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THAILAND ECONOMIC MONITOR

LIVING WITH COVID IN A DIGITAL WORLD

December 2021

WORLD BANK GROUP

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Preface

The Thailand Economic Monitor (TEM) reports on key developments in Thailand's economy over the past six months, situates these changes in the context of global trends and Thailand's longer-term economic trajectory, and updates Thailand's economic and social welfare outlook. Each edition of the TEM also provides an in-depth examination of selected economic and policy issues and an analysis of Thailand's medium-term development challenges. The TEM is intended for a wide audience, including policymakers, business leaders, financial-market participants, and the community of analysts and professionals engaged in Thailand's evolving economy.

The TEM is produced by the staff of the World Bank's Bangkok office, consisting of Kiatipong Ariyapruchya, Kim Alan Edwards, Jaime Frias (Task Team Leaders), Ruchira Kumar, Warunthorn Puthong, Thanapat Reungsri, Phonthanat Uruhamanon, Nadia Belhaj Hassine Belghith, Tanida Arayavechkit, Uzma Khalil and Dilaka Lathapipat. Birgit Hansl, Lars Christian Moller, Cecile Thioro Niang, Souleymane Coulibaly and Ronald Upenyu Mutasa provided overall guidance. The team is grateful to Kevin Chua, Ergys Islamaj, Smita Kuriakose and Ekaterine T. Vashakmadze for their constructive peer review comments. Clarissa Crisostomo David, Kanitha Kongrukgreatiyos and Buntarika Sangarun are responsible for external communications related to the TEM, as well as the production and design of this edition. Sean Lothrop edited the report.

This and other reports are available for download via: worldbank.org/tem

Previous editions of the TEM:

- July 2021: The long road to recovery
- January 2021: Restoring incomes; recovering jobs
- July 2020: Thailand in the time of COVID-19
- January 2020: Productivity for prosperity
- July 2019: Harnessing fintech for financial inclusion
- January 2019: Inequality, opportunity, and human capital
- April 2018: Beyond the innovation paradox
- August 2017: Digital transformation

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Abbreviations

ASEAN	Association of Southeast Asian Nations
BOT	Bank of Thailand
EAP	East Asia and the Pacific
EMDEs	Emerging markets and developing economies
FDI	Foreign direct investment
FY	Fiscal year
GDP	Gross domestic product
GEP	Global Economic Prospects Report
ILO	International Labour Organization
IMF	International Monetary Fund
NEER	Nominal effective exchange rate
NESDC	Office of the National Economic and Social Development Council
NPL	Nonperforming loan
REER	Real effective exchange rate
SMEs	Small and medium enterprises
TEM	Thailand Economic Monitor
UNCTAD	The United Nations Conference on Trade and Development
yoy	year-on-year

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EXECUTIVE SUMMARY

Recent Developments

A major surge in COVID-19 cases severely slowed economic activity in Thailand during Q3 of 2021, but a recovery is now underway. The Thai economy contracted by 0.3 percent year-on-year in Q3, and seasonally adjusted output fell by 1.1 percent from Q2 following modest growth in the first half of the year. Thailand's year-on-year contraction in Q3 was the third deepest among regional peers, after Vietnam (-6.2 percent) and Malaysia (-4.5 percent), while the Philippines and Indonesia registered strong growth.[1] Private consumption declined, and the consumption of durable goods was particularly weak. External demand also softened, and global supply-chain and logistics issues disrupted exports and imports of productive inputs. However, recent indicators suggest that activity rebounded in September and October, as the number of new COVID cases per day fell from a peak of over 20,000 in mid-August to an average of fewer than 8,000 by mid-November. Containment measures have been eased, and mobility now exceeds pre-pandemic levels. Meanwhile, indicators of private consumption, consumer confidence, and business sentiment have all ticked upward. Progress on vaccinations has accelerated since August, and the government is now on track to achieve its target of vaccinating 70 percent of the population by the end of the year.

The economy is expected to grow by 1.0 percent in 2021, unchanged from our previous projection published in October. This forecast reflects the persistent weakness in private consumption due to COVID-19 and the expectation that tourist arrivals will remain negligible through to the end of 2021 despite the recent reopening of international borders. On the other hand, goods exports have supported growth amid resurgent global demand, and investment is expected to increase rapidly. Cash transfers, public health initiatives, economic recovery programs, and other forms of fiscal support have helped shore up private demand while supporting consumption among vulnerable households and attenuating the impact of the crisis on poverty.

The current account remained firmly in deficit through the first three quarters of 2021. The goods trade balance continued to show a large surplus of 7.0 percent of GDP in Q3, but the services trade deficit widened from 3.1 percent of GDP in 2020 to 7.2 percent of GDP in the first half of 2021, largely reflecting the collapse of tourism receipts and rising freight costs. The combination of a widening current-account deficit and net outflows on the capital and financial accounts has caused the nominal and real effective exchange rates to depreciate since the end of 2020. However, improved investor confidence has spurred a modest appreciation since the end of September 2021. While international reserves have declined since the beginning of the year, they remain ample at around 10 months of imports and four times the level of short-term external debt.

While the headline inflation rate has risen, core inflation has remained contained, and the Bank of Thailand has maintained the policy rate at 0.5 percent to support the recovery. After dipping to zero in August, the headline inflation rate rose to 2.4 percent in October 2021, due largely to supply-side factors such as rising global oil prices and the impact of flooding on fresh-food prices. However, the core inflation rate remained low at 0.2 percent, and the surge in headline inflation is expected to be temporary due to a large negative output gap (estimated at around 5 percent of potential output) combined with well-anchored inflationary expectations. Thailand's experience contrasts with those of other emerging markets, such as the Philippines, Brazil, and Turkey, which are facing elevated inflationary pressures.

The financial system remains stable overall, but asset-quality indicators have deteriorated, and risks associated with increased levels of corporate and household debt remain significant. Capital and liquidity buffers at commercial banks remain well above regulatory requirements, and profitability has stabilized following a significant decline in 2020. However, forward-looking indicators of asset quality have deteriorated. By end-June 2021, the share of nonperforming loans (NPLs) had risen to 3.2 percent of total gross loans, and several of the financial-sector assistance measures introduced by the government may mask underlying vulnerabilities in loan quality. Risks associated with high levels of household debt—which had reached almost 90 percent of GDP at end-June 2021—may be exacerbated by a temporary easing of loan-to-value limits for mortgage lending, with borrowers able to borrow up to 100 percent of a house's value until the end of 2022. Financial weaknesses among small and medium enterprises (SMEs) also continue to pose risks. The NPL ratio among SMEs remained above 7 percent through the first three quarters of 2021, well above pre-COVID levels of 4.5-5.0 percent. The central bank has extended the SME soft-loan facility until the end of 2022, while several businesses have entered debt restructuring through asset-warehousing programs.

The central government fiscal deficit widened to 8.7 percent of GDP in FY21 due to further increases in pandemic-response spending, while public debt increased to 58.2 percent of GDP. As a share of GDP, revenue collection for the full year FY2021 was broadly in line with the last two years at 17.7 percent. On the other hand, spending rose to 26.4 percent of GDP, up from 23.5 percent in FY20 and an average of 20 percent in the three years FY17-FY19. Of the 1.5 trillion baht (9.3 percent of GDP) approved in off-budget borrowing to fund COVID-19 response, government disbursed THB 680 billion (4.2 percent of GDP) in FY2021, more than double the THB 300 billion disbursed in FY2020. The remainder is expected to be disbursed in FY2022. Almost all of the amount disbursed to date has been in the form of relief measures (recurrent spending) rather than capital spending, reflecting the impact of the second and third waves of COVID-19, which set back the timeline for economic recovery and extended the need for household relief beyond what was originally planned.

The poverty rate is estimated to have stabilized in 2021, but a recent phone survey indicates that the pandemic has had a particularly severe impact on vulnerable groups. After rising from 6.2 percent in 2019 to 6.4 percent in 2020, the poverty rate at the upper middle-income poverty line of 5.5 dollars a day (2011 PPP) has remained broadly unchanged in 2021. While an estimated 160,000 people have fallen into poverty since the onset of the pandemic, a comprehensive social and economic response effort has helped contain the increase in the poverty rate. In the absence of government intervention, the poverty rate would now be an estimated 1 percentage point higher, implying that the response effort prevented 700,000 people from falling into poverty. A rapid phone survey of 2,000 adults between April and June 2021 showed that over 80 percent of all households—and an even larger share of low-income households—benefitted from the government's emergency assistance programs. Nevertheless, 60 percent of low-income households reported running out of food. Reported coping mechanisms included reducing food and nonfood consumption, relying on government assistance, tapping savings, engaging in additional income-generating activities, and returning to agriculture in the face of rising urban unemployment.

Outlook and Risks

Economic activity is expected to return to pre-pandemic levels by end-2022, with continued progress on vaccinations and the resumption of tourist arrivals supporting the recovery. The GDP growth rate is projected to accelerate to 3.9 percent in 2022 and reach 4.3 percent in 2023, driven by a recovering service sector. If the current pace of vaccinations (about 750,000 per day) is maintained, and in the absence of a further resurgence of COVID-19, domestic consumer confidence and international tourist confidence are expected to strengthen. Given these conditions, private consumption is projected to expand by just under 4 percent per year in 2022 and 2023, up from an estimated 1 percent in 2021. The number of international tourists is projected to rise to almost 7 million in 2022, with a sharp increase in the second half of the year, before increasing further to around 20 million arrivals in 2023—still just half the 2019 level. Tourism is expected to contribute 2 percentage points to GDP growth in 2022 and 4 percentage points in 2023. The contribution of goods exports to GDP growth in 2022 is projected to be smaller than in 2021, reflecting softening global demand. Fiscal support is also expected to moderate, as most of the COVID response measures will have already been implemented.

[1] Growth rates are expressed in year-on-year terms unless otherwise indicated.

Inflation is expected to remain contained, with a substantial output gap persisting in 2021 and 2022. GDP is estimated to remain below potential in 2021 and 2022. The headline inflation rate is projected to remain low in 2022 and gradually rise to 1.3 percent in 2023, reflecting subdued domestic demand and a limited pass-through effect from global oil prices. Consumer-price inflation is unlikely to see a significant surge, with administered prices accounting for approximately one-third of the Consumer Price Index basket. Monetary policy is projected to remain accommodative to support the recovery, with the policy rate remaining unchanged at 0.50 percent in 2022.

