AMRO Annual Consultation Report

Thailand - 2021

ASEAN+3 Macroeconomic Research Office (AMRO)

December 2021

Acknowledgments

1. This Annual Consultation Report on Thailand has been prepared in accordance with the functions of AMRO to monitor and assess the macroeconomic status and financial soundness of its members; identify relevant risks and vulnerabilities; report these to member authorities; and if requested, assist them mitigating these risks through the timely formulation of policy recommendations. This is being done in accordance with Article 3 (a) and (b) of the AMRO Agreement.
2. This Report is drafted on the basis of the Annual Consultation Visit of AMRO to Thailand, which was conducted virtually from 21 June to 7 July 2021 (Article 5 (b) of AMRO Agreement). The AMRO Mission team was headed by Dr Jae Young Lee, Group Head and Lead Economist. Mission members include Dr Ruperto Pagaura Majuca (Country Economist for Thailand), Dr Jade Vichyanond (Economist and Back-up Economist for Thailand), Dr Andriansyah (Fiscal Specialist), Mr Justin Lim (Economist) and Mr Sotheareach Sok (Associate). AMRO Director Toshinori Doi and Chief Economist Dr Hoe Ee Khor also participated in key policy meetings with the authorities. This AMRO Annual Consultation Report on Thailand for 2021 was prepared by Dr Jae Young Lee, Dr Ruperto Pagaura Majuca, Dr Jade Vichyanond, Mr Justin Lim, Dr Andriansyah, and Mr Sotheareach Sok; peer reviewed by Dr Chaipat Poonpatpibul (Group Head and Lead Economist) and Dr Tanyasorn Ekapirak (Researcher); and approved by Dr Hoe Ee Khor.
3. The analysis in this Report is based on information available up to 5 October 2021.
4. By making any designation of or reference to a particular territory or geographical area, or by using the term “member” or “country” in this Report, AMRO does not intend to make any judgments as to the legal or other status of any territory or area.
5. On behalf of AMRO, the Mission team wishes to thank the Thailand authorities for their comments on this Report, as well as their excellent meeting arrangements and hospitality during our visit.

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Executive Summary

1. Thailand's economy was severely affected by the COVID-19 pandemic. After contracting sharply by -12.1 percent (yoy) in Q2 2020 at the onset of the pandemic, the economy gradually improved to -5.3 percent in H2 2020 and 2.0 percent in H1 2021. Economic performance has varied considerably across sectors as the contact-sensitive tourism and related sectors are still depressed, while exports-related sectors are rebounding from strong external demand. Going forward, the economy is expected to recover gradually, albeit unevenly across sectors, with growth expected to recover by 0.8 percent in 2021 before rebounding by 5.8 percent in 2022.

2. Headline inflation increased recently while core inflation has remained soft. Headline inflation rose to an average of 0.8 percent in the first nine months of 2021 due to higher oil prices and the low base of the previous year. Going forward, inflationary pressure is likely to remain subdued, with headline inflation projected to average 0.8 percent in 2021, a bit less than the lower bound of the Bank of Thailand's (BOT) inflation target band.

3. Despite the weakening of the current account balance, the external position remains strong, underpinned by substantial international reserves. In the first eight months of 2021, imports recovered faster than exports, reducing the trade balance, while tourist arrivals fell further, resulting in a deficit in both the current account and the overall balance of payments. International reserves declined slightly to USD 252 billion, although it remains high and is sufficient to cover 3.0 times of short-term external debt as of August 2021.

4. Fiscal policy has become highly expansionary to support the economy, with significant increase in disbursement from both budget and off-budget expenditures. Apart from the budget, the fiscal stimulus is supported by loans totalling THB 1.5 trillion (almost 9.0 percent of 2019 GDP) for COVID-19 relief measures. As a result of the large fiscal stimulus response, Thailand's public debt has increased from 41.2 percent of GDP in December 2019 to 57.0 percent in August 2021, still below the debt ceiling set by the fiscal rules under the Fiscal Responsibility Act B.E. 2561 (2018) (FRA).

5. Downside risks to growth stem mainly from uncertainties due to recurrent waves of COVID-19 infections and the pace of vaccinations. A longer than anticipated third wave of COVID-19 infections, or a new wave of infections, could result in the continuance of containment measures and a slower return of international tourists as well as lower domestic tourism activity and consumer confidence.

6. Risks to financial stability remain contained thus far, although they require vigilant monitoring going forward. Overall, the banking system's non-performing loan (NPL) ratio has been broadly stable, helped by the BOT's debt relief programs and regulatory relief. Although banking system's profitability declined and the credit risk in the banking system warrants continued close monitoring, commercial banks remain sound with strong buffer from capital and loan-loss reserves. The NPL ratio, particularly of loans to SMEs and other vulnerable sectors, as well as loans issued by specialized financial institutions (SFIs), requires close monitoring with the termination of the debt relief programs. The household debt-to-GDP ratio, which is high compared to regional peers, has increased even further due to the pandemic.

7. The economic scarring from the pandemic could weaken the recovery. There is a risk that the need by corporates to repair their balance sheets may cause the recovery to take longer than expected. In particular, corporates' and households' ability to repay their loans may be impaired, in turn weakening financial sector lending, particularly for banks more exposed to tourism, SME and household sectors.

8. Continued fiscal spending is needed to finance the COVID-19 related expenses, support vulnerable sectors, minimize scarring effects, and sustain the recovery momentum. Going forward, targeted supports to the vulnerable groups and affected sectors should be continued and greater priority should be given to the vaccination campaign. Effective and strengthened vaccination campaign is necessary for a durable end to the pandemic crisis and should be frontloaded in the efforts to re-open borders to international tourists and re-start the tourism industry. When the pandemic is well contained, following an effective vaccination campaign, the authorities can then focus on boosting infrastructure investment while facilitating structural reforms to enhance the growth potential going forward. Post-pandemic, the authorities should rebuild the fiscal buffers to ensure fiscal sustainability in the medium term.

9. While monetary policy is currently appropriately accommodative, the authorities should be ready to act should the current or a new wave of infections cause the economy to weaken further. The central bank has been focusing on policies to enhance the distribution of liquidity. While policy rate can be cut further, should the need arises, it is not needed at the moment as monetary conditions are sufficiently accommodative, and SMEs and other affected sectors are more constrained by access to credit than interest cost. To support the rehabilitation as well as to cover wider group of SMEs, the government has announced the Special Loan facility amounting to THB 250bn, and an asset warehousing program was aptly introduced. Effective and timely implementation will mitigate the impairment of the SME balance sheets so that it does not become a drag on the economic recovery. To boost the effectiveness of the soft loans program further, the government should consider providing guarantee for a higher share of the loans in order to reduce the credit risks of the banks and lessen their risk aversion.

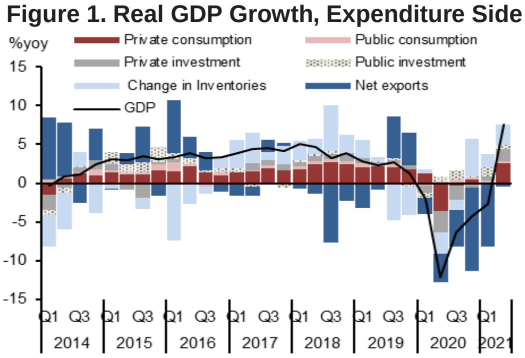
10. Post pandemic, economic restructuring should be stepped up for the economy to adjust to the new normal. In particular, digitalization, climate change and other structural issues should be taken into consideration to better adjust to the post-pandemic environment.

A. Recent Developments and Outlook

A.1 Real Sector Developments and Outlook

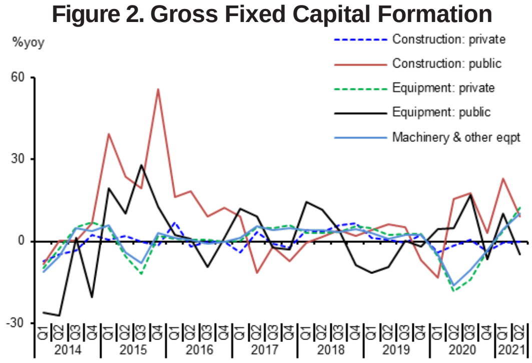
1. The Thai economy was severely affected by the COVID-19 pandemic. After contracting sharply by -12.1 percent (yoy) in Q2 2020 at the onset of the pandemic, the Thai economy gradually recovered to -5.3 percent in H2 2020 and 2.0 percent in H1 2021 (Figure 1). Exports of services continued its large contraction (Q2 2020: -67.7%; H2 2020: -74.2%; H1 2021: -47.4%) as international borders remained largely closed to foreign tourists. However, the economic rebound and resumption of activities of the trading partners helped boost Thai goods exports in H2 2020 and H1 2021. Private investment had shown signs of improvement (Figure 2) led by the expansion of exports-producing sector and helped by improvements in public investment, although it weakened recently due to the prolonged third wave of infections (Appendix Figure 1.1). Private consumption, however, remains weak overall (Figure 3), as the pandemic hit employment and household incomes hard, although fiscal stimulus measures such as cash handouts, consumption support, and domestic travel perks mitigated the impact on household consumption in H2 2020 and H1 2021 compared with Q2 of 2020.

Figure 1. Real GDP Growth, Expenditure Side



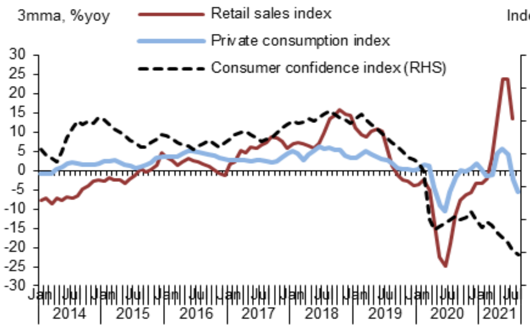
Source: CEIC; National Economic and Social Development Council

Figure 2. Gross Fixed Capital Formation



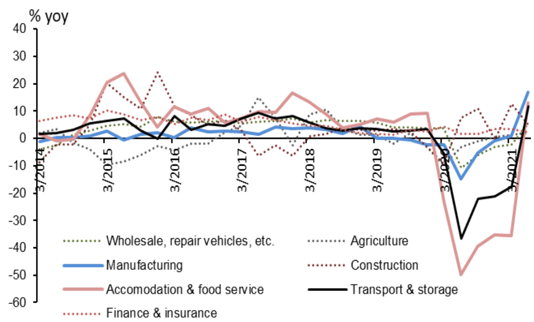
Source: CEIC; National Economic and Social Development Council

Figure 3. Private Consumption Indicators



Source: CEIC; BOT; University of the Thai Chamber of Commerce

Figure 4. Real GDP Growth, Selected Sectors



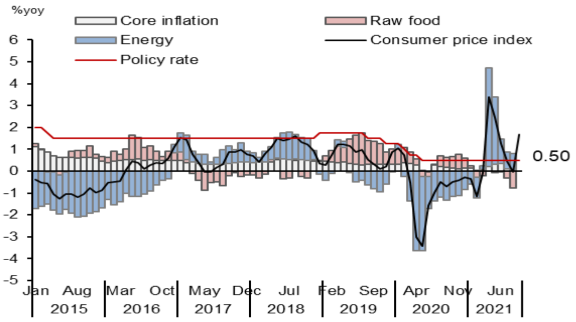
Source: National Economic and Social Development Council

2. Economic performance has varied considerably across sectors, as the contact-sensitive tourism and related sectors are still depressed, while exports-related sectors are rebounding from strong external demand (Figure 4). Accommodation and food services have remained depressed, notwithstanding the boost from the government's domestic tourism promotion and consumption support initiatives, as the pandemic continued to dampen both international and domestic tourism activities. Transportation, storage, wholesale and retail trade sectors likewise continue to be weak. The banking, insurance, information and communication sectors, however, remain largely resilient to the effects of the containment measures, while the construction sector is also showing improvement due to the acceleration in government and SOE capital expenditures and a pick up in private construction. Agriculture and manufacturing have also started to recover since Q4 2020, reflecting good weather conditions and improved exports performance.

3. Going forward, the economy is expected to recover gradually, albeit unevenly across sectors, with GDP remaining below its pre-COVID-19 level in 2021 and most part of 2022. The growth trajectory will depend on the speed of vaccination as well as the effective containment of the third wave of virus infections. Domestic demand will likely remain weak, while exports and the public sector expenditures are expected to be the main drivers of growth until the second half of 2022 when herd immunity is achieved from nation-wide immunization and international travel is able to fully reopen. Overall, Thailand's economy is expected to recover by 0.8% in 2021 amid the third wave of COVID-19 pandemic, before rebounding by 5.8% in 2022 (Appendix 2).

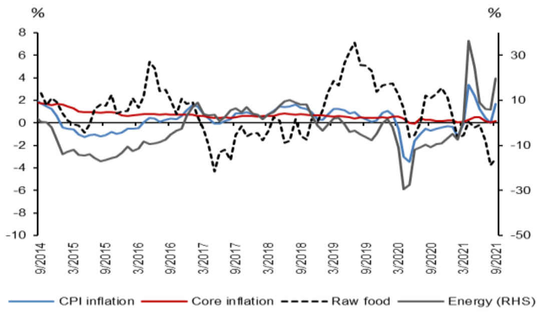
4. Headline inflation increased recently due to oil price and base effect, while core inflation has remained soft. Headline inflation declined from an average of 0.7 percent in 2019 to an average of -0.8 percent in 2020, driven by the decline in oil prices as well as the softening of core inflation. It rose to an average of 0.8 percent in the first nine months of 2021 due to higher oil prices and the low base of the previous year (Figure 5). Core inflation, however, declined to 0.2 percent (ytd) in 2021, from 0.3 percent in 2020 and 0.5 percent in 2019 (Figure 6), reflecting weak demand conditions. Going forward, inflationary pressure is likely to remain subdued, with the low core inflation. Overall, headline inflation is projected to average 0.8 percent in 2021, a bit less than the lower bound of the BOT's inflation target band.

Figure 5. Inflation



Source: CEIC; Bureau of Trade and Economic Indices

Figure 6. Inflation Components



Source: CEIC; Bureau of Trade and Economic Indices

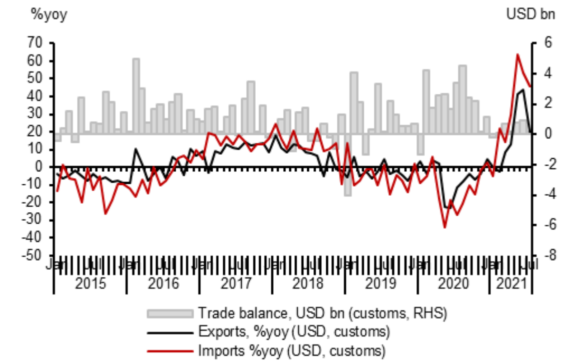
A.2 External Sector and the Balance of Payments

5. The current account balance weakened in 2020 and turned into a deficit in the first eight months of 2021. The current account surplus declined in 2020, reflecting the loss of tourism earnings, although it remained in surplus at USD20.3 billion. In the first eight months of 2021, imports rebounded more than exports while international borders remained largely closed to tourists (Figure 7). Goods exports rebounded to most major trading partners and across most major products. Meanwhile, imports grew faster than exports, as imports of capital goods, raw materials and intermediate goods, and consumer goods all registered double-digit growth. Tourist arrivals continued to contract by 98.9 percent in the first eight months of 2021, following the 83.2 percent contraction in 2020 (see Figure 8 and Appendix Figure 1.2). Overall, the current account has reversed to a deficit of USD10.2 billion in the first eight months of 2021.

6. The capital account has continued to be in deficit in 2020 and H1 2021, largely driven by sustained direct investment outflows. In 2020, while residents increased their direct investment abroad, they also withdrew their portfolio investment, particularly from debt securities and other investments abroad, while foreigners have withdrawn their portfolio investments in Thailand. Overall, the financial account registered a smaller deficit of USD12.0 billion in 2020, compared to a deficit of USD15.7 billion in 2019. In H1 2021, foreigners' increased their portfolio investments in Thailand, while Thai residents continued their direct and portfolio investment abroad, resulting in an overall deficit in the financial account balance (Figure 9).

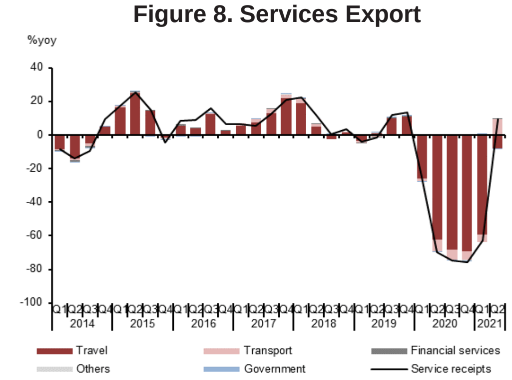
7. Despite the weakening of the current account balance, the external position remains strong, underpinned by substantial international reserves. In the first eight months of 2021, imports recovered faster than exports, reducing the trade surplus, and tourist arrivals fell further, resulting in a deficit in both the current account and the overall balance of payments. International reserves declined to USD 252 billion in August 2021 from USD 258.1 billion in 2020, although it remains high and is sufficient to cover 3.0 times of short-term external debt as of August 2021. In addition, gross external debt remains low at 36.0 percent of GDP as of Q2 2021. After a sharp depreciation against the US dollar in Q1 2020, the Thai baht appreciated for the rest of 2020. However, since the beginning of 2021, the baht has been on a depreciating trend in line with other regional currencies amid a strong US dollar (Figure 10).

Figure 7. Trade Balance



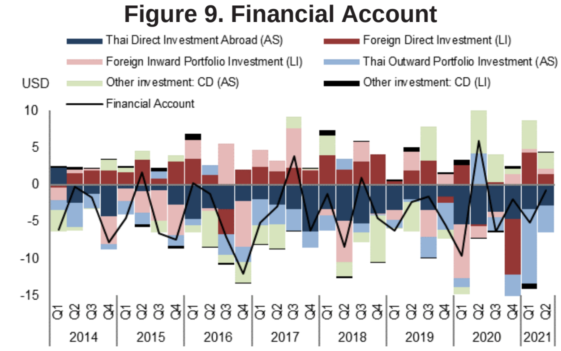
Source: CEIC; Ministry of Commerce

Figure 8. Services Export



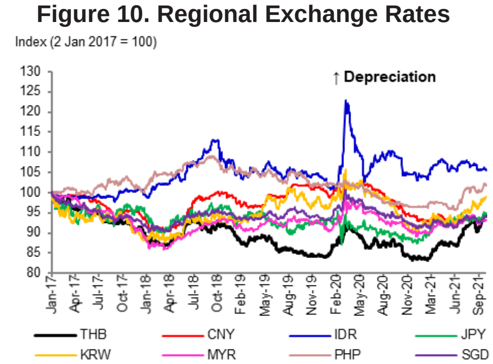
Source: CEIC; BOT

Figure 9. Financial Account



Source: CEIC; BOT

Figure 10. Regional Exchange Rates



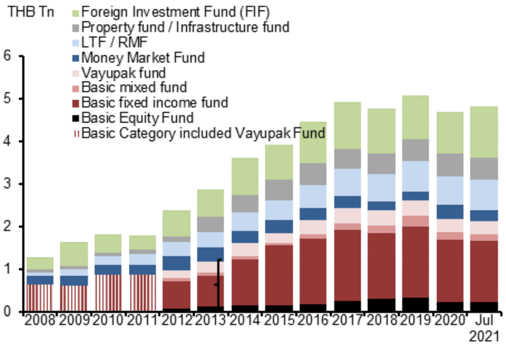
Source: Haver; National authorities

A.3 Monetary Condition and Financial Sector

8. When the pandemic hit, Thai investors pulled money away from fixed income funds and placed them in bank deposits (Figure 11). The increased liquidity and more volatile financial markets caused domestic corporates to switch their funding strategy to taking more loans and issuing less bonds in 2020 (Figure 12). In H1 2021, corporate bank loans softened while corporate bond issuances increased in part due to the reversal of their funding strategy.

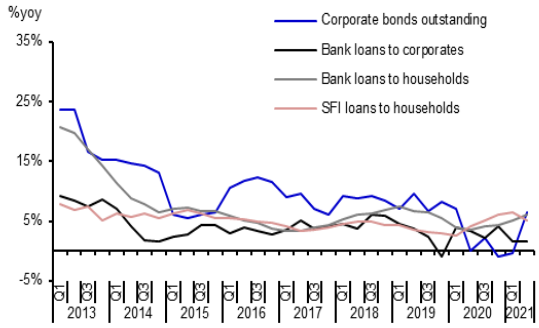
9. In response to the pandemic, the BOT deployed a host of policy measures. Following policy rate reductions in August and November 2019, the BOT further lowered the policy rate three times in 2020, by a cumulative 75 basis points to a historical low of 0.5 percent in May 2020. It also reduced by half (from 0.46 percent to 0.23 percent of deposit base) banks' financial contribution to the bail-out fund Financial Institutions Development Fund (FIDF). To help stabilize market turbulence during the early part of the pandemic, it also conducted asset purchases in addition to setting up three facilities: the Mutual Fund Liquidity Facility (MFLF) to address the sell-off in mutual funds in early 2020, the THB 400bn Corporate Bond Stabilization Fund (BSF) facility to boost confidence in the bond market, and the SME soft loans facility. The THB 500bn SME soft loans facility to facilitate the supply of credits to SMEs was in effect from April 2020 to April 2021, of which THB 138bn was granted to SMEs. To support the rehabilitation as well as to cover a wider group of SMEs, the government announced the Special Loan facility amounting to THB 250bn, available from April 2021 to April 2023.[1] The BOT also adopted a blanket loan repayment holiday (both principal and interest) for SMEs for a period of 6 months (ended on October 22, 2020), and replaced it with targeted debt restructuring and credit assistance measures, after the lapse of blanket loan repayment holiday.[2] The BOT also initiated an asset warehousing program, relaxed retail debt regulations, and relaxed provisioning and asset classification rules.

