the US-China trade talks and recovery in global demand for electronics. Meanwhile, current account surplus is anticipated to narrow with rising imports following an uptick in investment and industrial activities coupled with widening deficits in services and income accounts.

Sectoral

Services Sector

The services sector expanded 6.3% during the first half of 2019 benefitting from resilient domestic demand. In 2019, the sector is projected to grow 6.1%, constituting about 58% of GDP primarily supported by wholesale and retail trade; finance and insurance; information and communication; and food & beverages and accommodation subsectors. The sector is projected to expand 6.2% in 2020 with most subsectors expanding at the same momentum, while trade-and manufacturing-related services are expected to improve marginally.

**Table 3.1. GDP by Sector
2018 – 2020**
(At constant 2015 prices)

	Share (%)	Change (%)		
	2019 ¹	2018	2019 ¹	2020 ²
Services	57.5	6.8	6.1	6.2
Manufacturing	22.2	5.0	4.0	4.1
Mining	7.3	-2.6	0.6	0.3
Agriculture	7.3	0.1	4.3	3.4
Construction	4.7	4.2	1.7	3.7
GDP	100.0	4.7	4.7	4.8

¹ Estimate.

² Forecast.

Note: Total may not add up due to rounding and exclusion of import duties component.

Source: Department of Statistics and Ministry of Finance, Malaysia.

The wholesale and retail trade subsector remains the key driver of the services sector. In 2019, the subsector is expected to grow 6.8% following expansion in the retail segment, particularly with the increasing number of convenience stores. However, the wholesale segment is projected to decline as hypermarkets are reviewing their business model due to high operating costs. Meanwhile, the motor vehicles segment is anticipated to continue to expand with the introduction of new car models, especially during the first half of 2019. In 2020, the subsector is projected to increase 7% supported by tourism-related activities and accelerating growth of e-commerce utilising the Electronic World Trade Platform which is designed to facilitate trade by connecting businesses, managing cargo authorisation and assisting customs operations.

The finance and insurance subsector is expected to grow 4.8% in 2019 driven by finance segment mainly attributed to higher growth in FISIM¹ and fee-based income amid low-interest rates. Meanwhile, the insurance segment is projected to grow at a slower pace on account of lower premiums and higher claims. However, the segment is expected to benefit primarily from higher car sales during the first half of 2019. In 2020, the subsector is anticipated to expand 5.1%, mainly underpinned by the finance segment, benefitting from an increase in bank lending and higher fee income in line with the expansion in economic activities. In addition, the setting-up of the first virtual bank in the third quarter of 2020 to modernise Malaysia's banking industry as well as the issuance of virtual banking licence guideline is expected to boost further the growth of the subsector. Meanwhile, the insurance segment (including takaful) is projected to expand in tandem with the Government's target to increase the national insurance penetration rate from 54% in 2019 to 75% in 2020 through greater awareness campaigns, particularly to the middle-income group.

In 2019, the information and communication subsector is expected to grow 6.7% attributed to telecommunications and computer services. The communication segment will continue to spearhead the subsector with various Government's initiatives to enhance broadband access and coverage through National

Fiberisation and Connectivity Plan (NFCP). This plan focuses on expanding the existing fibre optic network, installing submarine cables and developing gigabyte networks in several locations in state capitals and selected industrial areas. In addition, the Digital Free Trade Zone (DFTZ) which emphasises on the growth of the digital economy and cross-border e-commerce activities, including e-fulfilment hub to enhance exports will continue to support the segment. Meanwhile, the introduction of the fifth-generation cellular network (5G) is anticipated to drive the growth of the subsector to 6.9% in 2020. The 5G technology will create a competitive market for home broadband services as well as increase the coverage and network quality. This will strengthen Malaysia's capacity to participate in the IR 4.0, allowing the industry to fully utilise artificial intelligence (AI), robotics, virtual reality, big data analytics (BDA), Internet of Things (IoT) and software engineering, leading to higher digital adoption. In addition, NFCP will provide affordable broadband services to support the digital economy, especially to SMEs. In the meantime, i-Solutions offers a seamless, borderless digital connectivity solution for the Malaysian market mainly for the SMEs and MNCs.

**Table 3.2. Services Sector Performance
2018 – 2020**
(At constant 2015 prices)

	Share (%)	Change (%)		
	2019 ¹	2018	2019 ¹	2020 ²
Wholesale and retail trade	29.6	8.1	6.8	7.0
Finance and insurance	11.4	5.7	4.8	5.1
Information and communication	10.3	8.3	6.7	6.9
Real estate and business services	8.4	7.6	7.6	7.8
Transport and storage	6.5	6.4	6.5	6.4
Food & beverages and accommodation	6.1	8.9	9.2	8.9
Utilities	4.6	4.9	5.6	4.4
Other services	8.6	5.5	5.3	5.1
Government services	14.5	4.5	4.0	4.0
Services	100.0	6.8	6.1	6.2

¹ Estimate.

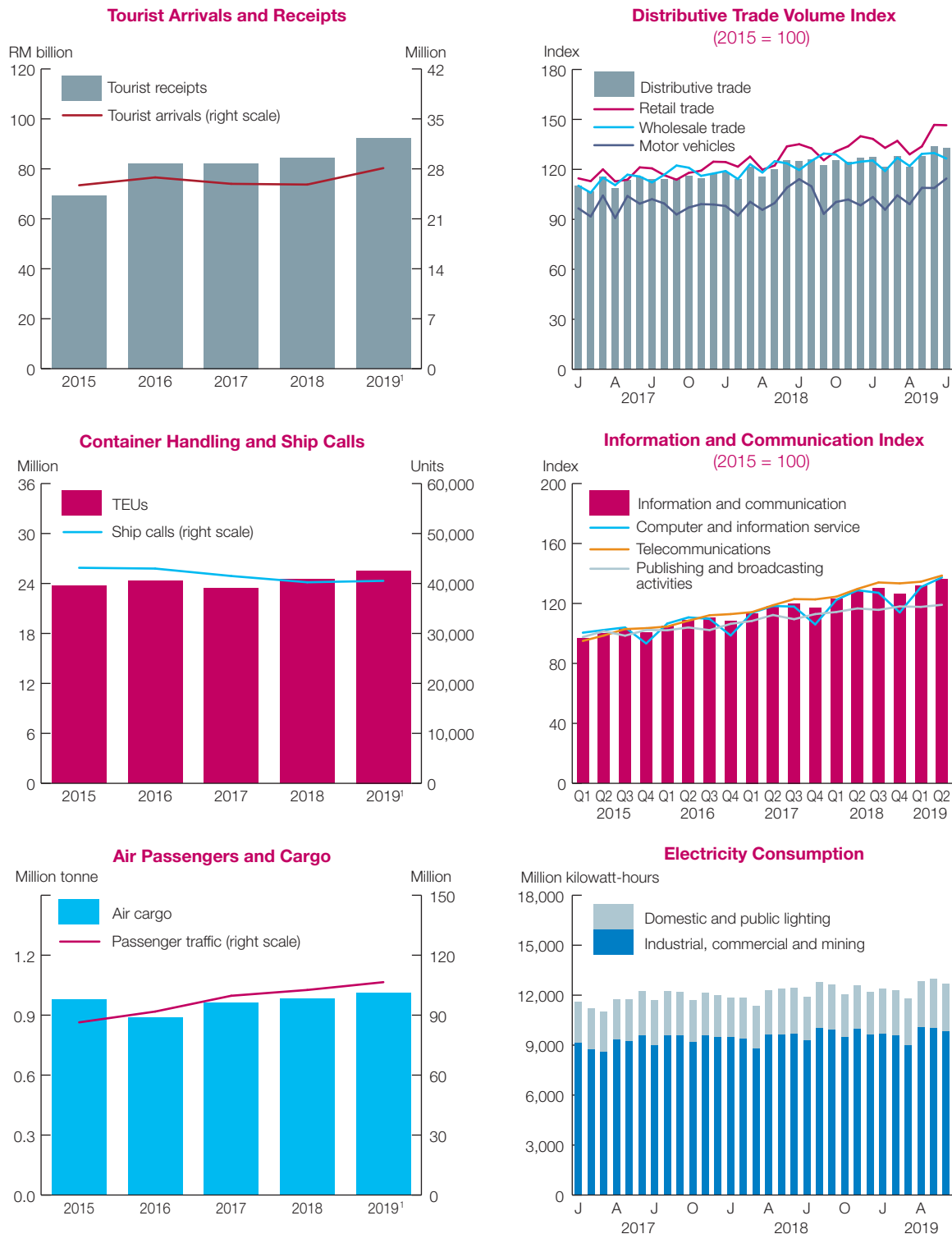
² Forecast.

Note: Total may not add up due to rounding.

Source: Department of Statistics and Ministry of Finance, Malaysia.

¹ Financial Intermediation Services Indirectly Measured.

Figure 3.1. Selected Indicators for the Services Sector



¹ Estimate.

Source: Department of Statistics, Malaysia; Malaysia Airports Holdings Berhad; Malaysia Tourism Promotion Board; Senai International Airport; and seven major ports (Bintulu, Johor, Klang, Kuantan, Kuching, Pulau Pinang and Tanjung Pelepas).

The real estate and business services subsector is expected to grow 7.6% in 2019 driven by demand for professional services, particularly legal, accounting and engineering with the continuation of Mass Rapid Transit Line 2 (MRT2) and Light Rail Transit Line 3 (LRT3) projects. On the contrary, the real estate segment is projected to moderate in tandem with the prolonged overhang in residential and commercial properties. Nevertheless, the introduction of Home Ownership Campaign (HOC) to clear overhang units is expected to cushion the subdued performance of the subsector. In 2020, the subsector is forecast to increase 7.8% supported by higher demand for construction-related services with the continuation of mega projects such as the East Coast Rail Link (ECRL) and Bandar Malaysia. Furthermore, the enhancement of the eligibility criteria of the Fund for Affordable Homes in September 2019 to further assist first-time home buyers is expected to support the growth of the subsector.

In 2019, the transport and storage subsector is expected to increase by 6.5% mainly supported by the land transport segment, especially the rail services. The introduction of My100 unlimited travel pass for 30 days for use on all rails and bus rapid transit as well as My50 for RapidKL and MRT feeder buses are expected to support passenger movements. The offering of special fare of RM1 for a one-way bus trip from KL Sentral Station to Skypark Terminal, or vice versa till the end of the year, is also expected to increase passenger traffic between 500 and 600 people daily, from 300 currently. Meanwhile, the launch of new four-car trains for RapidKL Monorail in August 2019 is expected to increase daily ridership. Likewise, the air transport segment is expected to improve following the Government's move to extend the 15-day visa exemption for tourists from China and India till end of 2019. Nevertheless, the water transport segment is projected to expand moderately in line with lower trade activities.

In 2020, the transport and storage subsector is anticipated to grow 6.4% mainly supported by land transport segment, attributed to operations of new highways such as Damansara – Shah Alam Elevated Expressway (DASH); Sungai Besi – Ulu Klang Expressway (SUKE); Setiawangsa

– Pantai Expressway (SPE); Putrajaya – KLIA Expressway (MEX II); and West Coast Expressway (WCE). The growth will also be contributed by higher airports and ports services in line with the improvement in trade activities. The air transport segment is expected to grow driven by exports of E&E products as well as a higher volume of international passengers owing to VM2020. The air transport segment is also expected to increase with the operationalisation of Kuala Lumpur International Airport (KLIA) Aeropolis DFTZ Park in June 2020. Meanwhile, the water transport segment is expected to expand due to the increase in the number of lines and consolidation of shipping alliances as well as higher exports of petroleum products with the operationalisation of Refinery and Petrochemical Integrated Development (RAPID) in Pengerang.

The food & beverages and accommodation subsector is projected to record a strong growth of 9.2% in 2019 mainly supported by household and tourist spending. In 2020, the growth is expected to expand by 8.9% following increasing tourist arrivals and receipts amid VM2020, which targets 30 million tourists and RM100 billion receipts. Furthermore, the extended Visa On Arrival (VOA) from seven to 13 entry-points nationwide for Chinese and Indian tourists are anticipated to provide additional impetus to the growth of the subsector. The hosting of Asia-Pacific Economic Cooperation (APEC) meetings starting December 2019 until November 2020 and the commencement of a new outdoor theme park are expected to spur the growth of the subsector.

The other services subsector is projected to grow by 5.3% in 2019 and 5.1% in 2020. This is due to strong demand for private education and healthcare services. The number of foreign students is expected to remain favourable attributed to the cost competitiveness of education offered in the country. Meanwhile, the private healthcare segment will be supported by the Malaysia Year of Healthcare Travel 2020 campaign which seeks to reinforce Malaysia as a reputable and global healthcare travel destination, especially in the areas of cardiology, oncology, fertility, orthopaedics and cosmetic surgery. The government services subsector is projected to sustain at 4% in 2019 and 2020.

Feature Article 3.1

Tourism: Malaysia's Comparative Advantage**Introduction**

Tourism is one of the major contributors to economic growth and is identified as the main sources of foreign exchange earnings. In 2018, Gross Value Added of Tourism Industries¹ grew 10% to RM220.6 billion, accounting for 15.2% of Malaysia's GDP. The growth was mainly supported by retail trade (46.4%); and food and beverage serving services (17.2%) segments. In addition, the industry provided 3.5 million jobs, constituting 23.5% of total employment in the country (DOSM, 2019). Meanwhile, in the current account,² the travel component recorded a net inflow of RM30 billion in 2018 (DOSM, 2019).

In 2018, Malaysia was ranked first in the Global Muslim Travel Index (CrescentRating, 2019) and Kuala Lumpur was identified as one of the Top 100 Cities Destinations (Euromonitor International, 2018). Furthermore, Malaysia was ranked 15th in terms of tourist arrivals and 21st for tourism receipts (UNWTO, 2018). According to Hanafiah & Harun (2010), among factors attracting tourists to Malaysia include rising middle-income population, particularly in Asia; lower inflation; and short-haul destinations. The number of tourist arrivals and receipts is expected to expand following the launch of Visit Malaysia 2020 (VM2020). For 2019, tourist arrivals are estimated to reach 28.1 million, with total receipts of RM92.2 billion. Given the importance of the tourism industry to economic growth, this article analyses the comparative advantage of Malaysia's tourism industry; highlight issues and challenges; and the way forward.

Comparative Advantage of Tourism Industry

The Revealed Comparative Advantage (RCA)³ index is widely used to analyse the comparative advantage of industries. Based on this method, Malaysia's RCA ratio for the tourism industry has been consistently higher than one between 2013 and 2017, signifying a strong comparative advantage of the industry. Furthermore, Malaysia's RCA is higher than China, India, Indonesia, Japan, Republic of Korea, Singapore and Viet Nam. The highest RCA for Malaysia's tourism industry was recorded at 1.50 in 2013 attributed to the Visit Malaysia Year 2014 campaign. Consequently, the number of tourist arrivals surged to 27.4 million, while receipts rose to RM72 billion in 2014. However, in 2017, the RCA declined to 1.23 while the ratio for Thailand and the Philippines rose to 3.01 and 1.45, respectively.

**Table 3.1.1. Revealed Comparative Advantage Index for Selected Countries
2013 – 2017**

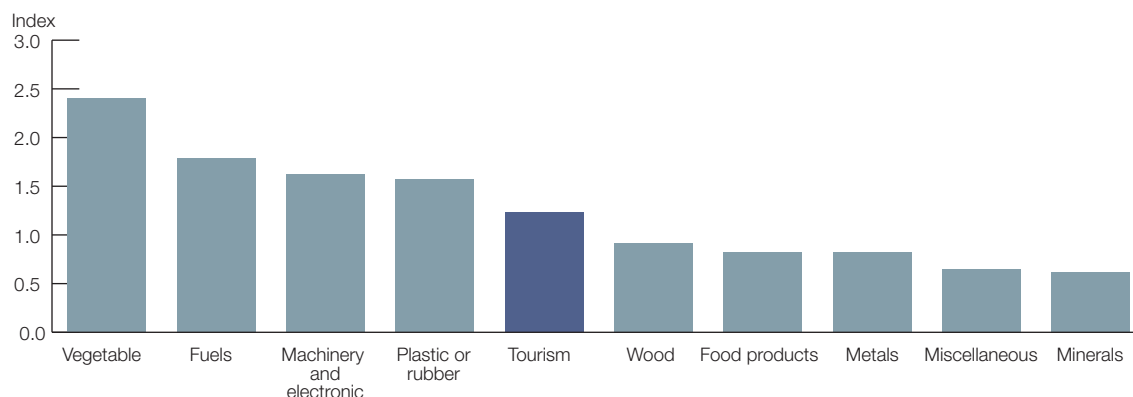
Country	2013	2014	2015	2016	2017
Malaysia	1.50	1.49	1.28	1.32	1.23
Thailand	2.73	2.45	2.67	2.73	3.01
Philippines	1.41	1.33	1.35	1.25	1.45
Indonesia	0.86	0.96	1.07	1.10	1.09
India	0.69	0.70	0.76	0.79	0.86
Japan	0.35	0.40	0.53	0.60	0.64
Viet Nam	0.87	0.76	0.64	0.66	0.59
Singapore	0.55	0.53	0.47	0.53	0.52
Republic of Korea	0.46	0.52	0.45	0.51	0.38
China	0.37	0.29	0.29	0.30	0.20

Source: World Integrated Trade Solution.

