

Developments in the Malaysian Economy

Highlights

- GDP growth continued to improve in 2Q 2021.
- Headline inflation increased to 4.1% during the quarter driven mainly by the base effect from low fuel prices.
- Higher current account surplus of RM14.4 billion or 3.9% of GDP.

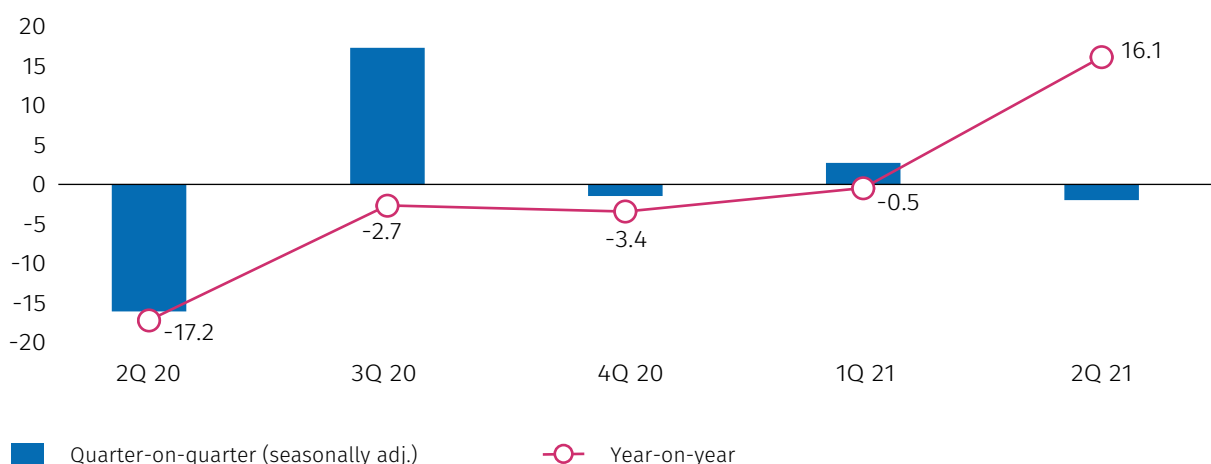
GDP growth turned positive in 2Q 2021

The Malaysian economy expanded by 16.1% in the second quarter of 2021 (1Q 2021: -0.5%). Growth was supported mainly by the improvement in domestic demand and continued robust exports performance. The strong growth also reflected continued policy support and the low base from the significant decline in activity during the second quarter of 2020. Economic activity picked up at the start of the second quarter but slowed following the re-imposition of stricter nationwide containment measures, particularly under Phase 1 of the Full Movement Control Order (FMCO). For the second quarter as a whole, all economic sectors registered an improvement, particularly the manufacturing sector. On the expenditure side, growth was driven by higher private sector spending and strong trade activity. On a quarter-on-quarter seasonally-adjusted basis, the economy registered a decline of 2.0% (1Q 2021: 2.7%), due to the containment measures.

C4

Real GDP Growth

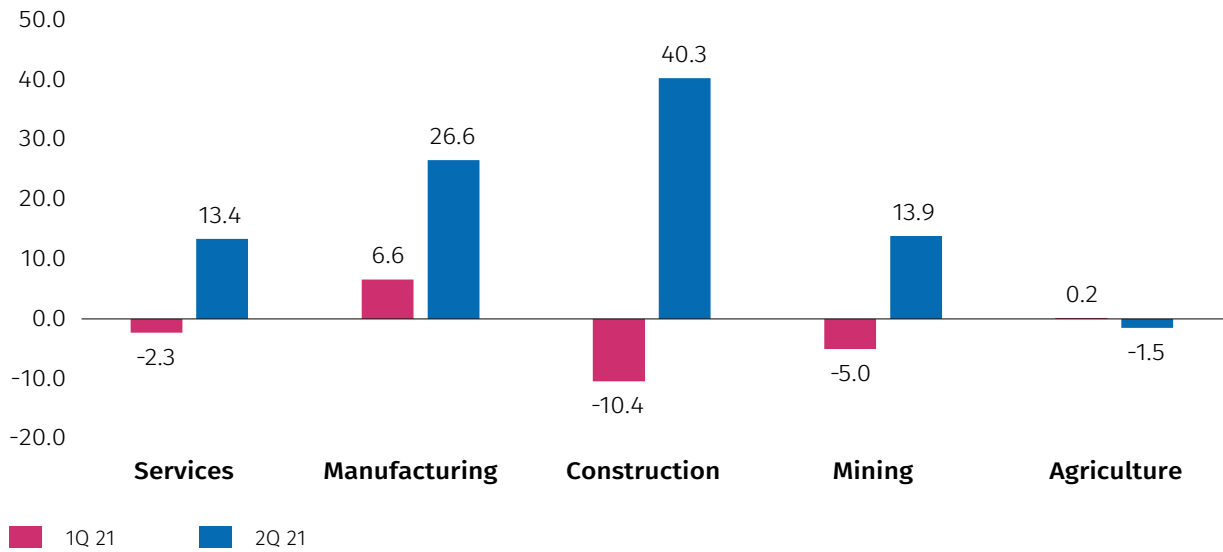
Period-on-period change (%)



Source: Department of Statistics, Malaysia

C5 Annual Growth of Economic Sectors

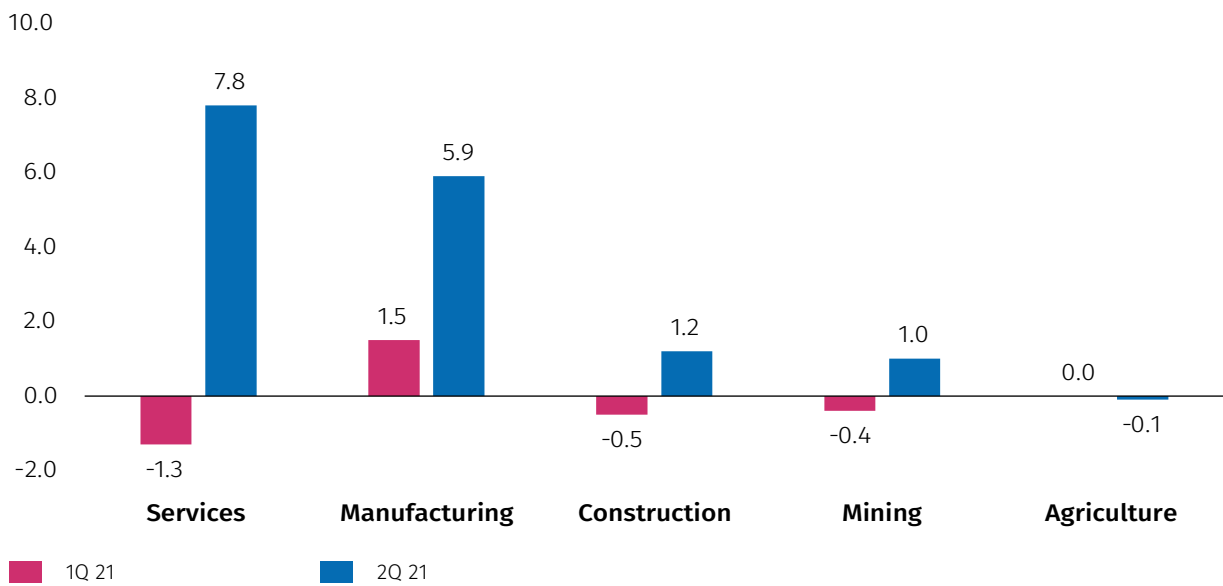
Annual growth (%)



Source: Department of Statistics, Malaysia

C6 Contributions of Economic Sectors to Real GDP Growth

Contribution to growth (ppt)



Growth in most economic sectors improved

On the sectoral front, double-digit growth was recorded across most economic sectors in the second quarter of 2021. The services sector expanded by 13.4% (1Q 2020: -2.3%). Growth was supported by a nascent recovery in consumer-related activities in April and May 2021. This was, however, partially reversed by the re-imposition of restrictions on non-essential retail activities, dine-ins and inter-district and inter-state travel. Meanwhile, the information and communication subsector continued to benefit from rising demand for e-commerce and e-payment activity, as well as remote working and learning arrangements. Additionally, strong double-digit growth was recorded in the finance and insurance subsector, attributed to higher fee income, sustained loan and deposit growth, and higher net insurance premiums less claims.

Growth in the manufacturing sector expanded by 26.6% (1Q 21: 6.6%). On a seasonally adjusted, quarter-on-quarter basis however, manufacturing growth declined by 1.5%. This was a result of the imposition of MCO 3.0 which impacted demand domestically for products in the consumer- and construction-related clusters. Demand conditions for export-oriented industry remained resilient amid the continued global tech upcycle and recovery in global growth. Manufacturing growth was further impacted by the FMCO Phase 1, which limited operations to only essential sectors and those in the global value chain.

The construction sector registered a strong positive growth of 40.3% (1Q 2021: -10.4%). Growth was supported by the continuation of construction works in large infrastructure projects and on-going implementation of small-scale projects under the 2021 Budget, PEMERKASA and PEMERKASA+ stimulus packages. However, on a seasonally adjusted, quarter-on-quarter basis, construction growth declined by 3.2%. Activity was disrupted by the restrictions under Phase 1 of the FMCO, where only essential construction projects¹ were allowed to operate, albeit at a reduced capacity.