Figure 11. Structure of Mutual Fund Market (Net Asset Value)



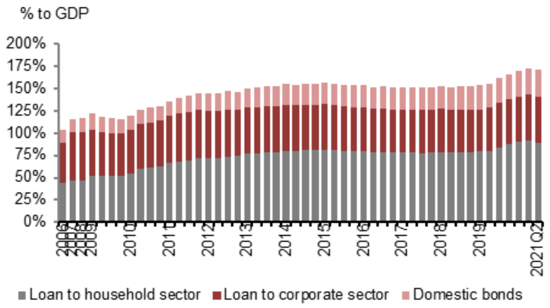
Source: CEIC; Association of Investment Management Companies

Figure 12. Loans Extended by Other Depository Corporations and Outstanding Bonds



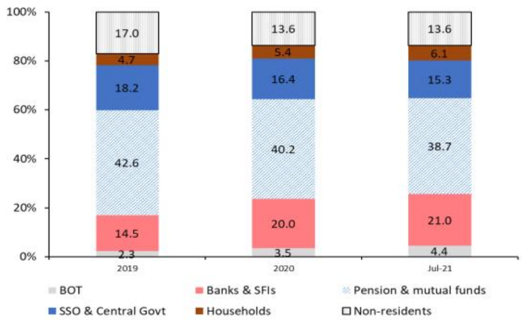
Note: Loans include loans from other depository institutions and other financial corporations
Source: BOT; AMRO staff calculations

Figure 13. Private Sector Debt



Source: BOT; Thai Bond Market Association; Securities and Exchange Commission

Figure 14. Government Bondholding



Source: CEIC; Thai Bond Market Association

10. Overall, private sector debt as a percentage of GDP increased amid the pandemic, partly boosted by the authorities' support measures (Figure 13). Corporate bond growth

[1] As of November 1, 2021, THB 122 bn was granted to SMEs.
[2] In July 2021, the BOT had also allowed commercial banks to extend two month debt repayment holiday SMEs and retail borrowers affected by the COVID third wave, and state-owned banks offered the same relief to borrowers.

fell in 2020 reflecting the economic slowdown and the switch in corporate funding strategy, and increased in H1 2021 due to base effects and the switch back in corporate funding towards bonds. Bank loans to corporates softened in H1 2021 from 2020, as loans to large corporates decreased slightly, while growth in loans taken out by small and medium enterprises (SMEs) slightly increased, helped by soft loan and rehabilitation loan programs. Meanwhile, consumer loans increased in H1 2021 from 2020, as mortgage loans grew with the demand for low-rise real estate. Overall, bank loan growth increased from 2.0 percent in 2019 to 4.7 percent in 2020 and moderated to 3.7 percent in H1 2021 respectively (Figure 12).

11. Banking sector has been resilient overall with strong capital buffers and high loan-loss reserves. The banking system's asset quality has been resilient to the effects of the economic downturn, helped by the BOT's debt relief programs and regulatory relief, with non-performing loan (NPL) ratio broadly stable at 3.1 percent as of Q2 2021. However, the NPL ratio of SME loans remained high and on an upward trend, reaching 7.1 percent in Q2 2021. Also, the quality of consumer loans slightly deteriorated except for mortgage lending. Stage 2 loans (loans with significant increase in credit risk) trended slightly downward, reflecting BOT's relaxation of loan provisioning and classification rules, and its loan moratorium and debt re-structuring measures. The NPL and special mention loans ratios of specialized financial institutions (SFIs) have so far remained stable. A strong capital buffer[3] and high loan-loss reserves[4] should help shield commercial banks and state-owned SFIs from credit risks. Commercial banks' liquidity coverage ratio stood at 186.7 percent on an aggregate basis as of Q2 2021, significantly higher than the minimum requirement.

12. Domestic investor base in the bond market in Thailand is large enough to absorb the increased supply of government bonds arising from the fiscal stimulus (Figure 14). The domestic investor base is large and well-diversified (see Box A. Thai Bond Market Absorptive Capacity), while foreigners hold less than 15 percent of outstanding government securities and less than 10 percent of total domestic securities outstanding. Thus, the increased supply of fiscal stimulus bonds issued during the pandemic were well-absorbed by domestic investors, notwithstanding the nonresident outflows in H1 2020 (Appendix Figure 1.2).

Box A. Thai Bond Market Absorptive Capacity[5]

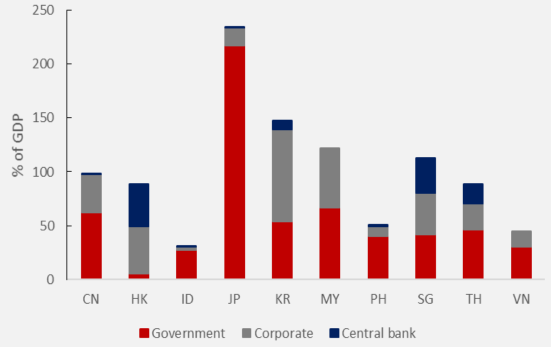
Since the Asian financial crisis, the Thai government has successfully developed a large local currency bond market, which is mainly dominated by government bonds. As a share of GDP, the local currency bond market size in Thailand as of the second half of 2021, was relatively larger than the markets in the Philippines and Indonesia, but still smaller than those in Malaysia and Singapore (Figure A1). The outstanding value of the Thai bond market in June 2021 reached THB14.2 trillion, or about 90 percent of GDP, having increased by 2 percent and 7.3 percent, compared with 2020 and 2019, respectively. The increase in government bond issuances to support the stimulus programs mainly drove the increase in outstanding public debt (Figure A2). Government financing needs for the fiscal year 2020 totaled THB1.78 trillion, while the fiscal year 2021's financing needs are estimated to be THB2.69 trillion.

Thailand has a large and diversified domestic investor base, which has enabled the government to finance its pandemic-related expenditures without relying significantly on foreign investors. Currently, domestic financial corporations and other depository corporations hold most of the government bonds, accounting for 60 percent of the total outstanding, while foreign investors hold around 15 percent (Figure A3). Amid the pandemic, large issuances of bonds by the Thai government to finance the pandemic expenditures were well received, attracting sufficient demand from various domestic investors without giving rise to a surge in yield, as shown by the

[3] The banking system's BIS ratio stood at 20.0 percent as of Q2 2021.
[4] The banking system's loan provision against NPL stood at 152.2 percent as of Q2 2021.
[5] This box is prepared by Andriansyah.

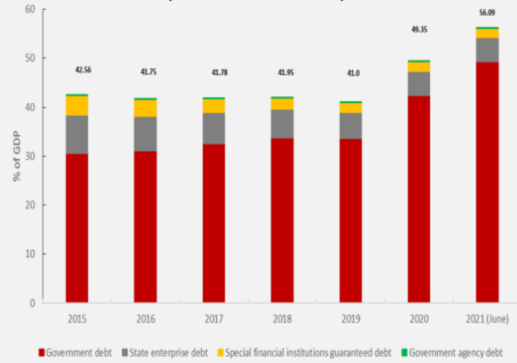
oversubscribed auctions so far (Figure A4). Long-term government bonds are required to be held by the contractual funds, consisting of government pension funds, provident funds and social security offices. Savings bonds are also issued to diversify the investor base.

Figure A1. The Size of Local Currency Bond Market in Selected ASEAN+3 Economies
(Percent of GDP)



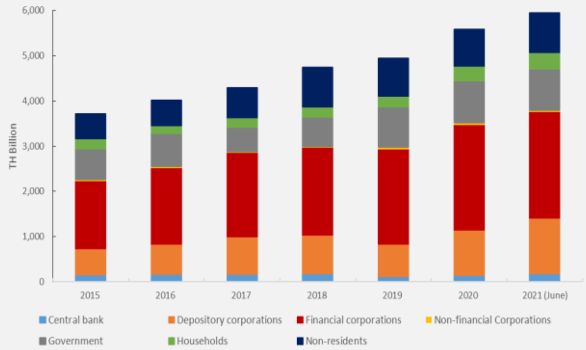
Source: AsiaBondOnline.
Note: As of Q2 2021, except for ID and PH, whose data is as of Q1 2021.

Figure A2. The Thai Public Debt Outstanding
(Percent of GDP)



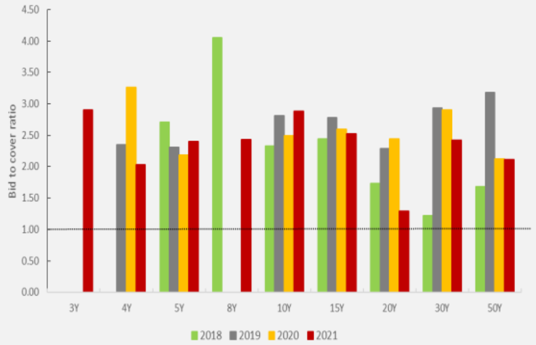
Source: PDMO.
Note: As of July 2021.

Figure A3. The Government Bond Holders



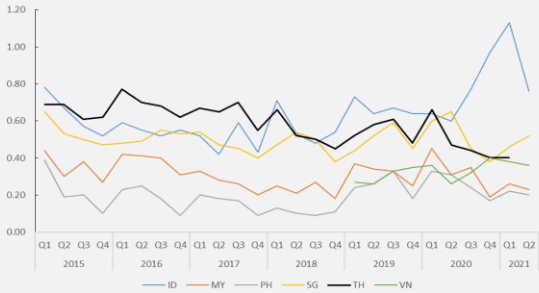
Source: BOT.

Figure A4. The Government Bonds' Bid-to-Cover Ratio



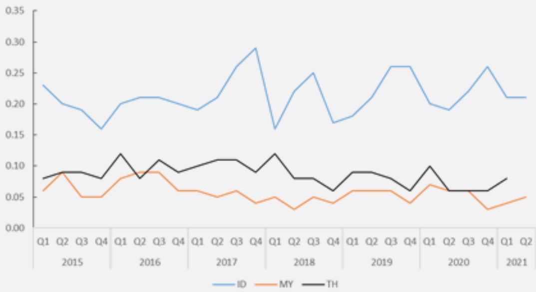
Source: Haver Analytics, AMRO staff calculations.

Figure A5. Government Bond Turnover Ratio in Selected ASEAN Economies



Source: AsianBondsOnline.
Note: Data for TH is only available until Q! 2021.

Figure A6. Corporate Bond Turnover Ratio in Selected ASEAN Economies

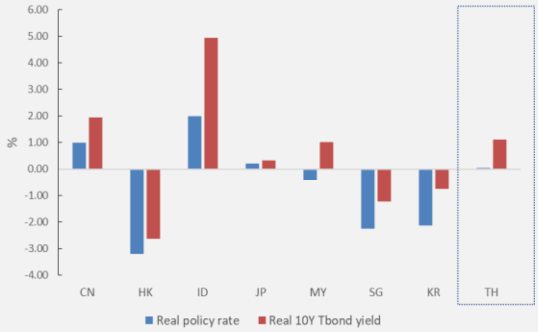


Source: AsianBondsOnline.
Note: Data is not available for PH, SG, and VN. TH is only available until Q1 2021.

As a result, the Thai bond market has remained relatively active and stable amid the pandemic. The Thai government bond secondary market has been more liquid than most of its ASEAN peers (Figure A5). The Thai government bond turnover ratio, measured as the value of bonds traded relative to the average amount of bonds outstanding, was 0.4 in March 2021, showing that the trading in the secondary market is relatively active. Market activity sharply declined since the first quarter of 2020, but has become relatively stable since then. However, trading activity in the corporate bond secondary market has been lower (Figure A6). The pandemic drove down the demand for new corporate bond issuances, especially for long-term bonds, due to changing investor sentiments. Meanwhile, short-term corporate bond issuances have been on a downward trend since 2019 due to a regulatory change to permit the sales of the bill of exchange to only institutional investors to ensure better protection for investors.

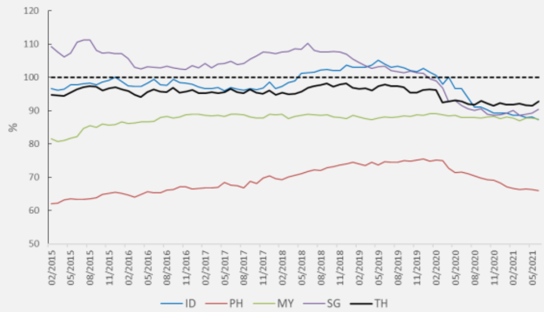
The Thai domestic bond market is sufficiently deep to absorb government bond issuances. Thailand's real policy rate is relatively low, but its real 10-year government bond yields is still higher than those of other regional economies (Figure A7). Liquidity in the banking system is also ample (Figure A8). These factors give the domestic market enough capacity to absorb the bulk of the government issuances in 2021.

Figure A7. Real Policy Rate and 10Y Government Bond Yields in Selected ASEAN+3 Economies
(Percent)



Source: CEIC. AMRO staff calculations.
Note: Real interest rate/yield is calculated to be inflation-adjusted observed interest rate/yield

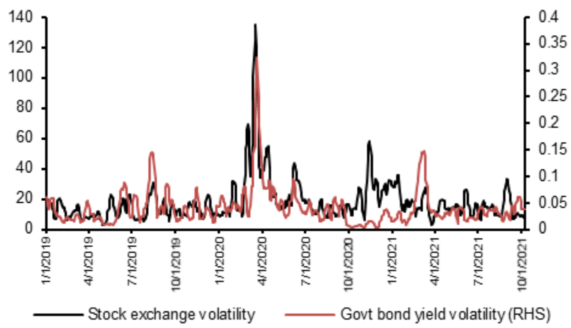
Figure A8. Loan-to-Deposit Ratio in Selected ASEAN Economies
(Percent)



Source: CEIC, BOT.
Note: For TH, the ratio is loans to deposit plus bill of exchange ratio (excluding interbank).

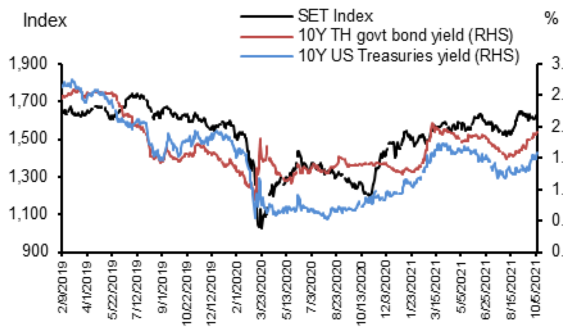
While more short-term bonds were issued to finance the fiscal stimulus packages, this does not pose immediate risks, as the share in the bond market remains relatively low. The short-term debts were preferred as they offer a lower cost of borrowing, given ample liquidity in the market. The proportion of debts with one-year maturity remains low, accounting for 14 percent of the total debt. The government has many instruments to manage the refinancing risk, such as a bond-switching program for pre-funding purposes.

Figure 15. Volatility of Stock and Bond Markets



Source: CEIC; Stock Exchange of Thailand; Thai Bond Market Association; AMRO staff calculations

Figure 16. The Stock Exchange Index and Bond Yields



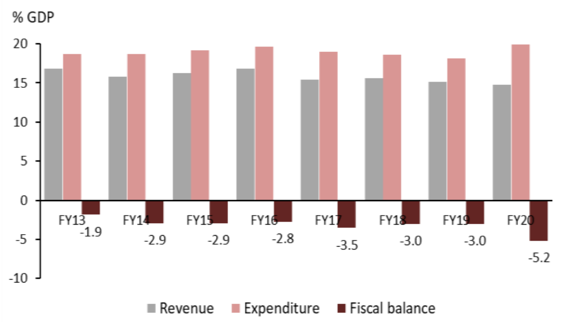
Source: CEIC; BOT

13. The Thai stock and financial markets, which plunged sharply when the COVID-19 pandemic struck the economy, have rebounded and broadly stabilized since then (Figures 15, 16). In Q1 2020, the stock market plunged (Figure 16) and volatility spiked (Figure 15) in the stock and bond markets. Since then, the stock market has been recovering steadily, notwithstanding the impacts of the second and third waves of infection. Financial market volatility has declined and stabilized. Meanwhile, following 10-year U.S. Treasury yields, the yields of 10-year Thai government bonds trended upwards until Q1 2021, and has moderated since then (Figure 16).

A.4 Fiscal Sector

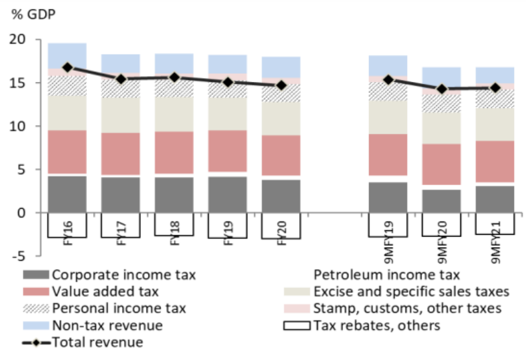
14. Fiscal policy has become highly expansionary in order to support the economy amid the COVID-19 pandemic, with significant increases in both budget and off-budget expenditures. Apart from the budget, the fiscal stimulus is supported by additional THB 1.5 trillion loans (almost 9.0 percent of 2019 GDP) for COVID-19 relief measures. The budget deficit is projected to expand to 5.7 percent of GDP in FY2021 from 5.2 percent in FY2020 and 3.0 percent of GDP in FY2019 (Figure 17), taking into account the expected fall in revenue. Furthermore, in September 2021, under the FRA, the Fiscal Policy Committee increased the ceiling on public debt to GDP from 60 percent to 70 percent, which allows the authorities more room to provide fiscal support to the economy, if necessary.

Figure 17. Government Fiscal Position



Source: CEIC; Fiscal Policy Office; Bureau of Budget

Figure 18. Fiscal Revenue



Source: CEIC; Fiscal Policy Office; AMRO staff calculations

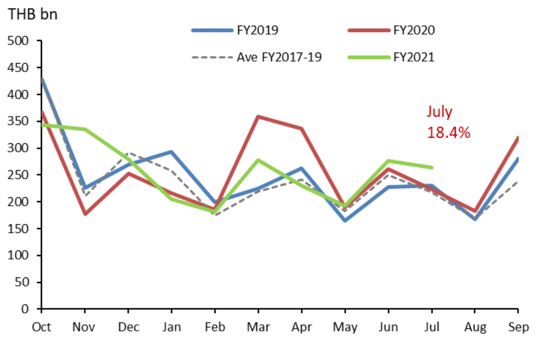
15. As a share of GDP, revenue had been declining even before the pandemic and continued to drop during the pandemic (Figure 18). Prior to the pandemic, the overall net tax revenue-to-GDP ratio had fallen from 14.7 percent in FY2012 to 13.2 percent in FY2019, reflecting low tax revenue buoyancy. Part of the fall in tax revenue can be explained by changes in tax policy;[6] however, value-added tax (VAT) collection has also fallen[7] suggesting that VAT tax elasticity may also be less than one, as a portion of VAT revenue is linked to oil price which has declined in recent years. During the pandemic, both tax and non-tax government revenues declined as a result of the pandemic's impact on the economy and the authorities' tax relief measures, which included a reduction of the withholding tax rate and SME's payroll taxes. Overall, the net tax revenue-to-GDP ratio continued to decline during the

[6] Such as the reduction in corporate income tax rate, corporate income tax exemptions for SMEs registered in the Single Account Project, cuts in personal income tax rates and increases in personal income tax deduction and cuts in custom duties for intermediate goods.
[7] From 5.6 percent of GDP in FY2012 to 4.8 percent in FY2019.

pandemic from 13.2 percent in FY2019 to 12.6 percent in FY2020 and 12.5 percent in the first nine months of FY2021.

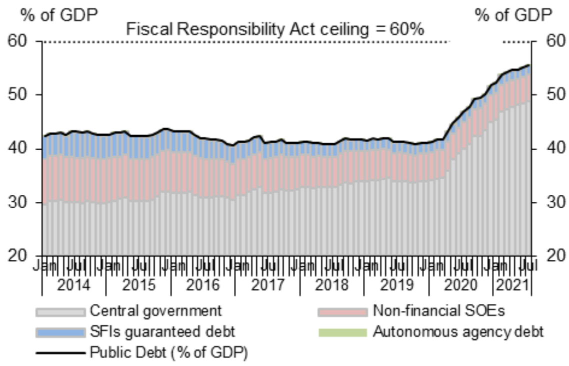
16. Fiscal expenditure has been expansionary. Government expenditure as a percentage of GDP increased from 18.6 percent in the first nine months of FY2019 to an average of 19.9 percent during the same period in FY2020 and FY2021 (see Figure 19). Besides the budget, off-budget spending is also supported by THB 1.5 trillion of legislated borrowing, and the authorities have room for additional loans, given that the debt ceiling has been increased to 70 percent. The stimulus programs included a wide range of measures that included large scale cash transfers, consumption support, travel subsidies, economic and social rehabilitation, and medical services funding support; most of the fiscal spending measures went to support the income of households, farmers, state welfare card holders, informal workers, and others affected by the pandemic.