While public debt is expected to increase, risks to fiscal sustainability remain manageable. As a result of the government's COVID-19 relief and recovery spending, the public debt stock is projected to peak at almost 62 percent of GDP in 2022, below the debt ceiling, which was recently raised from 60 to 70 percent of GDP. This debt trajectory remains consistent with medium-term fiscal sustainability under a range of scenarios for GDP growth rates, interest rates, and primary deficits over the next few years. Fiscal risks are also mitigated by the fact that the debt stock is largely denominated in local currency and by the availability of sufficient domestic liquidity to accommodate the government's refinancing needs.

Risks to growth are skewed to the downside, as several uncertain variables cloud the outlook. The global trajectory of the pandemic remains unpredictable, and the probability of future waves of COVID-19 within Thailand will depend on continued progress with the vaccination rollout, the effectiveness of vaccines against new strains of the coronavirus, the ongoing implementation of other preventive and testing/tracing measures, and the sustained reopening of international borders. There is also significant uncertainty around how international tourism demand will evolve over the medium term, even if vaccination thresholds are met and COVID-19 cases are controlled, and supply disruptions and logistical bottlenecks could impede the ability of Thai firms to fully benefit from the recovery of global trade. Nevertheless, there is upside potential for a more robust external recovery to bolster trade and investment by creating new opportunities in the market for digitally delivered services that underpin many of the most sophisticated global value chains, as well as expanding global demand for Thailand's current range of exports.

The pandemic shock is expected to inflict lasting scars on productivity and socioeconomic development in Thailand. A decline in capital investment in 2020 diminished potential output, exacerbating the adverse effects of demographic aging and slow factor reallocation. Job losses and school closures will have some longer-term impacts on human capital accumulation, although in contrast to other countries, the substantial government response has helped to prevent large-scale losses in human capital. But firm closures and employee separations are likely to have contributed to the erosion of valuable intangible assets, such as management and technical know-how, employee skills, and workplace networks and relationships. Although investment began to recover in 2021 and is projected to continue increasing through 2022, a simultaneous rise in the levels of corporate and household debt could pose longer-term risks, including risks to the financial sector once existing forbearance measures expire. On the other hand, a deferral of productive investments due to weakened firm balance sheets would reduce potential output over the medium term. To reduce the potential for pandemic-related scarring and address underlying structural challenges, additional interventions are needed. In this context, investing in the digitalization of economic activity offers a valuable opportunity to raise both supply and demand in the short term, while permanently increasing potential output via productivity gains and reduced market frictions.

Building Back Better by Boosting the Digital Economy

The adoption of digital technologies has the potential to support Thailand's post-pandemic recovery while enhancing its competitiveness over the longer term. Pandemic-related mobility restrictions and precautionary behaviors increased the use of digital production technologies and the consumption of digital services. The uptake of digital technologies has bolstered commerce and productivity by more efficiently connecting firms—especially new entrants—to global networks. Digital commerce is an especially important outlet for SMEs in Thailand, as it reduces transaction costs and allows entrepreneurs to reach new markets.

In addition, innovative financial technologies can expand access to financing among smaller firms that might otherwise be capital constrained. While the Thai government has already shown a strong commitment to advancing the digital agenda under the banner of industry 4.0, more can be done to develop digital services and the digitalization of businesses.

But more can be done to develop digital services and the digitalization of businesses.

Efforts to boost competition and ensure a level playing field are necessary to promote market contestability and increase the interoperability of digital systems. The Thai market for digital services is highly concentrated, with e-commerce dominated by just two large firms. To lower barriers to entry, digital regulations should be simplified and redesigned to encourage the participation of smaller firms. Moreover, recent mergers have revealed opportunities for closer regulatory oversight. At the same time, a lack of interoperability between electronic payment systems constrains the dynamism of the digital services market. Pro-competition regulation is needed to reduce the potential for abuse of market power and encourage interoperability across digital platforms, while mechanisms to promote transparency and expand access to business data could help spur innovation and facilitate the entry of new firms. In addition, expanding provisions to prevent spectrum hoarding would increase the quality of broadband services.

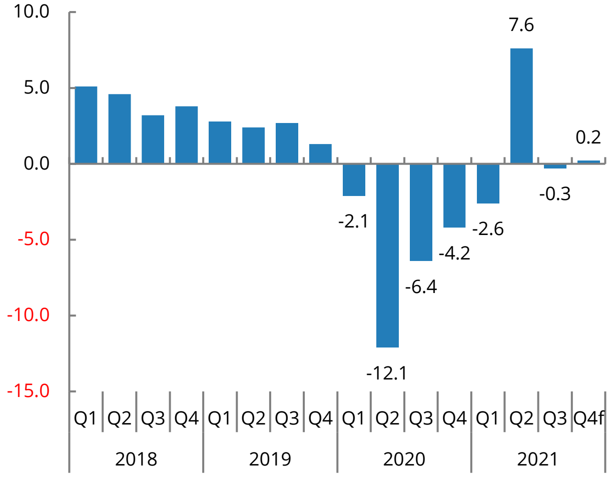
The availability of digital skills, as well as complementary managerial and organizational capabilities, is vital to support digital transformation. Such skills are in high demand, but supply is inadequate, and employer-employee mismatches result in a suboptimal allocation of existing skills. For instance, the private sector requires employees trained in information management, user experience design, integrated systems technology, cloud computing, and the internet of things, but these subjects have not been sufficiently incorporated into the education curriculum. Greater input from the private sector on curriculum design could help align training with employer demand, while enhanced market information and job-placement services could ameliorate skills mismatches. Finally, upskilling and reskilling existing workers could bolster the supply of workforce skills and reduce unemployment.

Expanding access to innovation financing can ease constraints on the adoption of new business models and the uptake of digital technologies, especially by SMEs. Currently, regional venture capital (VC) funds and angel investors have only a limited presence in the Thai market, which deprives startups from regional market experience and customers, access to know-how and networks. Government grants for promoting innovation tend to target small firms, and to exclude mid-sized firms beyond seed stage. The 2020 Bank of Thailand survey revealed that the high costs of technology, a lack of reliable financial statements, and narrow margins all compromised the ability of smaller firms to obtain financing. Peer-to-peer lending and crowdfunding platforms present an opportunity to ease these constraints. A unified legal framework and collateral registry would help strengthen the secured-transactions regime, and the credit-reporting system could be expanded to cover more firms. Finally, a well-formulated policy for open banking would help promote competition and growth of financing for innovation.

Recent Developments and Near-Term Outlook

Figure ES 1: Thailand's incipient recovery was set back in Q3 2021 as the delta variant spread...

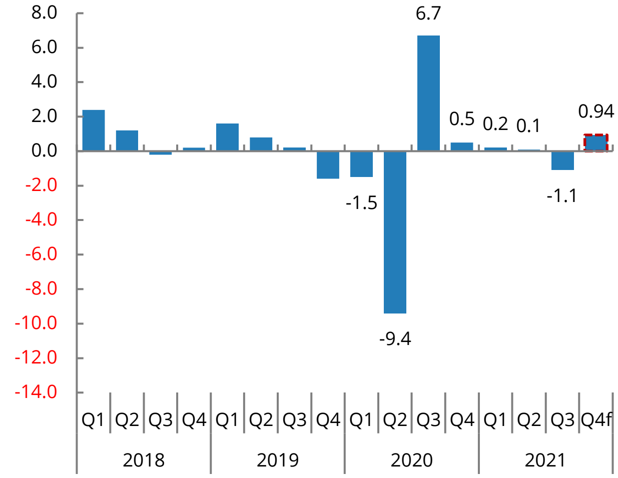
(% change, year-on-year)



Source: NESDC
Note: f is forecasted value

Figure ES 2: ...and disrupted already weak quarterly growth momentum.

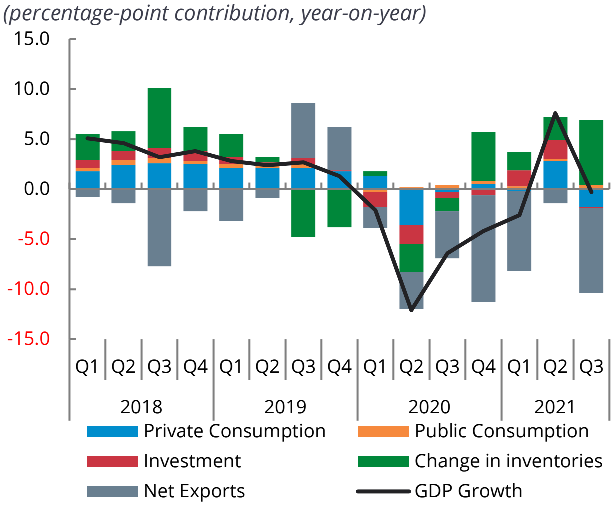
(% change, quarter-on-quarter, seasonally adjusted)



Source: NESDC
Note: f is forecasted value

Figure ES 3: Weak domestic demand and softening global demand dragged down growth in Q3 2021.

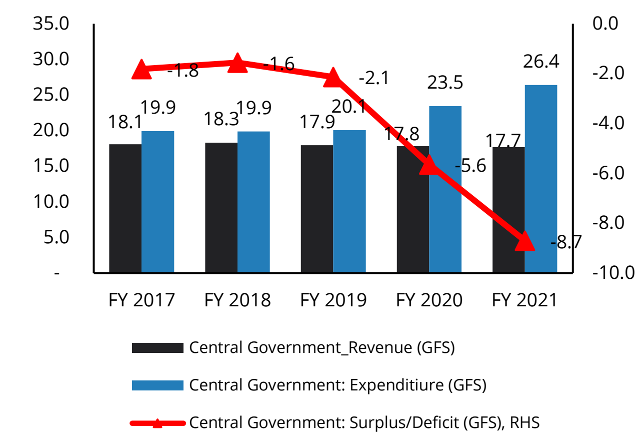
(percentage-point contribution, year-on-year)



Source: NESDC; World Bank staff calculations

Figure ES 4: The policy response to the pandemic significantly widened the central government deficit.

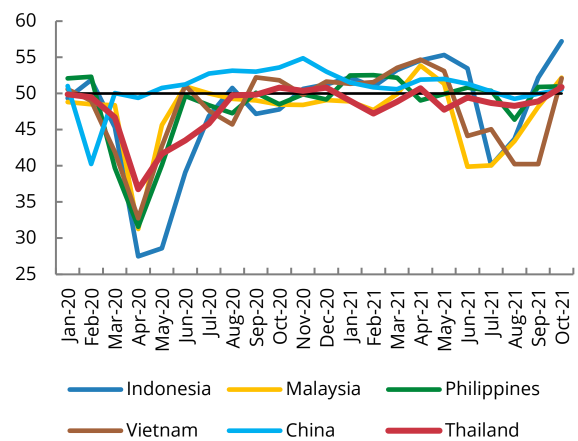
(Percent of GDP)



Source: Fiscal Policy Office, Ministry of Finance

Figure ES 5: Recent measures of manufacturing show a rebound...