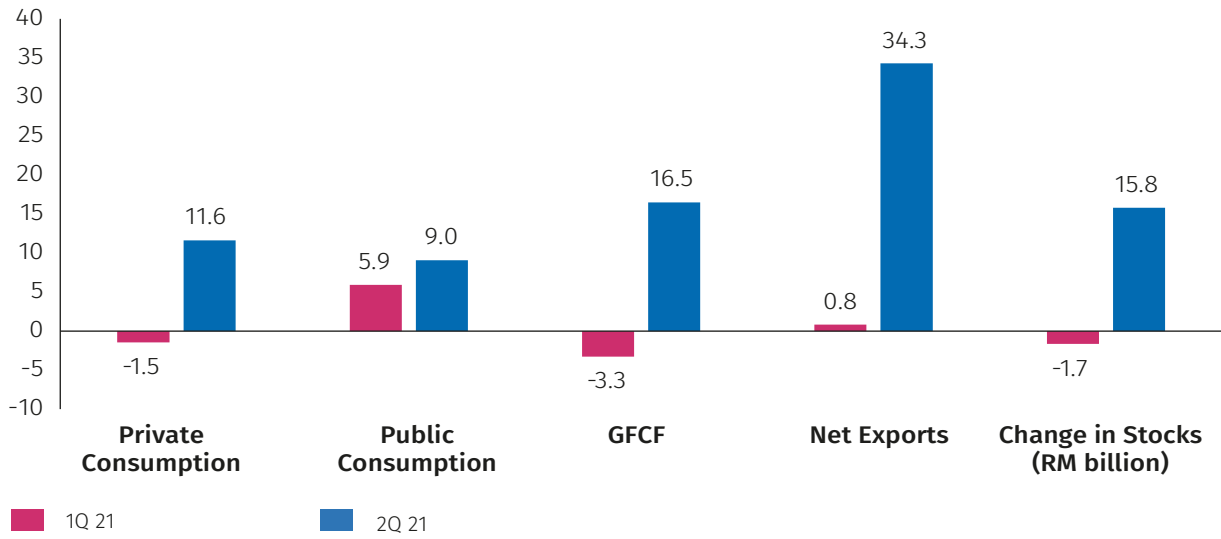
Growth in the mining sector rebounded to 13.9% (1Q 2021: -5.0%), the first positive growth since the second quarter of 2019. The turnaround was attributed to improvement in both crude oil and natural gas production amid the recovery in external demand and continued ramp-up of the PETRONAS Floating Liquefied Natural Gas DUA (PFLNG2) facility. These factors had more than offset the impact from some facility closures for maintenance purposes during the quarter.

The agriculture sector, however, contracted by 1.5% (1Q 2021: 0.2%). This was mainly attributed to a larger decline in oil palm output as harvesting activity was affected by continued labour shortages. While the forestry and logging sub-sector also declined, agricultural activity was partially supported by a rebound in the rubber and fisheries sub-sectors. Additionally, the livestock and other agriculture sub-sectors continued to register positive growth amid a turnaround in domestic demand.

¹ Activities that are allowed to operate include critical maintenance and repair works, public infrastructure projects as well as projects with approved onsite worker accommodations.

C7 Annual Growth of GDP by Expenditure Components

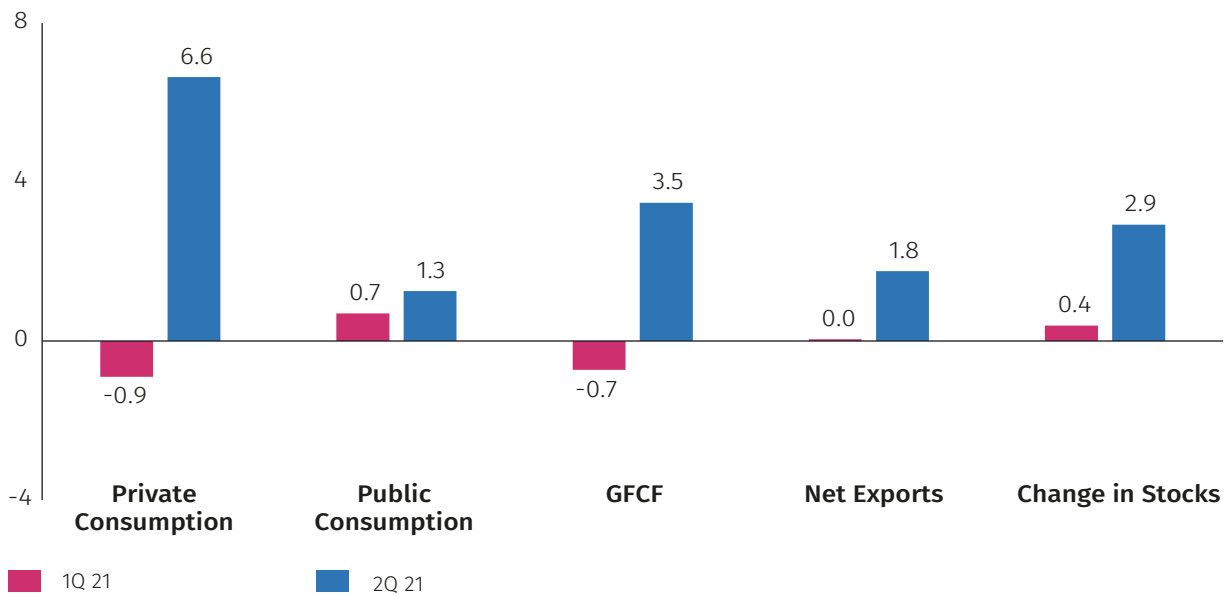
Annual growth (%)



Source: Department of Statistics, Malaysia

C8 Contributions of Expenditure Components to Real GDP Growth

Contribution to growth (ppt)



Source: Department of Statistics, Malaysia

Higher domestic demand and robust external demand

Domestic demand turned around to register a positive growth of 12.3% (1Q 2021: -1.0%) in the second quarter of 2021, mainly supported by private sector expenditure. On the external front, demand for Malaysia's exports, particularly for E&E products, continued to remain robust.

Private consumption growth increased by 11.6% during the quarter (1Q 2021: -1.5%), following a broad-based expansion across both necessity and discretionary items,

particularly at the start of the quarter, prior to the imposition of FMCO. This was due mainly to less stringent containment measures and mobility restrictions in the first half of the quarter. Labour market conditions also showed signs of improvement in the same period, which lent support to household spending. Furthermore, various policy measures, including the EPF *i-Sinar* withdrawals and *Bantuan Prihatin Rakyat*, provided additional lift to consumer expenditure.

Public consumption expanded by 9.0% (1Q 2021: 5.9%), mainly on account of higher spending on supplies and services.

Rebound in investment activity

Gross fixed capital formation (GFCF) growth rebounded to 16.5% (1Q 2021: -3.3%), supported by the recovery in capital spending from both private and public sectors. By type of asset, both investment in structures and machinery & equipment (M&E) expanded by 20.2% (1Q 2021: -10.4%) and 15.1% (1Q 2021: 10.3%), respectively.

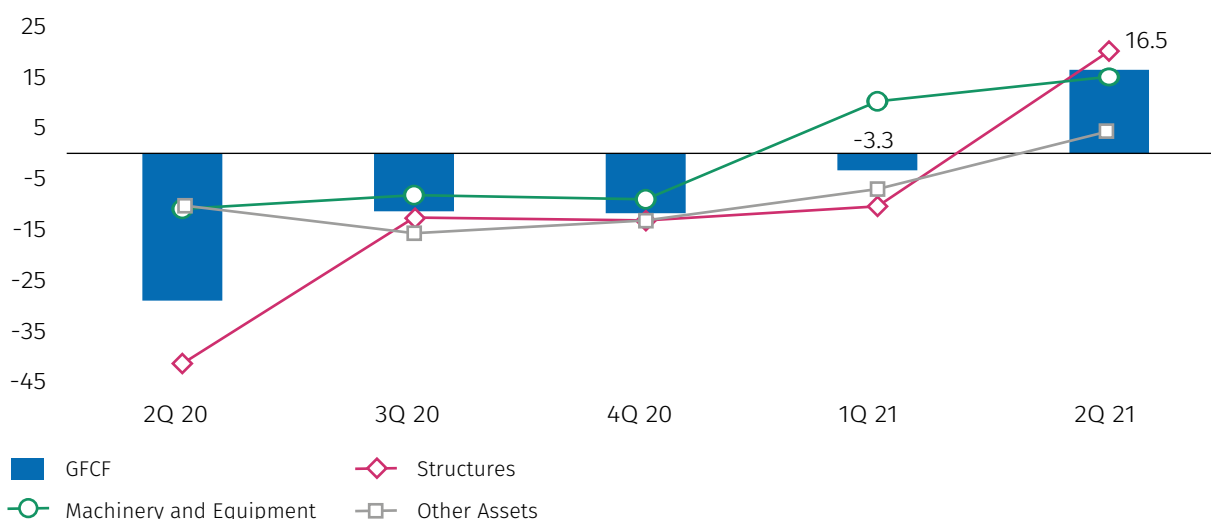
Private investment registered a growth of 17.4% (1Q 2021: 1.3%). The higher investment activity was underpinned mainly by the continued capital spending in telecommunication-related equipment, as firms' automation and

digitalisation efforts gain further traction, as well as the continued progress in national digital infrastructure investments. In addition, further expansions of new and ongoing investment projects amid improving external demand, particularly in the export-oriented industries such as E&E and metal, also provided further impetus to growth.

After 12 quarters of contraction, public investment recorded a positive growth of 12.0% (1Q 2021: -18.6%). The performance mainly reflects the higher spending on fixed assets by the General Government amid continued weak capital spending by public corporations.