Figure 19. Government Expenditure



Source: CEIC; BOT; AMRO staff calculations

Figure 20. Public Debt



Source: CEIC; Public Debt Management Office

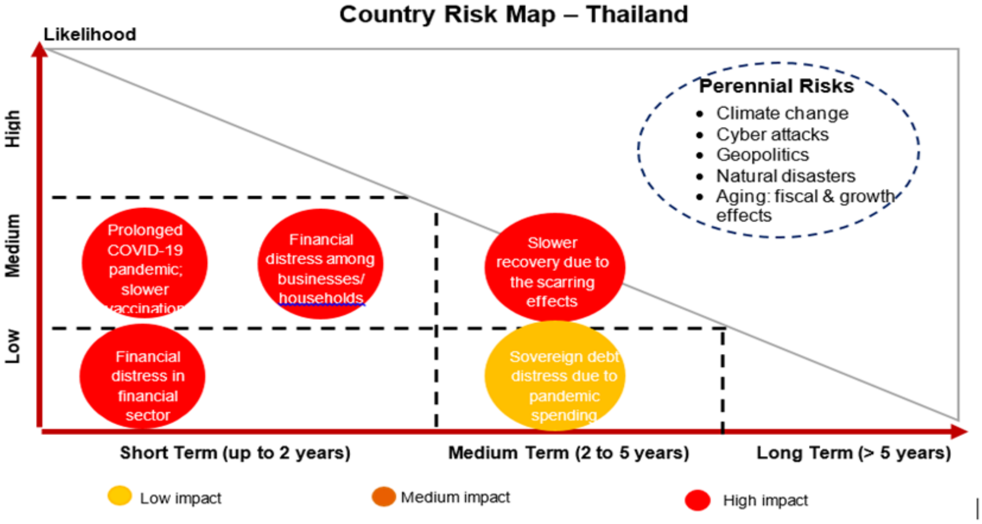
17. As a result of the significant fiscal stimulus, Thailand's public debt increased from 41.2 percent of GDP in December 2019 to 57.0 percent in August 2021 (Figure 20). Thailand has relatively ample fiscal space to increase fiscal stimulus spending, as direct government debt was only about 45.6 percent of GDP as of August 2021, with government debt to fiscalize the FIDF loss accounting for about 4.4 percent of GDP, and SOE debt, government guaranteed financial SOE debt, and government agencies' debt accounting for about 7.0 percent of GDP. The self-imposed 60 percent debt ceiling, which was set in 2018, was increased to 70 percent in September 2021, in accordance with the fiscal responsibility law which allows the authorities to revise the fiscal targets at least every 3 years.

B. Risks, Vulnerabilities and Challenges

18. Several risks, vulnerabilities and challenges require monitoring ahead (see Country Risk Map – Thailand).

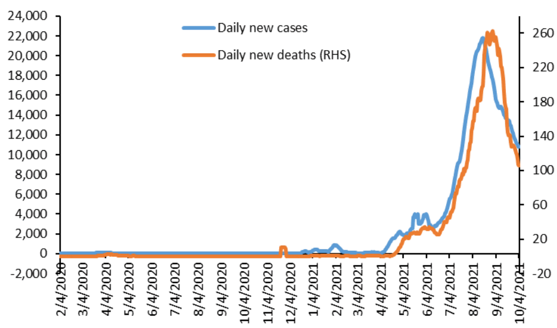
- Renewed waves of the COVID-19 pandemic both domestically and abroad remains uncertain.
- Significant risk that a protracted pandemic could lead to financial distress and bankruptcies to corporates, in particular, in tourism sector and SMEs.
- A prolonged COVID-19 pandemic could leave large scarring effects on the economy which might lead to slower recovery in the short term and lower potential growth in the medium term.

- Additionally, financial distress in the corporate sector could create pockets of vulnerability in the financial sector. The high household debt, combined with weak employment situation, also could result in sluggish private consumption.
- The risk remains significant that international trade and technology tensions could continue.
- The authorities should also be mindful of the medium-term fiscal sustainability issues post-pandemic.
- There are also long-standing concerns, such as flooding and droughts induced by extreme weather as well as rapid population aging.



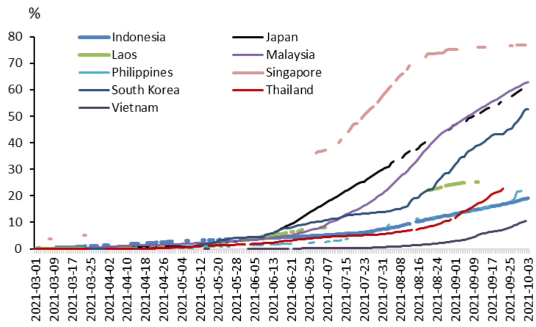
B.1 Near-term Risks to the Macro Outlook

Figure 21. COVID-19 New Cases and Deaths



Source: CEIC; World Health Organization

Figure 22. Full Vaccination Rates: Selected Countries



Source: Our World In Data

19. Downside risks to growth stem mainly from uncertainties due to recurrent waves of COVID-19 infections and the pace of vaccinations. In an adverse scenario, a longer than anticipated third wave of COVID-19 infections (see Figure 21), or a possible fourth wave of infections, accompanied by a delay in the procurement and distribution of vaccines (see Figure 22),[8] could result in a continued lockdown and much slower return of international tourists as

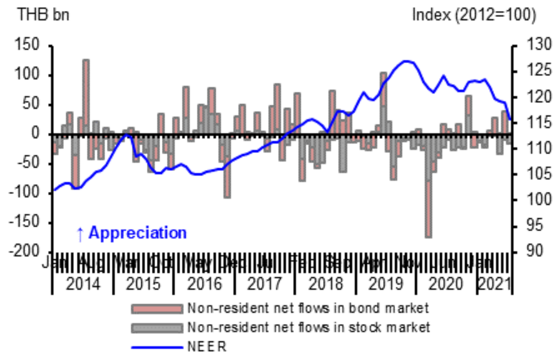
[8] On a positive note, Thailand has recently sped up its vaccine roll-out. Thailand has administered more than 81 million doses of COVID vaccines so far (as of 10 November 2021), as well as the speed of the country's vaccine rollout sometimes exceeding 1 million per day, made it easier for the Thai government to reopen its borders, the situation will be assessed on a weekly basis.

well as lower domestic tourism activities and weaker consumer confidence. Globally, a resurgence of COVID-19 infections or a prolonged delay of vaccine administrations in major trading partners, could also weaken Thailand's recovery.

B.2 Financial Sector Risks

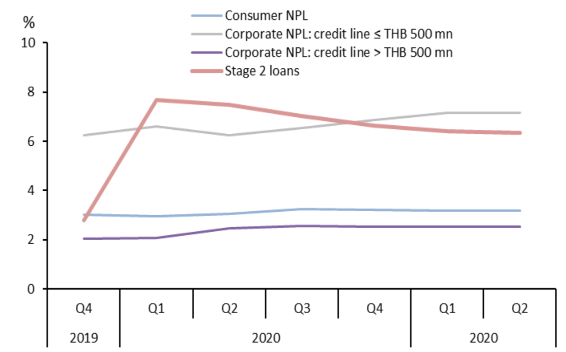
20. Risks to financial stability remain contained thus far, although they require vigilant monitoring going forward. Bond yields spiked in March and April 2020 but have stabilized following BOT's measures to support the financial markets. The intensity of the capital outflows (Figure 23) and stock market's decline (Figure 16) in the early part of 2020 had also receded and markets have rebounded. The authorities have taken steps to conduct a fresh round of stress tests to ensure that banks' capital buffers are adequate. Overall, the banking sector's non-performing loan (NPL) ratio has been broadly stable (Figure 24), helped by the BOT's debt relief programs and regulatory relief. Although the banking sector's profitability declined and the credit risk in the banking system warrants continued close monitoring, commercial banks remain sound with strong capital buffers and loan-loss reserves (Figure 25). Reverse stress tests conducted by AMRO staff suggest that commercial banks' capital buffers remain adequate against potential rise in loan defaults. That said, the potential increase in the NPL ratio, particularly for loans to SMEs and other vulnerable sectors, as well as loans issued by SFIs, requires close monitoring. The search-for-yield behavior under a prolonged period of low interest rate environment also warrant continued vigilance, in particular, in savings cooperatives.

Figure 23. Non-resident Capital Flows



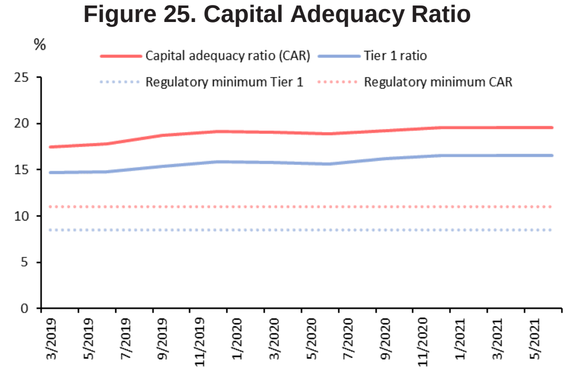
Source: CEIC; BOT; Stock Exchange of Thailand

Figure 24. Loan Quality



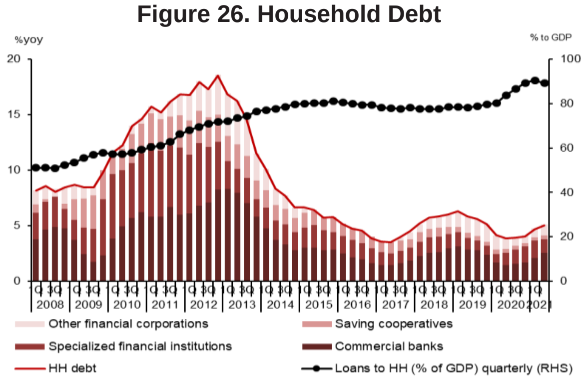
Source: CEIC; BOT

Figure 25. Capital Adequacy Ratio



Source: CEIC; BOT

Figure 26. Household Debt



Source: BOT

21. The household debt-to-GDP ratio, which is high compared to regional peers, has increased even further amid the pandemic.[9] Thailand's household debt-to-GDP ratio remains high relative to other economies in the region, and the highest among economies with comparable per capita GDP, and needs continued monitoring. The household debt-to-GDP ratio which is already high prior to the pandemic, increased further to 89.3 percent as of Q2 2021 (Figure 26). Among the household groups, the low income households and those in the informal sector are more vulnerable, given that they are more highly leveraged and tend to be employed in the hard hit contact-sensitive sectors.

B.3 Risk of Economic Scarring

22. The economic scarring from the pandemic could weaken the recovery. There is a risk that the need by corporates to repair their balance sheets may cause the recovery to take longer than expected, and if liquidity problems drag out, some firms may face solvency issues. The risk that corporates' and households' impaired ability to repay their loans may hamper financial sector lending post-regulatory forbearance, particularly for banks more exposed to tourism, SME and household sectors, is another factor that may weaken the recovery. Additionally, the high household debt and unemployment can be a drag on private consumption.[10] Also, the need for re-skilling and upgrading of workers who were laid off or underemployed because of the pandemic, combined with labor market frictions, may slow adjustment to the post-pandemic new normal.

B.4 Fiscal Sector Risks

23. Although Thailand's fiscal space remains relatively ample, the significant increase in public debt due to the large COVID-19 fiscal stimulus measures and the fiscal implications of aging, would require continued vigilance on medium to long term fiscal sustainability. The fiscal requirements of COVID-19 stimulus spending has caused Thailand's public debt to increase from 41.7 percent of GDP in March 2020 to 57.0 percent of GDP in August 2021. The new higher debt ceiling will not affect Thailand's fiscal stability in the short term because most of its public debt is long-term and mainly from domestic fund mobilization. Close attention should be paid to medium- and long-term fiscal management, wherein the authorities will need plans to generate additional income to reduce fiscal deficits and ways to ensure that the budget is used with utmost efficacy. The relatively fast aging population also has medium-term fiscal sustainability implications, as the pace of pension and health-related spending would rise significantly in the medium to long term.

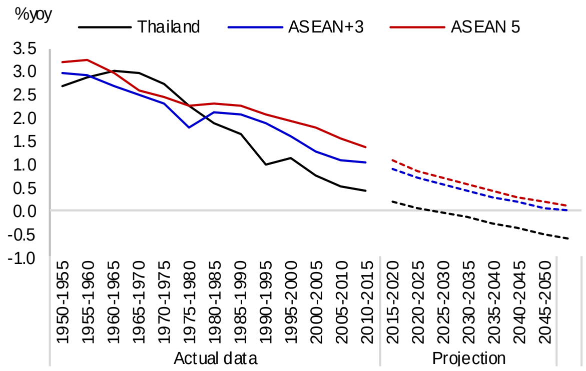
B.5 Structural Challenges

24. With a very low fertility rate, Thailand is aging at a relatively fast pace (see Figure 27) and would need to upgrade the labor force to counteract the negative impact of population aging on potential growth. Thailand's labor force has started declining since 2012 (see Figure 28), with a consequent reduction in the contribution of labor to Thailand's potential growth, which has been partially offset by the influx of migrant workers. Also, the shortage of skilled labor poses a challenge, particularly as the country pursues the Thailand 4.0 initiative and endeavors to transition to higher technology value-added economy. This shortage, in particular engineers in both IT and non-IT fields, scientists, and researchers, is a

[9] Although a significant part of the increase in the ratio was due to the fall in nominal GDP, household debt also increased. The growth of household debt (Figure 26) was driven in part by the increase in demand for low-rise properties and an increase in the liquidity needs of households amid the pandemic.
[10] The household debt to GDP ratio slightly improved to 89.3 percent in Q2 2021 from 90.6 percent in Q1 2021, as a result of a higher four-quarter rolling sum of GDP and notwithstanding the slight increase in total household loans.

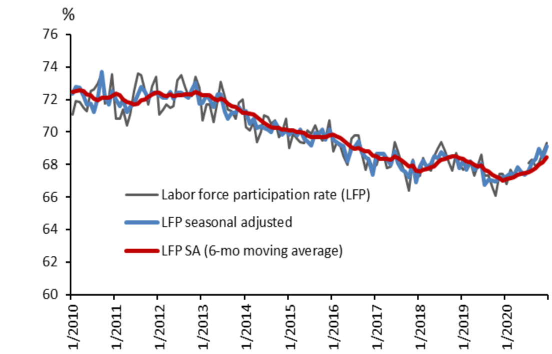
medium- to long-term challenge to growth and warrants greater investment in Thai educational institutions, especially in science and technology.

Figure 27. Population Growth



Source: CEIC; United Nations

Figure 28. Labor Force Participation Rate



Source: CEIC; BOT

C. Policy Discussions and Recommendations

25. The economic crisis induced by the COVID-19 pandemic requires the coordination of a multi-pronged strategy containing the following key elements in the overall policy mix:

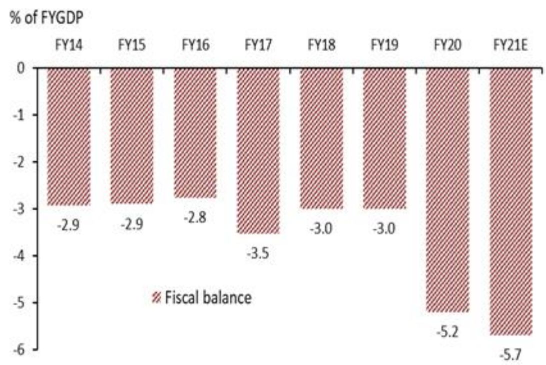
- Rapid vaccination and effective COVID-19 containment strategies should be the top priority to bring a durable end to the economic crisis and should take front-stage in the government's efforts to re-start the economy;
- Fiscal policy should be at the center of the economic policy, and continued fiscal support is needed to finance the COVID-19 related expenses, support vulnerable sectors, minimize scarring effects, and sustain the recovery momentum. Post-pandemic, a credible medium-term fiscal consolidation strategy is necessary to secure fiscal sustainability and guard against the risk of sovereign debt distress in the medium to long term;
- Accommodative monetary policy is important in supporting the economy, providing liquidity to the financial system, and ensuring stability in the financial markets;
- Effective credit and debt restructuring policy is necessary to address liquidity squeeze, curb rise in NPLs of SMEs and households, minimize scarring effects, and address uneven impacts of the pandemic; and
- Well-thought out and effectively implemented structural policies are needed to restructure the economy and upgrade manpower and digital infrastructure for the post-pandemic new normal.

C.1 Central Role of Fiscal Policy in Support of the Economy amid the Pandemic

26. Targeted fiscal policy to vulnerable groups should continue and, in particular, the vaccination program should be ramped up to achieve herd immunity as early as possible. Hitherto, the bulk of the stimulus packages (see Figure 29 and Appendix Figure 1.3) had focused on cash handouts, consumption support and travel subsidies, and targeted towards the sectors most affected by the pandemic, including the tourism, SMEs, and the informal sector. Going forward, targeted supports to the vulnerable groups and affected sectors should be continued and greater priority given to the vaccination campaign, boosting public infrastructure investment, and implementing structural reforms. In Q2 2021, the government accelerated the purchases of vaccines and started to implement the mass vaccination campaign. Effective and strengthened vaccination campaign is necessary for a durable end to the pandemic crisis and should be frontloaded in the efforts to re-open borders to international tourists and re-start the tourism industry. The authorities' recent efforts to speed up vaccination, although belated, is welcome, and its implementation should be enhanced further. The faster mass vaccination is implemented and herd immunity is achieved, the less need there is for the authorities to use costly fiscal resources for cash handouts and other relief measures to the vulnerable sectors. When the pandemic is contained following an effective vaccination campaign, the authorities can then focus the fiscal support more efficiently on increasing the pace of implementation of infrastructure investment such as the Eastern Economic Corridor (EEC) related flagship infrastructure projects while facilitating structural reforms to enhance the growth potential going forward. The authorities should guard against premature withdrawal of fiscal support to the economy to avoid a cliff effect.

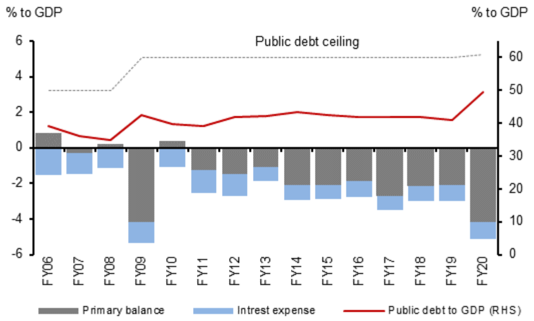
27. Although the 60 percent public debt ceiling (see Figure 30) has been appropriately increased to 70 percent, the authorities should rebuild the fiscal buffers to ensure fiscal sustainability in the medium term, once the pandemic is over. To support the pandemic spending and recovery efforts, the authorities has increased the self-imposed 60 percent public debt ceiling to 70 percent. Post-pandemic, the authorities will need to have a credible fiscal consolidation plan (see Box B. Fiscal Consolidation Measures in the Post-Pandemic Context) and to communicate to the market how this plan will keep public debt within sustainable levels and will bring the public debt in a downward trajectory within a credible time frame. To avoid fiscal cliff effect, the fiscal stimulus measures should be recalibrated to ensure that the economy can recover on its own as the fiscal support is phased out. In safeguarding fiscal sustainability, the authorities should also consider the likely increase in pension and health care spending as a result of aging population. In order to maintain medium term and long term fiscal sustainability, the authorities could consider raising the tax effort and improving the buoyancy of the tax system through broadening the tax base, enhancing tax administration, and adopting a carbon tax as well as restoring the VAT rate from 7 percent to 10 percent. In the longer term, the social security system should also be enhanced to prepare for the aging population.

Figure 29. Budget Deficit



Source: CEIC; Fiscal Policy Office; AMRO staff calculations

Figure 30. Public Debt



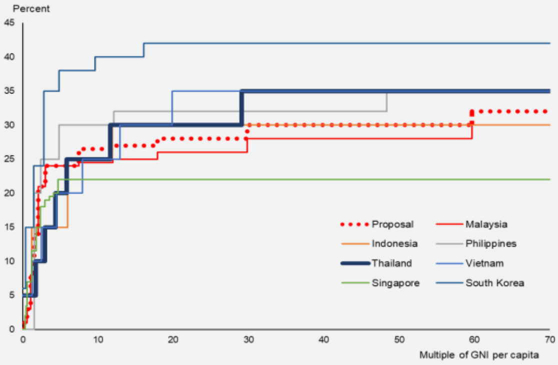
Source: CEIC; Fiscal Policy Office; Public Debt Management Office; Office of the National Economic and Social Development Council

Box B. Fiscal Consolidation Measures in the Post-Pandemic Context[11]

When the Pandemic is over, comprehensive fiscal consolidation plan that combines revenue-enhancing measures and efficient spending programs would be necessary to rebuild fiscal space. Thailand's tax system could be enhanced to boost revenue collection and embrace upcoming development trends, such as digitalization and climate change. A well-targeted current expenditure is also needed to make space for capital spending to support the recovery effort. Fiscal consolidation through increased tax rates or new tax measures could be introduced when the economic recovery is firmly entrenched.