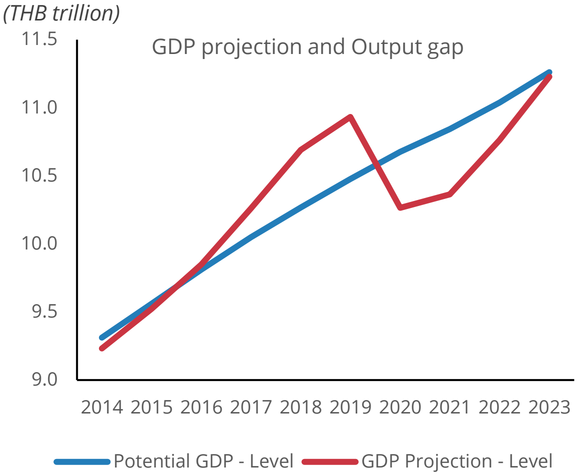
(purchasing manager's index: 50+ shows expansion)



Source: World Bank East Asia and Pacific Update October 2021; Haver Analytics

Figure ES 6: ...but the recovery is expected to be protracted with a negative output gap until 2023.

(THB trillion)



Source: World Bank staff calculations

Table ES 1: Macroeconomic Indicators

	2019	2020	2021f	2022f	2023f
Real GDP Growth Rate (at constant market prices)	2.3	-6.1	1.0	3.9	4.3
Private Consumption	4.0	-1.0	1.0	3.8	3.9
Government Consumption	1.7	0.9	2.5	2.0	-2.2
Gross Fixed Capital Investment	2.0	-4.8	5.6	6.0	3.6
Exports of Goods and Services	-3.0	-19.4	8.5	10.8	8.9
Imports of Goods and Services	-5.2	-13.3	16.6	6.3	6.7
Real GDP Growth Rate (at constant factor prices)					
Agriculture	-0.6	-3.4	1.1	3.8	4.2
Industry	0.1	-5.3	1.4	1.3	1.2
Services	4.5	-6.9	8.8	4.8	3.9
Inflation (Consumer Price Index)	0.71	-0.85	1.1	1.4	1.3
Current Account Balance (% of GDP)	7.0	3.2	-3.4	0.5	2.3
Fiscal Balance (General Government, % of GDP)	-0.8	-4.8	-7.8	-4.5	-1.0
Debt (% of GDP)	40.8	50.0	58.8	62.2	61.6

Source: NESDC; World Bank staff calculations

Part 1. Recent Economic Developments and Outlook: Living with COVID

1. Recent Economic Developments: A Resurgent Pandemic Threatens the Recovery

i. The Global Economy

The ongoing resurgence of the COVID-19 pandemic, coupled with supply-chain disruptions, has slowed the momentum of the global recovery.

The ongoing pandemic continues to exact a heavy toll on economic activity in Asia, the Americas, and Europe, pushing the global composite output Purchasing Managers' Index to a seven-month low in August. The decline in output was broad-based across the manufacturing and services sectors, with the latter falling to its lowest level since February 2021. Furthermore, supply bottlenecks and strained global value chains (GVCs) have exacerbated input price inflation and lengthened delivery times, though there are signs that these disruptions are now easing. Indicators of global consumer confidence now exceed pre-pandemic levels, albeit with substantial disparities across regions and income groups. However, consumer confidence in emerging markets and developing economies (EMDEs), including Thailand, remains below pre-pandemic levels.

The East Asia and Pacific (EAP) region has suffered a reversal of fortune in

In 2020, most EAP countries contained the spread of the disease, with economic activity recovering by the end of the year, while other regions continued to suffer from rising caseloads and economic recessions. However, the EAP region was hit hard by the 2021 resurgence of COVID-19. While many advanced economies

its fight against COVID-19.

have successfully mitigated the worst consequences of the pandemic and imposed robust stimulus measures, rising caseloads are threatening the recovery in EAP.

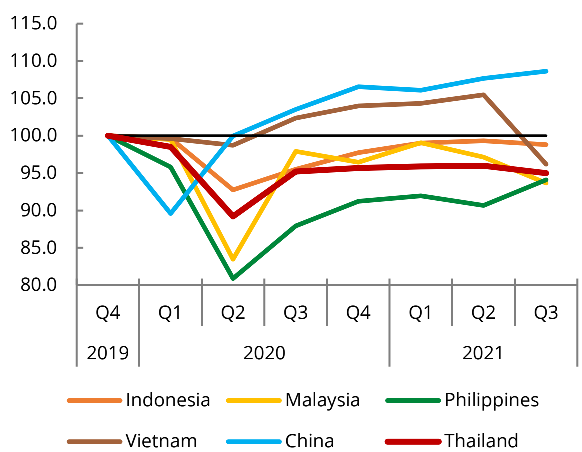
The incipient recovery was uneven, but the recent setback has affected countries across EAP.

The unbalanced recovery of EAP countries has continued (Figure 1). China's economy is projected to grow by 8.5 percent in 2021, faster than expected, while the rest of the region is projected to grow by just 2.5 percent, down roughly 2 percentage points since the last edition of the East Asia and Pacific Economic Update was published in October 2021. Output in China and Vietnam had already exceeded pre-pandemic levels by 2020, but rising caseloads and supply-chain disruptions slowed economic activity in Vietnam in Q3 of 2021. Output in Indonesia is now close to pre-pandemic levels, while the recovery in Thailand, Malaysia, and the Philippines continues to lag.

Regional goods exports softened due to shifting global demand and snarled supply chains

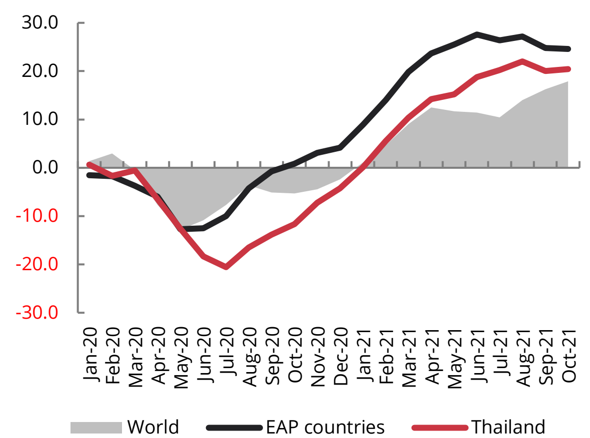
The weakening of regional export performance stems from at least six factors. First, global import demand peaked in Q2 2020, and its composition is shifting slightly away from EAP's comparative-advantage sectors, such as machinery and electronics (Figure 2). Second, exports from other countries have recovered, and EAP exports are no longer outperforming the rest of the world. Third, commodity prices have stopped increasing, adversely affecting the exports of major commodity producers like Indonesia, Myanmar, and Mongolia. Fourth, the spread of the Delta variant throughout East Asia is disrupting activity in individual economies and intraregional production chains. The resulting shortages of vital inputs such as semiconductors ripple upstream and downstream through the global economy, affecting industries such as electronics, medical devices, and automobiles. Fifth, many EAP economies have critical tourism sectors, but travel and tourism activity remained around 60 percent below pre-pandemic levels in 2021. Finally, recent increases in shipping costs and delays, attributable in part to COVID-19–related port disruptions, are also damaging EAP exports. Supply-related factors have increasingly weighed on global industrial output growth and trade in recent months.

Figure 1: A downturn in economic activity has interrupted EAP's uneven recovery...
(Seasonally adjusted real GDP indexed to 2019 Q4 = 100)



Source: World Bank East Asia and Pacific Update October 2021; Haver Analytics

Figure 2: ...and regional goods exports plateaued at above pre-pandemic levels.
(Change in goods exports relative to 2019 Q4, percent)



Source: World Bank East Asia and Pacific Update October 2021

ii. COVID-19 Situation and Related Control Measures

Thailand has faced especially acute challenges in Q3 amid the spread of the Delta variant and initial delays in vaccine delivery.

Cases surged to above 5,000 in July and peaked at over 20,000+ in mid-August, resulting in a daily death rate above 200. Vaccinations were initially slow, and Thailand lagged Indonesia and the Philippines for much of the year. A combination of a wait-and-see approach towards vaccine procurement, a slow procurement system,[2] and a limited global vaccine supply left Thailand vulnerable to new waves of COVID-19. As a result, the authorities imposed curfew and stringent restrictions on domestic travel and services establishments to contain the spread of the virus.[3]

The wave started to abate in Q4.

After peaking in August, new infections fell to an average of fewer than 8,000 per day in November (Figure 3). The authorities ramped up the distribution of vaccines from end-August onwards due to an increase in vaccine deliveries. The number of deaths fell substantially to less than 100 per day in October 2021. While the decline in infections has been slow relative to the regional peers, the tightening of public health measures combined with expanded testing and tracing caused the positivity rate to gradually fall to 17 percent in early November 2021 after reaching its peak at 38 percent in mid-August 2021. Nevertheless, the positivity rate is high compared to peers and authorities should expand testing to bring the rate down to 5 percent.[4] The average number of additional infections caused by each infection (i.e. reproduction rate) has remained stable at 0.9 since August 2021.

Following a renewed effort, the authorities are close to achieving their target of vaccinating 70 percent of the population by end-2021.

Average number of vaccinations administered each day reached highs of 1 per 100 people, comparable to the levels observed in the United Kingdom and Germany. The share of the Thai population having received at least one vaccine dose climbed to 61.2 percent, while the share that is fully vaccinated reached 52.7 percent (Figure 4), surpassing Indonesia and the Philippines. Recent trends suggest that the vaccination target of 70 percent of the population by end-2021 is within reach, which could usher in a new phase of coexistence with COVID-19 (Box 1).

In November, the government reopened Thailand's international borders and lifted the curfew in Bangkok to revive

Amid an accelerated vaccination effort and a slowing daily case rate, the authorities eased their strict COVID containment policies to restart the country's vital tourism sector. Since November 1, fully vaccinated tourists from 63 low-risk countries have been able to travel to Thailand without mandatory quarantine. Fully vaccinated visitors from other countries will also be allowed to enter through a special tourism program in 17 provinces—including Bangkok,

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[2] ProACT Procurement Anticorruption and Transparency platform (WB, Government Transparency Institute and the Centre for the Study of Corruption at the University of Sussex) www.procurementintegrity.org.

[3] In general, economic disruption has been less in countries with higher vaccination. A 10-percentage point higher vaccination coverage was associated with a one-half of a percentage point higher quarterly gross domestic product (GDP) growth (EAP Update October 2021).