C9 GFCF Growth by Type of Asset

Year-on-year change (%)



Source: Department of Statistics, Malaysia

Headline inflation temporarily spiked during the quarter

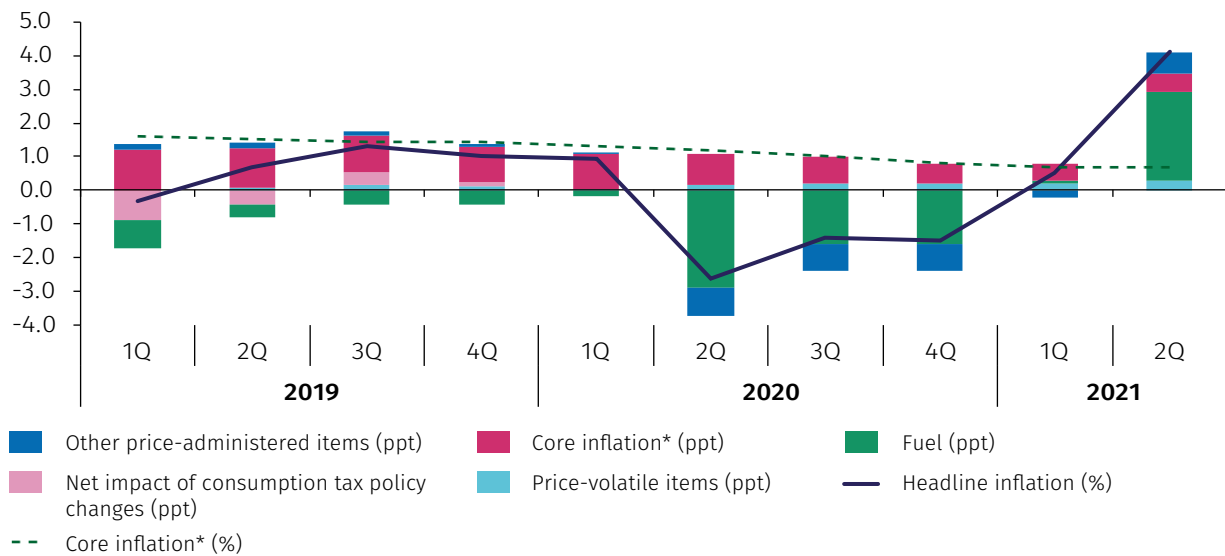
Headline inflation, as measured by the annual percentage change in the Consumer Price Index (CPI), recorded a sharp increase to 4.1% during the quarter (1Q 2021: +0.5%), driven mainly by transitory factors. In particular, as expected, the elevated headline inflation was largely due to base effects

from the low domestic retail fuel prices last year, as well as the lapse in the effect from the tiered electricity tariff rebate.²

In terms of the monthly trajectory, headline inflation peaked at 4.7% in April 2021.³ Following this, headline inflation remained elevated during the quarter, but moderated to 4.4% and 3.4% in May and June 2021, respectively.

C10 Contribution to Headline Inflation by Components

Annual change (%), Contribution to headline inflation (percentage points, ppt)



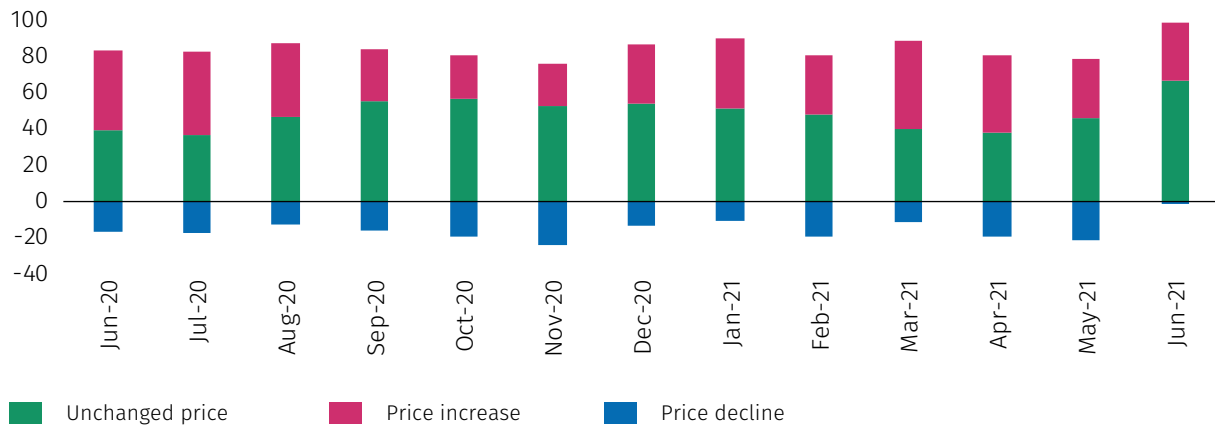
* Core inflation is computed by excluding price-volatile and price-administered items. It also excludes the estimated direct impact of consumption tax policy changes.

Source: Department of Statistics, Malaysia and Bank Negara Malaysia estimates

² The tiered electricity tariff rebates were implemented under the Bantuan Prihatin Elektrik scheme from April to December 2020, with rebates ranging from 2% to 50% depending on monthly electricity consumption.

³ This corresponded to the largest base effect from fuel inflation in April 2021, given the trough in retail fuel prices in April 2020. Average RON95 price in April 2020: RM1.27/barrel (April 2021 RM2.05/barrel).

Percentage of CPI items (%)



* Based on the month-on-month inflation for 125 CPI items at the 4-digit level

Source: Department of Statistics, Malaysia and Bank Negara Malaysia estimates

Despite the increase in headline inflation, upward pressures on prices during the quarter were not broad-based, as the share of CPI items recording month-on-month price increases was lower than the long-term average (2Q 2021 average: 36%; 2010-2019 average: 45%).

Notably, a larger proportion of CPI items recorded unchanged price movements (2Q 2021 average: 50%; 2010-2019 average: 33%), particularly

towards the end of the quarter, due mainly to temporary business closures and uncertainties in demand following the re-imposition of movement restrictions. More specifically, price movements of core discretionary items (27.9% of CPI basket), while positive for the second quarter as a whole, became more subdued during the FMCO period. In line with this, core inflation remained stable at 0.7% during the quarter (1Q 2021: 0.7%).

Labour market recovery was affected by FMCO

In the labour market, improvements in conditions in the first half of the quarter was affected by the imposition of FMCO in June. For the second quarter as a whole, the unemployment rate remained elevated at 4.8% (1Q 2021: 4.8%). This reflected a net employment decline of 29 thousand persons relative to the previous quarter (1Q 2021: +75 thousand persons), amid a smaller labour force (-36 thousand persons; 1Q 2021: +86 thousand persons).

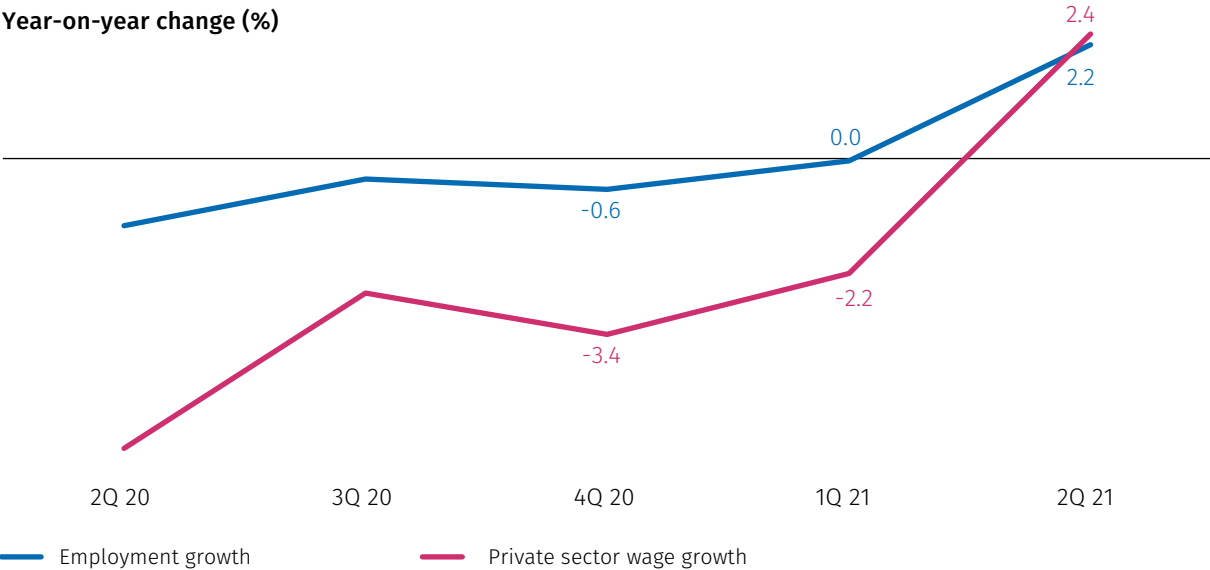
The Employment Insurance System (EIS) recorded lower jobless claims (14,311 persons; 1Q 2021: 20,418), amid a higher placement rate of employees into new jobs (40 per 100 people retrenched; 1Q 2021: 33)⁴, reflecting lower

retrenchments and improvement in hiring activity in April and May. Nevertheless, there was a deterioration in both retrenchments and hiring activity in June.

Private sector wages grew by 2.4% (1Q 2021: -2.2%), attributable mainly to the relatively low base in the second quarter of 2020. In the services sector, wages increased by 0.4% (1Q 2021: -3.1%), driven by improvements in the transportation and storage and wholesale and retail trade subsectors. In the manufacturing sector, wage growth was also higher at 6.0% (1Q 2021: -0.6%), due to broad-based improvements in wages of both the export-oriented⁵ and domestic-oriented sub-sectors. Nevertheless, on a quarter-on-quarter basis, private sector wages declined by 2.2%, reflecting the impact of operating and labour capacity restrictions.