The income-based tax base could be broadened by reducing inefficient PIT deduction and credits items and expanding the coverage of capital gains tax. Although Thailand's personal income tax rate (PIT) is comparable to other ASEAN countries (Figure B1), PIT deduction and credits items enjoyed by only the high-income group could be streamlined.[12] More targeted exemptions could also be considered by focusing tax relief on low-income earners. Given that the current tax regime on capital gains remains narrow in scope (Table B1), introducing a separate and comprehensive capital gains tax targeted at individuals and corporates for incomes obtained from sales of immovable properties and financial instruments, would extend the scope of the income-based tax.

Figure B1. Personal Income taxes in other ASEAN+3 Countries



Source: AMRO Staff Compilations

Table B1. Capital Gains Tax in Other ASEAN+3 Member Countries

Economy	Shares	Properties
Thailand	Exempted from personal tax except the transfer of shares in Thai company and mutual funds (Normal PIT Rate)	Exemption from Personal Tax for residential property and purchased within 1 year (Normal PIT Rate)
Indonesia	Exchange-traded shares (0.1% of the sales proceeds)	Final income tax at a rate of 2.5% of the transaction value or the government-determined value, whichever is higher
Philippines	Not traded on local stock exchange: 15%, except for foreign corporations (5% on the first PHP100,000 of gains, and 10% on gains in excess of PHP 100,000) Sales of shares of stock listed: 0.6% of the gross selling price	6% final tax on the gross selling price or fair market value, whichever is higher
Vietnam	Normal CIT/PIT rate Foreign investors: a deemed rate of 0.1% of the share sales proceeds	Normal CIT/PIT rate
Japan	Total rate of 20.315% (15.315% for national tax purposes and 5% local tax)	Total rate of up to 39.63% (30.63% for national tax purposes and 9% local tax) depending on various factors.
China	Normal CIT rate Individual: 20%	Normal CIT rate Individual: 20%, exempted for private residence occupied for ≥ 5 years

Source: AMRO Staff Compilations

The value-added tax (VAT) rate, which was temporarily reduced to 7 percent in 1999, should be normalized to a uniform rate of 10 percent. Thailand's reduced VAT rate of 7 percent is relatively low among ASEAN countries. While it is prudent to continue with the reduced rate to stimulate the economy at this juncture, the authorities should discontinue this rate reduction and normalize the rate back to 10 percent, after the pandemic has subsided. A higher VAT could have a dampening effect on the economy in the short term, but it would provide a secure reliable and stable sources of government revenue. Additional revenue from the VAT hike can be used to finance increasing government expenditures, including targeted social assistance programs.

The authorities should prepare well-defined action plans in anticipation of the current global tax reform. Coupled with Thailand's robust and growing digital economy, the COVID-19 pandemic has accelerated the demand for internet usage. Given the recent global tax reform, the authorities should refrain from introducing additional digital service tax or re-introducing withholding taxes on e-commerce sales of goods and services to avoid the extra burden and confusion for taxpayers.

[11] Prepared by Sotheareach Sok and Andriansyah.
[12] These deductions and credits include life insurance premium, home mortgage interest, contributions to the retirement mutual fund, and long-term equity fund.

Thailand will benefit from the additional tax revenue that should accrue to the country under Pillar One of the global tax reform due to its sizeable digital economy size.[13]

More taxes on negative externalities could be introduced. We fully support the latest measures taken by the authorities to introduce a new excise tax structure for cigarettes and encourage similar measures for alcoholic beverages, sweetened beverages, salted foods, and fuel-powered vehicles.[14] Thailand could also benefit more from the imposition of the carbon tax on the key carbon emission sources[15] in lieu of the current carbon voluntary trading scheme. If the authorities set the carbon tax at the rate of USD3-5 per ton of carbon dioxide (CO2) (Table B3), close to an average global carbon price,[16] additional tax revenue of around 0.3 percent of GDP per year could be generated.

Table B3. Carbon Tax Implementation, by Countries

Country	Rate	Tax Base
Sweden	$119 / ton of CO2	Motor fuels and heating fuels
Norway	$53 / ton of CO2	Combustion of fossil fuels and CO2 emission from petroleum industry
United Kingdom	$22 / ton of CO2	Petrol and Diesel
Colombia	$4.63 / ton of CO2	Fossil fuel
Singapore	$3.7/ ton of CO2	Fuel combustion and industrial processes and product uses.
Indonesia	$5.2/ton of CO2 (Proposed)	Emission from fossil fuel and industrial activities

Source: AMRO staff compilations.

Table B4. Tax Administration Performance Indicators, 2019

	Thailand	OECD	Non-OECD
Registered personal income taxpayers (% population)	16.8[1]	61.3	26.5
On-time filing (%)			
Corporate income tax	75.0	83.5	73.4
Personal income tax	96.9	90.3	77.7
On time payment (min, % estimated payment)	93.9	82.9	71.1
Collectible arrears (% total year-end arrears)	56.4	53.9	55.1
Percentage of revenue collected through large taxpayer offices	46.3	42.4	43.2
Change in the "cost of collection" ratio 2016-2017	0.2	-0.3	-0.9

Source: OECD (2019, 2021).[17]
Note: The number of countries varies.

Tax administration is generally well organized but there is room to reduce administrative burdens and enhance voluntary compliance. Thai tax administration standards are above both OECD and non-OECD countries in some areas including on-time payment, collecting arrears, and the enforcement role of large taxpayer offices (Table B4). However, there is room to further improve tax administrative performance by reducing informality, raising compliance for the personal income tax, and cutting the time required to comply and post-filing procedure.[18] Given the large base of MSMEs that are mostly not formally incorporated, the authorities can adopt additional measures, such as accepting a simplified financial report from MSMEs and digitalizing the tax filing process faster to ease the compliance burden and cost borne by the firms.

The effectiveness of fiscal incentives needs to be assessed. The authorities could also consider streamlining tax incentives to make room for discretionary spending. Recent developments of the global minimum corporate tax rate at no less than 15 percent would reduce the importance of tax

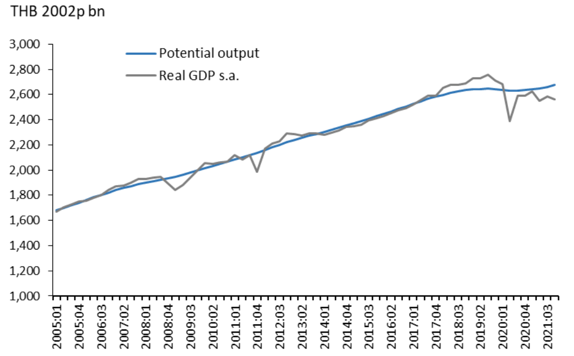
[13] Kho, Catharine Tjing Yiing and Andriansyah. 2021. "Global Tax Reform: What It Means for ASEAN+3." AMRO Analytical Note, ASEAN+3 Macroeconomic Research Office, Singapore.
[14] Thailand applied excise tax on sugary drinks on September 16, 2017. The levy on sugary drinks is capped at 20 percent, with beverages containing more sugar carrying a larger tax burden than less sweetened beverages. The new rates are rising on a gradual basis over four phases: September 16, 2017 to September 30, 2019; October 1, 2019 to September 30, 2021; October 1, 2021 to September 30, 2023; and from October 1, 2023 onwards.
[15] The key carbon emission source is the fossil fuel including petroleum, cement, coal, and gas.
[16] Parry, Ian, Simon, Black, and James Roaf. 2021. "Proposal for an International Carbon Price Floor among Large Emitters." IMF Staff Climate Notes 2021/001, International Monetary Fund, Washington, DC.
[17] Organisation for Economic Co-operation and Development (OECD). 2021. Tax Administration 2021: Comparative Information on OECD and other Advanced and Emerging Economies. 15 September. Paris, and Organisation for Economic Co-operation and Development (OECD). 2019. Tax Administration 2019: Comparative Information on OECD and other Advanced and Emerging Economies. 23 September. Paris.
[18] Improved tax administration could have a larger impact than increasing the tax rate. In this current pandemic situation, efforts to improve tax administration are also less likely to hurt the economy recovery process. See Basri, M. Chatib, Mayara Felix, Rema Hanna, and Benjamin A. Olken. Forthcoming. "Tax Administration vs. Tax Rates: Evidence from Corporate Taxation in Indonesia." American Economic Review.

incentives and eventually affect their effectiveness in attracting foreign direct investment (FDI). As a first step to re-assessing the role of tax incentives in attracting FDI, the authorities might want to publish a tax expenditure report that discloses and estimates revenue loss from tax incentives.[19] To attract FDIs, such as into the Eastern Economic Corridor, the authorities also need to prioritize strengthening non-tax measures by building better infrastructure and investment climates, such as the availability of skilled labor, intellectual property protection, and macroeconomic stability.

Efficient management of current and capital expenditures could be enhanced. With the substantial social assistance packages unveiled during the pandemic, the authorities need to redirect the spending for more targeted and productive programs. The quality of current expenditure can be improved by better targeting the welfare program, benefiting from the recent large-scale cash transfer program that covers informal workers who were previously not registered in any social protection database. With the limited resources, capital expenditure should be sufficiently funded and efficiently disbursed to optimize resource efficiency in the post-crisis period**.** The authorities need to allocate more to capital spending and, at the same time, prioritize capital spending that has a higher multiplier effect on economic recovery. Under the Fiscal Responsibility Act, the allocation to capital spending must account for no less than 20 percent of the annual budget and must not be lower than the fiscal year budget deficit.

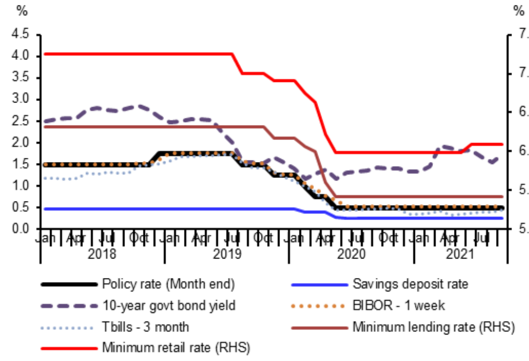
C.2 Accommodative Monetary Policy to Support the Economy and Provide Liquidity to the Financial System

Figure 31. Output Gap



Note: Potential output was calculated as a simple average of: (a) HP filter and (b) Kalman filter estimating an unobserved components model with fixed autoregressive parameters. To handle the endpoint problem, real GDP data was extended to Q4 2025 by applying ARIMA patterns to AMRO growth forecasts. The estimation was done using WinRATS Pro 10.
Source: AMRO staff calculations

Figure 32. Interest Rates



Source: CEIC; BOT

28. While monetary policy is currently appropriately accommodative, the authorities should be ready to act should the current or a new wave of infections cause the economy to weaken further (see Figure 31). The BOT lowered its policy rate three times in 2020 to a historical low of 0.5 percent in May 2020, and has maintained the rate since then to preserve the limited monetary policy space (Figure 32). To address liquidity and financial stability risks last year, the BOT had established mutual fund liquidity and corporate bond

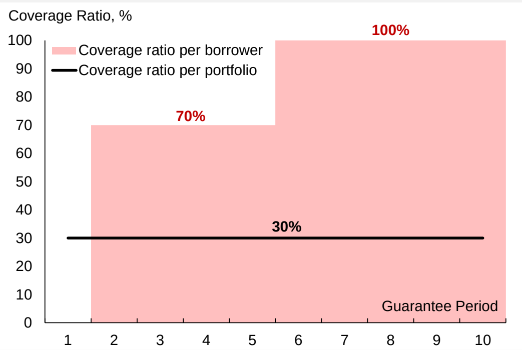
[19] Muthitacharoen (2016) estimated that revenue losses from providing tax incentives in corporate income tax, VAT, and duty were the equivalent of 1.5 to 1.6 percent of GDP annually from 2014-2016. The periodical TERs published by Indonesia and the Philippines could be good examples for Thailand to learn from. See Muthitacharoen, Athiphat. 2016. Assessing Tax Incentives for Investment: A Case Study of Thailand. Southeast Asian Journal of Economics 4(2), July-December 2016: 105-128

stabilization facilities. The BOT was supporting SMEs, households, and banks with soft loans, household debt burden relief, and regulatory forbearance. BOT's financial forbearance program has been appropriately re-calibrated to allow targeted support to SMEs, and so was the debt relief measure for households. To support the rehabilitation as well as to cover wider group of SMEs, the government announced the Special Loan facility amounting to THB 250bn. It was later adjusted in August 2021 to enhance liquidity support for both existing and new SME borrowers by expanding their credit lines. An asset warehousing program was aptly introduced. Effective and timely implementation will mitigate the impairment of the SME balance sheets so that it does not become a drag on the economic recovery. To boost the attractiveness of the soft loans program, the government can guarantee a higher share of the loans in order to reduce credit risks of the banks and lessen their risk aversion (see Box C. The Role of Credit Guarantee Schemes in Supporting SMEs during the Pandemic).

Box C. The Role of Credit Guarantee Schemes in Supporting SMEs during the Pandemic[20]

Since launching in 1991, credit guarantee schemes provided by the Thai Credit Guarantee Corporation (TCG) have been aimed at enhancing SMEs' access to bank financing. As a state-owned specialized financial institution, TCG assists SMEs that are credit-constrained and have insufficient collateral in obtaining funding by partially guaranteeing their bank borrowings. These schemes are financed by guarantee fees that are payable annually by the government and SMEs. Given that the guarantees are offered on a portfolio-level basis – which is different from loan guarantees on a borrower-level basis – financial institutions are responsible for the credit risk screening, monitoring and evaluation process. Although the guarantee coverage typically increases overtime at the borrower level, it is still subjected to the overall portfolio coverage limit (Figure C1).

Figure C1. Illustration of TCG's Risk-Sharing Mechanism



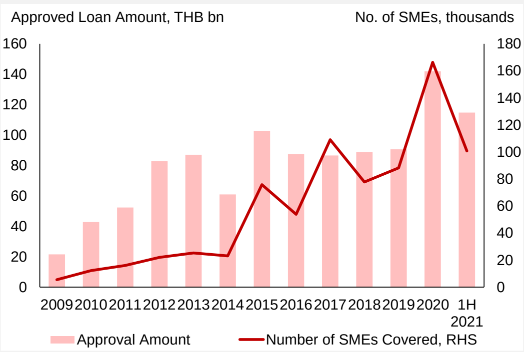
Source: Thai Credit Guarantee Corporation

Table C1. Guarantee Schemes during Pandemic

Products	Amount (THB, bn)	Fee per year (%)	Coverage per Portfolio (% share)
Portfolio Guarantee Scheme (PGS) 9	150	1.5-1.75	20-40
Micro Entrepreneur Credit Guarantee Program Phase 4 (MICRO 4)	25	1.5	22.5-40
PGS Soft Loan Plus (BOT)	57	1.75	30

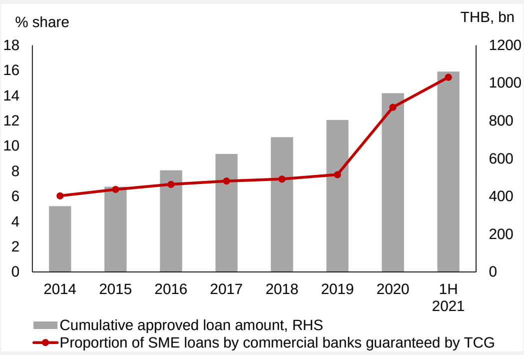
Source: Thai Credit Guarantee Corporation

Figure C2. Guaranteed Loans Approved by TCG and Number of SMEs Covered



Source: Thai Credit Guarantee Corporation.

Figure C3. Proportion of SME loans guaranteed by TCG



Source: Thai Credit Guarantee Corporation, BOT

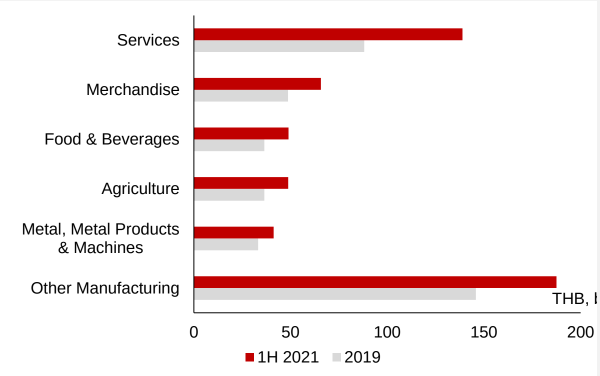
Amid the unprecedented COVID-19 pandemic, the coverage and size of these schemes were broadened and progressively expanded to support SMEs that are faced with severe financing difficulties. TCG progressively launched three new products with guarantees totaling THB 232

[20] Prepared by Justin Lim, Economist.

billion and coverage ratios of up to 40 percent by end-2020 (Table C1). The coverage of some of the schemes was broadened to allow SMEs which were previously ineligible – having overdue debts and debts that are classified as special mention loans – to apply for the credit guarantee program. To boost the effectiveness of BOT's soft loan scheme, PGS Soft Loan Plus was introduced to provide guarantee starting from the third year of BOT's soft loans[21].

These guarantees have supported bank lending to SMEs and sustained employment. TCG's guaranteed SME loans grew significantly, totaling THB256.7 billion in 2020 and 1H 2021 (Figure C2). As a result of these schemes, the proportion of SME loans by commercial banks which are guaranteed by TCG rose sharply to 15.5 percent in 1H 2021 from 7.7 percent in 2019, reflecting the greater importance of these guarantees in supporting SME lending (Figure C3). Moreover, SMEs that were more adversely impacted by the pandemic, such as those operating in the services segment, have received a larger share of the aggregate guarantee (Figure C4). The macroeconomic benefits of these guarantees are significant, having supported about 267,000 SMEs (8.2 percent of SMEs) and 2.1 million workers[22] (3.2 percent of employment) during this period.

Figure C4. Guaranteed Loan Amount by Sector

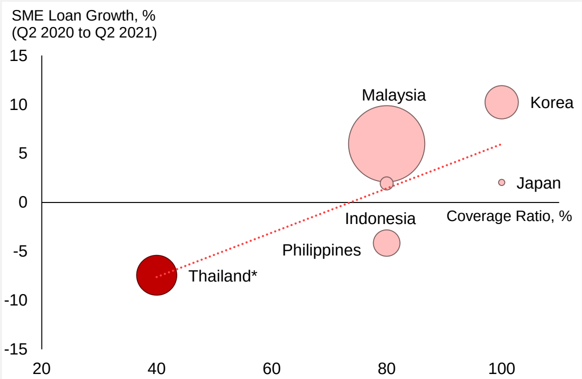


Source: Thai Credit Guarantee Corporation.

Figure C5. Deposit, Overall and SME Loan Growth of Selected Countries between Q2 2020 and Q2 2021

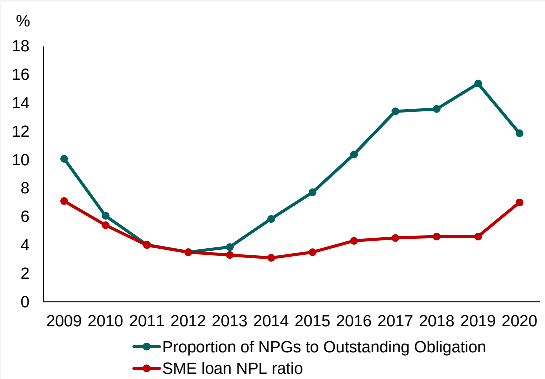
Source: Thai Credit Guarantee Corporation, BOT
Note: *Thailand's SME loans excluding financial and insurance.

Figure C6. SME Loan Growth, Coverage Ratio and Size of Credit Guarantee of Selected Countries, 2020



Source: IMF, various national authorities, AMRO staff estimates.
Note: *Refers to credit guarantee by TCG only and excludes guarantees under BOT's soft loan. The size of the bubbles denote the size of the credit guarantee (as % of GDP)

Figure C7. Non-Performing Guarantees (NPG) and SME Loans NPL Ratio



Source: Thai Credit Guarantee Corporation, BOT

However, Thailand's outstanding SME loans have contracted sharply despite the sizable increase in guarantees. Despite the various policy measures implemented to support lending to SMEs, the overall size of SME loans (excluding financial and insurance activities) by commercial banks have contracted by 7.4 percent between Q2 2020 and Q2 2021. This decline is in contrast to the strong growth performance in large corporate loan growth[23]. Thai SME loans also fared poorly against other regional countries which mostly saw positive SME loan growth (Figure C5).

[21] During the first two years, the soft loans would be guaranteed by the government as stated by the Emergency Decree.
[22] Based on the difference between the cumulative employment performances of the TCG Credit Guarantee Projects as of end-2019 and end-2020, which are obtained from the 2019 and 2020 TCG Annual Report respectively.
[23] BOT (2021). Performance of the Thai Banking System in the First Quarter of 2021.