[4] This metric offers key insights into the adequacy of testing and the spread of the virus. The positivity rate indicates the level of testing relative to the size of the outbreak. To be able to properly monitor and control the spread of the virus, countries with more widespread outbreaks need to do more testing. According to criteria published by the WHO in May 2020, a positivity rate of less than 5 percent is one indicator that the epidemic is under control in a country.

tourism and domestic economic activity.

Samut Prakan, Chon Buri, Phuket, and Phangnga—where more than 60 percent of the population has been fully vaccinated. Tourists who are not fully vaccinated will be required to quarantine at a hotel for 10 days. The number of high-risk provinces with a curfew in place was reduced from 23 to six, including Bangkok.

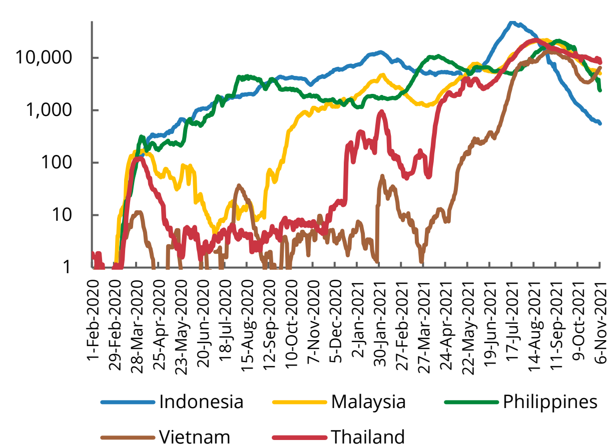
However, tourist arrivals have been below expectations.

International tourist arrivals for the Phuket Sandbox and Samui Plus Model, tourist sandboxes launched July 2021, fell short of expectations. In Q3 2021, the country welcomed 45,400 tourist arrivals, roughly one-third of the authorities' target of 129,000 people of the quarter, partly due to the ongoing third wave and then-low rates of vaccination. Despite the wider reopening of the country starting November 1, 2021 amid improved national vaccination rates, the Fiscal Policy Office (FPO) projects the number of tourist arrivals to pick up only gradually to 90,000 people in the fourth quarter as global travel and tourism remain stagnant.

Achieving the targeted 70 percent coverage may usher in a new phase of less severe mortality and greater mobility despite renewed waves.

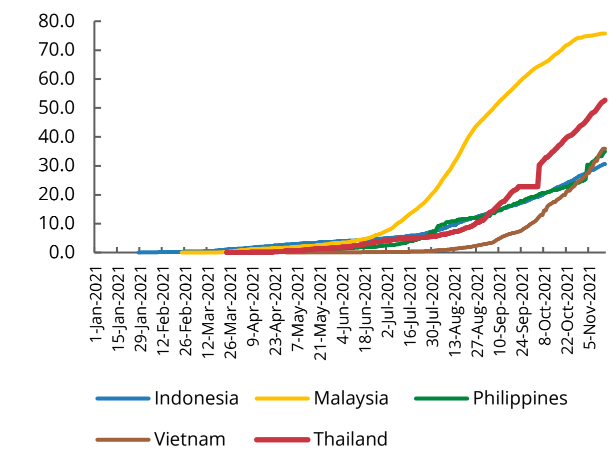
The early experiences of high vaccination countries suggests that it may be possible for countries to transition from the more malignant phase of the disease to a relatively benign phase of "managed endemicity." High transmission and mortality rate previously seen during Thailand's third wave have since steadily declined as the vaccination drive accelerated (See Box 1). Restrictions on mobility and economic activity were lifted as coverage reached 40 percent. However, Thailand must address disparities in vaccination rates between metropolitan areas such as Bangkok—where 87.5 percent of adults are fully vaccinated—and the rest of the country. Effective vaccination efforts in areas with low vaccination rates will minimize outbreaks of new variants as the economy reopens and travel, tourism, and trade resume.

Figure 3: Thailand's daily COVID-19 case rate has gradually declined from its peak in August 2021.
(Cases, 7-day moving average, log scale)



Source: ourworldindata.org/coronavirus

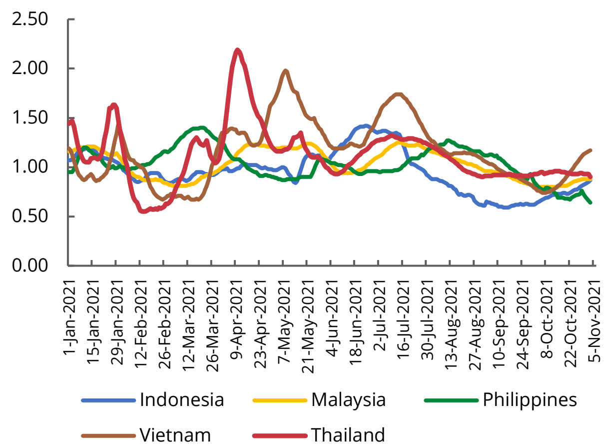
Figure 4: The vaccination effort is fast approaching the target of 70% of the population by end-2021.
(% of the population fully vaccinated)



Source: ourworldindata.org/coronavirus

Figure 5: The reproduction rate spiked due to the Delta variant but has since declined.

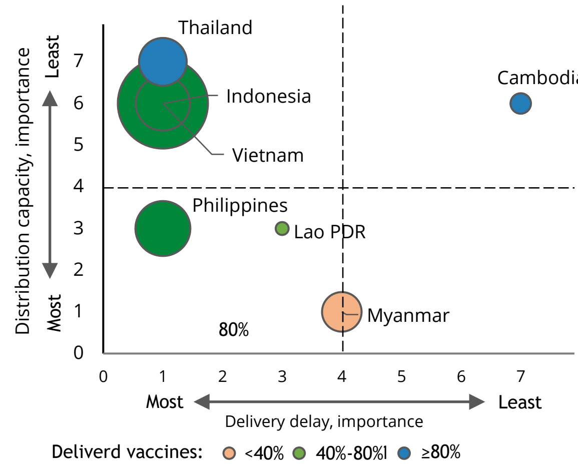
(Reproduction rate above 1 means that infections will continue to spread)



Source: ourworldindata.org/coronavirus

Figure 6: Thailand quickly delivered the available vaccines, after initial procurement delays.

(Perception)



Source: Delivered vaccines from COVID-19 Task Force (November 16, 2021), survey responses from World Bank staff; Perceptions on constraints from survey responses from World Bank staff.

Note: The size of circles represents relative population size. Importance (1: the most—7: the least) was assessed among potential constraints (delivery delays, financing, procurement process, domestic production, distribution capacity, regulation, hesitancy). The number of delivered vaccines as the percentage of eligible population (ages 15 and above) was adjusted for the required doses per person; if a vaccine brand was not available, two doses per person was assumed. Eligible population was defined as population ages 15 and above; this may be different across countries and may change as countries consider vaccinating people younger than 15.

Box 1: Vaccines, Mortality, and Availability[5]

Like most other countries, Israel and the UK initially suffered recurrent waves of the pandemic that were associated with high levels of infection and significant mortality per 1,000 population. However, a combination of vaccinations and acquired resistance blunted the impact of subsequent waves of infection, which entailed less severe morbidity indicators and mortality rates (Figure B.1).

Nevertheless, the risks of a resurgence persist even in countries with high vaccination rates. Immunity wanes over time, and booster shots may be required to sustain it. Israel vaccinated a large share of its population early 2021, and its daily cases dropped to near zero by June. However, just weeks later the country experienced one of the highest infection rates in the world as the Delta variant spread, prompting the government to introduce booster shots.

Going forward, containing COVID-19 will require the continued implementation of effective public health measures and preventive behaviors, including wearing masks indoors. The government must continue to invest in: (i) expanded COVID-19 testing and tracing; (ii) improved testing and surveillance at tourism hubs; and (iii) enhanced

[5] As of 22 November 2021.

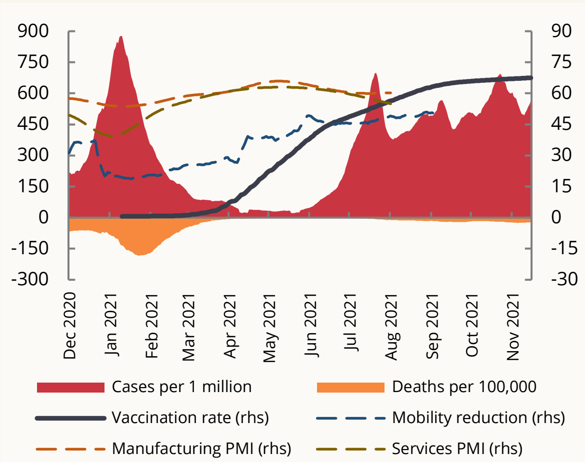
Box 1: Vaccines, Mortality, and Availability[5]

health information systems. Timely data are essential to adapt policies and interventions to evolving outbreaks. For example, Israel, Denmark, and Sweden have all relied on strong digital health and immunization information systems, and Israel's decision to roll out COVID-19 booster doses to the population 65 years and older, and eventually the entire population, was grounded in an analysis of trends in immunity levels.

The WHO recently recommended providing booster shots to vulnerable groups while continuing to vaccinate the general population. The Thai government must continue to adapt its vaccination strategies based on expert advice and the latest domestic and international evidence. Data from Israel reflects the benefits of introducing booster doses, which enabled the country to contain a fourth wave of infections and achieve a steep reduction in infections, hospitalizations, and deaths among the people who received the booster shot.

Figure B.1: The United Kingdom's rising vaccination rate reduce mortality even as infection rates remained high.

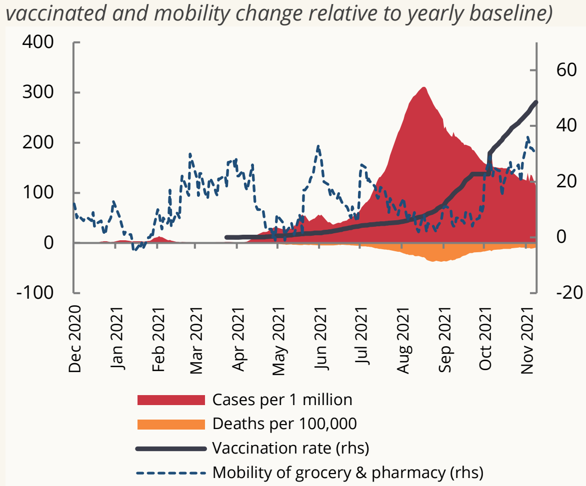
(LHS: cases and deaths; RHS: share of population fully vaccinated)



Source: ourworldindata.org/coronavirus, World Bank East Asia and Pacific Update October 2021.

Figure B.2: In Thailand, infections and mortality rates have both declined as vaccination rates have surged.