C12 Employment and Wage Growth

Year-on-year change (%)

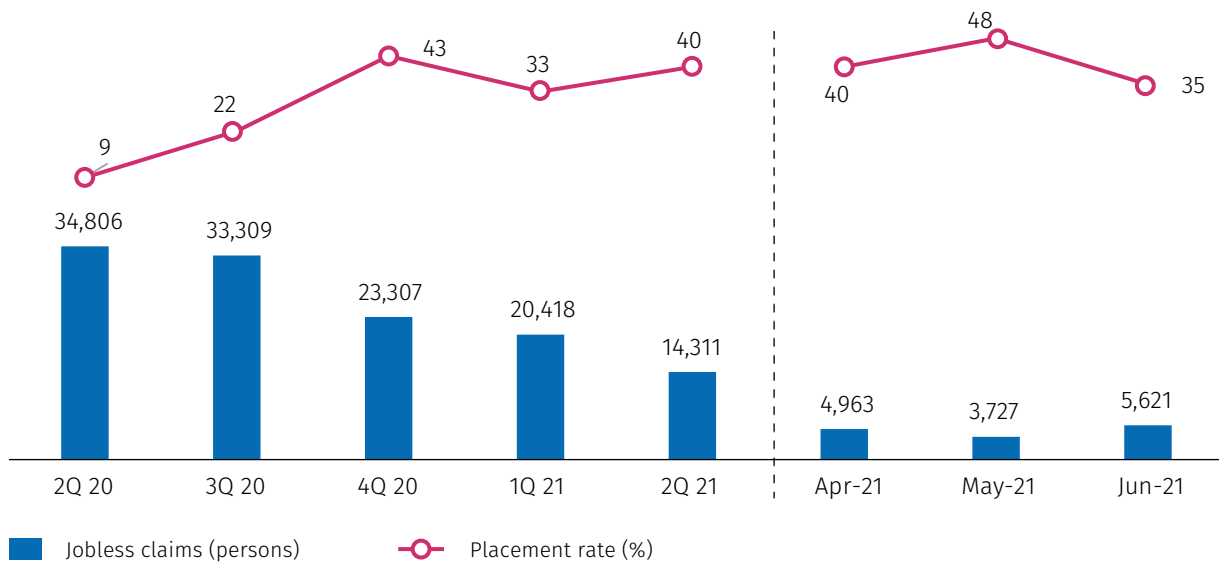


Note: Private sector wage growth refers to wage growth of workers in the manufacturing and services sectors

Source: Department of Statistics, Malaysia

⁴ Job losses and retrenchments are proxied by the number of people who apply for the EIS benefits (jobless claims) following loss of employment, while the placement rate refers to the number of people placed in new jobs under the EIS programme for every 100 persons retrenched. Thus, the placement rate is indicative of the pace of hiring, relative to retrenchment activity. EIS data does not include non-standard workers, who may be more significantly affected by the movement restrictions.

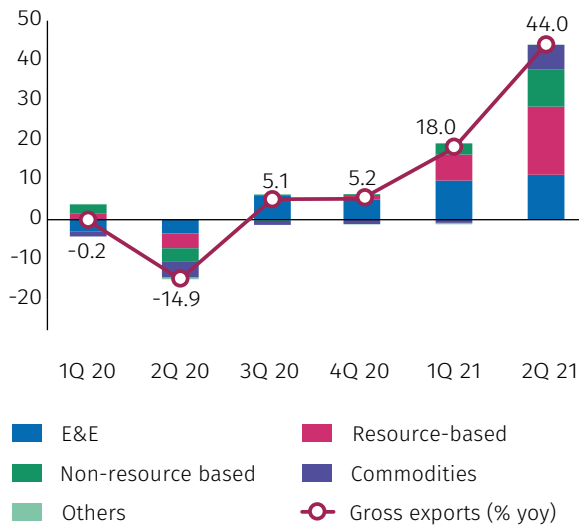
⁵ Export-oriented manufacturing subsectors include electrical and electronics; petroleum, chemical, rubber and plastic; wood products, furniture, paper products and printing; and textiles, wearing apparel, leather and footwear. Domestic-oriented manufacturing subsectors include food, beverages and tobacco; non-metallic mineral products, basic metal and fabricated metal products; and transport equipment and other manufactures.



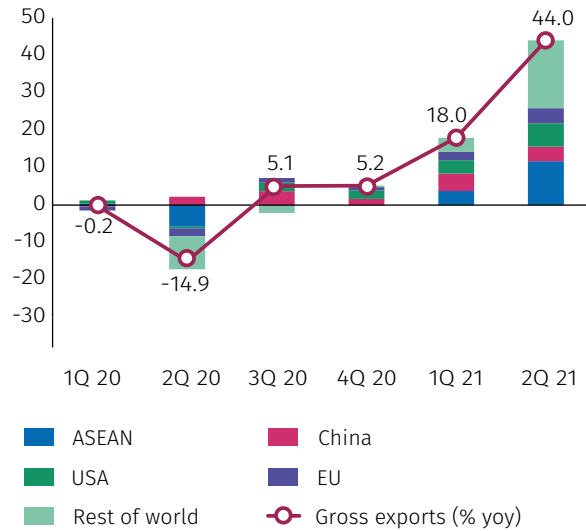
Note: Jobless claims refers to the number of people who apply for the Employment Insurance System (EIS) benefits following loss of employment. The placement rate refers to the number of people placed in new jobs under the EIS for every 100 persons retrenched.

Source: Employment Insurance System, Social Security Organisation

Annual change (%), contribution to growth (ppt)



Annual change (%), contribution to growth (ppt)



Source: Department of Statistics, Malaysia

Improvement in trade activity amid higher external demand and domestic economic activity

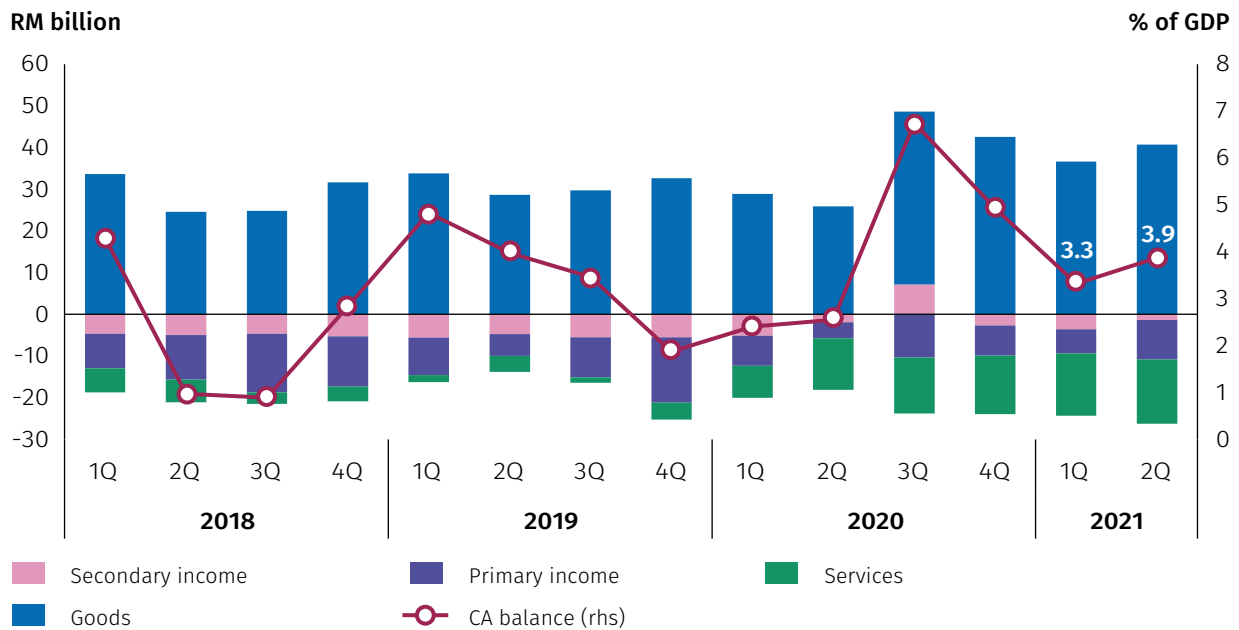
Gross exports grew at a faster pace of 44.0% (1Q 2021: 18.0%). The strong exports performance was broad-based across products and markets, underpinned by improving external demand. Gross imports also registered a higher growth of 33.3% (1Q21: 10.0%), due mainly to a stronger expansion in intermediate imports. The trade surplus⁶ amounted to RM56.4 billion (1Q 2021: RM58.7 billion).

Manufactured exports increased by 43.6% (1Q 2021: 22.7%), supported mainly by non-E&E

exports (55.5%, 1Q 2021: 19.0%). This was driven by strong demand for petroleum and chemical products, manufactures of metal and machinery, and equipment and parts. Commodities exports registered a strong rebound (46.3%, 1Q 2021: -6.5%) due mainly to improvement in CPO, LNG and crude petroleum exports.

Intermediate imports registered a stronger growth of 43.8% (1Q 2021: 3.4%), due mainly to higher imports of industrial supplies, in tandem with the faster expansion in domestic manufacturing activity. This was partially offset by the decline in capital imports (-8.3%; 1Q 2021: 32.2%), due to base effect from the import of a large floating structure in the second quarter of 2020.

⁶ The goods and trade surpluses differ because goods for processing, storage and distribution (with no change in ownership) are excluded from the goods account. This is as per the 6th Edition of the Balance of Payments and International Investment Position Manual by the International Monetary Fund (IMF).



Source: Department of Statistics, Malaysia

Higher current account surplus

The current account of the balance of payments registered a higher surplus of RM14.4 billion, or 3.9% of GDP during the quarter (1Q 2021: RM12.3 billion or 3.3% of GDP). The higher surplus was on account of the larger goods surplus and the lower deficit in the secondary income account.

The goods surplus widened to RM40.7 billion (1Q 2021: RM36.6 billion), supported by stronger external demand, despite the imposition of domestic containment measures. The services account recorded a marginally larger deficit (-RM15.4 billion;

1Q 2021: -RM15.0 billion), due to larger deficits in transportation and other business services.