Authorities could consider raising the coverage ratio or shifting to funded schemes to fully utilize the available loan amounts and thus further support SMEs in difficult times:

- Thailand's coverage ratio – which is the lowest among regional countries – may have contributed to the contraction in SME lending despite the expansion and broadening in credit guarantees (Figure C6). Although a low coverage ratio can reduce the potential for moral hazard and encourages adequate credit risk assessment, it also discourages bank lending given the associated high loan administrative costs[24]. As such, authorities are encouraged to raise the coverage ratio of these schemes to boost lending to SMEs. Authorities may also consider issuing credit guarantees that have higher coverage ratios to the more credit-constrained but still viable SMEs on a case-by-case basis, thereby incentivizing banks to boost lending to this segment.

- A shift towards a fully-funded guarantee scheme can significantly bolster the scale of TCG's guarantee operations, as such schemes are less reliant on annual guarantee fees from the government and participating SMEs in sustaining the guarantee programs. This is because studies have shown that guarantee fees alone are generally insufficient to cover the operational costs and loan losses[25]. In addition, while financially self-sustaining guarantee schemes can reduce the risk of moral hazard and improve operational efficiency, it may also inadvertently limit lending to the riskier but still viable SMEs[26].

- However, the proportion of TCG's non-performing guaranteed loans is generally higher compared with the NPL ratio of overall SME loans by commercial banks (Figure C7). Consequently, authorities should continue to monitor and prepare for rising defaults in the coming years should there be greater utilization of the guaranteed SME loans under TCG's expanded schemes.

29. The central bank has been focusing on measures to improve the distribution of liquidity, and it still has room to ease further should the need arise. While policy rate can be cut further, should the need arises, it is not needed at the moment as monetary conditions are sufficiently accommodative, and SMEs and other affected sectors are more constrained by access to credit than interest cost. Further rate cuts would also further compress the profitability of banks which are already low. If needed, unconventional policy measures (forward guidance and quantitative easing) can be considered to expand the available policy space, prevent a spike in long-term yields or stabilize pockets of turbulence in financial markets. However, any adoption of such measures should take into account factors such as market liquidity condition, capacity of government debt financing, availability of asset instruments, market capacity to effectively implement the measures, and possible long-term institutional effects on the independence and credibility of the central bank.

30. Household debt remains high and has increased again recently, and requires continued vigilance. Thailand's household debt-to-GDP ratio is among the highest in the region, alongside Korea and Malaysia, and the highest among economies with comparable per capita income. Furthermore, it has increased significantly amid the pandemic, due to the fall in nominal GDP and continued rise in household debt (see Figure 26). The elevated level of household debt is a vulnerability and a potential source of distress to low income indebted households, particularly, when the financial conditions tighten. On a positive note, the authorities have established the Debt Clinic as well as debt restructuring programs, to help relieve the burden on households and limit household NPLs.

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[24] OECD (2010). Facilitating Access to Finance: Discussion Paper on Credit Guarantee Schemes.
[25] Green, A. (2003). "Credit Guarantee Schemes for Small Enterprises: An effective Instrument to Promote Private Sector-led Growth?" United Nations Development Organisation (UNIDO), Working Paper No. 10, August 2003.
[26] Cusmano, L. (2018). SME and Entrepreneurship Financing: The Role of Credit Guarantee Schemes and Mutual Guarantee Societies in supporting finance for small and medium-sized enterprises. OECD SME and Entrepreneurship Papers No. 1.

31. A strong external position provides Thailand with ample buffer against external shocks. Going forward, exchange rate flexibility should help cushion external shocks, while foreign exchange intervention and capital flow management measures should be used judiciously to avoid disorderly foreign exchange market conditions.

C.3 Restructuring and Upgrading for the Post-Pandemic New Normal

32. Post COVID-19 pandemic, economic restructuring should be stepped up for the economy to adjust to the new normal, and the authorities should facilitate structural reforms to enhance the growth potential. The Thailand 4.0 and EEC flagship projects should be ramped up and forcefully implemented to help the economy to transit to the post-pandemic new normal, and facilitate strengthening the growth potential. In this process, digitalization and other policy needs should be taken into consideration to better adjust to the post-pandemic environment. In addition, climate change considerations should be built in, such as the need for a comprehensive water resource management, in order to make the economy more resilient to natural disasters which have become more frequent and more destructive. The authorities should also facilitate the re-skilling and upgrading of workers who were laid off or underemployed during the pandemic, especially as businesses facing excess capacity may decide to replace workers with automated and digital systems. Labor market frictions could also be reduced and labor market information systems enhanced, in order to facilitate adjustment to the new normal.

33. These programs should be harmonized with medium-term programs to upskill manpower to facilitate the Thailand 4.0 and S-curve initiatives. Labor productivity should be enhanced by improving the quality of education, especially in science and technology, and expanding vocational training, while more resources should be devoted to innovation and research and development. A coordinated package of reforms is also necessary in order to cope with the rapid pace of aging, including extending the retirement age and mobilizing previously underemployed labor in the countryside. Regional linkages and connectivity should continue to be deepened, while trade agreements such as the Regional Comprehensive Economic Partnership (RCEP) would help diversify trade further and make exports more resilient. The services sector can be further liberalized by relaxing foreign ownership restrictions to encourage more competition in sectors such as health, education, logistics, and telecommunications. The continued development of fintech can help reduce transaction costs and improve efficiency in the financial and retail sectors.[27] The government's deregulation and regulatory guillotine program should also be expedited to help improve the investment climate.

Authorities' Views

34. The authorities were broadly in agreement with AMRO's assessment on the economy and the policy recommendations. The authorities agreed that the Thai economy would show an upward trend due to the recovery of tourism industry, robust exports to main trading partners, and the continuation of government spending supports in 2022. The authorities were also of the view that most of AMRO's recommendations matched with the actions and plans of the Thai government. More specifically, on structural reforms, the Thai government has introduced a "4Ds Model", which comprises "decarbonization" (steps towards a low carbon society), "digitalization" (development of cloud computing, artificial intelligence, data center, and 5G technology to facilitate industries and services), "derisk" (diversification

[27] The authorities have pursued several commendable initiatives to facilitate digitalization and online transactions, including the development of PromptPay, the issuance f regulations and legal framework for e-money (see Annex 3: E-money in Thailand: Recent Developments, Regulatory Framework, and Monetary Policy Implications), the development of Central Bank Digital Currency (CBDC), the launching of linkage of QR payments with neighboring countries, and the like.

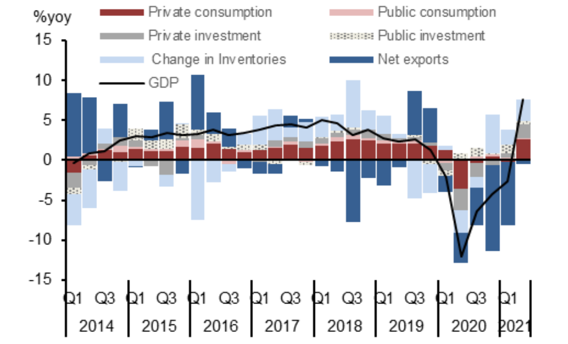
of risks, for example by developing other industries to substitute for some of the tourism revenues), and “decentralization” (for example, by relocation into Thailand of new industry production bases from abroad).

Appendices

Appendix 1. Selected Figures for Major Economic Indicators

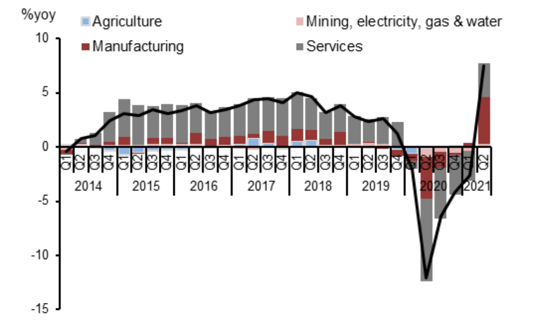
Figure 1.1. Real Sector

The Thai economy was severely impacted by the COVID-19 pandemic.



Source: CEIC; National Economic and Social Development Council

The service sector is the most significantly affected, while manufacturing also declined.

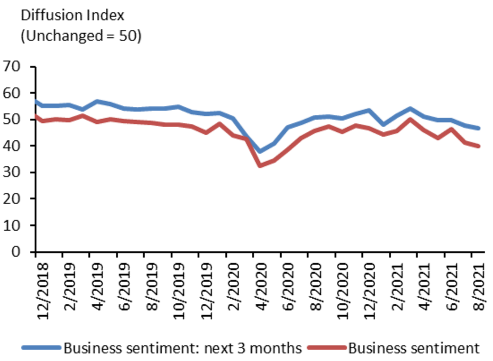


Source: CEIC; National Economic and Social Development Council

Monthly indicators suggest that except for online sales, the third wave of infections negatively affected private consumption…

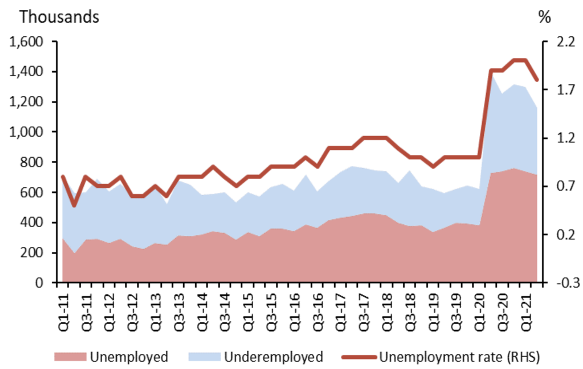
Source: CEIC; BOT; University of the Thai Chamber of Commerce

… as was private investment.



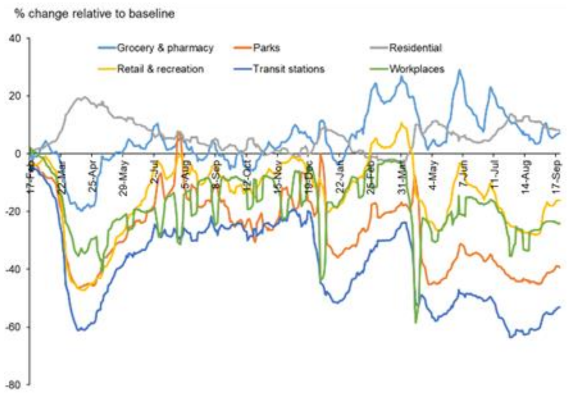
Source: CEIC; BOT; Office of Industrial Economics; Ministry of Commerce

The unemployment rate significantly increased, but is gradually improving.



Source: Haver; National Statistical Office; BOT

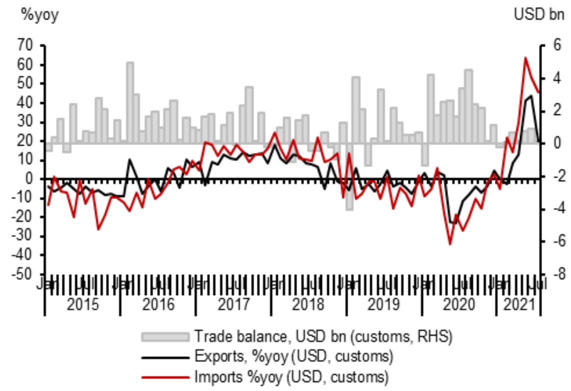
High frequency mobility indicators illustrate significant impacts of the pandemic on the economy.



Source: Haver; Google

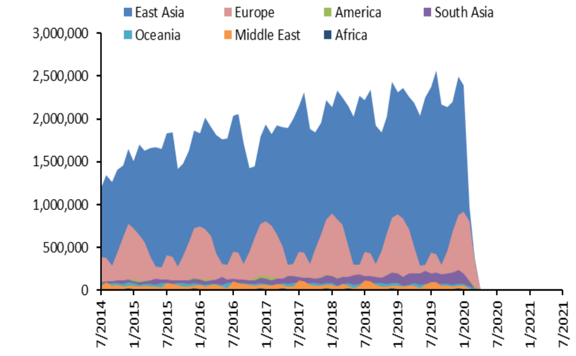
Figure 1.2. External Sector

Imports rebounded faster than exports in 2021.



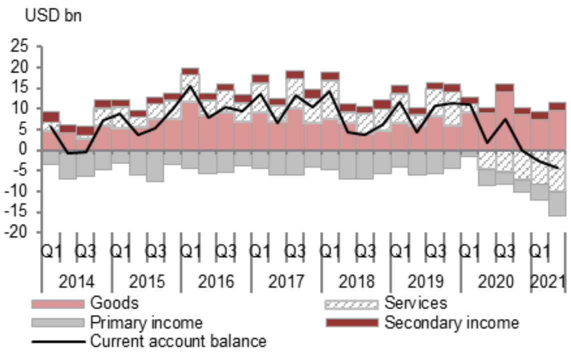
Source: CEIC; Ministry of Commerce

The pandemic has had a significant impact on the tourism sector.



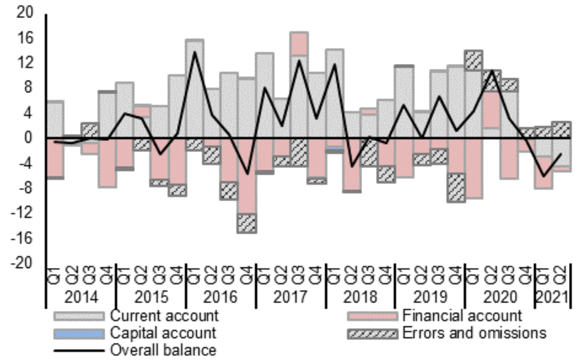
Source: CEIC; Ministry of Tourism and Sports

The current account surplus reversed to a deficit in early 2021...



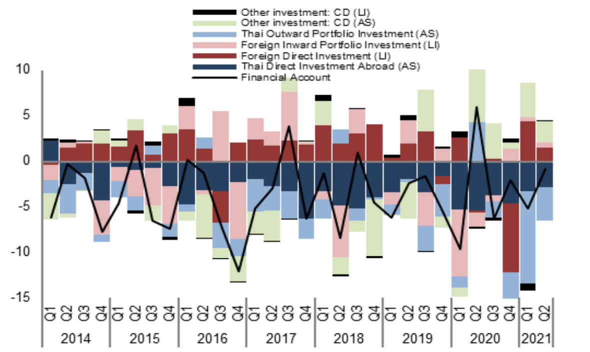
Source: CEIC; BOT

… as did the overall BOP balance amid the pandemic.



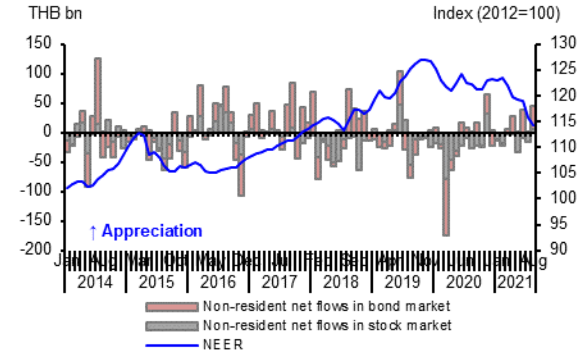
Source: CEIC; BOT

In H1 2021, Thai residents continued their direct and portfolio investment abroad, resulting in an overall deficit in the financial account balance.



Source: CEIC; BOT

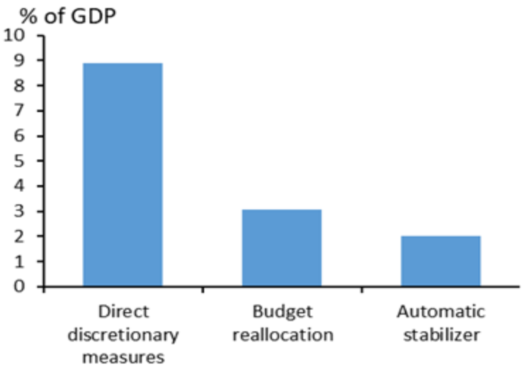
Non-resident investments flowed out in 2020, but nonresident investments in the bond market started to flow back in recently.



Source: CEIC; BOT; Stock Exchange of Thailand

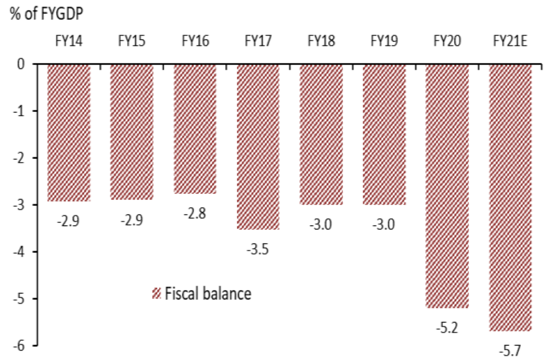
Figure 1.3. Fiscal Sector

COVID-19 fiscal stimulus measures are substantial…



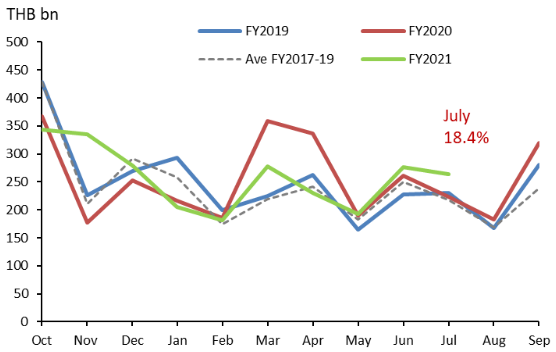
Note: As % of 2019 nominal GDP.
Source: AMRO staff calculations

… and will significantly increase the fiscal deficit to GDP ratio.



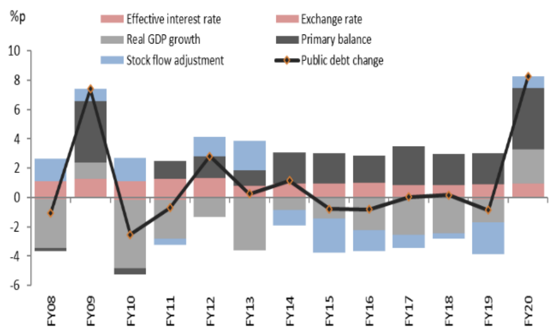
Source: CEIC; Fiscal Policy Office; AMRO staff calculations

Government expenditures increased yoy.



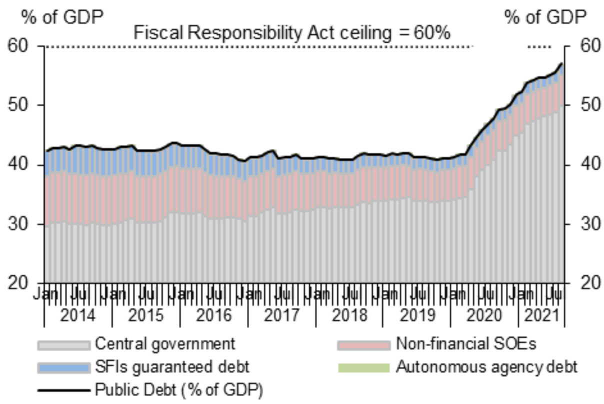
Source: CEIC; BOT

Public debt to GDP ratio have also increased significantly due to the higher deficit and lower GDP.



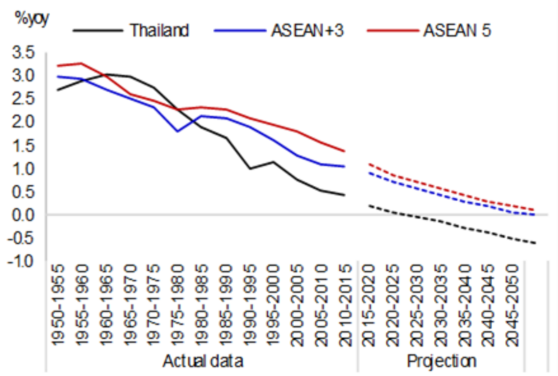
Source: CEIC; Public Debt Management Office; AMRO staff calculations

The public debt to GDP ratio increased with the continued implementation of fiscal stimulus measures.



Source: CEIC; Public Debt Management Office

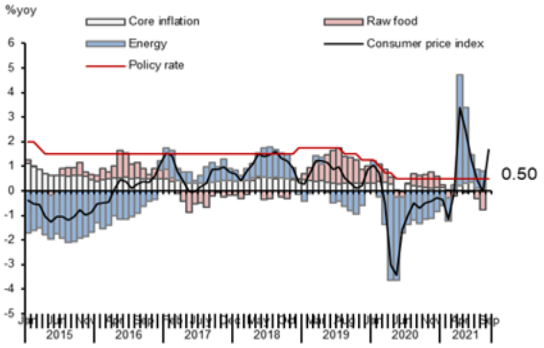
In the longer term, fiscal sustainability would need to be safeguarded, as due to population aging, pension and health-related spending would also rise.



Source: CEIC; United Nations

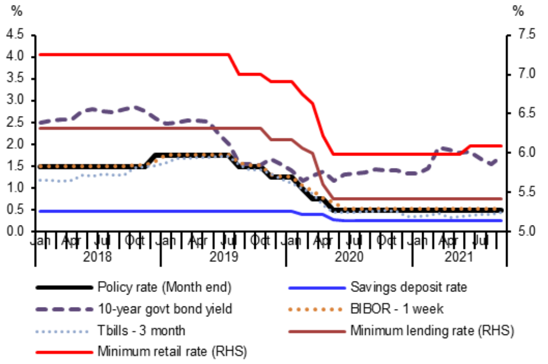
Figure 1.4. Monetary and Financial Sectors

Average headline inflation rose in the first eight months of 2021 due to higher oil prices and the low base of the previous year.