(LHS: cases and deaths; RHS: share of the population fully vaccinated and mobility change relative to yearly baseline)



Source: ourworldindata.org/coronavirus, Google Mobility Report.

iii. A Resurgence in COVID-19 Set Back the Recovery

The Thai economy contracted in Q3 2021 amid a third wave of COVID-19 infections.

The third wave of COVID-19 has proven to be a larger-than-expected disruption to the modest recovery in activity observed over the first half of the year. The resurgence in cases resulted in a year-on-year contraction of 0.3 percent in Q3 2021 (Figure 7), due primarily to negative contributions from private consumption and net exports. Thailand's contraction in Q3 was the third deepest among regional peers, after Vietnam (-6.2 percent) and Malaysia (-4.5 percent), while the Philippines and Indonesia posted relatively strong growth. On a seasonally adjusted basis, GDP fell 1.1 percent qoq in Q3 (Figure 8).

Containment measures weakened domestic demand.

As the government tightened restrictions to counter the third wave of infections, private consumption fell by 3.2 percent in Q3 2021, a more severe impact than what was expected in July. Domestic demand faltered, and contractions were observed across many categories, particularly durable goods, recreational and cultural activities, and transportation (Figure 9). Private investment growth slowed to 2.6 percent due to a broad deceleration in machinery, equipment, and construction investment as business confidence weakened. Government transfers to vulnerable groups and businesses affected by the lockdowns provided support in Q3, as did a pick-up in inventory, but these were not enough to offset the impact of containment measures. COVID-related restrictions on activity also led to a 6.0 percent decline in public investment, compared with 4.1 percent growth in Q2.

Softening external demand in Q3 2021 exacerbated the downturn.

In the first half of 2020, rebounding goods exports (especially automotive parts, electronics, machinery, and agricultural products) supported economic activity. However, the export growth rate fell from 36.2 percent in Q2 2020 to 15.7 percent in Q3 and remained low relative to peer countries in 2021. As a result, exports of both goods and services contributed negatively to growth (Figure 9). Thailand benefitted less than some regional peers from the surge in global demand for electronics and suffered more from rising global oil prices (Figure 10). Supply-side disruptions including COVID-related factory shutdowns, a global shortage in semiconductors and global logistics bottlenecks also weighed on exports. Import growth slowed from 41.8 percent in Q2 to 31.8 percent in Q4 but remained strong due to imports of capital goods and sales of domestic machinery.

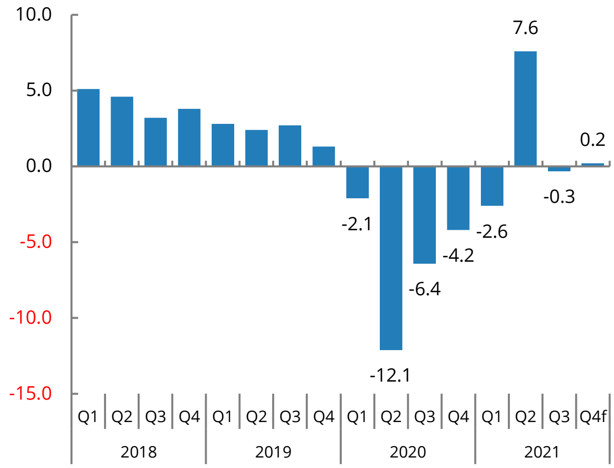
Over the first three quarters of 2021, the economy grew only modestly, but growth would have been still weaker in the absence of government relief measures.

In the first three quarters of 2021, the economy grew 1.3 percent from the same period last year, driven by investment and exports. Exports grew by 17.9 percent in the first three quarters of 2021, while imports also grew strongly at 26.3 percent. On the other hand, private consumption grew by only 0.4 percent in this period. Government relief measures are estimated to have supported overall private consumption by 0.6 percentage points: without this support, private consumption would have contracted by 0.3 percent. This estimate is aligned with international empirical evidence which suggests that transfer payments can have a multiplier effect on national GDP in the short-term (Pennings, 2021).[6]

[6] The multiplier is estimated to be larger for transfer payments targeted at low-income residents. In Thailand, a large proportion of the transfers have been distributed to informal workers or farmers living in remote areas, who seem likely to spend most of their income on locally produced goods and services.

Figure 7: The spread of the Delta variant set back Thailand's incipient recovery in Q3 2021...

(% change, year-on-year)

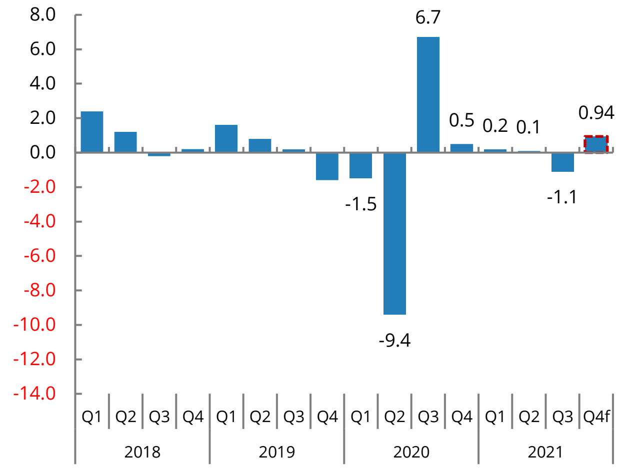


Source: NESDC

Noted: f is forecasted value

Figure 8: ...and weak quarterly growth rates turned negative.

(% change, quarter-on-quarter, seasonally adjusted)

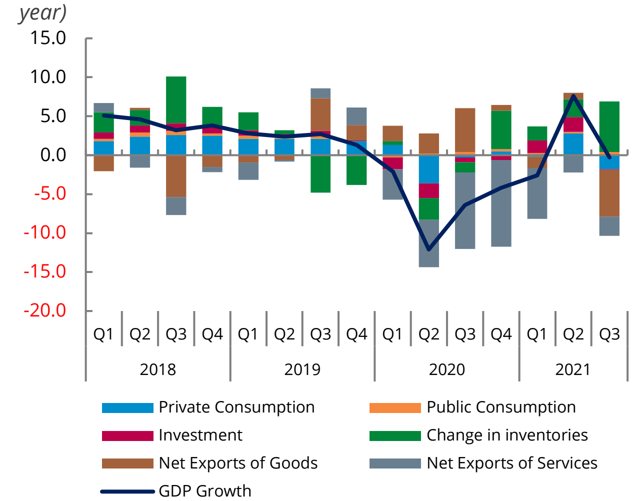


Source: NESDC

Noted: f is forecasted value

Figure 9: Softening domestic and external demand dragged down growth in Q3 2021.

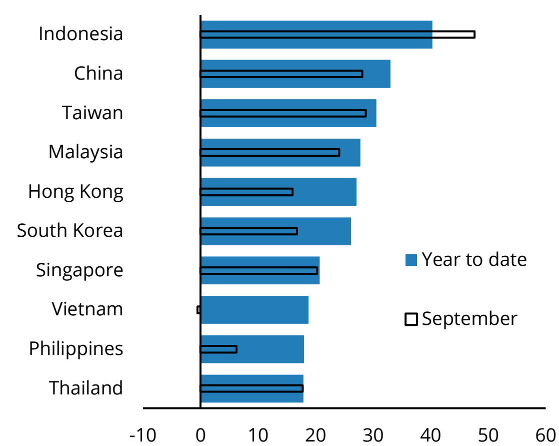
(Percentage-point contribution to real GDP growth, year-on-year)



Source: NESDC

Figure 10: Thai exports continued to rise but remained low compared to peer countries.

(% change, year-on-year)



Source: Haver Analytics; World Bank staff calculations

A rebound is expected in Q4 2021 as the economy reopens.

In the final quarter of 2021, the economy is projected to grow by 0.2 percent yoy and 0.94 percent (qoq sa). The Purchasing Manager's Index (PMI) rose sharply in October, buoyed by the release of pent-up demand and accelerated COVID-19 vaccinations (Figure 11). The Private Investment Index, a monthly measure compiled by the Bank of Thailand, rebounded slightly in October as the economy reopened. The continued climb of PII toward pre-pandemic levels (Figure 12) indicates that investment is playing a role in supporting a nascent recovery and could be harnessed to lift medium-term growth prospects (Box 2). The expansion of private investment was driven by increased imports of capital goods and sales of domestic machinery to meet resurgent external demand. The Manufacturing

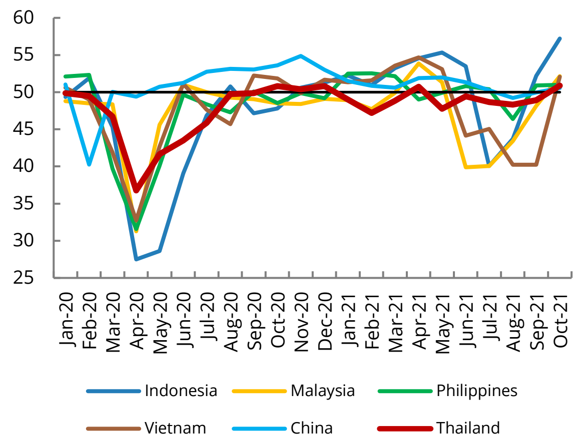
Production Index increased 2.7 percent in October from the previous month, driven by improved consumer confidence and rebounding exports.

Business sentiment improved as the government eased pandemic restrictions.

The Business Sentiment Index ticked up in October, reflecting improved sentiment across the economy, particularly in export-oriented sectors with backlogs caused by temporary COVID-related shutdowns. Major non-tradeable sectors such as real estate and construction continued to face low sentiment due to rising production costs and weak domestic demand.

Figure 11: Recent indicators of manufacturing activity show signs of an incipient recovery.

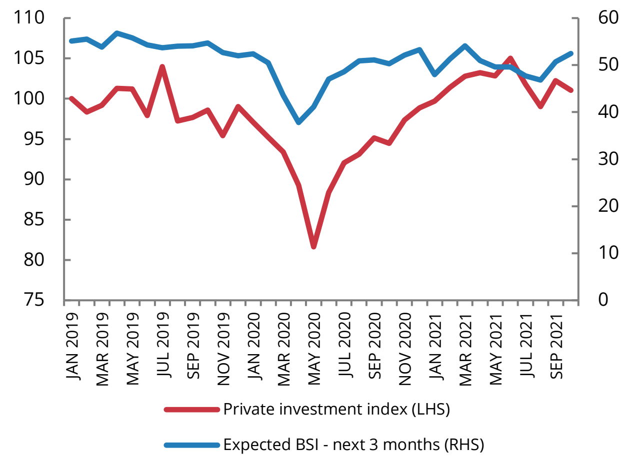
(Purchasing Manager's Index 50+ = expansion)



Source: World Bank East Asia and Pacific Update October 2021; Haver Analytics

Figure 12: Private investment returned to pre-pandemic levels, and business sentiment rebounded as the economy reopened.