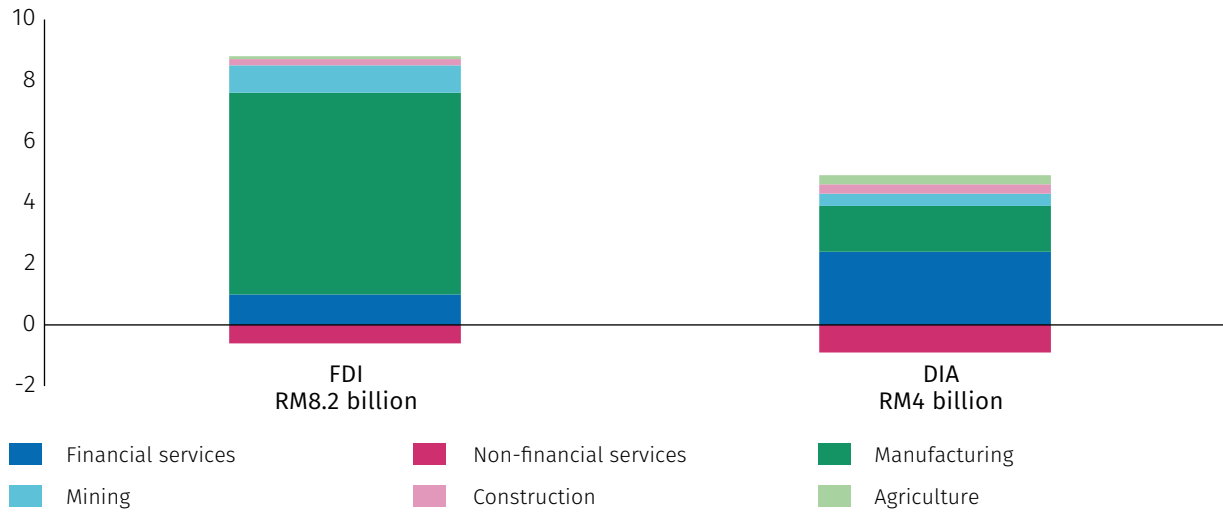
The primary income account registered a larger deficit of RM9.5 billion (1Q 2021: -RM5.7 billion). This mainly reflected the higher investment income accrued to foreign companies and investors in Malaysia.

The secondary income account recorded a smaller deficit of RM1.4 billion (1Q 2021: -RM3.6 billion). This was partly due to funds received related to a wholly-owned subsidiary of the Minister of Finance (Incorporated) during the quarter.

C16

Direct Investment by Sector

RM billion



Note: For DIA, positive values refer to net outflows, while negative values refer to net inflows. Figures may not sum due to rounding.
 Source: Department of Statistics, Malaysia and Bank Negara Malaysia estimates

C17

Portfolio Investment

RM billion



Source: Department of Statistics, Malaysia and Bank Negara Malaysia

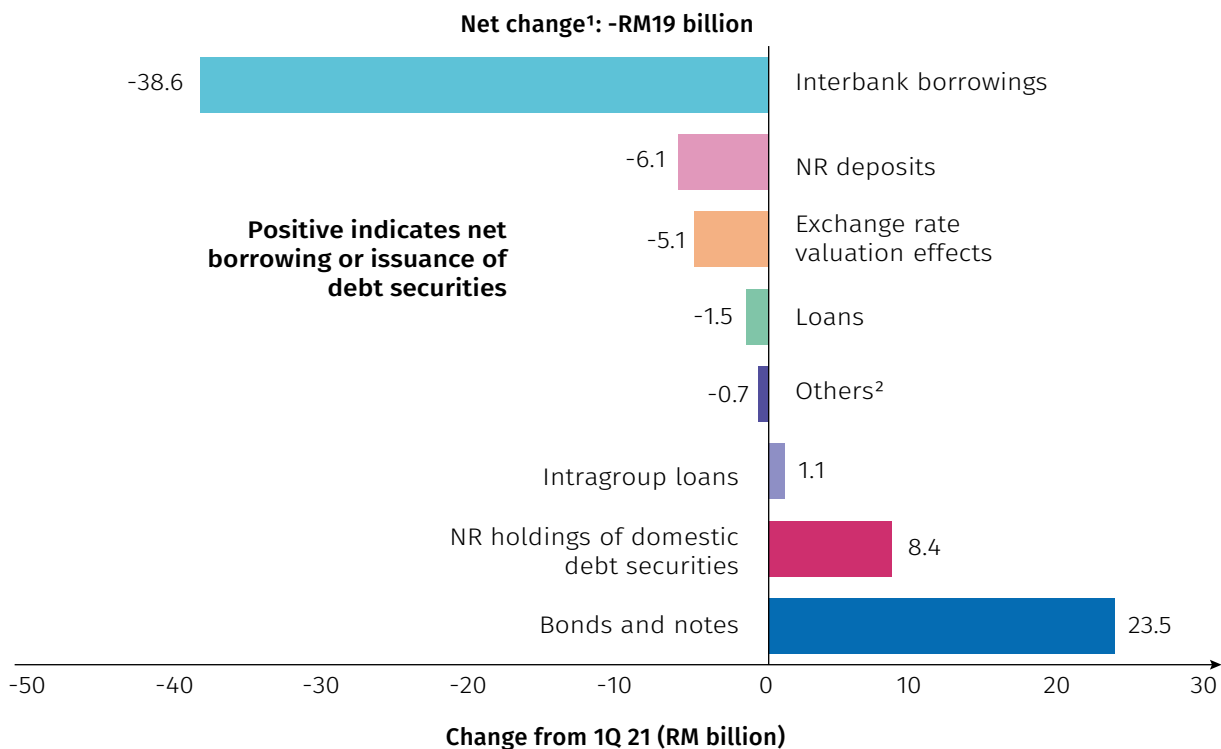
Financial account registered a net outflow

The financial account recorded a net outflow of RM7.0 billion (1Q 2021: +RM16 billion), as outflows in the other investment account more than offset inflows in the direct and portfolio investment accounts. The direct investment account registered higher net inflows of RM4.2 billion (1Q 2021: +RM1.4 billion), underpinned by net inflows in foreign direct investment (FDI) of RM8.2 billion (1Q 2021: +RM9.1 billion). This was driven by larger reinvestment of earnings (+RM7.0 billion; 1Q 2021: +RM4.1 billion) notably in the manufacturing sector, and higher equity injections into Malaysia (+RM4.9 billion; 1Q 2021: +RM4.4 billion). Direct investment abroad (DIA) recorded lower net outflows of RM4.0 billion in the second quarter (1Q 2021: -RM7.8 billion). These investments abroad were channelled mainly into the services and manufacturing sectors.

The portfolio investment account recorded a higher net inflow of RM20 billion (1Q 2021:

+RM0.4 billion), due to higher non-resident (NR) portfolio investments (+RM30.5 billion; 1Q 2021: +RM14.6 billion) and lower residents' portfolio investments abroad (-RM10.6 billion; 1Q 2021: -RM14.2 billion). Higher net NR portfolio investment inflows reflected larger inflows into domestic debt securities (+RM32.2 billion; 1Q 2021: +RM16.9 billion), particularly Government bonds. This more than offset the impact from the liquidation of domestic equity securities (-RM1.7 billion; 1Q 2021: -RM2.3 billion). More moderate residents' portfolio investments abroad were driven by lower institutional investors' acquisitions of equity securities.

The other investment account turned around to register a significant net outflow of RM30.5 billion (1Q 2021: +RM13.9 billion). This was due primarily to repayment of interbank borrowings by the banking system and withdrawal of NR deposits. Net errors and omissions amounted to -RM2.6 billion during the quarter, or -0.5% of total trade.



¹ Changes in individual debt instruments exclude exchange rate valuation effects

² Comprises trade credits, IMF allocation of SDRs and other debt liabilities

Note: Figures may not add up due to rounding

Source: Ministry of Finance Malaysia, Department of Statistics, Malaysia and Bank Negara Malaysia

External debt remained manageable

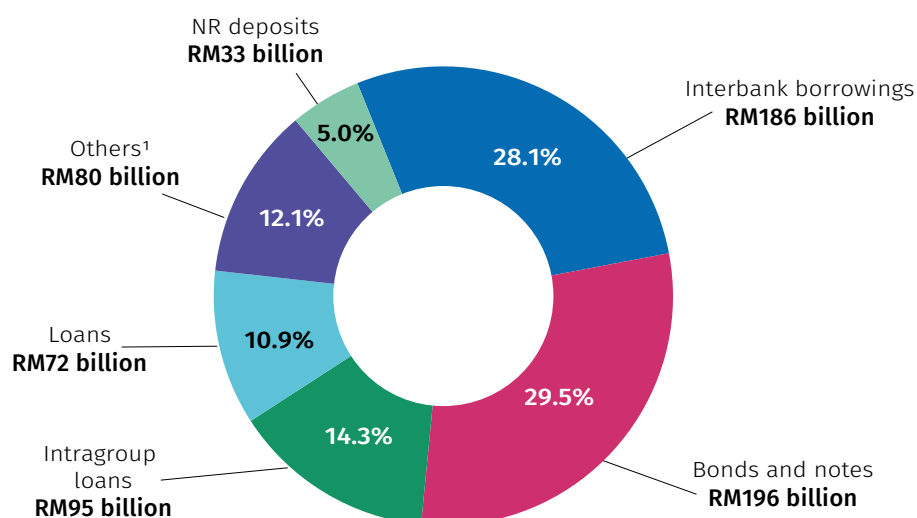
Malaysia's external debt amounted to RM1,020.7 billion, or 68.5% of GDP as at end-June 2021 (end-March 2021: RM1,039.7 billion or 73.2% of GDP). The decline is attributable mainly to a net repayment of interbank borrowings, withdrawal of NR deposits as well as exchange rate valuation effects following the stronger ringgit against selected major and regional foreign currencies during the period. These were partially offset by a net issuance of bonds and notes abroad and an increase in NR holdings of Government domestic debt securities.

Malaysia's external debt remained manageable, given its favourable currency and maturity profiles. Ringgit-denominated external debt amounted to RM358.2 billion and accounted for 35.1% of total external debt (end-March 2021: 33.6%). It was largely in the form of NR holdings of domestic debt

securities (68.4% share of ringgit-denominated external debt) and ringgit deposits (16.8% share) in resident banking institutions. These liabilities were not affected by fluctuations in the ringgit exchange rate.