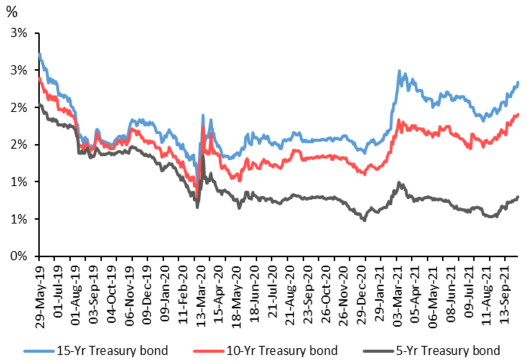
Source: CEIC; Bureau of Trade and Economic Indices; BOT

The policy rate is at a historic low following rate cuts, which passed through short-term interest rates.



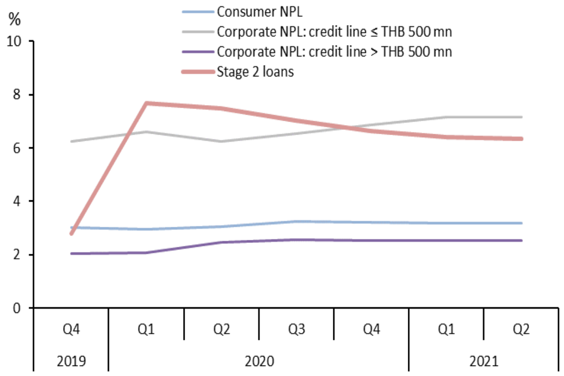
Source: CEIC; BOT

Longer term bond yields however rose recently, influenced by the US Treasuries yield.



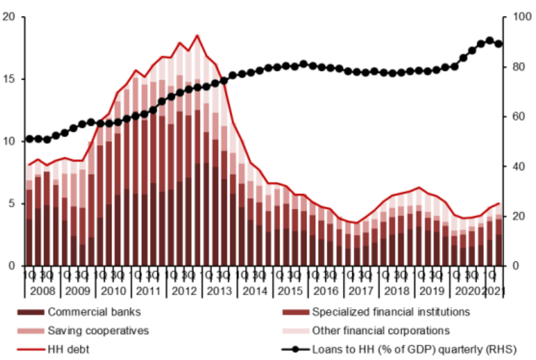
Source: Haver; Tullett Prebon Information

SME loans' NPLs remain elevated, while loans with significant increase in credit risk ("stage 2 loans") increased in 2020 and recently declined.



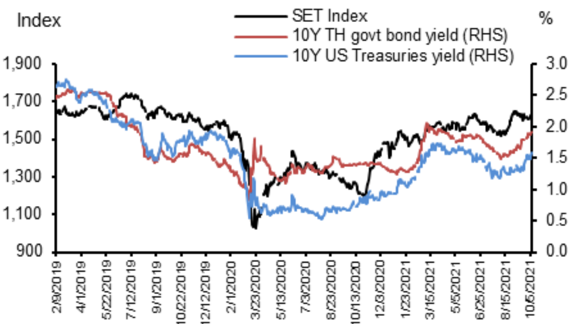
Source: BOT

Household debt is high and has increased again recently.



Source: BOT

The Thai stock exchange have started to recover but affected recently by the third wave of infections.



Source: CEIC; Stock Exchange of Thailand; Thai Bond Market Association

Appendix 2. Selected Economic Indicators for Thailand

	2017	2018	2019	2020	Projections 2021	Projections 2022
	(in percent change unless specified)					
Real sector and prices						
Real GDP	4.1	4.2	2.4	-6.1	0.8	5.8
Final consumption	2.4	4.1	3.8	-0.6	1.9	3.1
- Private sector	3.1	4.6	4.5	-1.0	1.1	3.3
- General government	0.1	2.6	1.4	0.8	4.5	2.5
Capital formation	1.8	3.8	2.2	-4.8	5.3	5.8
- Private sector	2.9	4.1	2.8	-8.4	4.4	5.5
- General government	-1.4	2.9	0.2	5.7	8.0	6.5
Exports of goods and services	5.2	3.3	-2.6	-19.4	9.3	16.2
Imports of goods and services	6.2	8.3	-4.4	-13.3	13.0	12.2
Labor market	(in percent, annual average)					
Unemployment rate (in percent, period average)	1.2	1.1	1.0	1.7	1.8	1.4
Prices	(in percent, annual average)					
Consumer price inflation (period average)	0.7	1.1	0.7	-0.8	0.8	1.0
External sector	(in billions of U.S. dollars unless specified)					
Current account balance	44.0	28.45	38.0	20.3	-9.0	25.0
(in percent of GDP)	9.6	5.6	7.0	4.0	-1.8	4.5
Trade balance	32.6	22.4	26.7	40.9	35.0	22.0
Exports, fob	233.7	251.1	242.7	227.0	260.0	277.0
Imports, fob	201.1	228.7	216.0	186.1	225.0	255.0
Services, net	24.3	22.5	24.3	-15.2	-36.5	11.0
Receipts	71.0	77.5	81.2	31.7	11.5	66.0
Payments	46.7	54.9	56.9	46.9	48.0	55.0
Primary income, net	-20.5	-24.5	-20.2	-11.4	-13.6	-15.0
Secondary income, net	7.5	8.0	7.2	6.1	6.1	7.0
Financial account balance	-10.5	-13.2	-15.7	-12.0	1.0	2.0
Direct investment, net	-5.9	-4.2	-5.6	-23.8	1.0	-7.0
Portfolio investment, net	-2.2	-5.9	-8.8	-12.1	-15.0	1.0
Other investment, net	-2.5	-3.3	-2.1	24.4	15.0	8.0
Errors and omissions	-7.4	-7.3	-8.7	10.0	-2.3	-0.0
Overall balance	26.0	7.3	13.6	18.4	-10.3	27.0
Gross official reserves excluding net forward position	202.6	205.6	224.3	258.1	247.8	274.8
(In months of imports of goods & services)	9.8	8.6	9.9	13.3		
Total external debt in percent of GDP	36.8	35.5	34.2	36.8		
Fiscal sector /1	(in percent of FYGDP)					
Revenue	15.4	15.6	15.1	14.8		
Expenditure	19.0	18.6	18.1	19.9		
Budget balance	-3.5	-3.0	-3.0	-5.2	-5.7*	-3.5*
Public Debt	41.8	42.0	41.0	49.3		
Monetary sector	(in percent)					
Policy rate (percent per annum, end of period)	1.5	1.75	1.25	0.5	0.5	0.5
10-year government bond yield (end of period)	2.6	2.6	1.6	1.1	1.5	1.2
Memorandum items						
Nominal GDP (in THB billion)	15,488.6	16,368.7	16,898.1	15,698.3	16,028.0	17,198.0
Exchange rate (in THB/USD, period average)	33.9	32.3	31.1	31.3	31.7	30.7

*AMRO staff estimates
Note: 1/ Fiscal year 2021 runs from October 1, 2020 to September 30, 2021. We used Fiscal Cash Balance, not Government Finance Statistics, in the figures.
Source: Data provided by Thai authorities; AMRO staff estimates

Appendix 3. Data Adequacy for Surveillance Purposes: a Preliminary Assessment

Surveillance Areas	Data Availability(i)	Reporting Frequency/ Timeliness(ii)	Data Quality(iii)	Consistency(iv)	Others, if any(v)
National Account	Available	Quarterly, six weeks after the end of the reference quarter, based on an advance release calendar.	-	-	-
Balance of Payments (BOP) and External Position	Available	BOP data is reported monthly with a two-month lag (one-month lag for trade data), released on the last business day of the month. Official reserve assets are reported weekly with a one-week lag. External debt is reported quarterly with a one quarter lag. Exchange rates are reported daily at 6 pm (BKK-GMT+07:00) on a working day.	-	-	-
State Budget and Government/External Debt	Available	Planned budget is announced before the beginning of the fiscal year in October (annual). Budget implementation (expenditure and revenue) is reported monthly with a one-month lag. Government/external debt is reported monthly with a one-month lag.	-	-	-
Money Supply and Credit Growth	Available	Monetary aggregates and monetary survey are reported monthly with a one-month lag. Credit and deposit data is reported monthly with a six-week lag.	-	-	-
Financial Sector Soundness Indicators	Available	"Performance of the Thai Banking System", as well as related data, are reported quarterly by the BOT with a quarter lag.	-	-	-
State-Owned-Enterprises' Statistics	Available	(1) State Enterprise Key Indicators (quarterly, in Thai) by the State Enterprise Policy Office (SEPO) under the MOF. (2) State Enterprise Review published annually by SEPO for individual SOEs. (3) Monthly and (4) Quarterly report on data and performance review (respectively) of SFIs (no fixed schedule); listed companies must follow stock exchange disclosure requirements.	-	-	-

Notes:
(i) Data availability refers to whether the official data is available for public access by any means
(ii) Reporting frequency refers to the periodicity of data publication. Timeliness refers to how up to date the published data is relative to the publication date
(iii) Data quality refers to the accuracy and reliability of the available data given the data methodologies that are taken into account
(iv) Consistency refers to both internal consistency within the data series itself and its horizontal consistency with other data series of either the same or different categories
(v) Other criteria might apply, if relevant. Examples include but are not limited to potential areas of improvement for data adequacy.

Source: AMRO staff compilation. This preliminary assessment will form the "Supplementary Data Adequacy Assessment" in the EPRD Matrix.

Annexes: Selected Issues

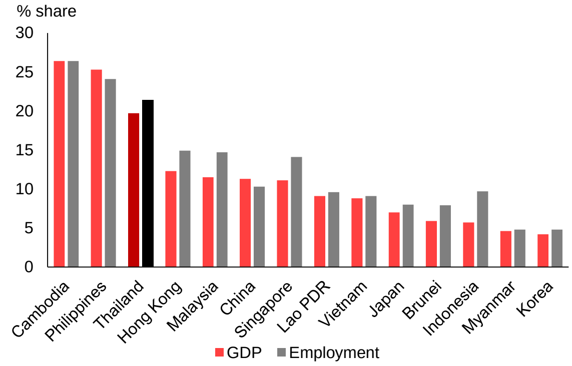
1. Impact of the Pandemic on Tourism and Growth Prospects in the New Normal[28]

1. The COVID-19 pandemic has had a severe impact on the travel and tourism sectors in Thailand. These industries were hit hard due to the spread of the disease across the world as well as imposition of travel restrictions by governments in their efforts to stem the spread of the virus in their own territories. To cushion the impact of the pandemic on the economy, Thai authorities have rolled out several measures to spur domestic tourism and revive international travel, including the implementation of the "Phuket sandbox" scheme. Given the changing global tourism landscape, the authorities are also repositioning the tourism sector to address challenges ahead in the post-pandemic new normal. This selected issue assesses the impact of the pandemic on travel and tourism sectors and their prospects. It also reviews the authorities' effort to support these sectors.

A. Introduction – Travel and Tourism in Thailand

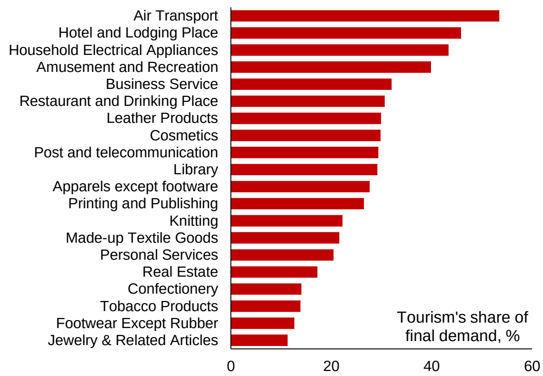
2. The travel and tourism sectors are crucial to Thailand's growth and employment, and have strong linkages with other industries in the economy. The pandemic has severely affected Thailand's economy. Among the ASEAN+3 economies, it is one of the most reliant on travel and tourism for growth and employment, which are estimated at 19.7 percent of GDP and 21.4 percent of total employment in 2019, respectively (Figure A1.1). Businesses in other sectors which have significant links with travel and tourism have also been severely impacted. For example, more than 30 percent of final demand in the amusement and recreation, business service and restaurant sectors are derived from foreign tourist spending (Figure A1.2), making these sectors sensitive to the downturn in tourism.

Figure A1.1. Contribution of Travel and Tourism to GDP & Employment, 2019



Source: World Travel and Tourism Council

Figure A1.2. Share of Tourism Revenue by Sector



Source: Office of the National Economic and Social Development Input-Output Tables (2015), AMRO staff estimates

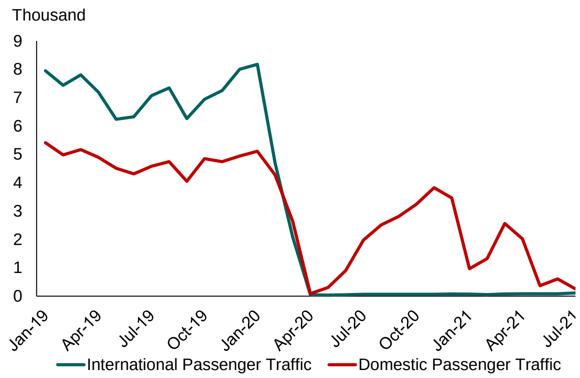
B. Impacts of the COVID-19 Pandemic on Travel and Tourism Sectors in Thailand

3. The COVID-19 pandemic, as well as the measures taken to curtail its spread, have resulted in a sharp contraction in tourism activities. Foreign tourist arrivals declined by 99 percent y-o-y in April 2020 and remained low for the rest of 2020 and 2021-to-date due to the COVID-19 outbreak and the blanket entry ban imposed on most foreigners since March 2020.

[28] Prepared by Justin Lim Ming Han, Economist

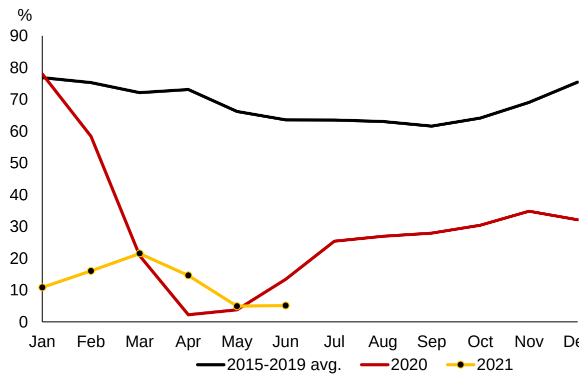
Domestic tourism activities also plummeted following the declaration of the state of emergency in March 2020. Although domestic tourism started recovering as local infection was contained, social distancing measures were eased, and measures were rolled out to boost domestic tourism in 2H 2020, a spike in locally-transmitted cases since early-2021 has led to the re-imposition of containment measures and delayed its recovery (Figure A1.3). Hotel occupancy rates, which were improving in H2 2020, have also fallen to a level that is similar to that of the initial pandemic wave, due to the massive third wave of infections (Figure A1.4).

Figure A1.3. International and Domestic Tourism Arrivals



Source: Tourism Authority of Thailand

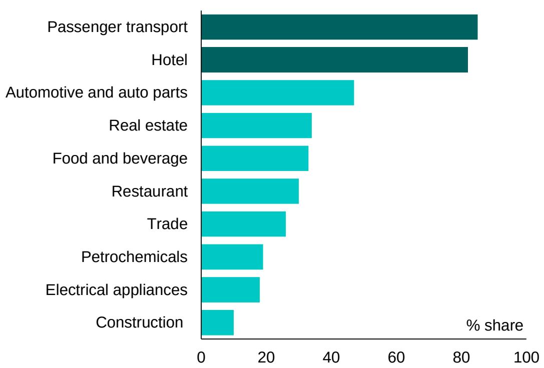
Figure A1.4. Nationwide Average Hotel Occupancy Rates



Source: BOT

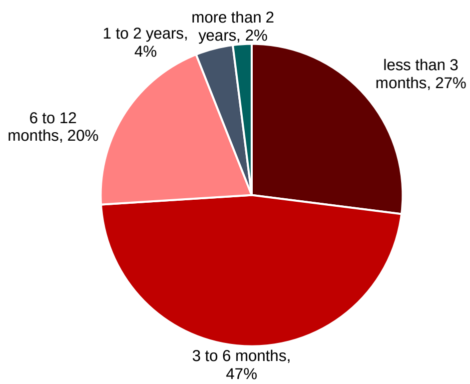
4. Businesses and workers in these sectors have been facing significant challenges amidst the recurrent waves of outbreaks. Reflecting poor business confidence in the tourism sector, survey findings by the Tourism Council of Thailand showed that less than half of the tourism-related businesses remained open as of mid-2021 (TCT, 2021). In addition, out of the roughly 4 million people employed in the travel and tourism industries, only 52 percent still had a job as of Q2 2021 compared with the pre-pandemic period. Wages in these sectors had also declined by an average of 35 percent, with 60 percent of businesses paying no more than half of the workers' full salaries (TCT, 2021).

Figure A1.5. Proportion of SMEs Likely to Face Liquidity Problems in Next 2 Years



Source: BOT

Figure A1.6. Remaining Cash Buffers of Tourism Businesses by Duration



Source: Tourism Council of Thailand

5. A large share of tourism businesses are facing significant short-term liquidity problems as well as solvency risks. BOT's assessment showed that SMEs in the tourism sector are more prone to liquidity and solvency risks due to the slow recovery (Figure A1.5).

In particular, nearly 85 percent and 82 percent of SMEs in the passenger transport and hotel businesses respectively were expected to encounter liquidity problems in the next two years compared with SMEs in other business segments, and would very likely result in business closures and further job losses if the pandemic situation deteriorates further (BOT, 2020). Similarly, TCT's survey also showed that viable tourism businesses are severely cash-constrained (Figure A1.6). In Q2 2021, about a quarter said that their cash buffers would be sufficient for less than three more months of operations, while another 50 percent said they might last between the next three to six months (TCT, 2021).

C. Measures to Boost Domestic Tourism and Revive International Travel

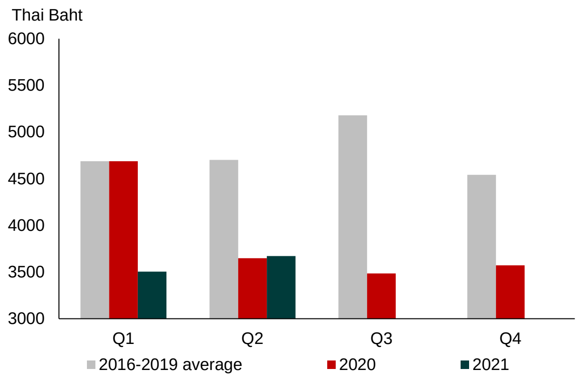
6. The authorities have introduced two schemes, We Travel Together and Packaged Tour, to support domestic tourism (Table A1.1). These schemes, which subsidized up to 40 percent of travel-related expenses by domestic travelers, aim to sustain the livelihood of the tourism businesses amidst strict international travel restrictions. Based on authorities' estimates, more than 10 million domestic travelers have participated in the We Travel Together scheme since its launch in July 2020, generating about THB 15 billion and THB 8 billion in revenues for the hotel and restaurant sectors, respectively. Nevertheless, despite the steady participation in these schemes, each Thai traveler has been spending less on average since Q2 2020, reflecting in part the weaker consumer sentiment and aversion to travel during the pandemic (Figure A1.7).

Table A1.1. Measures to Stimulate Domestic Tourism Spending

No.	Scheme	Details	Amount (THB bn)
1	We Travel Together (Rao Thiao Duai Kan)	Subsidize accommodation, food, airfare and attraction expenses	22.4
2	Packaged Tour (Tour Thiao Thai)	Boost domestic packaged tours	5.0

Source: AMRO staff compilation

Figure A1.7. Spending per Thai Traveler

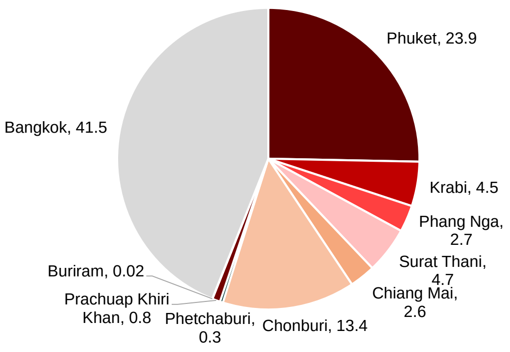


Source: Ministry of Tourism and Transport, AMRO staff estimates.

7. A pilot "Sandbox" scheme was introduced to allow vaccinated foreign tourists to travel quarantine-free to 10 selected provinces. These providences are slated to reopen progressively to vaccinated foreign tourists as each province achieves full vaccination of more than 70 percent of its population. The pilot program started with the launch of the "Phuket Sandbox" on July 1 2021, followed by the "Samui Plus Sandbox" on July 15 2021, and then the remaining provinces by Q4 2021. Given that these 10 pilot provinces accounted for nearly 95 percent of total foreign tourism receipts before the pandemic, a successful rollout of this scheme could catalyze tourism recovery in Thailand (Figure A1.8).

