BANK NEGARA MALAYSIA
CENTRAL BANK OF MALAYSIA

Economic and Monetary Review 2022

EMR

Contents

Foreword

The Malaysian economy emerged from the health and economic crisis with a strong recovery in 2022. This has been on the back of substantial policy support, sound macroeconomic fundamentals and a strong financial system. Buffers built during good times preceding the pandemic enabled the economy to weather the crisis. With the pandemic now mostly behind us, we must rebuild these buffers to serve as a source of strength against future shocks, as they did in this crisis. In addition, measures to further strengthen the foundations of our economy and enhance our economic potential in a post-pandemic world will be critical to deliver sustainable and inclusive growth over the long term.

On the global front, Malaysia can expect to benefit from the reopening of China, resilient labour markets supporting demand in major economies, and the recovery in tourism activity. Nevertheless, 2023 will remain challenging and uncertain for most economies. Global growth is expected to expand at a slower pace amid an environment of high inflation and tight monetary policy. The banking stress seen recently in some advanced economies has added to the uncertainty. As a small, open economy, Malaysia will inevitably be affected by slower external demand and turbulent global financial markets. Domestically, elevated cost pressures could weigh on spending by households and firms. While all economic sectors are expected to improve further, some sectors would still remain below pre-pandemic levels this year given lingering frictions such as labour shortages, high building material costs and more significant shocks from the pandemic that have affected tourism-related segments.

Despite these headwinds, the Malaysian economy is expected to expand between 4.0% and 5.0% this year, and is not at risk of entering a recession. Household spending will remain strong, given improving labour market conditions. This will see unemployment trending lower and income prospects remaining positive. The lift from the continued recovery in tourism-related activities will also support growth. Our financial system will continue to be a key source of strength for the economy. The flexibility in the ringgit exchange rate – which helps buffer the impact to the domestic economy from the rapid and sizeable global monetary tightening – will continue to facilitate appropriate macroeconomic adjustments in the face of external shocks. Importantly, the orderly functioning of financial markets, as well as the strength of financial institutions, will support continued financial intermediation activities to meet the needs of the economy.

Recent shifts in inflation dynamics have increased uncertainties over the path of inflation. This in turn has had an important influence in shaping the direction of monetary policy globally. For Malaysia, inflationary pressure was initially attributed to supply shocks. As the economy recovered, the strengthening of demand factors has also contributed to more persistent underlying inflation. The confluence of these factors requires us to carefully balance the risks to both our domestic inflation and growth. Overadjustments in monetary policy would negatively impact growth, while undershooting could lead to inflation expectations becoming unhinged with damaging effects on consumers' purchasing power and the sustainability of economic growth.

In this environment, and consistent with the Bank's legal mandate to promote price stability while giving due regard to developments in the economy, the Monetary Policy Committee (MPC) of the Bank raised the Overnight Policy Rate (OPR) in a measured and gradual pace. Given that monetary policy works with a lag, the recent pauses allow the MPC to assess the impact of successive OPR adjustments, along with evolving conditions that affect the outlook of growth and inflation. We remain watchful over the persistency of price pressures. Our near-term strategy is to ensure that the OPR remains at an appropriate level to manage inflationary pressures, which will allow us to achieve sustainable growth over a longer term.

To ensure that we remain effective in delivering on our monetary stability mandate, the Bank has embarked on a multi-year exercise to review its monetary policy framework. This aims to reflect changes in the post-pandemic operating environment and the resulting shifts in inflation dynamics which are presenting new challenges for the conduct of monetary policy. It will also examine the implications of longer-term shifts – such as the transition to a more decarbonised economy, changes in demographics, and the digitalisation of finance – that can further alter the efficacy and transmission of monetary policy.

The pandemic has reduced Malaysia's buffers and exacerbated prevailing vulnerabilities, including those stemming from elevated debt levels. As the economy gains a firmer footing, it will be important to rebuild the household, small and medium-sized enterprise (SME) and policy buffers that were drawn down during the pandemic in order to secure our economic resilience. For households, future-proofing the social protection system is crucial, especially given Malaysia's ageing society. There is also a need to replenish and increase retirement savings. The recalibration of monetary policy further supports the rebuilding of savings buffers through higher real returns on savings, in addition to preserving policy space and avoiding the build-up of longer-term risks. A focus on enhancing the dynamism of SMEs – by helping firms move up the value chain – will develop greater resilience to future shocks, while increasing their contribution to growth and employment. On the fiscal side, support measures that continue to be more targeted will enable the country to preserve fiscal buffers and make continued progress towards sustainable fiscal consolidation. Importantly, resources can be better allocated towards productive and high-impact growth areas to optimise spending without adding to inflationary pressure. All of this will put us in a better position to manage risks of any negative shocks and spillovers in future.

Ongoing megatrends in the global economy are also presenting Malaysia with new prospects. Malaysia is well positioned to benefit from the reconfiguration of global value chains. To make the most of this opportunity, we must ensure that we can continue to attract high-quality investments that boost our economic competitiveness and create high-value jobs. It is therefore imperative that we implement the New Investment Policy in a timely fashion. At the same time, the transition towards a greener, low-carbon future will have far reaching implications for our economy. A comprehensive domestic policy roadmap encompassing climate change adaptation and mitigation measures to achieve an orderly transition is key – both to address risks from climate events that are already present, and to avoid costly dislocations associated with climate transition. As these measures will take time to impact climate outcomes, we must act decisively and we must act now to mitigate climate-related physical and transition risks.

In all of this, the Malaysian financial sector will continue to have a critical role in supporting the financing needs for Malaysia's transformation into a high-income, high value-added and low-carbon economy. A strong financial sector is also paramount to support its countercyclical role in the face of future economic shocks. On our part, the Bank will continue to drive efforts towards advancing the priority areas set out in the Financial Sector Blueprint 2022–2026. Our regulatory efforts will continue to foster a conducive environment for efficient market functioning and dynamism that would also support sustainable development outcomes. This includes working with industry players to promote a funding ecosystem that is supportive of dynamic, innovation-led growth.

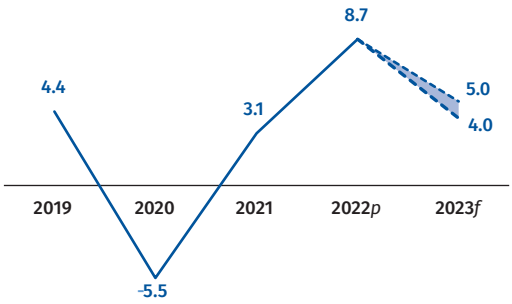
The careful sequencing of critical structural reforms will be important to deliver sustainable growth with price stability, while minimising transitory costs. This should prioritise structural policies that yield immediate positive impacts to the economy and enhance our future growth potential, such as active labour market policies, investment reforms and infrastructure projects to improve connectivity. A careful consideration of the interdependencies and interactions between policies is also crucial to maximise potential synergies and complementarities, while averting unintended consequences. Monetary, financial, fiscal and structural policies should be coherent and avoid counteracting each other. In managing inflationary pressures, monetary policy works best when accompanied by targeted fiscal measures that do not worsen inflation, in conjunction with supply-side and income-related policies that improve productivity and directly address the root causes driving higher living costs. Importantly, we must continue to support those adversely affected, such as workers and businesses who may be temporarily displaced, to help them adapt and benefit from reforms in line with the vision of greater shared prosperity for all. More broadly, a firm commitment to pursuing the necessary adjustments and reforms that will reinforce Malaysia's sound macroeconomic fundamentals and deliver more sustainable and inclusive growth remains key to realising this vision.

Nor Shamsiah Yunus
29 March 2023

Key Highlights on
Economic Development and Outlook

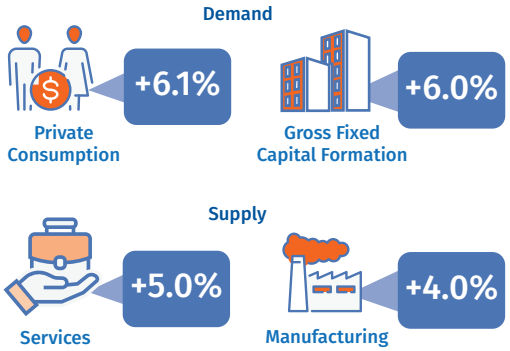
Malaysia's economy to grow between 4% and 5% in 2023

Real GDP growth (Annual change, %)



p Preliminary
f Forecast

Key drivers of growth in 2023 (Annual change, %)



Various factors supporting growth, despite external and domestic headwinds

Major Contributors to Growth

- Continued implementation of multi-year investment projects
- Further recovery in tourism activity
- Further improvement in employment and income levels
- Continued targeted policy measures

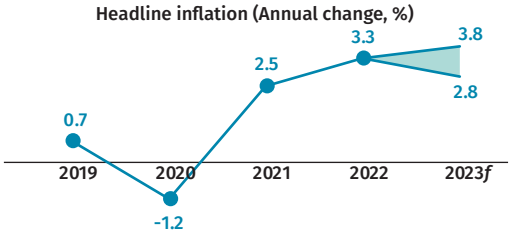
Key Challenges

Slowing global economic and trade growth
Elevated inflation
Tight monetary policy and financial conditions

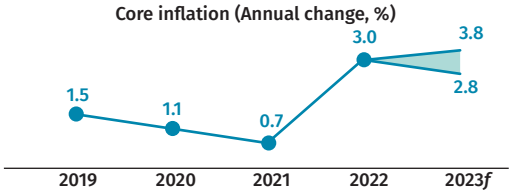
Elevated cost of living and input costs
Cost and price pressures dampening spending by consumers and firms

Headline and core inflation to average between 2.8% and 3.8% in 2023

Headline inflation (Annual change, %)



Core inflation (Annual change, %)



f Forecast

Factors affecting inflation outlook

Moderating global cost environment
Lower key commodity prices

Elevated core inflation
Firm domestic demand and improvement in labour market

Gradual subsidy rationalisation
Revision in electricity surcharge for selected industry participants

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

Key Highlights on
Box Articles

Rebuilding Retirement Savings and Financial Safety Nets in Malaysia

Necessary reforms to ensure Malaysia's retirement saving framework is future-ready

Gaps in the current retirement saving framework

Sufficiency: Savings adequacy

- Low number of EPF members meeting the Basic Savings threshold

Exclusion: Access to social protection

- Limited access to social protection for workers in the informal sector

Adaptability: Gaps in old-age assistance and labour market frictions

- Insufficiency of old-age assistance
- Lack of job opportunity for the old-age groups to re-enter job market

Saving our tomorrow: Reforms for a better future

Ringfencing of retirement funds

- Allow for greater accumulation of savings, alongside structural reforms to boost income

Unlocking the potential of data

- Universal registration into EPF and SOCSO to identify needs for uncovered segments
- Enable linking of cash assistance with upskilling programmes

Enhancing old-age assistance and labour participation

- Linking old-age assistances to standard of living
- Hiring incentives for old-age workers

An orderly transition to a green economy will allow Malaysia's growth to become more resilient, sustainable and inclusive

A suite of mitigation measures can be considered to encourage an orderly transition

Regulation
Legislate Climate Change Act
Develop sectoral pathways (LT-LEDS)

Price Reforms
Rationalise fossil fuel subsidies and redirection to renewable energy

Leadership and Governance
Prioritise low carbon procurement

Investment
Scale up R&D and commercialisation of green technologies

Awareness and Capacity Building
Promote public awareness on carbon capture, palm-based feedstock and bio-based solutions

Regional countries are moving ahead to implement climate policies

Policies	National Net Zero Target	Net-Zero Policy Framework & Legislation	Carbon Market Mechanism	Carbon Tax
● Policy already in place ● Policy currently under planning ● No policy in place				
Singapore	● By 2050	●	●	●
Indonesia	● By 2060	●	●	●
Thailand	● By 2065	●	●	●
Malaysia	● By 2050	●	●	●
Philippines	● 75% below BAU by 2030	●	●	●

Source: Various news flows, Grantham Research Institute on Climate Change and Environment

Key Highlights on
Box Articles

Exchange Rate Pass-Through to Inflation in Malaysia

Although the ringgit has depreciated, impact to inflation has been quite contained...

A 5% change in ringgit[1/]

Core inflation[2/] to change by 0.2 ppt over a year[3/]

...in part reflecting country-specific factors

Factors that limit exchange rate pass-through:

1. **Low share of imports** in consumption and production
2. **Stable firm pricing behaviour**
3. **Policy intervention** such as subsidies and price ceilings

[1/] Ringgit here refers to RM/USD.
[2/] Core inflation refers to core consumer price index (CPI) which excludes volatile items (e.g. fresh food) and price-administered items, as well as direct impact from consumption tax policy changes.
[3/] On average over 2006 to 2022.

Executive Summary

Executive Summary

Economic and Financial Developments in 2022

In 2022, global economic and trade activity moderated: Economic and trade growth moderated to 3.4% and 5.4%, respectively (2021: 6.2% and 10.4%, respectively). Growth was weighed down by, amongst others, the COVID-19 pandemic, domestic issues in China, military conflict in Ukraine, elevated inflation and tighter monetary policy. Pent-up demand supported global economic and trade activities as many countries lifted containment measures and shifted towards endemicity. Global inflation rose on account of both supply and demand factors. Commodity prices rose rapidly, primarily caused by supply chain disruptions due to the Ukraine conflict and China's zero-COVID policy. The environment of stronger demand, tight labour markets and elevated commodity prices caused inflation to rise to historical highs particularly in advanced economies (AEs). Central banks raised interest rates – some aggressively – resulting in a broad tightening in financial conditions and higher risk aversion. Inflation in Asian regional economies edged higher but remained relatively lower compared to the AEs and other parts of the world. This was partly attributable to existing price controls and subsidies on energy in some economies, as well as lower inflation on staple food in Asia.

Domestic financial markets were affected by external conditions but were supported by positive domestic factors: Narrowing interest rate differentials between Malaysia and AEs, rising global bond yields and the strength of the US dollar were some of the major external developments that affected the domestic financial markets. Nonetheless, strong domestic growth momentum during the year partly supported the domestic equity market. Spillovers to financial intermediation were contained, underpinned by the resilience of the domestic banking system. Of importance, the flexibility in the ringgit exchange rate also played a role in cushioning the impact of adverse global shocks to the domestic economy.

In 2022, the domestic economy grew strongly and exceeded its pre-pandemic level: The Malaysian economy expanded by 8.7% in 2022 (2021: 3.1%) despite the challenges faced throughout the year. This was contributed by the full upliftment of containment measures, resilient growth in exports, particularly commodity exports, revival of tourism activity and continued policy support. However, the pace of recovery was uneven across sectors. Leisure-related services, mining and quarrying, agriculture and construction sectors remained below pre-pandemic levels. Activities in these sectors were constrained by the more gradual recovery in tourist arrivals, oil and gas facility closures for maintenance purposes, labour shortages and higher input prices, respectively. Growth in 2022 was largely driven by domestic demand, mainly from firm private sector expenditure. Improvements in labour market conditions and wage growth led to an increase in household spending. This was supported by the realisation of pent-up demand and continued policy support. In line with the reopening of the economy, public and private investment improved significantly. The improvement was contributed by public infrastructure projects, resumption of construction activity, as well as continued investments by firms to automate and digitalise their operations. Furthermore, external demand remained resilient and provided support to the economic growth in 2022.

Headline and underlying inflation trended higher in 2022: Headline inflation increased in 2022 to 3.3% (2021: 2.5%), mostly contributed by higher prices of food-related goods and services. In addition, prices for other CPI services including rental, and restaurants and hotels rose too. Upward price pressures arose from a combination of cost and

demand factors. The cost factors included high global commodity prices, prolonged supply-related disruptions, sustained US dollar strength against the ringgit, domestic food supply shortages and seasonal factors. Meanwhile, demand conditions improved following the reopening of the Malaysian economy. These factors resulted in higher cost pass-through to consumer prices. The full impact was, however, contained by existing price controls, subsidies, and the remaining spare capacity in the economy. Underlying inflation, as measured by core inflation, was also elevated at 3.0% (2021: 0.7%) due to strengthening demand conditions following the reopening of the economy. Price pressures also became more broad-based during the year, albeit with some moderation in the inflation pervasiveness from September 2022 onwards.

Monetary policy was recalibrated amid firmer domestic economic recovery: The Overnight Policy Rate (OPR) was gradually raised to 2.75% from a historical low of 1.75% through four consecutive adjustments beginning in May 2022. The recalibration of the OPR was warranted as the unprecedented conditions experienced during the height of the pandemic had abated. Nevertheless, such adjustments were undertaken in a gradual and measured manner to ensure sustainable growth over the longer term while enabling the Bank to pre-emptively manage the potential risk of excessive demand on price pressures. Overall, credit conditions remained supportive of the financing needs of households and businesses as the economy fully reopened. Targeted support also remained available, particularly for viable borrowers and those in the most affected segments that may take longer to recover.

Outlook and Policy for 2023

A challenging and uncertain global economic environment: Growth is expected to remain soft in major economies in 2023. Against this outlook, the PPP-weighted global growth and Malaysia's export-weighted global growth are projected to moderate. The resilient labour markets, easing of supply chain disruptions, China's reopening and continued recovery in global tourism activity are expected to facilitate global economic growth. The positive impact from reopening of economies and pent-up demand will continue to wane in most economies. Additionally, tighter monetary policy amid elevated inflation in major economies, and projected subdued global trade activity will add to these challenges.

Global inflation is expected to moderate but remain elevated for many countries: The moderation is driven by easing of supply chain disruptions, lower commodity prices and softening global demand. However, inflation may remain higher than its long-term average due to tight supply in commodities. Elevated inflationary pressure and further adjustments of monetary policy, especially by central banks in AEs, will continue to weigh on economic activity. The adjustments will be the main factor influencing global financial market conditions during the year. Against this backdrop, spillovers to emerging market economies (EMEs) would stem from tighter financial conditions and slower exports. However, such pressures are to be partially offset by slower pace of monetary policy tightening, though the extent of tightening hinges on the evolving inflation outlook and financial stability concerns following the recent banking sector stress in some AEs.

Risks to global growth are tilted to the downside: This could arise from an escalation of geopolitical tensions, which could disrupt global trade, supply chains and commodity markets, and the turmoil in the global banking sector. Tighter monetary policy may be required to tame inflation due to tighter labour markets and higher commodity prices. This could expose vulnerable EMEs to debt distress. On the other hand, there are possible upside risks to global growth, stemming mainly from stronger-than-expected pent-up demand, particularly in major economies.

The Malaysian economy is projected to grow between 4.0% and 5.0% in 2023, supported by firm domestic demand: The economy is expected to face challenges from slowing global growth. Additionally, continued concerns on the elevated cost of living and input costs, as well as their impact to households' and businesses' spending behaviour will add to these challenges. Nonetheless, further improvement in labour market conditions, continued implementation of multi-year investment projects and higher tourism activity – particularly with the resumption of China's outbound tourism – are expected to support private consumption and investment growth.

The risks to Malaysia's economic growth are fairly balanced: Weaker-than-expected global growth may adversely affect consumer and business sentiments as well as trade performance. Tighter monetary policy by major central banks will lead to higher risk aversion in global financial markets. Additionally, further escalation of geopolitical conflicts could have an adverse impact on the global economy and trade. Domestically, higher-than-expected inflation would weigh on households' purchasing power and affect firms' profits adversely, which could impact their spending and investment decisions, respectively. However, better-than-expected labour market conditions and tourism activity as well as implementation of multi-year projects, including as outlined in Budget 2023, would provide upside risks to the domestic outlook.

Both headline and core inflation are projected to average between 2.8% and 3.8% in 2023: Headline inflation is expected to be on a moderating trend throughout 2023. Global cost factors, which contributed to higher headline inflation in 2022, have started to moderate and is expected to prevail in 2023. The moderation will be driven by the expectation that prices of key commodities are averaging lower amid improving supply constraints and softening global demand. Additionally, price controls and subsidy measures will continue to contain inflationary pressures. However, despite the moderating trend, headline and core inflation will remain elevated for several months due to continued strength in domestic demand and the labour market. The outlook for inflation in 2023 is uncertain and remains tilted to the upside. The upside risks include higher global commodity prices due to worsening of geopolitical conflict, extreme weather conditions, stronger-than-expected demand from China, and higher input costs due to exchange rate developments. Furthermore, changes to domestic policy on subsidies and price controls would also pose as upside risks to inflation. Risk of a wage-price spiral is expected to be remote, as long-term inflation expectations remain well-anchored. Productivity growth will likely outpace any catch-up in wages. Meanwhile, downside risks to the outlook could emanate from more subdued global commodity prices amid weaker global growth and moderation of price pressures following faster dissipation of domestic pent-up demand.

Domestic monetary and financial conditions to remain supportive of financial intermediation activities: Demand for financing is expected to be sustained in 2023 due to continued expansion of economic activity and improvement in labour market conditions. Banks' lending capacity remains forthcoming due to their healthy capital and liquidity buffers. Meanwhile, progress on key reforms together with sound economic policies would provide impetus for sustained capital inflows and recovery in the domestic financial markets. There are, however, risks to domestic financial conditions arising from tighter monetary policy globally, concerns surrounding geopolitical conflicts and the impact from China's economy reopening. In addition, there has been increased global market volatility amid elevated stress in the global banking sector, albeit posing minimal impact to Malaysian financial assets. Despite these challenges, adjustments in domestic financial markets are expected to remain orderly. Any adverse impact of outflows and spillovers to financial intermediation will be contained by the presence of domestic institutional investors and strength of the domestic banking system. Macroeconomic adjustments due to external shocks, on the other hand, are facilitated by the flexibility of the exchange rate. Moreover, the Bank's liquidity and foreign exchange operations will mitigate excessive market volatility to ensure orderly functioning of the financial markets.

Monetary policy will remain supportive of sustainable economic growth while ensuring an environment of price stability: In 2023, the MPC's monetary policy considerations will continue to focus on managing inflation risks while supporting sustainable growth. The MPC will continue to assess the cumulative impact of past OPR hikes, as well as the evolving conditions and their implications to the domestic inflation and growth outlook. The MPC is also mindful of the potential upside risks to domestic inflation due to persistent inflationary pressures. However, the risks to growth are fairly balanced as better domestic outlook offsets the weak global growth. Given the lingering uncertainties, any potential adjustments to the degree of monetary accommodation will be guided by the impact of evolving developments on balance of risk to inflation and growth.

Economic, Monetary and Financial Developments in 2022

Economic, Monetary and Financial Developments in 2022

2022: FIRMER DOMESTIC RECOVERY AMID A CHALLENGING GLOBAL ENVIRONMENT

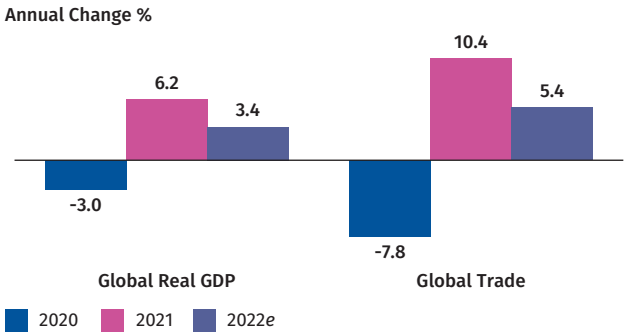
Global economic growth moderated amid a challenging environment

The impact from the COVID-19 pandemic, domestic issues in China, military conflict in Ukraine, elevated inflation and tighter monetary policy were among the key developments that shaped the global economic landscape in 2022. Amid these challenges, growth in the global economy and global trade moderated to 3.4% and 5.4%, respectively (2021: 6.2% and 10.4% respectively) (Chart 1.1).

As the year began, the recovery path of the global economy continued to be heavily influenced by the policy response to the COVID-19 pandemic. With the emergence of the highly transmissible Omicron variant in the last quarter of 2021, many economies faced a resurgence of cases (Chart 1.2). As cases peaked and vaccination levels improved, many countries subsequently lifted their containment measures and reopened international borders. By the first half of 2022, containment measures were fully lifted for most economies. The shift towards endemicity supported global trade activity steadily through the year amid the realisation of pent-up demand. Labour markets and services activity recorded significant recovery, supported by this return to normalcy. The reopening of factories, reduced labour absenteeism from COVID, and improved adaptability of firms also helped ease supply chain conditions that were strained by the pandemic. Tourism activity also recorded a significant recovery in 2022, following the reopening of international borders. Nevertheless, the lift from pent-up demand faded as the year progressed, more so following the withdrawal of policy support and as inflation began rising.

Meanwhile, China faced its own domestic headwinds throughout the year. China maintained its zero-COVID policy for most of the year before lifting restrictions in December. The multiple resurgences of cases during the year caused sporadic lockdowns,

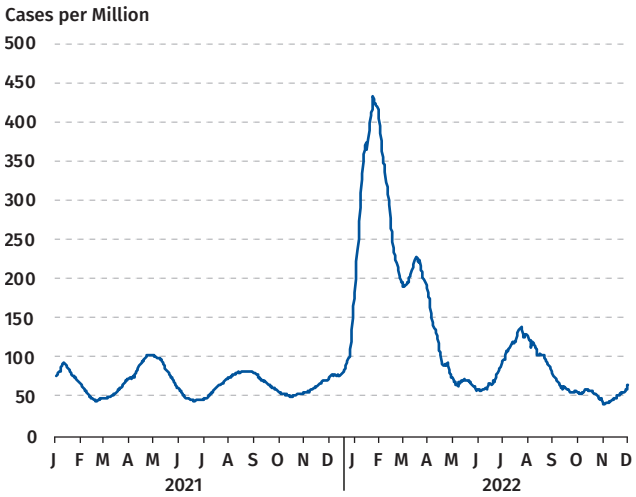
Chart 1.1: Global Real GDP and Trade Growth



e Estimate

Source: International Monetary Fund (IMF) January 2023 World Economic Outlook (WEO) and Bank Negara Malaysia estimates

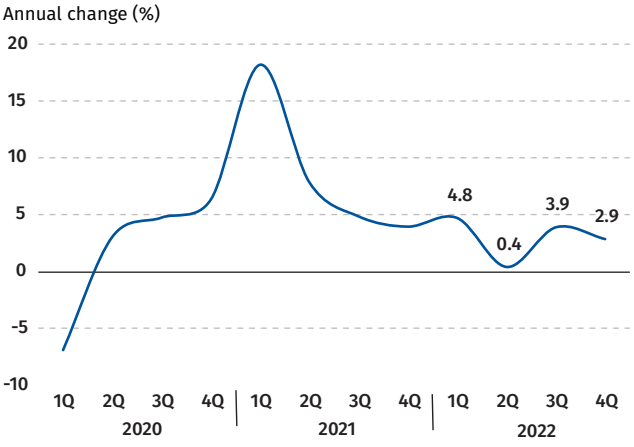
Chart 1.2: Daily New Global COVID-19 Cases per Million Population



Source: Our World in Data

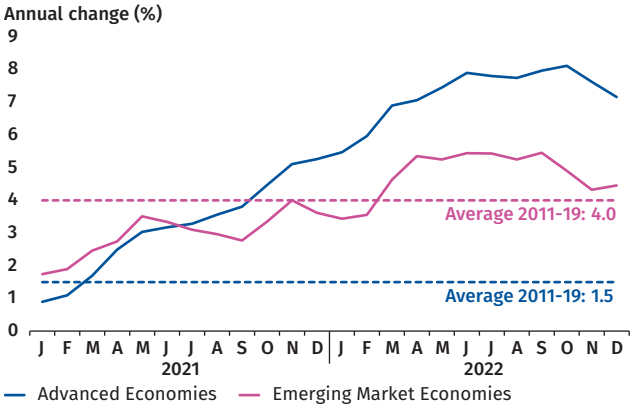
dampening economic growth (Chart 1.3). In April, Shanghai experienced a 2-month citywide lockdown which caused severe disruption to economic activity and depressed consumer confidence in China. In December, the sudden lifting of containment measures caused economic disruptions through risk aversion and labour absenteeism as COVID cases soared from heightened domestic mobility. This steadily faded in the early part of 2023, as normalcy returned. Meanwhile, the property sector continued to weaken, as many major developers faced debt defaults, affecting real estate investments. Home sales also declined given concerns on developers' ability to complete existing and future projects.

Chart 1.3: China's Quarterly Real GDP growth



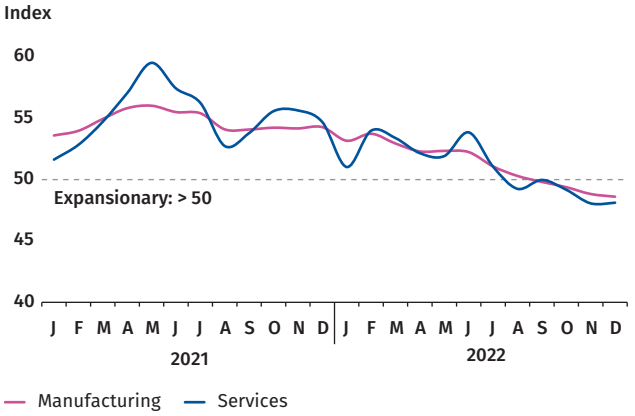
Source: National Bureau of Statistics of China

Chart 1.4: Global Headline Inflation



Source: National Authorities and Bank Negara Malaysia estimates

Chart 1.5: Global Purchasing Managers Index (PMI)



Source: S&P Global

The military conflict in Ukraine led to severe global disruptions. Sanctions were imposed on Russia. Initially, sanctions imposed were financial and technological in nature. However, as the conflict protracted, the sanctions became wider and more severe. The European Union imposed a ban on imports of seaborne oil and coal, as well as a maritime insurance ban. Global supply chain disruptions deteriorated further in March and April as the conflict worsened, affecting products such as commodities and automotive-related E&E goods. This then led to a rapid increase in commodity prices and a rapid rise in global inflation (Chart 1.4). The abrupt shortage in gas supply and spikes in gas prices led to an energy crunch for oil importers particularly Europe, given their higher exposure to Russian energy. This stifled household spending and affected manufacturing activity, especially for energy-intensive products (Chart 1.5). Meanwhile, commodity-exporting countries benefitted from the high commodity prices through higher exports growth.

The environment of stronger demand, tight labour markets and elevated commodity prices caused inflation to soar to historical highs. In some economies, notably the US, strong demand conditions were exacerbated by labour shortages, contributing to strong wage growth that led to increased price pressures. In Europe, the military conflict compounded the effects through high gas and energy prices. Conversely, while inflation in regional economies in Asia increased, it remained relatively lower. This was due to prevalence of price controls and subsidies on energy in some economies,[1] as well as lower inflation on staple food, especially rice. In addition, Asia experienced lower pent-up demand effects due to the relatively slower reopening and more moderate fiscal support compared to advanced economies. Global inflation peaked in the third quarter (Chart 1.4). It dropped off

[1] For example, Malaysia, Thailand, Indonesia, and Vietnam maintain price controls and subsidies for some essential goods and energy.

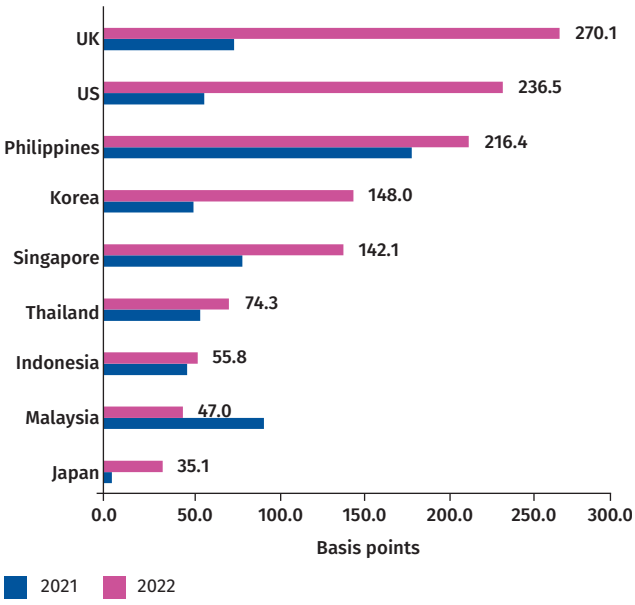
slightly thereafter but remained at an elevated level. Despite easing of supply-side inflationary pressures in the second half of the year, underlying inflation stayed persistent.

Global financial conditions tightened amid central banks' monetary policy actions and global investor risk aversion

In 2022, global financial markets faced unprecedented monetary tightening as central banks raised interest rates significantly and at a rapid pace to manage the risks from higher and more persistent-than-expected inflation. In particular, central banks and investors continually revised their monetary policy outlook as global inflationary pressures turned out less transient than earlier anticipated. This, along with heightened economic and geopolitical uncertainties throughout most of the year, contributed towards a broad tightening in financial conditions and higher risk aversion. These developments affected all asset classes, globally.

Market participants began the year primarily concerned with the shifting narratives surrounding the pace of global monetary policy tightening. Amid higher inflationary pressures, central banks started to withdraw monetary support in the second half of 2021, with the US Federal Reserve (the Fed) indicating a quicker pace of interest rate hikes for 2022.[2] Expectations for faster and larger interest rate hikes became increasingly prominent in the first quarter of 2022, as the military conflict in Ukraine and its impact on global commodity prices generated expectations for a more aggressive monetary policy response. By the end of 2022, the Fed had sharply raised the federal funds rate cumulatively by 425 basis points to its highest level in 15 years. Furthermore, the Fed continued to withdraw support to market liquidity through the tapering of its bond-buying programme. US Treasury yields surged during the year. This was accompanied by large and highly synchronised policy rate increases across other AEs and EMEs, which spurred corresponding adjustments to global bond yields (Chart 1.6).

Chart 1.6: Change in 10-Year Government Bond Yields of Selected Economies

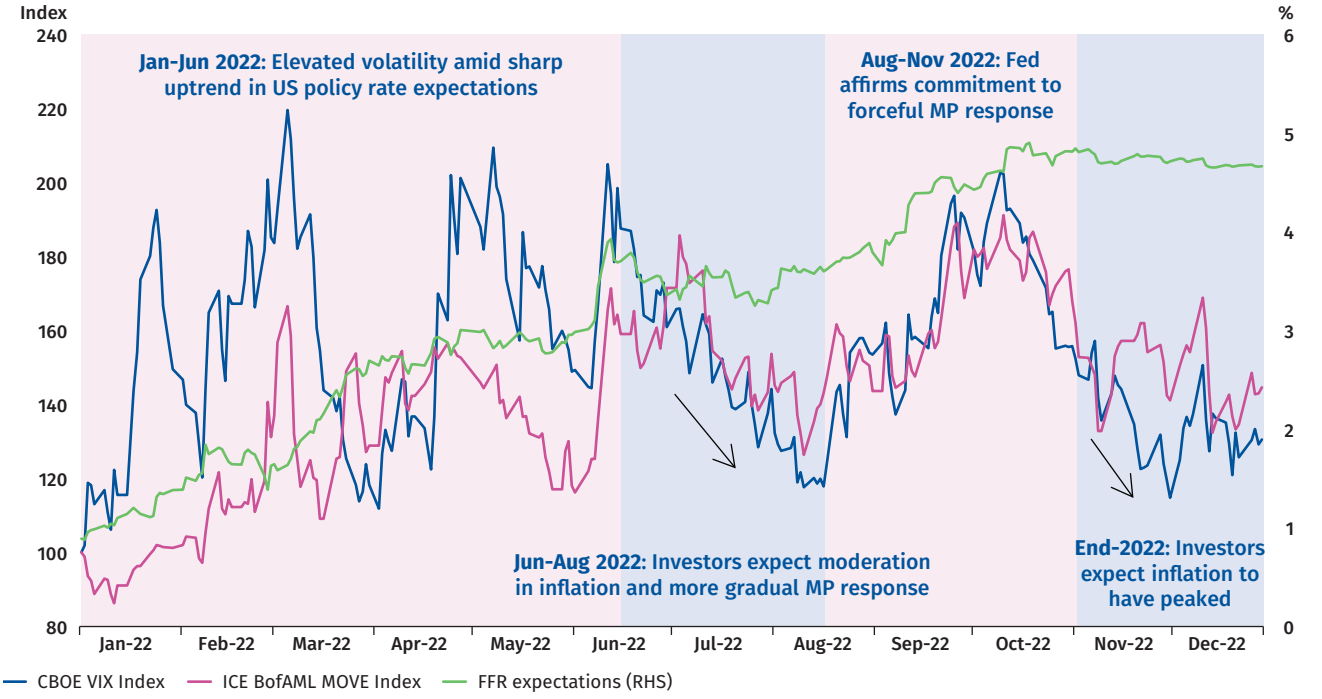


Source: Bank Negara Malaysia and Bloomberg

Throughout the year, sentiments remained highly sensitive to developments surrounding global central banks' actions and their ability to curb the high and persistent inflation. As the authorities affirmed their commitment to bring down inflation, market participants grew increasingly concerned on the potential risks to economic growth and corporate earnings. This led to intermittent surges of financial market volatility as investors' expectations of the Fed's monetary policy action reacted to the latest developments in US inflation and labour market data (Chart 1.7). Global equity markets declined (Chart 1.8). The relatively higher US interest rates and weaker global economic outlook also induced portfolio rebalancing towards US financial assets, such as US Treasury securities. This provided strong demand for the US dollar, which rose to its strongest level in two decades as indicated by the US Dollar Index (DXY) (Chart 1.9), which in turn depressed the currencies of most other AEs and EMEs against the US dollar. Towards the end of the year, however, these sentiments eased following expectations for a slower pace of monetary policy tightening in the US as labour market and inflation conditions showed signs of cooling.

[2] The Federal Open Market Committee (FOMC) announced in its December 2021 meeting that it would double the pace in tapering its net asset purchases amid high inflation and a strong labour market recovery. In addition, the median interest rate projection from the 'dot plot' published in December 2021 also indicated an upward revision to at least three rate hikes in 2022, compared to only one rate hike in the September 2021 'dot plot'.

Chart 1.7: Financial Market Volatility Indicators Against Fed Funds Futures Implied Policy Rate Expectations

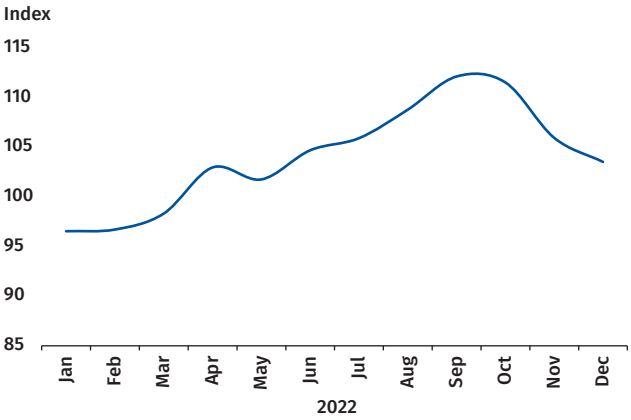


Source: Bloomberg

Chart 1.8: Equity Indices: MSCI Emerging Market Index and S&P 500 Index

Source: Bloomberg

Chart 1.9: US Dollar Index (DXY)



Source: Bloomberg

Aside from the tighter global monetary conditions, the pessimistic growth outlook was compounded by the prospects of a prolonged conflict in Ukraine, the energy crisis in Europe and the economic slowdown in China, with the latter particularly affecting EMEs with close trade linkages with China. Against this backdrop, the outlook on global growth weakened, with the IMF lowering its 2023 global growth forecast to 2.7% from 2.9%[3] and the US Treasury yield curve inverting sharply.[4] In turn, the slower growth prospects further weighed on investor sentiments and generated stronger demand for safe-haven assets in countries such as the US. In January 2023, however, the IMF raised its 2023 global growth forecast back to 2.9% following positive growth surprises and greater-than-expected resilience in many economies.[5]

Going into 2023, global financial conditions began the year on an easing trend but remained susceptible to shifts in investor sentiments, especially on the pace and upper bound of global policy rate hikes. Markets were news driven. For instance, US data releases in

[3] The IMF lowered its global growth forecast for 2023 by 0.2ppt in the October 2022 World Economic Outlook report.

[4] The US Treasury yield curve sharply inverted in the second half of 2022, as reflected in the negative spread between 10-year and 2-year US Treasury yields, which is typically regarded as a leading indicator of US economic recession. In particular, short-term yields increased sharply in line with the higher policy rate while longer-term yields were weighed down by slower growth prospects.

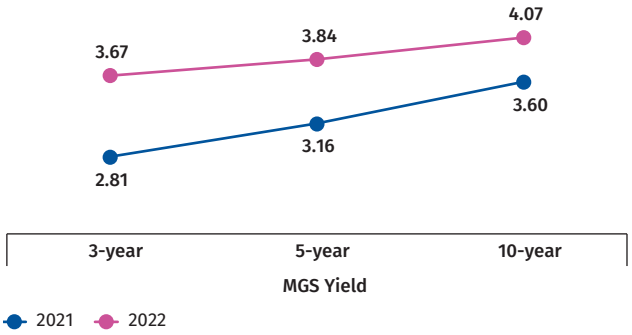
[5] Source: IMF World Economic Outlook Update, January 2023.

February and continued hawkish signals by the Fed generated some pressure on UST yields and renewed strength in the broad US dollar index. This has in turn spurred bouts of market volatility and asset price adjustments globally.

Domestic financial markets were affected by external conditions, but were supported by positive domestic factors

For Malaysia, the domestic financial markets were affected by these external developments. In the bond market, yields trended higher across tenures for most of the year, in line with the upward trend in global bond yields as well as reflecting the impact from four consecutive 25 bps increases in the OPR. However, the increase in yields was relatively smaller compared to those in other regional bond markets. In line with global bond yield movements, domestic bond yields partly retraced from the fourth quarter of 2022 onwards[6] amid expectations for a slower pace of global monetary policy tightening. Overall, the domestic bond market experienced non-resident outflows amounting to RM37.1 billion amid the narrowing interest rate differentials between Malaysia and AEs. The 3-year, 5-year and 10-year MGS yield increased by 86, 68 and 47 bps, respectively, in 2022 (Chart 1.10).

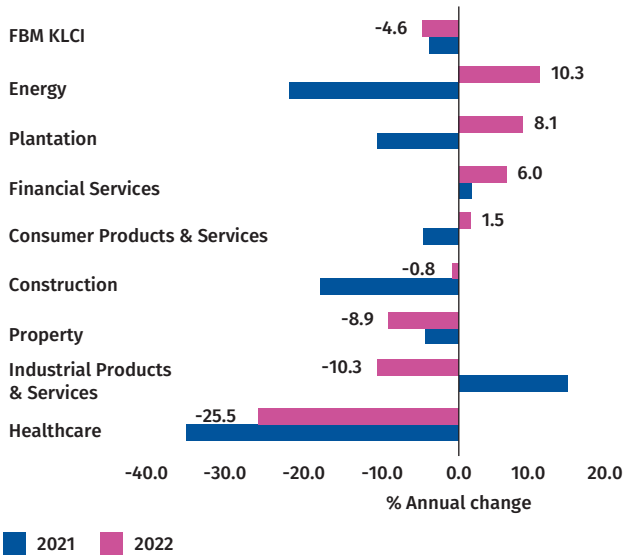
Chart 1.10: MGS Yield Curve (%)



Source: Bank Negara Malaysia

In contrast to the domestic bond market, the domestic equity market experienced non-resident portfolio inflows during the year. While domestic equities were also weighed down by external factors, they were partly supported by positive domestic factors, particularly the strong domestic growth momentum during the year. Of note, the FBM KLCI began the year supported by positive corporate earnings prospects following higher commodity prices, continued recovery in domestic economic activity and the reopening of international borders. Subsequently, domestic equities were largely affected by the shifts in global investor sentiments, with the FBM KLCI trending lower in the second and third quarters amid the global risk-off sentiment and higher interest rates. Towards year end, the improvement in global risk appetite provided some support to equity markets, offsetting part of the earlier declines. Overall, the FBM KLCI declined by 4.6% (2021: -3.7%) to close at 1,495.5 points. Notably, there was also some sectoral differentiation across the equity market. In particular, stocks in the plantation and energy sectors recorded strong positive performance driven by high global commodity prices (Chart 1.11).

Chart 1.11: Performance of FBM KLCI and Sectoral Stock Indices



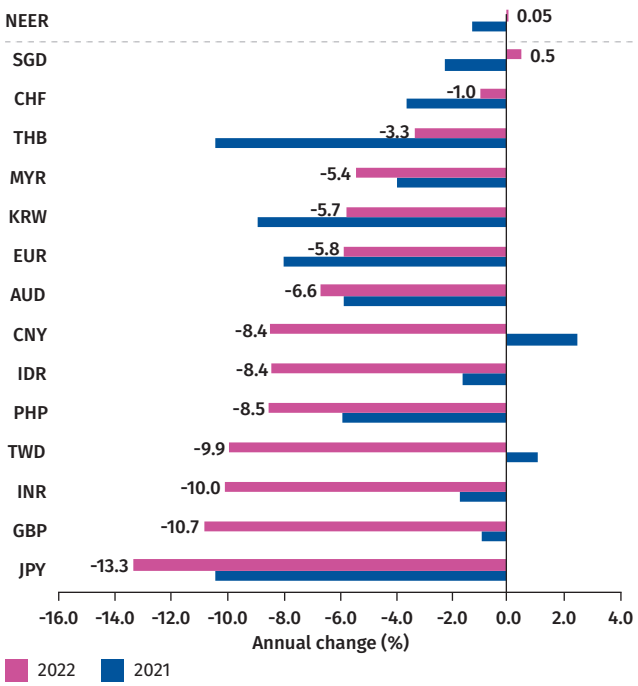
Source : Bloomberg

In the foreign exchange (FX) market, movements in the ringgit exchange rate reflected mostly the strength of the US dollar. The ringgit depreciated to its weakest level for the year of RM4.7465 against the US dollar in November 2022, before partly retracing towards the end of the year. For the year as a whole, the ringgit depreciated by 5.4% to end the year at RM4.4130 against the US dollar (Chart 1.12). This was in line with the performance of most regional emerging market currencies, which depreciated between 3.3% and 8.5% against the US dollar. The weakening of the Chinese

[6] The downward trend in domestic bond yields continued into 2023, with MGS yields broadly declining by between 14 - 33 bps year to date (as at 20 March 2023).

renminbi also exerted some pressure on the ringgit given the close trade linkages between Malaysia and China. Notwithstanding these factors, pressures on the ringgit from broad US dollar strength and weaker Chinese renminbi were partly mitigated by positive impetus from higher commodity prices and stronger domestic economic recovery. While the ringgit traded weaker against the US dollar, its performance against other major and regional currencies was more stable. Among others, the ringgit appreciated against the Euro (+0.5%), Japanese yen (+9.1%) and British pound (+6.0%). As a result, the Nominal Effective Exchange Rate (NEER) posted a marginal appreciation of 0.05% for 2022. More recently, the ringgit depreciated by 1.5% (YTD as at 20 March) against the US dollar, driven by the shifting expectations surrounding Fed policy rate increases.

Chart 1.12: Performance of Major and Regional Currencies against the US Dollar and Ringgit Nominal Effective Exchange Rate (NEER)



Note: (+) indicates an appreciation of currencies against the US dollar. NEER shows the value of the ringgit against a trade-weighted basket of Malaysia's major trading partners' currencies.