Foreign currency (FCY) external debt accounted for the remaining RM662.5 billion, or 64.9% of total external debt. 52.7% of FCY-denominated external debt were by the corporate sector, and were mainly subject to BNM's prudential and hedging requirements. Long-term bonds and notes issued offshore stood at RM195.8 billion, accounting for 29.5% of total FCY-denominated external debt, held largely by non-financial corporates. The net issuance of bonds and notes of RM23.5 billion during the quarter partly reflect refinancing activities amid accommodative interest rate environment. Intragroup loans, which accounted for 14.3% of FCY-denominated external debt, were generally on flexible and concessionary terms.

Breakdown of FCY-Denominated External Debt (RM billion, % share)



¹ Comprises trade credits, IMF allocation of SDRs, and other debt liabilities

Source: Ministry of Finance Malaysia, Department of Statistics, Malaysia, and Bank Negara Malaysia

Interbank borrowings and FCY deposits in the domestic banking system accounted for 33.2% of FCY-denominated external debt. Half of the decline in interbank borrowings during the quarter was due to maturing back-to-back intragroup transactions by banks in the Labuan International Business and Financial Centre. The ample FCY liquidity and higher domestic FCY deposits domestically have also reduced the need for domestic banks to raise interbank funding from non-residents. Overall, three-quarters of outstanding interbank borrowings were in the form of intragroup borrowings from related parties located abroad, which are generally more stable, thereby limiting rollover risks faced by banks. Meanwhile, foreign-currency risk, as measured in terms of the net open position of

FCY-denominated exposures⁷, remained low at 4.8% of banks' total capital (end-March 2021: 4.5%).

From a maturity perspective, 62.2% of total external debt has medium- to long-term tenure (end-March 2021: 58.4%), suggesting low rollover risks. Short-term external debt accounted for the remaining 37.8% of external debt. Of note, 42.3% of short-term external debt were in the form of intragroup borrowings, which were on-lent by parent banks or multi-national corporates located abroad and were generally stable and on concessionary terms. About another 14.3% were accounted by trade credits, largely backed by export earnings and are self-liquidating. As at 30 July 2021, international reserves stood at USD111.1 billion, sufficient to finance 8.1 months of retained imports, and is 1.2 times the short-term external debt.

⁷ Refers to the aggregated sum of the net short or long foreign currency positions for all currencies across banks.

The Global Chip Shortage: Implications and Opportunities for Malaysia

Background

The shortage of semiconductor chips¹, which began in late 2020, has highlighted how indispensable these components are in today's modern economy. Notably, the global chip shortage has raised concerns due to its widespread impact across economic sectors and countries. In February 2021, the global automotive industry was estimated to suffer a revenue loss of USD60 billion in 2021 due to shortages of semiconductor chips. This issue has also highlighted the high degree of geographical concentration of chip manufacturing, raising national security concerns for some major economies. This box article aims to shed some light on the dynamics behind the global chip shortage, assess the potential impact to the Malaysian economy and explore policy strategies to maintain Malaysia's strategic role as a global semiconductor player.

Supply-demand imbalances leading to the global chip shortage

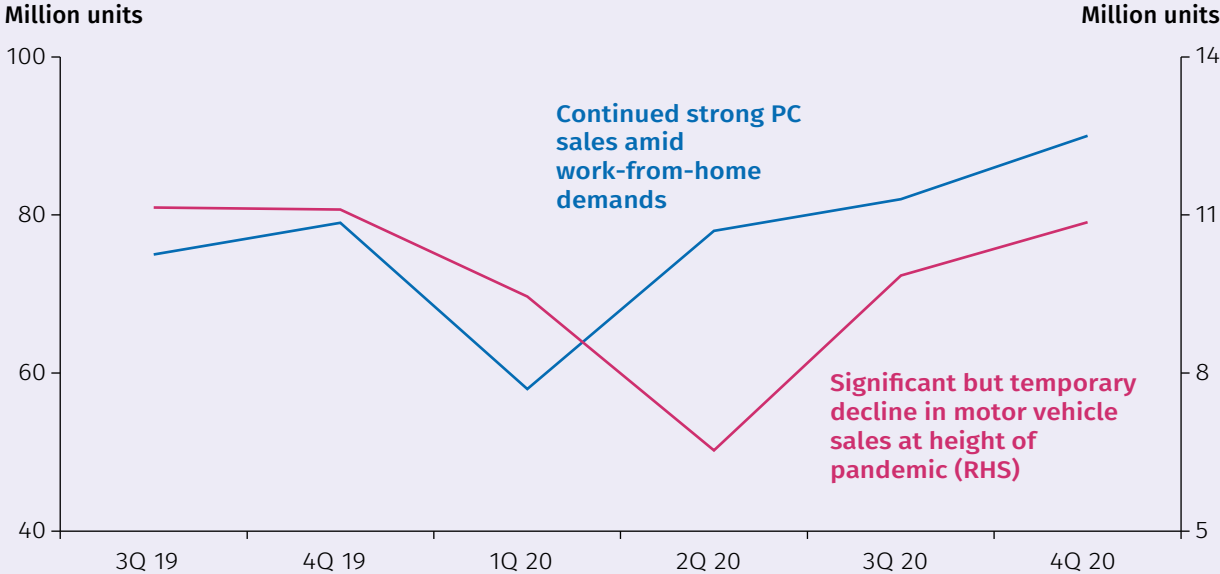
The current shortage of semiconductor chips has been due to developments over the past few years as global megatrends² such as automation, electrification and connectivity propelled rising demand for semiconductors, against a backdrop of heightened uncertainty in supply and underinvestments due to the US-China trade war. From a demand perspective, the COVID-19 pandemic played a key role in accelerating trends such as the shift towards remote working, virtual learning, home entertainment, online gaming and e-commerce. This, in turn, led to a significant surge in demand for chips powering computers, laptops, cloud computing and equipment for wired communications. Initially, the increase in demand was accommodated by a cutback in production by the automotive segment, as car manufacturers reduced orders for semiconductor chips in response to the lower mobility during the pandemic. Moving into 2021 however, the automotive industry experienced a faster-than-expected recovery in demand (Chart 1) following the lifting of containment measures by various governments globally. Additionally, the just-in-time inventory management practices which contributed to the low chip inventory levels among the automotive manufacturers also fuelled further demand for chips.

¹ Microchip, chips, or more officially known as integrated circuit (IC) is the "brain" within every electronic device in the world.

² As a result of these megatrends, the content of semiconductor per unit of product has risen given the greater need for speed and connectivity (e.g. the latest 5G phones require 40% more electronic components compared to older versions, while the semiconductor content per car is expected to reach close to USD600 per car by 2022 compared to USD300 per car in 2013)

C1

Global Personal Computer Sales and Global* ex-China Motor Vehicles Sales



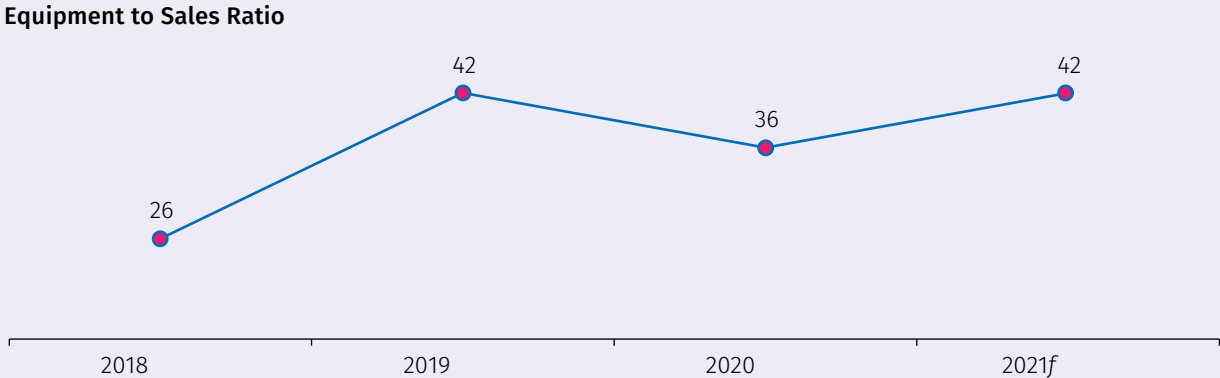
*Refers to 24 countries including Australia, India, Indonesia, Japan, Malaysia, Pakistan, Philippines, Singapore, South Korea, Chinese Taipei, Thailand, Vietnam, Portugal, Russia, Turkey, South Africa, Argentina, Brazil, Canada, Chile, Colombia, Mexico, Panama, and United States. China was excluded as COVID-19 affected China mainly in 1Q 21, unlike other countries.

Source: Gartner, CEIC

From the supply perspective, chip manufacturers were unable to keep pace with the rising demand due to the lack of new capacity and underinvestment during the early stages of the pandemic (Chart 2). As global foundries operate at close to full capacity and efforts to build new foundry capacities require about 2-3 years to be production-ready, chip manufacturers were unable to accommodate the sudden surge in chip demand.