¹ Total gross value added of all establishments in the tourism industry, irrespective of whether their output is provided to visitors and the degree of specialisation of the production process. A visitor refers to a traveller taking a trip to a main destination outside his/her usual environment, not more than 12 months other than to be employed by resident entry in the country or place visited.

² Balance of payments.

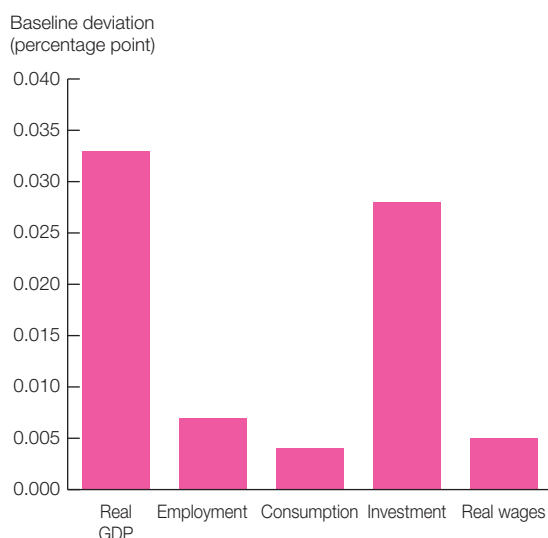
³ Is an index used for calculating the relative advantage or disadvantage of a certain country in a certain class of goods and services as evidenced by trade flows. It is based on the Ricardian comparative advantage concept. According to Balassa (1965), it is expressed as follows: $RCA_i = (X_i / X_w) / (X_{wi} / X_w)$, where X_i = exports of tourism product by country i (measured in tourism receipts), X_i = total exports of goods and services by country i , X_{wi} = world exports of tourism product (measured in tourism receipts) and X_w = world total exports of goods and services.

Figure 3.1.1. Revealed Comparative Advantage for Top 10 Product Groups, 2017

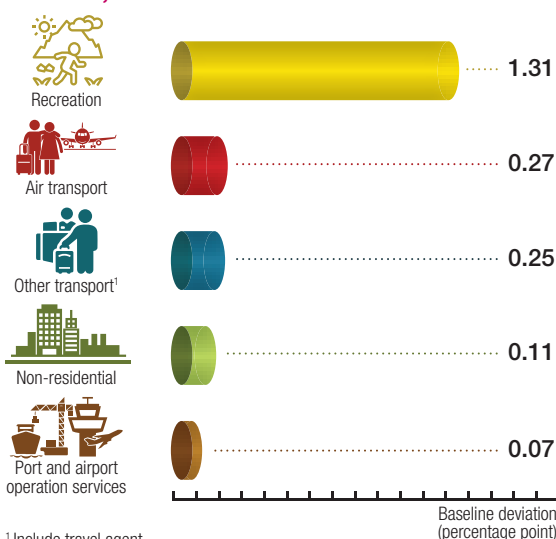
Source: World Integrated Trade Solution.

According to 10 product groups, tourism has one of the highest RCA at 1.23, after vegetable (2.40), fuels (1.79); machinery and electronic (1.62); and plastic or rubber (1.57). This indicates that Malaysia has a comparative advantage in the tourism product given its well-diversified culture, abundant nature, established infrastructure and price competitiveness. Accordingly, accelerating investments to promote further the tourism industry will create significant spill-over effects on the economy.

Based on an analysis by the Ministry of Finance,⁴ tourism has the highest investment returns. An additional of RM1 billion investment in the tourism industry will increase output by RM1.9 billion as compared to ICT (RM1.8 billion), wholesale and retail trade (RM1.6 billion) and business services (RM1.6 billion) subsectors. Meanwhile, according to a Dynamic Computable General Equilibrium analysis, a 10% increase in tourist arrivals will contribute to higher GDP by 0.033 percentage points and employment by 0.007 percentage points. At the same time, with greater inter-sectoral linkages, some industries such as recreation and air transport will benefit indirectly from the expansion of the tourism industry.

Figure 3.1.2. Macro Result, 2020

Source: Ministry of Finance, Malaysia (estimates).

Figure 3.1.3. Industries Benefitting from Tourism, 2020¹ Include travel agent.

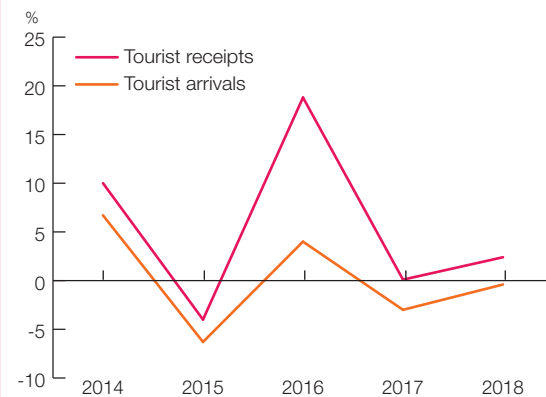
Source: Ministry of Finance, Malaysia (estimates).

⁴ Input-Output Analysis.

Issues and Challenges facing Malaysia's Tourism Industry

In recent years, tourist arrivals have been on a declining trend despite higher receipts as compared to other regional peers such as Indonesia, the Philippines, Singapore and Viet Nam. In 2018, tourist arrivals declined 0.4% to 25.8 million due to a reduction in arrivals from the ASEAN market, particularly Singapore (-14.7%) and Brunei (-16.8%). Malaysia's tourism industry is facing several issues and challenges including high dependence on tourist arrivals from Singapore; lack of new tourism products; limited air routes; and concerns over safety and security.

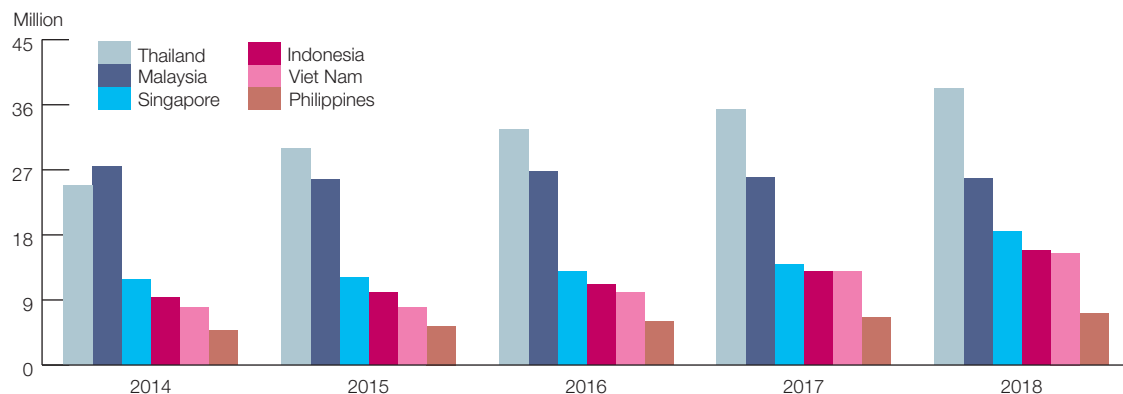
Figure 3.1.4. Malaysia's Tourist Arrivals and Receipts (% growth)



Source: Ministry of Tourism, Arts and Culture, Malaysia.

Though Singapore is the largest source market, accounting for 41% of tourist arrivals, the numbers have declined to 10.6 million in 2018 as compared to 12.4 million in 2017, mainly due to high congestion at the entrance gateway in Johor Bahru. Meanwhile, the closure of major European routes, especially to Amsterdam and Paris in February 2016 affected tourist arrivals. Furthermore, the lack of accessibility through air transport and flights with low seating capacity dampens the industry. As of July 2019, seat capacity by flight to Malaysia was 2.7 million as compared to Thailand (4.3 million) and Singapore (3.4 million). At the same time, there were only 68 airlines serving routes to Malaysia; while Thailand and Singapore have 129 and 79, respectively. Apart from lacking in new tourism products, safety and security issues, particularly in the East Coast of Sabah have caused tourist arrivals from countries such as Australia, Japan, the UK and the US to remain subdued (Patrik, 2019).

Figure 3.1.5. Tourist Arrivals for Selected Countries



Source: Ministry of Tourism, Arts and Culture, Malaysia.

Way Forward

Recognising the importance of the tourism industry to Malaysia's socio-economic development, the Government has once again embarked on VM2020 campaign to attract more tourists to the country. In line with VM2020, there is a need to increase flight frequencies; air travel rights to long-and medium-haul countries; and flight seat capacity to bring in more tourists to Malaysia. Charter flights from the Republic of Korea and the US also need to be upgraded to bring in

tourists directly to Kuala Lumpur, Langkawi, Pulau Pinang, Terengganu, Sabah and Sarawak. Currently, Visa On Arrival (VOA) is given to tourists from China and India with the condition to enter Malaysia via a third country. Starting 15 July 2019, the VOA facility has been extended from seven to 13 entry points to facilitate further tourist arrivals from these countries.

The tourism industry needs to move along with digital transformation by emphasising digital marketing using various social media platforms such as Google and social influencer to remain competitive. Furthermore, the development of dedicated online platforms and one-stop system application for Malaysian travel agencies are strategic ways to promote the tourism industry. Cooperation with short, medium and long-haul market tour operators are highly recommended to create unique packages and special deals to Malaysia. Establishing Malaysia as a leading business tourism destination is one of the strategies to attract high-end tourists. In 2018, the Malaysia Convention & Exhibition Bureau (MyCEB) supported 300 events related to Meetings, Incentives, Conferences and Exhibitions. In 2020, MyCEB has successfully bid 38 business events which are expected to attract 32,000 international business tourists and generate income of RM589 million.

Strategic partnership with online travel agents, airlines, and travel agencies will be intensified to enhance the promotion of travel packages through Joint International Tourism Development Programme (JITDP), organised by Tourism Malaysia and Malaysia Airport Holdings Berhad (MAHB). Through JITDP, Discover Langkawi programme has been implemented in collaboration with Malaysia Airlines Berhad and MAHB. Cruise tourism also has the potential, particularly in Langkawi, Melaka and Pulau Pinang that can be home ports for international cruises. Towards this end, Melaka Gateway could be developed as a cruise tourism hub that could accommodate four vessels with a capacity of 3,000 to 5,000 passengers per ship in one time. In addition, Islamic tourism will continue to be developed to attract more tourists from the Middle East to destinations such as the National Mosque, Kuala Lumpur and Nasyrul Quran Complex, Putrajaya. In line with the efforts to promote Islamic tourism further, the Government issued the first in the world Muslim Friendly Hospitality Services standard which recognises Syariah-compliant accommodation such as in-room prayer facilities, halal-certified restaurants as well as segregated gymnasiums and swimming pools for women.

Meanwhile, the health tourism industry is growing rapidly, and Malaysia is recognised as one of the five best in the world (Patient Beyond Borders, 2018). In 2018, the number of healthcare travellers surged 15% to 1.2 million with revenue increasing 13% to RM1.4 billion, particularly from China, India and Indonesia. The quality of healthcare system; international qualified medical professionals and accredited medical facilities; competitive cost; availability of latest procedures and treatment technologies; as well as accessibility through air and land routes are the factors contributing to the growth of this industry. In conjunction with the Malaysia Year of Healthcare Travel 2020 campaign to establish Malaysia as a leading global destination for healthcare, the Government is targeting total revenue of RM2.2 billion in 2020. This campaign is targeting several new ASEAN markets and the Middle East, especially in the areas of cardiology, oncology and fertility.

Conclusion

Many countries in the world, including Malaysia, have identified tourism as one of the main sources for socio-economic development within the national policies. With an abundance of natural resources; well-diversified cultural and cuisines; modern infrastructure; and strategic location, Malaysia has great potential to boost further the tourism industry. In this regard, various efforts have been undertaken by the Government and media partners to market and brand Malaysia as one of the most preferred tourist destinations in the region, while promoting innovative tourism products. The Government has also intensified efforts to improve safety and security in the country, including measures to curb intrusion and other threats. These efforts are expected to raise the number of tourist arrivals and receipts, which in turn will increase business opportunities and income, particularly to SMEs.

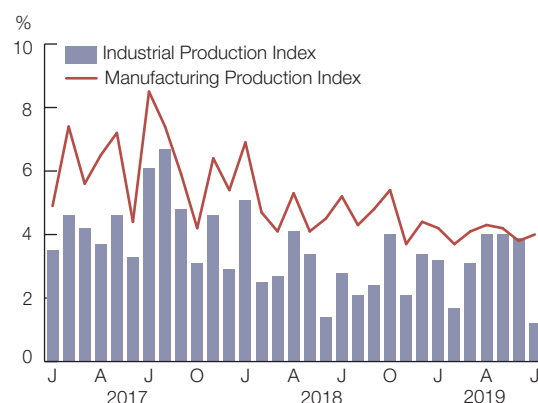
Manufacturing Sector

During the first half of 2019, the manufacturing sector expanded by 4.2% mainly supported by the domestic-oriented industries. Meanwhile, export-oriented industries grew at a slower pace due to modest expansion in the E&E subsector in line with softer global demand for electronic products. For the year, the sector is expected to grow 4% with the Manufacturing Production Index and sales expanding 4.1% and 6.1%, respectively, between January and July. In 2020, the manufacturing sector is estimated to grow 4.1% driven by steady improvement in the export-oriented industries coupled with sustained expansion in the domestic-oriented industries.

In 2019, the E&E subsector, constituting 40.8% of export-oriented industries is forecast to expand moderately by 3.6% due to the downturn in the semiconductor cycle and the escalating trade war between the US and China. Meanwhile, petroleum, chemical, rubber and plastic products subsector is projected to grow 3.4% supported by continued demand for rubber gloves following Ebola outbreak in Africa and rising healthcare awareness worldwide. The domestic-oriented industries are expected to remain resilient, particularly driven by the consumer-related cluster, including transport equipment as well as food and beverages.

In 2020, the performance of the export-oriented industries is anticipated to improve in tandem with the uptick in electronics cycle, especially during the second half of the year. Manufacturers in Malaysia are also expected to benefit from the changes in the global electronics supply chain following the US-China trade and technology dispute. Furthermore, expanding demand for AI, IoT, BDA and 5G is anticipated to support the E&E subsector. Likewise, production of petrochemicals and oleochemicals is expected to increase with the commencement of RAPID. The domestic-oriented industries are expected to be driven by both consumer- and construction-related clusters.

Figure 3.2. Output of Manufacturing Sector
(% change)



Source: Department of Statistics, Malaysia.

Table 3.3. Manufacturing Production Index
January – July
(2015 = 100)

	Share (%)		Index		Change (%)	
	2018	2019	2018	2019	2018	2019
Export-oriented industries						
Petroleum, chemical, rubber and plastic products	29.5	29.3	111.4	115.0	4.2	3.2
Electrical and electronics products	27.9	27.8	118.7	123.1	6.0	3.7
Wood products, furniture, paper products and printing	6.7	6.8	114.1	120.3	4.2	5.4
Textiles, wearing apparel, leather products and footwear	2.0	2.0	118.1	124.3	5.0	5.2
Domestic-oriented industries						
Non-metallic mineral products, basic metal and fabricated metal products	13.3	13.4	113.7	118.5	5.2	4.2
Food, beverages and tobacco	12.5	12.4	112.6	117.2	4.5	4.1
Transport equipment and other manufactures	8.1	8.3	107.8	114.7	5.3	6.4
Manufacturing Production Index	100.0	100.0	113.8	118.4	5.0	4.1

Note: Total may not add up due to rounding.

Source: Department of Statistics, Malaysia.

Feature Article 3.2

High-Tech Manufacturing for Future Growth

Introduction

The Malaysian manufacturing sector began to grow rapidly since the early 1980s when the country transitioned from an agricultural to an industry-based economy. Various strategies were implemented under industrial policies and masterplans to diversify the economy to move up the value chain and reduce dependency on commodities. As a result, Malaysia's manufacturing sector has evolved from the industrial production process to an integrated concept comprising all levels of production system and business operations. Today, manufacturing is one of the growing sectors, contributing significantly to the country's socio-economic development. Therefore, it is imperative to continuously promote the manufacturing sector, in particular, high-end industries to ensure sustainable economic growth. Accordingly, this article assesses the contribution of the manufacturing sector to the Malaysian economy, particularly its inter-sectoral linkages; identifies issues and challenges; and the way forward.

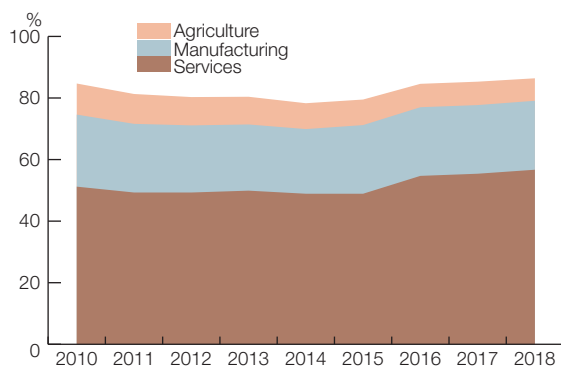
Contribution of the Manufacturing Sector

Economic Growth

The manufacturing sector, which plays an important role in driving Malaysia's economic growth expanded at a rapid pace of 6%¹ annually between 2011 and 2018. The share of the manufacturing sector to GDP rose to 22.4% in 2018 from 8.6% in 1960 (DOSM, 2019). While developing some resource-based industries such as the palm oil processing and petroleum refinery, Malaysia also developed various non-resource based industries—notably, E&E, automotive and steel. Today, Malaysia is one of the leading producers of semiconductors, solar panels and light emitting diode (LED) benefitting from rising global demand for smartphones, storage devices and embedded technologies such as integrated circuits and printed circuit boards.