Source: Bank Negara Malaysia

While overall domestic financial conditions tightened and markets experienced periods of higher volatility, spillovers to financial intermediation were contained. Financing remained supportive of the domestic economy, with sustained fund-raising activity in the capital market and continued flow of bank credit. This was partly attributed to the dominant role of domestic and ringgit-based financing in Malaysia, limiting the FX risks from a stronger US dollar. The strength and resilience of the domestic banking system, which intermediates the bulk of financing in the domestic economy,[7] continued to underpin an effective intermediation of funds. Banks' cost of funds were largely unaffected by the higher bond yields given that they remain well anchored to the central bank policy rate,[8] albeit with money market rates partly affected by expectations of future movements in the OPR. Active risk management[9] by banks further mitigated revaluation losses from their bond holdings. Trading activity in the domestic FX market remained healthy,[10] while the Bank's liquidity and foreign exchange operations provided further support in mitigating excessive market volatility and preserving orderly market conditions. Importantly, the flexibility of the ringgit to facilitate adjustments in the external sector has continued to play an important role in cushioning the impact of adverse global shocks to the domestic economy.[11]

In 2022, the domestic economy grew strongly and exceeded its pre-pandemic level as economic activity continued to normalise

Despite the challenges faced throughout the year ranging from a volatile external environment, surges in Omicron cases at the start of the year, labour shortages, supply chain disruptions, and rising inflation, the Malaysian economy expanded strongly by 8.7% in 2022 (2021: 3.1%) (Chart 1.13). Domestically, the full upliftment of containment measures and the revival of tourism activity amid continued policy support had led to a broad-based improvement in growth. Externally, the impact of lower global growth and trade activity arising from the geopolitical conflicts, and tightening monetary policy was contained. This was evidenced by the resilient growth in exports, led by the electrical and electronic (E&E) sector, amid the continued

[7] The share of credit to the private non-financial sector intermediated through bank loans and corporate bonds stood at 79% and 21%, respectively (as at end-2022).

[8] Primarily, this reflects banks' funding being predominantly dependent on ringgit deposits, which account for 70.9% of total liabilities (as at end-2022).

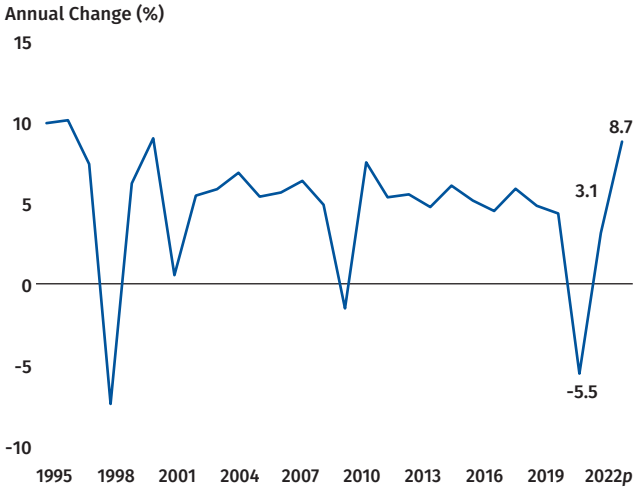
[9] For example, banks' hedging strategies and their own internal limits on the extent of exposure to bond holdings on their balance sheet.

[10] Average daily FX volatility (USDMYR 1-month implied volatility) in the domestic FX market remained low at 4.5% (5-year average (2017-2021): 4.6%), while the average daily trading volume remained healthy at USD13.7 billion (2021 average: USD11.2 billion).

[11] For more information, please refer to the BNM Annual Report 2022 Box Article on "The Exchange Rate and the Malaysian Economy".

upcycle in global technology. Furthermore, as a net commodity exporter, Malaysia benefited from increased demand and higher prices for commodity exports. This, in turn, brought some positive income effects on households and firms in certain segments such as the oil & gas and palm oil industries.

Chart 1.13: Malaysia's GDP growth (1995-2022)



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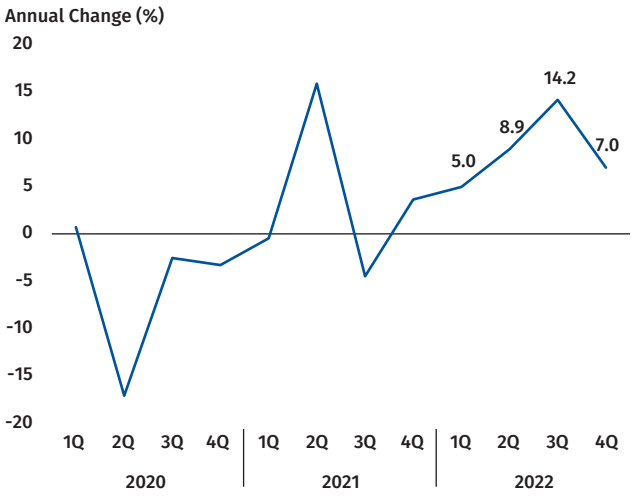
Source: Department of Statistics, Malaysia

In terms of trajectory, growth peaked in the third quarter of 2022 (Chart 1.14) reflecting the firm expansion in domestic demand, amid the full reopening of international borders on 1 April 2022, and policy support from the government. However, the growth momentum slowed towards the end of the year due mainly to the softening global demand and dissipating base effects.

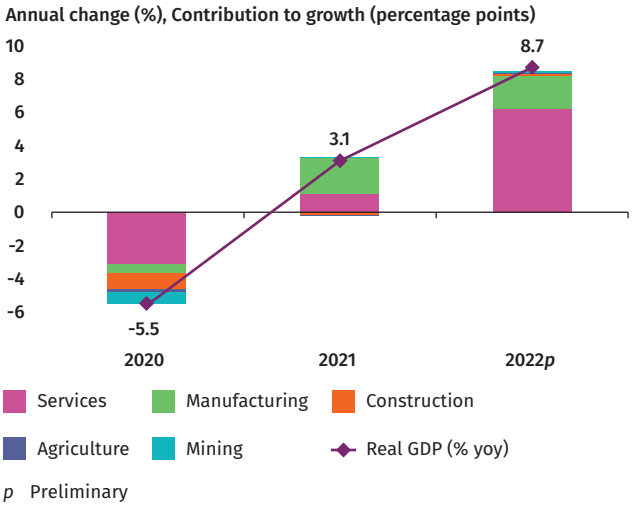
Chart 1.14: Malaysia's Quarterly Real GDP Growth



Source: Department of Statistics, Malaysia

The pace of recovery however, remained uneven across sectors (Chart 1.15). Export-oriented industries continued to be resilient, while pandemic-induced trends like remote working spurred growth in selected domestic-oriented subsectors. In contrast, activities in sectors such as leisure-related services, mining and quarrying, agriculture and construction sectors which account for about 20% of the economy, remained below pre-pandemic levels. Activities in these sectors were constrained by the more gradual recovery in tourist arrivals, facility closures for maintenance purposes, as well as labour shortages and higher input prices, respectively.

Chart 1.15: Real GDP by Economic Sectors



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Source: Department of Statistics, Malaysia

Overall, the recovery in 2022 was largely driven by domestic demand, mainly from firm private sector expenditure (Chart 1.16). Labour market conditions improved further, with strong labour demand throughout the year leading to increased employment, higher labour force participation, and declining unemployment rate. Wage growth also improved across key sectors, supported by the pickup in economic activity and the RM300 increase in minimum wage to RM1,500. Household spending was also supported by the realisation of pent-up demand, as well as continued policy support. In particular, Government policies such as cash transfers, subsidies on select consumer items, and seasonal price controls provided some shelter against sharp increase in prices to households and supported their spending amid the rising cost of living. Gross fixed capital formation rebounded to grow at 6.8% (2021: -0.9%) supported by resumption of construction activity, continued automation and digitalisation efforts, and public infrastructure projects.

Table 1.1

Malaysia - Key Economic Indicators

	2020	2021	2022*p*	2023*f*
Population (million persons)	32.4	32.6	32.7	33.1
Employment (million persons)	15.1	15.3	15.8	16.1
Unemployment (as % of labour force)	4.5	4.6	3.9	3.5
Per Capita Income (RM)	42,823	46,163	52,819	55,186
(USD)	10,187	11,142	12,001	12,678[4]
NATIONAL PRODUCT (% change)				
Real GDP at 2015 prices	-5.5	3.1	8.7	4.0-5.0
(RM billion)	1,345.1	1,386.7	1,507.3	1,573.0
Agriculture, forestry and fishery	-2.4	-0.2	0.1	0.7
Mining and quarrying	-9.7	0.3	3.4	2.0
Manufacturing	-2.7	9.5	8.1	4.0
Construction	-19.3	-5.2	5.0	6.3
Services	-5.4	1.9	10.9	5.0
Nominal GNI	-5.7	8.2	14.7	5.8
(RM billion)	1,389.5	1,503.8	1,724.6	1,824.9
Real GNI	-5.0	2.7	7.7	4.5
(RM billion)	1,331.4	1,367.7	1,472.9	1,539.3
Real aggregate domestic demand[1]	-5.5	1.7	9.2	5.4
Private expenditure	-5.9	2.0	10.4	6.1
Consumption	-4.2	1.9	11.3	6.1
Investment	-11.9	2.6	7.2	5.8
Public expenditure	-4.0	0.6	4.3	2.7
Consumption	5.0	5.3	3.9	1.3
Investment	-21.2	-11.3	5.3	7.0
Gross national savings (as % of GNI)	24.4	26.8	27.5	25.6
BALANCE OF PAYMENTS (RM billion)				
Goods balance	137.5	170.6	169.3	173.1
Exports	780.5	977.1	1,181.4	1,210.6
Imports	643.0	806.5	1,012.1	1,037.5
Services balance	-47.2	-60.7	-45.4	-33.6
Primary income, net	-28.5	-41.6	-63.6	-64.0
Secondary income, net	-2.7	-9.6	-13.1	-18.3
Current account balance	59.1	58.7	47.2	57.2
(as % of GDP)	4.2	3.8	2.6	2.5 - 3.5
Bank Negara Malaysia international reserves, net[2]	432.3	486.8	503.3	-
(in months of imports of goods and services)[3]	6.6	6.1	5.0	-
(in months of retained imports)	8.4	7.7	6.3	-
PRICES (% change)				
Consumer Price Index (2010=100)	-1.2	2.5	3.3	2.8 - 3.8
Producer Price Index (2010=100)	-2.7	9.5	7.8	-

[1] Exclude stocks.
[2] All assets and liabilities in foreign currencies have been revalued into ringgit at rates of exchange ruling on the balance sheet date and the gain/loss has been reflected accordingly in the Bank Negara Malaysia's audited accounts.
[3] For further details, please refer to "Expansion of the Measure on Reserves Coverage of Imports – from Retained Imports to Imports of Goods and Services" article in BNM's Quarterly Bulletin for the Fourth Quarter of 2021.
[4] Based on average USD exchange rate for the period of January-February 2023.

p Preliminary
f Forecast

Note: Figures may not necessarily add up due to rounding.

Source: Department of Statistics, Malaysia and Bank Negara Malaysia

Table 1.2

Malaysia - Financial and Monetary Indicators

FEDERAL GOVERNMENT FINANCE (RM billion)	2020	2021	2022
Revenue	225.1	233.8	294.4
Operating expenditure	224.6	231.5	292.7
Net development expenditure	50.1	63.3	70.2
COVID-19 Fund	38.0	37.7	31.0
Overall balance	-87.6	-98.7	-99.5
Overall balance (% of GDP)	-6.2	-6.4	-5.6
Public sector net development expenditure	119.7	125.2	164.1
Public sector overall balance (% of GDP)	-7.3	-4.3	-4.4
EXTERNAL DEBT			
Total debt (RM billion)	958.5	1,082.1	1,144.0
Medium- and long-term debt	591.2	676.3	662.3
Short-term debt	367.3	405.7	481.7
Debt service ratio[1] (% of exports of goods and services)			
Total debt	13.8	11.0	11.9
Medium- and long-term debt	13.5	10.8	11.5

	Change in 2020		Change in 2021		Change in 2022	
MONEY AND BANKING	**RM billion**	**%**	**RM billion**	**%**	**RM billion**	**%**
Money supply M1	71.1	15.7	54.6	10.4	24.7	4.3
M3	79.4	4.0	130.8	6.4	93.9	4.3
Banking system deposits	88.9	4.4	132.4	6.3	132.0	5.9
Banking system loans[2]	59.6	3.4	80.6	4.4	108.5	5.7
Loan to fund ratio (%, end of year)[3,4]	82.5		81.2		82.4	
Loan to fund and equity ratio (%, end of year)[3,4,5]	71.9		70.9		72.0	

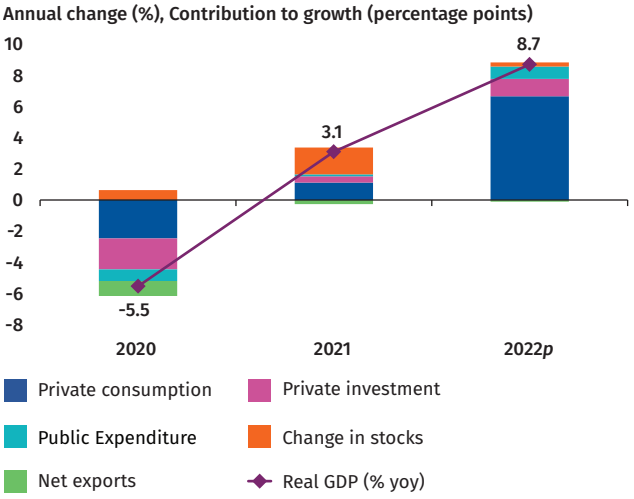
INTEREST RATES (%, AS AT END-YEAR)	2020	2021	2022
Overnight Policy Rate (OPR)	1.75	1.75	2.75
Interbank rates (1-month)	1.82	1.83	2.95
Commercial banks			
Fixed deposit 3-month	1.58	1.57	2.55
12-month	1.75	1.71	2.65
Savings deposit	0.48	0.56	0.85
Weighted average base rate (BR)	2.43	2.43	3.42
Base lending rate (BLR)	5.49	5.49	6.42
Malaysian Treasury Bill (3-month)[6]	1.72	1.79	2.93
Malaysian Government Securities (1-year)[6]	1.73	1.85	3.25
Malaysian Government Securities (5-year)[6]	2.12	3.15	3.86
EXCHANGE RATES (AS AT END-YEAR)	**2020**	**2021**	**2022**
Movement of Ringgit (%)			
Change against SDR	-1.8	-1.4	-0.4
Change against USD	2.0	-3.9	-5.4

[1] Excludes prepayment.
[2] Includes loans sold to Cagamas with recourse. Data from 2021 onwards are based on the new set of loan data reflecting the latest requirements and cannot be directly compared to previous years' data.
[3] Loans exclude loans sold to Cagamas and loans extended to banking institutions. Beginning July 2015, loans exclude financing funded by Islamic Investment accounts.
[4] Funds comprise deposits (excluding deposits accepted from banking institutions and Bank Negara Malaysia) and all debt instruments (including subordinated debt, debt certificates/sukuk issued, commercial paper and structured notes).
[5] Equities comprise ordinary and preferred shares, share premium and retained earnings.
[6] Refers to data from Fully Automated System for Issuing/Tendering (FAST), Bank Negara Malaysia.

Source: Ministry of Finance, Malaysia and Bank Negara Malaysia

On the external front, Malaysia's gross export growth remained strong across products and markets (Chart 1.17) (2022: 25.0%, 2021: 26.1%). Growth was driven by continued demand for E&E products and fulfilment of backlog orders by firms, and elevated commodity prices. The weaker ringgit also helped in terms of higher valuation of export turnovers. The current account of the balance of payments continued to record a surplus, supported by strong goods exports, and improving travel receipts. The surplus, however, narrowed from 2021 due to the strong domestic demand fuelling imports, amid the full reopening of the economy. In addition, firms built up their inventory buffers to mitigate against supply chain disruptions arising from the lockdowns in China and the military conflict in Ukraine.

Chart 1.16: Real GDP by Expenditure



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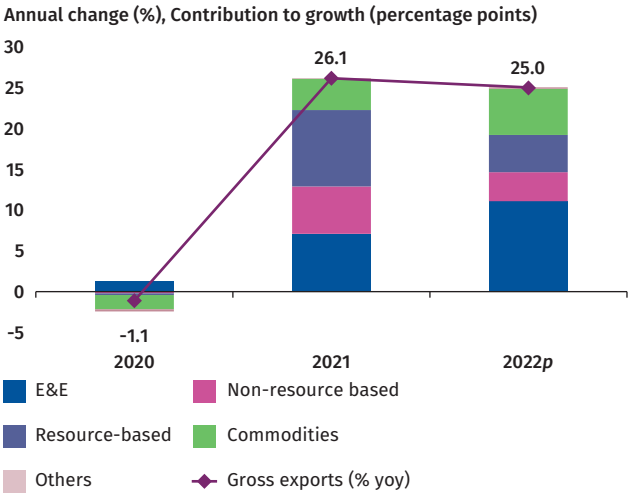
Source: Department of Statistics, Malaysia

Chart 1.17: Gross Exports



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Source: Department of Statistics, Malaysia

Domestic demand anchored growth in 2022

In 2022, the Malaysian economy expanded by 8.7% (2021: 3.1%). This was mainly driven by higher domestic demand following the full reopening of the economy.[12] Household spending was particularly strong, reflecting pent-up demand, improved labour market conditions, and continued policy support. Meanwhile, investment activity increased with the acquisition of new machinery and equipment (M&E) and resumption in structures investment. Public sector spending remained supported by government expenditures and higher capital spending of public corporations. On the external front, net exports registered a contraction. Although exports registered a strong expansion, import growth was higher on account of strong household spending and higher investment activity as well as firms building up inventory buffers to mitigate supply chain disruptions.

Table 1

Real GDP by Expenditure (2015=100)

	2022*p*	2021	2022*p*	2021	2022*p*
	% of GDP	Annual change (%)		Contribution to growth (percentage point)	
Domestic Demand[1]	**93.1**	**1.7**	**9.2**	**1.6**	**8.5**
Private sector expenditure	75.6	2.0	10.4	1.5	7.8
Consumption	60.2	1.9	11.3	1.1	6.6
Investment	15.4	2.6	7.2	0.4	1.1
Public sector expenditure	17.5	0.6	4.3	0.1	0.8
Consumption	13.2	5.3	3.9	0.7	0.5
Investment	4.4	-11.3	5.3	-0.6	0.2
Gross Fixed Capital Formation	19.7	-0.9	6.8	-0.2	1.4
Change in stocks	**1.5**			**1.7**	**0.3**
Net Exports of Goods and Services	**5.4**	**-4.1**	**-1.8**	**-0.3**	**-0.1**
Exports	71.7	15.4	12.8	9.5	8.9
Imports	66.3	17.7	14.2	9.8	9.0
Real Gross Domestic Product (GDP)	**100.0**	**3.1**	**8.7**	**3.1**	**8.7**

[1] Excluding stocks
p Preliminary

Note: Figures may not necessarily add up due to rounding.

Source: Department of Statistics, Malaysia

Private consumption registered a strong growth of 11.3% in 2022 (2021: 1.9%). Growth was underpinned by better employment and income conditions. The transition to the endemic phase in the second quarter of 2022 facilitated the materialisation of pent-up demand. Households' necessities spending grew strongly while discretionary spending, particularly in high-touch segments,[13] also improved. Policy measures to assist lower-income households remained available during the year. These include cash transfers, Employees Provident Fund (EPF)-related measures and the implementation of a higher minimum wage.

Gross fixed capital formation (GFCF) growth rebounded to 6.8% in 2022 (2021: - 0.9%). Growth was driven by capital spending by both the private and public sectors. By type of asset, growth in M&E investments remained strong (2022: 10.2%, 2021: 13.2%), supported by capacity expansions across key economic sectors. Meanwhile, structures investments recovered from three consecutive years of contraction (2022: 4.7%, 2021: -10.1%) as projects picked up pace following the full reopening of the economy.

[12] Malaysia transitioned to the endemic phase on 1 April 2022. Almost all economic and social sectors were allowed to operate, controls over social activities during the Movement Control Order (MCO) were uplifted, and international borders were reopened.
[13] Include restaurants and hotels, as well as recreational services.

Private investment recorded a stronger growth of 7.2% (2021: 2.6%), with higher capital spending particularly in the *manufacturing* and *services* sectors. Firms increased the adoption of automation and digitalisation, which contributed to the high investment in M&E. Notably, investment intentions remained strong with approved investments totalling RM265 billion in key industries such as information and communications technology (ICT) and electrical and electronics (E&E). Furthermore, the recovery in structures investment was evident from the resumption in construction activity, especially in the non-residential segment.

Public investment growth registered a recovery of 5.3% (2021: -11.3%). This was driven mainly by higher capital expenditure of public corporations, mainly in the oil and gas (O&G) and telecommunications sectors. Continued progress of existing large infrastructure projects such as the East Coast Rail Link (ECRL), Light Rail Transit Line 3 (LRT3) and Pan Borneo Highway also supported growth.

Public consumption expanded by 3.9% (2021: 5.3%). Growth remained supported by both supplies and services and emolument expenditures. In particular, spending on supplies and services were mainly for small maintenance and repair works.

Growth supported by expansion in *services* and *manufacturing* sectors

All economic sectors recorded positive growth during the year. Some selected activities, however, remained below pre-pandemic levels. Notably, the extent of recovery in the food and beverage and accommodation services was constrained by the more gradual rebound in tourism activity. The operating capacity in the *mining* sector was dampened by facility closures for maintenance purposes, while elevated input prices and prolonged labour shortages continued to weigh on construction and subsequently real estate services activities.

Table 2

Real GDP by Kind of Economic Activity (2015 = 100)

	2022*p*	2021	2022*p*	2021	2022*p*
	% of GDP	Annual change (%)		Contribution to growth (ppt)[1]	
Services	58.2	1.9	10.9	1.1	6.2
Manufacturing	24.2	9.5	8.1	2.2	2.0
Agriculture	6.6	-0.2	0.1	0.0	0.0
Mining and quarrying	6.4	0.3	3.4	0.0	0.2
Construction	3.5	-5.2	5.0	-0.2	0.2
Real Gross Domestic Product (GDP)	**100.0**[1]	**3.1**	**8.7**	**3.1**	**8.7**

[1] Figures may not necessarily add up due to rounding and exclusion of import duties component
p Preliminary

Source: Department of Statistics, Malaysia

The *services* sector registered a strong growth of 10.9% (2021: 1.9%). Activities within high-touch services (e.g. retail, dining out and recreational activities), as well as the transport and storage subsector continued to recover during the year. This was supported by the full upliftment of containment measures and gradual recovery of tourism activities amid the reopening of international borders on 1 April 2022. Furthermore, the use of delivery services and e-commerce remained strong, reflected by higher online retail trade activity, which grew by 19.8% in 2022 (2021: 18.4%). Real estate and business services also improved throughout the year, in line with the pickup in manufacturing and construction activities.

The *manufacturing* sector grew by 8.1% (2021: 9.5%), lifted by the strength of global and domestic demand. The full upliftment of containment measures lent support to production activity. Despite the slowdown in global semiconductor sales, growth in Malaysia's E&E cluster remained supported by backlog in orders and demand related to technological megatrends such as electric vehicles, artificial intelligence and Internet of Things.

Production in the primary sector was mainly supported by the ramp-up in output at a major oil refinery in Johor. Meanwhile, the consumer-related cluster benefitted from improvement in household spending and higher demand in the transport segment amid the SST exemption on passenger cars.

The *agriculture* sector expanded by 0.1% (2021: -0.2%) due to strong performance in oil palm production. During the year, oil palm output recovered as harvesting activity improved following the re-entry of migrant workers to the plantation sector in the fourth quarter of 2022. However, the growth was partially offset by the weaker performance in other agriculture subsectors amid rising input costs particularly for animal feed and fertiliser.

The *mining* sector expanded further by 3.4% (2021: 0.3%), amid higher oil and gas output. Growth was lifted by the operationalisation of the new Pegaga gas field in Block SK320 located in offshore East Malaysia since March 2022 and ramp-up in PETRONAS Floating Liquefied Natural Gas-2 (PFLNG2) production. The improvement in other mining subsector also contributed to growth. These factors had more than offset the impact of facility closures for maintenance purposes such as the Gumusut-Kakap field.

The *construction* sector recovered to expand by 5.0% (2021: -5.2%), following a broad-based pickup in activities across all subsectors. The non-residential subsector rebounded strongly from the previous year, on account of faster progress of large commercial real estate and industrial projects. Similarly, the special trade subsector recorded higher growth supported by early- and end-stage works such as site preparation and installation, as well as continued implementation of small-scale projects. The pace of recovery in the civil engineering and residential subsectors were marginally slower, partly hampered by prolonged labour shortages and elevated building material costs.

Broader Recovery in the Labour Market in 2022

Overall, labour market conditions improved steadily in 2022, supported by firmer economic growth following the easing of COVID-19 containment measures, normalisation of economic activity and full reopening of international borders. Employment improved, while unemployment and underemployment rates[14,15] declined to 3.9% and 1.3% of the labour force, respectively (2021: 4.6% and 2.1%). Robust employment growth was matched by the labour force expansion in 2022, with the labour force participation rate recovering beyond its pre-pandemic rate (2022: 69.3%; 2019: 68.9%). Nonetheless, the risk of scarring among vulnerable segments e.g., women and youth, continue to remain a concern.

Table 3

Selected Labour Market Indicators

	2017	2018	2019	2020	2021	2022*p*
Employment ('000 persons)	14,459	14,810	15,126	15,096	15,290	15,762
Annual change (%)	2.0	2.4	2.1	-0.2	1.3	3.1
Unemployment rate (% of labour force)	3.4	3.4	3.3	4.5	4.6	3.9
Labour force participation rate (% of working age population)	67.8	68.4	68.9	68.4	68.5	69.3
Retrenchments (persons)	35,097	23,168	29,605	104,432	63,321	32,683
Non-Malaysian citizens employment ('000 persons)	2,274	2,239	2,254	2,214	2,149	2,136

p Preliminary

Note: The employment, unemployment and labour force participation rates are estimated based on quarterly averages from the Labour Force Survey.

Source: Department of Statistics Malaysia, Ministry of Human Resources and Bank Negara Malaysia estimates

[14] Refers to time-related underemployment; individuals employed who are working less than 30 hours during the reference week because of the nature of their work or due to insufficient work and are able and willing to accept additional hours of work.
[15] The 30-hour threshold is conventionally used to define time-related underemployment by the International Labour Organisation and most OECD countries.

The robust expansion in employment (2022: 3.1%; 2021: 1.3%) was driven mainly by the *services* sector, in particular, the wholesale and retail trade, and transport and storage sub-sectors, following the resumption of consumer and tourism-related activity and continued support from strong exports, respectively. In the *manufacturing* sector, export-oriented industries continued to drive employment growth, particularly the E&E sub-sector, which benefitted from the strength in demand for semiconductors globally. From a skills perspective, employment growth was mainly driven by low- and semi-skilled workers (7.7% and 4.1%, respectively) such as retailers, tour operators, and construction workers. High employment growth in these segments also reflects the gradual re-entry of foreign workers as international borders were reopened and restrictions on recruiting migrant workers were eased. Demand for workers remained strong as jobless claims reported from the Social Security Organisation's (SOCSO) Employment Insurance System (EIS)[16] fell (2022: 34,388; 2021: 61,360), while vacancies continued to rise towards pre-pandemic levels (2022: 192,400 positions; 2019: 198,000).

Wages in the private sector also recorded a marked improvement, with aggregate nominal wages recording an increase of 6.5% in 2022 (2021: 0.4%). Growth of wages in the *services* sector rebounded (7.2%; 2021: -1.0%), attributed mainly to recovery in subsectors such as wholesale and retail trade, transportation and storage, information and communication, and professional services, which benefitted significantly from the strong rebound in consumer spending and revival in domestic tourism activity. In the *manufacturing* sector, wage growth improved to 5.2% (2021: 3.0%), mainly led by export-oriented sectors, such as the E&E and petrochemical products sub-sectors. Meanwhile, the public sector recorded slightly more moderate wage growth at 4.7% (2021: 5.4%). The high aggregate wage growth of 6.5% in 2022 compared to the historical average (2015-2019: 5.3%) was largely driven by the pickup in economic activity since the second quarter of 2022 and further supported by the upward revision in the minimum wage.[17] Nevertheless, the increase in wages was outpaced by inflation, therefore depressing real wages. Wage growth was also low in comparison to the increase in productivity, as firms adopted various efficiency-enhancing measures to cope with labour shortages throughout the year. Coupled with prevailing slack in the labour market amid the expansion in labour supply, wage pressures were assessed to be relatively contained, despite reports of labour shortages in some selected sectors throughout the year.[18]

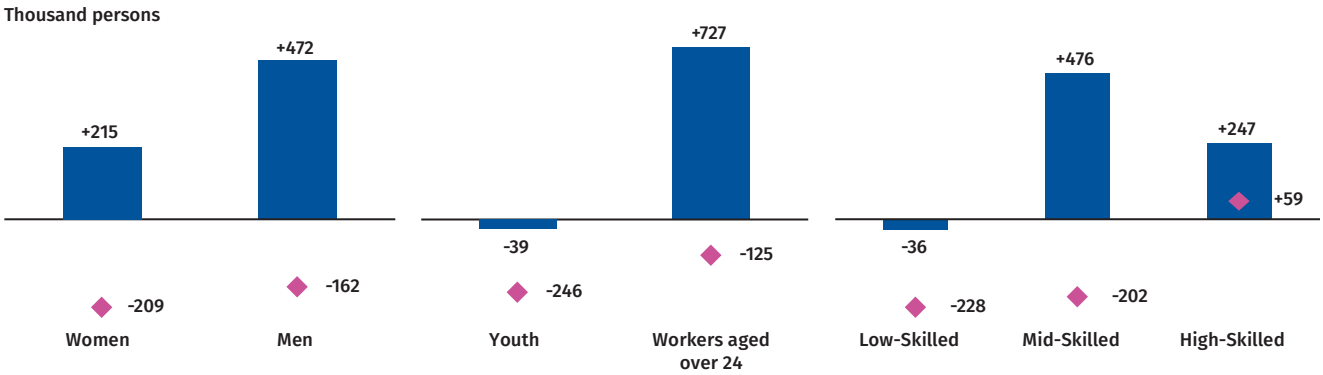
Labour productivity growth, in terms of value-added per hour worked, turned positive at 1.8% in 2022 (2021: -2.6%), following higher growth of GDP relative to the number of hours worked in the economy. This may have been contributed in part by efficiency gains through greater automation and digitalisation efforts as businesses adjust to mitigate constraints on labour shortages.[19] The improvement in productivity was underpinned by the *services* sector, which grew by 3.3% (2021: -4.2%), attributed to activities such as food and beverages and accommodation, transportation and storage and real estate and business services. In terms of value-added per worker, productivity improvements were even larger (5.4%; 2021: 1.8%), indicating workers were more efficient during the year.

The resumption of economic activity in 2022 led to a broader recovery in the labour market during the year compared to 2021. In particular, women's employment surpassed pre-pandemic levels during the year (Chart 1). However, the pace of recovery amongst the vulnerable segments continued to be relatively slow. Employment gains among women and youth had remained slower than men and prime-age workers, respectively. Additionally, the return of women to the labour force had been sluggish post-pandemic, with the female labour force participation rate remaining below pre-pandemic levels (55.9% in 4Q 2022; 4Q 2019: 56.1%). While low-skilled employment grew at a faster pace during the year, the level of low-skilled workers remained below pre-pandemic, particularly in the *services* sector, where employment in tourism-related activities have yet to fully recover. Furthermore, while time-related underemployment rates have normalised to pre-crisis levels,

[16] For more information, please refer to the Weekly EIS Reports on eiscentre.perkeso.gov.my.
[17] The national minimum wage level was increased from RM1,100 (RM1,200 for city council workers and municipal council areas) to RM1,500 effective 1st May 2022. A temporary exemption was accorded to employers with less than five employees until 30 June 2023.
[18] For further discussion on labour market slack and implications on wages, please refer to the box article on Analytical Approaches to Assessing Labour Market Conditions and Implications to Monetary Policy in Chapter 2.
[19] For further discussion on labour shortages please refer to the box article on Analytical Approaches to Assessing Labour Market Conditions and Implications to Monetary Policy in Chapter 2.

skill-related underemployment remained elevated (11.2% of labour force; 2019: 9.5%). These lingering effects of the pandemic continue to point to incidences of scarring, arising from discouragement, habituation, and skill atrophy, which may lead to lower income prospects over the long term.[20]

Chart 1: Change in Employment by Demographic Categories



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

[20] For further discussion on the uneven impact of the pandemic and factors underlying labour market scarring, please refer to Getting the Great Reset Right: Structural Labour Market Issues in the Post-COVID-19 World in Bank Negara Malaysia's Economic and Monetary Review 2020.

Healthy external sector performance in 2022

For balance of payments, Malaysia continued to register a current account surplus despite the challenging global economic landscape in 2022. The surplus amounted to RM47.2 billion or 2.6% of GDP (2021: RM58.7 billion or 3.8% of GDP), supported by the goods surplus.

Table 4

Balance of Payments[1]

Item (Net)	2020	2021	2022*p*
	RM billion		
Current account	**59.1**	**58.7**	**47.2**
Goods[2]	137.5	170.6	169.3
Services	-47.2	-60.7	-45.4
Primary income	-28.5	-41.6	-63.6
Secondary income	-2.7	-9.6	-13.1
Capital account	**-0.4**	**-0.6**	**-0.5**
Financial account	**-77.4**	**13.0**	**14.8**
Direct investment	3.1	28.5	16.0
Portfolio investment	-49.6	18.8	-51.3
Financial derivatives	0.4	-2.3	-2.2
Other investment	-31.3	-32.0	52.3
Net errors and omissions (E&O)[3]	**-0.6**	**-25.5**	**-8.3**
Overall balance	**-19.3**	**45.7**	**53.3**

[1] In accordance with the Balance of Payments and International Investment Position Manual, Sixth Edition (BPM6) by the International Monetary Fund (IMF)
[2] Adjusted for valuation and coverage of goods for processing, storage and distribution
[3] As at 1Q 2018, the net E&O excludes reserves revaluation changes. This practice is backdated to 1Q 2010

p Preliminary

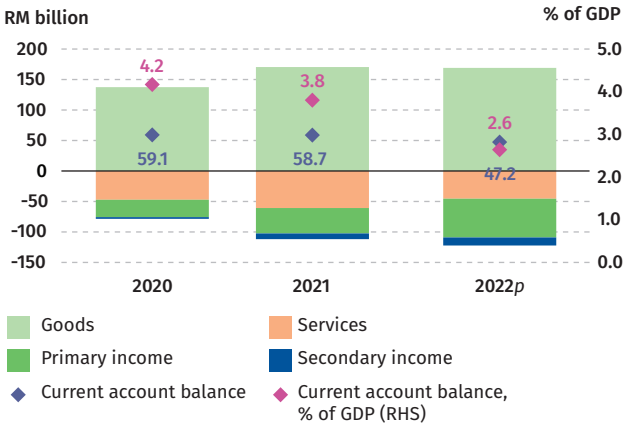
Source: Department of Statistics, Malaysia and Bank Negara Malaysia

In the goods account, imports increased at a faster rate relative to exports resulting in a slightly lower goods surplus of RM169.3 billion (2021: RM170.6 billion). This was mainly on account of stronger domestic demand following the full upliftment of containment measures, as well as firms building up inventory buffers to mitigate supply chain disruptions. The services account recorded a smaller deficit of RM45.4 billion in 2022 (2021: -RM60.7 billion). This mainly reflected a narrower travel account deficit of RM1.8 billion (2021: -RM14.6 billion) as the reopening of international borders on 1 April 2022 led to higher inbound tourists.

In the income account, the primary income deficit widened to RM63.6 billion (2021: -RM41.6 billion), due mainly to higher investment income accrued to foreign investors in Malaysia, supported mainly by higher earnings from robust export performance. The secondary income account recorded a larger deficit of RM13.1 billion (2021: -RM9.6 billion), due mainly to higher foreign workers' outward remittances.

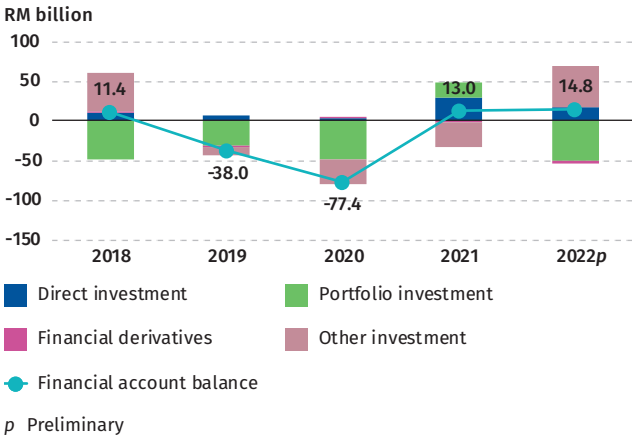
In 2022, the financial account recorded a higher net inflow of RM14.8 billion (2021: +RM13.0 billion). This was due mainly to inflows in the direct and other investment accounts, which more than offset the outflows from the portfolio investment account.

Chart 2: Current Account Balance



Source: Department of Statistics, Malaysia and Bank Negara Malaysia

Chart 3: Financial Account Flows by Key Components



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Source: Department of Statistics, Malaysia and Bank Negara Malaysia

The direct investment account registered a net inflow of RM16.0 billion (2021: +RM28.5 billion). Notably, net FDI inflows increased significantly to RM73.3 billion in 2022 (4.1% of GDP; 2021: +RM48.1 billion, 3.1% of GDP), exceeding the levels recorded prior to the pandemic. This reflects the strong post-COVID 19 recovery in the global economy and trade, spurring MNCs to raise their investments in Malaysia to expand their production capacity. Of significance, these firms reinvested their profits at a larger scale compared to pre-pandemic levels (2022: RM37.1 billion; 2015-2019 average: RM9.9 billion). Similarly, investments via equity injection have also surpassed the pre-pandemic levels (2022: RM23.4 billion; 2015-2019 average; RM22.2 billion). From a sectoral perspective, the *manufacturing* sector remained the key beneficiary of FDI inflows during the year, amounting to RM47.7 billion (65.1% of total FDI). In particular, Malaysia's position as a major E&E exporter (38.3% of total exports in 2022) benefitted from the continued demand for E&E components amid the ongoing technological megatrends such as electric vehicles, artificial intelligence and Internet of Things.[21] Apart from the *manufacturing* sector, foreign investments were also channelled into the services subsectors. This was in line with the pickup of domestic services activity especially in the financial as well as the wholesale and retail trade subsectors.

DIA outflows were also notably higher at RM57.3 billion (-3.2% of GDP; 2021: -RM19.7 billion, -1.3% of GDP). These investments abroad were mainly channelled into the financial services subsector as well as the *manufacturing* and *mining* sectors. The Netherlands (25.0% of net DIA for the year), Indonesia (20.4%) and Singapore (19.8%) were the major recipients of DIA in 2022.

[21] For further information, please refer to the earlier White Box on 'Growth supported by expansion in the services and manufacturing sector'.

The portfolio investment account recorded a net outflow of RM51.3 billion (2021: +RM18.8 billion), contributed mainly by the liquidation of domestic debt securities by non-residents (NR). This reflected tighter monetary policies especially in advanced economies and the uncertainties over global growth outlook. The outflows were also due to continued residents' portfolio investments abroad mainly in the form of equity investment by domestic institutional investors. These outflows were partly offset by inflows from NR investments into the domestic equities market.

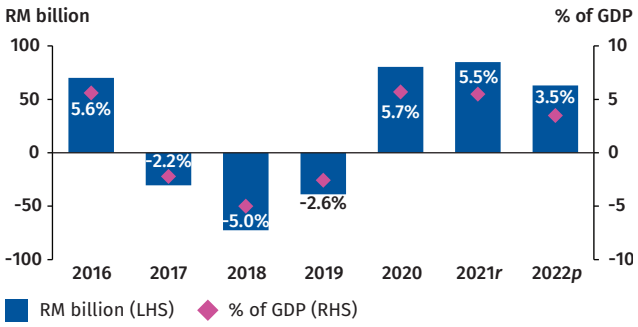
The other investment account turned around to register a large net inflow of RM52.3 billion (2021: -RM32.0 billion). This was mainly due to net inflows from interbank borrowings by onshore banks and maturing interbank deposits abroad by the domestic banking system, a reflection of their centralised liquidity management operations for regional operations. Net E&O amounted to -RM8.3 billion or -0.3% of total trade during the year (2021: -RM25.5 billion, or -1.1% of total trade).

Malaysia's international investment position remained favourable

Malaysia's international investment position (IIP) recorded the third consecutive year of net external asset position, amounting to RM63.0 billion, or equivalent to 3.5% of GDP as at end-2022 (end-2021: RM84.9 billion or 5.5% of GDP). External assets increased by RM111.2 billion in 2022, reflecting in part additional portfolio and direct investments abroad by corporates. Higher external assets also reflected exchange rate valuation effects from the weaker ringgit against the USD. However, these were partly offset by lower price valuation following unfavourable performance in global equity markets during the year. External liabilities increased by RM133.0 billion, mainly reflecting net inflows of FDI as well as interbank borrowings and NR deposits.

The net foreign currency (FCY) external asset position, as measured by external assets denominated in FCY less FCY external liabilities, stood at RM1.2 trillion, or 64.9% of GDP (2021: RM1.1 trillion, or 74.1% of GDP). Given this position, the ringgit exchange rate depreciation led to a larger increase in FCY external assets compared to FCY external liabilities during the year.

Chart 4: Net International Investment Position (IIP)



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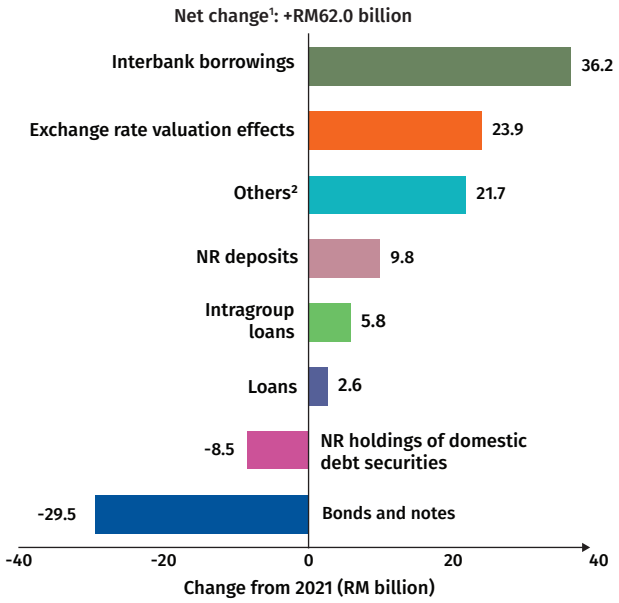
Source: Department of Statistics, Malaysia

Chart 5: Changes in External Debt



[1] Changes in individual debt instruments exclude exchange rate valuation effects. Positive indicates net borrowing or issuance of debt securities.
[2] Comprises trade credits, IMF allocation of SDRs and other debt liabilities.

Note: Figures may not add up due to rounding.

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

Malaysia's external debt amounted to RM1,144.0 billion as at end-2022, or 64.0% of GDP (2021: RM1,082.1 billion or 70.0% of GDP). The increase in external debt was mainly driven by higher interbank borrowings (of which 70.3% were intragroup borrowings by foreign banks)[22] and exchange rate valuation effects as ringgit depreciated, particularly against the US dollar. The higher interbank borrowings in 2022 primarily reflected the continued efforts by onshore banks to manage their foreign exchange liquidity. These were partially offset by net repayment of international bonds and notes largely by corporates. Meanwhile, the external debt of Federal Government continues to be denominated mainly in ringgit (90.3%; 2021: 90.4%), with changes in its FCY-denominated external debt largely reflecting exchange rate revaluation changes (-RM0.6 billion; 2021: -RM0.7 billion).

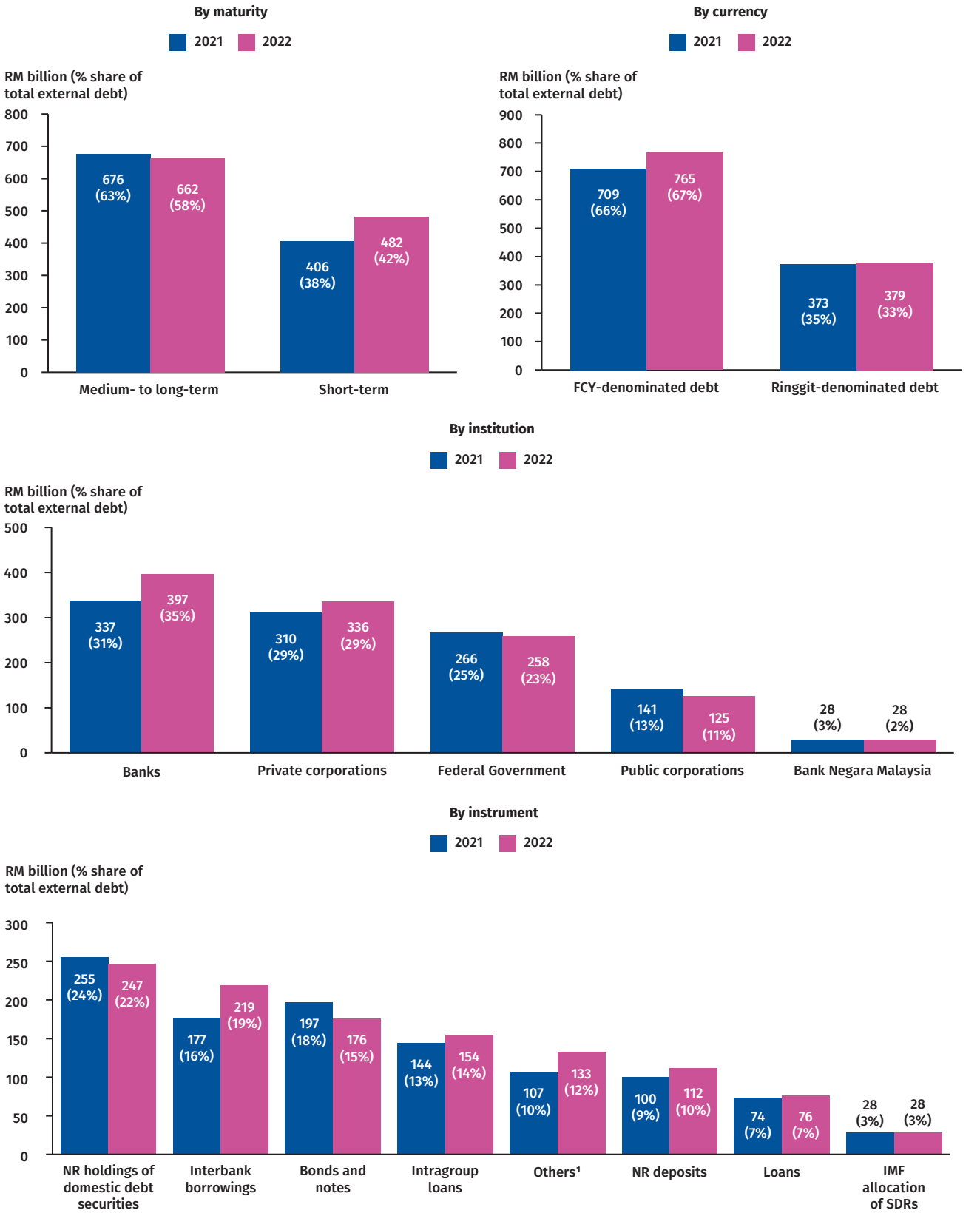
Risks surrounding Malaysia's external debt were well contained given the favourable maturity and currency profiles. Coupled with BNM's prudential and hedging requirements[23] on corporates and banks, external debt remained manageable. As at end-2022, the external debt-at-risk for corporates[24] and banks[25] amounted to RM16.6 billion and RM85.9 billion, respectively (2021: RM29.2 billion and RM55.9 billion). Cumulatively, these amounted to 9.0% of Malaysia's total external debt and 20.4% of international reserves (2021: 9.2% and 20.5% respectively).