C2

Equipment Spending to Sales Ratio by TSMC and Samsung



Source: Counterpoint Research

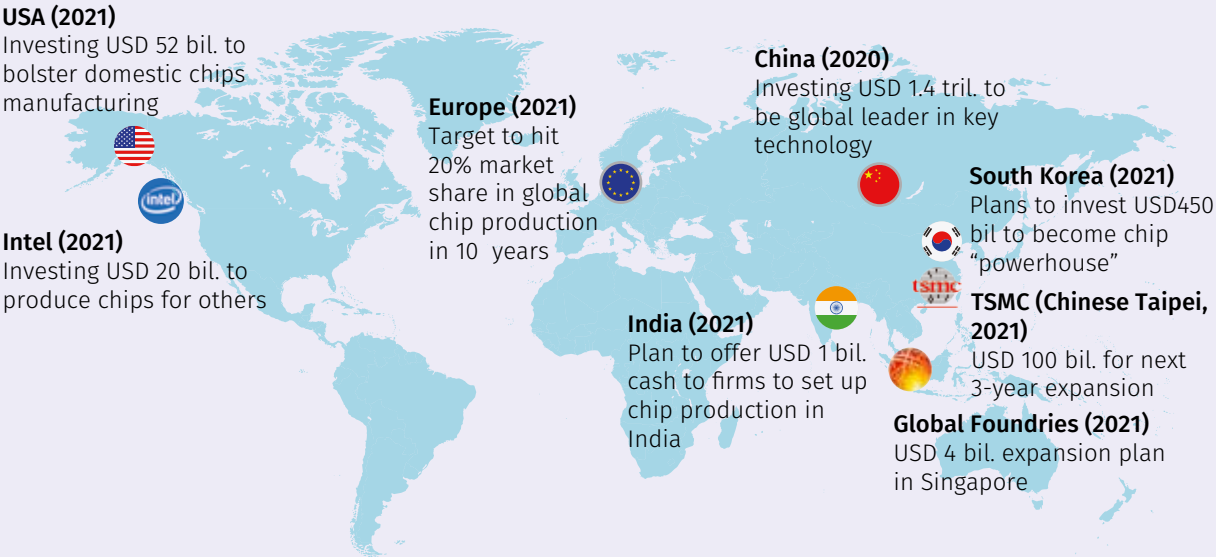
There is also evidence that the shortages were contributed by the race to build buffer stock by some clients who were concerned about supply chain security amid US-China trade tension. Additionally, these shortages were exacerbated further in 2021 by sudden disruptions in production caused by winter storms in the United States, a fire outbreak in the plant of a key Japanese producer, and COVID-19 outbreak in chip manufacturing plants in Chinese Taipei.

Globally, the impact from the chip shortages was first felt by the automotive industry. Automotive players faced longer lead-times when demand recovered sharply, as chip manufacturers were unable to reprioritise chip supplies back to the automotive industry, especially for those that have cancelled chip orders earlier. This has led some automotive players to suspend production or leave out certain non-essential features due to inability to source vital components. The effects of the shortage, however, have since extended beyond the automotive sector, with other industries such as consumer electronics facing longer lead-times, minimal inventories, and higher costs to secure chips.

Ongoing capacity expansion and reshoring efforts to address shortages

As the global chip shortage continues, businesses and governments are looking for longer-term solutions by rethinking their entire semiconductor manufacturing supply chain structure. On one hand, Integrated Device Manufacturers, who are involved in both designing chips and operating own foundries have intensified investment efforts to expand capacities. Fabless chip designers, who have outsourced manufacturing to third parties, have less flexibility as they are highly reliant on a few large global chip manufacturers to fulfil orders (the Top 3 semiconductor contract manufacturers account for close to 80% of global foundry revenue in 2020). This concentration has propelled Governments around the world to push for self-sufficiency and strengthen national security by developing domestic chip manufacturing capabilities (announced in 2020 and 2021, Chart 3). In particular, major economies including the US, EU and China are incentivising the reshoring of chip manufacturing back to domestic markets, so as to enable better control of the supply chain and prevent future disruptions.

C3 Efforts by Selected Semiconductor Companies and Policymakers



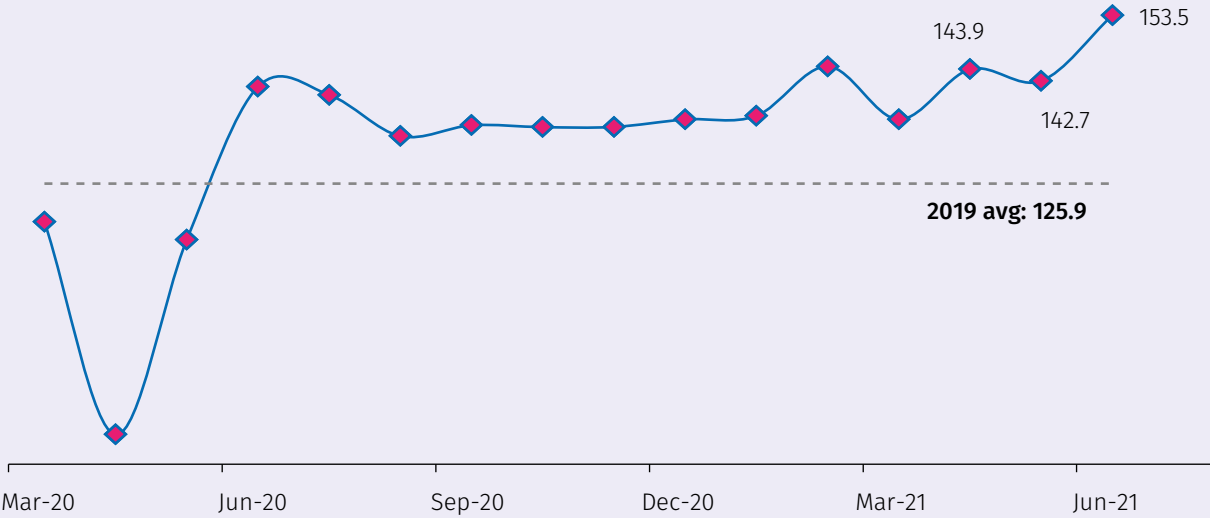
Source: Various newsflows

Malaysia has been able to withstand the impact of chip shortages

With a major presence in the global semiconductor value chain (approximately 7% of global semiconductor trade flows through Malaysia) it is critical to assess the implications of the chip shortage on Malaysia’s E&E production. Since the height of containment measures globally in April 2020, E&E production activity has recorded a strong rebound and continues to record markedly high levels. In particular, production has been above pre-pandemic levels since June 2020 (Chart 4).

C4 Industrial Production Index (E&E)

Index (2015=100), seasonally adjusted



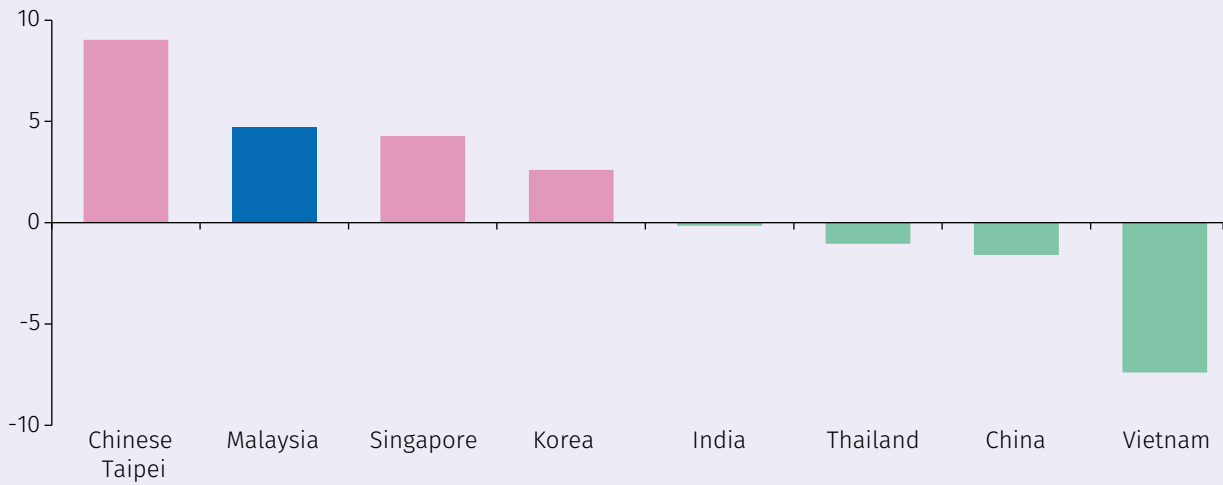
Source: Department of Statistics Malaysia and Bank Negara Malaysia estimates

The strong and sustained production levels suggest that Malaysia’s E&E sector is currently benefitting from the chip shortages. Malaysia holds a strategic position in global value chains, being among the larger net exporters of semiconductor products (Chart 5), with a significant share of firms within the semiconductor value chain involved in the production of chips. As such, strong demand for semiconductors is benefitting a large segment of the industry, outweighing the impact of shortages on segments that use chips as intermediate inputs. In particular, firms involved in front-end semiconductor manufacturing have experienced a surge in orders as they serve to address the global supply gap. In tandem with the strong foundry activities globally, other parts of the domestic semiconductor value chain, namely local OSAT (Outsourced Semiconductor Assembly and Testing) players and Assembly and Test Equipment (ATE) manufacturers have also benefitted from higher demand.

C5

Global Semiconductor Trade Balance

% of GDP (2020)



Source: International Trade Centre, IMF

As the strength of global tech cycle continues, this is expected to lend support to the performance of the E&E industry going forward. Based on the Bank's industrial engagements, most E&E firms have secured higher order bookings in advance, with several firms reporting full order books throughout 2021. Firms are also undertaking measures to expand production capacity to increase supply by investing in new plants and machinery, while introducing new products to cater to new and fast-growing segments such as electric vehicles, data centres and medical devices. The overall outlook for the sector is expected to remain positive, as domestic firms receive higher orders amid frontloading by clients in anticipation of future shortages of other products and components.