(LHS: Private Investment Index: ase Jan 2019 = 100, RHS: Diffusion Index: unchanged = 50)

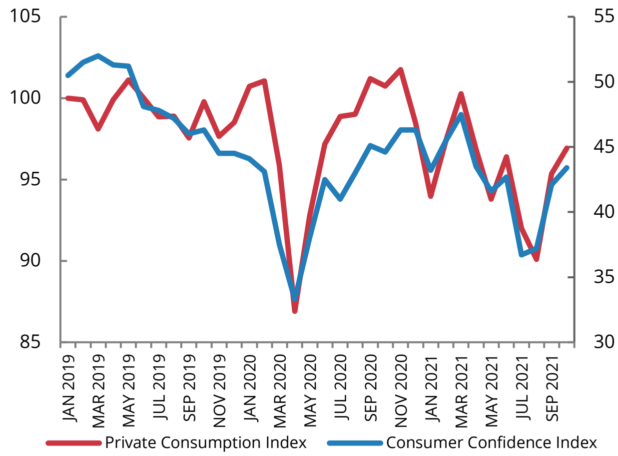


Source: Bank of Thailand

In Q4, indicators of private consumption ticked up and mobility surged as restrictions eased and vaccinations accelerated.

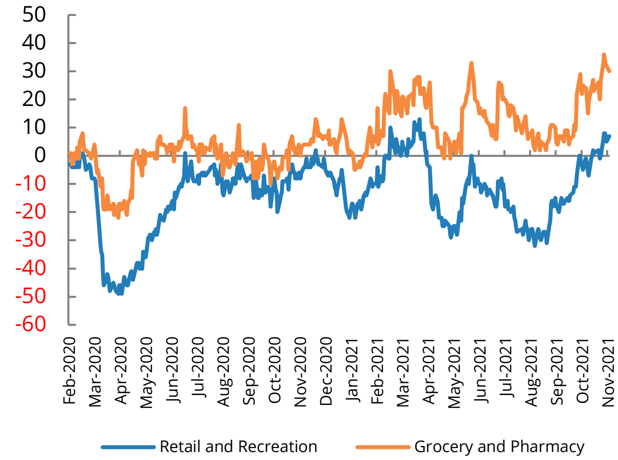
Private consumption rebounded in October, although it remained below pre-pandemic levels due to low consumer confidence around the economic recovery and the state of the labor market (Figure 13). On the other hand, the Google Mobility index has reached to its highest level since the third wave of infections in April 2021 (Figure 14), reflecting the easing of public health measures as well as the decline in infections and the increase in vaccinations in line with regional peers.

Figure 13: Private consumption and consumer confidence rebounded but have yet to fully recover.
(LHS: base Jan 2019 = 100, RHS: Diffusion Index = 50)



Source: Bank of Thailand and Ministry of Commerce

Figure 14: Mobility rebounded to pre-pandemic levels after the authorities lifted restrictions.
(Change in visits relative to Jan 2020 baseline)



Source: Google Community Report

Box 2: Private investment and economic cycles—passing the baton

The size and composition of domestic demand—in particular private investment--plays a key role in driving economic upturns and downturns in Thailand. Private investment plays an asymmetric role, contributing to approximately 32 percent of output growth during a typical upturn but less than 15 percent during a typical downturn. The positive role of private investment is even stronger in the initial stages of a recovery. In a downturn, both inventory and investment tend to weigh down output growth with inventory contribution turning negative. The contribution of private investment turned negative during the Asian financial crisis (1997-1999) and the COVID-19 pandemic beginning in 2020.

Private consumption has traditionally been the largest contributor to output growth, accounting for close to 40 percent of output growth over 2006-2020. In an upturn, private consumption leads output growth, contributing the largest share at one-third of output growth while in a downturn it helps support aggregate demand, contributing to more than half.

Recent growth decomposition show that the current downturn, which began in Q2 2019 amid rising trade tensions before deepening due to the pandemic, is markedly different from previous downturns. Both private consumption and net exports exhibit large *and* negative contributions to growth, reflecting Thailand's exposure to COVID-19 as a trade and tourism hub. The contribution of private investment has fallen more sharply than in previous downturns. Public investment, which is typically slightly pro-cyclical, is now playing a countercyclical role as major infrastructure projects (dual tracking of railroads, expressways and air linkages) approved prior to the pandemic are being implemented.

Private investment is critical to a strong recovery and sustained output growth, but during the previous upturn private investment contributed less than 20 percent to GDP growth. Findings from the Long-Term Growth Model show that Thailand will need to double its total investment rates to reach high-income status.[7] The role of public investment may become more constrained in the medium term due to mounting pressure for fiscal consolidation,

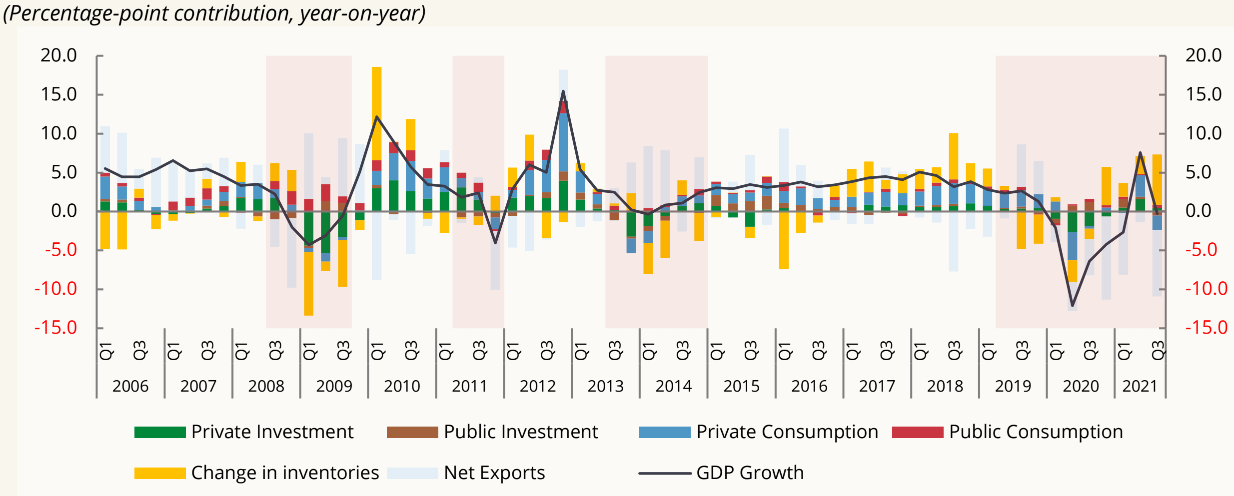
[7] WB Thailand Manufacturing Productivity Report 2020

Box 2: Private investment and economic cycles—passing the baton

while household debt and deleveraging will slow the recovery of private consumption. Private investment could be harnessed to play a more prominent role in the upcoming recovery though the expansion of private infrastructure, and Part 2 of the TEM discusses strengthening private-sector-led growth.

Figure B2.1: Real GDP Growth by Component (2006–2021)

(Percentage-point contribution, year-on-year)

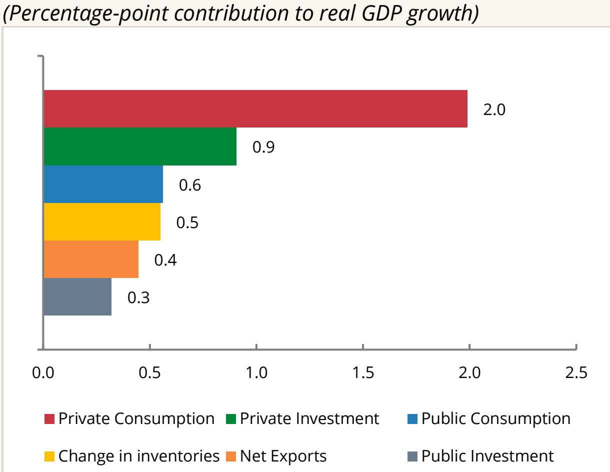


Source: NESDC; World Bank staff calculation.

Note: Shaded background indicate down-cycles defined as periods of GDP growth below average growth of 2.7 percent over 2006 Q1-2021 Q3 and coincides with the Global Financial Crisis of 2008, the Great Flood of 2011, political unrest of 2013, global trade tension of 2019, and the Covid-19 pandemic.

Figure B2.2: Private consumption leads growth during economic upturns…

(Percentage-point contribution to real GDP growth)

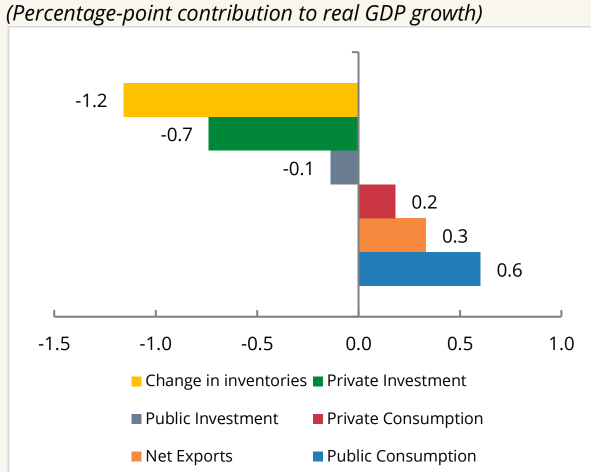


Source: NESDC; World Bank staff calculations.

Note: Upturns are defined as periods of GDP growth greater than 2.7 percent (average over 2006 Q1-2021 Q3).

Figure B2.3: …while the contribution of private investment falls sharply during downturns but private consumption remains positive.

(Percentage-point contribution to real GDP growth)



Source: NESDC; World Bank staff calculations.

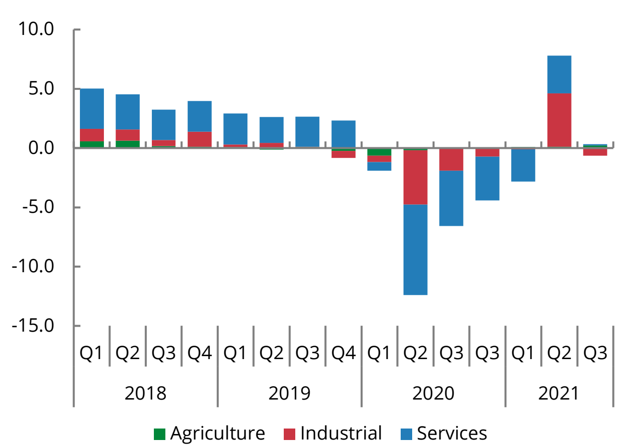
Note: Downturns are defined as periods of GDP growth less than 2.7 percent (average over 2006 Q1-2021 Q3).