Almost a third of external debt was denominated in ringgit (33.1%; 2021: 34.5%), and therefore not affected by fluctuations in the ringgit exchange rate. These were mainly in the form of NR holdings of domestic debt securities (65.1% of total ringgit-denominated external debt) as well as NR deposits (17.1%). Meanwhile, the remainder of external debt denominated in FCY was largely subject to prudential requirements on liquidity and funding risk management.[26] Moreover, intragroup borrowings[27] accounted for 34.3% of FCY external debt, which were generally more stable and on concessionary terms.

BNM's international reserves amounted to USD114.6 billion as at end-2022 (2021: USD116.9 billion), sufficient to finance 5.0 months of imports of goods and services and was 1.0 time the short-term external debt.[28] It is important to emphasise that international reserves are not the only means to meet external obligations. In particular, BNM's progressive liberalisation of the foreign exchange policy[29] has facilitated the accumulation of FCY external assets by banks and corporates. These assets, particularly the liquid portion amounting to RM799.5 billion, can be drawn upon to meet their short-term external debt obligations of RM474.7 billion without creating a claim on international reserves.

[22] Foreign banks refer to locally-incorporated foreign banks and Labuan branches.
[23] For more details on Malaysia's external debt management, please refer to "Malaysia's Resilience in Managing External Debt Obligations and the Adequacy of International Reserves" box article in BNM's Annual Report 2018.
[24] Based on offshore loans raised and bonds issued by high-risk corporate borrowers.
[25] Refers to the portion of banks' external debt that were more susceptible to sudden withdrawal shocks. These include interbank borrowings (RM66.4 billion), financial institutions' deposits (RM14.4 billion) and other short-term debt (RM5.2 billion) from unrelated counterparties.
[26] Including requirements imposed on banks under local banking regulations.
[27] Comprises intragroup loans and intragroup interbank borrowings.
[28] For more details on BNM's international reserves, please refer to "Building Buffers: Roles and Functions of BNM's International Reserves" box article in BNM's Annual Report 2020.
[29] A set of prudential measures related to the foreign exchange market to promote monetary and financial stability conducive to the sustainable growth of the economy and safeguarding the balance of payments position.

Chart 6: Profile of Malaysia's External Debt (% share)

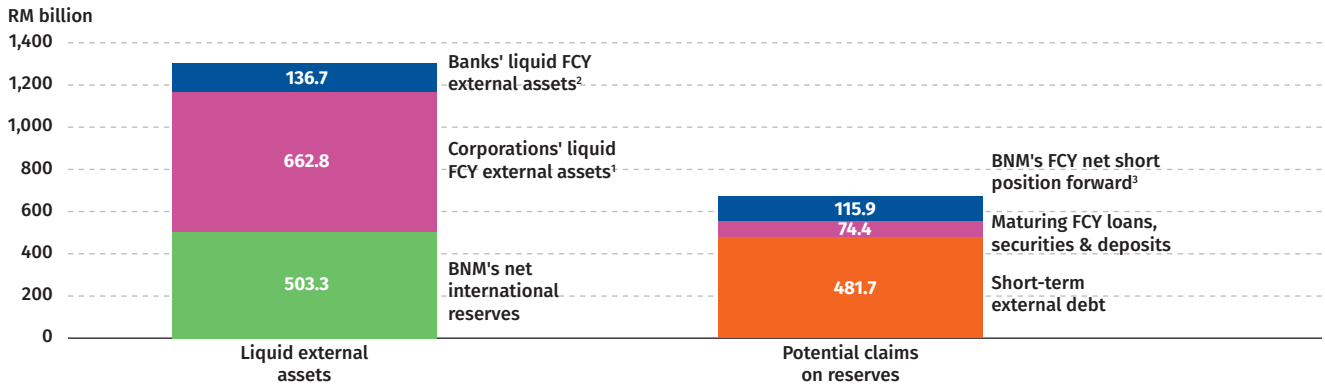


[1] Comprises trade credits and other debt liabilities, such as insurance claims yet to be disbursed and interest payables on bonds and notes.

Note: Figures may not necessarily add up due to rounding.

Source: Bank Negara Malaysia

Chart 7: Liquid External Assets and Potential Claims on International Reserves



¹ Consist of portfolio investments and currency and deposits.
² Consist of deposits and interbank placements, bonds and notes and money market instruments.
³ Including the forward leg of currency swaps.
Note: BNM refers to Bank Negara Malaysia
Source: Bank Negara Malaysia

Headline and underlying inflation trended higher in 2022

Headline inflation increased in 2022, averaging at 3.3% for the year (2021: 2.5%) due to a combination of both supply and demand factors. Higher inflation for food and non-alcoholic beverages (2022: 5.8%; 2021: 1.7%) was the main driver that contributed to around half of the increase in headline inflation. In terms of trajectory, headline inflation peaked during the third quarter of 2022, due mainly to the base effect from the discount on electricity bills implemented in the third quarter of 2021 (Chart 1.18). Thereafter, headline inflation moderated in the fourth quarter, albeit remaining elevated, upon dissipation of the base effect, as well as moderating cost pressures amid the easing of global supply chain conditions and ringgit appreciation.

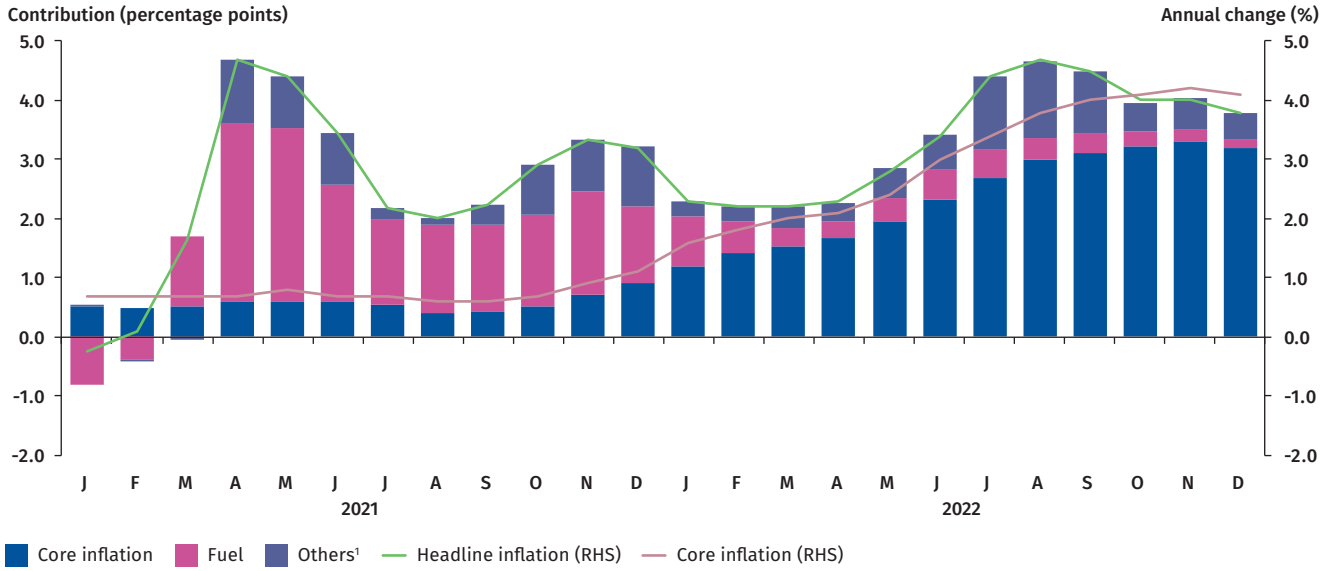
High global commodity prices and prolonged supply-related disruptions continued to drive cost-push inflationary pressures throughout the year, as reflected in the sustained increase in the Producer Price Index (PPI) which rose by 7.8% in 2022 (2021: 9.5%). In particular, global energy and food commodity prices surged higher following the escalation in the military conflict in Ukraine, which was further exacerbated by export restrictions in key commodity-exporting countries. This particularly impacted the cost of key inputs for food production, such as fertilisers and animal feed. Sustained US dollar strength against the ringgit also led to higher import prices, which generated additional cost pressures during the year. Domestically, food supply shortages and seasonal factors such as adverse weather conditions also partly contributed to the higher prices of selected food items. Combined with the improvements in demand conditions following the reopening of the Malaysian economy, these factors led to higher cost pass-through to consumer prices. Nevertheless, the extent of cost pass-through to consumer price inflation remained partly contained by existing price controls, subsidies, and the remaining spare capacity in the economy.

Underlying inflation, as measured by core inflation,[30] trended higher throughout the year, averaging at 3.0% (2021: 0.7%). Strengthening demand conditions following the reopening of the economy accelerated the increase in core inflation, after a period of subdued demand and lower profit margins during the pandemic. Notably, the transition to endemicity in Malaysia spurred a shift in demand from consumer goods to services. As such, price pressures were most prominent in core CPI services, particularly for food away from home and rental. Prices for other discretionary services, such as cultural services and restaurants and hotels, also rose.

Overall, price pressures became more broad-based during the year. The share of CPI items recording monthly price increases remained above the long-term average for most of the year (2022 average:

[30] Core inflation is computed by excluding price-volatile and price-administered items.

Chart 1.18: Contribution to Headline Inflation by Components

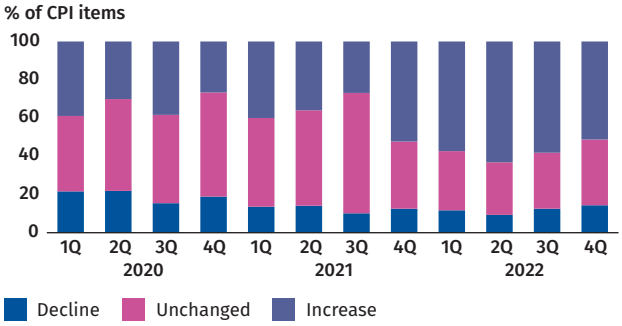


[1] Others include price-volatile items and other price-administered items (excluding fuel).

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

57.5%; 2011-2019 average: 45.6%), albeit with some moderation in the pervasiveness from September 2022 onwards (Chart 1.19). Risks of second-round effects from wage-price dynamics remain contained at this juncture, as inflation expectations remain firmly anchored while real wage growth has not been excessive.[31] The higher inflationary pressure has, however, continued to place stress on households' cost of living, particularly given the elevated prices for essential and frequently purchased items, such as food products and services. Nevertheless, various policy measures remained in place to partly alleviate households' rising cost of living, including the price controls and subsidies on key consumer necessities and targeted income transfers to vulnerable households.

Chart 1.19: Month-on-Month Price Changes of CPI Items*



* Based on the month-on-month inflation for 125 CPI items at the 4-digit level (average for the quarter).

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

[31] As of January 2023, median analyst inflation expectations remained anchored at 2.9% for 2023 and 2.2% for 2024. Real wage increases remained within range of historical norms and there remained slack in the domestic labour market.

Revisiting Exchange Rate Pass-Through to Inflation in Malaysia

Introduction

In 2022, the ringgit depreciated by 5.4% against the US dollar.[32] Peak to trough, the ringgit depreciated by 12.2% over January to 4 November (when the ringgit depreciated from RM4.1665 at the end of 2021 to a low of RM4.7477 against the US dollar). With costs such as global commodity prices still elevated, there is particular interest on the impact of the recent depreciation episode on inflation in Malaysia. During this period, the impact of the exchange rate was not offset by other mitigating cost factors such as global commodity prices. Thus, there is belief that the exchange rate depreciation could be more than fully passed on to consumers, leading to higher headline inflation, as measured by the annual growth in the Consumer Price Index (CPI), unlike previous depreciation episodes experienced by the country.[33, 34]

The movement of the ringgit against the US dollar during the year largely reflected the strength of the US dollar following aggressive monetary policy tightening by the Federal Reserve to contain persistently high inflation in the US. The impact of the strong US dollar was evident globally with most other currencies also on depreciating trends albeit to varying degrees. In contrast to the performance against the US dollar, the ringgit strengthened against several other major and regional currencies. Consequently, the import-weighted nominal effective exchange rate (NEERM), which measures the ringgit's performance against a basket of currencies of key import partners, appreciated by 1.0%.[35]

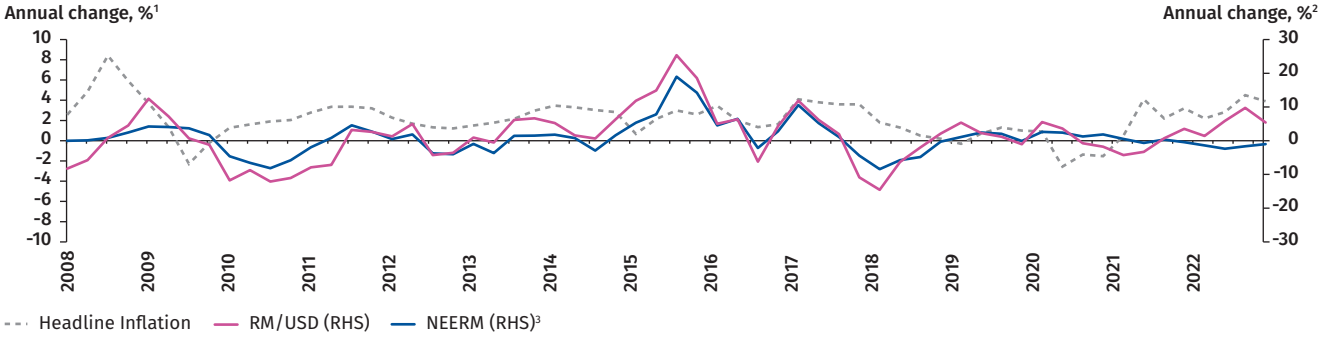
In assessing the degree of exchange rate pass-through (ERPT) to inflation, a highly pertinent question is the choice between using a single bilateral exchange rate, like the RM versus the US dollar, or an average of a range of bilateral exchange rates between the RM and key trading partner currencies, like the NEERM. With trade largely invoiced in US dollar regardless of the origin or destination of trade flows (a phenomenon known as dominant currency pricing, as proposed by Gopinath et al. (2020)),[36] the bilateral RM/USD exchange rate may seem more relevant for understanding ERPT especially in the near term when import prices are relatively sticky (International Monetary Fund (IMF), 2019).[37] This is particularly true for internationally traded commodities such as crude oil and cereals, which are priced in US dollar.[38] However, the bilateral exchange rate may be less relevant over the medium term,[39] as prices in the invoice currency adjust. As an example, with currency depreciation under dominant currency pricing, exporters[40] may choose to reduce prices in the invoice currency beyond the short term. Exporters also tend to set prices according to global demand, rather than country-specific demand (Crookes et al., 2022). Here, the NEERM may be more relevant as the movement of all trading partners' currencies against the US dollar becomes important (IMF, 2019). It thus, more closely reflects the consequent adjustments in relative prices that can be expected to affect inflation (Caselli and Roitman, 2019), amid the attendant changes in import prices, domestic demand, and import intensity patterns.

Against such a backdrop, this article first presents an overview of the channels of ERPT to CPI inflation. It then provides estimates of ERPT associated with the RM/USD exchange rate since it may have more economic

[32] Calculated as the change between end-year exchange rates. Note that all bilateral exchange rate data in this draft are sourced from Bloomberg.
[33] The annual growth in the CPI is referred to as CPI inflation, henceforth, in this article.
[34] For example, in 2015, the ringgit depreciated by 21.5% over January to 29 September (when the ringgit reached a low of 4.4570 against the US dollar) and 18.6% against the US dollar for the year as a whole (change between end-year exchange rates). Notwithstanding the weakening of the ringgit, headline inflation, as measured by CPI inflation, remained relatively low at 2.1% with mitigating effects from a significant decline in global commodity prices.
[35] Calculated as the change between end-year exchange rates. This measure of the nominal effect exchange rate (NEER) differs from the NEER measure elsewhere in "Economic, Monetary and Financial Developments in 2022", which refers to the value of the ringgit against a total trade-weighted basket of Malaysia's major trading partners' currencies. Differences may arise between the two measures due to variations between import weights and total trade weights.
[36] For Malaysia, 83% of exports and 79% of imports were invoiced in US dollar in 2019 (Boz et al., 2020).
[37] Because US dollar import prices are largely unchanged, ceteris paribus, a depreciation against the US dollar increases import prices in the local currency, making it a more important driver than bilateral exchange rates in ERPT to import prices in local currency within a year of a depreciation shock (that is, the US dollar broadly appreciates) (IMF, 2019).
[38] See Bank Negara Malaysia (2022) for a discussion on the transmission of global commodity prices to inflation in Malaysia.
[39] Up to three years after the depreciation shock (that is, the US dollar broadly appreciates).
[40] Exporters refer to foreign producers from the perspective of the local economy.

relevance in the near term. This is done for aggregate import price inflation and CPI inflation, as well as for sectoral CPI inflation, highlighting segments that are particularly sensitive to exchange rate movements. Finally, it offers insights on the potential nature of ERPT in the context of the current environment. That is, whether it is likely to be higher than average, taking into account overall inflation dynamics, including the influence of administered prices, and firms' price-setting behaviour.

Chart 1: Exchange Rate and Inflation



[1] The headline inflation annual change refers to the annual growth in the quarterly average.
[2] The exchange rate annual change refers to the annual growth in the quarterly end-rates.
[3] The nominal effective exchange rate against import partners (NEERM) is calculated based on the weighted average of the bilateral exchange rate against Malaysia's top 15 import partners. A positive figure indicates a depreciation in the ringgit against Malaysia's main import partners relative to the year before.

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

Transmission channels of exchange rate movements to inflation

Chart 2 provides an overview of the ERPT channels. The most direct channel of ERPT to CPI inflation is through import prices. The extent of pass-through of exchange rate depreciation to import prices in the short term (when trade contracts are relatively fixed) depends on the currency in which import prices are set – high pass-through with dominant currency pricing and producer currency pricing (prices set in the exporter country currency) and low with local currency pricing (prices set in the destination country currency). The differences in ERPT to import prices across the various types of currency pricing, whether dominant currency pricing, producer currency pricing or local currency pricing narrow over the longer term (Crookes et al., 2022) as ERPT would also partly depend on the subsequent response of other factors to the exchange rate shock. These other factors include exporters' pricing behaviour and contract revisions. They are typically influenced by exporters' market power, production costs and global demand conditions. Under perfectly competitive markets, ERPT to import prices tends to be complete. However, empirical evidence supports the occurrence of relatively high but incomplete pass-through to import prices. For example, Campa and Goldberg (2005) find that the change in the commodity composition of imports can influence the pass-through to import prices – ERPT is higher for energy and raw material imports than manufactured products and food products.

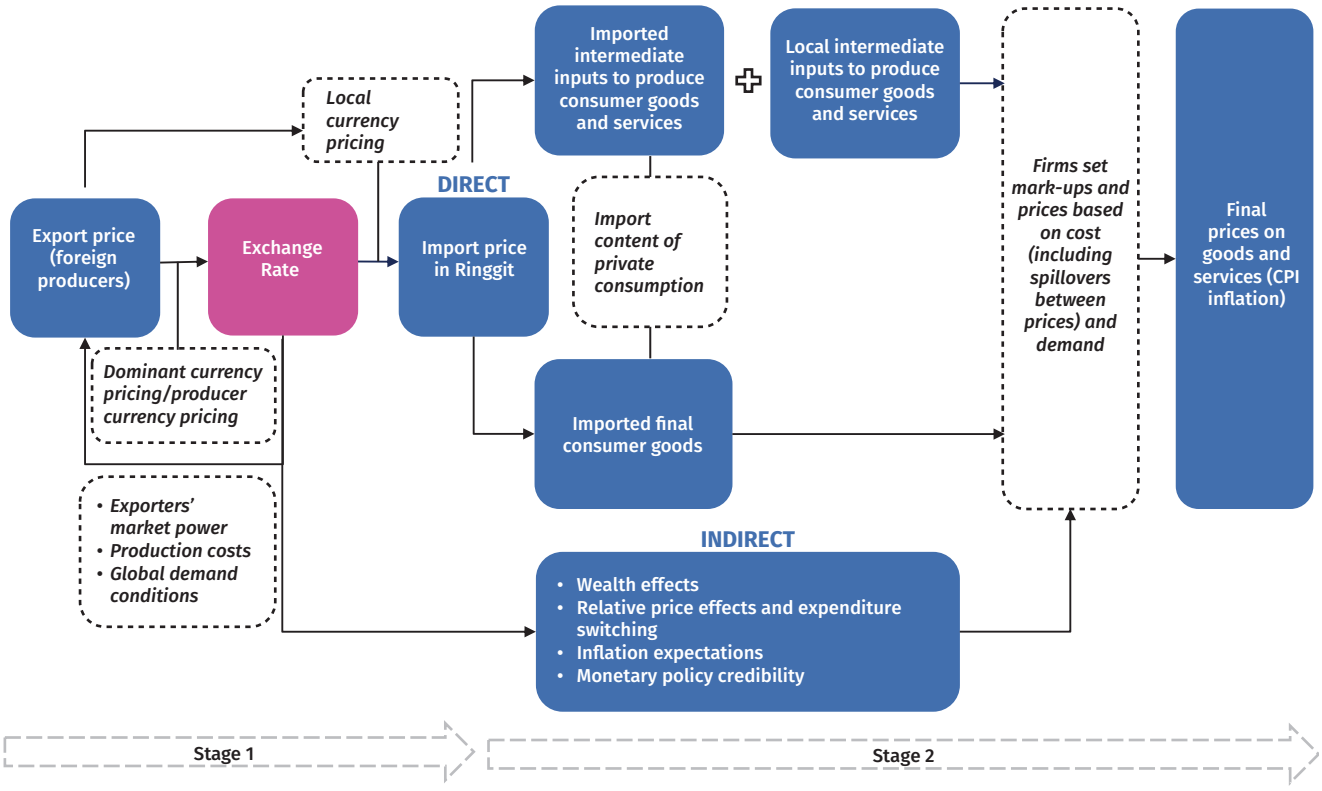
Changes in import prices would feed through to CPI inflation depending on the share of import content in private consumption. This includes directly through imported final consumption goods, which may still incur local distribution and transportation costs, and indirectly through imported intermediate inputs which affect firm production costs. Based on input-output tables, Malaysia's share of import content in private consumption as the sum of these two components amounted to 26% in 2020 (27% in 2019; 31% in 2015) (Chart 3).[41, 42] This appears

[41] Source: Department of Statistics Malaysia (2018, 2022) and Bank Negara Malaysia estimates based on the methodology to isolate the import content in final demand components in Kranendonk and Verbruggen (2005, 2008).
[42] Strictly speaking, the full import share of consumption would also include the share of capital (that is, machinery and equipment used in domestic production) which is imported. However, due to data limitations in input-output tables generally, this is excluded. Further, the concept of imported content of consumption depicted in this article is consistent with other studies on ERPT (see for example, Carrière-Swallow et al. (2021) and Gopinath (2015)).

to be slightly above average when compared to emerging market economies (based on Carrière-Swallow et al. (2021) which showed regional averages of 15 – 25%; and close to 30% on average for advanced economies). However, this is not unexpected given Malaysia is a relatively open, upper-middle income economy.[43]

The degree and timing of pass-through of higher production costs would also depend on the impact of the higher exchange rate on profit margins, balanced against the costs of price changes, firms' market power, and prevailing demand conditions. The ERPT to CPI inflation will also work through indirect effects over the longer term (see for example, Rincón-Castro and Rodríguez-Niño (2018), and Savoie-Chabot and Khan (2015)). The indirect effects include changes in the composition and level of domestic demand due to expenditure switching (towards domestically produced goods)[44] and wealth effects (depending on how balance sheets are affected by the exchange rate depreciation). In addition, if the exchange rate depreciation is prolonged, wage and price-setting behaviour may change due to higher long-term inflation expectations. Consequently, a key factor in ERPT is inflation expectations. Whether inflation expectations continue to be well-anchored, in turn, depends on the credibility of monetary policy. More stable inflation expectations and lower forecast disagreement among professional forecasters are associated with lower ERPT to CPI inflation (Carrière-Swallow et al., 2021). Owing to such dynamics, it is not necessarily the case that as the size of sectors and number of items rise in their imported content, or as they become more tradable, they would linearly experience higher ERPT to inflation; or that ERPT is constant across time.[45, 46]

Chart 2: Overview of Transmission Channels of Exchange Rate Shocks to Inflation



Source: Bank Negara Malaysia staff construction nominally based on Forbes (2015) and Rincón-Castro and Rodríguez-Niño (2018)

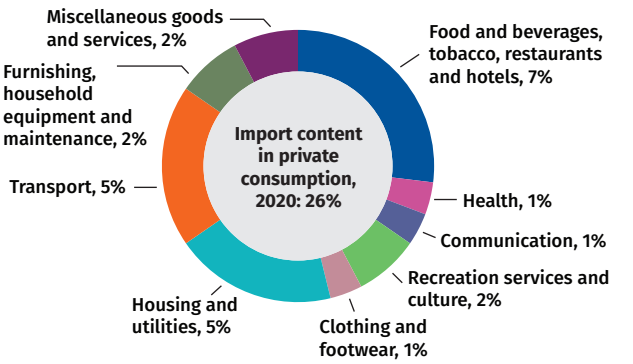
[43] For example, Singapore, a highly open and high-income country, had an import content in private consumption of 42% in 2019. Source: Bank Negara Malaysia estimates based on Singapore Supply, Use and Input-Output Tables 2019, available at https://www.singstat.gov.sg > economy > io2019. Accessed 25 Janunary 2023.

[44] The availability of alternative local products would facilitate this expenditure switching. The net effect to CPI inflation would depend on the impact to imported content in private consumption, as well as pressures on domestic resources to meet production and demand.

[45] This is notwithstanding clear links for certain items, for example, retail fuel prices under the automatic pricing mechanism (APM) are closely linked to movements in global oil prices and the RM/USD exchange rate when not subject to price ceilings. The APM was implemented in December 2014. Fuel prices were floated over December 2014 - 2Q 2018, and from January 2020 – February 2021.

[46] See Forbes (2015) for a discussion on these three aspects of misunderstanding of ERPT in the context of the United Kingdom.

Chart 3: Import Content of Consumption



Note: Breakdown figures are only an approximation based on approximate mapping of the commodity classification in the input-output tables to consumption by purpose. The import content refers to imported intermediate inputs and final consumption goods. It excludes capital imports.

Source: Bank Negara Malaysia estimates based on Department of Statistics Malaysia (2022)

Estimates of ERPT

The ERPT estimation comprises two stages. The first stage is the pass-through to import price inflation, and the second stage, which is ultimately the focus of ERPT analysis, is the pass-through to CPI inflation. The ERPTs from changes in the RM/USD exchange rate to import price inflation and CPI inflation were empirically estimated using quarterly data from 2006 to 2022.[47] In terms of the first stage of transmission (see "Direct" in Chart 2), for a 5% change in the RM/USD exchange rate, the immediate ERPT to import price inflation is about 0.8 percentage points in the current quarter (short run) and 2.1 percentage points over a year (long run).[48, 49] This means that about 40% of the exchange rate impact is translated to overall import prices after a year. This degree of pass-through to import price inflation is well within findings on average for both advanced and emerging market economies.[50] While dominant currency pricing would suggest a relatively high pass-through, the incomplete impact is influenced by other factors such as exporters' pricing behaviour and contract revisions, driven by market structure of products, cost and demand, as mentioned earlier in this article.

The second stage of transmission, the ERPT to CPI inflation is, as expected, lower compared to import price inflation, partly reflecting the relatively moderate share of import content in consumption. A 5% change in the RM/USD exchange rate is associated with approximately 0.1 percentage points change in core inflation in the next quarter (short-run) and 0.2 percentage points over a year (long run).[51, 52] This is less than a full pass-through

[47] The analysis is based on a New Keynesian Phillips Curve (NKPC) type estimating equation, with controls for lagged inflation, domestic economic slack, global commodity price inflation, and import partners' inflation (see for example Gordon (2013)).

[48] The short-run impact is similar to findings in Bank Negara Malaysia (2015) using the Producer Price Index (PPI) for imported raw and intermediate inputs.

[49] Empirical analysis based on depreciation episodes in the RM/USD exchange rate did not yield indications of asymmetric ERPT to import price inflation. Meanwhile, sub-sample analysis suggests pass-through has increased over time, whereby for the subsample of 2015Q1-2022Q2, ERPT to import price inflation is closer to 2.0 percentage points and 4.0 percentage points respectively.

[50] For example, Campa and Goldberg (2005), focusing on OECD countries, estimate that on average import prices in local currencies reflect 46% of exchange rate fluctuations in the short run, and 65% over the long run. Carrière-Swallow et al. (2021) find somewhat higher pass-through of 50% (75%) in the short run and about 80% (100%) in the long run for advanced economies (emerging market economies) but view their results as in line with Campa and Goldberg (2005), given the confidence intervals surrounding their estimations.

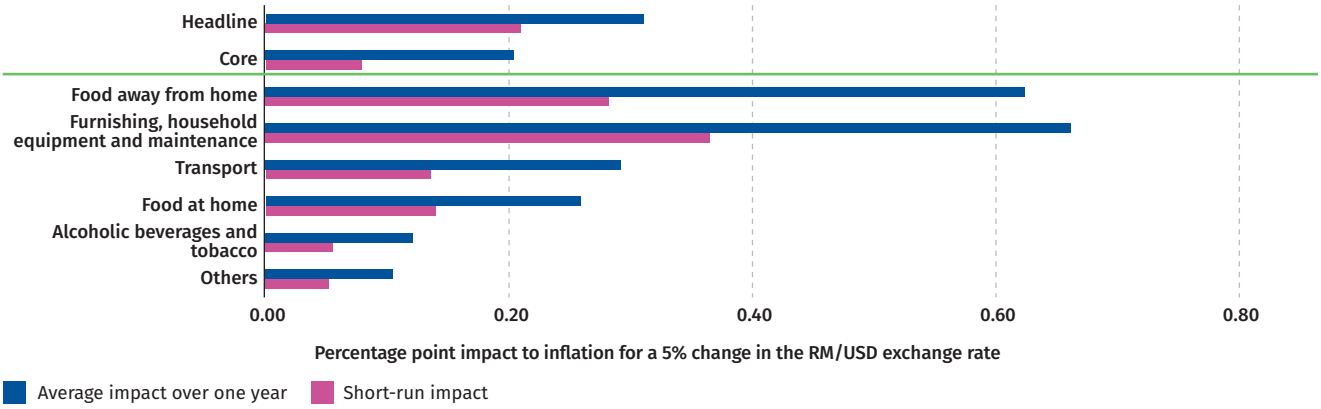
[51] Results are fairly similar for ERPT to overall CPI inflation at about 0.2 percentage points and 0.3 percentage points in the short run and long run respectively.

[52] The ERPT to CPI inflation embeds all the stages along the supply chain through which intermediate imported inputs may affect final consumer prices. For example, the ERPT to food away from home inflation would subsume the impact of higher imported poultry feed cost via higher fresh chicken prices. See Bank Negara Malaysia (2022) for related discussion on these interlinkages in the context of the transmission channels from global commodity prices.

of import price inflation,[53] and broadly consistent with findings on emerging market economies' ERPT to CPI inflation (Carrière-Swallow et al., 2021; Ha, Stocker, and Yilmazkuday, 2019).[54]

These results, nevertheless, mainly capture average effects and may not reflect key undercurrents such as changes in ERPT over time, heterogenous effects across CPI items (see Chart 4), and potential averaging out of effects as the exchange rate appreciates and depreciates over time. It is observed that food inflation is more sensitive to exchange rate movements, and this sensitivity has increased over time. This potentially reflects, to some extent, the lower self-sufficiency and higher import dependency ratios for selected items that cut across meat and dairy, fish and seafood, fruits, and vegetables.[55] There is also indication that ERPT tends to be higher during depreciation episodes[56] – for example, for a 5% depreciation in the RM/USD exchange rate, the one-year ERPT to core inflation rose to 0.4 percentage points (versus 0.2 percentage points on average), though the short-run impact is relatively unchanged.[57,58] In sum, ERPT to overall CPI inflation has increased marginally over time,[59] reflecting differentiated impacts across relative prices, and tends to be higher during depreciation episodes. Nevertheless, it remains less than complete.

Chart 4: Selected CPI Categories and ERPT



Source: Bank Negara Malaysia staff estimates based on quarterly data over 2006Q1-2022Q4.

[53] A proxy of full pass-through to CPI inflation would be (import price inflation ERPT) x (import content of consumption) which yields 0.2 percentage points and 0.5 percentage points over the short run and one year respectively. For the sub-sample of 2015Q1-2022Q4, the indicative full pass-through to CPI inflation is estimated to be about 0.5 percentage points and 1.0 percentage points in the short run and long run respectively.

[54] While not explicitly discussed in this article, ERPT analysis carried out using the NEERM yielded similar results for import price inflation and core inflation. This is not unexpected given the strong correlation between the NEERM and the RM/USD exchange rate over the sample period of 0.85.

[55] Specific items include beef, mutton, fresh milk, cuttlefish, crab, coconut, mango, and round cabbage.

[56] This likely reflects downward price rigidity. For example, a one-off firm survey that the Bank collaborated on in early 2021 to better understand price setting behaviour suggests that when costs increase, prices were more likely to increase but when costs decline, prices were less likely to decline.

[57] The asymmetry is less discernible statistically in the case of NEERM depreciation in the sample under consideration in this article, which could be due to less sharp depreciation episodes in the NEERM. However, Chart 5 in Bank Negara Malaysia (2015) provides a visual depiction of the asymmetric relationship between the NEERM and inflation.

[58] Asymmetric ERPT has been found in the literature for both advanced and emerging market economies, whereby depreciations may generate larger reactions than appreciations. See, for example, Caselli and Roitman (2019), and Ha, Stocker, and Yilmazkuday (2019).

[59] Sub-sample analysis for 2015Q1-2022Q4 suggests ERPT to overall CPI inflation of about 0.3 percentage points and 0.5 percentage points in the short run and long run respectively.

Current context: Extent of ERPT contained by administered prices and overall stabilising cost pressures

Given the above, the recent RM/USD exchange rate depreciation does have some impact on CPI inflation. This includes increases in salient prices[60] namely for food-related items which affect Malaysia's inflation through spillovers from exchange rate-sensitive food-related goods to food-related services, via the input cost channel. For example, higher prices of food goods, either directly or indirectly affected by the exchange rate, would raise the production cost for food service providers. This in turn would lead to higher selling prices. This propagation channel could be exacerbated when demand conditions are improving. In 2022, price pressures were particularly evident in food-related goods and services, which contributed to around half of overall headline inflation. Rising food inflation heightens cost-of-living concerns, as food items make up a larger share of the consumption basket for vulnerable groups. This in turn could shift inflation expectations and lead to higher wage demands which would then potentially set off spillovers to the prices of other goods and services.[61]

It is important to highlight that domestic price controls and subsidies have partly dampened the overall sensitivity of prices to exchange rate movements, especially in terms of retail fuel prices. As salient prices, these could have had a knock on to other components in the CPI basket including services inflation, if impacted by exchange rate movements. Further, industrial engagements[62] suggest that while the depreciation of the exchange rate was a prominent factor for cost pressures in late 2022 (specifically in September and October 2022), pass-through was partial. More generally, firms have resorted to several initiatives to manage costs and price increases,[63] including adjusting product design, negotiations with clients and suppliers, and increasing cost efficiency. Going forward, firms' pricing behaviour will be shaped by unfolding developments surrounding both the demand and cost outlook. For the latter, the recent weakening of the US dollar, easing supply chain constraints and moderating global commodity prices would contribute towards normalisation of cost pressures. Industrial engagements in early 2023 have indicated that there was less concern on the exchange rate compared to late 2022. The exchange rate was not seen as a predominant cost factor in firms' pricing outlook. This observation was evident in both the consumer and industrial-oriented segments. Nevertheless, as conditions continue to evolve with regard to U.S. monetary policy tightening, affecting exchange rate developments, the Bank remains vigilant on how firms' pricing behaviour may change given cost and demand conditions.

Conclusion

The less than complete ERPT to CPI inflation finding for Malaysia based on empirical analysis (the lack of one to one for import price inflation, given imported content), suggests an overall moderate, rather than excessive, impact from the ringgit depreciation against the US dollar. This is generally in line with cross-country findings on ERPT. The implementation of administered prices and relatively stable firm pricing behaviour in Malaysia, also tend to limit the extent of ERPT. Nevertheless, the greater sensitivity of inflation to exchange rate depreciation for some CPI components, particularly food-related items, warrants attention. This is given the potential impact of these salient prices in propagating spillovers to other prices as well as inflation expectations, especially following improved demand conditions that facilitate the passing on of elevated costs. To the extent that cost shocks, including exchange rate shocks, have a transitory effect on CPI inflation, this allows the Bank to look through the shocks. However, when underlying inflation pressures become more persistent, this may warrant a monetary policy reaction. Consequently, it remains vital that the overall thrust of

[60] Salient price changes are defined as price changes of items that are more important for consumers, and could potentially have a larger bearing on the overall price trend (Bank for International Settlements (BIS), 2022). This could be due to their pervasive role in production chains (for example, energy prices) or their weight in consumption baskets (for example, food).

[61] BIS (2022) finds, for the US, that food and beverages, and gasoline, are relatively strong exporters of price spillovers to other goods and services. For food and beverages, the spillovers, during a low inflation regime are particularly apparent for food services. However, spillovers are more strongly dispersed across sectors in a high inflation regime, amid shifting inflation expectations and wage-price feedback.

[62] Using the Bank's Regional Economic Surveillance programme.

[63] This is notwithstanding sectoral price adjustments that have been undertaken throughout 2022 to address the general high-cost environment (for example, in the food and beverages sector) and to recoup lost sales during the pandemic (for example, in relation to recreation activities). Overall expected revenue and profit growth among small to mid-sized businesses have remained favourable across the four quarters of 2022 (VISTAGE-MIER, 2022).

monetary policy is pre-emptive in managing risks to both inflation and sustainable economic growth. Monetary policy remains one of the key tools in managing demand-driven inflation. Going forward, continued insights on firms' pricing behaviour regarding exchange rate movements, and more generally cost and demand conditions will be critical in understanding how imported inflation affects overall inflation dynamics.

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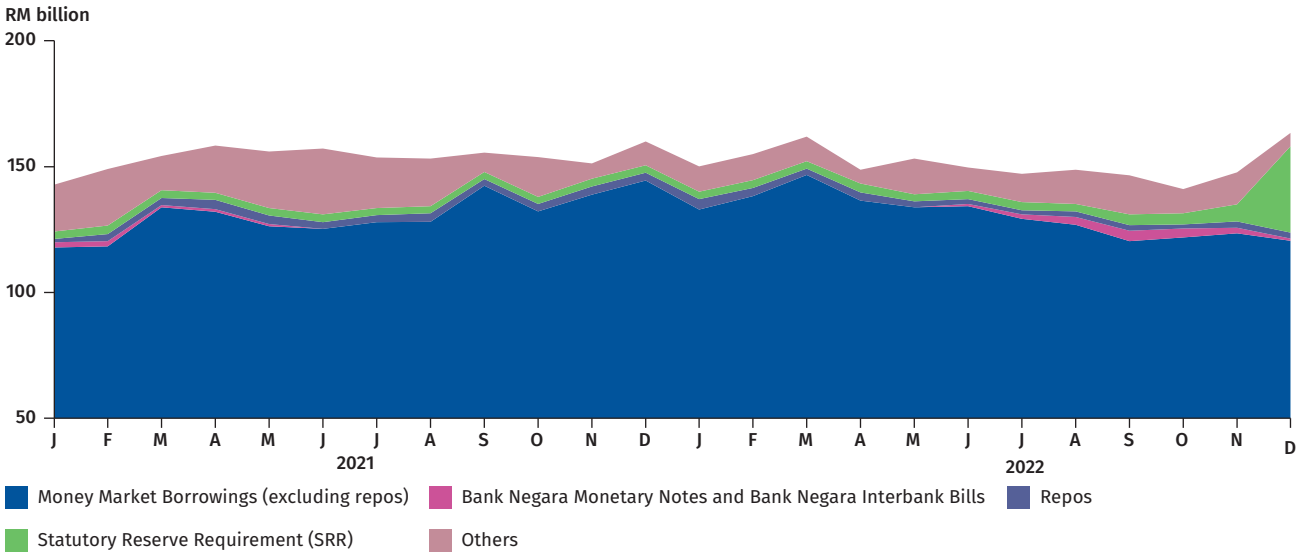
Monetary policy was recalibrated amid firmer domestic economic recovery

During the year, the OPR was raised from a historical low of 1.75% by 100 basis points to 2.75% through a series of four consecutive adjustments beginning in May 2022. This recalibration of the OPR, which continued to focus on balancing the risks to domestic inflation and sustainable growth, was warranted as the unprecedented conditions experienced during the height of the pandemic have since abated.

The MPC began adjusting the degree of monetary accommodation against the backdrop of a firmer domestic economic recovery. This was reflected in the better labour market conditions and stronger domestic demand, especially following the transition to endemicity in the second quarter. The improvements in domestic demand partly contributed towards inflationary pressures in a higher cost environment, amid elevated commodity prices and persistent supply chain disruptions. Global developments, such as the military conflict in Ukraine, strict containment measures in China and aggressive monetary policy adjustments by other central banks also induced further uncertainties in the global environment. Given these considerations, the MPC undertook a gradual and measured approach towards adjusting the monetary policy settings through 25-basis point increments beginning in May 2022. This ensured that the recalibration of monetary policy did not weigh on the recovery while also enabling the Bank to pre-emptively manage the risk of excessive demand on price pressures.

Domestic monetary and financing conditions remained conducive, with limited adverse spillovers from external developments and tighter financial conditions globally, on account of resilience in the domestic banking system and orderly adjustments in the capital markets. The Bank's monetary operations continued to focus on ensuring sufficient liquidity to support financial intermediation. These operations were conducted through various instruments, including reverse repos, the outright purchase of Government securities and foreign exchange swaps to ensure orderly market conditions. Following the higher liquidity injection operations, the level of outstanding liquidity placed with BNM increased towards year end, after declining throughout most of the year. At the system level, aggregate outstanding liquidity placed with the Bank remained ample at RM163.4 billion (2021: RM160.1 billion) (Chart 1.20). At the institution level, most banking institutions continued to maintain surplus liquidity positions with the Bank. Adjustments to banks' liquidity positions remained orderly, even with the lapse in the Statutory Reserve Requirement (SRR) flexibility.[64]

Chart 1.20: Outstanding Ringgit Liquidity Placed with Bank Negara Malaysia (at end-period)



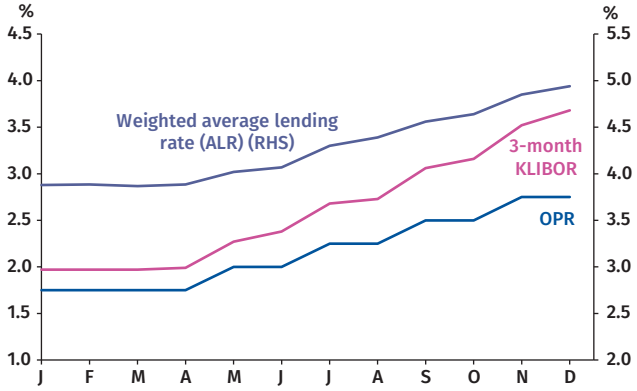
Source: Bank Negara Malaysia

[64] This refers to the flexibility accorded to banking institutions since April 2020 to recognise holdings of Malaysian Government Securities (MGS) and Malaysian Government Investment Issues (MGII) as part of the SRR compliance. The flexibility ended on 31 December 2022, with all banks able to meet their SRR compliance.

Increases in the OPR saw a smooth pass-through to money market rates, with higher Kuala Lumpur Interbank Offered Rate (KLIBOR) and interbank rates recorded across all tenures. Of note, increases in the KLIBOR exceeded the magnitude of the OPR hikes, especially at the longer tenures, mainly reflecting markets' expectations of further OPR hikes throughout the year as well as in 2023. The tighter interbank market conditions, particularly towards year end, were also caused by greater competition for funding among banks to strengthen regulatory ratios.

Similarly, higher deposit and lending rates were observed following the OPR adjustments. Nominal weighted average fixed deposit (FD) rates increased, by between 89 and 94 basis points across tenures of 1 to 12 months, as compared to end-2021. Correspondingly, real FD rates also trended upwards, although to a lesser extent, given expectations for higher inflation. Meanwhile, lending rates also increased with the repricing of new and existing floating-rate loans.[65] By the end of the year, the weighted average lending rate (ALR) on outstanding loans increased by 98 basis points as compared to end-2021 (Chart 1.21). For new borrowers, lending rates also increased for households and businesses across purposes and sectors, in line with increases in the OPR.[66]

Chart 1.21: Policy, Interbank and Lending Rates (at end-period)



Source: Bank Negara Malaysia and Bloomberg

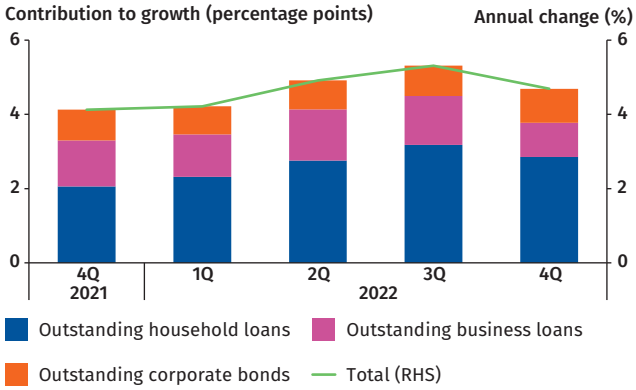
[65] As at end-December 2022, floating-rate loans account for almost 80% of total value of outstanding loans or about 50% of total number of loan accounts in the banking system.

[66] Following the 100 bps increase in the OPR, average lending rates on new loans increased by 82 bps for households and 96 bps for businesses, of which the increase was 100 bps for SMEs (data as at end-December 2022).

Continued expansion of credit to the private non-financial sector, underpinned by stronger economic recovery

Growth in credit to the private non-financial sector was strong in 2022, amid firmer recovery in economic activity. Despite some moderation towards the year end, financing activity was sustained for the most part of 2022, with credit expanding at a higher rate of 4.7% (2021: 4.1%) (Chart 1.22). This higher growth in credit to the private non-financial sector[67] was supported by higher growth in both outstanding loans[68] (2022: 4.7%; 2021: 4.1%) and corporate bonds (4.6%; 2021: 4.2%).

Chart 1.22: Credit to the Private Non-Financial Sector



Source: Bank Negara Malaysia

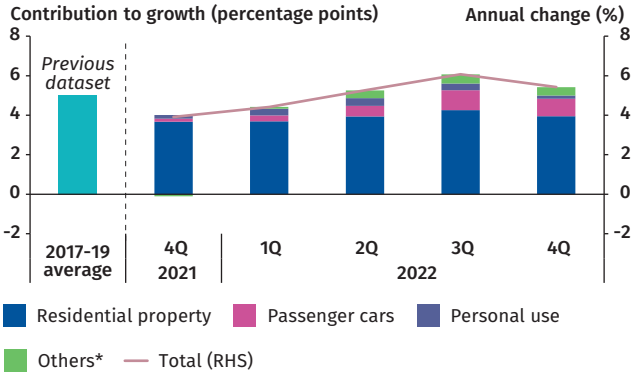
The household segment was a key driver of loan growth, with outstanding household loans growing at 5.4% (2021: 3.9%; 2017-19 average: 5.0%) (Chart 1.23). This reflected the strong growth in loan disbursements (22.0%; 2021: 3.9%), especially for the purchases of houses and cars, in line with the

[67] Starting with the publication of the December 2022 Monthly Highlights (in January 2023), credit to the private non-financial sector was introduced to enhance the quality of data on financing channelled towards the generation of domestic economic activity. This replaces the previous series on net financing to the private sector. For corporate bonds, the series now includes conventional and Islamic short-term papers in addition to longer-term bonds and sukuk, and excludes issuances by Cagamas, government, financial institutions, and non-bank financial institutions (NBFIs). Total loans now refer to the sum of outstanding business and household loans extended by banks and development financial institutions (DFIs). This series also excludes loans to financial institutions, government, non-bank financial institutions and other entities. The new data series, starting from July 2021, is available in the Monthly Highlights and Statistics Table 2.18.