Figure 3.2.1. GDP by Selected Kind of Economic Activity

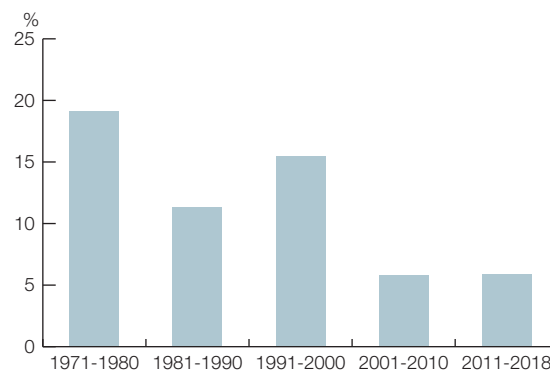
(% share at constant prices)



Source: Department of Statistics, Malaysia.

Figure 3.2.2. Manufacturing Sector

(% growth at constant prices)

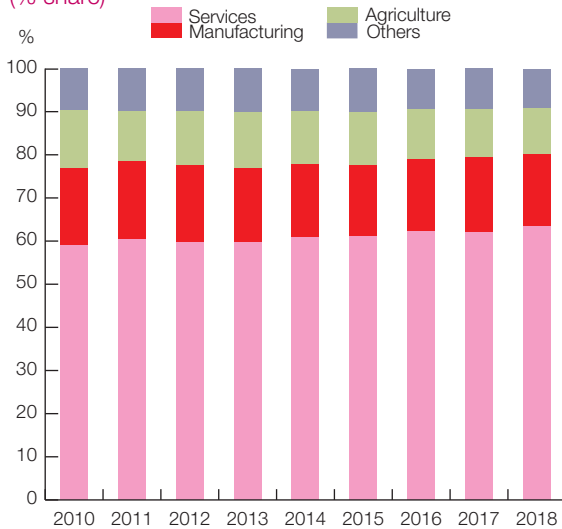


¹ Compound Annual Growth Rate (CAGR).

Employment and Productivity Growth

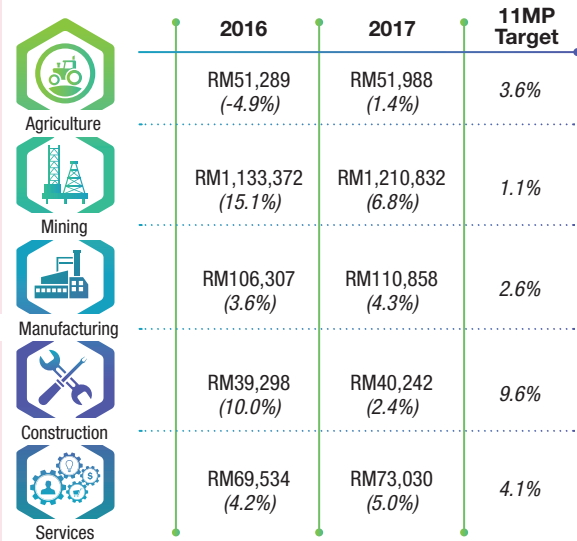
In 2018, the manufacturing sector employed 2.5 million persons or 16.9% of total employment in the country. At the same time, the manufacturing sector recorded the highest increase in terms of wage growth at 10.8%, while the second-highest in labour productivity at RM110,858. Within the sector, electronic components and communication equipment were the most productive and value-adding subsectors (MPC, 2018).

Figure 3.2.3. Employment by Sector
(% share)



Source: Department of Statistics, Malaysia.

Figure 3.2.4. Productivity by Sector



Source: Malaysia Productivity Corporation.

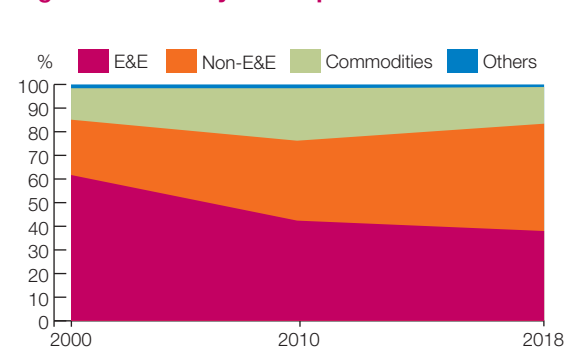
Foreign Direct Investment

Foreign direct investment (FDI) is an important source for Malaysia's socio-economic development (Mohamed et al., 2013). In 2018, net FDI inflows stood at RM32.6 billion, of which 47.4% were channelled into the manufacturing sector. Meanwhile, in terms of approved foreign investments, manufacturing sector attracted 72.4% or RM58 billion. Most of the investments were channelled into E&E, transport equipment as well as petroleum, chemical, rubber and plastic products (MIDA, 2019).

Exports

In 2018, manufactured goods accounted for more than 80% of total exports. A notable trend has emerged in the export structure, indicating a gradual shift from heavy concentration in exports of E&E to non-E&E. This is evident with the higher proportion of non-E&E products of 45.4% to the total exports while the E&E accounted for 38% in 2018 as compared to 23.4% and 61.7%, respectively, in 2000 (DOSM, 2019).

Figure 3.2.5. Malaysia's Export Structure

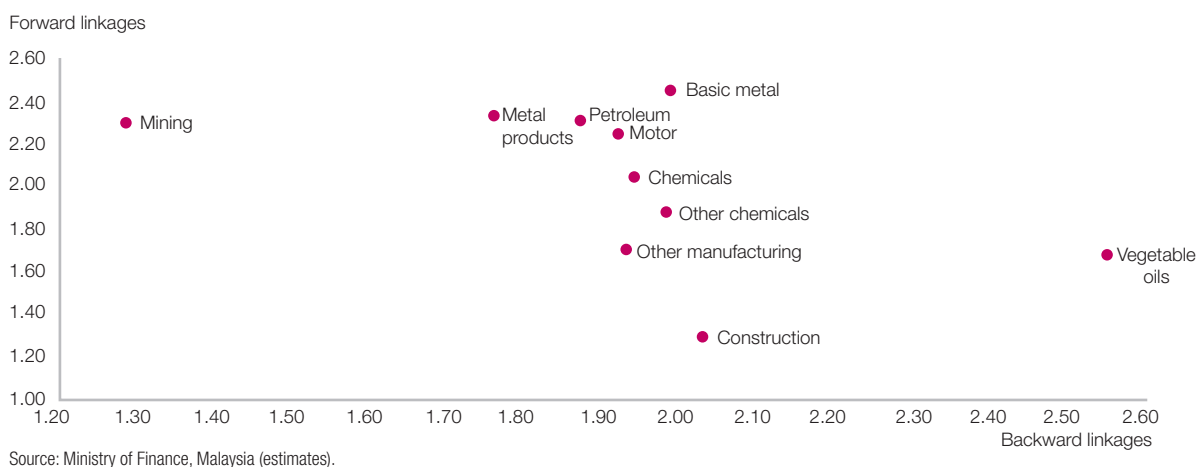


Source: Department of Statistics, Malaysia.

Inter-sectoral Linkages

Being the second-largest contributor to GDP, the manufacturing sector has high inter-sectoral linkages. Manufacturing output requires various sources of inputs from the economy, creating backward linkages. Likewise, the output from the manufacturing sector is channelled back to the sector as well as other sectors resulting in forward linkages. For example, oil palm fresh fruit bunches (agriculture sector) are used in the production of vegetable oils (manufacturing sector) which is then sold in shops (services sector). Ministry of Finance (MoF) estimates indicate that vegetable oils support the growth of other industries as proven by its high backward linkages of 2.55 points. Similarly, basic metal and petroleum industries are prominent in generating high spill-over effects on the economy through forward linkages at 2.46 points and 2.36 points, respectively.

Figure 3.2.6. Forward and Backward Linkages of Top 10 Manufacturing Subsectors



According to the 2015 Input-Output Table (DOSM, 2019), 69 out of 124 industries in the economy fall under the manufacturing sector. Hence, with high inter-sectoral linkages, an increase in productivity of these industries, particularly E&E, petroleum refinery and vegetable oils will contribute significantly to economic growth as reflected by MoF estimates.² At the same time, industries such as other machinery equipment; petroleum, coals and chemical; and food & beverages and tobacco are also expected to benefit from the inter-sectoral linkages.

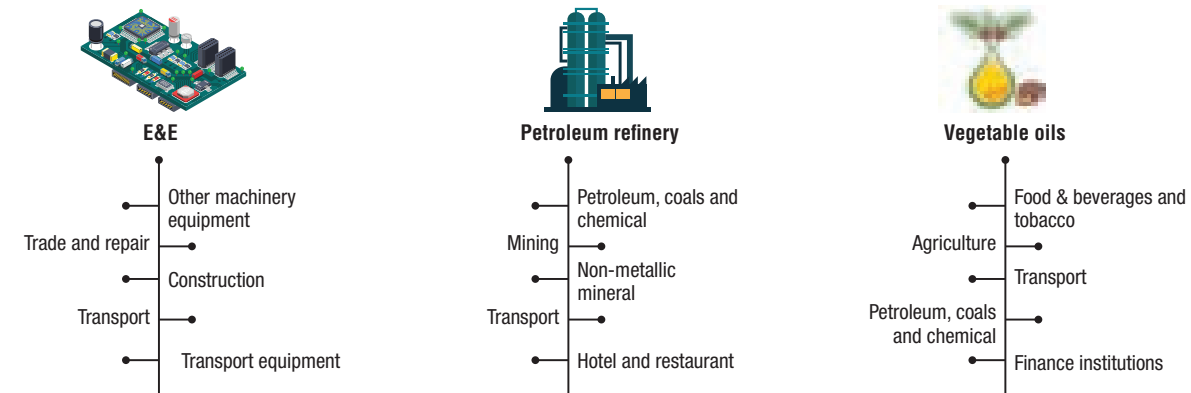
Table 3.2.1. Implication of a 1% Improvement in Productivity of Selected Subsectors, 2019

Baseline deviation
(percentage point)

	Real GDP	Employment	Household disposable income	Exports	Real wages
E&E	0.05	0.02	0.03	0.11	0.01
Petroleum refinery	0.03	0.03	0.02	0.05	0.01
Vegetable oils	0.01	0.02	0.01	0.01	0.01

Source: Ministry of Finance, Malaysia (estimates).

² Dynamic Computable General Equilibrium Model for the Malaysian economy.

Figure 3.2.7. Biggest Winners from Productivity Improvement in Selected Subsectors

Source: Ministry of Finance, Malaysia (estimates).

Issues and Challenges Facing the Manufacturing Sector

Premature deindustrialisation

Malaysia began to deindustrialise³ since 2000, as evidenced by the twin decline in employment as well as the output share of the manufacturing sector. In addition, less-than-desirable policy landscape as well as lack of technology upgrading and industry-government coordination, led to the slow progress of the sector in moving up the value chain. Unlike Republic of Korea and Taiwan, employment in high value-added segments is low, thus, more likely to result in premature deindustrialisation (BNM, 2019).

Lack of Innovation and Adoption of Technology

Moving away from labour-intensive manufacturing to sustain increase in productivity and per capita income requires innovation⁴ rather than imitation (Aghion & Howitt, 1992). In the case of Malaysia, despite strong growth and a large improvement in export sophistication, Total Factor Productivity (TFP) has not grown as much as that of Republic of Korea and Taiwan as the country relied substantially on MNCs and FDIs for export upgrading and technological transfer. Furthermore, Malaysian firms were unable to create technology, which is a prerequisite in innovating and increasing productivity (Cherif & Hasanov, 2015).

Apart from that, Research & Development & Commercialisation & Innovation (R&D&C&I) activities in the manufacturing industries, particularly among SMEs, are often constrained by inadequate resources. As a result, most of the R&D&C&I efforts are undertaken by the Government and MNCs. Although there are a number of R&D activities undertaken by public research institutions, often findings do not match the industry's requirements (CEDAR, 2018). Industry players would instead use existing technology without further enhancement, resulting in lagging technologies as compared to other Newly Industrialised Economies.⁵

Low Local Content

Usage of local content is important to help domestic industries in terms of industrial development, jobs creation, inter-sectoral linkages and value-added activities. Nevertheless, in Malaysia, the manufacturing sector is highly import-intensive (Abbhiri, 2012), in particular, E&E and

³ Deindustrialisation is a natural stage in economic development as economies start to shift their resources away from manufacturing to services as a result of high manufacturing productivity growth and increased consumption for services as society becomes wealthier (IMF, 2018).

⁴ The use of new ideas, methods, processes, and technologies in production.

⁵ Republic of Korea, Singapore and Taiwan.

chemical products, partly due to the intense complexity of the global supply chain. Due to low technological capabilities of local firms, most of the industry players, especially MNCs would rarely use local supplies to support their operations.

Lack of Skills

Productivity is the key to achieve sustainable growth of industries. Despite entering the era of IR 4.0, only 30% of the Malaysian workforce is in the skilled category. This is mainly due to the readily available pool of low-skilled low-cost foreign workers which discourages industrial improvement and upskilling of the workforce. Unlike Malaysia, economies, namely Australia, Hong Kong and Singapore, have intentionally planned to attract more skilled migrants to boost their growth (BNM, 2018). Furthermore, Malaysia faces acute brain drain as reflected by the World Bank report (2011), which estimates that one in every ten skilled Malaysians opts to work abroad.

Way Forward

Streamline Incentives under a One-stop Centre

Malaysia has a wide range of tax incentives under various Government entities. Streamlining these incentives under a one-stop centre will create a more conducive business environment for investors. For example, MIDA has established an i-Incentives portal that provides information on investment incentives that covers tax exemptions, grants, soft loans and others. The existing Incentive Coordination and Collaboration Office (ICCO) could act as a national coordinator for all investment incentives. The restructuring of ICCO will centralise all the database management systems to further enhance the coordination and management of Government incentives (MIDA, 2019).

Re-engineering Training and Skills

The rise of digitalisation stemming from IR 4.0 is supplanting many jobs in sectors that were previously labour-intensive (WEF, 2016). Among the skills required globally in the next decade are complex problem solving, critical thinking, creativity and people management. Lack of these skills raise concerns as most of the employment in the country has been concentrating on the low- and semi-skilled jobs. In this regard, ensuring employability through upskilling, reskilling and life-long learning is crucial to equip employees with the required skills and knowledge.

Venturing into New Focus Areas

Malaysia's transformation towards IR 4.0 requires an approach and an ecosystem that optimise the relationships among people, process and technology (MITI, 2018). Towards this end, there is a need to focus on new sources of growth such as fifth-generation cellular network (5G), artificial intelligence (AI), Internet of Things (IoT) and big data analytics (BDA) which are expanding rapidly. For instance, demand for AI-based semiconductors is expected to be five times the overall market by 2025 (McKinsey, 2018). Likewise, 5G and electric vehicles are expected to contribute markedly to the growth of the semiconductor industry. Venturing into these new growth areas will enable the domestic industry players to move up the value chain.

Developing an Integrated Manufacturing Hub

Currently, there are five economic corridors, more than 200 industrial areas, 13 free industrial trade zones and 22 halal parks throughout Malaysia (HDC, 2019). Nevertheless, the country is yet to be considered a comprehensive manufacturing hub with a complete ecosystem for modern services and advanced industries such as Kunshan and Chongqing in China. Kunshan has become the key manufacturing base for electronic information products in the world, while Chongqing has a more diversified industrial structure, including processed food, automobile,

chemicals, textiles, machinery, and electronics. Likewise, Malaysia needs to leverage its strategic location and focus on building a complete ecosystem in becoming an integrated manufacturing hub.

Conclusion

Sustaining growth of the manufacturing sector is imperative to promote further Malaysia's socio-economic development. Focusing on high-end manufacturing will lead the industry to move up the value chain while enhancing its international competitiveness. Nevertheless, the sector continues to face various issues and challenges including premature deindustrialisation; low adoption of technology and local content development; as well as skills deficit. In this regard, various measures can be undertaken such as streamlining incentives under a one-stop incentive centre; re-engineering training and skills; venturing into new focus areas; and developing an integrated manufacturing hub. These initiatives are expected to sustain the future growth of manufacturing sector, especially with the new focus areas, namely AI, BDA and IoT that will be well-suited to support the high-tech industries.

In the consumer-related cluster, food subsector will continue to expand due to higher demand from households as well as tourists amid VM2020. Outlook for the construction-related cluster is expected to rebound with higher demand for non-metallic mineral products, basic metal and fabricated metal products. The higher production will be supported by the implementation of new and on-going infrastructure projects such as the ECRL, MRT2, LRT3, Klang Valley Double Tracking 2 (KVDT2) as well as Pan Borneo Highway and Central Spine Road.

Agriculture Sector

The agriculture sector grew strongly by 4.9% during the first half of 2019 and for the year is expected to expand by 4.3%. The favourable performance of the sector is attributed to a rebound in production of CPO and natural rubber coupled with higher output of livestock and other agriculture subsectors. In 2020, the sector is forecast to expand 3.4% with growth largely emanating from higher output of plantation, livestock and other agriculture subsectors.

Oil palm subsector, the largest contributor to the agriculture sector is projected to turn around 7.7% in 2019, before normalising to 5.5% in 2020. Better performance of the subsector is mainly driven by an increase in CPO production due to favourable weather conditions and expansion in oil palm matured areas.