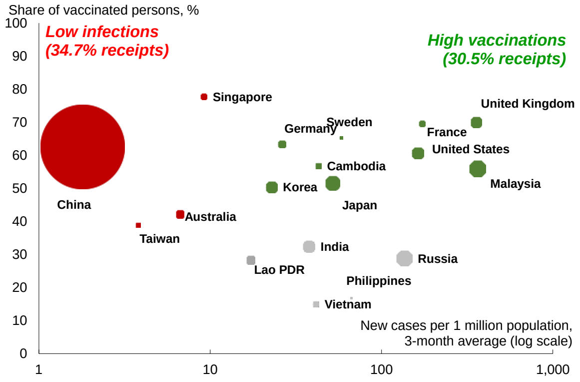
8. The authorities are also in the midst of forming travel bubble arrangements with Thailand's main source country of tourism. Travel bubble arrangements, which can facilitate smoother travel between Thailand and these countries, could be pivotal in ensuring the success of the Sandbox schemes. In particular, potential travel bubbles with regional countries that have both low infections rates such as Australia, China, Singapore and Taiwan can unlock the equivalent of one-third of foreign tourism receipt recorded in 2019. Other forms of travel arrangements with countries that have high vaccination rates, such as the United States, major European and regional countries including Korea and Japan, can potentially reap an additional 30.5 percent of 2019 foreign tourism receipt (Figure A1.9).

Figure A1.8. Share of Foreign Tourism Receipts of the 10 Pilot Provinces, 2019



Source: Ministry of Tourism and Transport, AMRO staff estimates.

Figure A1.9. Vaccination Pace and New Daily Infections of Thailand's Main Sources of Foreign Tourism Receipts



Source: Ministry of Tourism and Transport, John Hopkins University, Our World in Data, AMRO staff estimates

Note: The size of the bubbles denote the shares of foreign tourism receipt in 2019.

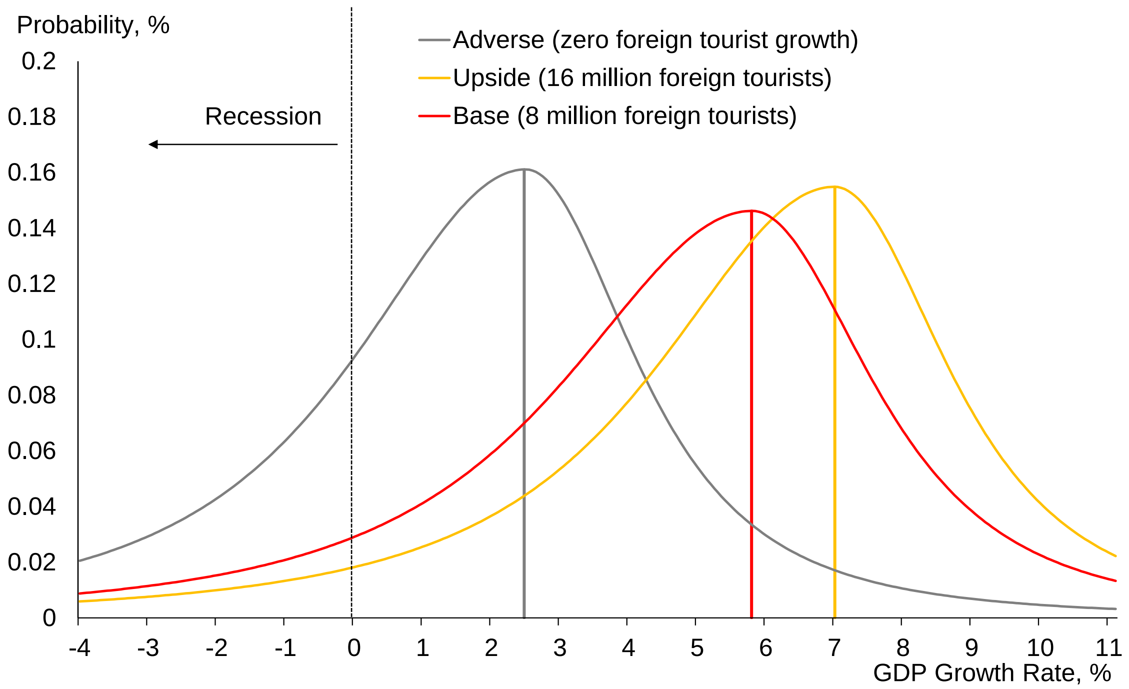
D. Assessing the Tourism Sector's Near-Term Recovery Prospects and Impact on Growth

9. Fresh outbreaks and slow progress in the rollout of vaccines in Thailand, along with the continuation of strict border restrictions in many countries have further delayed the tourism sector's recovery in 2021. Despite the measures introduced to boost tourism, Thailand's slow vaccines rollout and sharp rise in infections due to the more transmissible Delta variant have significantly curtailed domestic tourism in 2021 and slowdown the recovery in foreign arrivals. In addition, Thailand has yet to successfully establish air travel bubble with its main tourism source countries, and the continued tight border restrictions in these countries would discourage their vaccinated residents from traveling to Phuket and the other pilot provinces. As a result, domestic and international tourism activities in Thailand remained subdued in H1 2021 and are expected to be weak in H2 2021 as well.

10. The resumption of foreign tourist arrivals is a key determining factor of Thailand's recovery in 2022, as AMRO's growth-at-risk analysis shows. Given the significant uncertainties surrounding the pandemic and the pace of vaccines rollout in Thailand and abroad, AMRO's growth-at-risk analysis suggests that Thailand's growth in 2022 could remain weak under the adverse scenario of foreign tourist arrivals remaining low and unchanged from 2021 (Figure A1.10). Under the baseline scenario, GDP could expand by 5.8 percent if 8 million foreign tourists were to travel to Thailand, a figure which is premised upon Thailand's ability to achieve herd immunity in 2022, maintaining a well-controlled pandemic situation domestically, and on continuing steady efforts in global vaccination. Foreign tourist arrivals could resume faster in the upside scenario if Thailand successfully forms travel bubble with a few of its main sources of tourism– particularly China – or where a larger number of countries unilaterally relax travel curbs for vaccinated travelers.

11. Given the elevated risk of a resurgence of the pandemic, authorities should continue to take a measured approach in reopening the country safely to foreign tourists. Notwithstanding the stronger growth prospects that could be achieved from an accelerated nationwide reopening to foreign tourists, the probabilities of a recession and tail risks to growth in 2022 under different scenarios are not insignificant (Figure A1.10). This is because the risk of an abrupt and widespread resurgence of infections – stemming from such a reopening – could derail and prolong tourism recovery, especially if the pandemic spread rapidly and triggers strict cross-border travel restrictions and containment measures anew. Given the significant uncertainties over the pandemic globally and the efficacy of vaccines, authorities are encouraged to continue reopening the country to foreign tourists in the coming months in a phased and gradual approach, which is contingent upon achieving certain vaccination targets at the provincial and national levels. The ability to maintain a well-controlled pandemic situation domestically is also crucial in promoting to foreigners Thailand's appeal as a safe travel destination.

Figure A1.10. Conditional Distribution of Real GDP Growth Forecast for 2022 Under Different Scenarios



Source: AMRO staff calculations using the Excel-based tool in Prasad et al (2019). "Growth at Risk: Concept and Applications in IMF Country Surveillance".

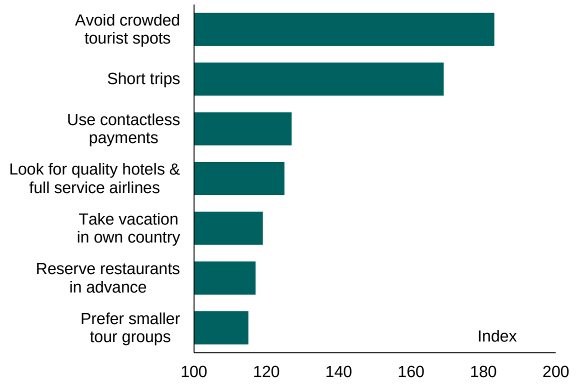
Note: The Growth-at-risk (GaR) methodology is applied to assess the uncertainties surrounding Thailand's growth forecast based on several foreign tourist arrival scenarios. Using a set of economic and financial indicators, the GaR approach links current macroeconomic and financial conditions to derive a range of future real GDP growth including the adverse scenario. For Thailand, the set of variables is aggregated into seven main groups using principal component analysis based on quarterly data from Q1 2006 to Q2 2021. The seven partitions are: 1) domestic financial conditions – BOT's policy interest rate, inflation and equity market capitalization growth; 2) leverage – credit growth, NPL ratio and loan-to-deposit ratio; 3) GDP growth of main trade partners – China, United States, EU and Japan; 4) global financial conditions - CBOE Volatility Index, Federal funds rate and the U.S. 10-year treasury yield; 5) foreign tourist arrivals; 6) domestic tourist arrivals; and 7) external sector - USD/THB bilateral exchange rate and NEER. The conditional density forecast for future growth is estimated using quantile regressions, which is then used to derive the probability distribution for GDP growth in 2022.

E. Repositioning the Tourism Sector in the New Normal

12. Post-pandemic, tourists' preferences may shift towards greater emphasis on health, hygiene, sustainability and niche travel. Owing to the pandemic, travelers have become more concerned about the health and hygiene standards when deciding on which countries they would like to visit (PATA, 2020). In addition, the latest research from Bookings.com (2021) shows that about 61 percent of travelers would want to travel more sustainably in the future.

Additional survey findings by Surawattananon et al (2021) also indicate that tourists are shifting from mass to niche travel – preferring less crowded areas and smaller tour groups – and are undertaking shorter trips and using digital technologies to make contactless payments (Figure A1.11).

Figure A1.11. Survey of Tourist's Holiday Planning After COVID-19 (pre-COVID = 100)



Source: Ministry of Tourism and Sports, Surawattananon et al (2021).

Figure A1.12. Thailand's Performance in Travel and Tourism Competitiveness Index, 2019

Source: World Economic Forum

13. Several tourism issues in the tourism sector would need to be addressed for Thailand to benefit from these shifts in travelers' preferences. Thailand's tourism sector, which has thrived based on its appeal as a low-cost and mass-market destination, would face challenges in light of these shifts. This is because despite its strong tourism competitiveness compared to other countries, Thailand's rank relatively low in areas that would underpin tourism demand in the coming years, such as environmental sustainability, safety and security, and health and hygiene (Figure A1.12). As such, concerted policy efforts would be crucial to improve public safety, raise health and hygiene standards, promote wider technological adoption among tourism operators and prioritize environmentally friendly tourism activities, so as to facilitate the sector's transition to the post-pandemic new normal.

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Surawattananon N., Reancharoen T., Prajongkarn W., Chunanantatham S., Simakorn Y. and Gultawatvichai P. (2021). *Revitalizing Thailand's tourism sector: In search of enablers for future sustainability.* Bank of Thailand and VISA White Paper.

2. Medium-term Debt Sustainability[29]

Background

1. **Thailand's public debt has significantly increased during the COVID-19 pandemic.** Before COVID-19 broke out, Thailand's public debt was relatively stable at around 40 percent of GDP from FY2005 to FY2019. After the onset of the pandemic, public debt increased significantly to 49 percent in FY2020.[30] As of July 2021, it stood at 56 percent, mainly due to a significant drop in nominal GDP and an increase in the fiscal spending and relief packages needed to respond to the COVID-19 crisis. As of July 2021, 88 percent of public debts were in the form of government bond issuances, while debt incurred by state enterprises accounted for about 9 percent.

2. **Despite the pandemic, Thailand's public debt remains manageable and is generally assessed to be of a sound structure**. As of July 2021, public debt remained below the latest self-imposed debt ceiling of 70 percent of GDP set under the government's Fiscal Sustainability Framework. By instrument type, 94 percent of the total public debt was long-term debt with a low rollover risk; while by remaining maturity, long-term debt covered 87 percent of the total debt. Most public debt is domestic and denominated in the local currency, accounting for 98 percent of the total public debt. In terms of sovereign credit risk, both credit default swap spreads and sovereign credit ratings are also sound. Credit rating agencies (Fitch, Moody's, and S&P) affirmed a stable outlook for Thai sovereign debts by giving them ratings with a BBB+ or Baa1.[31]

3. **That said, the government's funding needs have increased significantly and could rise further as a result of the on-going COVID-19 pandemic**. Thailand's Public Debt Management Office (PDMO) estimated that the funding needs for FY2021 and FY2022 would reach THB2.35 trillion and THB2.42 trillion, respectively, increased from THB1.76 trillion in FY2020. For FY2023, the funding needs are estimated to decrease to THB2.03 trillion, given that funding for policy responses to COVID-19 will no longer be required.[32] The heightened funding needs in the immediate future from conventional annual budget deficit and COVID-19 related debt financing has raised concerns about the projected public debt profile in the short to medium term, particularly the slow pace in which the public debt to GDP ratio reverts to the pre-COVID-19 level.

Baseline Projection

4. **This study assesses Thailand's public debt using a conventional debt sustainability framework.**[33] Under a baseline scenario that assumes a gradual economic recovery path from the COVID-19 pandemic, real GDP growth is expected to rebound to 0.8 percent in 2021 and 5.8 percent in 2022 and then stabilize at around 3.3 percent in 2023-2025. The scenario also assumes stable interest rates and exchange rates, reflecting sustainable macroeconomic

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[29] This selected issue is prepared by Andriansyah.
[30] Thailand's public debt consists of government debt, non-financial state enterprise debt, special financial institution guaranteed debt, Financial Institutions Development Fund debt, and government agency debt. The latter government agency debt covers the Energy Fund Administration Institute, and the National Village and Urban Community Fund.
[31] For example, on 18 June 2021, Fitch assessed that Thailand has strong public and external finance, reflecting the confidence in Thailand's good track record in managing its public finances.
[32] Tentative figures based on the PDMO's presentation to the AMRO team on June 28, 2021.
[33] This study uses the simplified IMF's DSA (2013) by assuming the primary deficit only reflects the government budgetary primary balance and the off-budget COVID-19 spending as other debt creating flows.

performance in the medium term. Other factors considered in the study include moderate fiscal consolidation efforts similar to the Thai government's medium-term fiscal policy framework for 2022-25 (Table A2.1). We also assume that the government will borrow THB665 billion under the THB1 trillion loan decree and THB145 billion under the THB500 billion loan decree in FY2021.[34]

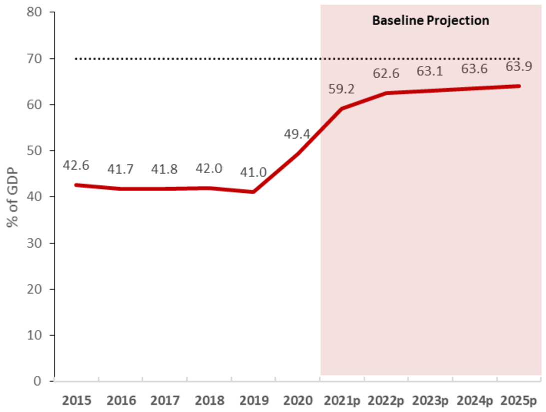
5. **Under the baseline scenario, the public debt is estimated to reach about 59 percent of GDP in FY2021 and exceed 62 percent in FY2022 (Figure A2.1).** The primary balance and real GDP growth are the main drivers of the overall public debt dynamics. In contrast, the real interest rate contributes moderately, while the exchange rate contributes minimally to the debt dynamics (Figure A2.2). The on-budget gross financing needs are expected to increase substantially in 2021 due to the primary deficit and interest payments and then gradually decrease in the medium-term (Figure A2.3).[35] The debt burden will remain elevated in the medium term in line with the increase in the debt ratio.

Table A2.1. Macroeconomic and Fiscal Assumptions—Baseline

	2021	2022	2023	2024	2025
Real GDP growth (% change)	0.8	5.8	3.6	3.0	3.2
GDP deflator (% change)	1.3	1.5	1.6	1.6	1.6
Effective interest rate (%)	2.1	2.1	2.0	2.0	2.0
Exchange rate (THB/USD)	31.7	30.7	30.7	30.7	30.7
Primary balance (% of GDP)	-4.7	-2.6	-2.4	-2.1	-2.1

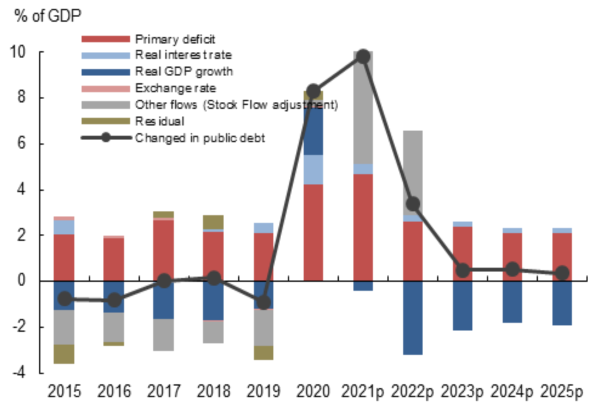
Source: AMRO staff calculations.

Figure A2.1. Debt to GDP ratio—Baseline
(Percent of GDP)



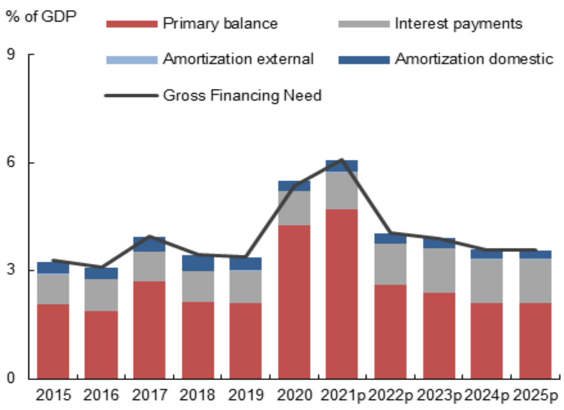
Source: PDMO, AMRO staff calculations.

Figure A2.2. Debt Creating Flows



Source: PDMO AMRO staff calculations.

Figure A2.3. Gross Financing Needs Dynamics



Source: PDMO, AMRO staff calculations.

[34] The Thai government issued a THB500 billion loan decree in May 2021, following a THB1 trillion emergency loan decree issued last year. These decrees allow the Ministry of Finance to secure loans totaling THB1.5 trillion to finance the programs to alleviate social and economic impacts of COVID-19. The government disbursed THB336 billion under the THB1 trillion decree in FY2020.
[35] The1 trillion loan and TH500 billion loan are off-budget measures. The fiscal balance and gross financing needs that are used in this selected issue exclude the off-budget measures.

Macro-Fiscal Risks – Stress Tests

6. **We follow AMRO (2021)'s key assumptions for growth scenarios in constructing upside and adverse scenarios.**[36] Under the upside scenario, Thailand's economic growth is assumed to be 7.1 percent, and the primary deficit would also be assumed to narrow to -2.4 percent of GDP in FY2022 (Table A2.2). Meanwhile, under the adverse scenario, the economy grows by 4.5 percent, and the primary deficit would widen to -3.1 percent of GDP in FY2022 (Table A2.3). We also add a scenario where the government might need an additional THB500 billion loan in FY2022 under the baseline scenario.

Table A2.2. Macroeconomic and Fiscal Assumptions—Upside Scenario

	2021	2022	2023	2024	2025
Real GDP growth (% change)	0.8	7.1	3.4	3.0	3.2
GDP deflator (% change)	1.3	1.5	1.6	1.6	1.6
Effective interest rate (%)	2.1	2.1	2.0	2.0	2.0
Exchange rate (THB/USD)	31.7	30.7	30.7	30.7	30.7
Primary balance (% GDP)	-4.7	-2.4	-2.2	-1.9	-1.8

Source: AMRO staff calculations.

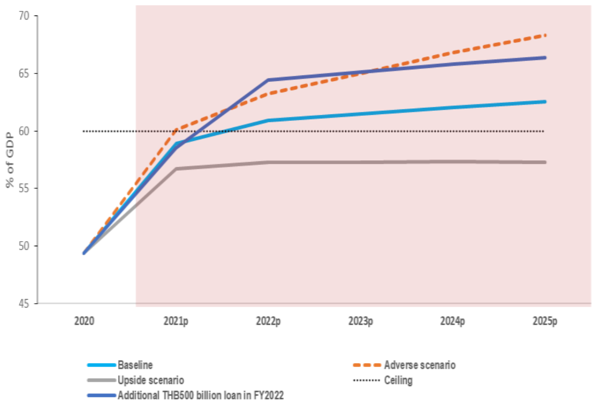
Table A2.3. Macroeconomic and Fiscal Assumptions—Adverse Scenario

	2021	2022	2023	2024	2025
Real GDP growth (% change)	0.8	4.5	3.1	2.5	2.7
GDP deflator (% change)	1.3	1.5	1.6	1.6	1.6
Effective interest rate (%)	2.1	2.1	2.0	2.0	2.0
Exchange rate (THB/USD)	31.7	30.7	30.7	30.7	30.7
Primary balance (% GDP)	-4.7	-3.1	-3.0	-2.8	-2.9

Source: AMRO staff calculations.