[68] For the purpose of the Economic and Monetary Review 2022 publication, the figure on outstanding loans reported here under credit to the private non-financial sector also includes loans to households extended by major NBFIs. This is in addition to the sum of outstanding business and household loans extended by banks and DFIs.

improvements in labour market conditions during the year. Of note, the growth in credit demand, as measured by loan applications, was also strong throughout the year (16.8%; 2021: 11.7%) before moderating in the fourth quarter, amid the lapse of the sales tax relief on new vehicles and increases in the OPR. In addition, most households, including those exiting repayment assistance programmes, continue to be able to sustain loan repayments. The growth in loan repayments increased to 19% in 2022 (2021: 7.4%) amid the gradual lapse in repayment assistance programmes within the first half of the year.

Chart 1.23: Households - Outstanding Loans by Purpose



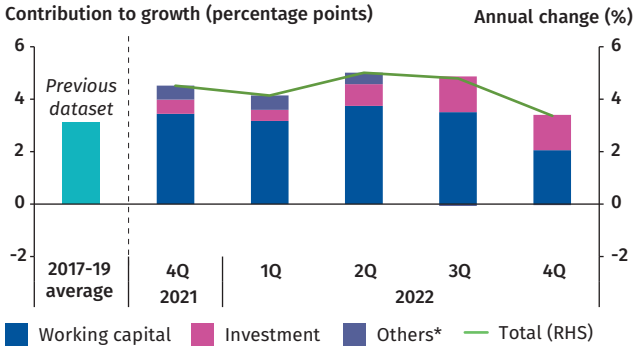
* Includes purchase of non-residential property, securities, credit card and others.

Source: Bank Negara Malaysia

For businesses, outstanding loans recorded a growth of 3.4% (2021: 4.5%; 2017-19 average: 3.1%) (Chart 1.24), supported mainly by working capital loans. While outstanding loan growth was sustained above pre-pandemic levels throughout the year, some moderation was observed towards the year end as the growth in loan repayments outpaced that of disbursements. Notwithstanding this, the level of disbursements for working capital loans remained high from the second quarter onwards, as firms continued to rely on their existing credit lines to manage cash flow in a high-cost environment. Of note, investment-related loans gradually gained momentum as the year progressed amid continuation of large infrastructure projects and resumption in business expansion. Fundraising in the corporate bond market has also remained forthcoming, driven by issuances from large private firms and government-linked corporations (RM120 bn; 2021: RM89 bn). These have also supported large investment projects in the construction and utilities sectors.

Overall, credit conditions remained supportive of the financing needs of households and businesses as the economy fully reopened. While monetary policy has been adjusted in line with the firmer recovery prospects, targeted support remained available, particularly for viable borrowers and those in the most affected segments that may take longer to recover. Banks continued to provide repayment assistance to such borrowers, alongside various debt advisory and restructuring arrangements that remain in place. The Bank's various financing facilities were also repurposed to provide targeted support to SMEs in catalysing their recovery and growth prospects. These included credit facilities such as the Business Recapitalisation Facility (BRF), the Low Carbon Transition Facility (LCTF) as well as the High Tech & Green Facility (HTG). In addition, credit guarantees also continued to be available throughout the year to facilitate bank lending. Collectively, these measures provided continued support to banks, firms, and households in ensuring that financing conditions remained supportive of economic activity.

Chart 1.24: Businesses - Outstanding Loans by Purpose



* Includes purchase of securities, credit card and others.

Source: Bank Negara Malaysia

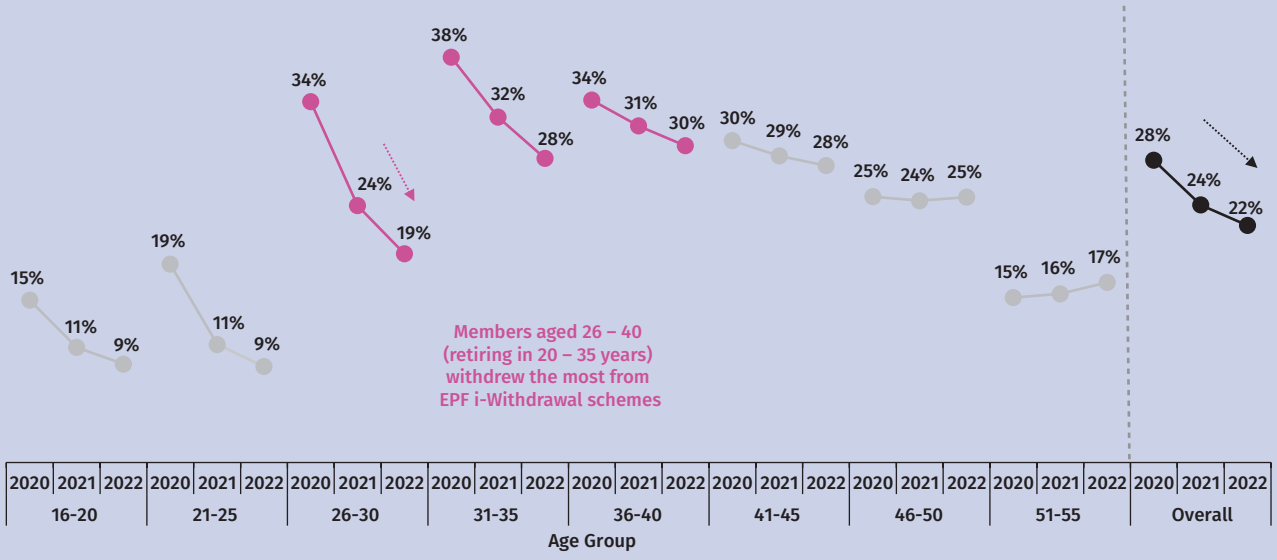
Rebuilding Retirement Savings and Financial Safety Nets in Malaysia

Introduction

Insufficient retirement savings is a critical issue around the world. It is expected to worsen in the future. The World Economic Forum (WEF) projects that global pension savings will face a shortfall of USD400 trillion by 2050.[1] This is mainly due to longer life expectancies and higher dependency ratios.[2] While longer life expectancies are a positive trend, a shrinking working age population adds a strain on prevailing social protection systems. Thus, individuals entering retirement may find it harder to meet their post-retirement needs.

Malaysia is also confronted with these global trends. In addition, income levels in Malaysia remain low (BNM, 2018) while household indebtedness[3] is relatively high. These factors dampened the saving capacity of Malaysians. This is further aggravated by the significant informal sector in Malaysia (DOSM, 2020) as informal workers have limited access to the current social protection framework that mainly serves the formal employment sector.[4] Furthermore, with numerous special withdrawals of retirement savings during the COVID-19 pandemic, many have prematurely eroded their old-age savings, with long-term implications on their standard of living especially amidst increasing life expectancies. Large withdrawals were made particularly by younger individuals within the age group of 26 to 40 years old. Between 2020 and 2022, the share of members in this age group who met the Employees Provident Fund's (EPF) definition of Basic Savings[5] declined the most (Chart 1). The median withdrawal amount for this age group amounted to RM16,400. This implied foregone savings ranging from RM24,000 to RM94,000[6] or equivalent to 10% to 39% of current Basic Savings when they retire at the age of 60.[7]

Chart 1: Share of Members with Savings Exceeding the Basic Savings[8]



Source: BNM estimates, EPF

[1] World Economic Forum (2017). We'll Live to 100 – How Can We Afford It?.
[2] The dependency ratio refers to the ratio of the population who are not of working age (younger than 15 or older than 64) compared to those who are (15 to 64 years old). A higher dependency ratio means a country has more 'dependents' (those in retirement or below working age) relative to those in the workforce.
[3] Malaysia's household debt-to-GDP ratio is among the highest in the region at 89.0% as at December 2021. This ratio stands at 89.3% in Thailand, 69.7% in Singapore, 17.2% in Indonesia (as at September 2021). Source: National authorities.
[4] Formal employment generally refers to employment which is subject to national legislation and income taxation (usually under an incorporated enterprise) with access to social protection and employment benefits.
[5] Basic Savings refers to the minimum amount of savings to cover basic retirement needs for 20 years, from the age of 55 to the age of 75 in line with the life expectancy of Malaysians. It currently stands at RM240,000.
[6] Estimates are based on internal assumptions by Bank Negara Malaysia.
[7] This is calculated based on Basic Savings as last updated in February 2019 (RM240,000). However, the threshold for Basic Savings will increase in the future, as it is revised periodically by EPF.
[8] Data for the month of April for each year.

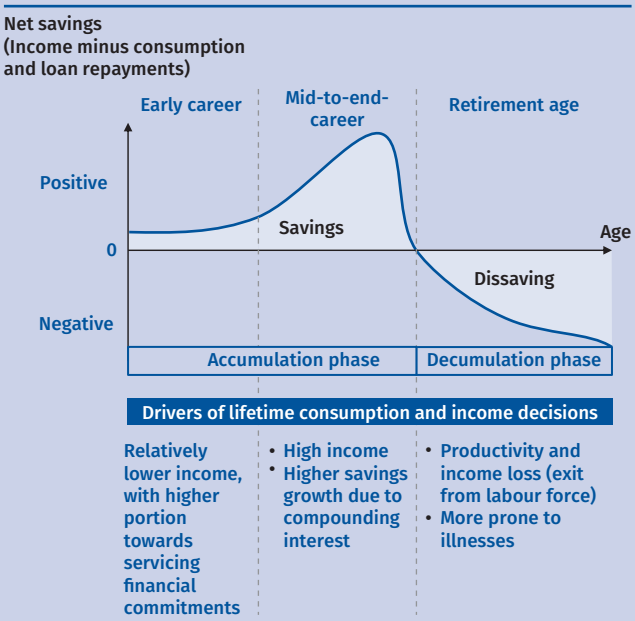
The unprecedented scale and impact of the COVID-19 pandemic have stretched the limits of the current social protection systems in many countries, including Malaysia, necessitating ad-hoc fiscal support to supplement them. This underscores the urgent need for critical policy interventions to ensure Malaysians will be protected adequately during retirement age without overburdening fiscal coffers or significantly increasing personal contribution rates at the expense of current disposable incomes. This article focuses on the need to rebuild retirement savings as part of the social insurance and overall social protection system.[9] It also examines the current state of the Malaysian retirement saving framework and discusses several shorter-term priorities that can help advance the design of a more effective social insurance system for Malaysia.

This article mainly deals with retirement savings under a defined contribution scheme, which is what most Malaysian workers rely on (e.g., EPF contribution scheme). Defined contribution schemes specify what employers and employees must contribute to the employee's individual retirement savings account. This contrasts with defined benefit schemes (e.g., Skim Pencen Penjawat Awam), which specify the amount of retirement pension an employee will receive, based on average or final attained salaries, with employers fully financing the pension payments. In Malaysia, the issues faced by those under the defined contribution scheme are unique and were exacerbated during the pandemic. Although defined benefit schemes face their own set of risks and issues such as insufficiency of monthly pensions and fiscal sustainability, these issues deserve their own separate analysis.

Global Landscape of Retirement Savings Systems

Conceptually, an individual's retirement savings lifecycle can be divided into the accumulation and decumulation phases (Mitchel & Moore, 1997). During an individual's working age (the accumulation stage), income typically exceeds consumption allowing for a net positive accrual of savings (Diagram 1). As the individual retires or exits the labour force, decumulation of savings would be necessary given the lack of income relative to consumption. However, during an individual's working years, they may be subject to various predicaments such as unemployment, health, and disability risks that affect the accumulation of savings. Upon retirement, health and disability risks persist, while longer lifespans heighten the exposure of the elderly to the risk of

Diagram 1: Stylised Path of Savings Across An Individual Lifecycle



Source: Mitchel and Moore (1997)

[9] Social protection, broadly, includes all public policies designed to provide protection for individuals against economic and social distress. There are three types of policies that fall under social protection, namely, social safety nets, social insurance, and active labour market policies (ALMPs). For further discussion, please refer to the box article "A Vision for Social Protection in Malaysia" in the 2020 BNM Economic and Monetary Review.

insufficient savings. Participation in a social insurance mechanism mitigates these risks in both the working and post-retirement years. For example, unemployment insurance programmes provide income replacement for participants who lost their jobs, reducing the need to tap into their savings in the event of a shock.

The setup of a country's pension system plays a significant role in ensuring sufficient savings accumulation during working age for use upon retirement. Globally, countries have adopted pension systems that vary in their design, though they can be clustered into four main types namely the proprietary, modified, post-colonial, and modern systems. These systems differ in their coverage, contributory arrangement, and funding (Table 1).

The **proprietary system** provides extensive government-financed assistance to the old-age population through a pay-as-you-go (PAYG) pension system with a wide coverage of the labour force, thus requiring significant fiscal outlay. PAYG, which relies on tax revenue from current workers to finance pensions for the old-age population at a point in time, is a key feature of the long-standing pension framework in Germany and France**. The modified system** was introduced to reduce the reliance on fiscal coffers to finance the pension system, forming the basis of the US and UK pension systems. Government-financed pensions in this system are typically intended to provide a minimum level of protection financed primarily via a general payroll or social security tax. Within this system, private pension schemes play a significant role in the accumulation of retirement savings, whereby the government sets up the legal landscape (e.g. mandatory enrolment requirement) and introduces incentives (e.g. matching contribution). These lower the barriers towards achieving sufficient retirement savings for individuals, particularly those of lower income.[10]

Contrary to the first two systems that are reliant on government financing, the **post-colonial system** is designed such that the government, individuals and employers have a shared responsibility in building retirement savings. This system institutes mandatory individual savings, typically managed by provident funds, such as in Singapore and Malaysia, with a role of growing the savings through strategic investments. Finally, the

Table 1: Cross-country Comparison of Main Pension System Modalities

	Proprietary	Modified	Post-colonial	Modern
Framework	Generous state-provided pensions	Basic state pension complemented by large private pension system	Mandatory individual savings	Adequate pensions premised on a social insurance framework
Labour force coverage	Wide	Wide for basic pensions. Coverage received from private pensions depend on country-specific rules on enrolment	Mixed. Pension coverage depends on the segment of the labour force (e.g., formal vs informal employment)	Typically wide[11] but mixed in some countries
Contribution system	Defined benefit and defined contribution	Defined contribution for private sector		Defined contribution
Funding/Financing	Pay-as-you-go (PAYG) system with high reliance on fiscal coffers	PAYG system, whereby financing for basic pensions is earmarked from social security contributions from payroll taxes[12]	Individually funded, whereby retirement incomes are funded by investing contributions in capital markets	Combination of PAYG and individually funded; Smaller reliance on fiscal coffers as pension benefits adjusts to economic growth and life expectancy
Country examples	France, Germany	US, UK	Asia, Latin Americas	Sweden, China

Source: Adapted from Grunewald (2022); Lu et al. (2019); Palmer (2022); Amaglobeli et al. (2019)

[10] A recent example of incentives used in this context includes the matching contributions for low-income savers under the Secure 2.0 Act which was passed into law in the US in December 2022.
[11] For example, in China, pension coverage differs by geographic areas to account for the different labour force structures in urban and rural areas.
[12] Payroll taxes are taxes levied on incomes that are typically used to finance existing social security programmes such as unemployment and healthcare programmes.

modern systems combines features of PAYG and individual contributions, making it more actuarially complex. Higher contribution rates are typically required and pension benefits are linked to economic growth and life expectancy (International Federation of Pension Funds Administrators, 2021). It is a relatively new system which retains the universality of pensions under the proprietary system, but offers greater sustainability. However, the reliance on actuarial complexity means that it is currently practised in only a few countries namely Sweden and China.

For private sector workers, Malaysia's existing pension system is more closely aligned to the post-colonial system. Primarily, these workers fall under a defined contribution scheme (i.e., EPF retirement savings). Compared to a universal basic pension that uses government financing to ensure coverage for every citizen, the post-colonial system adopted by Malaysia reduces fiscal cost by distributing responsibility among employees, employers, and the government.[13] However, its coverage of a minimum level of social protection would not be as extensive as a universal basic pension. Against this backdrop, private sector workers are therefore more vulnerable due to insufficient retirement savings accumulation.

Assessing Malaysia's Current Retirement Saving Framework Within the Wider Pension System

The effectiveness of a pension system can be assessed in terms of both its breadth and depth. Firstly, breadth assesses the extent to which a pension system provides different forms of support for the elderly. This is important as vulnerabilities at old-age and the corresponding policy intervention needed may vary from one person to another. For example, if the pension framework is solely based on drawing down savings through contributory schemes, low income and informal sector workers would be at greater risk of falling into poverty upon retirement. Additional layers of support are necessary to cater for the wide-ranging needs of the old-age population. Hence, the assessment of breadth is often guided by the World Bank's multi-pillar pension system framework, comprising five forms of intervention, each with distinct but complementary objectives. (Table 2).

The first pillar is **Pillar 0** which provides a basic level of old-age income security to elderly individuals, typically with the objective of alleviating poverty. This is often financed fully by fiscal coffers and disbursed through government transfers (e.g., cash handouts). Therefore, for Pillar 0 policies, fiscal sustainability is an important policy design consideration in terms of assistance amount and eligibility. In the earlier example, a sufficient Pillar 0 would ensure low-income and informal sector workers would have a safety net to land on should they have insufficient retirement savings. **Pillar 1** policies go further than Pillar 0 policies as they provide a basic income replacement for the elderly. These are often financed on a PAYG basis, meaning that current workers' contributions finance current retirees' pensions. An example of a Pillar 1 policy is the 'State Pension' provided in the United Kingdom. This pension is financed by National Insurance contributions from current workers and disbursements are based on an individual's past contributions. Pensions for civil servants in Malaysia, which is a form of defined benefit scheme, are typically classified under Pillar 1 (i.e., Skim Pencen Sektor Awam in Malaysia). While also acting as an income replacement mechanism, **Pillar 2** policies are, however, funded by an individual's own income-linked mandatory contributions. These contributions are invested either by the government or through a provident fund, where withdrawals can be made at a specified age (e.g., age 55 for EPF savings in Malaysia). Next, **Pillar 3** describes policies with voluntary participation which aim to provide supplementary income to the elderly beyond the level of protection accorded by Pillars 1 and 2. Additionally, Pillar 3 policies also provide an alternative savings avenue for individuals that are excluded from the mandatory setting of Pillar 2, such as informal workers. Due to their discretionary nature, there are a wide range of schemes and funds available for contributors based on their saving goals and risk tolerance. Finally, **Pillar 4** covers a wide range of non-financial support mechanisms. These include formal support, such as healthcare, and informal support, such as family support.

[13] While the government typically has a smaller role in financing pensions under post-colonial defined contribution schemes, they can still facilitate more adequate pensions and ensuring effectiveness. In Malaysia, for example, under i-Saraan, the Government provides a 15% matching grant for voluntary contributions to EPF made by self-employed individuals. Elsewhere, in Singapore, the government provides a monthly top-up to retirees with a CPF annuity monthly pay-out of less than SGD1300.

Different countries balance the five pillars differently depending on the pre-existing pension systems. In Malaysia, there is generally a greater reliance on retirement saving (Pillar 2) given the prominence of the post-colonial pension system for private sector workers' pensions.

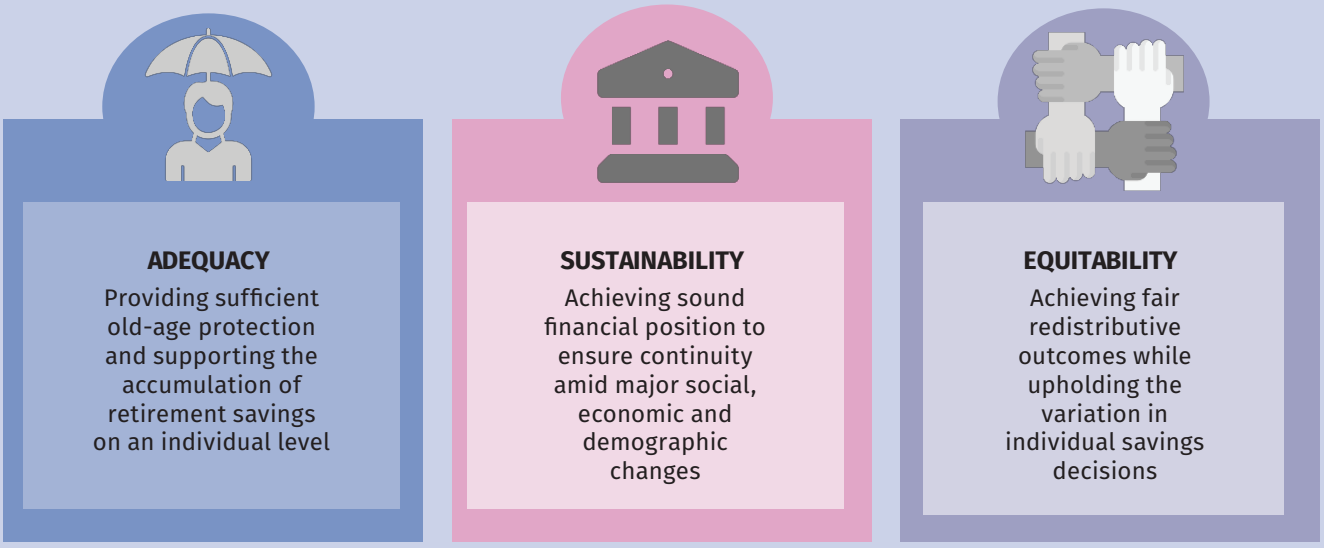
Table 2: Multi-pillar Framework for Malaysia's Pension System

	Pillar 0	Pillar 1	Pillar 2	Pillar 3	Pillar 4
Description	Fiscally-financed universal minimum level of protection	PAYG-financed universal basic income replacement (e.g., payroll tax-financed social security); Defined benefits public pensions	Defined contribution schemes for income replacement	Voluntary and discretionary schemes for additional income protection	Non-financial support in the form of informal (e.g. family support), and formal support (e.g. healthcare)
Objective	Poverty prevention	Income replacement		Supplementary income	Non-financial support
Funding/ Financing	Non-contributory (tax-financed)	Mix of tax financed and contributions-based	Mandatory contributions	Voluntary contributions	Mixed
Example in Malaysia	Bantuan Warga Emas (BWE)	Skim Pencen Penjawat Awam; Payroll tax or equivalently financed social security (not applicable in Malaysia but exists in countries such as US and UK)	EPF defined contributions schemes	EPF's i-Saraan, i-Suri, private insurance e.g., deferred annuities and/or Private Retirement Schemes	Public healthcare system

Source: World Bank, Bank Negara Malaysia

Secondly, depth refers to whether a pension system's pillars and policies achieve the desired characteristics of effectiveness. This is measured against three key characteristics: (1) adequacy, (2) sustainability, as well as (3) equitability.

Diagram 2: Characteristics of An Effective Pension System



Source: World Bank, International Labour Organization

Malaysia's pension system exhibits different levels of **adequacy** across the pillars. Currently, Pillar 0, which acts as a minimum pension benchmark for private sector workers in Malaysia, is inadequate. For instance, Pillar 0 assistance provided by the Social Welfare Department through the Bantuan Warga Emas (BWE) falls below minimum acceptable standard of living levels.[14] As a result of the low adequacy for Pillar 0 as well as the absence of Pillar 1 protection, private-sector retirees are at risk of a wide range of vulnerabilities if their mandated Pillar 2 retirement savings are insufficient to sustain their post-retirement living costs. This is amid the multiple special withdrawal facilities during the COVID-19 pandemic, which have reduced adequacy of Pillar 2 savings for many.[15] Additionally, due to the limited affordability and accessibility of private retirement schemes[16] under Pillar 3, most Malaysians are not able to access additional income protection. To some extent, Pillar 4 policies provide some support given the accessibility of universal public healthcare which mitigate health risks for the old-age population. According to the World Health Organization (WHO), Malaysia received a score of 73 in the 2017 universal health coverage service coverage index (SCI), comparable to countries such as Finland (78), France (78), and Turkey (74).[17] While this is subject to risks such as high financing needs, this pillar is relatively adequate compared to other pillars.

Sustainability of the Malaysian private pension system is generally sufficient. However, this is partly attributed to the lower adequacy for Pillar 0 as mentioned above. Currently, programmes like Bantuan Warga Emas takes up a relatively small share of the Government's revenue at 0.3%.[18] Sustainability is also supported by the better implementation of Pillar 2 as EPF's strong institutional capacity has resulted in a historically robust performance, even during periods of economic downturn. Going forward, voluntary retirement saving (Pillar 3) policies could be an area of focus to reduce reliance on Pillar 2. The success of Pillar 3 would rely on complementary measures to boost incomes and strengthen financial literacy for Malaysians to inculcate the habit of discretionary savings.

Equitability is generally low in Malaysia's private pension system due to the gaps in coverage. While workers currently in the formal sector are provided with more equitable protections (e.g., employment insurance) and access to Pillar 2 schemes, the increasing share of informal workers in Malaysia[19] warrants several critical and urgent policy interventions. Currently, the coverage of Pillar 2 schemes is mostly confined to employees with a formal employer-employee relationship, making informal sector workers (e.g., self-employed individuals) highly vulnerable to lifecycle risks. This is compounded by the high degree of fragmentation in cash assistance programmes, which results in exclusion errors. In general, greater provisioning of the social protection floor[20] would ensure a more equitable pension system. This could be achieved by sustainably enhancing Pillar 0 policies. Besides increasing the amounts disbursed under Pillar 0, greater effectiveness can also be achieved by embedding elements of upward mobility that enhances one's income-earning capacity into the policy design. For example, cash transfer programmes such as the Sumbangan Tunai Rahmah[21] can be linked to other pillars of social protection,[22] such as active labour market policies (ALMPs),[23] to encourage upward mobility, enhance the beneficiaries' ability to earn higher income, and in the long-term promote greater capacity for accumulation of retirement savings.

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[14] Bantuan Warga Emas covers only roughly 40% of the monthly expenses for a household with one elderly couple to achieve a minimum acceptable standard of living, assuming both individuals receive the assistance (estimate based on Belanjawanku, 2019). Furthermore, compared to countries with a similar means-tested old-age assistance programmes, old-age assistance adequacy is low at only 3.7 times above the international poverty line with Chile at 4.7, Brazil at 5.9, and Argentina at 7.7 (Pension Watch Database, 2022).

[15] In a 2021 press release, EPF highlighted 6.1 million members have less than RM10,000 in their EPF accounts, of which 3.6 million have less than RM1,000, as a result of the special withdrawal facilities during the pandemic.

[16] In Malaysia, factors driving the cost of annuity products under private retirement schemes include low demand, high operating cost of setting up annuity funds, and high investment risk due to the lifespan uncertainty of insurance holders (Actuarial Partners Consulting, 2012).

[17] The World Health Organization's (WHO) universal healthcare service coverage index (SCI) represents the average of a country's indicators in four essential health service areas: (1) reproductive, maternal, newborn, and child health, (2) infectious diseases, (3) noncommunicable diseases, and (4) service capacity and access. It scaled from 0 to 100, where a higher score corresponds with better performance. Latest available data on SCI is based on WHO's 2021 report, which updated data for the year 2017.

[18] The share of old-age assistance spending to revenue is comparable to other countries at 0.4% for Thailand and 0.9% for Chile respectively. Source: National authorities and Bank Negara Malaysia estimate.

[19] Between 2019 and 2021, employment in Malaysia's informal sector increased from 8.3% to 8.6% of the labour force.

[20] A minimum social protection encompassing access to education, healthcare, sanitation, and basic income security for all. In Malaysia, the latter could be a focus area for enhancement.

[21] Previously known as the Bantuan Keluarga Malaysia.

[22] The three pillars of social protection are social safety nets, social insurance, and active labour market policies. These three pillars are covered in more depth in the box article "A Vision for Social Protection in Malaysia" in the 2020 BNM Economic and Monetary Review.

[23] Active labour market policies (ALMPs) are generally defined as policies aimed at enhancing the income-earning capacity of workers such as upskilling and reskilling programmes, and employment placement services.

Saving Our Tomorrow: Reforms for A Better Future

Addressing issues related to retirement savings in Malaysia will take a larger timeframe as most of the impediments, such as low wages, are structural in nature. Of importance, as advocated by several multilateral agencies,[24] policy reforms are most effective when they are comprehensive, complementary to each other and linked with multiple pillars of social protection. In terms of sequencing, equitability-focused reforms can be the focus in the medium term, where immediate priorities should be centred on rebuilding resilience and adequacy of retirement savings in a post-pandemic landscape. The latter includes ringfencing of retirement funds and enhancements to existing old-age safety net programmes. This should be done in tandem with system enhancements to improve broader policy effectiveness and efficiency, such as enhancing productivity and unlocking the potential of social protection data. These immediate priorities will be the primary focus of this section.

Ringfencing of retirement funds to lengthen the accumulation stage in ensuring adequate savings

The risk of inadequate pensions, which is already acute, has been further exacerbated by the recent massive pre-retirement withdrawals of savings. In Malaysia, the pre-pandemic median savings for the cohort between the age group of 51 and 55 would only have lasted an additional 5 years[25] upon withdrawal at 55. However, following the pre-retirement withdrawals of savings since the pandemic, it has further been reduced to around 3 years. To put this into perspective, the average global life expectancies are expected to rise to above 77 by 2050 (United Nations, 2022). Based on this, an average Malaysian would be at risk of having depleted his or her retirement savings 19 years before death. This sizeable gap between the median longevity of retirement savings and life expectancy after retirement highlights the urgent need to rebuild savings buffers.

The sizeable gap between the median longevity of retirement savings and life expectancy after retirement highlights the urgent need to rebuild saving buffers, depleted by special withdrawals during the pandemic

Against this backdrop, policies to enhance savings accumulation by way of lengthening the accumulation phase needs to be urgently instituted. Based on international benchmarking, ringfencing and reinvestment offers a potential solution. This involves reinvesting a portion of savings that would otherwise have been withdrawn upon the withdrawal age, thereby extending the accumulation period.[26] For example, in Singapore, a portion of an individual's savings[27] at age of 55 are transferred to their retirement savings account, allowing it to grow for a further 10 years. In Chile, retirees are given an option to fully or partially annuitise their accumulated savings, allowing some level of continued capital growth in contrast to a lump-sum withdrawal. Both countries found success in reducing longevity risk[28] (Diagram 3). In Malaysia, the benefit of ringfencing will be significant, specifically for members with continuous contributions after reaching the withdrawal age at 55 years old. EPF members aged 50 to 54 years old with incomes at the B40 threshold stand to benefit up to an additional

[24] Both the ILO and World Bank play a critical role in galvanising pension reform advocacy in multiple countries. As of December 2022, the World Bank has 42 active pension engagement projects conducted bilaterally with participating countries, while the ILO conducts periodic pension reviews alongside facilitating the Tripartite Round Table on Pension Trends and Reforms.

[25] Based on EPF minimum pension assumption of RM1,000 monthly (EPF, 2021). Note: EPF contributors can make either a full or partial withdrawal from Accounts 1 and 2 at age 55.

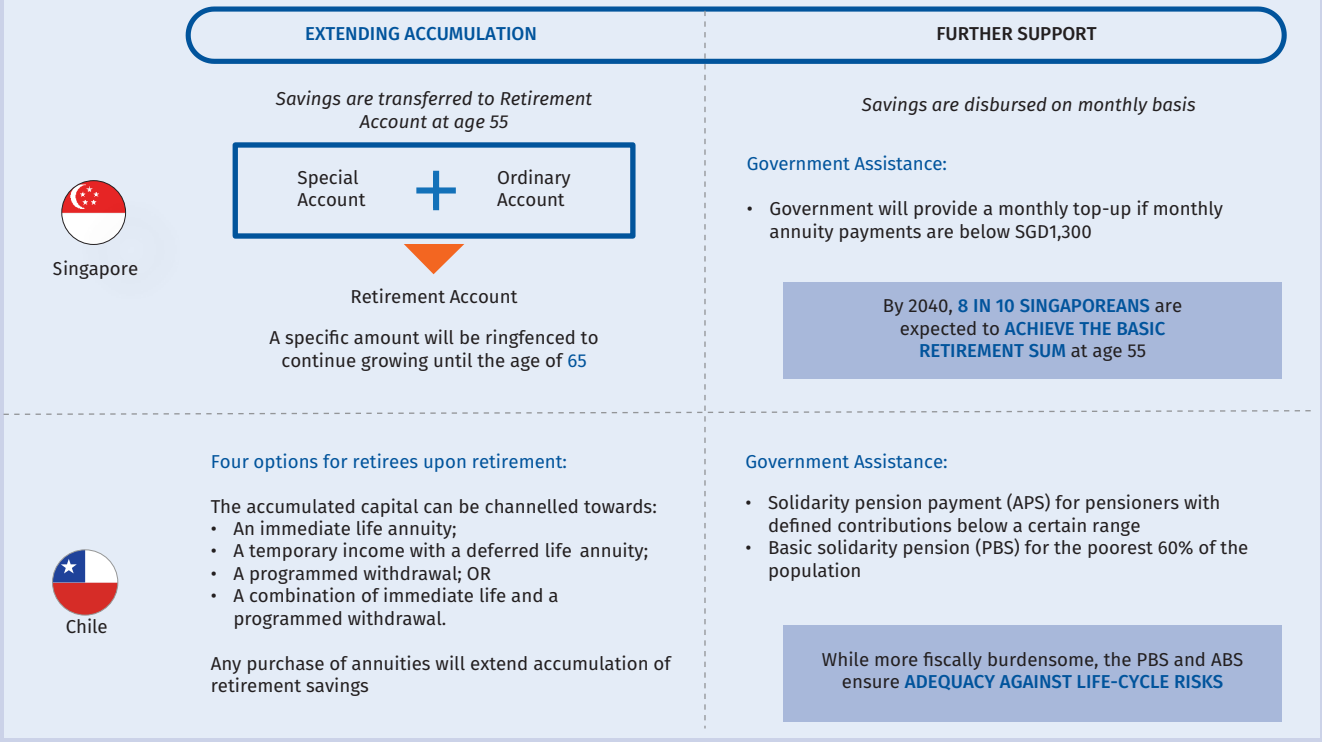
[26] Currently in Malaysia, Akaun Emas is available for EPF retirees who continue to make contributions after age of 55. While this is the closest product to ringfence savings, the benefit to retirement adequacy is lower as savings longevity is not materially extended.

[27] In Singapore, retirement savings accrue from mandatory contributions on earned wages. The statutory employee and employer contribution rates are tiered by age as follows: 20% and 17% for workers aged 55 years and below; 15% and 14.5% for workers aged between 55 and 60 years; 9.5% and 11% for workers aged between 60 and 65 years; 7% and 8.5% for workers aged between 65 and 70 years; 5% and 7.5% for workers aged 70 years and above.

[28] Longevity risk refers to the risk of life expectancies exceeding expectations or pricing assumptions, resulting in greater-than-anticipated cash flow needs of retirement funds.

RM36,800[29] more savings if they defer withdrawals of savings and continue contributing by another 5 years to age 60. This is equivalent to 16% of EPF's Basic Savings and could extend the sufficiency of accumulated savings post-retirement by an additional 3 years. This will unequivocally improve the resilience against economic and financial shocks for retirees. Enhancing savings sufficiency could also be achieved by increasing contribution rates. However, this may be more challenging as it could be impeded by structural factors such as low wages, or lead to unintended consequences such as disincentivising hiring of new workers. This policy could be explored in the future alongside income-enhancing policies and incentives for employers to match the higher contributions.

Diagram 3: Mechanism to Ringfence Retirement Savings in Singapore And Chile



Source: Central Provident Fund, Singapore; OECD (2021)

Enhancements to old-age social safety nets to ensure provision of basic needs

In ensuring basic needs of the elderly are adequately catered for, many countries have implemented policy support in the form of social safety nets. These are typically in the form of targeted cash assistance programmes which aim to provide a minimum level of protection for vulnerable old-age persons. In Malaysia, approximately 19.5% of individuals aged 60 and above receive old-age benefits (Khazanah Research Institute, 2021). As the share of old-age individuals rises (Department of Statistics Malaysia, 2016), so will the reliance on these assistance measures. Reforms should therefore prioritise to increase its adequacy and reach. Adequacy can be enhanced by ensuring that assistances are linked to standard of living measures. For example, the minimum pension for public sector employees at RM1,000 per month[30] could be used as a benchmark for cash assistance, similar to how it is used by EPF as the basis for Basic Savings. The reach of programmes can be widened by consolidating assistances towards a single flagship programme (e.g., Sumbangan Tunai Rahmah), thereby maximising ease of access. Importantly, enhancing sufficiency of elderly assistance could also lead to indirect benefits for current workers. This is because greater public assistance would reduce the reliance on subsistence support from their families or children, enabling them to build their own savings buffers.

[29] Assumes an initial savings of RM39,000. This is equivalent to the median savings balance observed post-pandemic for EPF members in the 51 to 55 years old age group earning below the B40 income threshold (Only applicable to those where income data is available).
[30] Currently the monthly allowance under Bantuan Warga Emas is RM500 per month for individuals aged 60 years and above in a household earning below the national poverty line (RM2,208 per month).

Tapping on old-age productivity and social mobility to enhance incomes

Labour market and social security reforms are key policy areas which contribute to sustainably enhancing post-retirement standards of living. Specifically, policies that aim to create suitable jobs for old-age persons seeking to re-enter the labour force should be considered. Malaysia's progress[31] on this front has been relatively slow, with the labour force participation rate for individuals aged 60 to 64 stagnating at about 40% over the past two decades (Khazanah Research Institute, 2021). A cause for this low participation arises from low demand from employers for old-age workers. This results in a lack of suitable occupations and could discourage those interested from re-entering the labour force.

To this end, policies should therefore prioritise resolving market failures preventing old-age persons interested to join the labour force from obtaining suitable employment. Measures such as contract hiring incentives for greater working flexibility could be pursued. In the short-term, leveraging existing platforms such as myFutureJobs[32] could be a low-hanging fruit for the purpose of old-age job matching. Additionally, enhancing interlinkages and complementarities across social protection programmes like ALMPs could serve to facilitate social mobility and enhance earnings potential throughout the accumulation phase.

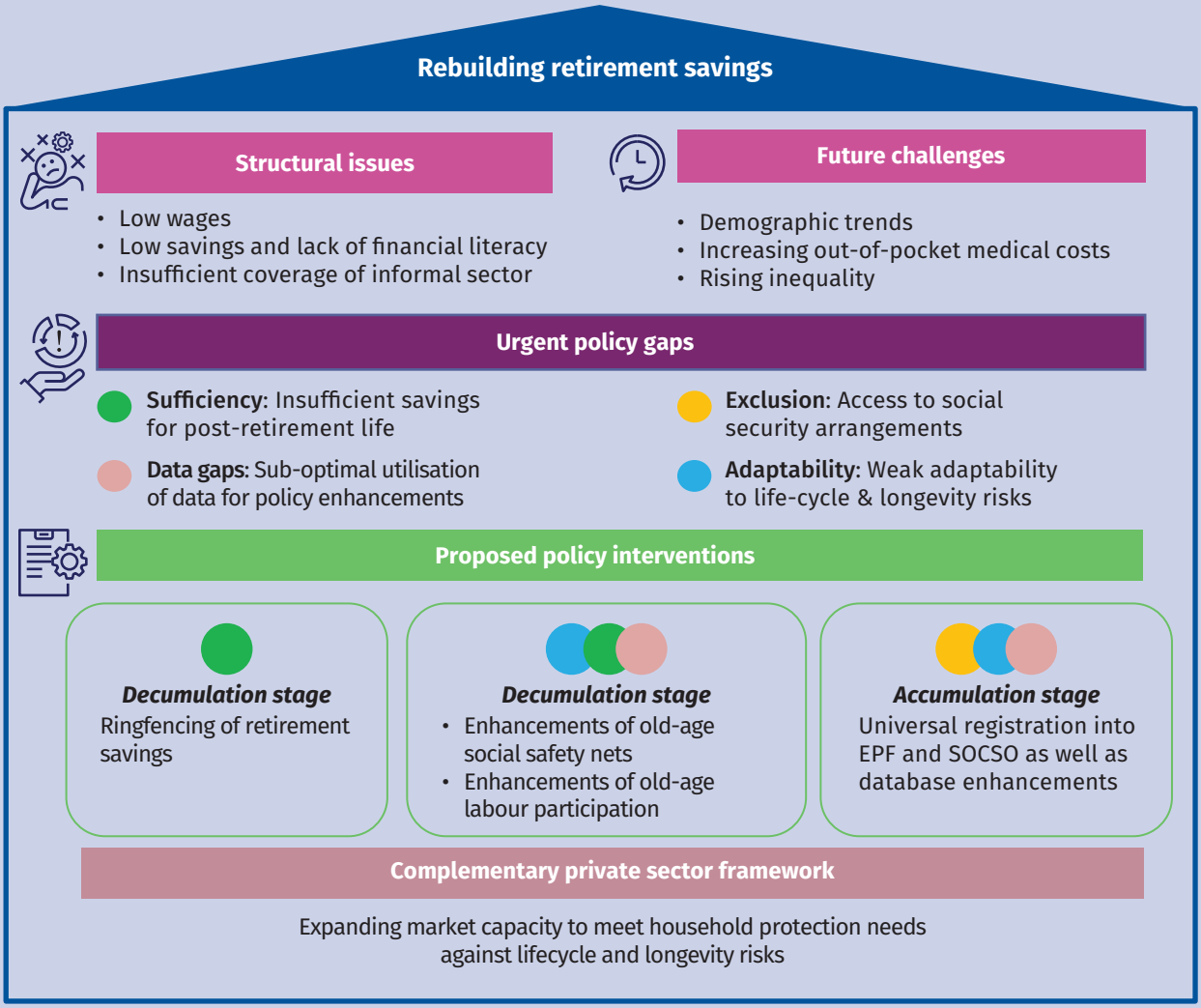
Unlocking data to enhance policy effectiveness

Ensuring the availability of comprehensive social protection data should be another focus area for policy intervention, which could serve as an enabler for other reforms. Where retirement savings and financial safety nets are concerned, a key factor underlying information gaps is the high prevalence of the informal sector in the Malaysian workforce, as social security arrangements and data depend on formal employer-employee relationships. Capturing these groups within the social protection data landscape is essential to ensure policies reach their targeted recipients. As a start, automatic registration of all 18-year-olds into EPF and Social Security Organisation's (SOCSO) databases can be explored. This is in line with the Government's current pursuit of building a harmonised social protection database (Pangkalan Data Perlindungan Sosial – PDPS). [33]

On top of reducing information gaps, more comprehensive information can also facilitate future policy interventions moving forward. For example, linkages between SOCSO and cash assistance data could allow for conditionalities on cash assistance based on participation in labour market programmes (e.g., upskilling programmes). Furthermore, the inclusion of data of all Malaysians within PDPS would enhance the targeting ability of social protection policy and minimise exclusion errors, especially among the vulnerable groups.

[31] In comparison to Mexico and Colombia, which are countries with a similar population age structure to Malaysia, labour force participation rates among 55- to 64-year-olds in 2021 are much larger at 63.8% and 70.7%. OECD Statistics (2021).
[32] MyFutureJobs is a national job-matching portal that maps individual data (e.g., work experiences, skills and education background) to existing vacancies within Malaysia. The use-case of this platform is wider as MyFutureJobs has linkages to other job-market related assistances such as wage subsidy (i.e., rolled out during COVID-19) and training and upskilling programmes.
[33] Pangkalan Data Perlindungan Sosial (PDPS) is a centralised social protection database managed by the Implementation Coordination Unit (ICU).

Diagram 4: Retirement Savings Issues And Proposed Policies



Source: Bank Negara Malaysia

Conclusion

Reforms of old-age protection system is a broad and highly complex policy challenge for Malaysia. Notwithstanding, shorter-term policies to boost policy effectiveness and facilitate retirement savings accumulation discussed in this article, are crucial, urgent, and implementable. This would also pave the way for other reforms in reducing labour market frictions, solidifying fiscal sustainability which includes reforms in public revenue and expenditure, and enhancing the overall social protection framework. It is worth emphasising that these enhancements are no substitute for necessary long-term economic reforms that can raise current income levels. A labour market underpinned by robust productivity and high financial literacy are vital complements for a better pension system. Therefore, enhancements over both short- and long-term horizons are needed concurrently to ensure continued strengthening of the economy, supported by an effective social protection system.

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Outlook and Policy in 2023

Outlook and Policy in 2023

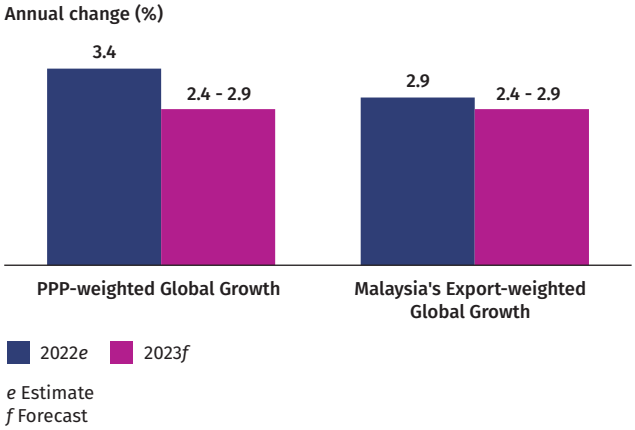
2023: MODERATE ECONOMIC GROWTH BUT UNCERTAINTY REMAINS

A challenging and uncertain global economic and financial market landscape

The global economy is expected to grow at a slower pace in 2023, with PPP-weighted global growth and Malaysia's export-weighted global growth[1] both projected to expand between 2.4% and 2.9% (Chart 2.1). Global growth will be supported by resilient labour markets, easing of supply chain disruptions, China's reopening and continued recovery in global tourism activity. However, the positive impact from the reopening of economies and pent-up demand experienced in 2022, while present, will likely wane in most economies. Tight monetary policy and elevated inflation will continue to pose headwinds to global economic activity. The tightening of monetary policy in advanced economies (AEs), could lead to spillovers to emerging market economies (EMEs) through tighter financial conditions and slower exports. Nevertheless, given moderating inflation and financial stability concerns, the pace of monetary policy tightening could be slower going forward, partially offsetting the pressure on EMEs.

The elevated inflation and tighter monetary policy in major economies such as the US and euro area are expected to weigh on consumption and investment activities. Despite overall easing amid the moderation in growth, labour markets remain tight. Resilient labour markets and modest strength in balance sheets would support household consumption in both economies. Euro area will continue to face high energy prices due to substitution away from Russian

Chart 2.1: Global Real GDP Growth



e Estimate
f Forecast

Source: Bank Negara Malaysia

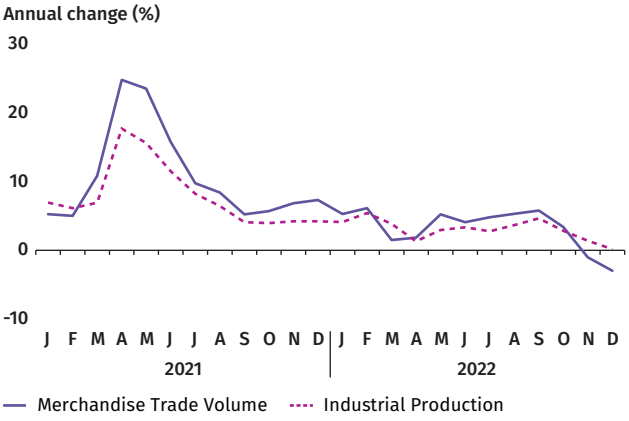
energy but its impact will be partially mitigated by significant measures to diversify energy supply and reduce energy consumption.