In 2019, production is expected to record 21 million tonnes and improve to 22.2 million tonnes in 2020. Meanwhile, higher oil extraction rate (OER) is estimated at 20.1% in 2019 and 20.2% in 2020 following better quality of fresh fruit bunches (FFB) produced across all states. Furthermore, exports of CPO are expected to improve following the downward revision on import tariff by India and the expectation of higher demand from other major markets such as China, Singapore and the US. In addition, the bilateral trade deal with China is expected to increase exports of palm oil by 1.9 million

Table 3.4. Value-added in the Agriculture Sector 2018 – 2020

(At constant 2015 prices)

	Share (%)	Change (%)		
	2019 ²	2018	2019 ²	2020 ³
Oil palm	39.1	-1.8	7.7	5.5
Rubber	2.9	-17.6	7.3	4.4
Other agriculture ¹	24.8	3.3	3.0	3.1
Livestock	15.0	6.7	5.6	5.1
Fishing	11.8	0.5	-1.2	-0.2
Forestry and logging	6.4	-5.5	-3.1	-6.1
Agriculture	100.0	0.1	4.3	3.4

¹ Including paddy, fruits, vegetables, coconut, tobacco, tea, flowers, pepper, cocoa and pineapple.

² Estimate.

³ Forecast.

Note: Total may not add due to rounding.

Source: Department of Statistics and Ministry of Finance, Malaysia.

Table 3.5. Palm Oil: Areas, Yield and Production 2018 – 2020

	2018	2019 ²	2020 ³	Change (%)		
				2018	2019 ²	2020 ³
Planted areas ('000 hectares)	5,849	5,970	6,000	0.7	2.1	0.5
Matured areas ('000 hectares)	5,189	5,290	5,370	1.5	1.9	1.5
Yield ¹ (tonnes/hectare)	17.2	17.5	18.0	-4.1	2.0	2.9
Production						
Crude palm oil ('000 tonnes)	19,516	21,000	22,200	-2.0	7.6	5.7

¹ Fresh fruit bunches yield.² Estimate.³ Forecast.

Source: Malaysian Palm Oil Board and Ministry of Finance, Malaysia.

tonnes (worth RM4.6 billion between 2019 and 2023), supporting the performance of the subsector. Hence, the palm oil stockpile is projected to ease to 2.5 million tonnes in 2019 and decline further to 2.4 million tonnes in 2020.

Following the ban on palm-based biodiesel by the EU, measures are undertaken to increase palm-based biodiesel for domestic consumption through the implementation of B10 biodiesel programme for the transportation sector and B7 for the industrial sector. These programmes are expected to boost domestic demand for palm oil while increasing the sustainability of energy resources. The implementation of the programmes is projected to utilise 761,000 tonnes of palm oil annually, which in turn will further promote local demand for palm oil.

During the first quarter of 2019, the price of CPO recorded RM2,015 per tonne with inventory recording almost 3 million tonnes. For the year, the CPO prices are expected to remain subdued at RM2,000 per tonne following high stockpile coupled with anticipation of low prices for crude oil and other vegetable oils such as soybean and rapeseed. Nevertheless, in 2020, the price is expected to increase to RM2,100 per tonne with the increase in domestic consumption for biodiesel as well as higher demand from major markets amid price competitiveness against other vegetable oils.

² Consists of Indonesia, Malaysia and Thailand.

In ensuring sustainability and competitiveness of the oil palm subsector, the Government has committed to implement Malaysian Sustainable Palm Oil (MSPO) certification effective 1 January 2020. The compliance with the certification will diversify the market and elevate the industry to be globally competitive. In this regard, the Government allocated RM30 million in the 2019 Budget to assist smallholders in obtaining this certification. Moving forward, the Government will implement the B20 biodiesel programme which is currently on six months trial and is expected to boost domestic demand for palm oil and contribute to cleaner environment.

The rubber subsector is projected to rebound 7.3% in 2019 and expand by 4.4% in 2020. The improvement is expected to be driven by higher production of natural rubber following increase in matured areas by 50,000 hectares. This is partly due to various replanting programmes as well as high-yielding clone planted in new areas mainly in Sabah and Sarawak between 2011 and 2015. In addition, favourable weather conditions, the continuation of rubber production incentives (IPG), and modern tapping technique by smallholders continue to support higher output of natural rubber. An allocation of RM100 million for road maintenance and construction in port and industrial areas using Cuplump Modified Bitumen technology will increase demand for domestic natural rubber, providing additional impetus to the growth of the subsector.

Prospects for rubber subsector in the near-term are expected to be favourable due to tight supply conditions in major rubber producing countries. Wintering season between February and April 2019 and fungal leaf-fall disease in Indonesia are expected to reduce the supply of natural rubber in the global market. In addition, market fundamentals remain steady due to cutbacks in exports by the International Tripartite Rubber Council (ITRC)² in March 2019. Under the 6th Agreed Exports Tonnage Scheme (AETS), the member countries reduced exports of natural rubber by 240,000 tonnes between April and July 2019, with Malaysia cutting back 15,600 tonnes.

Feature Article 3.3

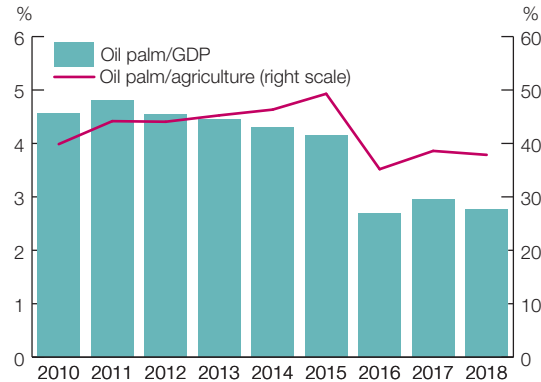
Boosting Productivity in the Oil Palm Subsector

Introduction

Oil palm was introduced in Malaysia as ornamental plants in 1870 before it was commercialised in 1917 at Tennamaram Estate, Selangor. As one of the fastest-growing commodities, oil palm is the most productive oil seed and valuable agricultural output (May, 2012). The cultivation of oil palm increased rapidly in the early 1960s, under the Government's agricultural diversification programme, which was introduced to reduce the country's economic dependence on rubber and tin as well as to eradicate poverty for the landless farmers and smallholders (Basiron, 2013).

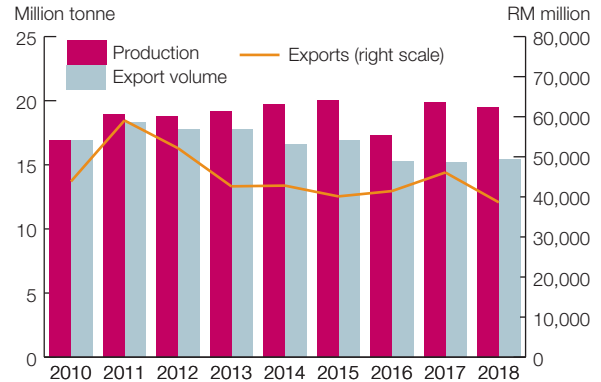
Since then, oil palm has become an important subsector to the Malaysian economy, accounting for 37.9% of the agriculture sector and 2.8% of GDP in 2018 (DOSM, 2019). Currently, Malaysia is the second-largest producer and exporter of palm oil after Indonesia (Kushairi et al., 2019). About 20 million tonnes of crude palm oil (CPO) is produced yearly while employing about 431,000 workers, including both skilled and low-skilled. It is also one of the industries that have nearly 100% local content. Exports of palm oil¹ recorded RM38.7 billion or 3.9% of total exports. Major markets were India, China and Pakistan (DOSM, 2019). This article analyses and assesses the economic implication of enhancing oil palm subsector's productivity as well as identifies issues and challenges, and highlights the on-going measures to further promote the subsector.

Figure 3.3.1. Contribution of Oil Palm Subsector
(At constant prices)



Source: Department of Statistics, Malaysia and Malaysian Palm Oil Board.

Figure 3.3.2. Production and Export of Crude Palm Oil

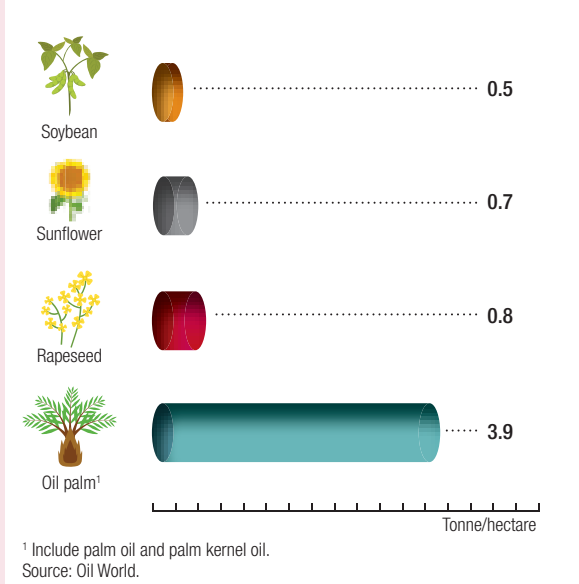
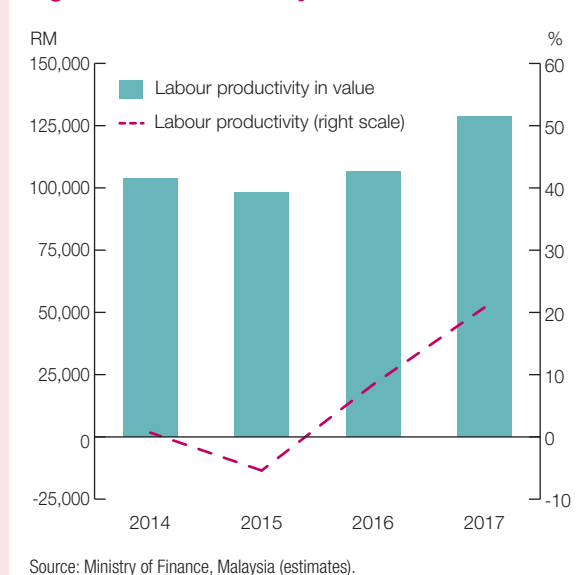


Assessing Labour Productivity Growth in the Oil Palm Subsector

Oil palm is significantly more productive than other oil-producing crops (Asian Agri, 2018). A single hectare of land can produce 3.9 tonnes of palm oil yearly, as compared to 0.8 tonnes of rapeseed oil, 0.7 tonnes of sunflower oil and 0.5 tonnes of soybean oil. In terms of labour productivity,² the oil palm subsector improved markedly by 20.8% to RM129,000 in 2017 from RM107,000 in 2016. The improvement in productivity was mainly supported by a significant increase in production of CPO following the post-recovery of the El Niño phenomenon and higher CPO prices.

¹ Include crude palm oil and palm oil other than crude.

² Assumption: Labour productivity (in RM) is measured as ratio between output of CPO (in RM) and total employment in the oil palm plantation. Data between 2014 and 2017 are from the Department of Statistics, Malaysia and the Malaysian Palm Oil Board.

Figure 3.3.3. Productivity of Major Oil Crops, 2018**Figure 3.3.4. Productivity of Oil Palm Subsector**

Issues and Challenges

Despite being one of the highest yielding crops, the oil palm subsector faces various challenges. These include a shortage of labour, high reliance on foreign workers and acreage limitation. Furthermore, fluctuating global commodity prices, coupled with protectionist measures imposed by major markets, affect the performance of the subsector.

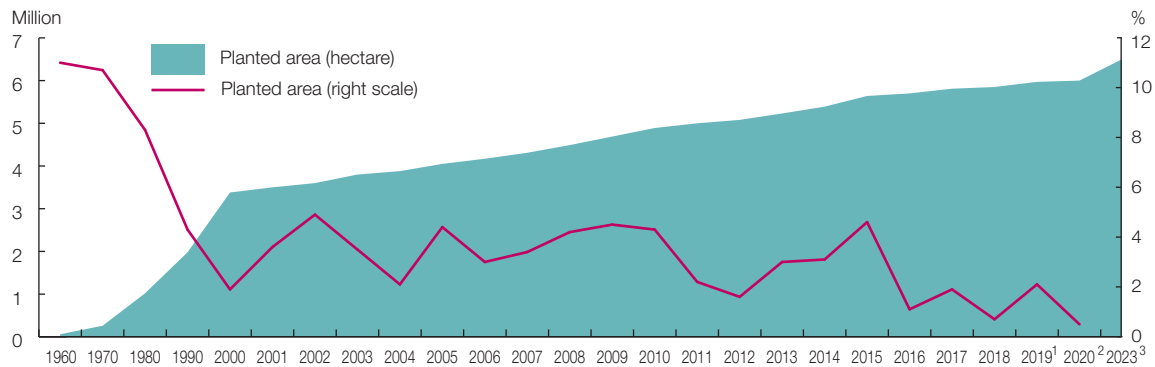
Labour Shortage and High Dependency on Foreign Workers

The subsector is highly labour intensive with low adoption of technology and mechanisation, especially in harvesting and collecting fresh fruit bunches (FFB). It is also heavily dependent on foreign workers, constituting about 77% of 431,000 workers in the subsector (DOSM, 2019). Majority are from Indonesia (63%), Nepal (19%), Bangladesh (7%), the Philippines (5%) and India (4%).³ The high reliance on foreign workers poses a threat to the sustainability and stability of the industry, especially during harvest seasons.

Limited Land

The oil palm planted area grew significantly between 1960 and 2018 from 55,000 hectares to 5.9 million hectares. Nevertheless, the subsector now faces land limitation for future expansion due to extensive land use in the past (Shevade et al., 2019). Furthermore, the Government is committed to capping oil palm planted areas to 6.5 million hectares by 2023 to ensure forest conservation. As a result, many local companies, especially Government-linked companies, seek investment in other countries such as Brazil, Indonesia and Papua New Guinea that have an abundance of affordable land with similar soil and climate.

³ Data between January and June 2018, sourced from Malaysian Palm Oil Board.

Figure 3.3.5. Oil Palm Planted Areas in Malaysia¹ Estimate.² Forecast.³ Limitation of planted areas at 6.5 million hectares.

Source: Malaysian Palm Oil Board and Ministry of Primary Industries, Malaysia.

Import Restrictions Imposed by Major Markets

Globally, the oil palm crop is facing intensified scrutiny from environmental groups and consumers amid allegations on indiscriminate land clearing for the crop resulting in deforestation, despite the crop utilising only 0.4% of world agricultural land compared with other agriculture produce. On 10 June 2019, the EU Parliament passed the Delegated Act to ban the palm oil biofuel gradually by 2030. This is expected to affect Malaysia's exports of palm oil biodiesel to the EU in phases.⁴ Apart from the ban by the EU, India, which is another major importer increased tariffs on Malaysian palm oil. In March 2018, India raised the import duty on CPO to 44% from 30% and refined palm oil to 54% from 40%, the highest level in more than a decade to protect the country's rapeseed crop. However, under the Comprehensive Economic Cooperation Agreement (CECA) India reduced the import duty on CPO to 40% and refined palm oil to 45% in January 2019. Nonetheless, India increased import duty on refined palm oil to 50% in September 2019 for six months to curb imports and boost local refinery industry.

Volatile Palm Oil Prices

Since 2006, commodity prices, including CPO, have been recording high fluctuation mainly due to uncertainties in the world demand and supply, which dampens its production. Slower global growth emanating primarily from trade tension reduces demand for commodities, including palm oil. At the same time, excess supply amid high stock accumulation softens the prices of CPO. Furthermore, low prices of soybean oil which is a substitution to palm oil, also drag down the prices of CPO.

Unfavourable weather conditions such as droughts and floods also affect the movement of CPO prices. For instance, in 2016, the El Niño phenomenon affected the maturation process of FFB which decreased the yield by 13.9% to 15.9 tonnes per hectare resulting in an overall reduction of CPO by 13.2% to 17.3 million tonnes. With the decline in the production of CPO, prices surged to RM2,653 per tonne in 2016 from RM2,154 per tonne in 2015.

⁴ Exports of palm oil biodiesel to EU worth RM390 million in 2018.

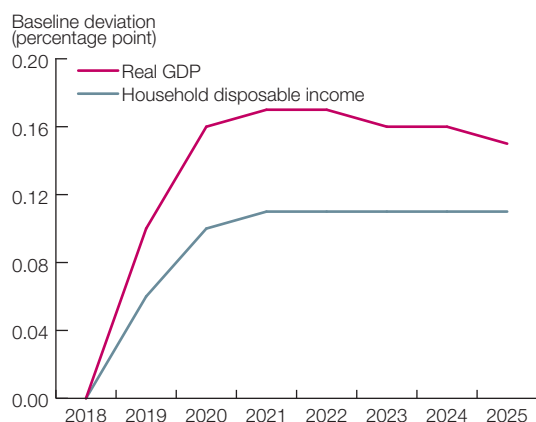
Figure 3.3.6. Major Vegetable Oil Prices

Source: Malaysian Palm Oil Board.