Manufacturing and services have been hit hard by the pandemic.

Manufacturing contracted by 1.4 percent and construction by 4.1 percent in Q3 2021 during the pandemic amid weakening external demand. Hospitality services, including accommodation and restaurants fell drastically by 18.7 percent due to the lockdown. Nevertheless, agriculture grew by 4.3 percent and certain services sectors improved such as information & communication and finance & insurance grey by 6.8 percent and 3.5 percent as firms and consumers adapted to COVID-19 by using digital payments (see part 2 for a discussion of the impetus for increased digital technology during COVID-19).

Figure 15: Manufacturing and services remained weak amid a resurgent pandemic soft global demand.

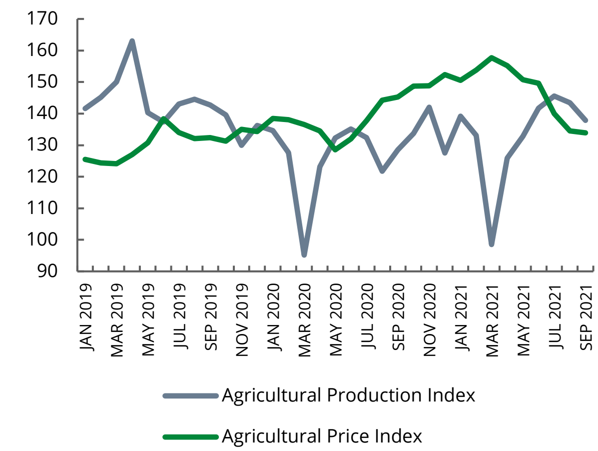
(Percentage-point contribution to real GDP growth, year-on-year)



Source: World Bank staff calculations

Figure 16: Agricultural production expanded during the pandemic.

(Base year 2005 = 100, seasonally adjusted)



Source: Office of Agricultural Economics, Ministry of Agriculture and Cooperatives

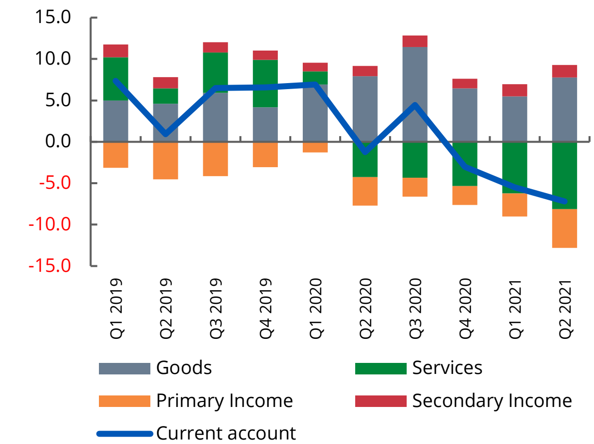
iv. The current-account balance remained in deficit, and the financial account recorded net outflows, but Thailand's the external position remained strong

The current account fell into deficit in 2021, as tourism receipts continued to contract, and the trade surplus narrowed.

The current-account balance turned negative in 2021, from a surplus of 4.0 percent of GDP in 2020 to a large deficit of 3.0 percent during the first nine months of 2021. Driven by robust external demand, the goods trade balance continued to show a large surplus of 7.0 percent of GDP in Q3 2021, in line with most regional peers (Figure 18). However, in contrast to the experience of peer countries, Thailand's rising goods trade surplus was more than offset by a widening services trade deficit, which expanded from 3.1 percent of GDP in 2020 to 7.2 percent in the first half of 2021 as tourism activity collapsed and freight costs soared. Thailand has been especially affected by the recent surge in freight costs, and tourism receipts have remained well below the pre-pandemic levels despite the reopening of borders to vaccinated tourists starting with Phuket in Q3.

Figure 17: In Q4 2020, the current account surplus narrowed sharply due to a mounting services deficit.

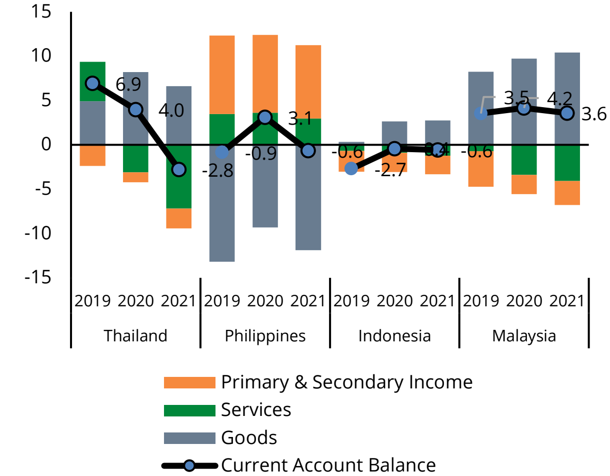
(% of GDP)



Source: Bank of Thailand; World Bank staff calculations

Figure 18: Thailand's current-account deficit widened more than that of any regional peer.

(% of GDP, 2021 comprises of Q1-Q2)



Source: CEIC; World Bank staff calculations

Net capital-account outflows continued for the fourth consecutive quarter.

The capital account remained in deficit, but net outflows moderated from 4.1 percent of GDP in Q1 2021 to 0.6 percent in Q2 (Figure 20). Meanwhile, net outflows of portfolio and other investments fell from 4.9 percent of GDP in Q1 2021 to 0.9 percent in Q2. Driven by foreign investment in the Thai bond market, net inflows reached 1.7 percent of GDP, their highest level since 2018, more than offsetting outflows of portfolio and direct investment by Thai investors. The continued focus of Thai investors on foreign securities, especially foreign investment funds, reflected the favorable investment outlook in major developed markets, the relaxation of regulations on domestic retail in late 2020, and institutional outflows.

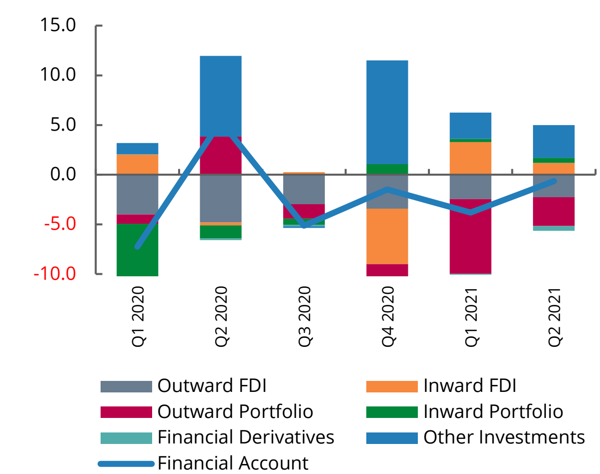
The easing of public health measures and the reopening of borders bolstered foreign investor confidence.

Net foreign investment in the Thai bond market shifted from a net outflow of US$2.3 billion during the first half of 2021 to a new inflow of US$1.3 billion during the second half of the year, surpassing the Association of South East Asian Nations (ASEAN) average (Figure 21). This change reflected improved investor confidence following the announced reopening of borders to fully vaccinated tourists and the easing of lockdown measures. Thailand's subdued inflation outlook has also attracted investment in the bond market. As a result, the Thai 10-year government bond yield remained low by regional standards despite its recent increase (Figure 22). However, net foreign equity inflows were slightly positive during the second half of 2021.

FDI inflows in the first half of 2021 were more than offset by outward direct investment.

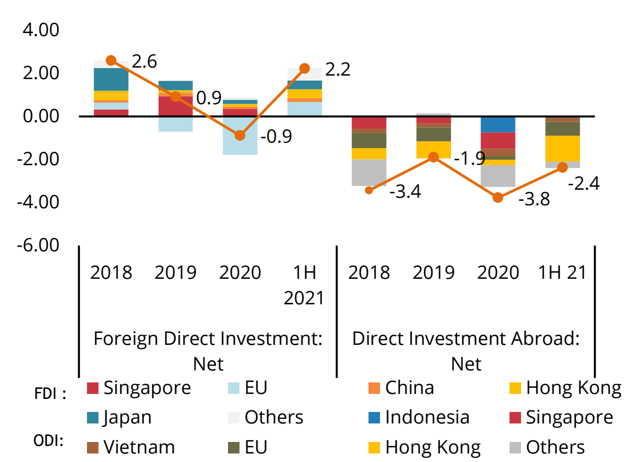
Net foreign direct investment (FDI) inflows turned positive in the first half of 2021 but were more than offset by outward direct investment. Net FDI inflows rose to 2.2 percent of GDP in the first half of 2021, reflecting the recovery of the business climate after the contraction reached its lowest point in 2020 (Figure 20). FDI inflows from the European Union, China, and Hong Kong were especially significant. Meanwhile, Thai firms continued to invest in foreign businesses during the first half of 2021, and outward direct investment reached 2.4 percent of GDP, led by investment in Vietnam, the European Union, and Hong Kong. Going forward, the recent increase in approved FDI to 8.8 percent of GDP during the first nine months of 2021—its highest level in three years—indicates further improvements in the investment climate.

Figure 19: Net financial account outflows were driven by outward portfolio flows and deposits.
(% of GDP)



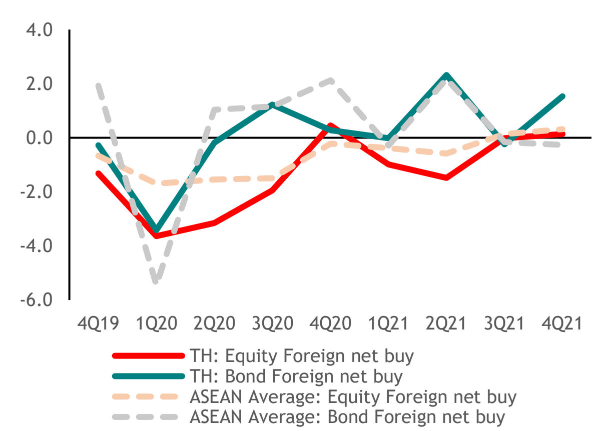
Source: Bank of Thailand; World Bank staff calculations.