In contrast, economic growth in China is projected to be higher in 2023, following the withdrawal of its Zero-COVID policy in December 2022. Economic activity in China has begun to recover, with additional impetus from pent-up demand. These are expected to support growth throughout the year. Nevertheless, the property market will likely remain weak due to the credit crunch confronting developers and weak sentiments among potential homebuyers. Externally, the slower global growth would translate to weaker external demand for China's goods.

Global trade activity is expected to remain subdued, partially offset by the recovery in tourism activity. With most economies reopening in 2022, consumption of services strengthened, along with a moderation of production and trade of goods (Chart 2.2). This trend is expected to continue with a further acceleration in the recovery of tourism activity in 2023. Demand for goods will continue to be weak as growth remains soft in major economies.

[1] Aggregate growth of Malaysia's key trade partners, as weighted by their shares in Malaysia's exports. This measure of global growth is reflective of Malaysia's exports and growth prospects.

Chart 2.2: Global Merchandise Trade Volume and Industrial Production



Source: CPB Netherlands Bureau for Economic Policy Analysis

Inflation is expected to moderate in 2023 but remain elevated for many countries. The moderation reflects easing of supply chain disruptions, lower commodity prices and softening global demand. Nevertheless, inflation is projected to remain higher than the long-term average due mainly to tight supply in commodities particularly for energy, caused by the reduction of supply from Russia. In addition, tight labour markets in AEs will also contribute to wage pressures.

Monetary policy adjustments by major central banks, particularly the Fed, are expected to continue as one of the major factors influencing global financial market conditions in 2023. The pace of monetary tightening will be dependent on the evolving assessment surrounding inflation outlook and this would continue to be a source of volatility in the financial markets. Although the Fed has conveyed its resoluteness in bringing inflation down, the more recent data indicated a mixed signal regarding the strength of inflationary pressures. Investors' concerns on financial stability risks following the recent banking sector stress also adds another layer of uncertainty to market expectations regarding the path of global monetary tightening. Amidst this uncertain environment, investors' sentiment is likely to continue to be a key driver of volatility in financial markets going forward.

Beyond developments in global monetary policy, investor sentiments may be lifted amid the improvement in China's economic prospects due to the reopening of its economy. Moreover, should the ongoing uncertainty surrounding global monetary policy adjustments begin to abate, domestic economic fundamentals could become a more important factor influencing the financial markets and exchange rate developments.

Risks to global growth are tilted to the downside amid the challenging environment

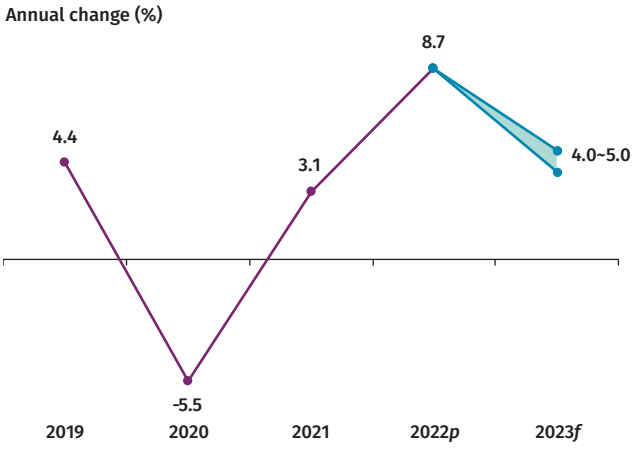
Downside risks to growth stem from escalations of geopolitical tensions which could disrupt global trade, supply chains and commodity markets. In addition, tighter-than-expected labour markets and higher commodity prices from China's reopening may keep inflation elevated for longer, necessitating tighter monetary policy. High borrowing costs, volatile exchange rate and disorderly capital outflows could lead to debt distress among vulnerable EMEs. Furthermore, tight financial conditions could exacerbate prevailing financial sector imbalances. In contrast, upside risks to global growth could arise from stronger-than-expected domestic demand. This stems from the lingering support from excess savings and resilient wage growth in several major economies.

The Malaysian economy is projected to grow between 4.0% and 5.0% in 2023, supported by firm domestic demand

For Malaysia, growth will moderate in 2023 (2022: 8.7%). The economy will continue to face challenges, particularly on the external front. Slowing global growth is expected to weigh on Malaysia's exports. Domestically, concerns remain on the elevated cost of living and input costs, and its impact on spending by households and businesses. Nonetheless, growth will be driven mainly by firm domestic demand, underpinned by further improvement in employment and income levels, continued implementation of multi-year investment projects and higher tourism activity.

In tandem with a more subdued global trade activity, as similarly observed in other economies, gross exports are expected to expand modestly at 1.5% (2022: 25.0%). Gross imports, which grew strongly in 2022, are also likely to moderate. This is attributable mainly to weaker manufactured exports and reduction of inventory build-up as global supply chain disruptions ease further.

Chart 2.3: Malaysia's GDP Growth



f Forecast

p Preliminary

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

As the economy normalises further, domestic demand is expected to be resilient. Private consumption is expected to record a growth of 6.1% (2022: 11.3%), underpinned by continued improvement in employment and income. Nevertheless, spending by lower-income households may continue to be impacted by the elevated cost of living. Meanwhile, private investment is projected to expand by 5.8% (2022: 7.2%), supported by the implementation of multi-year projects across all economic sectors. Ongoing efforts by firms to embark on automation and digitalisation, complemented by continued progress in large-scale transport and digital infrastructure projects would further support investment.

The gradual resolution to some of the frictions experienced in 2022 should accelerate recovery in previously underperforming sectors. The *mining* sector, whose output in 2022 was affected by plant closures for maintenance and maturing of existing oil fields, is expected to benefit from the operationalisation of new facilities. In the *construction* sector, building material costs are expected to stabilise albeit remaining at elevated levels. In addition, labour shortages are expected to ease further amid the continuing return of foreign workers. This will lend support especially to agriculture production and construction activities. Meanwhile, further recovery in international travel, including from the resumption in China's outbound tourism since 8 January 2023 is projected to boost growth in high-touch services sub-sectors.

Labour market conditions are expected to improve further in 2023, providing impetus to household spending. The strong increase in employment levels seen in 2022 is expected to continue in 2023. The pace of improvement, however, may moderate closer to the long-term average,[2] reflecting a normalisation of labour market conditions. Labour demand will remain favourable, supported by ongoing recovery in tourism-related activities and expansion plans by some manufacturers and retailers. Similarly, income prospects remain encouraging. Wages, which have begun to improve steadily in 2022, are expected to increase further in 2023. This is in line with continued expansion in employment and improvements in productivity. Wage growth will be further lifted by the wider coverage of overtime pay entitlements with the amendment to the Employment Act, and the implementation of the minimum wage hike. Of significance, policy measures remain in place, with targeted assistance such as cash transfers, various tax incentives, and social protection schemes remaining available for vulnerable households which will continue to support their spending.

The risks to Malaysia's growth projection are fairly balanced. Downside risks emanate primarily from external factors, mainly from weaker-than-expected global growth stemming from a sharp tightening in global financial markets amid tighter monetary policy or worsening sentiments. In addition, further escalation of geopolitical conflicts could dampen Malaysia's trade performance. On the domestic front, higher-than-expected inflation would lower the purchasing power of households, while a steep rise in input costs could affect firms' profits. Regardless, better-than-expected labour market condition, stronger pick-up in tourism activity, as well as the implementation of projects including from the recently re-tabled Budget 2023 would provide upside risks to the domestic growth outlook.

[2] Based on data by the Department of Statistics Malaysia, the average employment growth in 2015-2019 is estimated to be 1.7%.

Domestic demand continues to be the main driver of growth

In 2023, domestic demand, particularly private sector spending, will remain the anchor of growth for the Malaysian economy. Further improvements in labour market conditions will sustain household spending. Meanwhile, investment activity would be driven by the realisation of multi-year projects across key economic sectors. On the external front, export growth is expected to moderate in line with a slower global growth. Nevertheless, further recovery in inbound tourism and moderation in import growth will continue to provide support to net export growth.

Private consumption is projected to continue growing, albeit at a more moderate pace (2023f: 6.1%, 2022: 11.3%, long-term average 2011-2019: 7.1%). While households are expected to further adjust spending in response to elevated cost of living, consumption spending will be underpinned by continued improvements in labour market conditions. In 2023, the unemployment rate is expected to improve to ~3.5%, with more broad-based expansion in income. In addition, Government policy measures, including the implementation of a higher minimum wage by small firms,[3] the expansion in the coverage of employees entitled for overtime pay[4], the revision in individual income tax rates in Budget 2023, and cash transfers are expected to provide further support to household income.

Table 1

Real GDP by Expenditure (2015=100)

	2022*p*	2022*p*	2023*f*	2022*p*	2023*f*
	% of GDP	Annual change (%)		Contribution to growth (percentage point)	
Domestic Demand[1]	**93.1**	**9.2**	**5.4**	**8.5**	**5.1**
Private sector expenditure	75.6	10.4	6.1	7.8	4.6
Consumption	60.2	11.3	6.1	6.6	3.7
Investment	15.4	7.2	5.8	1.1	0.9
Public sector expenditure	17.5	4.3	2.7	0.8	0.5
Consumption	13.2	3.9	1.3	0.5	0.2
Investment	4.4	5.3	7.0	0.2	0.3
Gross Fixed Capital Formation	19.7	6.8	6.0	1.4	1.2
Change in stocks	**1.5**			**0.3**	**-1.2**
Net Exports of Goods and Services	**5.4**	**-1.8**	**9.7**	**-0.1**	**0.5**
Exports	71.7	12.8	2.7	8.9	1.9
Imports	66.3	14.2	2.1	9.0	1.4
Real Gross Domestic Product (GDP)	**100.0**	**8.7**	**4.0 ~ 5.0**	**8.7**	**4.0 ~ 5.0**

[1] Excluding stocks
p Preliminary
f Forecast

Note: Figures may not necessarily add up due to rounding.

Source: Department of Statistics, Malaysia and Bank Negara Malaysia

Growth of private investment will be supported by the realisation of new and ongoing investment projects across key economic sectors. Further progress in key infrastructure projects such as the Malaysia Digital Economy Blueprint (MyDIGITAL) and continued drive for greater automation and digitalisation would also support investment activity. Of significance, construction work in both residential and non-residential subsectors continues to improve. Investment intentions also remain forthcoming with investment approvals in 2022 amounted to RM265 billion (2021: RM309 billion). Furthermore, ongoing efforts by the Government,

[3] Firms employing fewer than five employees.
[4] Under the new change, employees entitled to overtime pay will be those earning up to RM4,000 a month (Previously up to RM2,000 a month).

particularly through the various initiatives under the New Investment Policy to attract and facilitate the implementation of investment projects,[5] would provide additional support to investment activity.

Public investment is expected to expand further attributable to higher capital spending by both the General Government and public corporations amid continued progress of large-scale infrastructure projects, such as the East Coast Rail Link (ECRL), Light Rail Transit Line 3 (LRT3), and Pan Borneo Highway. The Government's fixed assets spending is expected to be channelled mainly towards transportation, education, public utilities, and healthcare projects. Moreover, investments by several major public corporations to support the transition to net zero carbon emission by 2050 is expected to provide additional lift to growth.

Public consumption is expected to grow at a slower pace. The moderation is due mainly to contraction in supplies and services spending due to the lapse in COVID-related expenditure. Emoluments spending, however, is expected to be higher driven by Special Additional Annual Salary Increment of RM100 for civil servants and the absorption of contract officers to permanent positions, particularly in the health and education services.

[5] The initiatives include the Project Acceleration and Coordination Unit (PACU), which provides end-to-end facilitation services for investors throughout the investment journey.

Continued expansion at a moderate pace

In 2023, most economic sectors are projected to expand at a more moderate pace amid the expectation of slower global growth and normalisation from the high growth recorded last year. Broadly, growth will be driven by continued expansion in consumer and tourism-related subsectors while export-oriented subsectors are expected to moderate in line with slower global growth. Meanwhile, the easing of supply chain disruption and resolution of labour shortages will also lend support to all economic activities.

Table 1

Real GDP by Kind of Economic Activity (2015 = 100)

	2022*p*	2022*p*	2023*f*	2022p	2023*f*
	% of GDP	Annual change (%)		Contribution to growth (ppt)[1]	
Services	58.2	10.9	5.0	6.2	2.9
Manufacturing	24.2	8.1	4.0	2.0	1.0
Agriculture	6.6	0.1	0.7	0.0	0.0
Mining and quarrying	6.4	3.4	2.0	0.2	0.1
Construction	3.5	5.0	6.3	0.2	0.2
Real Gross Domestic Product (GDP)	**100.0**[1]	**8.7**	**4.0~5.0**	**8.7**	**4.0~5.0**

[1] Figures may not necessarily add up due to rounding and exclusion of import duties component
p Preliminary
f Forecast
Source: Department of Statistics, Malaysia and Bank Negara Malaysia

Growth in the *services* sector is expected to be underpinned by consumer- and tourism-related activities amid further recovery in global tourism activity. Business-related services will remain supportive of growth, although at a slower pace, in line with the continued expansion in construction activity and external demand. Furthermore, sustained demand for data services, mainly in support of e-commerce and e-payment activities, is expected to provide further impetus to the information and communication subsectors.

Growth of the *manufacturing* sector is expected to be moderate. The E&E cluster is projected to grow below its long-term average of 6.2%[6] in tandem with the anticipated slowdown of global semiconductor sales. Growth in

[6] Average between year 2016 to 2019.

the consumer-related manufacturing cluster is expected to be lower amid normalisation in household spending activities. Meanwhile, the construction-related manufacturing cluster is forecasted to record a modest growth, supported by investment in structures. The primary-related cluster is projected to expand at a faster pace, partly supported by the higher capacity utilisation at a major oil refinery in Johor.

The *agriculture* sector will be supported mainly by higher oil palm production, as labour supply improves. Heavier rainfall in the early part of the year is also expected to improve soil moisture, thereby increasing oil palm yields in the later part of the year. Additionally, the gradual recovery in raw material supplies, especially fertiliser and animal feed, is anticipated to support growth in livestock and other agriculture subsectors.

The *mining* sector growth is projected to moderate. The operationalisation of new facilities located in Peninsular Malaysia and higher production in existing oil and gas facilities, including the Block SK320 located in offshore East Malaysia, will provide support to growth. This will offset the loss of output from maintenance-related closures in several facilities and maturing oil and gas fields.

The *construction* sector is expected to record a stronger growth in 2023, buoyed mainly by continued improvement in activities within the civil engineering and residential subsectors. Faster progress of existing large transportation and utility projects will lift growth in the civil engineering subsector. Meanwhile, higher new housing launches, in tandem with the expected expansion in demand following better income and employment prospects, will provide support to the residential subsector.

Potential Output and the Output Gap of the Malaysian Economy

Potential output is the highest non-inflationary level of output that can be produced in an economy. It indicates the economy's sustainable growth path, based on prevailing factors of production (i.e., labour, capital) and productivity.

In 2022, potential output[7] continued to expand at a faster pace of 6.4% (2021: 2.7%, 2011-2019 average: 4.9%). The expansion was driven by an improvement in labour force participation (2022p: 69.3%; 2021: 68.6%) and investment activity (2022: 6.8%, 2021: -0.9%), as well as the lower base effects in 2021. Expansion in investment activity has resulted in a stronger total factor productivity (TFP) growth as firms undertook more investments in productive capital (e.g., machinery and equipment, and information communications technology).

Despite the faster expansion in potential output, the negative output gap continues to narrow in 2022 (2022: -0.4%, 2021: -2.5%)[8] as actual output growth (8.7%; 2021: 3.1%) outpaced potential output growth. This was mainly underpinned by the higher utilisation of capital expenditure and labour following the lifting of containment measures and normalisation of economic activity. The narrowing slack in the economy had contributed to some signs of demand-driven price pressures, as indicated by the increase in core inflation of 3.0% in 2022 (2021: 0.7%) amid the high-cost environment.

Going forward, the negative output gap is expected to turn positive in second half of 2023, with actual output averaging close to the potential output for the year. The closing of output gap is driven by higher actual output growth of 4.0-5.0%, which is projected to outpace potential output growth of 3.5-4.5% following normalisation of the latter from its high base in 2022. Potential output is projected to revert to pre-crisis growth of 4.0-5.0% in the medium-term, supported by continued implementation of automation and digital infrastructure projects which will enhance productivity.

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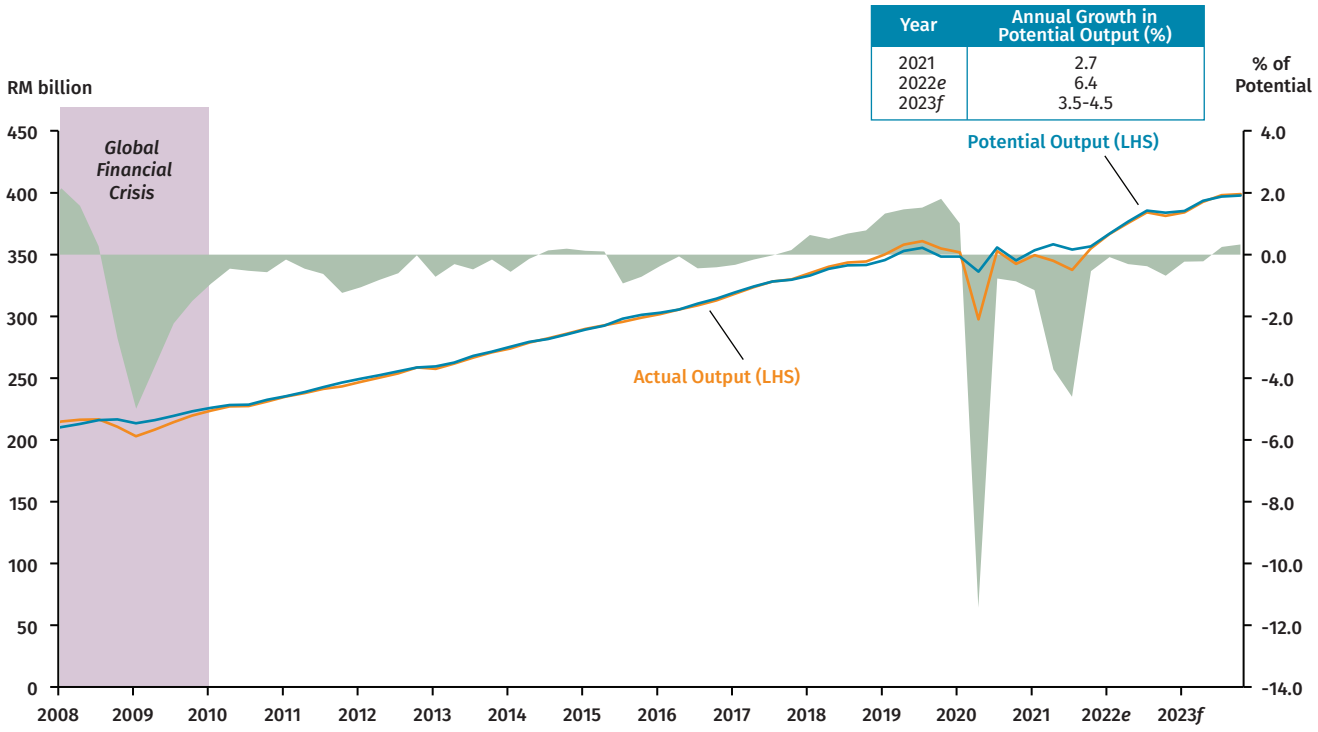
[7] Potential output is derived through an average of several methodologies including Production Function, Laubach-Williams model, Kalman Filter and DSGE model.

[8] The output gap is formally defined as $\frac{\text{(Actual output level - Potential output level)}}{\text{Potential output level}} \times 100\%$

Chart 1: Actual and Potential Output



e Estimate
f Forecast

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

Export and import growth to moderate in 2023

Following two consecutive years of double-digit expansion, Malaysia's gross export growth is expected to register a modest growth similar to the trend in other economies. This is in line with the weaker global growth outlook, especially in Malaysia's key trade partners in the advanced economies. Nevertheless, the impact would partly be mitigated by the reopening of China's economy and continued growth in regional economies.

Manufactured exports, which contributed 84% of Malaysia's total exports, are projected to expand at a slower pace of 2.7% in 2023 (2022: 22.3%). This is due to broad-based moderation across the E&E and non-E&E segments. Slowing demand for consumer electronics is expected to weigh on global semiconductor sales.[9] This is corroborated by insights from the Bank's regional economic surveillance, which indicated that some E&E firms have started to experience lower order volume. However, the greater adoption of automation and digitalisation globally will continue to provide some underlying support to exports in 2023. Slower external demand would also weigh on exports of non-E&E manufacturing segment. Nevertheless, this would be partially cushioned by the ramp-up of production of a major oil refinery in Johor.

Commodities export is projected to decline by 5.0% in 2023 (2022: 41.7%), driven mainly by lower commodity prices. Crude palm oil prices are expected to ease after hitting record highs last year, weighing on agricultural exports. This more than offset improvement in oil palm output following receding labour shortages. Similarly,

[9] In November 2022, World Semiconductor Trade Statistics (WSTS) projected a decline of 4.1% for global semiconductor sales in 2023 (2011-2019 average: 4.1%).

lower mineral prices, in tandem with the slowdown in global oil demand, would weigh on mineral export growth in 2023.

Risks to export growth are tilted to the downside, stemming mainly from slower-than-anticipated external demand and further escalation of geopolitical tensions. Nevertheless, there are upside risks to export growth. These include faster recovery in China, which could provide support to global trade activity.

Gross import growth is projected to slow down to 1.1% in 2023 (2022: 31.3%), due to a more moderate increase in domestic demand and slower manufactured export growth. Intermediate imports are expected to record a smaller growth. This is following slower inventory build-up amid easing supply chain disruptions. Continued expansion in domestic demand, albeit at a more moderate pace, would provide support to import growth of consumption and capital goods.

Table 1

External Trade

	2015-2019 average	2022*p*	2023*f*
	Annual change (%)		
Gross exports *of which:*	**5.6**	**25.0**	**1.5**
Manufactured	7.6	22.3	2.7
Agriculture	-0.6	23.3	-8.6
Minerals	-3.1	67.6	-1.2
Gross imports *of which:*	**4.7**	**31.3**	**1.1**
Capital goods	1.2	15.8	1.6
Intermediate goods	3.1	29.2	0.2
Consumption goods	8.4	24.0	1.8
Trade balance (RM billion)	**109.5**	**255.5**	**265.3**

p Preliminary
f Forecast

Source: Department of Statistics, Malaysia and Bank Negara Malaysia

Current account to record continued surplus

The current account of the balance of payments is expected to register continued surplus of 2.5 – 3.5% of GDP in 2023 (2022: 2.6% of GDP). This is driven by continued goods surplus and lower deficit in services account.

The goods account is expected to remain in surplus, as moderation in export growth is offset by slower import growth. The services account is projected to register a smaller deficit, reflecting further recovery in the travel account. Of significance, the travel account is expected to turn around into a surplus position this year after recording a deficit for three consecutive years. This is in tandem with the continued recovery in tourist arrivals towards the pre-pandemic level. The reopening of China's international borders is also expected to provide further impetus to inbound tourist arrivals and expenditure. Nevertheless, the overall services account would remain in deficit. This reflects the continued reliance on foreign services particularly in the transportation segment.

The primary income account is projected to remain in deficit. This is attributable mainly to the continued income payment accrued to foreign investors in Malaysia. The secondary income account is expected to register a larger deficit, driven by the higher outward remittances by foreign workers.

Table 2

Current Account of Balance of Payments[1]

Item (Net)	2022*p*	2023*f*
	RM billion	
Goods	169.3	173.1
Services	-45.4	-33.6
Primary income	-63.6	-64.0
Secondary income	-13.1	-18.3
Current account balance	**47.2**	**57.2**
% of GDP	*2.6*	*2.5 ~ 3.5*

[1] In accordance with the Balance of Payments and International Investment Position Manual, Sixth Edition (BPM6) by the International Monetary Fund (IMF)

p Preliminary
f Forecast

Note: Figures may not necessarily add up due to rounding

Source: Department of Statistics, Malaysia and Bank Negara Malaysia

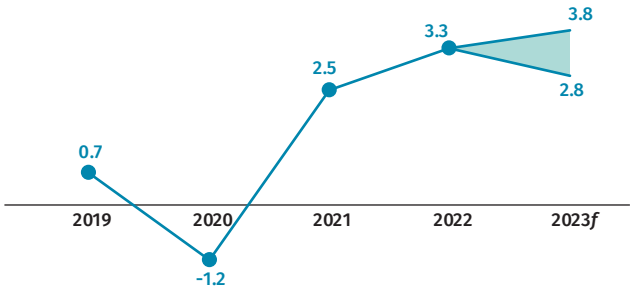
Both the headline and core inflation are projected to average between 2.8% and 3.8% in 2023

After increasing for most of 2022, headline inflation has begun to moderate since 4Q 2022, mainly reflecting the moderation in global cost factors. In 2023, the more moderate global cost environment is expected to prevail given improvements in supply constraints and softening global demand. Prices of key commodities such as oil and agricultural products are projected to average lower and contribute to lower headline inflation. Existing domestic price controls and subsidies will also continue to partly contain inflationary pressures. Consequently, headline inflation is expected to be on a moderating trend over the course of 2023.

Despite the moderation, headline inflation will, on average, remain elevated in 2023 due to several key factors. The continued strength in domestic demand and improvement in the labour market will keep core inflation elevated in the near term. The elevated core inflation will trend above headline inflation for a few months in 2023. In addition, gradual subsidy rationalisation effort[10] will also contribute to some upward impact to inflation. On balance, both headline and core inflation are projected to average between 2.8% and 3.8% in 2023.

[10] This refers to the upward revision in electricity surcharge applied to medium voltage and high voltage customers among industry participants, with a surcharge at the rate of 20sen/kWh, an increase from 3.7sen/kWh previously. It has been in effect since January 2023.

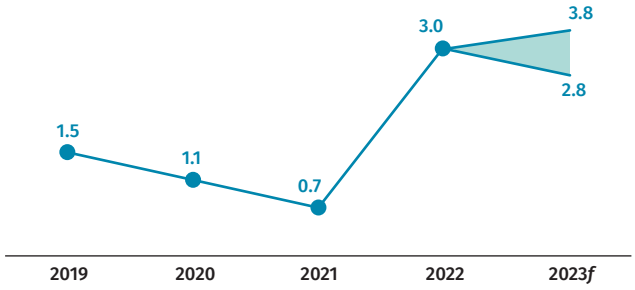
Chart 2.4: Malaysia's Headline Inflation, Annual Change (%)



f Forecast

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

Chart 2.5: Malaysia's Core Inflation, Annual Change (%)



f Forecast

Note: 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

The outlook for inflation in 2023 is highly uncertain, with risks tilted to the upside. Global commodity prices, one of the major causes for the rise in domestic inflation in 2022, could again drive inflation higher should the geopolitical conflict in Ukraine worsen. Upside risks to inflation also stem from extreme weather conditions, stronger-than-expected demand from China, and higher input costs due to developments in global financial markets. The extent of inflationary pressures also continues to be highly subject to any changes to domestic policy on subsidies and price controls.

Amid prolonged cost pressures throughout the past two years,[11] prices going forward may continue to catch up to the significant cost increases that had already happened, which could cause greater persistence in inflation and delay the reversion of inflation to its long-term average. The expectations of stronger persistence may in turn affect employees' wage-bargaining and firms' price-setting decisions, which will drive additional rise in general price pressures. Currently, however, the risk of a wage-price spiral is assessed to be remote, with long-term inflation expectations remaining well-anchored. Furthermore, wage growth is not estimated to outpace productivity growth.[12]

Downside risks to inflation stem primarily from more subdued global commodity prices given the environment of weaker global growth. On the domestic front, if pent-up demand that had in part supported household spending in 2022 dissipates at a faster rate, inflationary pressures may abate.

Domestic monetary and financial conditions to remain supportive of financial intermediation activities

In terms of domestic financial conditions, against the backdrop of firmer economic recovery in 2022, the OPR was adjusted gradually with resulting pass-through to wholesale and retail rates. In 2023, notwithstanding these adjustments in interest rates, the demand for financing is expected to remain sustained by the continued expansion of economic activity and the improvement in labour market conditions. The strengthening of domestic labour market and income will also contribute to the improvement in the quality of prospective borrowers. Furthermore, the supply of credit remains forthcoming, enabled by banks' healthy capital, liquidity buffers and willingness to lend.

Meanwhile, developments of domestic financial markets and exchange rates will be influenced primarily by three key external risk factors. First, are the expectations surrounding the path of global monetary policy. Signs of more persistent global inflationary pressures could drive expectations of tighter monetary policy, leading to some volatility in domestic capital flows and exchange rate movements. Second, is the continued uncertainty surrounding geopolitical conflicts and global growth outlook, which could drive investor risk aversion. Third, is the impact from the reopening of China's economy, which could lift sentiments towards regional financial markets. Notwithstanding the positive effect, the reopening could lead to a higher-than-expected inflation that warrants tighter monetary policy responses by its central bank and induces greater volatility in its financial markets. Such volatility can have spillovers to Malaysia's financial markets but these are expected to remain manageable, reflecting the structural decline in the degree of financial market spillovers from China over the years particularly since the devaluation of the Chinese renminbi in 2015.[13] On the domestic front, progress on key reforms together with sound economic policies would provide impetus for sustained inflows and drive continued improvement in domestic financial markets. More recently, there has been increased global market volatility due to stress in the global banking sector, but this had minimal impact on the Malaysia's financial sector beyond some weaknesses in the equity market. The onshore bond market and the ringgit also continued to trade in an orderly manner.

[11] Price pressures were more pronounced for 'salient' items, particularly food items. 'Salient' items refer to those that are purchased frequently or take up a large share of consumption basket (De Fiore et al., 2022).

[12] For further details, please refer to the box article on 'Analytical Approaches to Assessing Labour Market Conditions and Implications to Monetary Policy'.

[13] The assessment was based on the methodology proposed by Diebold and Yilmaz (2012) to derive volatility spillover indices using daily stock prices, exchange rates and 10-year government bond yields data from Malaysia, China and the US. US assets were included to account for US' dominance in global financial markets. This approach enabled the measurement of the spillover impact of China's financial market volatility on Malaysia's financial market volatility.

In the face of these external challenges, Malaysia's resilient economic fundamentals and financial system will ensure that domestic financial intermediation activities continue to be smooth and orderly. Among others, the economy continues to post a net external creditor position and healthy balance of payments position with a current account surplus, which will buffer against adverse external shocks. The presence of domestic institutional investors, along with a strong banking system, will contain the impact of outflows and mitigate the spillovers to financial intermediation. Furthermore, adjustments in asset prices will remain supported by the healthy trading volume coupled with the participation of diverse types of investors in the market. The flexible and market-determined ringgit exchange rate will also facilitate the necessary macroeconomic adjustments in response to external shocks.[14] Importantly, the Bank remains committed to ensure orderly financial markets with liquidity and foreign exchange operations and tools ready in place to mitigate excessive market volatility in supporting continued financial intermediation.

Monetary policy will remain supportive of a sustainable economic growth while ensuring an environment of price stability

Similar to other economies, 2023 will be a challenging year for the Malaysian economy. A more moderate economic growth is projected, while inflation is expected to remain elevated. In this environment, monetary policy will focus on managing inflation risks while supporting a sustainable economic growth. The MPC will also continue to consider the cumulative impact of past OPR adjustments in formulating any future decisions, given the lag effects of monetary policy on the economy.

The risks surrounding growth are fairly balanced as downside risks particularly from external factors are offset by stronger domestic demand. Tighter-than-expected global monetary policy and escalation of geopolitical conflicts could result in weaker-than-expected global growth. While external demand may weaken, upside risks could arise from stronger-than-expected labour market and tourism activity as well as the implementation of projects including from the recently re-tabled Budget 2023.

Meanwhile, more persistent[15] domestic inflationary pressures continue to be a key risk to the inflation outlook. While global cost factors have shown signs of moderation, inflationary pressures continue to depend on global commodity price and financial market developments, as well as changes in domestic policies on subsidies and price controls. More fundamentally, amid risks from changes to price-setting behaviour, monetary policy will also need to consider the inflation dynamics that will prevail as shorter-term supply shocks abate.

Monetary policy is aimed at the path that is most consistent with keeping inflation low and stable and supporting a sustainable growth over the medium-term. However, the current environment remains uncertain and as such, the MPC's decisions will continue to depend on the evolving conditions and their implications on the overall outlook of domestic inflation and growth. Any potential adjustments to the degree of monetary accommodation will be carefully calibrated, taking into consideration the balance of risks surrounding inflation and growth.

[14] For further details, please refer to the box article in 2022 BNM Annual Report on 'The Exchange Rate and The Malaysian Economy'.

[15] Inflation persistence is defined as speed with which inflation returns to baseline after a shock (Willis, 2002).

Analytical Approaches to Assessing Labour Market Conditions and Implications to Monetary Policy

Analysis on the extent of slack or tightness in the labour market, and whether they are easing or increasing, are key assessments informing the growth and inflation outlook. In Malaysia, the strong economic recovery has contributed to the narrowing of slack in the labour market since the fourth quarter of 2021. Labour market developments and outlook are one of the many pieces of information that the Monetary Policy Committee (MPC) considers before arriving at its decision to raise the Overnight Policy Rate (OPR) in 2022. This article presents new indicators and analytical approaches the Bank has undertaken in assessing labour market conditions since the COVID-19 pandemic.[1] It also discusses nuances that shed light on how reports of labour shortages are viewed against the overall assessment of continuing slack.[2] Finally, this article provides insights on how labour market developments inform monetary policy considerations in balancing the risks to inflation and growth.

Assessment on labour market slack informs the degree of capacity utilisation[3] in the economy. During the pandemic, this was key in deploying adequate support to mitigate the impact of economic shocks

In assessing the strength of the economic recovery and developments in prices, labour market conditions provide crucial pieces of information. Workers' income is a key driver of private consumption, which makes up almost 60% of Malaysia's Gross Domestic Product (GDP). The strength of wage growth is also factored into inflation forecasts, as firms may pass on higher wage costs in the form of higher product prices, particularly if wage acceleration exceeds productivity. Labour utilisation, which measures the degree to which available labour supply is employed, also provides key insights. High labour utilisation (tight labour markets) may prompt employers to raise wages to attract labour supply. On the other hand, slack in the labour market may suggest prevalent labour underutilisation posing risks to growth. Taken together, the extent of slack in the labour market is a key consideration on whether monetary policy adjustments are needed to provide the appropriate conditions for sustainable growth, and low and stable inflation.

Slack in the labour market may be formally defined as the shortfall in demand for labour, relative to the supply of available workers in the economy. This happens when firms require fewer workers given lower demand for goods and services, compared to a relatively abundant labour force who are available and willing to work. When slack or 'spare capacity' prevails in the labour market, this would typically manifest in a high unemployment rate and low wage growth.[4] This, in turn, points to weaker GDP growth and downward pressure on inflation. Conversely, when the need for labour is higher due to stronger demand for workers beyond what is available, the labour market is said to be tight, with low unemployment and high wage growth. This would indicate stronger GDP growth and upward pressure on inflation. The labour market can be said to be at equilibrium when the demand for labour is roughly equal to the supply of workers. At equilibrium, economic demand matches the amount of goods and services that can be produced with available workers, while employment and wages sustain growth without increasing inflationary pressures. The economy can be said to be operating at 'full employment'.

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[1] Assessments contained within this box article are meant to provide insights on the approaches Bank Negara Malaysia has undertaken to assess labour market conditions. Discussions on outlook are limited to Bank Negara Malaysia's assessment on the likely path of improvement for the labour market. They are not intended as guidance and should not be taken to infer future MPC decisions.

[2] Throughout this article, comparisons are drawn mostly against the US, which has been featured prominently in international discussions on labour utilisation during the pandemic and recovery period.

[3] Capacity utilisation measures the intensity with which an economy makes use of its resources, namely labour and capital, to produce output.

[4] A possible situation in which slack prevails yet unemployment rate is relatively low is when slack manifests itself in the form of higher underemployment or labour force exits. This is discussed later in the article.

The unemployment rate is the most conventional measure of labour utilisation.[5] A more analytical approach to measuring slack compares the current state of labour utilisation to what it would be if the economy were operating at equilibrium. In this regard, a standard measure is the 'unemployment gap', which refers to the difference between the actual unemployment rate, and the estimated non-accelerating inflation rate of unemployment (NAIRU).[6] However, the COVID-19 pandemic called into question the reliability of unemployment gap estimates, as the economic shock led to a few measurement complications. Specifically, there is difficulty in estimating NAIRU, which is typically estimated using methods such as pure statistical filtering and the commonly-adopted Kalman filter.[7] Economic shocks, however, tend to result in significant revisions to these NAIRU estimates, rendering them less reliable for policy assessment. Such significant revisions are a common drawback of statistical filters, particularly around turning points in the business cycle.[8]

Measuring slack directly using the unemployment rate during the pandemic shock was also problematic. This arises from the direct and idiosyncratic impact of the pandemic and the impact of the containment measures on the labour market. Beyond increases in unemployment, pandemic-induced shocks led to other sources of labour underutilisation. Restrictions on economic activity and movements resulted in an unprecedented increase in underemployment.[9] Additionally, many individuals also exited the labour force during the height of the pandemic.[10] These workers would have worked full time under normal economic conditions and might quickly return when demand and hiring conditions improve as restrictions were lifted. Thus, they may still be considered as part of a broader 'potential' labour supply when assessing labour utilisation. The normal headline unemployment rate, which only measures the extent the available labour force is employed, does not capture these nuances. Therefore, the unemployment rate is not very descriptive of the true extent of labour market slack during this period.

In view of these issues, several central banks started complementing the conventional unemployment rate in their assessment of labour market slack with supplementary labour utilisation indicators. One approach is to widen the coverage of underutilised workers to include, first, a broader segment of the working age population beyond those who are actively seeking employment, and second, underemployed persons. This was particularly relevant with falling labour force participation and higher incidence of discouraged workers due to the adverse economic shocks. The US Bureau of Labor Statistics (BLS) produces the U-6 unemployment rate (Chart 1), which goes beyond the unemployed to include persons marginally attached to the labour force and part-time employment due to economic reasons.[11] Another example is the Eurostat's labour market slack indicator (Chart 2), which aims to measure the total sum of all unmet need for employment. The unemployment rate is supplemented by an extended labour force, which includes underemployed part-time workers, persons seeking work but are not immediately available, and persons available for work but not seeking work due to the economic downturn.

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5 The use of the unemployment rate as a measure of slack is underpinned by the Phillips curve relationship, which is the historically observed trade-off between inflation and unemployment. The intuitive explanation is that lower unemployment rates signal higher labour demand, which can put upward pressures on wages and inflation. However, there has also been growing evidence that this relationship has weakened (i.e., flattening Phillips curve) over time; example: Gali and Gambetti (2019).

6 Sometimes referred to as 'structural unemployment', the NAIRU is theoretically the lowest rate of unemployment that can be sustained (given prevailing economic conditions) without leading to wage increases and consequently inflation. True values of NAIRU are unknown and unobservable.

7 Kalman filter is an algorithm that enables estimation of unobservable variables, using a series of observed measurements over time. The estimation is conducted in state-space format, which consists of a 'signal' equation (which in this case, relates the unemployment gap and inflation as per the Phillips curve), and a 'state' equation (which generally models NAIRU as a random walk).

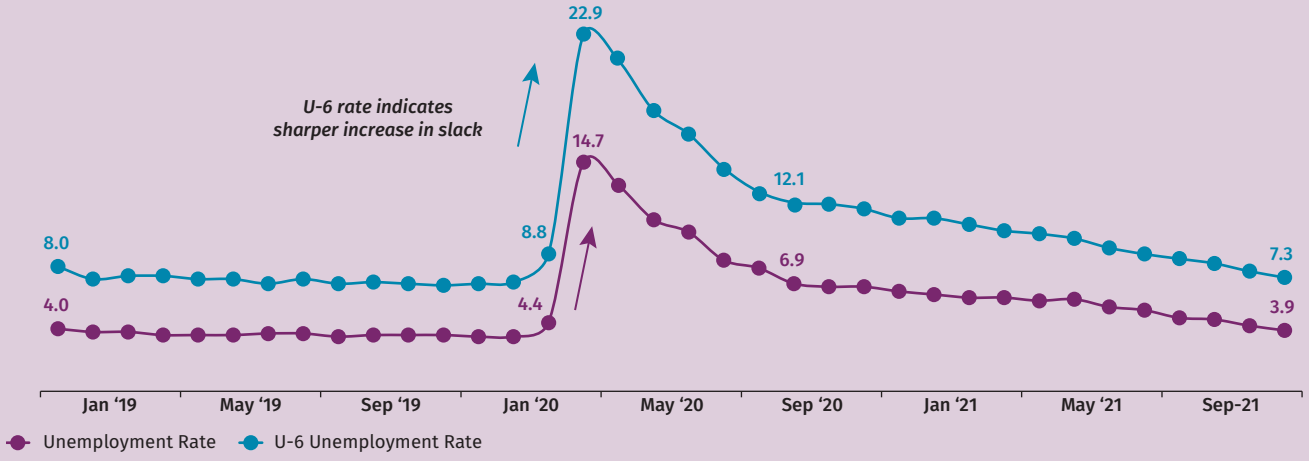
8 These issues have caused a rethinking of how to estimate NAIRU, such as incorporating other demand or labour market indicators, and introducing structural breaks. Examples: Ruberl et al. (2021); Guillemette (2021).

9 Time-related underemployment is defined as those who were employed less than 30 hours per week due to the nature of their work or because of insufficient work and were able and willing to accept additional hours of work. Source: Department of Statistics, Malaysia.

10 Likely discouraged by the lack of economic opportunities or inhibited due to increase in caregiving obligations. For further discussion on the impact of the pandemic on the labour market, please refer to "Getting the Great Reset Right: Structural Issues in the Labour Market in the Post-COVID-19 World" in Bank Negara Malaysia's Economic and Monetary Review 2020.

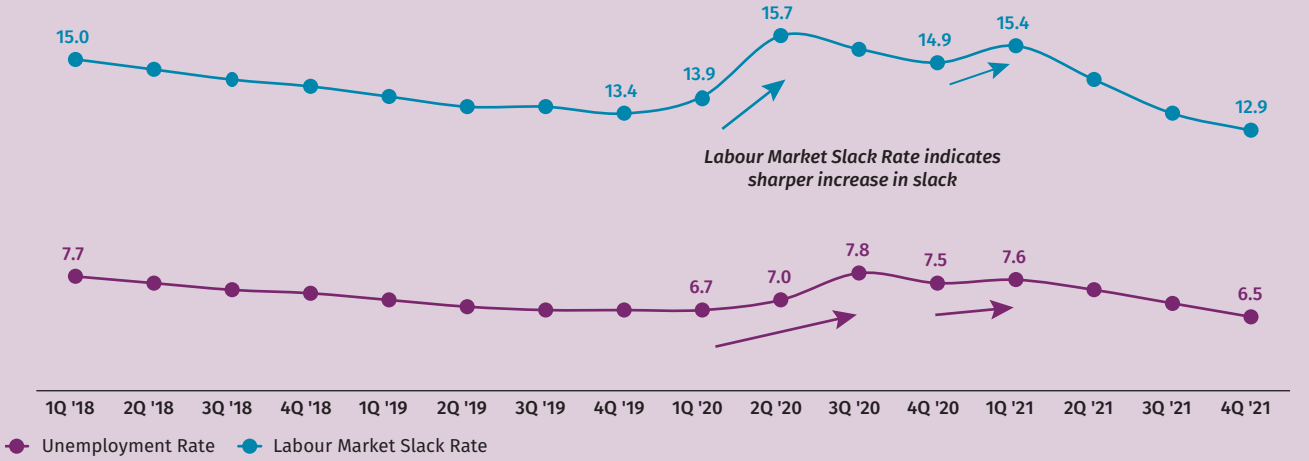
11 Persons marginally attached to the labour force are those who currently are neither working nor looking for work but indicate that they want and are available for a job and have looked for work sometime in the past 12 months. Meanwhile, persons employed part-time for economic reasons are those who want and are available for full-time work but have had to settle for a part-time schedule. Both measures are estimated from household survey data. Source: Employment Situation Summary, US Bureau of Labor Statistics.

Chart 1: US: Unemployment Rate vs. U-6 Rate



Source: Federal Reserve Economic Data

Chart 2: EU: Unemployment Rate vs. Labour Market Slack Rate

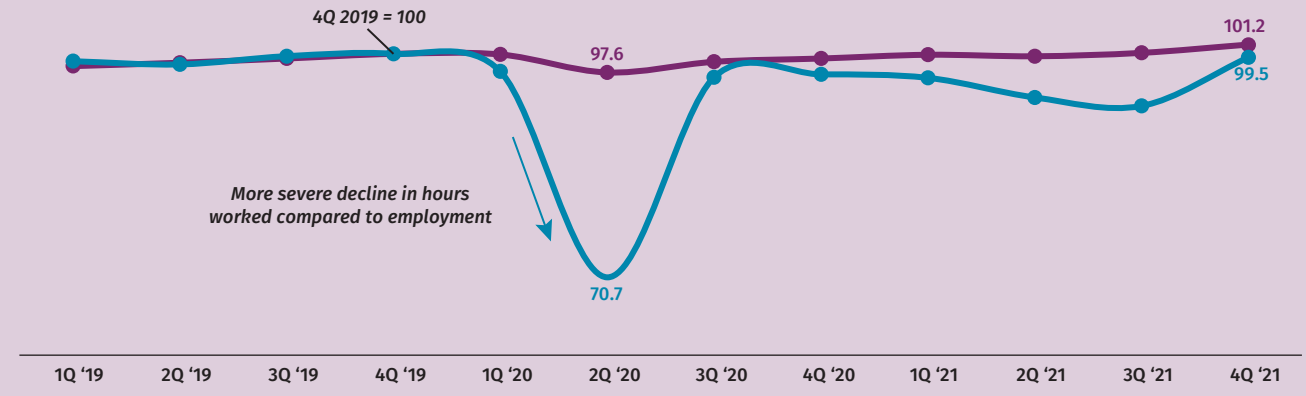


Source: Eurostat

In both cases, the broader measures of underutilisation showed that the impact of containment measures led to significantly greater slack in the labour market than suggested by the unemployment rate. In the second quarter of 2020, for example, while the unemployment rate increased by 10.3 percentage points (ppt) in the US, the U-6 increased more significantly, by 14.6 ppt. Similarly in the EU, the unemployment rate increased only by 0.3 ppt while the labour market slack rate jumped 1.8 ppt. As the pandemic progressed, differences in how these supplementary slack measures evolved demonstrated differing policy choices. In the US, an earlier economic reopening and resumption of economic activities led to steady and synchronised declines in both the unemployment rate and the U-6. Meanwhile, in the EU, re-impositions of containment measures amid the Delta wave led to a second and more pronounced increase in the labour market slack rate in the first quarter of 2021 compared to the unemployment rate. Subsequently, both rates declined steadily as European economies fully reopened.