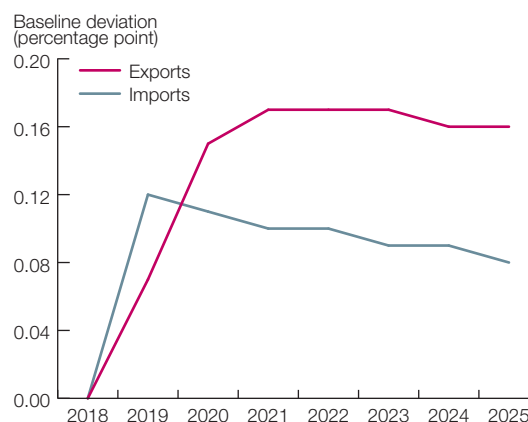
Economic Implication of Boosting Productivity in the Oil Palm Subsector

With limited land for agriculture, boosting productivity through the usage of digital technology and mechanisation will increase palm oil yields. Research indicates that good agricultural practices and a better production system will increase yields (Zulkifli et al., 2010). Ministry of Finance's analysis⁵ indicates that a 5% increase in the productivity of oil palm subsector will add 0.1 percentage points to the baseline GDP in 2019. Parallel to this, exports and household disposable income are expected to increase 0.07 percentage points and 0.06 percentage points, respectively.

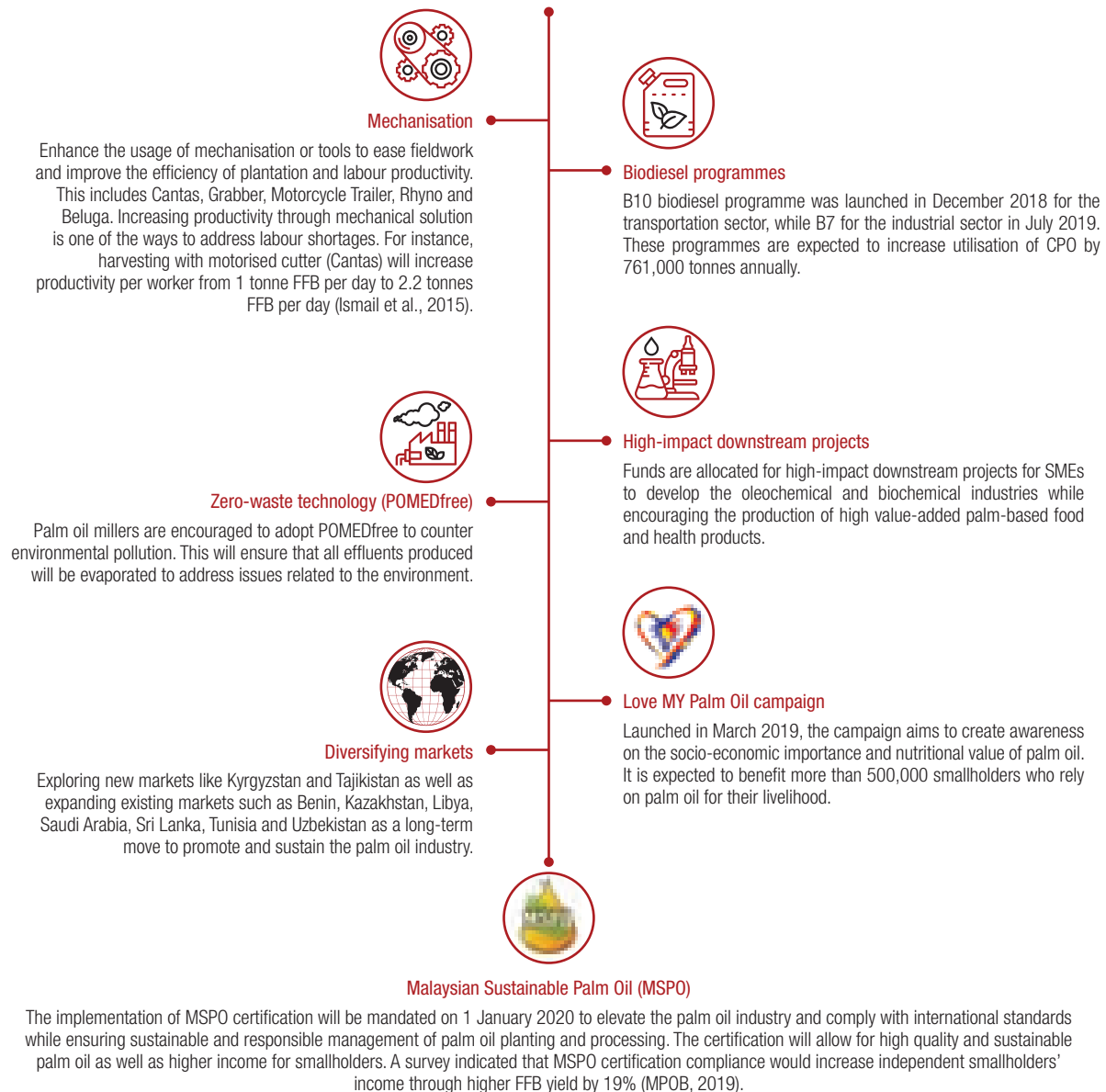
Improvement in oil palm productivity also benefits other industries, including oils and fats which sources 90.3% of its intermediate input from the oil palm industry. Furthermore, industries such as flower plants and fertilisers which supply most of its output as an intermediate input to oil palm industry are expected to benefit from forward and backward linkages. In addition, consumer-oriented industries such as motor vehicles and restaurants are expected to gain from rising household demand following improvement in income.

Figure 3.3.7. Impact on Real GDP and Household Income

Source: Ministry of Finance, Malaysia (estimates).

Figure 3.3.8. Impact on Trade

⁵ Dynamic Computable General Equilibrium Model for the Malaysian economy.

Figure 3.3.9. Measures to Boost the Oil Palm Subsector

Conclusion

Oil palm is the most productive oilseed crop in the world, particularly in terms of land utilisation. The industry has grown tremendously, contributing significantly to socio-economic development. However, there are numerous issues and challenges faced by the subsector, including labour shortage; acreage limitation; import restriction; high tariff; and highly volatile global commodity prices. Acknowledging the importance of oil palm subsector to the economy, the Government has undertaken various measures to boost production and expand the market for palm oil. These include introducing mechanisation, diversifying export markets, endorsing biodiesel and complying with international standards. These measures are expected to enhance the competitiveness of Malaysian palm oil globally while ensuring the sustainability of the industry.

Table 3.6. Rubber: Areas, Yield and Production 2018 – 2020

				Change (%)		
	2018	2019 ¹	2020 ²	2018	2019 ¹	2020 ²
Total areas ('000 hectares)	1,083	1,084	1,085	0.1	0.1	0.1
Smallholdings	1,010	1,011	1,010	0.3	0.1	-0.1
Estates	73	73	75	-2.2	0.0	2.5
Yield (kg per hectare)						
Smallholdings	1,420	1,388	1,398	-1.4	-2.3	0.7
Estates	1,550	1,550	1,540	1.0	0.0	-0.6
Total production ('000 tonnes)	603	650	680	-18.5	7.7	4.6
Smallholdings	548	607	635	-20.7	10.7	4.6
Estates	55	43	45	12.4	-21.9	4.6
% of world production	4.3	4.6	4.7			

¹ Estimate.² Forecast.

Note: Total may not add up due to rounding.

Source: Malaysian Rubber Board.

This will uphold the price of Standard Malaysian Rubber 20 (SMR20) to hover around RM5.70 per kilogramme (kg) in 2019 and remain stable at RM5.50 per kg in 2020.

The livestock subsector is estimated to expand 5.6% in 2019 and 5.1% in 2020 due to rising demand from both domestic and export markets. The subsector is expected to be supported by poultry and egg segments. Meanwhile, other agriculture subsector is projected to grow 3% and 3.1% in 2019 and 2020, respectively. This expansion will be supported by the promotion of good agricultural practices; enhancement of cash crops; and integration of crops production by leveraging modern farming approaches such as hydroponics, aquaponics, fertigation as well as vertical and precision farmings. In addition, campaigns to promote local fruits in conjunction with VM2020 will further support the subsector.

The output of the agrofood segment is expected to grow in line with the Government's efforts to increase self-sufficiency level (SSL). These include an allocation for R&D to improve the quality of seeds and productivity of grains and fruits as well as incentives to automate the

segment. Meanwhile, the fishing subsector is expected to decline by 1.2% due to contraction in the production of aquaculture as well as the lower output of marine fish landing affected by the monsoon seasons. In 2020, the subsector is estimated to improve with marginal contraction of 0.2% due to higher output of aquaculture following the adoption of the latest nano technology.

Mining Sector

The mining sector rebounded during the first six months of 2019 on account of higher output of natural gas. For the year, the output of the sector is projected to turn around 0.6%, driven by higher production of natural gas, offsetting lower output of crude oil (including condensates). Among the natural gas fields that are expected to increase production include Anjung, Bakong and Larak in Sarawak. On the contrary, production of crude oil is affected by temporary planned and unplanned shutdowns of several fields such as Dulang (Peninsular Malaysia), Gumusut-Kakap (Sabah) and Baronia (Sarawak).

In 2020, the mining sector is forecast to record a marginal growth of 0.3%, supported by stable gas production following stronger domestic demand from the petrochemical industry as well as rising exports of liquefied natural gas (LNG), particularly to China, Japan and Republic of Korea. The subsector is expected to benefit from the commencement of the North Malay Basin Full Field Development (FFD - Phase 2) in Peninsular Malaysia as well as Gorek, Integrated Bokor (Phase 3) and Betty redevelopment projects in Sarawak. Production of crude oil is projected to increase moderately supported by projects such as Anggerik FFD and Zetung FFD in Peninsular Malaysia as well as Bayan Oilfield (Phase 2B and 2C) in Sarawak. Moving forward, uncertainties in the global growth; production cut by Organization of the Petroleum Exporting Countries (OPEC) and non-OPEC; oil production by the US; the US-China trade tension; and geopolitical risks, particularly in Iran, Iraq, Libya and Venezuela will be among the factors affecting the movement of crude oil prices.

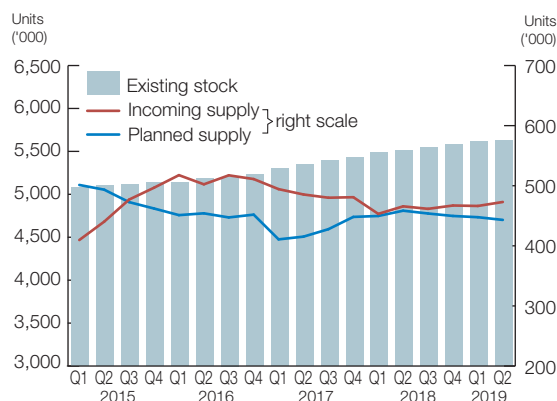
Construction Sector

The construction sector recorded a marginal increase of 0.4% during the first half of 2019. For the year, the growth is expected to expand 1.7% mainly supported by the civil engineering segment, particularly the infrastructure-related projects. However, the performance of the sector will be weighed down by subdued growth of the residential and commercial properties. For 2020, the construction sector is expected to grow further to 3.7% on account of acceleration and revival of mega projects as well as building of affordable homes.

Investment in the infrastructure works is expected to boost the civil engineering segment. These include ECRL, MRT2, LRT3, Electrified Double Track Gemas – Johor Bahru, KVD2, Central Spine Road, Pan Borneo Highway, and Coastal Highway in Sarawak. Meanwhile, in the petrochemical and power plant segments, new projects such as Pengerang Deepwater Terminals (Phase 3), Boleh Hydroelectric Dam and Sarawak Water Supply Grid Programme (Phase 1) are expected to support the growth of this subsector further.

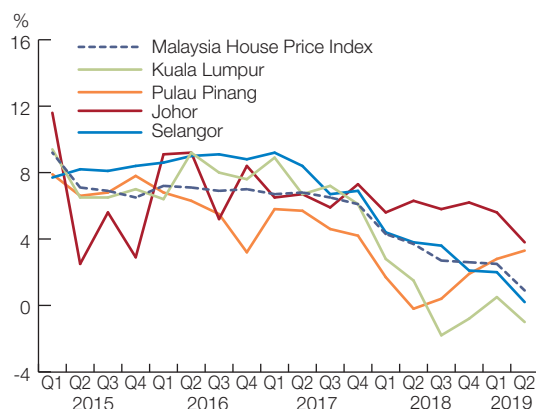
The residential subsector is expected to grow at a slower pace, mainly due to elevating property overhang caused by the mismatch between supply and demand. However, various measures undertaken by the Government including the building of 60,000 units per year of affordable homes within 10 years and the

Figure 3.3. Supply Indicators of Residential Property



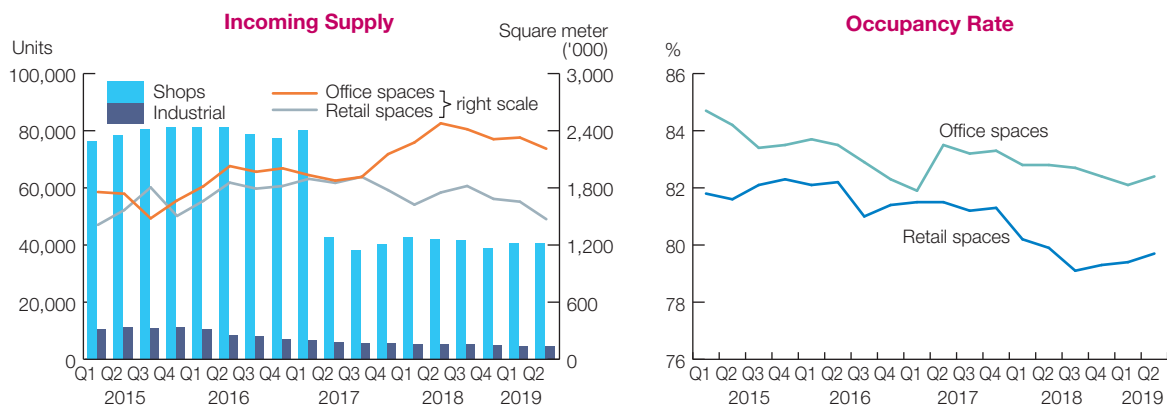
Source: National Property Information Centre.

Figure 3.4. Malaysia House Price Index (% change)



Source: National Property Information Centre.

Figure 3.5. Supply Indicators of Non-Residential Property



Source: National Property Information Centre.

reinvigorating of the National Housing Policy are expected to boost the growth of the subsector in 2020. In addition, the enhancement of the Fund for Affordable Homes by Bank Negara Malaysia will enable the first-time home buyers to enjoy lower monthly commitment up to 20%, which in turn will support the subsector.

The non-residential subsector continues to decline in 2019 due to rising property overhang and low incoming supply. In 2020, the performance of the sector is expected to remain subdued following a lack of initiative on new mega commercial projects. Nonetheless, the on-going commercial projects such as Bukit Bintang City Centre, KLIA Aeropolis DFTZ Park, Kwasa Damansara, Malaysia Vision Valley and Merdeka 118 Tower are anticipated to support the subsector.

Domestic Demand

Notwithstanding heightening external headwinds following prolonged trade war and geopolitical tensions, domestic demand is expected to spearhead growth, expanding by 4% in 2019 and 4.8% in 2020. Major underlying factors, including a stable labour market amid low prices, are expected to remain intact and continue to support domestic activities. Private sector expenditure which constitutes about 80% of domestic demand, will continue to anchor growth at 5.6% and 5.8% in 2019 and 2020, respectively. Meanwhile, public sector expenditure is estimated to decline by 1.8% in 2019, weighed down by lower investment spending by public corporations. In 2020, the public sector expenditure is expected to rebound 0.8% largely driven by acceleration of projects towards the tail-end of the Eleventh Malaysia Plan coupled with revival of strategic projects.

Private consumption is expected to grow at a moderate pace of 6.8% in 2019 due to base effect following the removal of Goods and Services Tax (GST) in the second half of 2018. Household spending will continue to be supported by wage growth and favourable employment prospects, especially in the services sector. More job opportunities are expected to be created in

**Table 3.7. GDP by Aggregate Demand
2018 – 2020**
(At constant 2015 prices)

	Share (%)	Change (%)		
	2019 ²	2018	2019 ²	2020 ³
Domestic demand	93.5	5.5	4.0	4.8
Private expenditure	74.9	7.1	5.6	5.8
Consumption	58.1	8.0	6.8	6.9
Investment	16.8	4.3	1.5	2.1
Public expenditure	18.6	0.1	-1.8	0.8
Consumption	12.1	3.3	2.0	1.5
Investment	6.5	-5.0	-8.1	-0.6
External sector¹	7.7	11.4	14.5	-2.7
Exports	64.3	2.2	-0.4	1.4
Imports	56.7	1.3	-2.1	1.9
GDP	100.0	4.7	4.7	4.8

¹ Goods and non-factor services.

² Estimate.

³ Forecast.

Note: Total may not add up due to rounding and excluding change in stocks component.
Source: Department of Statistics and Ministry of Finance, Malaysia.

the near-term following increased approved investments worth of RM296 billion by MIDA between 2018 and June 2019. Furthermore, an upward revision of the minimum wage rate, cash transfers, income tax refund and lower cost of borrowings are expected to provide additional impetus to the household spending. In 2020, the trend in income and labour market is expected to continue in line with the sustained economic activities. In addition, major events such as the VM2020, APEC meetings and World Congress on Information Technology 2020 are expected to support the private consumption activities. Accordingly, consumption spending is expected to record a growth rate of 6.9% in 2020.