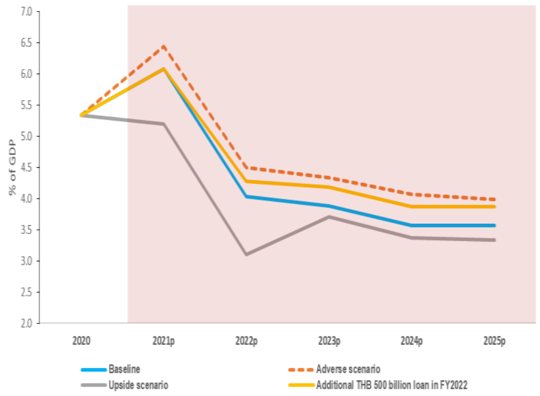
7. **Under the upside scenario, public debt would remain below 65 percent of GDP until 2025 (Figure A2.4).** Public debt is estimated to increase from 59.2 percent in FY2021 to 61.7 percent in FY2022[37] and then edge up to 62-63 percent until FY2025. This scenario would see gross financing needs reduced in FY2022 and stabilized at 3.5 percent in FY2023-2025.

Figure A2.4. Debt to GDP ratio: Alternative Scenarios
(Percent of GDP)



Source: PDMO, AMRO staff calculations.

Figure A2.5. Gross Financing Needs: Alternative Scenarios
(Percent of GDP)



Source: PDMO, AMRO staff calculations.

8. **However, public debt would rise sharply under the adverse scenario and reach around 64 percent of GDP in FY2022 and further to 68 percent in FY2025**. Negative shocks to the primary balance and growth are more likely to materialize than other shocks,

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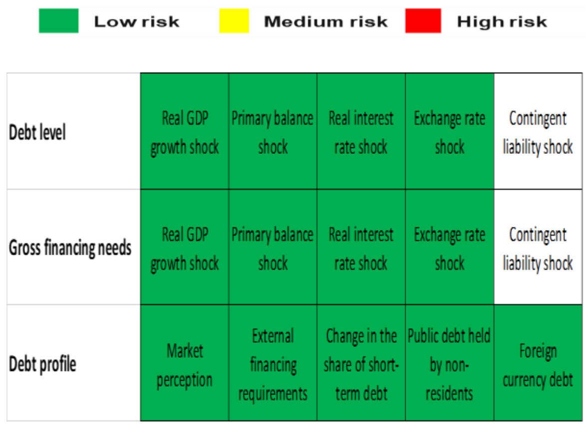
[36] An upward scenario is defined as the vaccination programs receive high public take-up and are rolled out smoothly and quickly, as well as when scarring in corporate balance sheets is limited and manageable. Meanwhile in a downside scenario, it assumes a sharp resurgence of COVID-19, prolonged social distancing, widespread bankruptcies, and deeper-than-expected economic scarring.
[37] The FY2022 projection is lower than TMOF's projection of 62.6 percent of GDP.

mainly when there is a need to borrow more to manage the pandemic. The gross financing needs under the adverse scenario will also increase (Figure A2.5). Under the additional THB500 billion loan scenario, public debt will reach 66 percent of GDP in FY2022.

Assessment

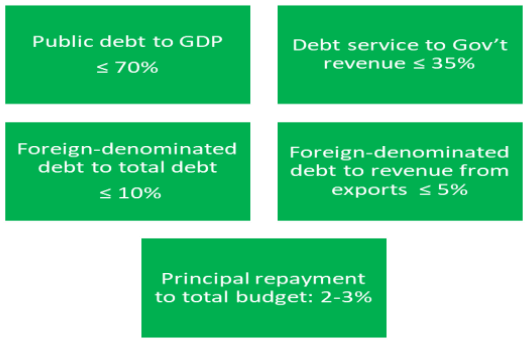
9. **In the short term, an expansionary fiscal policy is warranted to respond to the economic impacts of the COVID-19 pandemic**. Based on the standard stress tests, the heat map shows that the debt level has a medium risk of exceeding 60 percent of GDP but still well below the new 70 percent ceiling (Figure A2.6 and Figure A2.7). Short-term debt as a proportion of total debt rose 0.94 percent from 5.2 percent in September 2020 to 6.13 percent in July 2021. We support the recent step taken by the authorities to increase the public debt ceiling from 60 percent to 70 percent of GDP. Under the current regulations, the debt management indicators could be changed if required.[38] This increase will ease the constraint on the authorities' policy responses to the COVID-19 pandemic. That said, efficient communication with the market is needed to maintain market confidence in fiscal soundness.

Figure A2.6. Risk Assessment



Source: PDMO, AMRO staff calculations.

Figure A2.7. Fiscal Sustainability Framework



Source: PDMO, AMRO staff calculations.

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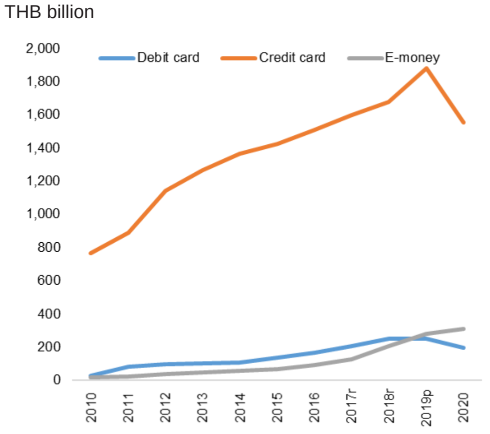
[38] State Fiscal and Financial Discipline Act BE 2561 (2018) states that the ratios shall be revised at least every three years and a report thereon shall also be given to the Council of Ministers for information. In addition, the Act also stipulates that the Ministry of Finance shall report the actual debt ratio to the Council of the Ministers and the Commission every six months. In the case where the administration of public debts is unable to be conducted in accordance with the ratios prescribed, the Minister shall report to the Council of Ministers reasons therefor and methods as well as a period of time to be consumed for turning such ratios into the prescribed limit.

3. E-money in Thailand: Recent Developments, Regulatory Framework, and Monetary Policy Implications[39]

Recent Developments

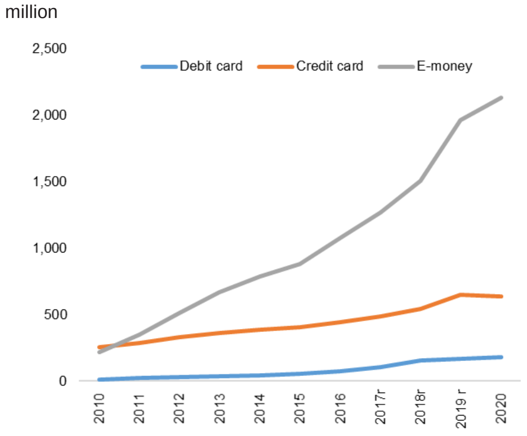
1. E-money has emerged as an increasingly popular means of payment, in particular, amid the COVID-19 pandemic. In terms of value, bank-issued cards, in the form of credit and debit cards, still account for the lion's share of retail electronic transactions, representing 85 percent of total value in 2020 (Figure A3.1). However, in terms of number of transactions, e-money has eclipsed credit and debit cards in recent years, accounting for 72 percent of total retail electronic transactions in the same period (Figure A3.2). More recently, the COVID-19 outbreak has further boosted the popularity of e-money, to the detriment of bank-issued cards.

Figure A3.1. Total Value of Retail Electronic Transactions (Annual)



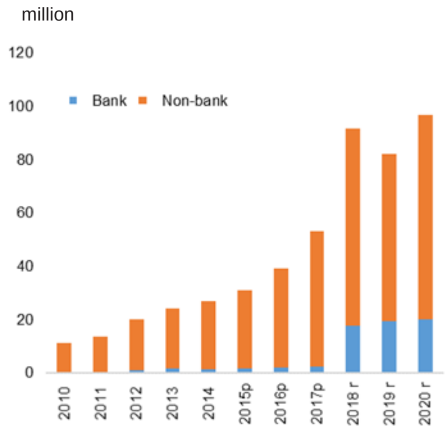
Source: BOT, CEIC, and AMRO calculations

Figure A3.2. Total Number of Retail Electronic Transactions (Annual)



Source: BOT, CEIC, and AMRO calculations

Figure A3.3. E-money accounts by type of issuer (Annual)



Source: BOT, CEIC, and AMRO calculations

2. Unsurprisingly, the majority of e-money issuers are non-bank institutions wishing to capture a slice of the payment market traditionally dominated by banks, although banks

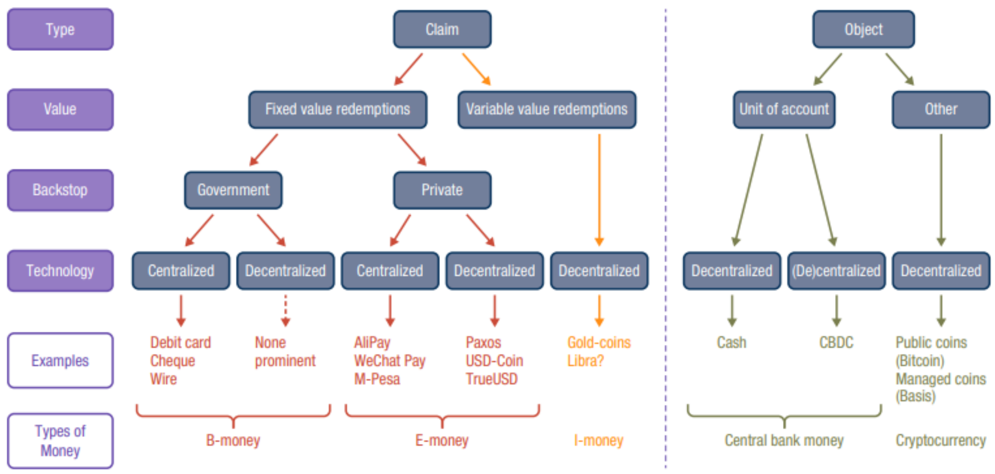
[39] This selected issue is prepared by Jade Vichyanond.

have joined the fray in recent years. As of 2020, 81 percent of the e-money accounts are those with non-bank-issued e-money, and 89 percent of the total value of e-money transactions were conducted through non-bank-issued e-money (Figure A3.3).[40] In a bid to remain relevant in the provision of payment services, many banks in Thailand have begun issuing their own e-money since 2018.[41]

Concepts and Risks

3. E-money is a fixed-value claim with a private backstop. To understand the implications of e-money on the economy, it is useful to understand the nature of e-money compared to other types of money, as illustrated by what is commonly referred to as a money tree (Figure A3.4).[42] In contrast to some types of money, such as cash or central bank digital currency (CBDC) that can be considered as an object (physical or virtual), e-money is a claim. In terms of value, similar to bank deposits, the value of e-money is fixed, as opposed to some types of money with variable value such as Bitcoin or Libra. However, e-money differs from bank-issued money, or "b-money," (such as bank deposits) in that it has a private backstop (largely in the form of the e-money issuer's prudent business practice and legal frameworks), whereas b-money has a government backstop, in the form of deposit insurance as well as the central bank's role as a lender of last resort. Lastly, e-money transactions may be centrally processed, as is the case for most types of e-money currently in use, or decentralized, as is the case for certain types of e-money such as Paxos or TrueUSD.

Figure A3.4. Money Tree



Source: Adrian and Mancini-Griffoli (2019)

4. Market risk, liquidity risk, and fraud risk are some of the key risks facing an e-money issuer. An e-money issuer's balance sheet primarily consists of funds it has received from customers and other assets on the asset side and e-money balances and capital on the liability side. As such, one of the main risks is what is usually referred to as market risk, i.e. volatility in the value of assets. Liquidity risk constitutes another key risk facing e-money issuers, which need to have adequate funds to meet redemption requests. In addition, e-money issuers have to manage fraud and other cyber risks sufficiently well to ensure security for customer funds and transactions.

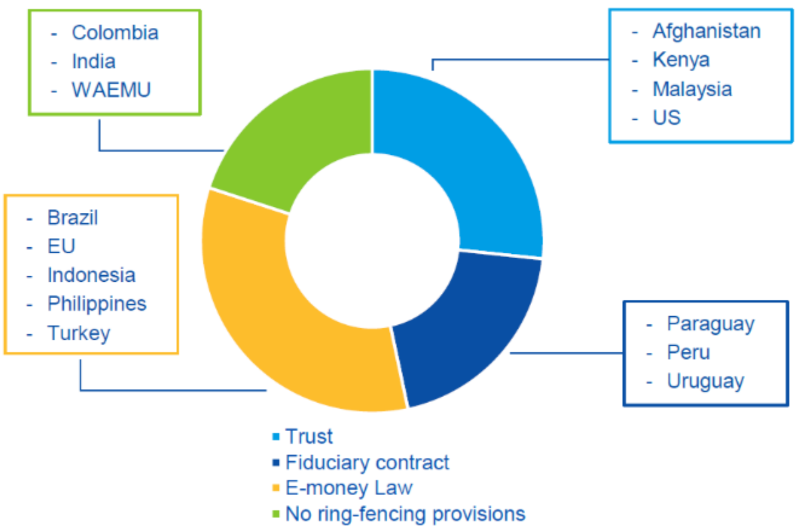
[40] Out of 30 e-money issuers in Thailand, 23 are non-bank companies.
[41] Other regional countries, such as Indonesia, have also experienced similar levels of growth over the past few years.
[42] See Bech and Garratt (2017) and Adrian and Griffoli (2019) for more details on the taxonomy of money.

5. A number of regulatory requirements are thus essential in containing risks associated with e-money. As suggested by Adrian and Mancini-Griffoli (2019), a prudent regulatory framework is one that makes e-money resemble a currency board. First, assets backing e-money should be invested in safe and liquid assets, such as cash, government securities, or central bank reserves. Second, the amount of e-money created should not exceed the funds e-money issuers receive from customers; in other words, e-money issuers should not be allowed to act like commercial banks as far as money creation is concerned.[43] Third, assets backing e-money should be unencumbered (i.e. not pledged as collateral for loans) and kept in an account that backs e-money balances, separate from other accounts belonging to e-money issuers (e.g. accounts for their other lines of business). Lastly, e-money issuers should have adequate capital to cushion market losses and ensure that they can fully meet redemption requests.

Regulatory Framework[44]

6. In Thailand, e-money's market and liquidity risks are relatively low, as funds are required to be placed in full in relatively safe and liquid assets. The funds are to be deposited at commercial banks or specialized financial institutions (SFIs) and, at any time, shall not be less than the outstanding balance of e-money. As the requirement implies full backing of e-money balances, it effectively prevents the type of money creation that banks perform. In fact, BOT's e-money regulation states explicitly that e-money service shall not have the same characteristics as credit extension. Thus, Thailand is similar to most countries as far as the type of assets in which e-money issuers are allowed to invest. A study by Olivero and Pacheco (2016) shows that most countries require 100-percent backing of e-money balances in the form of safe and liquid investments, for the most part, as deposits in commercial banks.[45]

Figure A3.5. Ring-Fencing Mechanisms



Source: Olivero and Pacheco (2016)

7. Consumer protection is also prioritized in Thailand, with funds required to be unencumbered and kept in a separate account (i.e. ring-fenced). The BOT requires that

[43] See, for example, Werner (2014) for more details on how banks generate money in practice.
[44] See BOT's Regulation No. 7/2561 for details on the regulation.
[45] A number of countries also require a certain degree of diversification, stipulating that a fraction of funds be invested in other safe and liquid assets such as government securities, as is the case in Peru and Brazil. The European Union, however, stands out in not requiring 100-percent backing in bank deposits or government securities, as long as the funds are covered by private insurance.

the funds be free from any obligation other than settlement relating to the provision of e-money services (i.e. unencumbered). In addition, the funds are to be kept separately from other working capital of the e-money issuer and deposited separately from the provider's other deposit accounts. As such, Thailand is similar to the rest of the world regarding ring-fencing. Most countries with e-money regulations have some form of ring-fencing mechanism to separate the assets backing e-money from other accounts belonging to the e-money issuer (Figure A3.5). In common law countries, the concept of trust is a popular method of ring-fencing, used in, for example, the US and Malaysia. In civil law countries, however, methods vary but the e-money regulation usually requires ring-fencing of some form.

8. However, e-money capital requirements in Thailand take a different form from those of many countries. In some countries, besides requirements on initial capital, there are no requirements on ongoing capital.[46] When there are such requirements, they generally take the form of a percentage, usually around 2-3 percent, of e-money balances. In contrast, for e-money issuers in Thailand, besides requirements on initial capital, required ongoing capital is 100 percent of the initial capital at the end of each quarter (i.e. regardless of the value of e-money balances).

Implications for Monetary Policy

9. In general, the effect of e-money on base money is likely to be limited, at least in the short run, while the effect on broad money largely depends on regulations on how e-money balances are backed. Base money may be affected to the extent that demand for e-money replaces demand for cash. Since the replacement is likely a slow process, the decrease in base money due to the decline in cash in circulation should be limited, at least in the short run. Meanwhile, broad money (widely defined to include e-money) can be affected by e-money issuance depending on what e-money issuers are allowed to do with the funds (i.e. non-e-money) that they receive in exchange for e-money balances. For example, if the funds received by e-money issuers are legally required to be put into accounts at commercial banks only for the purpose of backing e-money balances, then such funds are no longer in circulation.[47] In such cases, broad money is left unchanged, as the increase due to e-money issuance is fully offset by the decrease in the backing funds leaving circulation. If, however, e-money issuers are allowed to invest in, say, government securities, the funds will be transferred to the sellers of those government securities, who may then use the funds for any economic transactions, in which case there is a net increase in broad money.

10. Consequently, the impact of e-money on monetary policy effectiveness depends on its effects on broad money. Since monetary policy effectiveness rests, among other factors, on the stability of the relationship between base money and broad money, and base money is little affected by e-money, maintaining monetary policy effectiveness entails keeping changes in broad money due to e-money, stable and predictable, i.e. e-money issuers' investment of backing funds should be closely monitored and regulated. By doing so, a large part of monetary policy transmission—from changes in base money (due to changes in banks' reserves at the central bank) to changes in broad money (due to banks' deposit creation)—can remain intact.

11. In addition, the impact of e-money on monetary policy effectiveness depends on the change in money velocity brought about by e-money. Compared to conventional forms of

[46] The implicit assumption is that requirements on the backing of e-money balances are sufficiently prudent.
[47] See Popovska-Kamnar (2014), for example, for further discussion of e-money's impact on monetary aggregates and monetary policy.

money such as cash or bank deposits, the velocity of e-money may be higher to the extent that e-money transactions are easier to facilitate. As e-money is increasingly becoming a common method of payment, the average velocity of the monetary aggregate can be expected to rise accordingly, at least in the short term. As has been suggested by Craig, Lindley, and Bergh (1996), the change in velocity could reduce monetary policy effectiveness, particularly in countries that use money supply as a policy target. In the medium to long term, however, the effectiveness may be restored as money velocity reaches a stable level.

12. Furthermore, over the longer term, widespread adoption of e-money may lead to a decline in seigniorage for the central bank. The magnitude of the decline depends on the extent to which e-money adoption results in a decrease in the central bank's interest-free liabilities (i.e. cash in circulation and any interest-free central bank reserves).[48]

13. In Thailand, the growth of e-money is likely to have very limited impact on money supply, while money velocity may increase with greater e-money adoption. Base money is affected to the extent that e-money replaces cash, but since cash is a relatively small fraction of base money, the impact of e-money on base money is likely to be small, at least in the short term. Meanwhile, the current requirement of 100-percent backing of e-money with unencumbered and ring-fenced deposits at banks or SFIs, implies that broad money is not affected by e-money issuances. Money velocity is expected to increase in tandem with increasing use of e-money due to the convenience of e-money transactions relative to other types of payment, which may reduce effectiveness of monetary policy in the short term.

Opportunities and Challenges

14. Business models of e-money issuers are varied, but the use of customer data for commercial purposes could be the most important source of revenue in the medium to long term. At present, the regulatory frameworks governing e-money issuers' latitude in asset allocation in Thailand, as with most countries in the world, is relatively strict, rendering earnings from their asset holdings relatively modest. Instead, transaction-based income is the major source of revenue, but it will likely decline going forward with greater competition in the field. Furthermore, discounts offered by e-money issuers to attract new customers have considerably eroded their income. As such, the use of customer data for commercial purposes has come to be seen as the main revenue generator going forward. In particular, considerable potential lies in the use of customer data for e-money issuers' other activities, such as the selling of financial products (such as insurance and investment products) through the existing platform and peer-to-peer (P2P) lending.

15. Among the main challenges facing e-money issuers in Thailand are the relatively strict regulatory framework and the complexity of permit applications. The requirement of full backing of e-money with deposits at banks or specialized financial institutions limits e-money issuers' ability to generate revenue through their asset holdings, although this restriction is to a certain extent justified and is also applicable in other countries. A greater obstacle is the process of permit applications, which can at times be confusing and complicated, making it difficult for e-money issuers to understand and comply with the requirements needed in order to expand their business activities beyond e-money issuance and payment processing, such as lending. Lastly, in practice, some recent initiatives by the

[48] If the central bank itself starts issuing a digital currency, such as CBDC, it can potentially reverse part of the loss in seigniorage revenue if the digital currency is non-interest-bearing.

authorities (e.g. PromptPay, which facilitates interbank transfers), are seen as favoring traditional players such as commercial banks at the expense of fintech companies.

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