For Malaysia, the onset of the pandemic resulted in a significant decline in hours worked, following the implementation of the first Movement Control Order (MCO 1.0) in the second quarter of 2020. This decline cannot be fully accounted for by the increase in unemployment alone (Chart 3). In fact, the labour force also suffered a decline, while the population outside the labour force (POLF) increased significantly during the same period

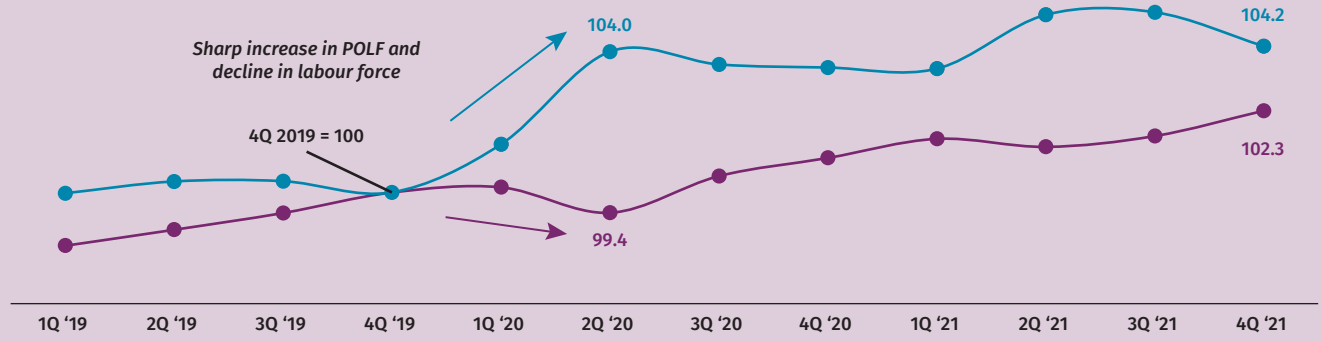
Chart 3: Malaysia: Employment vs. Hours Worked (Indexed, 4Q 2019 = 100)



Note: Y-axis = Indexed levels, with 4Q19 = 100. Indexed levels are estimated by Bank Negara Malaysia staff using data from Department of Statistics, Malaysia.

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

Chart 4: Malaysia: Labour Force vs. Population Outside the Labour Force (POLF) (Indexed, 4Q 2019 = 100)



Note: Y-axis = Indexed levels, with 4Q '19 = 100. Indexed levels are estimated by Bank Negara Malaysia staff using data from Department of Statistics, Malaysia.

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

Chart 5: Malaysia: Unemployed vs. Underemployed Workers (Indexed, 4Q 2019 = 100)

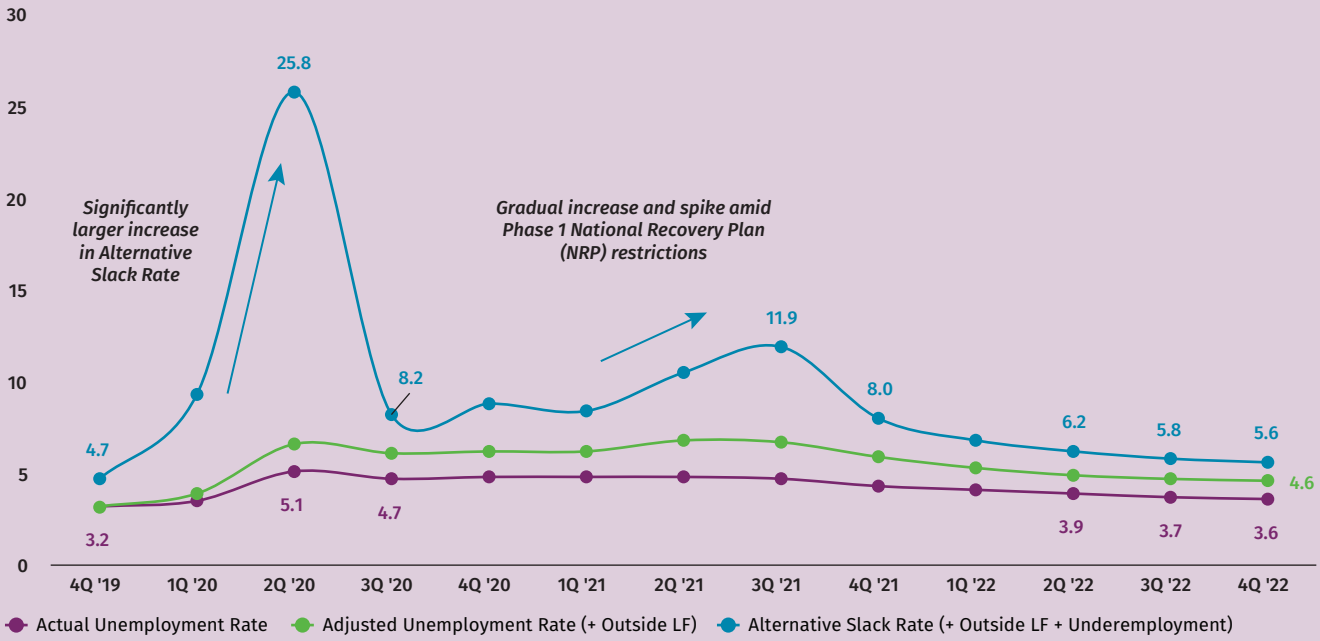
Note: Y-axis = Indexed levels, with 4Q19 = 100. Indexed levels are estimated by Bank Negara Malaysia staff using data from Department of Statistics, Malaysia.

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

(Chart 4). This likely reflects greater labour force exits, which add to the 'shadow labour force'.[12] Additionally, the pandemic resulted in a significant increase in underemployed persons among workers who remained employed (Chart 5). Such observations suggest that these groups should be included in broader labour utilisation measures to further account for potential spare capacity.

To better account for the situations described above, the Bank developed supplementary labour utilisation rates by adding to the pool of unemployed workers: i) workers who exited the labour force due to the pandemic to derive the 'adjusted unemployment rate', and; ii) workers who became underemployed to derive the 'alternative slack rate'. Both measures are expressed as a proportion of a 'potential' labour force[13] (Chart 6).

Chart 6: Malaysia: Unemployment Rate vs. Supplementary Labour Utilisation Rates



Note: Adjusted Unemployment Rate and Alternative Slack Rate are estimated by Bank Negara Malaysia staff using data from Department of Statistics, Malaysia. Bank Negara Malaysia estimates of underemployment include employed persons who were temporarily not working due to movement controls.

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

Similar to the advanced economies (AEs), these broader measures of labour utilisation suggest that slack increased much more significantly than indicated by the unemployment rate during the onset of the pandemic in the second quarter of 2020. When restrictions were progressively tightened beginning the fourth quarter of 2020 amid the Delta wave, the alternative slack rate rose steadily. It spiked further when containment measures were re-imposed under National Recovery Plan (NRP) Phase 1 in the third quarter of 2021. In both periods, the spikes were noticeable despite the relatively flat unemployment rate. Since the gradual lifting of restrictions in the fourth quarter of 2021 and full reopening of economic activities in the first quarter of 2022, the unemployment, adjusted unemployment, and alternative slack rates declined simultaneously. This was in line with improvements in other headline labour market indicators.[14] As the recovery continues and economic activity strengthens further, it is expected that all three measures of labour utilisation would improve and converge to pre-pandemic levels.

[12] The 'shadow labour force' is defined as persons who are not looking for work but may do so if the job market recovers. This group would not be accounted for in the unemployment rate under formal and internationally adopted standards. This is because by not looking for work, the 'shadow labour force' is not defined to be in the labour force, and therefore this group is not considered to be unemployed. The International Labour Organization (ILO) defines unemployment as the share of the labour force that is without work but available for and seeking employment.

[13] 'Potential' labour force = Labour force + 'Shadow labour force' (i.e., increase in population outside official labour force due to COVID-19)

[14] These include rising employment, labour force expansion, and decline in the population outside labour force.

For Malaysia, while slack is diminishing in 2022, labour market conditions are far from tight, as evidenced by forthcoming labour supply and relatively moderate wage recovery

Towards the end of 2021 and in 2022, the focus of labour market analyses globally shifted from establishing the extent of slack, towards assessing the extent of tightness in the labour market. This shift took place following the steady reopening of economies – first with the AEs beginning in mid-2021, followed by emerging market economies (EMEs) at end-2021 and early-2022. The pickup in economic activity and spending had led to strong labour demand amid labour shortages, leading to tightening labour markets and escalating wage growth, particularly in the AEs. Coupled with the on-going supply constraints[15] and escalating commodity prices, tight labour market conditions resulted in a quick rise in inflationary pressures globally.[16] In the US, as economic activities rebounded, strong demand and escalating consumer prices were accompanied by unemployment falling below pre-pandemic rates (Dec 2022: 3.5%; 2015-2019 average: 4.4%), increasing reports of labour shortages,[17] and heightened labour demand. Taken together with decades-high wage growth,[18] these developments indicate rapidly increasing labour market tightness. This is due mainly to constraints on labour supply, attributable to a surge in excess retirements[19] and decline in immigration to the US.[20] Labour force re-entries have been further constrained by health issues ('Long-COVID'[21]) and the so-called 'Great Resignation'.[22] This is evidenced by the labour force participation rate which has remained below pre-pandemic levels (62.3% in Dec 2022; 4Q 2019: 63.3%).[23]

In assessing the extent of tightness, the unemployment rate is complemented by measures to gauge the strength of labour demand and turnover, like the unemployment-to-vacancies and quits rates. In recovering from the crisis, these indicators demonstrated improvement in the labour market at varying paces, which is a departure from trends before the pandemic, when labour market indicators tended to move together relatively consistently. Differing recovery dynamics aside, another consideration is determining suitable thresholds beyond which a certain indicator signals slack or tightness. A simple example of such a threshold is comparing against the pre-pandemic level, such as the fourth quarter of 2019 or the 2015-2019 average. This is commonly used as a quick method to assess the extent of labour market recovery and by extension, the pace at which slack in the labour market is reducing. In the context of recovery, however, analysis has shifted from using simple averages to determining a range in which the labour market is roughly in balance. For this, a statistical threshold may be used, by comparing standardised measures of various indicators against a 'normal' range of historical observation. Thresholds for slackness or tightness would then border this 'normal' range, which typically aims to capture approximately 95% of historical observations.

Taking the case of the US labour market again (illustrated in Chart 7), the unemployed-to-job openings and quits rates exhibited faster improvement in 2021, approaching tightness thresholds earlier compared to the unemployment rate. Towards the end of the sample period, the quits and job openings rates breached the

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[15] Supply chains were disrupted by COVID-19 lockdowns restricting labour movement and production activity since mid-2020. Subsequently, these supply constraints were exacerbated by the military conflict in Ukraine through blockage of shipments from Ukraine and sanctions imposed on Russia, and the COVID-19 resurgence in China.

[16] Headline inflation had been trending upwards from the first quarter of 2021 until the third quarter of 2022. This is especially apparent in the advanced economies and reflects the higher energy prices in Europe and more persistent core inflation globally.

[17] As of November 2022, the Federal Reserve Beige Book still notes that labour markets are tight, despite easing hiring and retention difficulties.

[18] As of the fourth quarter of 2022, growth in Employment Cost Index (ECI) is 5.1% (2010-2019 average: 2.2%). The Employment Cost Index is a quarterly measure of the change in price of labour, defined as compensation per hour worked. It is an indicator of cost pressures within companies that could lead to price inflation for finished goods and services.

[19] Montes et al. (2022) showed that more than half of the increase in retired share of population are 'excess retirements' that would likely not have occurred in the absence of the pandemic. According to the Federal Reserve (2023), potential factors behind the excess retirements are health concerns, difficulty in getting re-employed for older workers, and increases in wealth fueled by stock market gains.

[20] In 2020 and 2021, the number of immigrant visas issued at foreign service posts plummeted (2021: 285,069; 2020: 240,526; 2019: 462,422). This has since rebounded to 493,448 in 2022. Source: U.S. State Department.

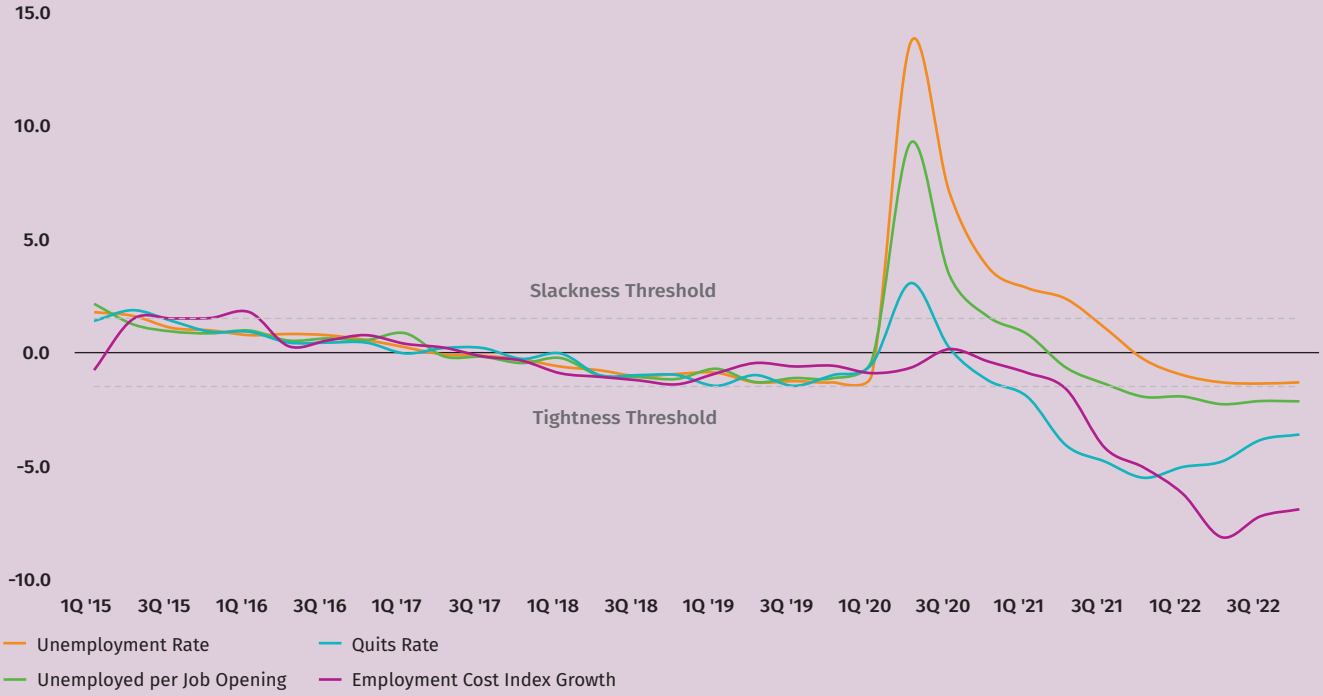
[21] Long COVID, otherwise known as Post-COVID conditions, is a wide range of new, returning, or ongoing health problems that people experience after being infected with the virus that causes COVID-19. Source: Centers for Disease Control and Prevention.

[22] The Great Resignation is the observed phenomenon in which a high volume of workers have quit or voluntarily resigned from their jobs. Empirical studies by the Federal Reserve Bank of Cleveland (Sahin and Tasci, 2022) and the US Bureau of Labor Statistics (Gittleman, 2022) reveal that while quits are typically higher during a recovery period, the recent quits rates in the US are higher than expected from the labour market tightness. Other than possibly contributing to higher labour force exits, this phenomenon is accompanied by higher job-to-job movements, which also affects stability of labour supply.

[23] While participation for prime-age (25 to 54-year-old) workers has mostly returned to pre-pandemic levels, further increases would likely only gradually reduce the overall labour force shortfall, as the reversal of excess retirements seems unlikely at the current juncture. Therefore, overall labour force participation rate is expected to remain below its pre-pandemic level. Source: The Federal Reserve (2023).

tightness threshold and were much more consistent with decades-high wage growth. These developments suggested the labour market was tighter than indicated by the unemployment rate alone. Thus, indicators like the quits and job openings rate should also be given due consideration in assessing labour market tightness going forward in addition to the unemployment rate, at least in the case of the US.

Chart 7: US: Indicators of Labour Market Tightness (Standardised, Z-scores)



Note: Higher value indicates more slack. Means and standard deviations are calculated based on 2015-2019 observations. Z-scores for the quits rate and Employment Cost Index (ECI) growth are inverted.

Source: Federal Reserve Economic Data, U.S. Bureau of Labor Statistics, and Bank Negara Malaysia estimates

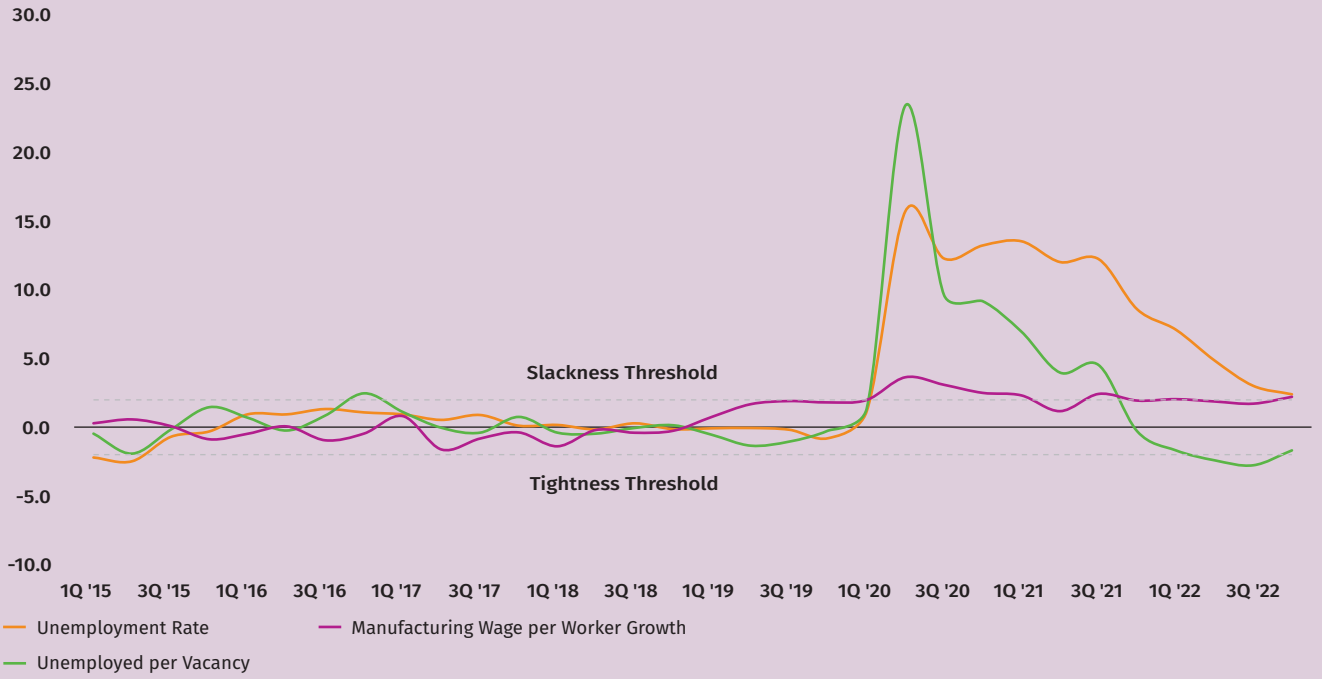
For Malaysia, since the economy was fully reopened and restrictions were lifted beginning fourth quarter of 2021, economic activity rebounded strongly. In the labour market, the unemployment rate declined steadily, amid strong employment recovery momentum.[24] Private sector wage growth[25] also started showing improvements, trending closer to and eventually exceeding pre-pandemic averages in the second and third quarter of 2022. Despite unemployment remaining above pre-pandemic levels, recovering demand conditions amid a robust employment recovery raised concerns over whether the labour market was tight and would fuel further inflationary pressures.[26] In particular, there were rising concerns over whether wage pressures would become excessive, amid factors such as the substantial hike in minimum wage,[27] reports of labour shortages, and strengthening labour demand.

Overall, the indicators do suggest that slack is lessening as the labour market strengthens and economic activity improves. Evidence suggesting tightness, however, is mixed (Chart 8). While the unemployment-to-vacancies ratio moves closer to the tightness threshold, the unemployment rate continues to suggest that slack prevails. A key factor underlying the difference between Malaysia and the US is labour supply. While the US faces labour constraints, labour supply in Malaysia has remained relatively forthcoming as evidenced by the labour

[24] Seasonally adjusted month-on-month employment growth was 0.25% on average between January and December 2022, while the pre-pandemic average is 0.15%.
[25] Refers to nominal aggregate wages in the *manufacturing* and *services* sectors. Average wages per worker growth remained below pre-pandemic averages except in the third quarter of 2022.
[26] Average inflation rate was 2.5% and 4.2% in 1H and 2H 2022 respectively (2015-2019 avg.: 1.9%).
[27] In 2022, the minimum wage was increased from RM1,100 (or RM1,200 in major urban areas) to RM1,500, which took effect on 1 May 2022 for large, medium, and small enterprises. For micro-enterprises, the order has been delayed to 1 July 2023.

force participation rate rising steadily to 69.5% of the working-age population in the fourth quarter of 2022, even exceeding the pre-pandemic rate (4Q 2019: 69.1%). Compared to the US where many of the labour force exits were driven by retirements, exits from the Malaysian labour force were mainly attributed to temporary factors, such as the lack of economic opportunities or increase in caregiving obligations[28] during the pandemic. As restrictions were lifted, many of these workers returned to the labour force as economic activity picked up. The more conclusive indicator, however, is wage growth itself. Although it improved in 2021, wage per worker growth has trended around slackness threshold for most of the year in 2022.

Chart 8: Malaysia: Indicators of Labour Market Tightness (Standardised, Z-scores)



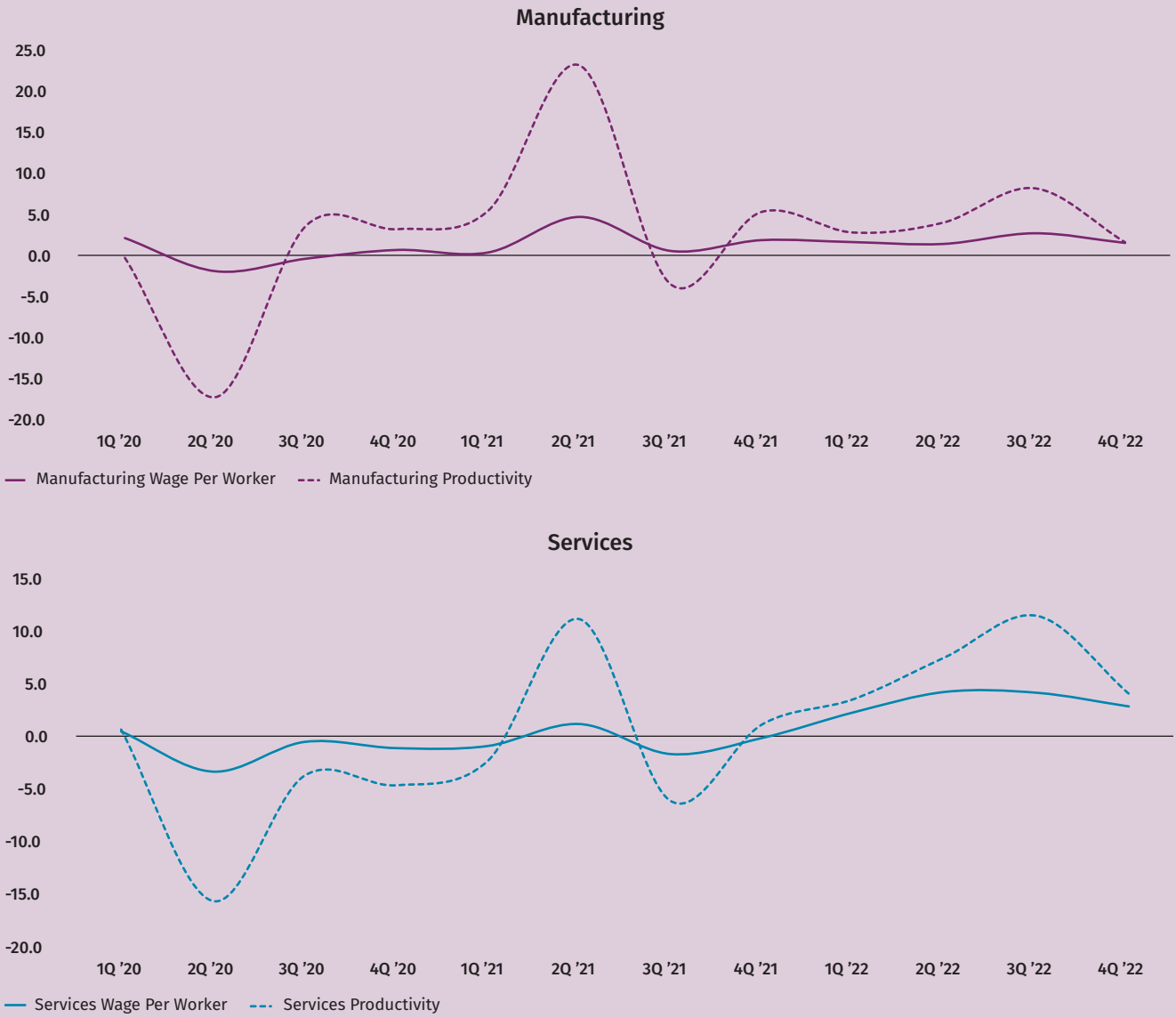
Note: Unemployed per vacancy is estimated by Bank Negara Malaysia staff using data from Department of Statistics, Malaysia and JobStreet. Means and standard deviations are calculated based on 2015-2019 observations. Z-scores for manufacturing wage per worker growth are inverted.

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

Additionally, improvements to wages have been much less forthcoming compared to production (Chart 9). In the *manufacturing* sector, the translation from strong production performance since the fourth quarter of 2021 to aggregate wage growth has remained relatively muted throughout 2022. In June-September 2022, for example, despite production performance growing by 2-3 times of its pre-pandemic rate, aggregate manufacturing wage growth remained below the 2015-2019 average.[29] For the *services* sector, the more recent above-average aggregate wage growth has brought nominal wage to just exceed pre-pandemic level in the second quarter of 2022. Wage improvements seen thus far are assessed to be mainly driven by the robust employment recovery and strong production activity, while the risk of excessive wage growth momentum is assessed to be minimal.[30] Wages in the *services* sector also benefitted from the reopening of international borders and resumption of tourism-related activities, as employers sought to scale up their operations amid increasing demand.

[28] MCO 1.0 included the closure of all nurseries, kindergartens, government and private schools.
[29] On a year-on-year basis, manufacturing wages only grew by 5.4-7.5% in June-September 2022 (2015-2019 average: 7.3%), despite manufacturing production index growing by 10.4-15.2% (2016-2019 average: 4.7%).
[30] On a seasonally-adjusted quarter-on-quarter basis, private sector wage growth momentum slowed towards the end of the year (4Q 2022: -0.2%; 2015-2019 average: 1.3%).

Chart 9: Productivity vs. Wage Per Worker Year-on-Year Growth, Manufacturing and Services Sectors



Note: The dip in year-on-year productivity growth in the second quarter of 2020 was a result from the contraction in GDP following the imposition of MCO 1.0, which was significantly larger than the contraction in employment in the same period. The subsequent spike in the second quarter of 2021 reflects productivity improvements from the recovery in GDP, and also corresponds to the low base in the second quarter of 2020.

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

News reports and the Bank's engagements with industry players[31] suggested that employers were facing substantial hiring difficulties, particularly in the low- to mid-skilled occupations. This was due in large part to foreign worker shortages, mainly in the agriculture, construction, and selected manufacturing industries, as a large number of them exited the country during the pandemic. These shortages have affected firms' ability to fully meet the recovery in demand, and firms indicated that this situation had prompted them to advertise higher wages to attract local workers. Nonetheless, this has not led to any noticeable broad-based acceleration in the growth of individual wages.[32] These shortages are likely a result of frictions in certain labour market segments, amid the delay in foreign worker entries earlier in the year. A review of the Beveridge

[31] Direct engagements with the business community under Bank Negara Malaysia's Regional Economic Surveillance programme are built on mutual trust and insights gained are treated with strict confidentiality.

[32] In the third quarter of 2022, private wage per worker growth was 3.6%, which is only slightly higher than the 2015-2019 average of 3.3%. In the fourth quarter of 2022, it moderated to 2.4%.

Curve[33] showed an apparent outward shift (Chart 10), corresponding to higher unemployment rates for a given vacancy rate in the economy. Combined, these observations implied mismatches are elevated in the labour market, leading to hiring difficulties despite the pool of underutilised workers. Going forward, most of these shortages are expected to dissipate with the gradual re-entry of foreign workers and normalisation in labour demand. In the second half of 2022, the Bank's engagements with industry players indicated that hiring difficulties were easing upon the gradual return of foreign workers. This is also seen in the gradual inward drift of more recent observations in the Beveridge Curve, alluding to mismatches in the economy being progressively resolved.

Chart 10: Beveridge Curve (Job Vacancy Rate vs. Unemployment Rate), Jan-16 to Dec-22

Note: X-axis = Unemployment rate; Y-axis = Job vacancy rate. Job vacancy rate = ratio of vacancies to total labour demand. Total labour demand is estimated by Bank Negara Malaysia staff as the sum of job openings from JobStreet and private employment from Department of Statistics, Malaysia.

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

At the same time, the direct impact felt from the minimum wage hike was relatively muted, as some employers had already adjusted wages due to labour shortages in some segments. Less than 15%[34] of employees were estimated to have been directly affected by the hike. Given that these workers are concentrated on the lowest end of the wage spectrum, the impact to aggregate wages is not likely to be large. Where cascading impacts from the minimum wage increase is concerned, engagements with industry players[35] suggests that this is also contained to selected groups, and the quantum is relatively modest.

[33] The Beveridge curve captures the inverse relationship between the job vacancy rate and the unemployment rate. Moving from upper left to lower right along the curve, higher vacancy rates and lower unemployment rates correspond to a tight labour market, and vice versa. Meanwhile, shifts to the entire curve reflect changes in job matching efficiency. An outward/right-ward shift, for instance, indicates a higher unemployment rate for a given vacancy rate. This, in turn, implies lower efficiency in allocating available workers to vacant job positions, or higher mismatches.

[34] Bank Negara Malaysia estimates based on limited-release data on the distribution of wages among private sector employees shared bilaterally by the Employees Provident Fund (EPF).

[35] Please refer to the mini-box titled "Industry Engagements: Insights on Key Labour Concerns" later in this section.

In summary, there is limited evidence from the data to suggest that Malaysia's labour market is tight, particularly when compared to the experience of other countries such as the US (Table 1). Overall, slack is assessed to still prevail in the Malaysian labour market, although the extent of slack is narrowing. While labour demand has strengthened amid the increase in economic activity, wage growth remains relatively moderate, as labour supply continues to remain forthcoming. Critical labour shortages are assessed to be limited to certain labour market segments. Additionally, structural factors in the labour market also contribute to reducing the flexibility of wages in adjusting to higher labour demand and prices (discussed in further detail in the next segment).

Table 1

Summary of Labour Market Developments, Malaysia vs. US

	Malaysia	US
Overall assessment	Declining slack in the labour market. There is limited evidence of tightness, however, as wage recovery remains relatively moderate, largely attributable to forthcoming labour supply.	Clear indications of tight labour market. The unemployment rate close to historical low (since 1950s) and wage growth at historical highs (since early 2000s), largely due to labour constraints.
Unemployment	While improving, as of December 2022, both the unemployment rate and alternative slack rate have remained above pre-pandemic average since its peak in May 2020.	Both the unemployment rate and U-6 rate have fallen below pre-pandemic 2015-2019 average since November 2021.
Labour force participation rate (LFPR)	Labour force reverted to pre-crisis levels as early as July 2020. LFPR exceeded the pre-pandemic level in November 2021 and has increased steadily since then.	Labour force recovery is on-going but constrained as many workers retired during the pandemic. Although labour force levels just returned to pre-pandemic levels in August 2022, the LFPR has not returned to its pre-pandemic rate since the trough in April 2020.
Wage growth	Wage growth has picked up but remains well within 'normal' range of historical observation. While wages are recovering, improvements to wage growth lag that of production and labour productivity.	Wage growth has trended higher and remains above the 'normal' range of historical observation. Additionally, year-on-year labour productivity growth has been on a declining trend.

Industry Engagements: Insights on Key Labour Concerns

During the pandemic, the Bank ramped up its efforts to engage with industry, to better understand how evolving developments affect economic agents on the ground, in the absence of real-time macro data on various issues.[36] Six cycles a year, the Bank's Regional Economic Surveillance (RES) team conducts field interviews and surveys with the business community. Insights gained from these engagements supplement analytical assessments and forecasts that are discussed at the Monetary Policy Committee (MPC) meetings. These included labour-related issues such as the extent of the labour shortages, the impact of these shortages and the minimum wage hikes on business operations, production and costs. These insights are summarised in Table 2.

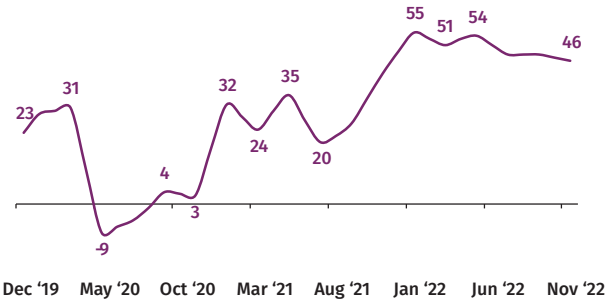
[36] For further details and examples on how the Bank's industrial engagements support surveillance and research activities, please refer to the box article titled "Taking the Pulse of the Economy during the Pandemic" in Bank Negara Malaysia's Annual Report 2021.

Table 2a: Insights on Labour Market Issues from Industrial Engagements

Hiring intentions and labour shortages

- Hiring intentions improved and remained favourable throughout 2022, despite increased hiring difficulties and labour costs (Chart 11).
- Hiring difficulties were mainly concentrated in the low- and mid-skilled occupations. Shortages in foreign workers were mainly in the *agriculture* and *construction* sectors, and selected manufacturing activities. As economic recovery picked up, shortages extended to mid-skilled services occupations as well, for example, sales associates and workers for food and beverages (F&B) and accommodation facilities.
- These difficulties led to various challenges including rerouting of orders, labour poaching, and inability to fully capitalise on the recovery in demand.
- In the absence of foreign workers, firms' primary coping mechanisms were to increase hours for existing staff, raise advertised wages, and automate production processes.
- These difficulties have started to ease towards the end of the year, as firms corroborated reports of gradual re-entries of foreign workers, with the reopening of borders (Chart 12).

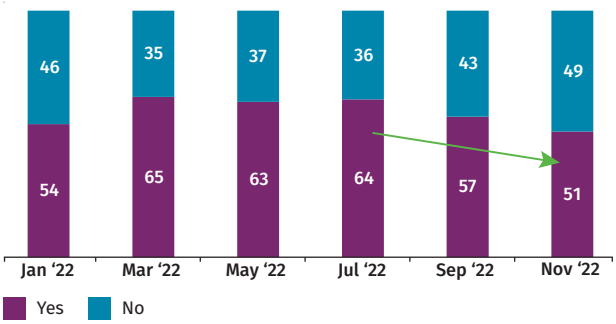
Chart 11: Hiring Intention Outlook Index



Note: Participants were surveyed on hiring intentions outlook for 3 months ahead. A higher value indicates greater hiring intentions.

Source: RES Industrial Engagements

Chart 12: Difficulty in Hiring (% of Respondents)



Note: Firms surveyed were asked whether they face any difficulties in getting workers.

Source: RES Industrial Engagements

Table 2b: Insights on Labour Market Issues from Industrial Engagements

Lack of high-skilled talent

- The pandemic resulted in more companies digitalising their businesses, adopting technological solutions and automating routine and repetitive processes.
- This has resulted in increased need for information technology (IT) and tech talent across a broad range of sectors.
- While shortages of high-skilled talent with specialised skills have been a key concern for some time, these shortages became more apparent during the period of recovery from COVID-19.

Impact of minimum wage increase[37]

- Most firms engaged were directly affected[38] by the minimum wage hike, but to varying degrees. Smaller firms in less urbanised areas had larger shares of their work forces earning less than RM1,500.
- The impact of the minimum wage hike may also extend to workers who were earning close to the new minimum wage. On this, larger firms in more urbanised regions reported they were more likely to undertake cascading wage adjustments.
  - Around half of the firms surveyed reported that they would conduct immediate cascading adjustments in 2022. This adjustment is expected to only affect a limited segment of workers.[39]
  - Among the remaining half, some firms indicated that adjustments would take place during the increment cycle in 2023 instead, if at all.
- Some firms opted to consolidate variable pay and allowances to comply with the new minimum wage requirements and expand workers' job scopes to improve productivity.

[37] The national minimum wage level was raised to RM1,500 beginning in May 2022, from the previous RM1,100 (RM1,200 for selected cities and municipalities).
[38] This meant that the firm had workers earning below RM1,500 prior to the minimum wage hike.
[39] The cascading adjustment is mainly concentrated among those earning below RM3,000. The quantum is expected to be a flat rate of RM100 to RM300, with those earning higher getting a lower adjustment.

Slack in the labour market is expected to narrow further in 2023, albeit at a more gradual pace as conditions normalise. Monetary policy would continue to support sustainable growth while managing risks to inflation

Improvement and lessening slack in the labour market alongside strengthening economic activity was a key consideration in the Bank's decision to gradually raise the OPR in 2022. In assessing the growth-inflation trade-off, risks to inflation must also be considered. Generally, a key inflation-related concern in an environment of both rising consumer prices and nominal wages is the risk of a wage-price spiral. This occurs when there is a self-reinforcing loop in which inflation leads to higher wage growth, fuelling even higher consumer prices through greater wage costs and demand for higher wages. However, the risk of a wage-price spiral for Malaysia is remote, due to a few key factors. Firstly, real private wage per worker growth has been negative throughout most of 2021 and 2022 (-3.7% and -0.1%, respectively, for the *services* and *manufacturing* sectors), indicating real wages remain below pre-pandemic levels for the individual worker. As such, a catch-up in wages is not likely to pose significant wage-price spiral risks. This is given the considerable gap between wages and prices, which allow nominal wages to catch up without leading to significant demand-driven pressures on wages.[40] Second, unit labour costs[41] have been on a declining trend throughout 2021 and 2022 (Chart 13), due to productivity outpacing wage growth. This reflects higher production efficiency, whereby lower wages are needed per unit of production.

Third, structural features restrain the risk of excessive wage growth. In particular, the relatively low wage bargaining power of workers slows the adjustments of wages to factors like inflation and productivity. For example, this includes the absence of wage indexation[42] practices, which reduces the flexibility of wages in adjusting to higher labour demand and prices. Additionally, unionisation and collective bargaining are limited in Malaysia. As of 2019, union membership across government, the private sector and statutory bodies comprises only around 6.3% of total employment.[43] This is in contrast to the 9.8% in the US, as well as other EMEs such as Indonesia (13.0%), India (19.8%), and Vietnam (49.6% in 2018).[44]

Chart 13: Unit Labour Costs

Note: Unit labour cost is estimated by Bank Negara Malaysia staff using data on salaries and wages and value added from Department of Statistics, Malaysia.

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

[40] Recently, wage growth being more moderate relative to inflation has been a common observation in AEs besides the US. Source: Boissay et al. (2022). "Are major advanced economies on the verge of a wage-price spiral?", Bank for International Settlements Bulletin.

[41] Unit labour cost refer to the amount a business pays its workers to produce one unit of output. Mathematically, Unit Labour Cost = Compensation / Output = (Compensation / Worker) / (Output / Worker). In other words, this means that unit labour cost can also measure the relative movements of wage and productivity in per worker terms.

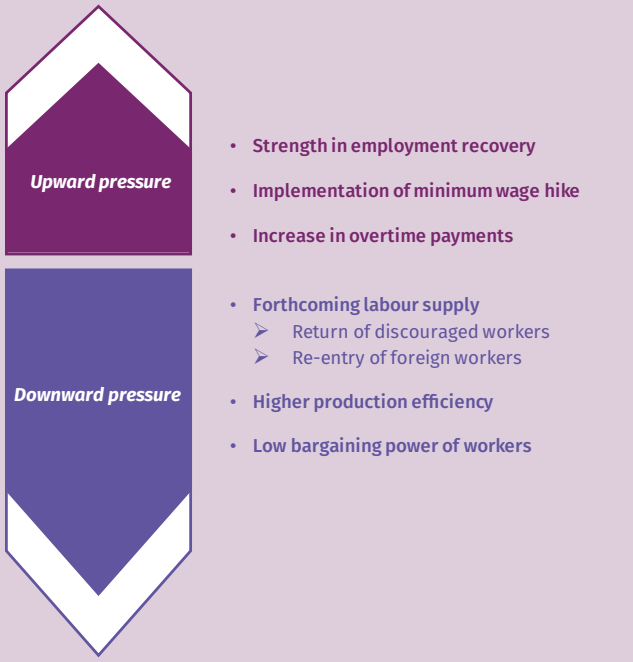
[42] Wage indexation refers to an explicit provision that automatically links changes in money wages to changes in a general price index (e.g., consumer price index).

[43] Source: Department of Trade Union Affairs, Ministry of Human Resources, Department of Statistics, Malaysia, Bank Negara Malaysia estimates.

[44] Source: ILOSTAT, International Labour Organization.

Going forward, continued expansion in economic activity is expected to take place, albeit at a lower rate compared to 2022. Slack in the labour market therefore is expected to reduce further as well, supported by continued strength in the employment recovery momentum. Nevertheless, Malaysia's labour market is still some way away from tightness. Specifically, there remains some degree of underutilisation, given the high labour force participation, as well as a small number of workers who have remained outside the labour force due to COVID-19 (i.e., 'potential' labour force). This is supported in part by the gradual re-entry of foreign workers alleviating residual labour shortages.[45] Moreover, there is some room for salaries and wages (and therefore, incomes) of Malaysian workers to increase before exerting significant pressure on prices. In fact, the ratio of Compensation of Employees (COE) to GDP declined in 2021 to 34.8%, a reversal of trends observed prior to the pandemic (2020: 37.1%; 2019: 35.9%). Moreover, the uneven recovery continues to impact vulnerable groups such as women, youth, and low-skilled workers.

Diagram 1: Factors Contributing to Slack or Tightness in 2023



Conclusion

To support monetary policy considerations, the COVID-19 pandemic necessitated the expansion of the Bank's surveillance tools in assessing labour market conditions. This article elaborated on a few of the most notable items, including the use of supplementary slack rates to provide a more nuanced assessment of labour underutilisation, beyond the unemployment rate. Additionally, the use of industry insights has allowed more timely on-the-ground feedback on key issues that are not directly observable from aggregate data, including reports of hiring difficulties and impact of the minimum wage hike. More comprehensive and nuanced assessments on overall labour market conditions contribute towards supporting evidence-based monetary policy decisions.

[45] Dynamics of foreign workers in the Malaysian labour market extend beyond their implications to slackness or tightness in the labour market. To ensure optimal functioning of the labour market, prudent and equitable management of foreign workers is warranted. For further discussion, please refer to "Low-Skilled Foreign Workers' Distortions to the Economy" in Bank Negara Malaysia's Annual Report 2017.

Although monetary policy is primarily a countercyclical tool, it is heavily interdependent with structural policies, which affect an economy's ability to withstand shocks. A sustainable recovery has a higher chance of being more enduring when it is further facilitated by complementary structural reforms. The COVID-19 pandemic represents a critical turning point and an opportunity to address structural issues inhibiting the Malaysian labour market since before the crisis. These include an over-reliance on the low-cost production model, the low creation of high-skilled jobs, and significant skills mismatches. Unaddressed, these issues will continue to constrain wage levels, and amplify the negative impact of shocks such as COVID-19 to households' incomes. Economic policies, therefore, should be geared towards creating high-skilled and high-paying jobs through quality investments, developing a dynamic and high-calibre workforce, accelerating adoption of technology and digitalisation, and strengthening the social protection system.[46] Ultimately, we must ensure that economic gains are translated to commensurate pay for workers. Notably, the wage-productivity linkage must be strengthened.[47] It is also recognised that considerable challenges remain including low worker bargaining power and frictions in enforcing labour contracts. The relatively muted recovery of wages observed post-pandemic emphasises the urgent need to overcome such challenges. The conclusion remains that Malaysia would need to accelerate reforms to ensure our long-term growth is sustainable and inclusive, in addition to building household and labour market resilience against shocks.

[46] For further details on structural labour market and social protection reforms, please refer to the box articles titled "Getting the Great Reset Right: Structural Labour Market Issues in the Post-COVID-19 World" and "A Vision for Social Protection" in Bank Negara Malaysia's Economic and Monetary Review 2020.

[47] For further details on the linkage between wages, productivity, and equity, please refer to the box article titled "Are Malaysian Workers Paid Fairly?: An Assessment of Productivity and Equity" in Bank Negara Malaysia's Annual Report 2018.

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Navigating Malaysia's Economic Transition towards a Decarbonised Future

"Climate change is the defining issue of our time - and we are at a defining moment."
António Guterres, Secretary-General of the United Nations

The long-term shifts in global temperatures and weather patterns, driven largely by fossil fuel burning, pose a major threat to humanity and the health of the planet. While some countries have seen economic growth no longer as strongly associated with greenhouse gas emissions in recent decades[1] (Cohen, Jalles, Loungani, & Marto, 2018), further progress has been slow. Even now, the physical risks stemming from a changing climate are already present and growing. This have threatened ecosystems, biodiversity and food security, and devastated infrastructure and people's lives and livelihoods. If climate change stays on its current course and emissions targets are unmet, the world could lose nearly 10% of GDP by 2050 (Swiss Re Group, 2021). Without clear action to build climate resilience, the fallout from the output loss would severely disrupt the global economy and financial system. Malaysia is not exempted from these risks.

At this juncture, Malaysia needs to move faster in managing a decarbonised future. A fundamental shift in national development planning and execution are therefore needed. The country must embark on a suite of adaptation measures by adjusting our behaviour and systems to increase resilience against the impact of climate change, as well as mitigation measures to reduce and prevent emissions from warming the planet even further. However, this shift is not without consequences. If not implemented properly, the transition risks will not be mitigated and could be detrimental to the economy. This article describes the current state of Malaysia's physical and transition risks and how it compares with other countries. It then analyses the key challenges for mitigation that could hinder an orderly transition and its effects on the macroeconomy. The implications of transition on the conduct of monetary policy, along with the role of investments in catalysing the transition are discussed. Finally, the article presents a potential policy roadmap to make mitigation more effective towards achieving our emissions targets.[2]

Malaysia's physical and transition risks associated with climate change

Climate-related risks stem primarily from two channels, namely physical and transition risks. Physical risks are associated with extreme weather events and gradual shifts in climate leading to property damage and business disruption. Meanwhile, transition risks occur from adjustments made in moving towards a low-carbon economy.

Malaysia faces rising physical risks from floods and sea level rise, which calls for urgent adaptation

Being a tropical and coastal[3] nation, Malaysia is not excluded from exposure to physical risks. According to the INFORM Risk Index,[4] relative to the global average, Malaysia is prone to acute risks stemming from event-driven natural hazards, namely floods, cyclones (Chart 2); and chronic risks driven by longer-term shifts in climate patterns particularly rising sea levels (Ercan, Mohamad, & Kavvas.M, 2012). Managing these adverse impacts calls for adaptation measures that are suited for local conditions. These include stormwater management, soil erosion prevention, reforestation, and building climate-resilient homes and infrastructure.