Private investment is expected to grow at a slower pace of 1.5% in 2019, reflecting lower external demand and capacity utilisation rate, particularly in the export-oriented industries. In the first half of 2019, investors remained cautious as reflected in Business Confidence Index of 94.3 points, below the 100-threshold points. However, investment is anticipated to pick-up in the second half of the year, in line with the Business Tendency Survey which increased 18.2%. In 2020, investors' sentiment is expected to improve further, especially with the resumption of strategic projects and

Feature Article 3.4

Malaysia's Potential Output

Introduction

Potential output is an estimate of the maximum level of sustainable output that the economy can produce in the medium- to long-term without any pressure on prices. Meanwhile, the output gap measures the percentage difference between real GDP and potential output, reflecting whether economic resources are over or underutilised (ECB, 2011). A positive output gap is when real GDP is above potential output, meaning over utilisation of resources which may cause declining unemployment and increasing inflation. On the contrary, a negative output gap is when real GDP is below potential output, implying an underutilisation of economic resources which causes rising unemployment and declining inflation (Darby & McIntyre, 2018).

Potential output is widely used in formulating fiscal and monetary policies (Hansen et al., 2019). In the EU, fiscal variables are measured as a percentage of potential output, and the output gap is central in determining countercyclical fiscal measures to stimulate the economy. At the same time, estimates of potential output growth are part of the debt sustainability analysis by the IMF and the EU (Fatás, 2018). Central banks also consider potential output in formulating monetary policy through interest rate decisions (Fiedler et al., 2019). The main objective of this article is to report on Malaysia's estimated potential output using various methods, thus providing useful insights in designing fiscal policy.

Estimating Potential Output

Potential output and output gap are not directly observable. As such, in this article, three approaches, namely univariate, multivariate and structural with nine methodologies, were applied to make the estimations.

Table 3.4.1. Methodologies to Estimate Potential Output

Approach	Description	Methodology
Univariate	Use filters or models to estimate trend output based on time series variables	▪ Linear trend ▪ Quadratic trend ▪ Hodrick-Prescott (HP) filter ▪ Band Pass filter using Baxter-King (BK) approach ▪ Band Pass filter using Christiano-Fitzgerald (CF) approach ▪ Butterworth filter
Multivariate	Use models or specified functions that incorporate other variables based on economic theory	▪ Kalman filter
Structural	Use production function that allows decomposition of output from a factor of input and Total Factor Productivity contributions	▪ Production function using Cobb-Douglas ▪ Production function using constant elasticity of substitution (CES)

Source: International Monetary Fund, Organisation for Economic Co-operation and Development, and World Bank.

Estimated Potential Output in the Near-term

Based on the nine methodologies, the average potential output between 2018 and 2020 is estimated in the range of 4.8% – 5% while the output gap is close to zero. This indicates that the economy is performing close to its potential with stable inflation and employment rates. Nonetheless, external risks such as slower global growth and trade activities will continue to weigh on Malaysia's economic performance.

Table 3.4.2. Potential Output and Output Gap Estimates
2018 – 2020
 (At constant 2015 prices)

Methodology	Potential Output (%)			Output Gap ¹ (%)		
	2018	2019 ²	2020 ³	2018	2019 ²	2020 ³
Univariate						
Linear trend	5.0	5.0	5.0	0.1	-0.3	-0.5
Quadratic trend	4.9	4.9	4.9	0.3	0.0	-0.1
HP filter	5.0	5.0	5.1	0.1	-0.3	-0.5
Band Pass filter using BK approach	5.0	4.8	4.8	0.1	-0.1	-0.1
Band Pass filter using CF approach	5.1	4.8	4.6	-0.3	-0.5	-0.2
Butterworth filter	4.8	4.7	5.1	0.0	-0.1	-0.3
Multivariate						
Kalman filter	5.0	4.5	4.9	-0.2	0.0	-0.1
Structural						
Production function using Cobb-Douglas	4.9	4.8	4.7	-0.1	-0.2	-0.1
Production function using CES	4.9	4.6	4.9	-0.1	0.0	-0.1
Average	5.0	4.8	4.9	-0.02	-0.2	-0.2

¹ Output gap = $\frac{(\text{Actual output level} - \text{Potential output level})}{\text{Potential output level}} \times 100\%$

² Estimate.

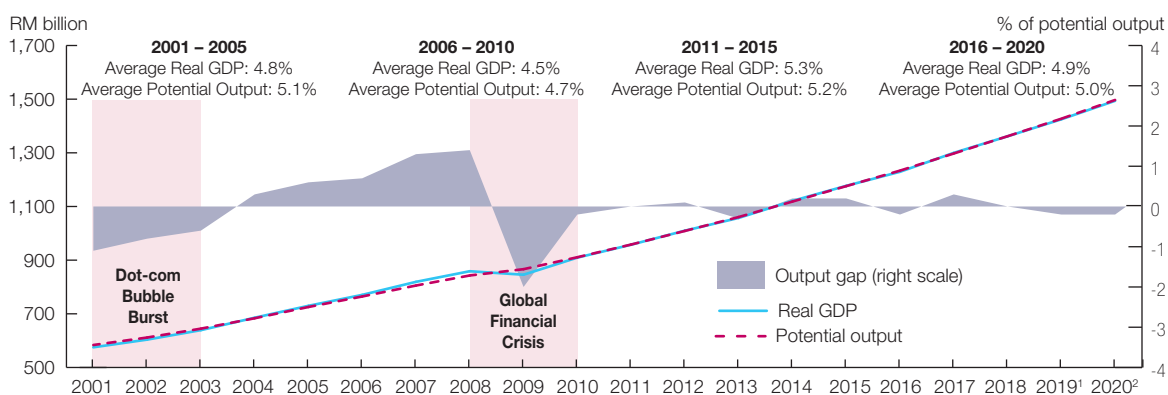
³ Forecast.

Source: Ministry of Finance, Malaysia (estimates).

Trend Analysis of Potential Output

During the period of 2001 – 2005 and 2006 – 2010, the potential output was estimated at an average of 5.1% and 4.7%, respectively, hovering above the actual output. This was following the onset of two major economic crises, namely the dot-com bubble burst and the global financial crisis. Nevertheless, the unemployment rate remained stable in the range of 3.2% – 3.7% during the period of 2001 – 2010 reflecting full employment. In addition, the share of

Figure 3.4.1. Real GDP vs Potential Output Trend



¹ Estimate.

² Forecast.

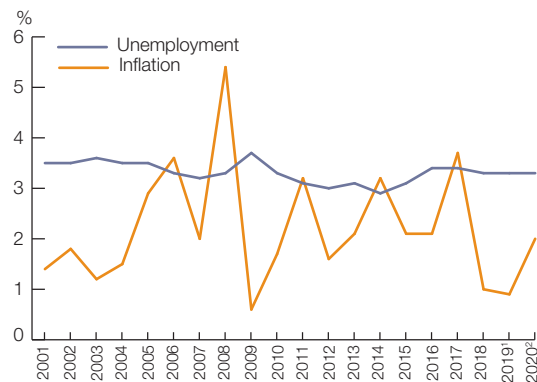
Source: Department of Statistics and Ministry of Finance, Malaysia (estimates).

Total Factor Productivity (TFP) increased from 28.3% in 2001 – 2005 to 34.7% in 2006 – 2010. The improvement corresponded well with the Government's policy to shift Malaysia from a capital- to productivity-led economy under the Ninth Malaysia Plan. Despite the economy operating below its potential output, the inflation rate¹ increased from 1.9% in 2001 – 2005 to 2.4% in 2006 – 2010. The increase was due to a surge in global food and energy prices in 2008.

During the period of 2011 – 2015, the actual output grew 5.3% above the potential level of 5.2% driven by technological-intensive investment and a higher number of skilled workers amid structural changes in the economy. During the period, investments in ICT-related and machinery and equipment segments expanded approximately 38% contributing one-third of total investment. Meanwhile, the number of skilled workers increased from 3.3 million in 2010 to 3.6 million in 2015. Correspondingly, the unemployment rate was lower between 2.9% and 3.1% while inflation remained stable at 2.2%.

On the contrary, during the 2016 – 2020 period, the potential output is estimated at 5% with actual output expanding at 4.9%. This is in line with the expected increase in the unemployment rate between 3.3% and 3.4% with capital accumulation expanding at a slower pace of 2.2%. The negative output gap reflects heightening external uncertainties arising from the intensifying trade war, geopolitical tensions as well as volatility in the global financial and commodity markets. However, the share of TFP during the period is expected to expand to 39.6% in line with the targeted increase in the number of skilled and knowledge workers as well as greater adoption of advanced technologies and automation by industries (MEA, 2018). Meanwhile, the inflation rate is expected to remain stable at 1.9%, mainly attributed to the measures taken by the Government to cap the pump prices to ease the burden of the people.

Figure 3.4.2. Unemployment and Inflation Rates
(% change)

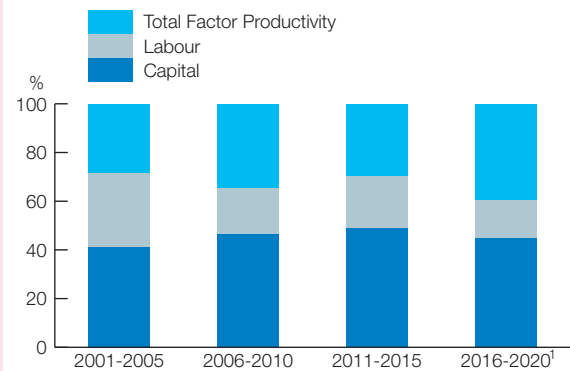


¹ Estimate.

² Forecast.

Source: Department of Statistics and Ministry of Finance, Malaysia (estimates).

Figure 3.4.3. Factors of Production
(% share)



¹ Forecast.

Source: Ministry of Economic Affairs, Malaysia.

Conclusion

The Government will continue to promote policy measures to raise potential output and achieve sustainable growth. In this regard, fiscal policy can be targeted on accelerating human capital development through education and upskilling as well as modernising physical infrastructure and providing incentives to attract higher value-added private investment. Various measures can also be applied to enhance the livelihood of the people by delivering quality healthcare and comprehensive social safety net, which in turn will promote labour productivity and safeguard the well-being of the people.

¹ Inflation rates for the 5-year period are calculated using the Compound Annual Growth Rate (CAGR).

higher exports, particularly E&E. The payment of tax refunds is also anticipated to provide impetus to private sector activities. Overall, the momentum in private investment is projected to expand 2.1% in 2020.

Capital outlays in both years will remain concentrated in the services and manufacturing sectors. The E&E; machinery and equipment; chemicals and chemical products; and aerospace industries will remain as the priority within the manufacturing sector due to their strong inter-linkages. Investments in high value-added areas such as advanced materials, optics and photonics, petrochemicals and pharmaceuticals are projected to attract more investors. Meanwhile, in the services sector, investment will focus on regional establishments, health tourism, healthcare, ICT services and green technology. In addition, private investment in 2020 will be concentrated in tourism-related industries in conjunction with the hosting of major international events and VM2020.

In line with the fiscal consolidation path, public consumption is projected to remain moderate at 2% in 2019 and 1.5% in 2020. Accordingly, the Government is undertaking rigorous expenditure optimisation exercises emphasising on the reduction of wastage and leakages without compromising public service delivery. Meanwhile, public investment is projected to decline significantly by 8.1% in 2019, primarily due to lower capital outlays by public corporations, especially in O&G-related industries. However, public corporations' capital spending, which accounts for about 70% of total public investment, is expected to improve in 2020. Thus, public investment is projected to record a mild decline of 0.6% in 2020. Development of new projects in O&G industries such as Kasawari Gas Development, coupled with on-going projects such as Floating LNG 2 are projected to buoy the public investment activities. Furthermore, MRT2, LRT3, LRT line extension and ECRL as well as Tekai hydroelectric and Pasir Gudang combined-cycle gas turbine power plant projects will continue to underpin the capital spending in the transport and utility segments.

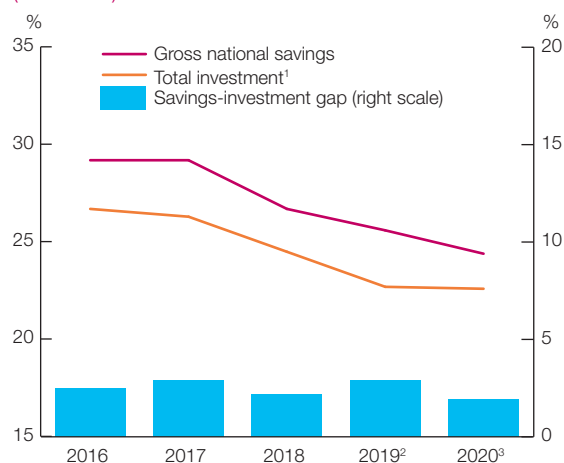
The Government's development expenditure during these two years will remain high and mostly concentrated in the economic and

social sectors. Investment in economic sector mainly channelled into transportation system; energy and public utilities; as well as trade and industry. Meanwhile, the bulk of expenditure in the social sector is channelled into education and healthcare.

With sustained economic activities, gross national income (GNI) in current prices is forecast to increase steadily at 5.5% to RM1.5 trillion in 2019. Meanwhile, gross national savings (GNS) is anticipated to increase by 1.4% to RM377.5 billion. With the level of GNS continuing to exceed total investment, the savings-investment gap is expected to record a surplus of 2.9% of GNI in 2019, enabling Malaysia to continue to finance its growth, primarily from domestic sources.

In 2020, GNI is expected to improve further and record a growth rate of 5.8% to RM1.6 trillion. GNS is anticipated to expand marginally by 0.8% to RM380.6 billion. The share of GNS as a percentage of GNI remains high at 24.4%, primarily contributed by the private sector. Meanwhile, total investment is expected to increase markedly by 5.2% to RM351.6 billion and account for 22.6% of GNI. With investment increasing faster than savings, the savings-investment surplus is projected to narrow to RM29 billion or 1.9% of GNI. Nevertheless, the amount remains substantial, providing ample liquidity to mobilise long-term productive investment without recourse to external financing.

Figure 3.6. Savings-Investment Gap
(% of GNI)



¹ Including change in stocks.

² Estimate.

³ Forecast.

Source: Department of Statistics and Ministry of Finance, Malaysia.

External Sector

Exports

In 2019, gross exports are estimated to expand marginally by 0.1%. Exports of manufactured goods, which account for about 84% of total exports, are estimated to grow 0.7% contributed by higher exports of non-E&E and E&E products. Exports of non-E&E are projected to increase albeit marginally by 0.7% contributed by chemicals and chemical products; optical and scientific equipment; as well as iron and steel products. Similarly, receipts from E&E products are forecast to expand moderately by 0.6% as a result of the downturn in global semiconductor cycle.

Exports of agriculture goods are expected to rebound 0.2% contributed by continued demand for palm oil and palm oil-based products as well as natural rubber. Exports of palm oil are projected to expand 1%, benefitting from ECRL deal with China. Nonetheless, exports of palm oil to India are anticipated to be affected by the upward revision of its import duty on refined palm oil from Malaysia to 50% for six months, effective September 2019. Receipts from natural rubber are anticipated to moderate 0.2% due to compliance with the ITRC agreement to reduce exports between April and July 2019. Meanwhile, export earnings from mining goods are estimated to contract 2.8% due to a decline in shipments of crude petroleum (-19.6%) following temporary shutdowns of several fields

**Table 3.8. External Trade
2018 – 2020**

	RM million			Change (%)		
	2018	2019 ¹	2020 ²	2018	2019 ¹	2020 ²
Total trade	1,883,391	1,862,590	1,895,830	6.3	-1.1	1.8
Gross exports	1,003,587	1,004,590	1,014,630	7.3	0.1	1.0
<i>of which:</i>						
Manufactured	837,071	842,600	850,460	9.3	0.7	0.9
Agriculture	67,001	67,130	67,570	-14.2	0.2	0.7
Mining	89,907	87,360	88,500	9.9	-2.8	1.3
Gross imports	879,804	858,000	881,200	5.2	-2.5	2.7
<i>of which:</i>						
Capital goods	112,453	102,000	106,500	-2.7	-9.3	4.4
Intermediate goods	462,212	473,700	492,000	-3.5	2.5	3.9
Consumption goods	73,031	74,800	76,670	2.8	2.4	2.5
Trade balance	123,783	146,590	133,430	25.7	18.4	-9.0

¹ Estimate.

² Forecast.

Note: Total may not add up due to rounding.

Source: Department of Statistics and Ministry of Finance, Malaysia.

**Table 3.9. Gross Exports
January – August**

	RM million		Change (%)		Share (%)	
	2018	2019	2018	2019	2018	2019
Manufactured	544,601	548,340	9.0	0.7	83.3	84.3
Agriculture	44,915	43,047	-13.9	-4.2	6.9	6.6
Mining	56,686	54,511	4.9	-3.8	8.7	8.4
Others ¹	7,258	4,914	16.4	-32.3	1.1	0.8
Gross exports	653,461	650,812	6.7	-0.4	100.0	100.0

¹ Including gold scrap and waste; worn clothing; and special transaction not classified.

Note: Total may not add up due to rounding.

Source: Department of Statistics, Malaysia and Malaysia External Trade Development Corporation.