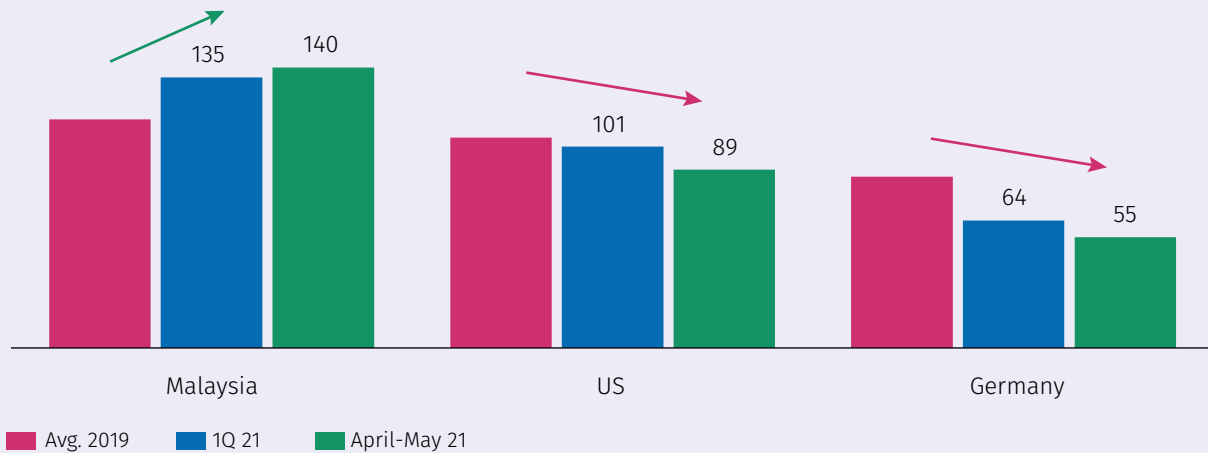
However, the effect of the shortages is uneven, as certain segments within the domestic E&E value chain require chips to produce other electronic goods, particularly consumer electronics. Some Original Equipment Manufacturer (OEM) and Electronics Manufacturing Services (EMS) that use chips as intermediate components have expressed concerns on how the low inventory levels and longer lead times to secure chip supplies are affecting their production.

Beyond the E&E sector, the automotive industry has been the most impacted industry globally due to the chip shortages. Nevertheless, Malaysia's automotive sector has been relatively less affected. Compared to the automotive industry in the US and Germany, Malaysia's production has improved since end-2020 (Chart 6). This is partly attributed to a lower chip intensity for motor vehicles produced in Malaysia, compared to the advanced economies, particularly in the production of mass-market and national makes. The improvement in motor vehicle production also coincides with the SST exemptions on purchases of passenger cars, as consumers leveraging on the tax savings increased their demand for vehicles.

C6

Motor Vehicles Industrial Production by Country

Index (2015 = 100)



Note: June 2021 figures are excluded as automotive production in Malaysia was more impacted by the imposition of FMCO Phase 1 which restricted production

Source: Department of Statistics Malaysia, CEIC

Moving forward, longer term strategies are critical to build domestic capabilities

The longer-term outlook for the Malaysian E&E industry remains supported by strong order books, introduction of new products, and commencement of new plants, which will allow firms to benefit from the continued global demand. The ability of firms to capitalise on these opportunities remain contingent upon long-term strategies to build domestic capabilities to stay competitive.

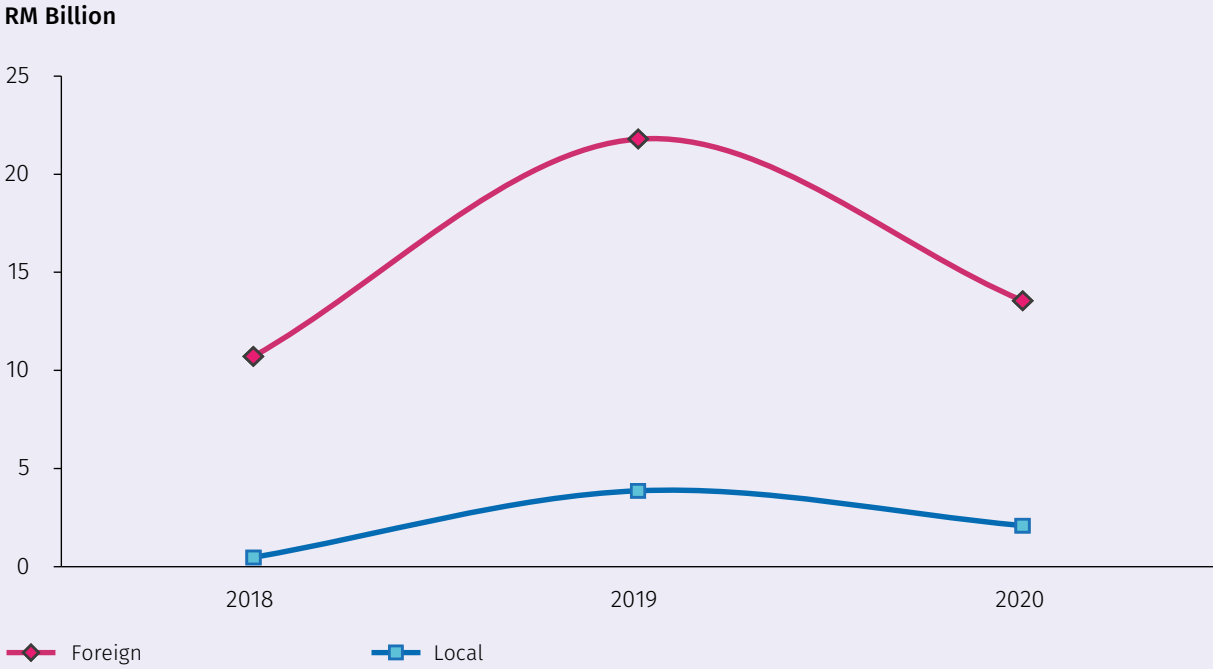
While the current environment is positive for Malaysia, the E&E sector is confronted by challenges, both in the near- and medium-term. First, the near-term performance of the E&E industry in Malaysia is expected to be weighed down by the recent implementation of FMCO (full movement control order) and restrictions on labour capacity due to the resurgence in COVID-19 cases. Nevertheless, firms were able to minimise the impact given the highly automated nature of many large semiconductor firms. Meanwhile, some firms also extended the number of working days in order to catch up on production. Moving forward, firms that are currently focused on labour-intensive activities are most at risk of production disruptions resulting from labour restrictions. As such, embarking on automation would not only mitigate the impact of containment measures as firms become more capital intensive, but also help to ensure that Malaysia’s E&E sector is better able to capture the strong demand for E&E products. While automation is prevalent amongst larger E&E manufacturers, tier 2 and tier 3 suppliers, which comprise mainly SMEs, have room to automate further. Impediments to automation include an aversion to change involving new production methods, as well as high costs, including for maintenance and staff training when operating machinery³. In this regard, SMEs are encouraged to automate processes and digitalise operations by leveraging on capacity building resources, as well as grants and financing facilities like the MIDA Domestic Investment Strategic Fund and High Impact Fund, and the SME Automation and Digitalisation Facility⁴ by Bank Negara Malaysia.

³ Findings from E&E Productivity Nexus “Study on Productivity and Contribution of the Malaysian E&E Industry”

⁴ For more information, please refer to https://www.bnm.gov.my/documents/20124/2294076/ADF_Eng.pdf

Second, the push towards the reshoring of chip manufacturing activities by major economies could impact the significance of Malaysia as an E&E producer in the semiconductor global value chain (GVC). As major economies prioritise strengthening their own domestic capabilities, they may reduce investments in other parts of the GVC. Thus far, Malaysia’s E&E sector has been highly dependent on foreign direct investments (FDI), accounting for more than 80% of total approved investments in the past 3 years (Chart 7). A cutback in FDI could translate into slower capital accumulation, production capacity expansion and output growth. As the E&E sector is highly technology intensive, lower technology-driven FDI could also impact domestic technology development and adoption, high-skilled job creation and access to global markets for local suppliers through the MNC network.

C7 Foreign and Local Approved Investment in E&E Industry in Malaysia



Source: Malaysian Investment Development Authority

As such, there is an urgent need to grow investments by domestic firms while increasing Malaysia’s capability in attracting quality FDI amid global reshoring efforts. The implementation of the “National Investment Aspirations” (NIAs) can stimulate investments in segments of the value chain that are of high economic complexity, create high-value jobs, and have extensive domestic linkages. Examples would be Integrated Circuit (IC) design and design automation, which are strongly aligned with the NIAs given its high dependency on innovation. To date, there are only a few active local design houses in Malaysia as IC design activities are undertaken mostly by MNCs. In order to venture into these segments, local players, especially the new entrants, can form partnerships with MNCs by setting up offshore design centres to bring these activities to Malaysia in the medium term. Trade promotion agencies could also enhance the branding of the domestic E&E sector as an IC design hub, which will increase the exposure and create opportunities for local IC design firms.

The E&E industry in Malaysia can further scale up its capabilities and competitiveness by expanding into research and development (R&D), product innovation and design activities that can add value beyond just the manufacturing front (Malaysia is ranked 70 out of 131 countries in knowledge creation, and 53 out of 131 countries in knowledge workers recorded in the Global Innovation Index 2020). These transitions can be complemented by government policies to attract R&D investment activities that encourages inflows of know-how and new technology innovations via industry-academia collaboration. For example, Chinese Taipei's Industrial Technology Research Institute (ITRI) is a successful model of industrial technology upgrading and innovation policy that not only drove innovation among firms and incubated some of the Chinese Taipei's top home-grown companies but also bridged the gap between the industry and academia research. The ability to entice MNCs to bring R&D activities also depends on the availability of the right talent pool to undertake these higher-value tasks. This can be partly addressed by the continuous and cohesive collaboration between industry and the universities in developing industry-relevant curriculum to keep pace with the ever-evolving skills demand. To strengthen the eco-system for R&D to be undertaken locally, Malaysia's Intellectual Property (IP) frameworks should also be updated to widen the recognition of domestic patents across key international jurisdictions, which will offer more comprehensive protection for IPs patented in Malaysia. There is also a need to strengthen and align IP arbitration to global standards to facilitate effective resolution of disputes.

Conclusion

Malaysia has been able to withstand the impact of chip shortages considerably well, given its established footprint in the global semiconductor supply chains. With higher E&E industrial production during the pandemic period compared to 2019, as well as full order books among chip manufacturers and future product diversification plans, Malaysia's E&E industry has thus far benefitted from this unanticipated global chip shortage.

However, there is the risk that intensifying reshoring of semiconductor manufacturing activities may impact future investments into Malaysia. As such, it is timely for Malaysia to strengthen domestic capabilities by increasing productivity via automation and digitalisation, leveraging on forward-looking investment policy tools such as the NIAs, and enhancing R&D capabilities by developing the right talent pool, while improving collaboration between industry and academia.

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