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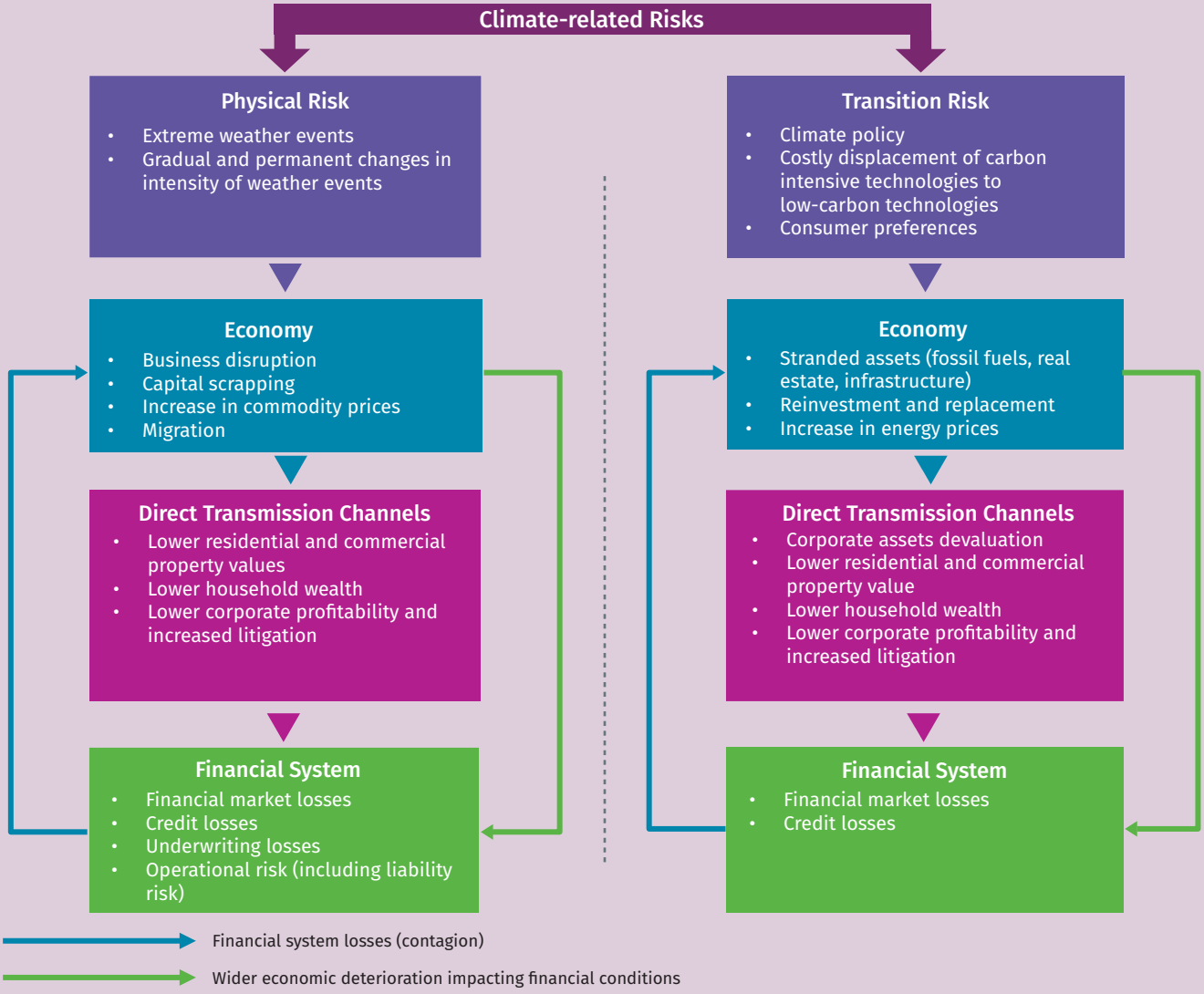
[1] The decoupling between economic growth and emissions are mainly due to the improving energy usage efficiency, decreasing cost of low- and zero-carbon energy sources and a growing number of countries introducing deliberate climate policies.
[2] Following the ratification of the Paris Agreement on 16 November 2016, Malaysia has submitted and revised its Nationally Determined Contribution (NDC) to the United Nations Framework Convention on Climate Change (UNFCC), where it intends to reduce its economy-wide carbon intensity against GDP by 45% in 2030, compared to 2005 levels. Beyond the Paris Agreement, the National Energy Policy (2022-2040) outlines Malaysia's target to become a net-zero emissions nation by as early as 2050.
[3] 13% of Malaysia's total land area is within 5km of a coast. About 70% of the total population lives in the coastal zones (Ehsan et. al., 2019).
[4] The INFORM Risk Index is a global, open-source risk assessment for humanitarian crises and disasters. INFORM is a collaboration between the Inter-Agency Standing Committee Reference Group on Risk, Early Warning and Preparedness and the European Commission.

Chart 1: Climate-related Risks Come from Two Channels - Physical and Transition Risks



Source: Network for Greening the Financial System (2020), "Guide for Supervisors: Integrating Climate-related and Environmental Risks into Prudential Supervision.

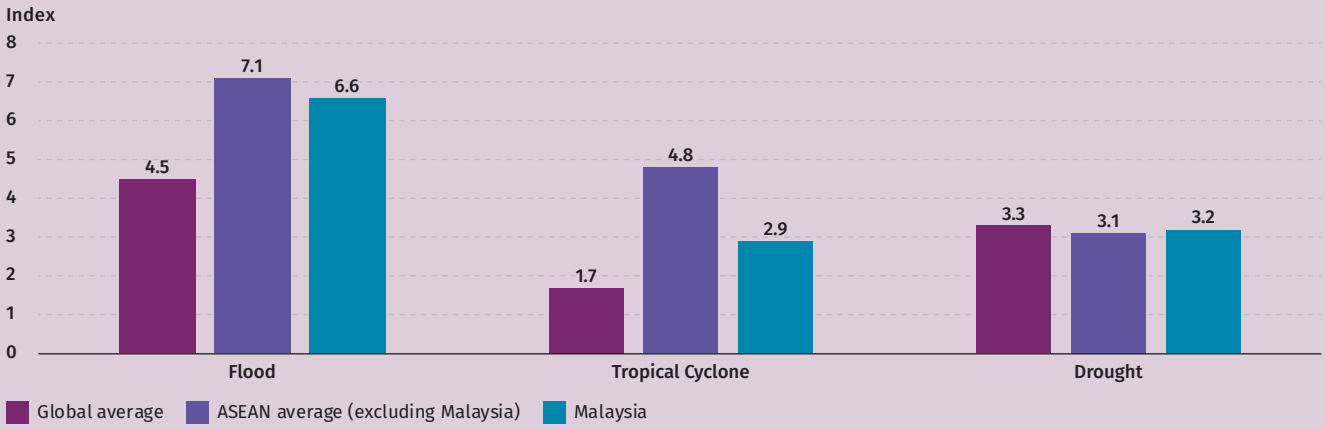
Malaysia appears relatively prepared against transition risks, but delaying mitigation efforts could compound physical risks

As climate policies, technology, consumer and market behaviour react to decarbonisation, certain economic sectors could face big shifts in operations, asset values or cost of doing business (Basel Committee on Banking Supervision, 2021). Based on a World Bank Study on the preparedness for a low carbon transition,[5] Malaysia is better positioned amongst the developing countries to decarbonise its economy. Malaysia is moderately exposed to trade-related climate policies imposed by other countries. It also has some degree of economic and institutional resilience[6] against the low-carbon transition of other countries (Chart 3), supported by its diversified economic structure and relative ease of doing business. Malaysia is well placed to leverage on this position by hastening mitigation efforts to reduce emissions. A delay in managing transition risks would on the other hand magnify physical risks and make adaptation costlier and less effective in the future.

[5] The score is a function of the degree to which countries are exposed to climate-related trade measures, the resilience of their economies and institutions to the external impacts of a low carbon transition, as well as their ability to diversify their asset bases and harness the opportunities presented by a low-carbon transition. The index uses Principal Component Analysis (PCA) to aggregate 4 indicators to measure "Exposure" and 11 indicators to measure "Resilience" respectively. More information can be found in Peszko et al. (2020).

[6] This is proxied by the Worldwide Governance Indicators (WGI) which captures the following 6 dimensions: voice and accountability, political stability and absence of terrorism, government effectiveness, regulatory quality, rule of law and control of corruption.

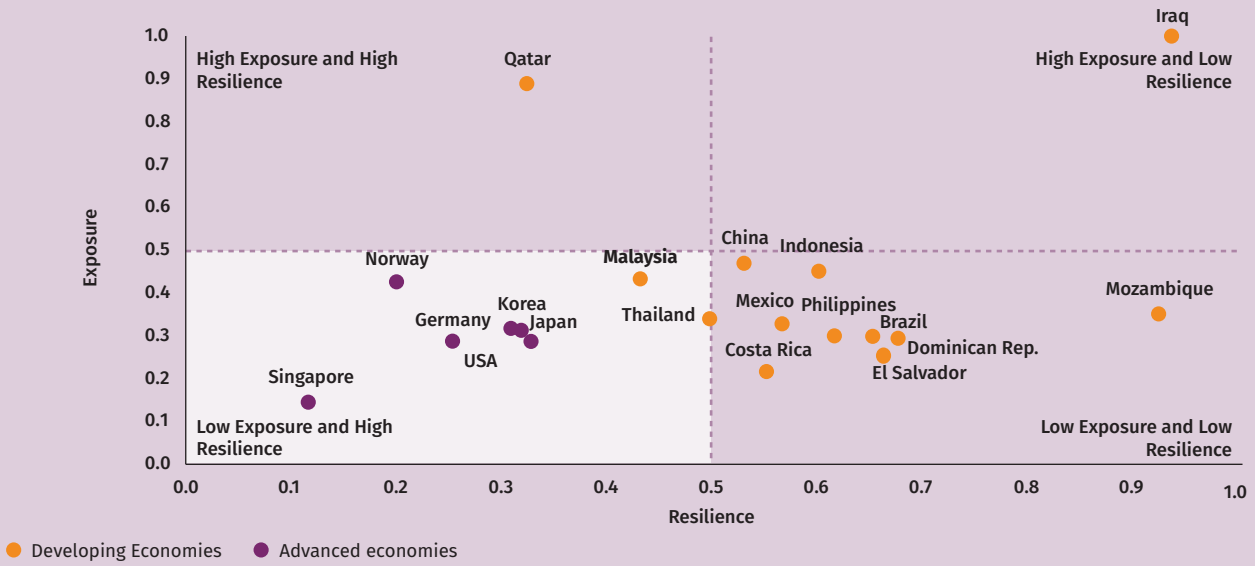
Chart 2: Relative to the Global Average, Malaysia is More Vulnerable to Physical Risks of Floods and Cyclones



Note: Index scaled from 0 to 10. The higher the index, the higher the climate risk

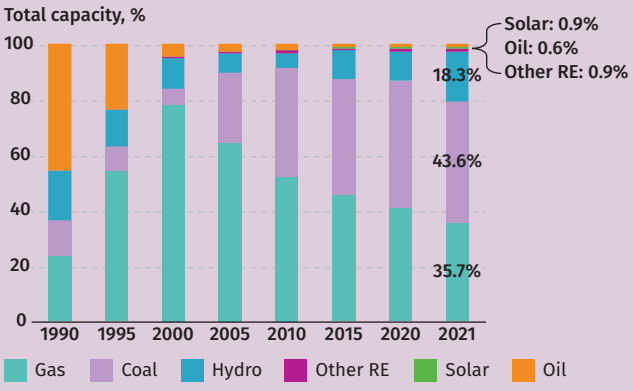
Source: INFORM Risk Index 2023

Chart 3: Countries' Preparedness for a Low-Carbon Transition



Source: Peszko et. al (2020), World Bank Group

Chart 4: Electricity Generation in Malaysia by Source



Source: Energy Commission

Chart 5: Energy Intensity in Selected Countries

Source: International Energy Agency

Key challenges to Malaysia's climate change mitigation

There is no one-size-fits-all approach to climate mitigation. Each country must therefore customise decarbonisation strategies by considering prevailing economic structures that would shape their transition pathways. For Malaysia, mitigation measures should address several key challenges to ensure an equitable and orderly transition.

a) High dependence on coal for power generation

Given the country's steady economic expansion, Malaysia burns more coal now than it did two decades ago, with 43.6% of electricity generated in 2021 (Chart 4). The high reliance on coal stems from it being the cheapest energy source relative to others. Yet, as the most polluting fossil fuel, this dependence is a major hurdle for an enduring low carbon transition. It also exposes the country to energy security risks from supply disruption and price volatility[7]. The Government has announced that it will phase out existing coal-fired power plants by 2040 and will no longer build new assets (Ministry of Economic Affairs, Malaysia, 2022). However, without aggressive capacity ramp-up in cleaner alternatives such as natural gas and other renewables, coal will remain a large part of our energy mix.

b) Low energy efficiency in the economy

Malaysia is among the relatively more energy-intensive economies, suggesting broad inefficiencies in energy consumption (Chart 5). Two main factors explain this. First, about 20% of the economy comprises of hard-to-abate sectors.[8] These are industries that rely heavily on fossil fuel as feedstock and for energy in their manufacturing processes. They also possess long-lived capital assets that are tightly integrated and complex. Decarbonising these sectors would be onerous. They cannot easily switch to renewables or be fully electrified due to technology constraints and prohibitive costs. These barriers require mitigation measures tailored to the circumstance inherent in each sector. Second, the prevalence of energy subsidies propagates inefficiency. Malaysia spends around 12% share of GDP on fossil fuel subsidies, much higher than several advanced economies and regional peers[9] (Chart 6). There are also direct subsidies on electricity usage through the Imbalance Cost Pass-Through (ICPT).[10] These subsidies artificially depress domestic energy prices, creating distortions by not penalising wasteful consumption. To illustrate, petrol consumption per capita in Malaysia rose by 45.1% over the last decade and is higher than in other regional economies (Chart 7). Initiating and sustaining energy price reforms that influence the behaviour of firms and consumers towards greater efficiency would therefore remove a key roadblock in transitioning to a green economy.

c) Significant reliance on fossil fuels for fiscal revenue and external competitiveness

Success in achieving climate pledges will inevitably result in a world that demands less fossil fuel. This trend would notably affect fossil fuel-producing countries, with ramifications on their fiscal position. For Malaysia, this shift poses an added significance given the declining crude oil production since 2004 (Chart 8) amid maturing oil fields (Bhattacharya & Hutchinson, 2022) and a lack of new large oil discoveries (United States Energy Information Administration (US EIA), 2021). The high reliance on petroleum-related taxes and royalties for the Federal Government revenue[11] needs to be addressed sooner rather than later. Designing a resilient tax system that generates new revenue streams and supports a green economy will be key in this transition.

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[7] Malaysia imports 90% of its coal supply, mainly from Indonesia (Source: National Energy Balance, and Malaysia Energy Statistics Handbook 2020, Energy Commission).

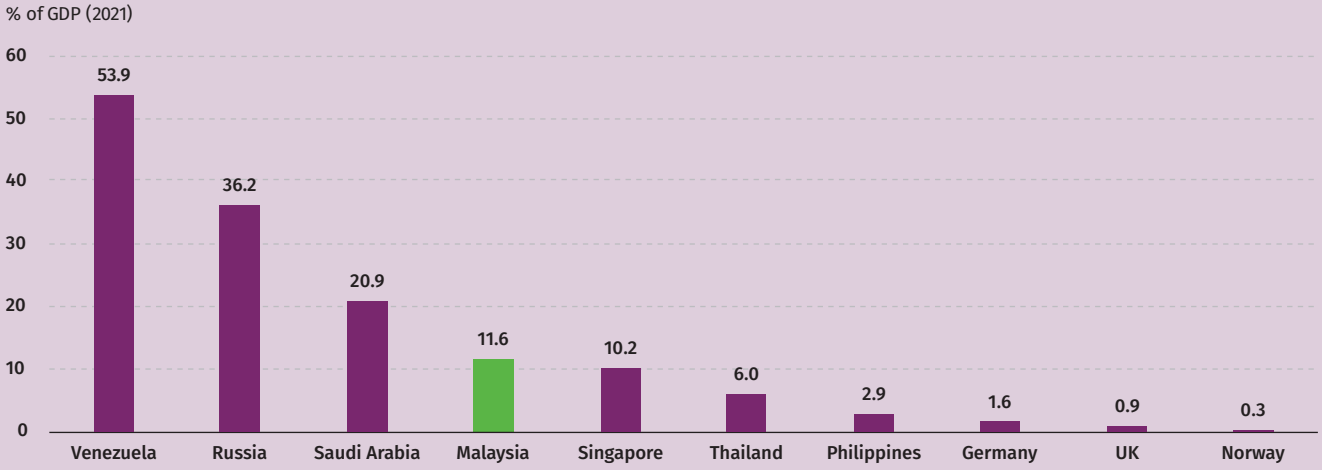
[8] Staff assessment based the three criteria by the International Energy Agency (IEA) to identify hard-to-abate sectors using 2021 national accounts data. These are: (i) long-lived capital assets; (ii) high temperature requirements for their production process; and (iii) trade considerations. For Malaysia, the sectors identified comprises oil and gas, palm oil, construction, steel, cement, and chemicals industries.

[9] These developed economies also shared the same trait of decoupling between economic growth and carbon emissions.

[10] The ICPT is a mechanism under the Incentive Based Regulation framework by Tenaga Nasional Berhad which allows electricity tariff charges to households and firms to reflect any changes (upward and downward) in fuel and other generation-related costs every six months in the form of either a rebate or a surcharge. Despite this, the government has provided subsidies in the form of rebates amounting to RM22.5 billion since 2015 through the ICPT mechanism to cushion the impact of high fuel prices. This includes the approved subsidy expenditure of RM10.8 billion for the period January to June 2023.

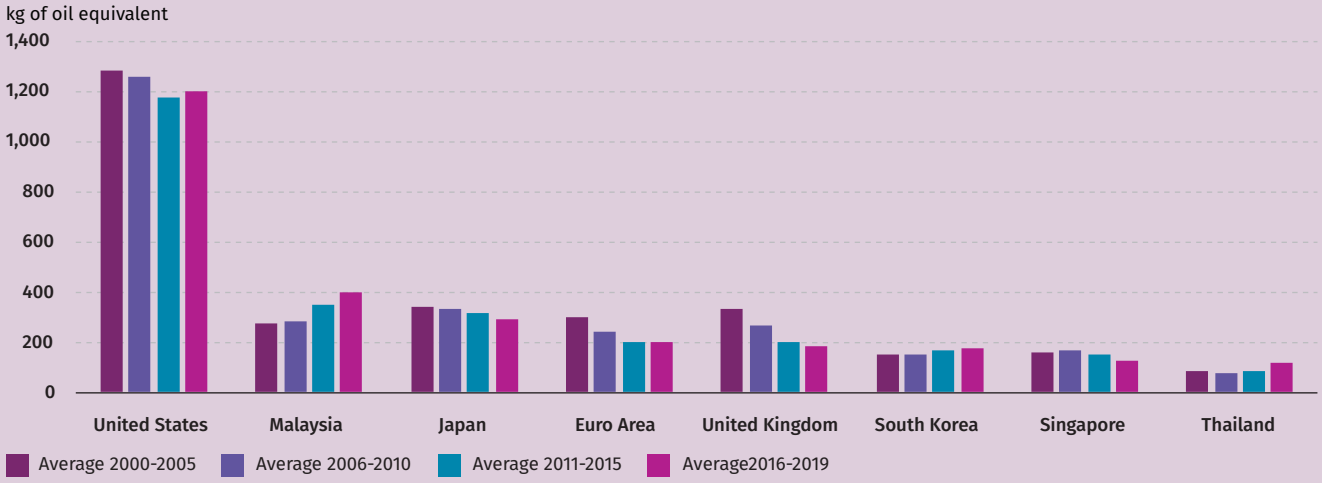
[11] Petroleum-related revenue is expected to contribute 27.3% to total government revenue in 2022, mainly supported by dividends from PETRONAS (Source: Ministry of Finance).

Chart 6: Fossil Fuel Subsidies in Selected Countries



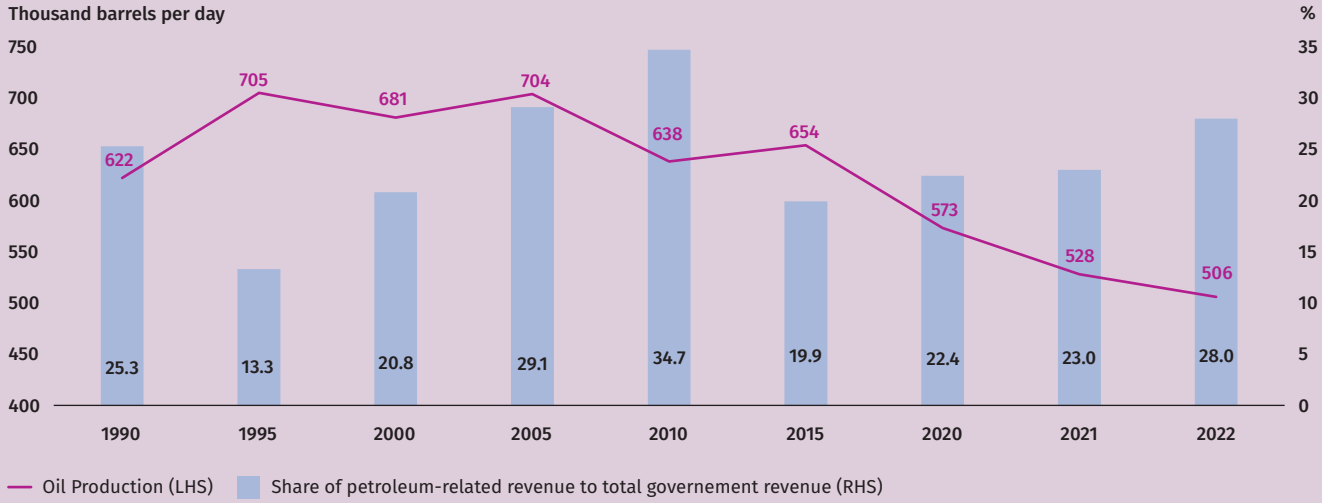
Source: International Monetary Fund (IMF)

Chart 7: Petrol consumption per Capita in Selected Countries



Source: US Energy Information Administration, World Bank, Bank Negara Malaysia estimates

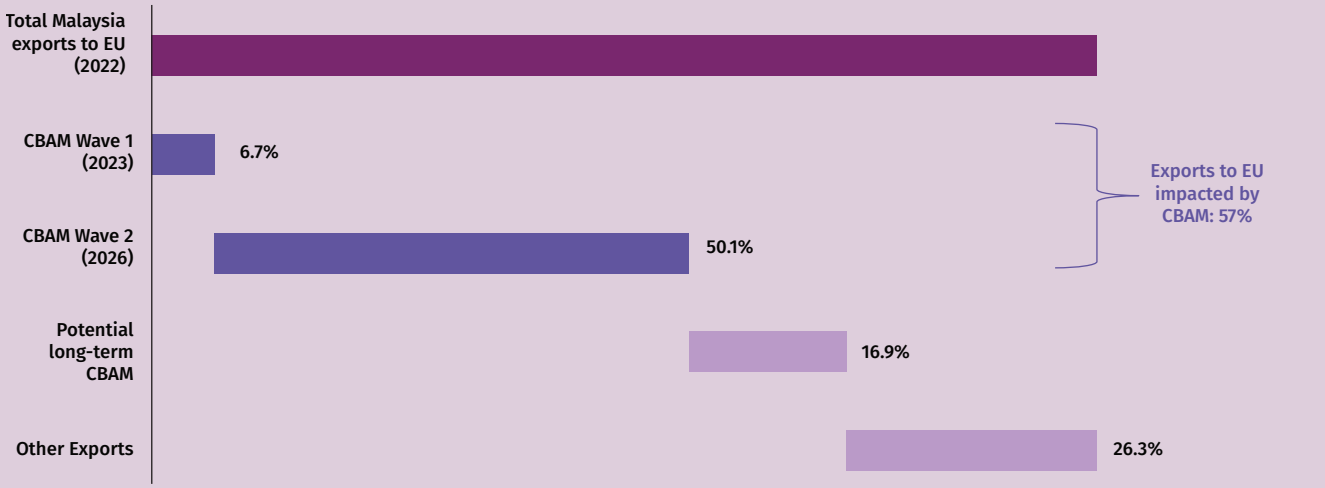
Chart 8: Malaysia's Oil Production and Petroleum-related Revenue as Percentage of Total Government Revenue



Source: Ministry of Finance, PETRONAS

Meanwhile, the phase-in of tariffs to address carbon leakages, namely the Carbon Border Adjustment Mechanism (CBAM)[12] could affect up to 57% of Malaysia's exports to the EU by 2026 if the equivalent emissions standards are not complied by domestic manufacturers (Chart 9). These exports include raw materials such as cement, iron and steel, and aluminum as well as consumer appliances. While this accounts for 5% of total exports, Malaysia's trade competitiveness and investment attractiveness would be further eroded should other countries impose similar regulations.[13] As global capital flows shift towards greater environmental, social and governance (ESG) compliance, this could lead to divestments and write-offs of stranded assets domestically, especially in the hard-to-abate sectors. Therefore, Malaysia must be cognisant of global decarbonisation developments when pursuing its own transition and manage the likely economic repercussions accordingly.

Chart 9: Impact Estimation of CBAM on Malaysia's Exports to EU



Note: Malaysian exports affected under CBAM are based of existing primary imports by the EU that is subject to the EU ETS Market. Exports affected by Wave 1 are based on EU's initial list of products at most risk of carbon leakage (e.g. cement, iron and steel, and aluminum). Exports affected by Wave 2 are based on the remaining products covered by the EU ETS (e.g. E&E, machinery, and rubber products). Meanwhile, the potential long-term CBAM affected exports are items planned to be covered by the EU ETS (e.g. vegetable oils).

Source: Bank Negara Malaysia estimates based on World Wide Fund for Nature (WWF) Malaysia, Boston Consulting Group (BCG), using data from Department of Statistics Malaysia and EU Commission

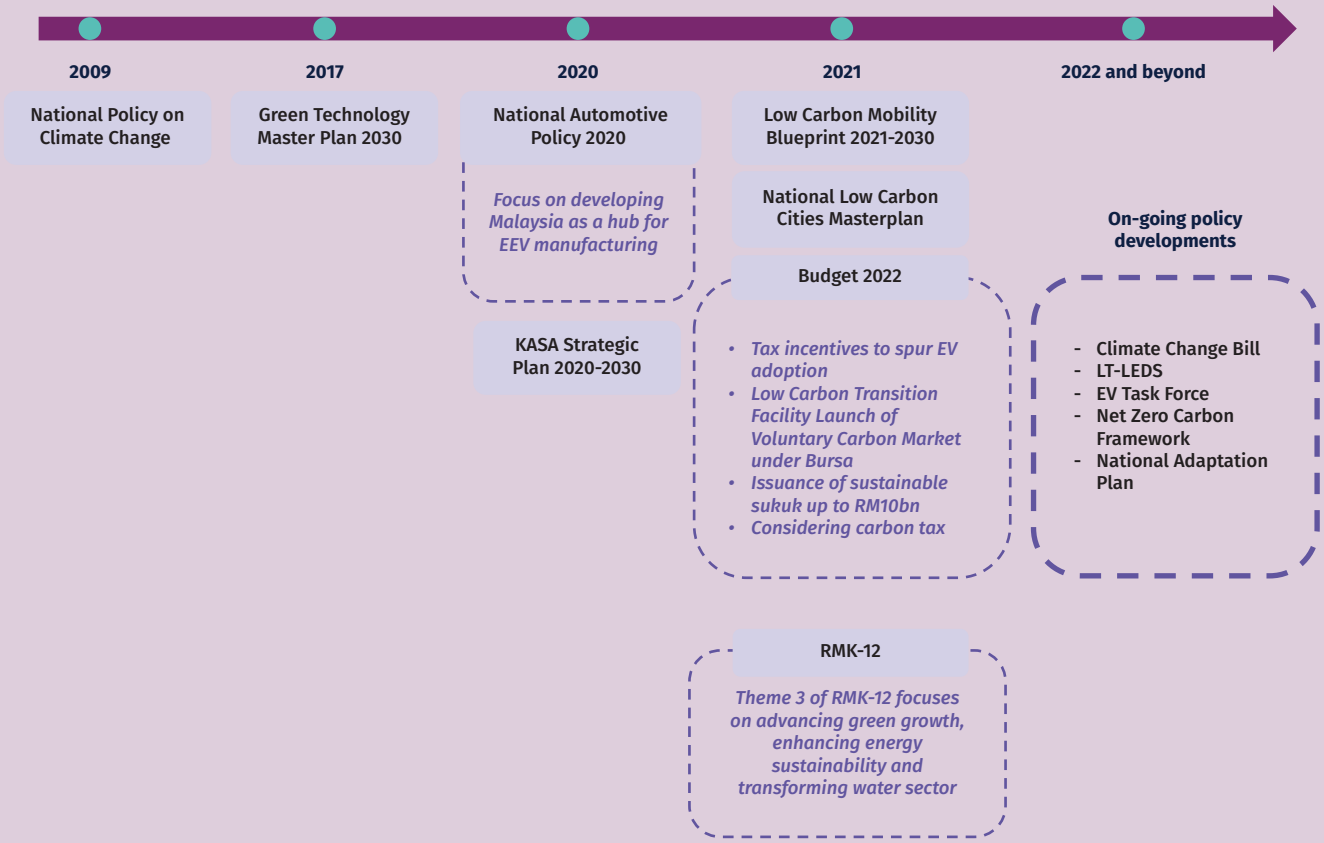
d) Climate policies are fragmented and not sufficiently ambitious

Climate action in Malaysia started in 2009 and have gathered pace since 2020 (Chart 10), with the setting of selected targets on mitigation. A range of sustainability-related regulations is in the pipeline. This includes the Climate Change Bill, Long-Term Low Emission Development Strategy (LT-LEDS), Net Zero Carbon Framework and National Adaptation Plan.

However, other countries are carrying out their climate action at a faster and broader pace. This is evident in Malaysia's low ranking (54th) under the climate policy category of the 2023 Climate Change Performance Index[14], even relative to regional peers (Chart 11). When comparing similar mitigation strategies within ASEAN (Table 1), most strategies in Malaysia are still not in place, notably on legislation. Climate legislation is a vital pillar of climate governance, as successful climate action requires a legal basis. Pledges are not credible unless the measures enacted to achieve them are rooted in law (Eskander, Fankhauser, & Setzer, 2021). In this regard, the passing of the Climate Change Bill is paramount in facilitating an orderly transition by laying the groundwork for effective mitigation.

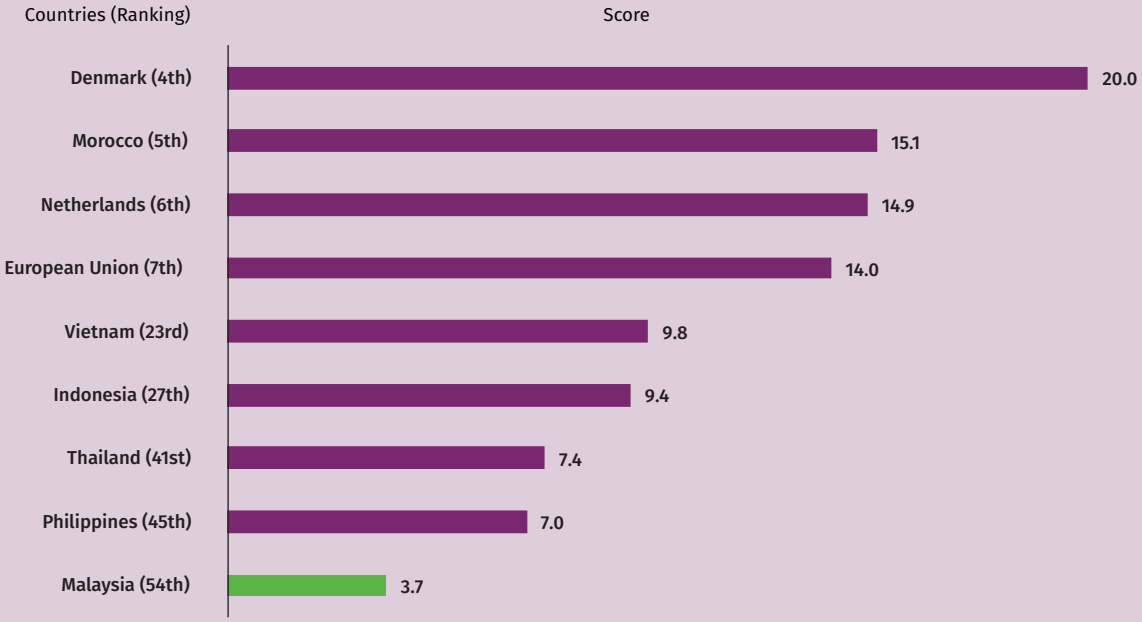
[12] CBAM will be implemented through carbon tax in phases (or "waves") starting from 2026, with prior mandatory emissions reporting starting from 2023.
[13] Include Singapore, China, USA, Japan, Hong Kong, Thailand, and Vietnam.
[14] The Climate Change Performance Index (CCPI) aims to enhance the comparability of global climate protection efforts and progress. It weighs the climate performance of 59 countries (which collectively account for more than 90% of emissions) in the aspect of GHG emissions, renewable energy, energy use and climate policy. The 'climate policy' category, which accounts for 20% weightage in the index, covers a qualitative assessment on the most recent climate policy framework developments at the national and international level.

Chart 10: Timeline of Climate Mitigation Policies in Malaysia



Source: Various policy announcements and policy documents

Chart 11: 2023 Climate Change Performance Index: 'Climate Policy' Category



Source: Climate Change Performance Index (CCPI) as at February 2023

Table 1: Comparison of Mitigation Strategies in ASEAN

	National Net Zero target	*Net-Zero Policy Framework & Legislation*	*Coal power phase out*	*Carbon market mechanism*	*Carbon tax*
Singapore	By 2050	Carbon Pricing Act (2018) and Supply Act (2022)	🟡	🟢	🟢
Indonesia	By 2060	Law 32/2009 Environmental Protection and Management	🟢	🟡	🟢
Vietnam	By 2050	Law on Environmental Protection (2014)	🟢	🟡	🔴
Thailand	By 2065	Constitution of Thailand (2017)	🔴	🟢	🔴
Malaysia	By 2050	🟡	🟡	🟢	🟡
Philippines	Reduce emissions by 75% below BAU by 2030	🟢	🟢	🔴	🔴

🟢 Policy already in place

🟡 Policy currently under planning

🔴 No policy in place

Source: Various news flows, Grantham Research Institute on Climate Change and Environment

Macroeconomic effects of a low-carbon transition

Decarbonisation at both the global and domestic levels, with the attendant climate policies, technology development, and shift in preferences, could pose shocks to Malaysia's development path, growth prospects and potential output, through material impact across economic sectors and labour conditions.[15] This will lead to fundamental changes in modes of production, demand patterns, income levels, trade dynamics and competitiveness (Organisation for Economic Co-operation and Development (OECD), 2017). If not managed well, these changes could lead to considerable dislocations such as rising cost pressures, job losses and a hollowing out of investments (Chart 12).

Global decarbonisation policies could influence the demand and prices for major commodities. As more countries adopt carbon pricing, the eventual lower global demand for fossil fuel products could adversely affect Malaysia's petroleum-related exports and investment activities.[16,17] Furthermore, the prospect of rising prices of key metals and minerals in coming years may also weigh on terms of trade and contribute to imported inflation. This may occur as global demand for renewable energy surges while supply plays catch up in a scenario of concerted efforts to meet emissions targets (Boer, Pescatori, Stuermer, & Valckx, 2021).[18]

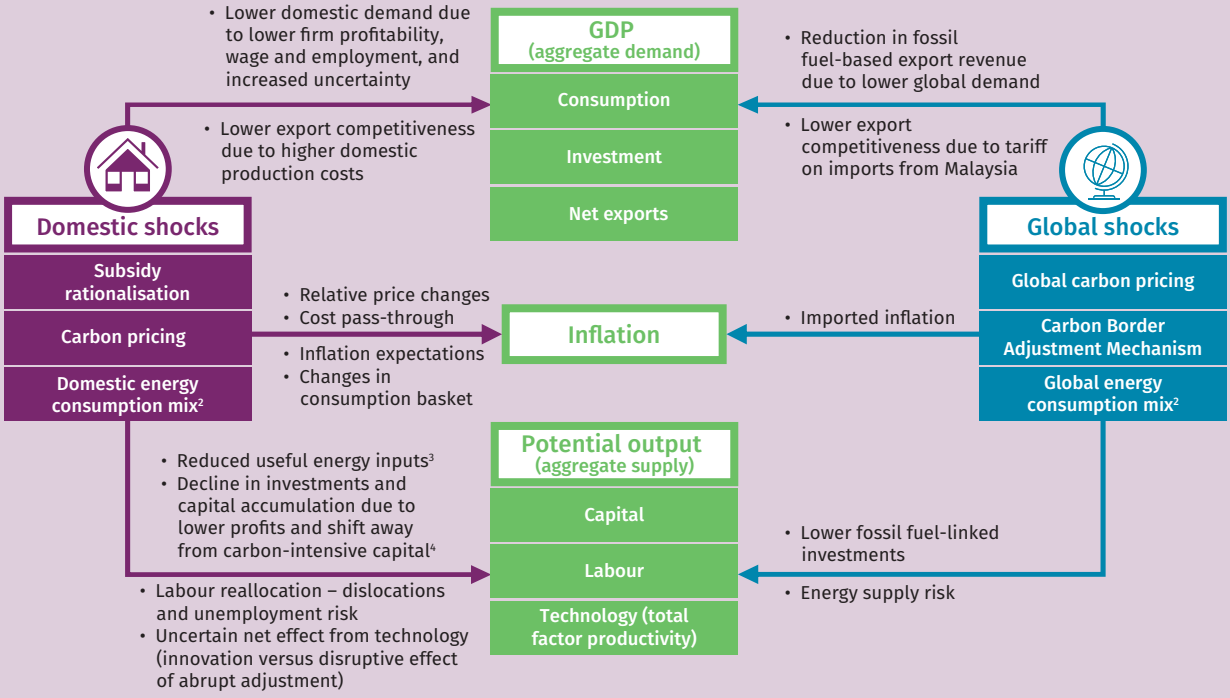
[15] The transition away from fossil fuels and carbon-intensive production and consumption will likely impact all sectors to varying degrees with sectors that are more difficult to decarbonise affected more than others.

[16] While lower petroleum-related exports reduce fiscal revenue, subsidy rationalisation and carbon pricing would potentially increase the fiscal space through reduced spending and additional revenue generation. The impact on the macroeconomy via fiscal policy would then depend on the net impact to revenue, and how the Government utilises its revenues to manage the decarbonisation process.

[17] The trajectory of pre-tax fossil fuel prices, however, is highly uncertain. Prices could remain relatively high and even increase over time despite falling demand in scenarios of stringent climate policy action, if it remains relatively cost-effective to use fossil fuel in the near term (compared to renewable energy sources) and given increasing marginal extraction costs over time (Network for Greening the Financial System (NGFS), 2021).

[18] There may also be indirect spillovers from global climate policy action more broadly via global inflation (for instance, as production costs rise in other countries).

Chart 12: Potential Transmission Channels of Transition Risks to the Macroeconomy[1]



Note:

[1] Transition risks stem from climate policies, technology development, and shifts in consumer preferences. These risks are not mutually exclusive. The chart depicts key channels of the transitions risks but these are not exhaustive. Financial sector feedback, monetary and fiscal policy considerations are excluded. For example, how revenue from carbon pricing is recycled, and the fiscal policy stance (whether budget neutral) will have demand and supply implications.

[2] Alongside climate policies, technology development (for example, in relation to energy efficiency, renewable energy or other low-carbon technologies) and shifts in consumer preferences could influence the global and domestic energy consumption mix and the speed of shift towards less carbon-intensive goods and services.

[3] Reduced useful energy inputs is in the absence of offset from efficiency gains or substitution with clean energy when carbon-based energy inputs decline.

[4] Additionally, risk of stranded assets. Green investments and capital accumulation provide partial offset (not expected to match capital intensity of high-carbon sectors).

Source: Bank Negara Malaysia illustration nominally based on Andersson, Baccianti, and Morgan (2020) and Drudi, Moench, Holthausen, and Weber (2021)

On the domestic front, the literature predicts that the implementation of carbon pricing could cause production costs to rise and profits to decline over the short-to-medium term. This negative wealth shock could lead firms to curtail investments to lower their long-term desired capital stock (International Monetary Fund (IMF), 2020) and reduce their carbon-based energy inputs. This reallocation of capital will also trigger a reallocation of labour, with possible dislocations and wage effects in sectors most affected by carbon pricing. Consumption could be lower, thus affecting growth. Potential output growth could be constrained in the absence of offsetting adjustments in the factors of production and technology, which are costly and may take a long while.[19] Energy components in the headline inflation basket will likely experience price increases especially as carbon pricing progresses over time.[20] The pass-through of costs associated with carbon pricing

[19] These adjustments include energy efficiency gains, substitutions in the energy mix towards green energy, the accumulation of green capital stock, and appropriate enhancements to human capital. If the necessary technology for the generation, storage and transmission of clean energy alternatives cannot keep up with the pace of transition, energy prices would likely be systematically increased (Drudi, Moench, Holthausen, & Weber, 2021).

[20] These are final goods, namely fuel for transportation, and electricity and gas for household consumption. The duration and extent of the direct impact on headline inflation would depend on innovation in renewable energy. This could lower prices and increase energy efficiency, and reduce the expenditure share, if there is no offsetting demand increase (Andersson, Baccianti, & Morgan, 2020). More generally, as production and consumer preferences gradually shift toward less carbon-intensive goods and services (which may also occur without accompanying climate policies) and as these items enter the consumption basket, this will help moderate inflationary pressures (Network for Greening the Financial System (NGFS), 2020).

to consumers could also raise inflation.[21] These potential inflation effects could occur subsequent to subsidy rationalisation, which would involve the removal of blanket subsidies and price ceilings.

The extent of impact from the global and domestic transmission channels described above would depend on three inter-related elements:

First, the initial characteristics of Malaysia's carbon dependence will influence the response to mitigation policies. These include energy intensity in the economy, encompassing the relative proportions of carbon-based energy and renewable energy use, as well as the initial size of the fossil fuel trade balance. In general, countries that have carbon-intensive production structures are more exposed to higher inflation and factor input adjustments, while those that rely on fossil fuel export revenue are susceptible to adverse terms-of-trade shocks. The capacity and speed for structural transition towards low-carbon industry and domestically produced renewable energy sources will influence the impact of the shocks (Holland, Hurst, Kara, & Liadze, 2021). Further, as both carbon-intensive and fossil fuel revenue-dependent countries are expected to experience disproportionate declines in investment (including via lower capital inflows), real exchange rate depreciation plays a shock absorber role that facilitates expenditure switching and current account balance adjustments (IMF, 2022a).

Secondly, the design and phasing of mitigation measures matter greatly for whether the expected economy-wide shifts remain manageable and produce equitable outcomes. An orderly approach to climate policies – *prompt and gradually more stringent* – helps keep Malaysia coordinated with other countries.[22] It is also conducive for capacity building by the private sector, including adjusting factors of production and managing the risk of stranded assets. Based on global level scenarios, an orderly approach represents the best chance of effectively managing both physical and transition risks over the long run (Network for Greening the Financial System (NGFS), 2022). Conversely, a disorderly approach – *delayed and uncoordinated* – will risk greater policy spillovers from policy divergence across countries, and more abrupt and aggressive climate policies, that may require strong counter responses by other domestic economic policies. Climate policies have been shown to disproportionally impact certain vulnerable groups,[23] thus a critical aspect is to design mitigation policies which ensure that the costs and benefits of transition are distributed equitably. This may include compensation measures in the form of cash transfer programmes, tax exemptions, enhancement to social security payments as well as employment programmes (Feng, Hubacek, Liu, Marchán, & Vogt-Schilb, 2018; United Nations Development Programme (UNDP), 2021).

Third, uncertainty about the direction in climate policy and operating environment could bring about more adverse effects. Doubts regarding the commitment to progressive carbon pricing, in particular, increase the likelihood of a temporary period of higher inflation, even if transition has an overall depressive effect on economic activity. This is because a future fall in income is not anticipated and thus inflationary pressures from higher production costs dominate deflationary demand effects (Ferrari & Nispi Landi, 2022).[24] More generally, uncertainty regarding the trajectory and effective management of future policies leads to higher risk aversion. This raises investment risk premia, resulting in more volatile global commodity prices and financial markets, and reduced FDI and capital spending domestically, lowering potential output. Households' precautionary savings may rise, dampening expenditure. Hence, a credible climate policy path with gradual and progressive commitments is necessary to enable economic agents to adjust and adapt without being too negatively impacted by the transition.

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[21] This is the indirect effect on inflation from carbon taxation which could potentially feed through firms' cost structure based on their emissions, and cost spillovers given linkages across sectors.

[22] Given that countries are increasingly implementing climate policies to match their climate ambitions, early action puts Malaysia in an advantageous position to mitigate climate policy spillovers (for example, via CBAM). There is also a case for an internationally coordinated approach via carbon price floors that are differentiated according to countries' development level and contribution to emissions. This could enhance the transparency of countries' actions, address competitiveness concerns and achieve long-term temperature goals (International Monetary Fund (IMF), 2019).

[23] Higher energy prices from carbon taxes and removal of fossil fuel subsidies will have a greater direct impact on firms and workers in energy-intensive sectors. Indirect impacts via increases in prices of goods and services with large energy inputs, such as public transportation, electricity, and food, will hurt poorer households the most (Feng, Hubacek, Liu, Marchán, & Vogt-Schilb, 2018; Eurofound, 2021).

[24] If the temporary period of higher inflation driven by the lack of credibility of future carbon taxes contributes to a de-anchoring of inflation expectations, the transition can become inflationary in the long term too.

Implications of transition on the conduct of monetary policy

While decarbonisation can be thought of as primarily emanating from the supply side, there are key differences against traditional supply shocks. Namely, it is anticipated, permanent, and generates revenues that can be channelled back to the economy (Bank of England (BoE), 2022; International Monetary Fund (IMF), 2022b).[25] The transition process would necessitate permanent resource reallocations and relative price adjustments across sectors. Hence, there is a case for monetary policy to accommodate these developments[26] amid the presence of downward nominal rigidity.[27] For instance, accommodating higher inflation allows wages in the expanding sectors to increase thus setting the right price incentives for the movement of labour towards these sectors. Relative price adjustments across sectors will also favour the reallocation of factors of production towards expanding sectors (Guerrieri, Lorenzoni, Straub, & Werning, 2021),[28] which in turn can support sustainable growth.

On the other hand, the energy price shocks are salient[29] and progressive in nature. This increases the risk of more generalised and persistent inflation, which could subsequently affect inflation expectations and heighten the risk of second-round effects and wage-price spirals. In balancing the upside risks to inflation and downside risks to growth, how climate shocks may evolve will be an important consideration for the central bank to maintain the credibility of its monetary policy framework. Communicating the potential economic consequences, both in terms of growth and the nature and drivers of inflation, and how this will weigh on monetary policy action would be equally important.

The monetary policy response will depend on how decarbonisation evolves, particularly whether it remains orderly. This will involve taking into account interactions with climate and fiscal policies, and, as a small open economy, exchange rate effects.

An orderly transition will require careful consideration of the phasing in of subsidy rationalisation and carbon pricing. These policies should also be accompanied by attendant support policies such as incentives for green investment, and protection for the most vulnerable segments of the economy. The orderliness of transition will have a bearing on the effectiveness of monetary policy responses via the transmission mechanism. For instance, if changes in climate policies, market behaviour and technology are particularly disruptive, the resulting stranded assets can impair the financial system and consequently weaken the transmission mechanism (Drudi, Moench, Holthausen, & Weber, 2021).