**Table 3.10. Exports of Manufactured Goods
January – August**

	RM million		Change (%)		Share (%)	
	2018	2019	2018	2019	2018	2019
E&E	245,781	247,585	11.4	0.7	45.1	45.2
Non-E&E	298,820	300,755	7.0	0.6	54.9	54.8
Petroleum products	49,258	47,055	2.2	-4.5	9.0	8.6
Chemicals and chemical products	36,752	37,971	18.7	3.3	6.7	6.9
Manufactures of metal	30,329	28,035	25.3	-7.6	5.6	5.1
Machinery, equipment and parts	27,547	27,506	0.4	-0.1	5.1	5.0
Optical and scientific equipment	23,543	23,763	12.5	0.9	4.3	4.3
Rubber products	17,449	16,733	-1.3	-4.1	3.2	3.1
Palm oil-based manufactured products	15,249	14,417	-2.3	-5.5	2.8	2.6
Processed food	12,542	14,020	-4.5	11.8	2.3	2.6
Iron and steel products	9,778	12,405	18.0	26.9	1.8	2.3
Transport equipment	12,245	11,725	19.6	-4.2	2.2	2.1
Textiles, apparels and footwear	9,912	10,403	-4.4	5.0	1.8	1.9
Wood products	10,361	10,103	-4.5	-2.5	1.9	1.8
Manufactures of plastics	9,531	9,902	-1.2	3.9	1.8	1.8
Non-metallic mineral products	4,713	5,608	24.0	19.0	0.9	1.0
Jewellery	4,321	4,712	-4.4	9.0	0.8	0.9
Paper and pulp products	3,151	4,066	1.1	29.0	0.6	0.7
Beverages and tobacco	2,156	2,274	-23.7	5.5	0.4	0.4
Other manufactures	19,985	20,057	14.8	0.4	3.7	3.7
Exports of manufactured goods	544,601	548,340	9.0	0.7	100.0	100.0

Note: Total may not add up due to rounding.

Source: Department of Statistics, Malaysia and Malaysia External Trade Development Corporation.

in Peninsular Malaysia, Sabah and Sarawak. Nevertheless, shipments of LNG are projected to increase significantly by 7% supported by sustained demand from major markets, particularly China, Japan and Republic of Korea.

In 2020, overall gross exports are expected to expand 1% benefitting from the anticipated improvement in global trade activities and the uptick in the E&E cycle. Accordingly, exports of manufactured goods are projected to increase by 0.9% with exports of E&E expanding 0.8%. Meanwhile, exports of non-E&E products are expected to expand 1.1% contributed by higher demand for chemicals and chemical products; machinery, equipment and parts; manufactures of metal; and petroleum products.

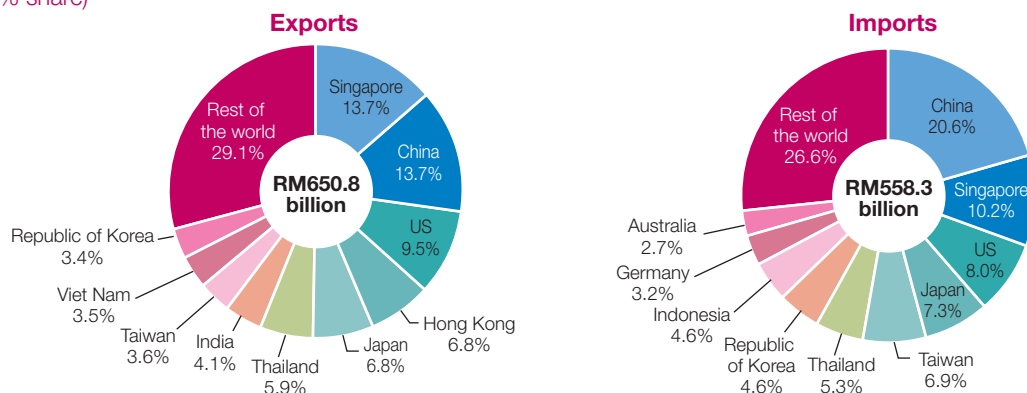
Agriculture exports are estimated to grow, albeit modestly at 0.7% in 2020 led by demand for palm oil and palm oil-based products as well as natural rubber. Likewise, export earnings from mining goods are projected to increase by 1.3% buoyed by improved shipments for LNG benefitting from higher

demand from major markets. Exports of crude petroleum are expected to moderate following uncertainties in external environment partly due to production cut by OPEC and non-OPEC; shale oil production by the US; and the US-China trade tension.

Imports

In 2019, gross imports are expected to contract 2.5% weighed down by capital goods (-9.3%) in line with lower investment activities. Meanwhile, imports of intermediate and consumption goods are projected to grow by 2.5% and 2.4%, respectively, with continued demand from industries and households. In 2020, gross imports are estimated to turnaround 2.7% in line with higher imports of intermediate, capital and consumption goods. Imports of intermediate goods, which account for about 55%, are expected to grow 3.9% attributed to expansion in the manufacturing sector, particularly E&E as well as petroleum, chemical, rubber and plastic products. Likewise, imports

Figure 3.7. Direction of External Trade
January – August 2019
 (% share)



Note: Total may not add up due to rounding.

Source: Department of Statistics, Malaysia and Malaysia External Trade Development Corporation.

Table 3.11. Gross Imports by End Use
January – August

	RM million		Change (%)		Share (%)	
	2018	2019	2018	2019	2018	2019
Capital goods	75,640	65,595	2.6	-13.3	13.0	11.7
Capital goods (except transport equipment)	63,037	59,782	-6.0	-5.2	10.8	10.7
Transport equipment (industrial)	12,603	5,813	90.6	-53.9	2.2	1.0
Intermediate goods	306,989	306,844	-4.6	0.0	52.8	55.0
Food and beverages, primary and processed, mainly for industry	11,762	12,171	-14.6	3.5	2.0	2.2
Fuel and lubricants, primary, processed and others	36,722	39,296	13.5	7.0	6.3	7.0
Industrial supplies, primary, processed and n.e.s. ¹	141,652	143,446	7.6	1.3	24.4	25.7
Parts and accessories of capital and transport equipment	116,852	111,932	-18.8	-4.2	20.1	20.0
Consumption goods	48,190	48,383	3.4	0.4	8.3	8.7
Food and beverages, primary and processed, mainly for household	19,083	20,061	0.9	5.1	3.3	3.6
Transport equipment (non-industrial)	522	689	-22.1	32.1	0.1	0.1
Other consumer goods	28,585	27,632	5.8	-3.3	4.9	4.9
Durables	6,813	6,359	14.9	-6.7	1.2	1.1
Semi-durables	10,158	8,881	3.0	-12.6	1.7	1.6
Non-durables	11,614	12,392	3.6	6.7	2.0	2.2
Others	18,768	24,797	11.7	32.1	3.2	4.4
Re-exports	131,973	112,645	46.0	-14.6	22.7	20.2
Gross imports	581,559	558,263	5.9	-4.0	100.0	100.0

¹ Not elsewhere stated.

Note: Total may not add up due to rounding.

Source: Department of Statistics, Malaysia.

of capital goods are projected to increase by 4.4% in tandem with improving investment activity in new and on-going projects. Imports of consumption goods are expected to expand 2.5% following higher demand from households and tourists.

Balance of Payments

Malaysia's external sector is expected to remain resilient despite continued uncertainties in the global environment. Overall in 2019, the increase in net exports of goods and services

are expected to contribute to the widening of the current account surplus to RM43.4 billion or 2.9% of GNI. The goods account is expected to record a higher surplus of RM131 billion mainly supported by an increase in exports of manufactured goods coupled with a significant decline in imports of capital goods amid moderating investment activities.

The deficit in the services account is projected to widen RM21.1 billion following a decline in the travel account surplus, offsetting lower deficit in the transport and other services accounts. The travel account is expected to register a surplus of RM26.1 billion supported by the growing number of middle-income travellers, especially from Asia. This is expected to cushion the effects of lower tourist per capita spending and an increase in the number of residents travelling abroad.

The transport account is expected to record a smaller deficit of RM27.1 billion attributed to lower payments for freight charges in tandem with subdued trade activities. Meanwhile, transport receipts are anticipated to be supported by continued earnings from passenger fares as well as maintenance and repair works by domestic companies. The deficit in other services account is projected to narrow RM20 billion following lower payments to imported professional and construction services with the

mild expansion in the investment activities. However, payments for intellectual property rights are higher, especially in the automobile segment.

The deficit in primary income account is expected to be lower at RM45.3 billion as the decline in payments accruing to foreign direct investors in Malaysia more than offset the income receipts to Malaysian companies investing abroad. The investment income accruing to foreign direct investors is expected to fall to RM82.9 billion, reflecting lower profits and dividends. This is due to the moderate performance of the manufacturing sector, particularly in the E&E segment. On the contrary, profits and dividends accruing to Malaysian companies investing abroad are higher at RM48.3 billion, reflecting the improvement in earnings from portfolio investment. The secondary income account is expected to continue to record outward remittances by foreign workers which are expected to remain substantial at RM38.8 billion supported by an upward revision in the minimum wages. Meanwhile, remittances by Malaysians working abroad are expected to record RM17.6 billion.

The financial account registered a net outflow of RM32.4 billion in the first half of 2019 following net outflows of portfolio and other

**Table 3.12. Current Account of the Balance of Payments
2018 – 2020**
(RM million)

	2018			2019 ¹			2020 ²		
	Receipts	Payments	Net	Receipts	Payments	Net	Receipts	Payments	Net
Balance on goods and services	994,860	893,403	101,456	996,518	886,618	109,900	1,016,872	918,477	98,395
Goods	832,796	713,614	119,182	834,814	703,864	130,951	849,789	726,375	123,414
Services	162,064	179,789	-17,726	161,703	182,754	-21,051	167,083	192,102	-25,019
Transport	20,438	48,009	-27,571	22,101	49,249	-27,148	23,336	51,596	-28,260
Travel	79,173	49,125	30,048	84,386	58,299	26,087	86,142	59,040	27,102
Other services	62,452	82,655	-20,203	64,696	84,685	-19,989	64,835	88,696	-23,861
Primary income	53,479	105,065	-51,586	54,248	99,537	-45,289	54,891	104,874	-49,983
Compensation of employees	6,793	14,447	-7,654	5,998	16,674	-10,675	6,069	17,568	-11,498
Investment income	46,686	90,618	-43,933	48,250	82,864	-34,614	48,822	87,307	-38,485
Secondary income	15,598	34,880	-19,282	17,580	38,782	-21,201	20,197	39,638	-19,441
Balance on current account	1,063,936	1,033,348	30,588	1,068,346	1,024,936	43,410	1,091,961	1,062,989	28,972
% of GNI			2.2			2.9			1.9

¹ Estimate.

² Forecast.

Note: Total may not add up due to rounding.

Source: Department of Statistics and Ministry of Finance, Malaysia.

investment components. These outflows have more than offset the net inflow in the direct investment of RM8 billion. FDI recorded a large net inflow of RM26.1 billion following the divestment of a private healthcare company and a joint venture in the O&G industry. Meanwhile, direct investments abroad were primarily channelled into the transportation and storage as well as agriculture, forestry and fishing subsectors. Other investment account recorded a net outflow of RM31.6 billion following higher repayment of interbank borrowings and interbank placements abroad. Similarly, the portfolio investment registered a net outflow of RM8.1 billion following cautious sentiments among non-resident investors, especially during the second quarter of the year.

Moving forward, the prospects for the current account will be shaped by global and domestic demand as well as commodity prices. Accordingly, the current account surplus is expected to narrow to RM29 billion or 1.9% of GNI in 2020. The goods surplus is expected to narrow to RM123.4 billion with import growth outpacing exports.

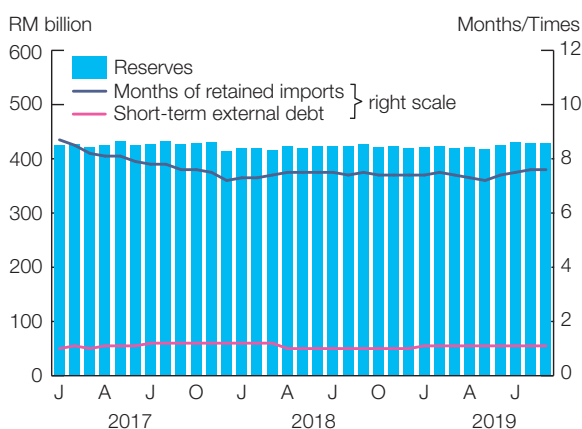
The services account is projected to record a wider deficit of RM25 billion in 2020, as deficits in transportation and other services accounts are expected to be higher than the surplus in the travel account. The deficit in transport account is expected at RM28.3 billion following

continued dependence on foreign transport and trade-related services in line with the improvement in trade activities. Meanwhile, exports of transportation services will benefit from the higher exports as the air passenger segment is expected to be supported by tourist arrivals in response to the VM2020 and APEC meetings.

The surplus in the travel account is expected to be at RM27.1 billion driven by higher tourist arrivals, reinforced by the extension of entry points for VOA to facilitate travellers from China and India, which more than offset residents spending abroad. The deficit in other services account is expected to widen due to higher imports of construction and professional services following favourable performance of the civil engineering segment backed by the revival of strategic projects.

The deficit in primary income account is projected to widen to RM50 billion as the recovery in exports is expected to translate into higher repatriations of profits and dividends by MNCs operating in Malaysia, particularly in the E&E and O&G-related industries. The wider deficit is also due to the net outflows of compensation to foreign professional skills and expertise. Likewise, profits and dividends accruing to Malaysian companies investing abroad are expected to increase on account of improving global economic outlook. Higher expected outward remittances at RM39.6 billion will more than offset inward remittances, contributing to the continued deficit in the secondary income account.

Figure 3.8. International Reserves



As at 13 September 2019, Malaysia's international reserves amounted to RM428.7 billion or USD103.5 billion sufficient to finance 7.6 months of retained imports and is 1.1 times total short-term external debt (end-December 2018: RM419.6 billion; USD101.4 billion; 7.4 months; 1.0 time).

Prices

The Consumer Price Index (CPI) increased marginally by 0.5% between January and August 2019. The low inflation rate was mainly attributed to the fixed RON95 and diesel prices since March 2019 at RM2.08 and RM2.18, respectively. As a result, the transport group contracted 3.6%, dragging down the overall CPI. Similarly, clothing and footwear group declined 2.4% during the period. On the contrary, the rest of the groups such as housing, water, electricity, gas and other fuels (1.9%); food and non-alcoholic beverages (1.6%);

Table 3.13. Consumer Price Index
January – August
 (2010 = 100)

	Weights ¹	Change (%)		Contribution to CPI growth (percentage points)	
		2018	2019	2018	2019
Food and non-alcoholic beverages	29.5	2.0	1.6	0.64	0.51
Alcoholic beverages and tobacco	2.4	-0.2	1.6	-0.01	0.05
Clothing and footwear	3.2	-1.5	-2.4	-0.04	-0.06
Housing, water, electricity, gas and other fuels	23.8	2.0	1.9	0.46	0.45
Furnishings, household equipment and routine household maintenance	4.1	0.7	1.3	0.03	0.05
Health	1.9	1.3	0.3	0.03	0.01
Transport	14.6	2.7	-3.6	0.38	-0.51
Communication	4.8	-1.8	0.0	-0.07	0.00
Recreation services and culture	4.8	-0.6	0.6	-0.03	0.03
Education	1.3	1.1	1.3	0.01	0.02
Restaurants and hotels	2.9	1.6	1.2	0.05	0.04
Miscellaneous goods and services	6.7	-0.8	-0.6	-0.05	-0.04
CPI	100.0	1.3	0.5	1.26	0.50

¹ Weights based on Household Expenditure Survey 2016.

Note: Total may not add up due to rounding.

Source: Department of Statistics, Malaysia.

Table 3.14. Producer Price Index
January – August
 (2010 = 100)

	Weights ¹	Change (%)		Contribution to PPI growth (percentage points)	
		2018	2019	2018	2019
PPI	100.0	-1.0	-2.0	-1.00	-2.00
Agriculture, forestry and fishing	6.7	-11.4	-10.3	-0.86	-0.67
Mining	7.9	17.8	-3.8	1.17	-0.30
Manufacturing	81.6	-1.9	-1.1	-1.56	-0.93
Electricity and gas supply	3.4	1.1	1.6	0.04	0.06
Water supply	0.3	0.5	-2.1	0.00	-0.01
PPI by stage of processing	100.0	-1.0	-2.0	-1.00	-2.00
Crude materials for further processing	16.4	3.8	-5.7	0.63	-0.98
Intermediate materials, supplies and components	56.1	-2.2	-1.6	-1.22	-0.91
Finished goods	27.5	-2.3	0.2	-0.65	0.05

¹ Weights based on Economic Census 2016.

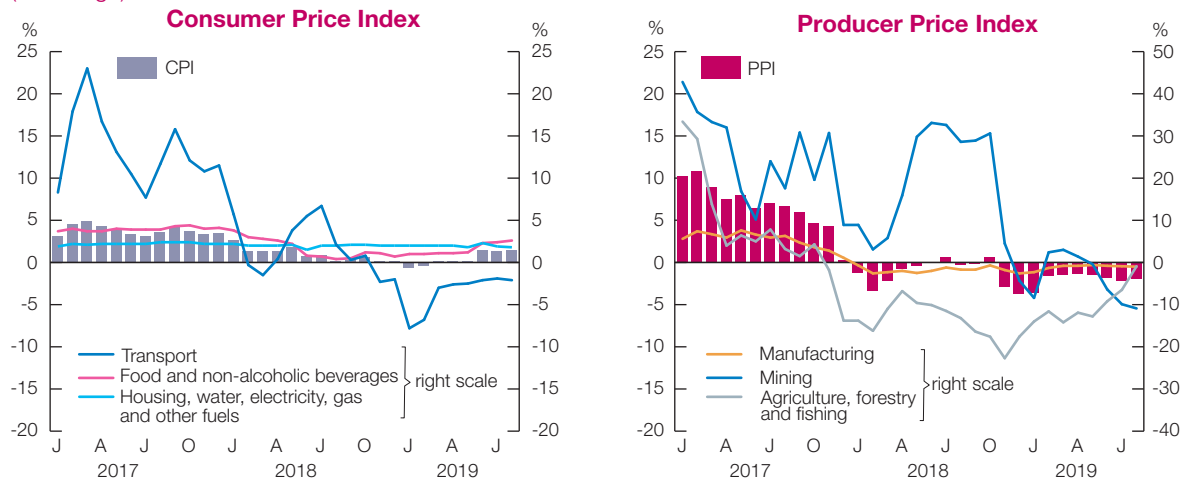
Note: Total may not add up due to rounding.

Source: Department of Statistics, Malaysia.

and alcoholic beverages and tobacco (1.6%) expanded, contributing to the increase in the CPI. In 2019, the CPI is estimated to grow 0.9% partly attributed to the imposition of departure levy ranging from RM8 to RM150 commencing in September. Nonetheless, the introduction of the sugar tax in July is expected to have minimal impact on the overall inflation given its relatively smaller weightage in the CPI basket.

Inflation is projected to expand 2% in 2020, mainly due to the expected introduction of targeted fuel subsidy. The expansion is also expected to be partly attributed to dissipating base factors and the implementation of departure levy. The inflation outlook will also be subjected to foreign exchange rate movements and uncertainties in the global oil prices due to trade and geopolitical tensions.

Figure 3.9. CPI and PPI Trends
(% change)



Source: Department of Statistics, Malaysia.

The Producer Price Index (PPI) fell 2% between January and August 2019. The PPI was weighed down by a contraction in the agriculture, forestry and fishing (-10.3%); mining (-3.8%); and manufacturing (-1.1%) sectors. This was due to weaker commodity prices, particularly crude oil and CPO, which led to lower production cost. For the rest of 2019, PPI growth is expected to remain within negative territory given lower global input cost. However, the PPI is expected to be higher in 2020 in tandem with diminishing base effect and normalisation of production activities.

Labour Market

The labour market remained stable during the first half of 2019 with total labour force increasing 2.2% to 15.5 million and resulting in an improved labour force participation rate to 68.4% from 67.9%. The unemployment rate stood at 3.3% supported by favourable labour market conditions including the creation of new jobs. Meanwhile, total employed persons increased 2.2% to 15 million with the largest number employed in the services sector accounting for 63.5% of total employment, followed by manufacturing (16.8%) and agriculture (10.6%) sectors. Job vacancies declined 6.9% to 512,504 while the number of active job seekers contracted 1.4% to 237,600 persons, of which 3.7% were new registrants. Amid favourable labour market conditions, the number of retrenched workers remained low at 20,521 persons or 0.1% of total employment.

The labour market is anticipated to remain stable throughout 2019 and 2020. The unemployment rate is expected to sustain at 3.3% with more job opportunities in the economy. Meanwhile, the total employed persons are projected to increase to 15.1 million in 2019 and 15.3 million in 2020. Of the total employment in 2020, about 9.5 million persons or 62.1% will be recruited in the services sector, while 16.2% in the manufacturing sector and 12.2% in the agriculture sector.

As at end-August 2019, the number of registered foreign workers increased to 2 million. Foreign workers were mainly from Indonesia (35%), Bangladesh (28.7%) and Nepal (15.7%). The manufacturing sector employed the highest number of foreign workers with a share of 35.4%, followed by construction (21.5%) and services (15.5%) sectors. The Government continues to undertake initiatives to reduce further the dependency on low-skilled foreign

Table 3.15. Labour Market Indicators

	('000)			Change (%)		
	H1 ¹	2019 ²	2020 ³	H1 ¹	2019 ²	2020 ³
Labour force	15,465.4	15,575.8	15,871.3	2.2	1.9	1.9
Employment	14,949.8	15,062.1	15,347.5	2.2	1.9	1.9
Unemployment	515.5	514.0	523.8	(3.3)	(3.3)	(3.3)

¹ January to June 2019.

² Estimate.

³ Forecast.

Note: Figures in parentheses refer to unemployment rate.

Source: Department of Statistics and Ministry of Economic Affairs, Malaysia.

Table 3.16. Employed Persons by Sector

	('000)			Share (%)		
	H1 ²	2019 ³	2020 ⁴	H1 ²	2019 ³	2020 ⁴
Agriculture, forestry and fishing	1,580.4	1,868.5	1,875.8	10.6	12.4	12.2
Mining and quarrying	85.3	81.3	81.5	0.6	0.5	0.5
Manufacturing	2,516.1	2,478.7	2,485.5	16.8	16.5	16.2
Construction	1,273.1	1,362.7	1,379.9	8.5	9.0	9.0
Services	9,494.9	9,270.9	9,524.8	63.5	61.6	62.1
Total¹	14,949.8	15,062.1	15,347.5	100.0	100.0	100.0

¹ Total includes 'Activities of extraterritorial organisations and bodies'.

² January to June 2019.

³ Estimate.

⁴ Forecast.

Source: Department of Statistics and Ministry of Economic Affairs, Malaysia.

workers. As such, on 2 January 2019, a new extension levy rate for foreign workers who have served for 10 years or more in the agriculture and plantation sectors was implemented. The measure is expected to enable these sectors to move up the value chain while maintaining the ratio of low-skilled foreign workers below 15% of total employment. Meanwhile, the number of expatriates increased by 12.1% to 122,192. The majority of expatriates were from India (22.7%), followed by China (20.2%) and Japan (6.9%). The expatriates were mainly employed in the services (52.9%), information technology (31.6%) and manufacturing (5.9%) sectors.

Labour productivity increased to RM91,793 or 2.5% during the first half of 2019. Following various strategies outlined under the Malaysia Productivity Blueprint as well as efforts to improve and enhance the adoption of the Productivity-Linked Wage System (PLWS) among employers, labour productivity is expected to increase 2.6% to RM94,400 throughout the year. The services sector is projected to record the highest increase of 3.2%, followed by construction (2.4%) and manufacturing (2.3%) sectors. In 2020, labour productivity is projected to reach RM97,000 or expanding at 2.8% due to the growth in services (3.7%), followed by construction (3.4%) and manufacturing (2.6%) sectors.

Conclusion

Malaysia's growth momentum in 2019 and 2020 is expected to remain steady backed by strong fundamentals and diversified economic structure despite heightening external uncertainties. Domestic demand will anchor growth with the external sector expanding moderately against the backdrop of a challenging global environment. Household spending will continue to be driven by stable labour market conditions and benign inflation, while investment activity will be supported by capacity expansion in the services and manufacturing sectors.

While the economy is expected to remain resilient, the risks to the outlook still on the downside, arising mainly from moderating global growth and trade activities as well as volatility in the financial and commodity markets. Moving forward, various measures will be undertaken in sustaining growth momentum and ensuring people's well-being. These include the revival of strategic projects and moving up the value chain through 5G technology and IR 4.0. In addition, efforts to promote industries that have comparative advantages such as tourism and commodity-related downstream activities are expected to support growth in the near-term.

References

- Abbhiri. S. (2012). Export Expansion and Imported Input Intensity in the Manufacturing Sector. Retrieved from http://www.ukm.my/fep/perkem/pdf/perkemVII/PKEM2012_5A1.pdf.
- Aghion, P., & Howitt, P. (1992). A Model of Growth Through Creative Destruction. *Econometrica*, 60(2), 323-351.
- Asian Agri. (2018). *The Benefits of Palm Oil*. Retrieved from <https://www.asianagri.com/en/media-en/articles/the-benefits-of-palm-oil>
- Bank Negara Malaysia. (2019). *Annual Report 2018*. Retrieved from <http://www.bnm.gov.my/files/publication/ar/en/2018/cp04.pdf>
- Bank Negara Malaysia. (2016). *Annual Report 2015*. Retrieved from <http://www.bnm.gov.my/files/publication/ar/en/2015/cp04.pdf>
- Bank Negara Malaysia. (2015). *Annual Report 2014*. Retrieved from http://www.bnm.gov.my/files/publication/ar/en/2014/ar2014_book.pdf
- Bank Negara Malaysia. (2019). *Is Malaysia Experiencing Premature Deindustrialisation?* Retrieved from <http://www.bnm.gov.my/files/publication/qb/2019/Q1/p3ba.pdf>
- Bank Negara Malaysia. (2018). *Low-Skilled Foreign Workers' Distortions to the Economy*. Retrieved from http://www.bnm.gov.my/index.php?ch=en_publication&pg=en_work_papers&ac=61&bb=file
- Basiron, Y. (2013). *Malaysian Supply and Demand of Palm Oil: Challenges and Opportunities until 2020*. In *Proceedings of the Oil World Outlook Conference 2013*. Hamburg, Germany.
- Centre for Entrepreneur Development and Research. (2018). *Manufacturing in Malaysia: Main Issues and Challenges*. Retrieved from <https://www.cedar.my/images/industryarticles/12.pdf>
- Cherif, R., & Hasanov, F. (2015). *The Leap of The Tiger: How Malaysia Can Escape The Middle-Income Trap* (15-131). International Monetary Fund.
- Cotis, J. P., Elmeskov, J., & Mourougane, A. (2004). *Estimates of Potential Output: Benefits and Pitfalls from A Policy Perspective*. Euro Area Business Cycle: Stylized Facts and Measurement Issues. Retrieved from https://books.google.com.my/books?id=cHVCnN6-yAC&printsec=frontcover&hl=ms&source=gb_s_ge_summary_r&cad=0#v=onepage&q&f=false
- Darby, J., & McIntyre, S. (2018). *The Output Gap: What Is It, How Can It Be Estimated and Are They Fit For Policy Makers' Purposes?* *Fraser of Allander Economic Commentary*, 42(2), 44-50. Retrieved from https://strathprints.strath.ac.uk/64530/8/FEC_42_2_2018_DarbyJMcIntyreS.pdf
- Department of Statistics, Malaysia. (2019). *Input-Output Tables, 2015*. Retrieved from <https://www.dosm.gov.my>
- Department of Statistics, Malaysia. (2019). *Monthly External Trade Statistics*. Retrieved from <https://www.dosm.gov.my>
- Department of Statistics, Malaysia. (2019). *National Account: Gross Domestic Product 2015-2018*. Retrieved from <https://www.dosm.gov.my>
- Department of Statistics, Malaysia. (2019). *Quarterly National Accounts – Gross Domestic Product*. Retrieved from <https://www.dosm.gov.my>
- Department of Statistics, Malaysia. (2019). *The Labour Force Survey Report, Malaysia*. Retrieved from <https://www.dosm.gov.my>
- Department of Statistics, Malaysia. (2019). *Tourism Satellite Account 2018*. Retrieved from <https://www.dosm.gov.my>
- Economic Planning Unit. (2015). *Eleventh Malaysia Plan*. Kuala Lumpur.
- Euromonitor International. (2018). *Top 100 City Destinations 2018: Highlights*. Retrieved from <https://blog.euromonitor.com/top-100-city-destinations-2018-highlights/>

- European Central Bank (ECB). (2011). *Monthly Bulletin January 2011 : Trends in Potential Output*, 73. Retrieved from https://www.ecb.europa.eu/pub/pdf/other/art2_mb201101en_pp73-85en.pdf
- Fatás, A. (2018). Fiscal Policy, Potential Output and the Shifting Goalposts. *IMF Economic Review*, 1-19. Retrieved from <https://faculty.insead.edu/fatas/euro20.pdf>
- Fiedler, S., Gern, K. J., Jannsen, N., & Wolters, M. H. (2019). *Growth Prospects, The Natural Interest Rate and Monetary Policy* (No. 2019-17). Economics Discussion Papers. Retrieved from <http://www.economics-ejournal.org/economics/discussionpapers/2019-17/file>
- Global Muslim Travel Index 2019. Retrieved from <https://www.crescentrating.com/halal-muslim-travel-market-reports.html>.
- Halal Industry Development Corporation. (2019). *Why Malaysia?* Retrieved from http://www.hdcglobal.com/publisher/g_why_malaysia and http://hdcglobal.com/publisher/alias/halal_park.
- Hanafiah, M. H. M., & Harun, M. F. M. (2010). Tourism Demand In Malaysia: A Cross-Sectional Pool Time-Series Analysis. *International Journal of Trade, Economics and Finance*, 1(1), 80-83.
- Hansen, N. J. H., Mongardini, J., & Zhang, F. (2019). *Labor Market Slack and the Output Gap: The Case of Korea* (No. 19/167). International Monetary Fund. Retrieved from <https://www.imf.org/en/Publications/WP/Issues/2019/08/02/Labor-Market-Slack-and-the-Output-Gap-The-Case-of-Korea-48519>
- International Monetary Fund. (2018). *Rethinking Development Policy: Deindustrialisation, Servicification and Structural Transformation*. Retrieved from <https://www.imf.org/en/Publications/WP/Issues/2018/09/28/Rethinking-Development-Policy-Deindustrialisation-Servication-and-Structural-46253>
- Ismail, A., Ahmad, S. M., & Sharudin, Z. (2015). Labour Productivity In The Malaysian Oil Palm Plantation Sector. *Oil Palm Industry Economic Journal*, 15(2), 1-10.
- Kushairi, A., Ong-Abdullah, M., Nambiappan, B., Hishamuddin, E., Bidin, M. N. I. Z., Ghazali, R., Subramaniam, V., Sundram, S., Parveez, G. K. A. (2019). Oil Palm Economic Performance In Malaysia and R&D Progress In 2018. *Journal of Oil Palm Research*, 31(2), 165-194.
- Malaysian Investment Development Authority. (2019). *Investment Incentives*. Retrieved from <https://www.mida.gov.my/home/investment-incentives/posts/>
- Malaysia Investment Development Authority. (2019). *Malaysia Investment Performance Report 2018*. Kuala Lumpur.
- Malaysian Palm Oil Board. (2019). *Malaysia's Palm Oil Supply and Demand Updates for 2nd Half 2019*. Retrieved from http://www.pointers.org.my/v2/report_details.php?id=287
- Malaysia Palm Oil Board. (2018). *Monthly FFB Yield July-December 2017 & 2016*. Retrieved from <https://cutt.ly/lwKTRUT>
- Malaysia Productivity Corporation. (2018). *Productivity Report 2017/2018*. Petaling Jaya.
- May, C. Y. (2012). *Malaysia: Economic Transformation Advances In Oil Palm Industry*. American Oil Chemists' Society (AOCS).
- McKinsey&Company. (2018). *Artificial Intelligence Hardware: New Opportunities for Semiconductors Companies*. Retrieved from <https://www.mckinsey.com/~media/McKinsey/Industries/Semiconductors>
- Ministry of Economic Affairs. (2018). *Mid-Term Review of Eleventh Malaysia Plan*. Kuala Lumpur.
- Ministry of International Trade and Industry, (2018). *Industry 4WRD: National Policy on Industry 4.0*. Kuala Lumpur.

- Ministry of Tourism, Arts and Culture. (2019). *Tourist Arrivals and Receipts to Malaysia 2018*. Retrieved from <https://www.tourism.gov.my>
- Mohamed, M.R., Singh, J. K. S., & Liew, C. (2013). Impact on Foreign Direct Investment & Domestic Investment on Economic Growth of Malaysia. *Malaysian Journal of Economic Studies*, 50(1), 21-35.
- Patients Beyond Borders. (2018). *Healthy Travel Media*. Retrieved from <https://www.patientsbeyondborders.com/media>
- Patrik, T. (2019). *Security Fears Turn Away Tourists From Sabah's East Coast*. Free Malaysia Today. Retrieved from <https://freemalaysiatoday.com/category/nation/2019/07/19/security-fears-turn-away-tourists-from-sabahs-east-coast/>
- Rodyu, S., & Wetprasit, P. (2018). An Analysis of the Comparative Advantage of Thai Tourism with Chinese Tourists Compared to Other ASEAN+ 6 Countries. *European Journal of Business and Management*, 10(21), 160-182.
- Shevade V. S., & Loboda T. V. (2019). Oil Palm Plantations In Peninsular Malaysia: Determinants and Constraints On Expansion, 14(2), 0210628.
- United Nation World Trade Organization. (2018). *UNWTO Tourism Highlights: 2018 Edition*. Retrieved from <https://www.e-unwto.org/doi/pdf>
- United Nation World Trade Organization. (2019). *World Tourism Barometer and Statistical Annex, May 2019*. Retrieved from <https://www.e-unwto.org/doi/pdf/wtobarometereng.2019.17.1.1>
- World Bank. (2018). *Global Economic Prospects, January 2018*, 73. Retrieved from <https://openknowledge.worldbank.org/bitstream/handle/10986/28932/9781464811630.pdf>
- World Bank. (2011). *Malaysia Economic Monitor: Brain Drain*. Bangkok.
- World Economic Forum. (2016). *The Future of Jobs: Employment, Skills and Workforce Strategy For The Fourth Industrial Revolution*. Global Challenge Insight Report, World Economic Forum. Geneva, Switzerland.
- Zulkifli, H., Halimah, M., Chan, K.W., Choo, Y.M. & Mohd Basri, W. (2010). Life Cycle Assessment for Oil Palm Fresh Fruit Bunch Production From Continued Land Use for Oil Palm Planted On Mineral Soil (Part 2). *Journal of Oil Palm Research*, 22, 887-894.