The monetary policy response will vary according to the Government's revenue recycling choices which can have different macroeconomic impacts,[30] and thus underlies differentiated paths for macroeconomic stabilisation that are consistent with the monetary policy mandate (Darracq-Pariès, Dees, Hurst, & Liadze, 2022). In addition, these choices as well as the credibility of fiscal and climate policies could influence monetary policy space as captured by the natural rate of interest. Revenue recycling that fosters innovation and enhances productivity could raise the natural rate of interest. However, policy uncertainty could reduce it, given lower investment and higher savings (Drudi, Moench, Holthausen, & Weber, 2021).

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[25] Generally, carbon tax revenues can be recycled via public investment, tax reduction, transfers to households and reimbursement of public debt.

[26] Namely the reallocation of capital and labour to less carbon-intensive economic activities, and the higher relative price for carbon-intensive goods and services.

[27] A situation where nominal wages are resistant to reductions, despite changes in the broad economy that suggest a lower wage is optimal (Case, Fair, & Oster, 2012).

[28] In contrast, when nominal wages are rigid downwards, monetary policy action which lowers spending and inflation may not facilitate reallocation, but instead further increase unemployment, especially in sectors that are contracting. This therefore imparts a degree of inflationary bias to optimal monetary policy (Guerrieri, Lorenzoni, Straub, & Werning, 2021).

[29] Price changes which are more important for consumers, and potentially have a larger bearing on the overall price trend (Bank for International Settlements (BIS), 2022). The saliency of energy prices is due to their pervasive role in production chains.

[30] Among the revenue recycling options, public investment leads to the most beneficial effects on GDP and higher short-term inflationary pressures. It also contributes to long-run potential output via capital stock expansion (Darracq-Pariès, Dees, Hurst, & Liadze, 2022).

Under normal conditions, the exchange rate reinforces the desired effect of monetary policy (Drudi, Moench, Holthausen, & Weber, 2021). A disorderly transition, however, increases the risks of real exchange rate effects which amplify rather than absorb shocks, and the weakening of the exchange rate channel of the transmission mechanism. This could become important in informing monetary policy strategy, especially if exchange rate effects amplify rather than buttress the disruptive impacts on the economy.

Role of investment in catalysing the low carbon transition

The world must invest massively in climate adaptation and mitigation to meet the Paris Agreement targets. Between 2022 and 2050, over USD270 trillion is required to decarbonise the global economy, mostly in the transport, energy, building and industry sectors (Swiss Re Group, 2022). For Malaysia, it is estimated that investments worth RM350 billion to RM450 billion will be needed over the next three decades to achieve its emissions targets (World Wide Fund for Nature (WWF) Malaysia; Boston Consulting Group (BCG), 2021). The significant capital expenditure not only supports an orderly transition, but also unlocks new opportunities in the green economy.

Reallocating resources to fund green investments on a large scale is, however, inherently challenging. Embarking on green infrastructure projects and low-carbon technologies typically involves high upfront capital outlays, long gestation, technical limitations, and unproven commercial viability (Georgieva & Adrian, 2022). Such constraints are particularly prevalent in the private sector in emerging market economies due to the lack of reliable market intelligence on green economy, macroeconomic fluctuations, and policy uncertainties.

Exploring existing and new economic opportunities

To insulate against physical and transition risks, capital formation in Malaysia will need to increasingly pivot toward assets that support climate adaptation and mitigation. The potential impact of CBAM is a case in point, in which raising domestic capacity in cleaner production methods along the supply chain would safeguard trade competitiveness. Moreover, Malaysia can leverage on its unique advantages to seize latent opportunities arising from decarbonisation. For instance, the country produces around 20% of global palm oil output,[31] which also generates large quantities of effluent and biomass waste. This calls for more investment that would deeply integrate circular economy practices within the oil palm industry and broaden the research in biofuel development.

Investment in new and emerging technologies is also key to unlocking new opportunities in the low-carbon transition. More capital is therefore needed to support innovative green energy solutions especially at the commercialisation phase. Namely, carbon capture, utilisation and storage (CCUS) technology would help decarbonise the hard-to-abate sectors, while developing hydrogen as an alternative to fossil fuels would improve Malaysia's energy mix.

Improving investment climate and funding mechanisms to drive green investments

Making Malaysia's investment climate more conducive and attractive to the private sector, including foreign players, to invest in or acquire green technology assets is equally crucial. This includes setting a clear transition roadmap, ensuring adequate supply of green talent, and providing attractive incentives which can alleviate the cost burden of asset acquisition. Reducing information asymmetries and improving the risk-return profile of prospective investments is critical in spurring private sector involvement, including the financial institutions. Towards this end, the Bank introduced the Climate Change and Principle-based Taxonomy[32] to facilitate financial institutions in assessing and classifying economic activities that contribute to adaptation and mitigation strategies.

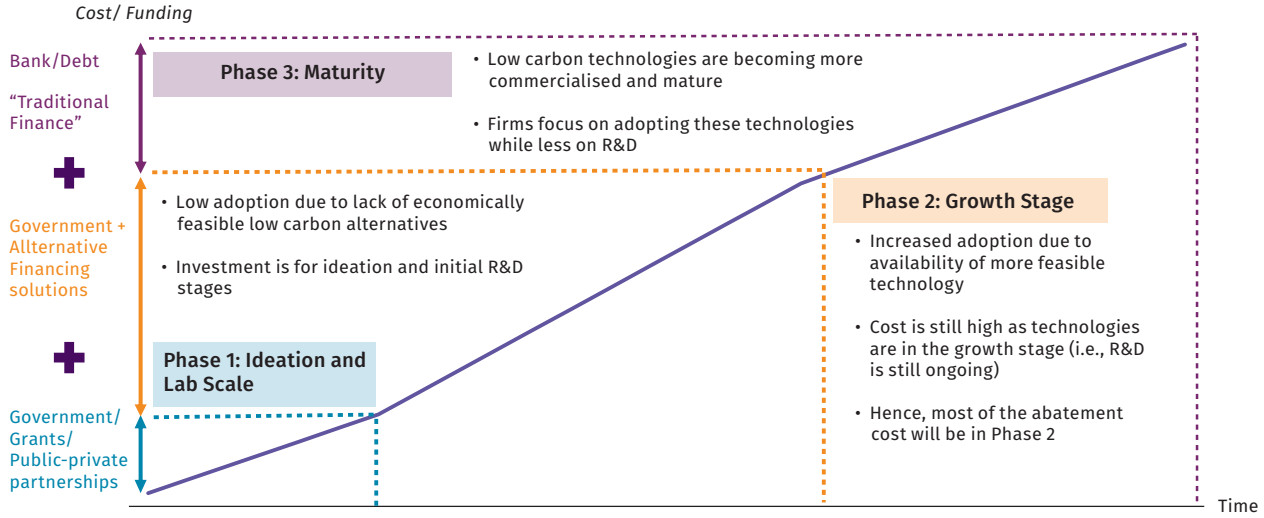
[31] Malaysia Palm Oil Council, 2022

[32] For further information, please see "Climate Change and Principle-based Taxonomy" document (link: https://www.bnm.gov.my/documents/20124/938039/Climate+Change+and+Principle-based+Taxonomy.pdf).

Various strategies towards promoting green investment have been identified under the New Investment Policy (NIP), in line with ESG being the overarching theme for the National Investment Aspirations (NIAs). Effective implementation of these strategies is crucial in creating a conducive investment ecosystem and attracting high quality investment to catalyse the green transition.[33]

In addition, overcoming financing barriers and attracting investors are key in increasing green investments. Specifically, **enhancing the funding mechanisms** would ensure that adequate capital is available across all phases of technological feasibility and commercial viability (Chart 1A). Funding for the ideation, research and development stage should be mainly sourced from the Government and public-private partnership, given the large upfront outlay and the need for technical assistance from public institutions. Equity-based and alternative financing are more effective in the growth stage, given the long gestation and higher risk-return trade-off. Finally, traditional financing typically plays a larger role at the maturity phase to ensure business continuity.

Chart 1A: Green Technologies Funding Phase



Note: 60% of the technology is expected to be feasible today/in the near future, 5% which would require public financing and 35% which depends on implementation of carbon pricing *(BCG: Securing our future: Net Zero Pathways for Malaysia 2021)*

Source: Bank Negara Malaysia, adapted from American Energy Innovation Centre

[33] For further information, please see the New Investment Policy, 2022

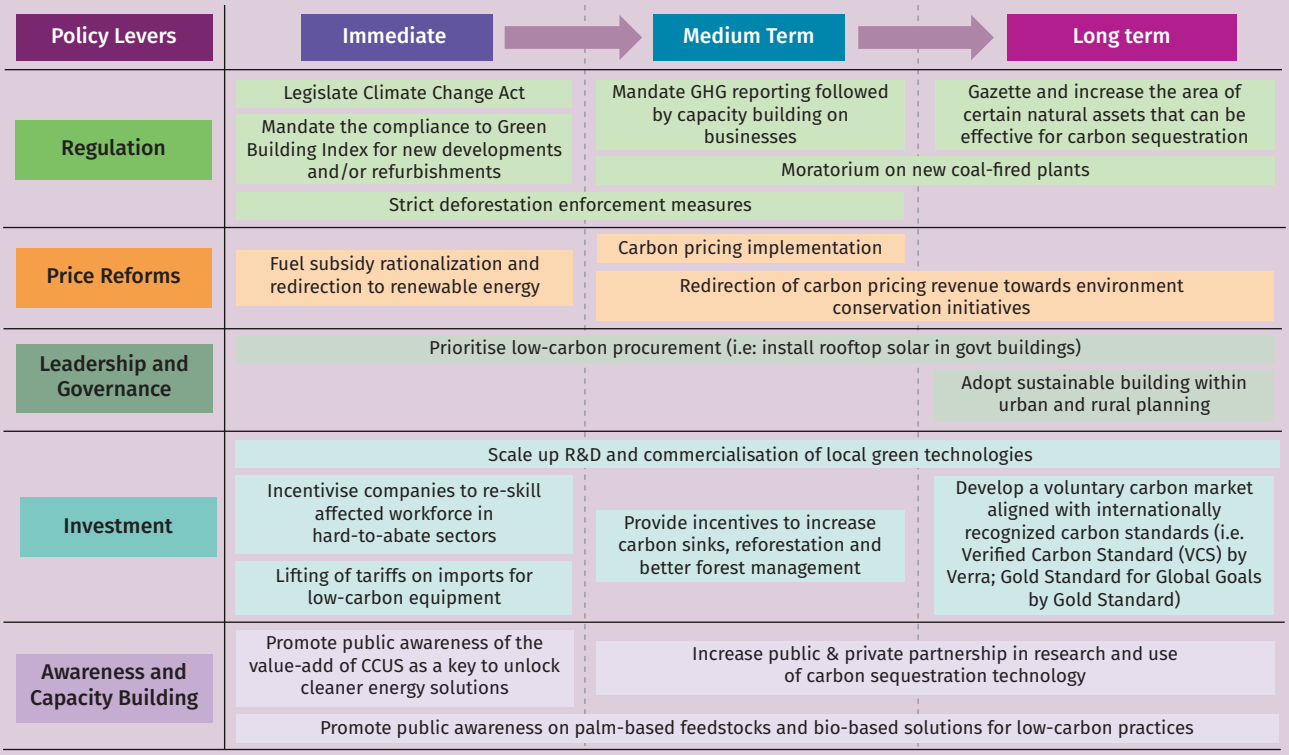
Full steam ahead: Building blocks to galvanise climate mitigation towards a greener economy

With the economic and financial effects of climate change steadily affecting our lives and livelihoods, Malaysia needs to step up its own adaptation and mitigation efforts. This requires a whole-of-nation approach towards climate mitigation with inclusive participation and strong commitment from all stakeholders. From the top, the Government plays a crucial role to enable a conducive ecosystem for orderly transition. A high degree of clarity on the country's vision, strategies, plans, timelines and milestones is therefore paramount. This would provide strong market signals that would spur firms to adjust towards low-carbon practices and encourage households to live more sustainably. Chart 13 shows a roadmap that captures some of the key of measures that the Government could consider in making mitigation more effective towards reducing emissions. These measures are grouped into five broad levers comprising *regulation, price reform, leadership and governance, investment as well as awareness and capacity building*. They are also prioritised according to immediate actions as well as medium and long-term reforms.

Under the lever of *regulation*, there is a pressing need for a regulatory framework aimed at controlling emissions and polluting activities. Here, enacting the Climate Change Bill is key towards laying the legislative foundation for effective climate action. Equally important is mandating Green Building Index compliance in the construction sector and stricter enforcement to protect Malaysia's carbon sinks.

The next lever is implementing *price reforms* to address the problem of externalities when market players do not internalise the economic costs and benefits of decarbonisation. Chiefly, the rationalisation of fossil fuel subsidies could shift firm and household behaviour towards greater energy efficiency. The savings from rationalisation could then be rechannelled to hasten renewable energy development. This would reduce the associated green premiums and promote wider usage of sustainable alternatives.

Chart 13: Potential Policy Roadmap towards Decarbonisation



Source: Bank Negara Malaysia assessment based on OECD climate policy solutions

Meanwhile, establishing a carbon accounting framework[34] is crucial in preparing the private sector towards adopting carbon pricing. This can take the form of either a carbon tax or emissions trading scheme (ETS). These instruments are empirically shown to induce countries to decarbonise, where the average annual growth rate of emissions are two percentage points lower compared to countries without carbon pricing.[35] However, carbon pricing implementation needs to be carefully designed to achieve the intended outcome and prevent negative spillovers. For example, while the EU area has managed to reduce their emissions by an average of 2.2% annually since its ETS started in 2005, the cap[36] for rate of emission reduction needs to be raised to at least 4% of emissions annually for 2021-2023 to achieve the Paris Agreement target (Zaklan, 2021). The appropriate carbon price level[37] must also be considered as the global average price of USD6 per tonne of emissions based on IMF's estimations is too low to curb global warming in line with the Paris Agreement. Hence, the Government would need to balance between an appropriate initial price and its subsequent increments that provides sufficient time for firms to adapt, while at the same time reflect the actual cost and appropriate incentives to effectively reduce emissions.

[34] For further details on carbon accounting framework, please refer to the Box Article on 'Measuring the Journey Towards a Low Carbon Economy' in Chapter 2.2, BNM Annual Report 2022.
[35] This is based on *Carbon Pricing Efficacy: Cross Country Evidence* (Best, Burke, & Jotzo, 2020) which uses 142 countries over a period of 20 years .
[36] An ETS cap is the limit placed on the emission rights to trade within the region.

Equally important is for the Government to 'walk the talk' in spearheading the decarbonisation agenda. The Government could *lead by example* by advancing low carbon procurement practices and adopting sustainable urban and rural development as green technologies and building materials become widely available.

Catalysing green *investments* is key. Lifting the tariffs on imports of green technologies could jumpstart the transition. Providing incentives to spur domestic development of such technologies not only reduces reliance on imports over time but raises Malaysia's knowledge and productive capabilities and creates high-value green jobs. These are jobs that promote sustainability and decrease waste, energy use and pollution.

Lastly, strategies are needed to step up *awareness and capacity building* initiatives to deepen public-private partnerships in research and inspire stakeholders to act collectively towards managing climate risks. Together, this will reinforce the effectiveness of the other policy levers in ensuring an orderly transition.

Conclusion

For Malaysia to achieve substantial emissions reductions, embarking on the necessary adaptation and mitigation will be vast in scale and complex in execution. Yet the consequences from its delay could be far greater with lasting implications on Malaysia's growth prospects, potential output and livelihoods. Hence, navigating the economic transition is critical, and would entail tailored solutions such as to wean off coal and decarbonise the hard-to-abate sectors. Equally crucial is the adept balancing to manage the ensuing costs and dislocations, while seizing the opportunities to create green jobs and attract investments that help our emissions targets. Above all, the climate pledges must be matched by concrete, measurable action. While the Government leads the way in setting the green agenda, its implementation is ultimately the collective responsibility of all stakeholders. The pace, breadth, and impact of decarbonisation on the wider economy will consequently determine the degree of monetary policy response. An equitable and orderly transition to a green economy will allow Malaysia's growth and development to be more resilient, sustainable, and inclusive, thereby securing a cleaner and liveable future for the next generation.

Moving forward, the Bank will continue with its engagements with key stakeholders, involvement at international platforms such as the NGFS, and capacity-building to better understand and analyse climate risk effects to act pre-emptively. The Bank will also continue to prepare the banking sector to be more resilient in the face of climate change and continue to support the transition process within its operational mandate.[38]

[37] Based on IMF's estimations, the recommended carbon price is USD75 per tonne of carbon emissions by 2030 as to curb emissions in line with the Paris Agreement (Black, Parry, and Zhunussova, 2022).

[38] Challenges remain given the lack of availability and liquidity ESG instruments and investments. To facilitate and support the development of a deeper domestic ESG bond market, the Bank has worked with the Malaysian Government to issue Ringgit-denominated Sustainable Development Goals (SDG) sukuk in September 2022. This inaugural issuance is expected to pave the way for more regular SDG government and corporate bond issuances in the future, which will be critical in developing the benchmark to spur private sector issuances.

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Annex

Annex

CONTENTS

Key Economic and Financial Statistics

Table A.1

Gross Domestic Product by Kind of Economic Activity at Constant 2015 Prices

	2019	2020	2021	2022*p*	2023*f*
	RM million				
Agriculture	101,573	99,106	98,898	98,949	99,664
Mining and quarrying	102,887	92,879	93,150	96,350	98,290
Manufacturing	316,283	307,847	337,219	364,522	379,247
Construction	66,453	53,616	50,802	53,327	56,700
Services	820,576	776,361	791,068	877,426	921,053
Plus: Import duties	16,179	15,335	15,602	16,731	18,073
GDP at purchasers' prices[1]	**1,423,952**	**1,345,144**	**1,386,738**	**1,507,306**	**1,573,027**
	Annual change (%)				
Agriculture	-1.9	-2.4	-0.2	0.1	0.7
Mining and quarrying	-0.6	-9.7	0.3	3.4	2.0
Manufacturing	3.8	-2.7	9.5	8.1	4.0
Construction	0.4	-19.3	-5.2	5.0	6.3
Services	6.2	-5.4	1.9	10.9	5.0
Plus: Import duties	-2.2	-5.2	1.7	7.2	8.0
GDP at purchasers' prices	**4.4**	**-5.5**	**3.1**	**8.7**	**4.0 ~ 5.0**

[1] Numbers may not necessarily add up due to rounding.
p Preliminary
f Forecast

Source: Department of Statistics, Malaysia and Bank Negara Malaysia

Table A.2

Growth in Manufacturing Production (2015=100)

	2019	2020	2021	2022	2020	2021	2022
	Index				Annual Change (%)		
Electrical and electronics products cluster	**125.9**	**128.7**	**147.7**	**168.8**	**2.2**	**14.7**	**14.3**
Computer, electronics and optical products	127.7	130.9	151.3	175.4	2.5	15.6	16.0
Electrical equipment	119.5	120.6	135.3	148.4	0.9	12.2	9.7
Machinery & equipment	121.4	122.8	137.1	146.7	1.1	11.6	7.0
Primary-related cluster	**117.0**	**114.7**	**128.3**	**131.0**	**-2.0**	**11.9**	**2.0**
Coke and refined petroleum products	113.2	101.2	112.9	120.0	-10.6	11.6	6.3
Chemical and chemical product	117.5	109.2	119.5	124.4	-7.1	9.4	4.1
Pharmaceutical products	120.7	138.2	159.9	169.7	14.5	15.7	6.1
Rubber and plastic products	118.9	150.2	178.4	161.2	26.3	18.8	-9.6
Wood products	118.4	104.0	113.6	121.2	-12.1	9.2	6.7
Paper and paper products	120.0	116.5	133.8	143.9	-2.9	14.9	7.5
Furniture	132.0	122.8	118.3	129.5	-7.0	-3.7	9.5
Construction-related cluster	**119.1**	**104.4**	**108.2**	**116.5**	**-12.4**	**3.7**	**7.6**
Other non-metallic mineral products	120.3	103.1	104.2	113.7	-14.3	1.0	9.1
Basic metals	116.6	111.0	114.2	121.9	-4.8	2.8	6.8
Fabricated metal products, except machinery and equipment	119.8	101.3	107.7	115.3	-15.5	6.3	7.1
Consumer-related cluster	**118.9**	**114.2**	**116.4**	**128.3**	**-4.0**	**2.0**	**10.2**
Food products	120.1	121.0	123.2	128.7	0.8	1.8	4.5
Transport equipment and other manufactures	115.2	108.7	110.1	130.0	-5.7	1.3	18.1
Beverages	127.2	108.7	119.4	135.3	-14.5	9.9	13.3
Tobacco products	113.6	95.4	83.6	102.2	-16.0	-12.4	22.1
Textiles, wearing apparel, leather products and footwear	126.6	110.3	118.4	125.0	-12.8	7.3	5.6
Total	**120.1**	**116.9**	**128.1**	**138.5**	**-2.7**	**9.5**	**8.2**

Source: Department of Statistics, Malaysia and Bank Negara Malaysia

Table A.3

Services Sector Performance at Constant 2015 Prices

	2019	2020	2021	2022*p*	2019	2020	2021	2022*p*
	Annual change (%)				Share to GDP (%)			
Services	**6.2**	**-5.4**	**1.9**	**10.9**	**57.6**	**57.7**	**57.0**	**58.2**
Wholesale and retail trade	*6.8*	*-6.0*	*1.6*	*13.5*	*17.0*	*17.0*	*16.7*	*17.5*
Government services	*3.4*	*4.6*	*5.4*	*4.7*	*8.3*	*9.2*	*9.4*	*9.1*
Finance and insurance	*4.8*	*2.9*	*10.0*	*0.9*	*6.6*	*7.1*	*7.6*	*7.1*
Information and communication	*6.5*	*6.0*	*6.3*	*5.2*	*5.9*	*6.6*	*6.8*	*6.6*
Other services	*5.6*	*-10.4*	*-3.3*	*9.2*	*5.0*	*4.7*	*4.4*	*4.5*
Real estate and business services	*7.9*	*-15.1*	*-11.0*	*22.8*	*4.8*	*4.3*	*3.7*	*4.2*
Transport and storage	*6.8*	*-21.4*	*1.3*	*30.8*	*3.8*	*3.1*	*3.1*	*3.7*
Food & beverages and accommodation	*9.5*	*-26.7*	*-11.0*	*33.2*	*3.5*	*2.7*	*2.3*	*2.9*
Utilities	*6.1*	*-1.2*	*2.6*	*3.8*	*2.7*	*2.8*	*2.8*	*2.7*

p Preliminary
Note: Numbers may not necessarily add up due to rounding.

Source: Department of Statistics, Malaysia

Table A.4

GNI by Demand Aggregates

	2019	2020	2021	2022*p*	2023*f*
	at Current Prices (RM million)				
Consumption	1,080,470	1,048,343	1,091,353	1,237,198	1,339,540
Private consumption	*904,189*	*862,955*	*894,881*	*1,029,952*	*1,128,458*
Public consumption	*176,281*	*185,388*	*196,472*	*207,246*	*211,082*
Investment	346,973	296,666	298,146	325,966	353,660
Private investment	*252,476*	*222,259*	*231,149*	*253,773*	*274,660*
Public investment	*94,498*	*74,407*	*66,997*	*72,193*	*79,000*
Change in stocks[1]	-28,569	-17,334	46,028	101,150	56,167
Exports of goods and services	987,481	873,477	1,063,817	1,320,329	1,383,018
Imports of goods and services	873,618	783,152	953,972	1,196,459	1,243,492
GDP at purchasers' value	1,512,738	1,418,000	1,545,372	1,788,183	1,888,894
Balance of primary income	-39,496	-28,520	-41,551	-63,555	-63,978
GNI (Gross national income)	1,473,242	1,389,480	1,503,821	1,724,629	1,824,917
	at Constant 2015 Prices (RM million)				
Consumption	1,008,373	981,742	1,006,201	1,105,900	1,164,230
Private consumption	*835,714*	*800,514*	*815,388*	*907,572*	*963,363*
Public consumption	*172,659*	*181,228*	*190,813*	*198,328*	*200,867*
Investment	328,536	281,173	278,703	297,522	315,449
Private investment	*239,027*	*210,651*	*216,148*	*231,651*	*244,992*
Public investment	*89,508*	*70,522*	*62,556*	*65,871*	*70,457*
Change in stocks[1]	-13,883	-4,840	18,362	21,923	3,440
Exports of goods and services	907,877	830,157	958,334	1,081,341	1,110,050
Imports of goods and services	806,952	743,087	874,862	999,380	1,020,141
GDP at purchasers' value	1,423,952	1,345,144	1,386,738	1,507,306	1,573,027
Balance of primary income	-21,856	-13,784	-19,031	-34,444	-33,761
GNI (Gross national income)	1,402,096	1,331,361	1,367,707	1,472,862	1,539,266

[1] Includes statistical discrepancy
p Preliminary
f Forecast

Note: Numbers may not necessarily add up due to rounding

Source: Department of Statistics, Malaysia and Bank Negara Malaysia

Table A.5

Savings-Investment Gap

	2018	2019	2020	2021	2022p
	RM million				
Gross national savings	378,272	371,322	338,424	402,874	474,320
(as % of GNI)	27.0	25.2	24.4	26.8	27.5
Gross domestic capital formation	345,977	318,405	279,333	344,174	427,116
(as % of GNI)	24.7	21.6	20.1	22.9	24.8
Balance on current account	32,295	52,918	59,091	58,700	47,205
(as % of GNI)	2.3	3.6	4.3	3.9	2.7

p Preliminary

Source: Department of Statistics, Malaysia

Table A.6

Balance of Payments[1]

Item (Net)	2018	2019	2020	2021	2022*p*	2023*f*
	RM million					
Goods[2]	**114,621**	**124,738**	**137,486**	**170,573**	**169,288**	**173,111**
Services	**-17,515**	**-10,875**	**-47,161**	**-60,728**	**-45,418**	**-33,585**
Transportation	-27,688	-25,925	-27,427	-32,452	-33,864	-35,749
Travel	30,218	30,833	-7,569	-14,563	-1,780	12,964
Other services	-19,287	-15,072	-11,551	-12,809	-9,104	-10,120
Government goods and services n.i.e.	-758	-711	-614	-904	-671	-680
Balance on goods and services	**97,106**	**113,863**	**90,325**	**109,845**	**123,870**	**139,527**
Primary income	**-45,082**	**-39,496**	**-28,520**	**-41,551**	**-63,555**	**-63,978**
Compensation of employees	-7,657	-9,229	-8,061	-6,603	-7,137	-7,714
Investment income	-37,425	-30,267	-20,459	-34,948	-56,418	-56,264
Secondary income	**-19,729**	**-21,450**	**-2,714**	**-9,594**	**-13,110**	**-18,336**
Balance on current account	**32,295**	**52,918**	**59,091**	**58,700**	**47,205**	**57,212**
% of GDP	*2.2*	*3.5*	*4.2*	*3.8*	*2.6*	*2.5 ~ 3.5*
Capital account	**-89**	**371**	**-419**	**-571**	**-460**	**-**
Financial account	**11,430**	**-38,024**	**-77,396**	**13,021**	**14,823**	**-**
Direct investment	10,103	6,555	3,111	28,466	15,971	-
Assets	*-23,431*	*-31,154*	*-13,808*	*-48,897*	*-50,697*	-
Liabilities	*33,535*	*37,709*	*16,919*	*77,362*	*66,669*	-
Portfolio investment	-49,396	-32,403	-49,584	18,769	-51,308	-
Assets	*-11,984*	*-46,919*	*-60,695*	*-35,823*	*-30,632*	-
Liabilities	*-37,411*	*14,517*	*11,110*	*54,592*	*-20,676*	-
Financial derivatives	981	-478	407	-2,250	-2,180	-
Other investment	49,742	-11,697	-31,330	-31,963	52,340	-
Assets	*6,527*	*-20,152*	*-5,436*	*-51,699*	*-5,293*	-
Liabilities	*43,215*	*8,454*	*-25,894*	*19,736*	*57,633*	-
Balance on capital and financial accounts	**11,341**	**-37,653**	**-77,816**	**12,451**	**14,363**	**-**
Net errors and omissions[3] **(E&O)**	**-35,878**	**-6,849**	**-572**	**-25,465**	**-8,253**	**-**
Overall balance	**7,758**	**8,416**	**-19,297**	**45,686**	**53,314**	**-**
Bank Negara Malaysia international reserves, net[4]						
USD million	101,429	103,599	107,621	116,876	114,641	-
RM million	419,511	424,032	432,313	486,790	503,273	-
Foreign exchange revaluation gain (+) / loss (-)	-2,838	-3,895	-1,079	11,007	7,890	-
Reserves as months of imports of goods and services[5]	5.6	5.8	6.6	6.1	5.0	-
Reserves as months of retained imports	7.4	7.5	8.4	7.7	6.3	-

1 In accordance with the Balance of Payments and International Investment Position Manual, Sixth Edition (BPM6) by the International Monetary Fund (IMF)
2 Adjusted for valuation and coverage of goods for processing, storage and distribution
3 As at 1Q 2018, the net E&O excludes reserves revaluation changes. This practice is backdated to 1Q 2010
4 All assets and liabilities in foreign currencies have been revalued into ringgit at rates of exchange ruling on the balance sheet date and the gain / loss has been reflected accordingly in Bank Negara Malaysia's audited accounts
5 For further details, please refer to "Expansion of the Measure on Reserves Coverage of Imports - from Retained Imports to Imports of Goods and Services" article in BNM's Quarterly Bulletin for the Fourth Quarter of 2021

p *Preliminary*

f *Forecast*

n.i.e. Not included elsewhere
Note: Numbers may not add up due to rounding
Assets: (-) denotes outflows due to the acquisition of assets abroad by residents
Liabilities: (+) denotes inflows due to the incurrence of foreign liabilities

Source: Department of Statistics Malaysia and Bank Negara Malaysia

Table A.7

Gross Exports

	2020	2021	2022*p*	2020	2021	2022*p*	2020	2021	2022*p*
	RM million			Annual change (%)			% share		
Manufactures	**849,498**	**1,068,431**	**1,306,650**	**1.1**	**25.8**	**22.3**	**86.3**	**86.1**	**84.2**
of which:									
Electrical and electronic products	*386,292*	*455,953*	*593,517*	*3.5*	*18.0*	*30.2*	*39.3*	*36.7*	*38.3*
Semiconductors	*239,141*	*281,393*	*386,889*	*7.9*	*17.7*	*37.5*	*24.3*	*22.7*	*24.9*
Office machines and automatic data processing equipment	*45,409*	*54,316*	*60,178*	*-8.0*	*19.6*	*10.8*	*4.6*	*4.4*	*3.9*
Electrical machinery, apparatus and appliances, and parts	*57,498*	*67,811*	*84,067*	*-3.8*	*17.9*	*24.0*	*5.8*	*5.5*	*5.4*
Telecommunications and sound-recording and reproducing equipment	*44,243*	*52,433*	*62,384*	*4.6*	*18.5*	*19.0*	*4.5*	*4.2*	*4.0*
Petroleum products	61,889	96,206	163,005	-13.5	55.4	69.4	6.3	7.8	10.5
Chemicals and chemical products	50,736	70,683	80,604	-11.7	39.3	14.0	5.2	5.7	5.2
Manufactures of metal	36,830	61,557	63,553	-11.2	67.1	3.2	3.7	5.0	4.1
Machinery, equipment and parts	39,446	49,922	60,420	-5.2	26.6	21.0	4.0	4.0	3.9
Optical and scientific equipment	42,220	46,928	56,715	5.8	11.2	20.9	4.3	3.8	3.7
Rubber products	44,302	64,615	28,791	71.4	45.9	-55.4	4.5	5.2	1.9
Palm oil-based manufactured products	21,006	32,704	41,371	-10.0	55.7	26.5	2.1	2.6	2.7
Processed food	21,283	24,600	28,410	-2.3	15.6	15.5	2.2	2.0	1.8
Transport equipment	18,460	15,914	18,959	-3.6	-13.8	19.1	1.9	1.3	1.2
Agriculture	**71,724**	**98,093**	**120,919**	**8.7**	**36.8**	**23.3**	**7.3**	**7.9**	**7.8**
of which:									
Palm oil and palm oil-based agricultural products	*52,326*	*75,811*	*96,616*	*18.4*	*44.9*	*27.4*	*5.3*	*6.1*	*6.2*
Sawn timber and moulding	3,116	3,272	3,593	-26.7	5.0	9.8	0.3	0.3	0.2
Natural rubber	3,286	4,568	4,592	-12.9	39.0	0.5	0.3	0.4	0.3
Minerals	**58,414**	**69,757**	**116,946**	**-28.3**	**19.4**	**67.6**	**5.9**	**5.6**	**7.5**
of which:									
Liquefied natural gas (LNG)	29,868	38,193	67,987	-29.7	27.9	78.0	3.0	3.1	4.4
Crude petroleum	18,843	18,372	31,463	-28.5	-2.5	71.3	1.9	1.5	2.0
Others	**4,191**	**4,740**	**7,104**	**-40.2**	**13.1**	**49.9**	**0.4**	**0.4**	**0.5**
Total	**983,827**	**1,241,022**	**1,551,619**	**-1.1**	**26.1**	**25.0**	**100.0**	**100.0**	**100.0**

p Preliminary

Source: Department of Statistics, Malaysia

Table A.8

Gross Imports

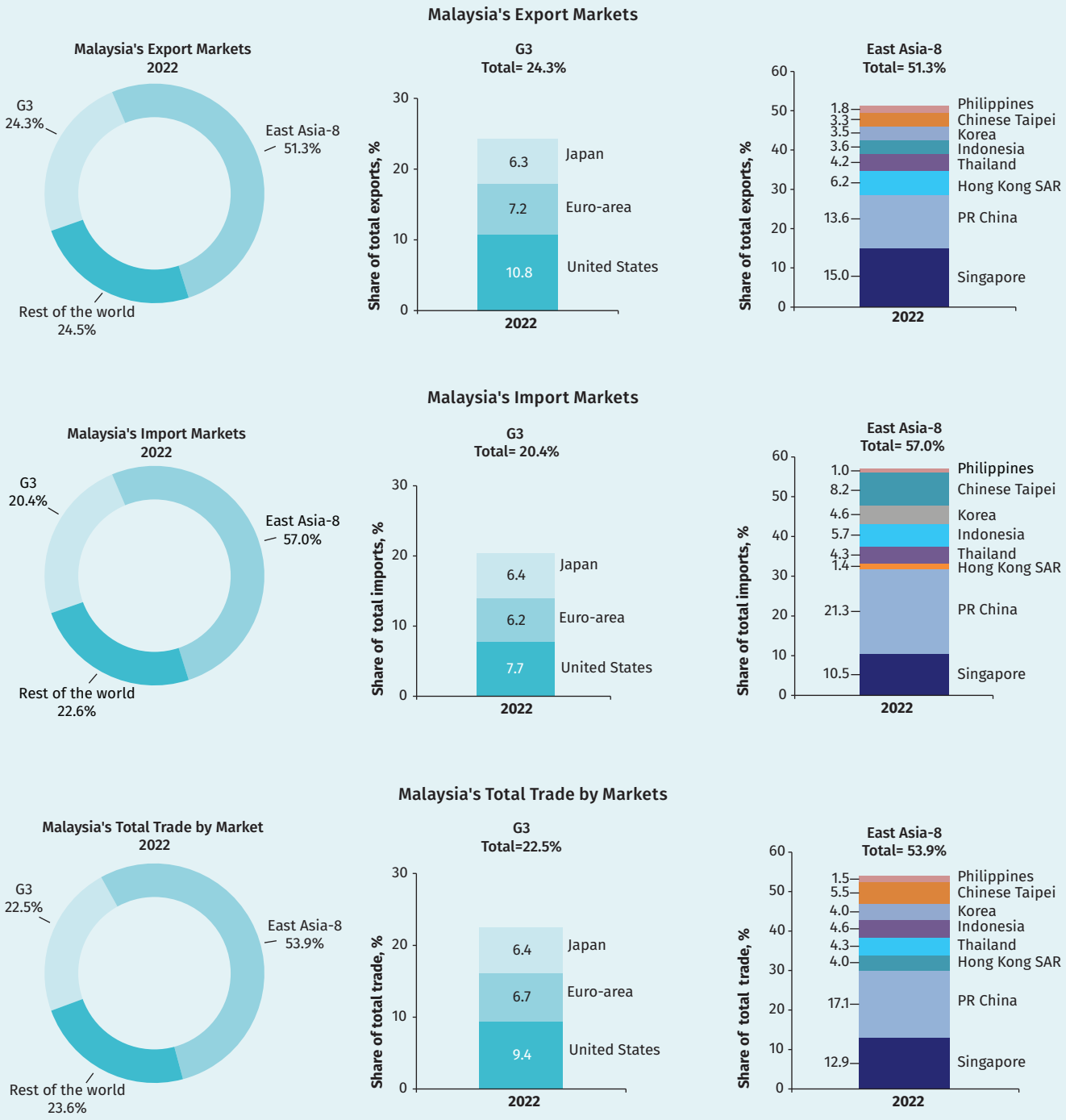
	2020	2021	2022*p*	2021	2022*p*	2022*p*
	RM million			Annual change (%)		% share
Capital goods	**90,733**	**103,823**	**120,254**	**14.4**	**15.8**	**9.3**
Capital goods (except transport equipment)	91,344	98,779	108,099	8.1	9.4	8.3
Transport equipment industrial	-611	5,044	12,155	925.9	141.0	0.9
Intermediate goods	**429,190**	**545,801**	**705,358**	**27.2**	**29.2**	**54.4**
Food and beverages, mainly for industry	20,670	27,144	33,300	31.3	22.7	2.6
Industrial supplies	205,422	268,749	311,461	30.8	15.9	24.0
Fuel and lubricants	43,613	51,126	113,790	17.2	122.6	8.8
Parts and accessories of capital goods (except transport equipment)	134,997	170,721	206,045	26.5	20.7	15.9
Parts and accessories of transport equipment	24,488	28,061	40,763	14.6	45.3	3.1
Consumption goods	**74,134**	**83,893**	**104,058**	**13.2**	**24.0**	**8.0**
Food and beverages, mainly for household consumption	32,590	36,814	46,404	13.0	26.0	3.6
Transport equipment non-industrial	1,091	1,700	1,805	55.8	6.2	0.1
Consumer goods, n.e.s	40,453	45,379	55,849	12.2	23.1	4.3
Others	**206,424**	**253,826**	**366,466**	**23.0**	**44.4**	**28.3**
of which:						
Dual use goods	17,281	19,523	30,881	13.0	58.2	2.4
Re-exports	184,630	229,021	330,388	24.0	44.3	25.5
Total	**800,481**	**987,344**	**1,296,136**	**23.3**	**31.3**	**100.0**

p Preliminary
n.e.s. Not elsewhere specified
Note: Numbers may not necessarily add up due to rounding

Source: Department of Statistics, Malaysia

Chart A.9

Malaysia's Trading Partners



Source: Department of Statistics, Malaysia

Table A.10

Outstanding External Debt and Debt Servicing

	2018	2019	2020	2021	2022*p*
	RM million (unless stated otherwise)				
Total external debt	**923,029**	**947,440**	**958,479**	**1,082,061**	**1,144,037**
USD million equivalent	*220,507*	*228,823*	*235,569*	*259,799*	*260,601*
% of GDP	*63.8*	*62.6*	*67.6*	*70.0*	*64.0*
Annual change (%)	*4.3*	*2.6*	*1.2*	*12.9*	*5.7*
By instrument					
Bonds and notes	152,589	158,920	172,682	197,163	175,984
Interbank borrowings	204,759	199,729	182,078	176,719	218,582
Intragroup loans	136,246	128,734	128,891	144,346	154,455
Loans	72,206	76,260	76,467	73,730	75,891
NR holdings of domestic debt securities	180,224	201,015	220,103	255,056	246,565
NR deposits	98,109	103,014	94,497	99,902	111,572
IMF allocation of Special Drawing Rights (SDRs)	7,759	7,631	7,810	28,150	28,213
Others[1]	71,137	72,137	75,950	106,996	132,774
Maturity profile					
Medium- and long-term	517,995	557,894	591,229	676,324	662,301
Short-term	405,034	389,546	367,250	405,737	481,736
Currency composition (% share)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Ringgit	*30.3*	*32.6*	*33.9*	*34.5*	*33.1*
US dollar	*55.3*	*51.3*	*51.0*	*50.3*	*50.5*
Japanese yen	*2.2*	*2.9*	*3.2*	*2.6*	*2.3*
Others	*12.2*	*13.2*	*11.8*	*12.6*	*14.0*
Total servicing (including short-term interest payment)	**115,376**	**124,051**	**120,657**	**117,020**	**156,543**
of which:					
Medium- and long-term debt	**110,298**	**118,170**	**117,660**	**115,085**	**151,895**
Repayment[2]	**94,374**	**102,419**	**101,796**	**98,562**	**134,223**
of which:					
Redemption of matured domestic debt securities held by NR	22,012	19,731	14,489	19,656	17,536
Interest payment	**15,924**	**15,750**	**15,865**	**16,523**	**17,672**
of which interest payment on:					
NR holdings of domestic debt securities	8,161	6,652	7,502	8,873	9,209
Debt service ratio (% of exports of goods and services)					
Total debt	**11.6**	**12.6**	**13.8**	**11.0**	**11.9**
Medium- and long-term debt of which:	11.1	12.0	13.5	10.8	11.5
NR holdings of domestic debt securities	3.0	2.7	2.5	2.7	2.0

[1] Comprises trade credits and other debt liabilities
[2] Excludes prepayment
p Preliminary
Note: Numbers may not necessarily add up due to rounding
NR refers to non-residents

Source: Ministry of Finance, Malaysia and Bank Negara Malaysia

Table A.11

Consumer Price Index

	Weights (%) (2010=100)	2019	2020	2021	2022
		Annual change (%)			
Total	**100.0**	**0.7**	**-1.2**	**2.5**	**3.3**
Food and non-alcoholic beverages	29.5	1.7	1.3	1.7	5.8
Alcoholic beverages and tobacco	2.4	1.5	0.3	0.5	0.5
Clothing and footwear	3.2	-2.0	-0.8	-0.4	0.1
Housing, water, electricity, gas and other fuels	23.8	1.9	-1.7	1.5	1.8
Furnishings, household equipment and routine household maintenance	4.1	1.4	0.3	1.6	3.5
Health	1.9	0.7	1.1	0.4	0.7
Transport	14.6	-3.1	-10.0	11.0	4.7
Communication	4.8	0.4	1.1	0.0	0.0
Recreation services and culture	4.8	0.7	0.4	0.4	2.3
Education	1.3	1.4	1.0	0.2	1.1
Restaurants and hotels	2.9	1.2	0.5	0.4	5.0
Miscellaneous goods and services	6.7	0.4	2.7	0.5	2.0

Source: Department of Statistics, Malaysia

Table A.12

Producer Price Index

	Weights (%) (2010=100)	2019	2020	2021	2022
		Annual change (%)			
Total	**100.0**	**-1.4**	**-2.7**	**9.5**	**7.8**
Crude materials for further processing	16.4	-3.9	-12.3	30.3	6.2
Foodstuffs and feedstuffs	*3.2*	*0.2*	*-3.7*	*2.9*	*3.4*
Non-food materials	*13.2*	*-4.7*	*-14.2*	*37.0*	*6.8*
Intermediate materials, supplies and components	56.1	-1.4	-0.5	7.7	10.9
Materials and components for manufacturing	*29.6*	*-3.7*	*1.9*	*10.4*	*10.1*
Materials and components for construction	*2.9*	*0.1*	*-0.5*	*0.7*	*4.3*
Processed fuel and lubricants	*11.9*	*2.3*	*-7.0*	*9.7*	*18.0*
Containers	*0.6*	*1.6*	*-1.3*	*2.8*	*1.8*
Supplies	*11.2*	*0.5*	*0.3*	*0.7*	*7.8*
Finished goods	27.5	0.6	-0.1	-0.2	1.8
Finished consumer goods	*11.5*	*-1.4*	*0.4*	*2.7*	*2.7*
Capital equipment	*16.0*	*2.0*	*-0.5*	*-2.4*	*1.1*

Source: Department of Statistics, Malaysia

Table A.13

Movements of the Ringgit

	RM to one unit of foreign currency[1]			Annual change (%)		Change (%)
	2005	2021	2022	2021	2022	21 Jul. '05 - Dec. '22
	21 Jul.[2]	End-Dec.				
SDR	5.5049	5.8377	5.8637	-1.4	-0.4	-6.1
US dollar	3.8000	4.1760	4.4130	-3.9	-5.4	-13.9
Singapore dollar	2.2570	3.0896	3.2819	-1.8	-5.9	-31.2
100 Japanese yen	3.3745	3.6286	3.3264	7.2	9.1	1.4
Pound sterling	6.6270	5.6361	5.3159	-3.0	6.0	24.7
Australian dollar	2.8823	3.0289	2.9887	2.0	1.3	-3.6
Euro	4.6212	4.7256	4.7038	4.4	0.5	-1.8
100 Thai baht	9.0681	12.5011	12.7811	7.2	-2.2	-29.1
100 Indonesian rupiah	0.0386	0.0293	0.0283	-2.4	3.3	36.4
100 Korean won	0.3665	0.3507	0.3494	5.4	0.4	4.9
100 Philippine peso	6.8131	8.1902	7.9214	2.0	3.4	-14.0
100 New Taiwan dollar	11.8901	15.0400	14.3265	-4.9	5.0	-17.0
Chinese renminbi	0.4591	0.6552	0.6342	-6.2	3.3	-27.6

[1] US dollar rates are the average of buying and selling rates at noon in the Kuala Lumpur Interbank Foreign Exchange Market. Rates for foreign currencies other than US dollar are cross rates derived from rates of these currencies against the US dollar and the RM/US dollar rate.
[2] The daily SDR rates published on the BNM website are based on latest available US dollar SDR rates and prevailing USD/MYR mid-rates.
[3] Ringgit was unpegged against the US dollar.

Source: Bank Negara Malaysia

Table A.14

Consolidated Public Sector Finance

	2019	2020	2021	2022*p*
	RM billion			
Revenue[1]	252.7	241.5	239.3	255.8
% growth	*4.9*	*-4.4*	*-0.9*	*6.9*
Operating expenditure	298.2	261.2	270.2	333.2
% growth	*12.1*	*-12.4*	*3.4*	*23.3*
Current balance of NFPCs[2]	128.3	74.4	127.0	193.2
Total public sector current balance	**82.7**	**54.6**	**96.1**	**115.7**
% of GDP	***5.5***	***3.9***	***6.2***	***6.5***
Development expenditure[3]	134.5	119.7	125.2	164.1
% growth	*-6.9*	*-10.9*	*4.5*	*31.1*
General Government[4]	57.9	55.1	66.7	77.0
NFPCs	76.5	64.7	58.4	87.1
COVID-19 Fund	-	38.0	37.8	31.0
Overall balance	**-51.7**	**-103.1**	**-66.9**	**-79.4**
% of GDP	***-3.4***	***-7.3***	***-4.3***	***-4.4***

[1] Excludes transfers within General Government
[2] Refers to 32 NFPCs from 2020 onwards
[3] Adjusted for transfers and net lending within public sector
[4] Comprises Federal Government, state and local governments, and statutory bodies
p Preliminary

Note: Numbers may not add up due to rounding

Source: Ministry of Finance, Malaysia and Non-Financial Public Corporations (NFPCs)