Figure 20: FDI rebounded in the first half of 2021, while outward direct investment continued.
(% of GDP)



Source: Bank of Thailand; World Bank staff calculations

Figure 21: Portfolio inflows returned in the first 2 months of Q4, mainly headed for the bond market.
(%)

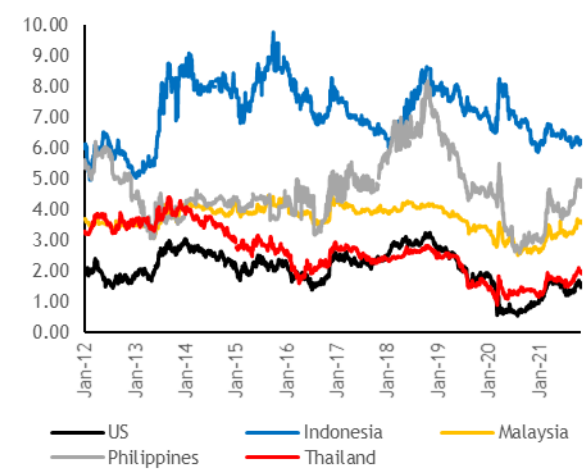


Source: Official Sources; CEIC; World Bank staff calculations

Note: *ASEAN consists of Thailand, Malaysia, Indonesia, and the Philippines. Bond flows in Q3 and Q4 do not include the Philippines

Figure 22: Thai government bond yields stayed low due to the weak inflation outlook.

(10-year government bond yields, percent)

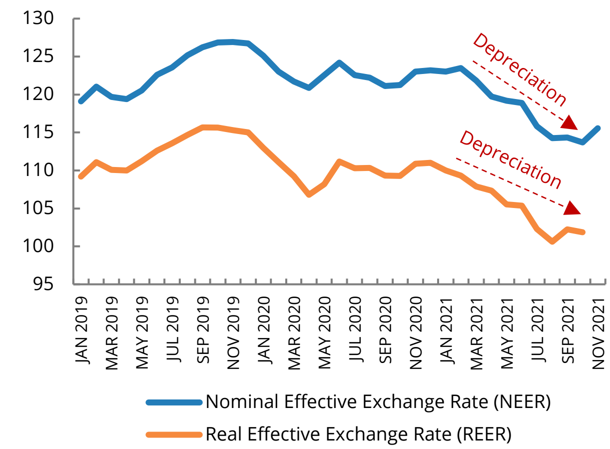


Source: Haver Analytics; World Bank staff calculations

The Thai baht continued to depreciate in 2021.

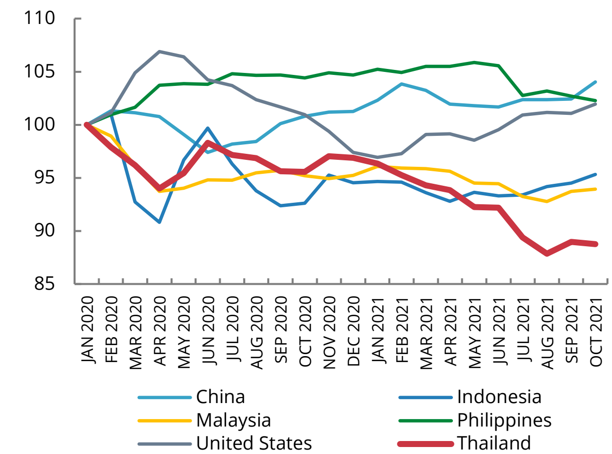
The Real Effective Exchange Rate (REER) for the Thai baht depreciated by 7.9 percent year-to-date, as of October 2021. The depreciation of the Thai baht reflected the COVID-19 induced risk-off sentiment as well as the large current account deficit in the wake of a collapse in tourism receipts. Expectations of the U.S. Federal Reserve's announcement to reduce the size of asset purchases under the quantitative-easing program also led to the outflows from EMDE's equity markets, including Thailand. Nevertheless, the currency has become relatively more stable since September, after the easing of lockdown was announced, followed by the reopening of borders in October. Comparing to regional peers, the Thai baht proved to be the worst performing currency year-to-date, followed by Malaysia's REER and Philippine's REER which depreciated by 2.2 percent and 2.8 percent, respectively.

Figure 23: The Thai baht has depreciated since the beginning of 2021.
(Base year 2012 = 100)



Source: Bank of Thailand; World Bank staff calculations

Figure 24: In REER terms, the Thai baht, Malaysian ringgit, and Philippine peso depreciated.
(January 2020 = 100)



Source: Bank for International Settlements (BIS)

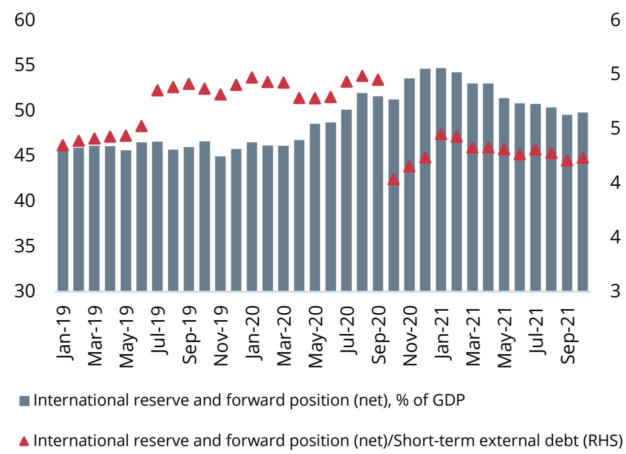
Despite a large current account deficit, the reserve position remained strong.

Due to the large and persistent current-account deficit, international reserves (including the net forward position) declined from a peak of 54.7 percent of GDP in January to 49.8 percent in October. Nevertheless, Thailand's reserve position remained strong at about 10 months of import coverage and more than four times the level of short-term external debt (Figure 25 and Figure 26), well above the levels of most regional peers (Figure 26).

Financial and fiscal indicators suggest that Thailand continues to be less vulnerable to global market risk-off sentiment.

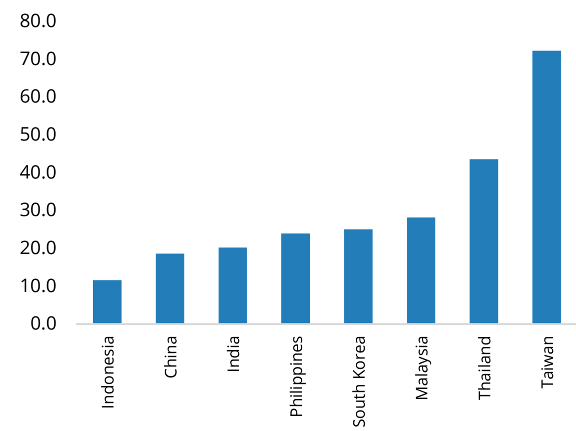
Apart from the strong international reserves position, external debt as a share of GDP has stayed relatively low by the standards of global comparators (Table 1). Fiscal indicators also suggest that Thailand is relatively less susceptible to external risk, owing to low foreign holding of government bonds and public debt levels that remain below those of many peers. Inflation has also remained comparatively contained. However, the recent widening of the current account deficit warrants close monitoring.

Figure 25: Thailand's international reserves and forward position remain adequate at over four times the level of external debt…
(LHS: % of GDP, RHS: short-term debt)



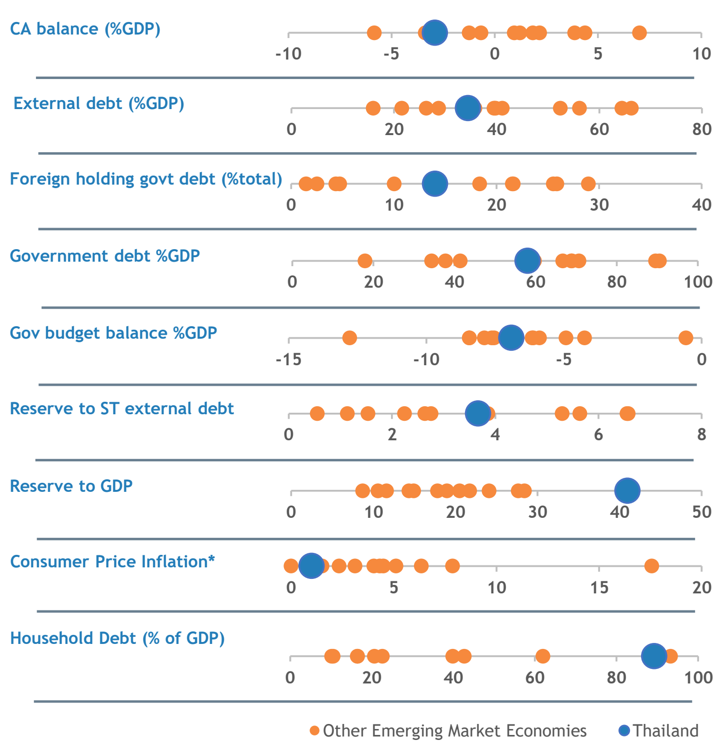
Source: Bank of Thailand; World Bank staff calculations

Figure 26: …and its international reserves have consistently exceeded those of most regional peers.
(% of GDP)



Source: Haver Analytics; World Bank staff calculations

Table 1: Financial and fiscal indicators suggest that Thailand continues to have strong external position and is less exposed to market risk-off sentiment.
(% unless otherwise indicated)



Note: Other Emerging Market Economies include China, India, Philippines, Russia, Mexico, Brazil, Indonesia, South Africa, Colombia, Turkey, Chile, and Malaysia

Source: World Bank, IMF, CEIC, Haver Analytics, IIF, Asia Bond Online, *Jan-Oct 2021

Table 2: The current account and financial account have both deteriorated, but foreign-exchange reserves remain adequate.
(% of GDP unless otherwise indicated)

	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021
Current account	8.27	1.48	6.22	0.00	-2.08	-3.50
Exports of goods	45.86	44.82	47.17	43.07	47.60	54.13
Imports of goods	38.91	36.88	35.71	36.63	42.10	46.37
Tourism receipts	7.88	1.26	0.90	0.90	0.73	0.79
Financial account	-7.24	5.37	-5.12	-1.50	-3.82	-0.65
Outbound FDI	-4.02	-4.82	-2.98	-3.44	-2.45	-2.28
Inbound FDI	2.01	-0.28	0.24	-5.56	3.27	1.18
Outbound portfolio investment	-0.93	3.82	-1.44	-3.92	-7.54	-2.88
Inbound portfolio investment	-5.48	-1.34	-0.61	1.06	0.33	0.52
Reserves, excluding net forward position (US$ billions)	226.5	241.6	251.1	258.1	245.5	246.5
Reserves relative to short-term external debt (times)	3.8	3.9	4.0	3.4	3.4	3.5
Reserves relative to import values (percent)	92.3	104.4	114.4	119.3	110.8	98.7
Reserves relative to import values (months)	10.5	15.6	13.9	13.0	10.0	10.1

Source: Bank of Thailand; World Bank staff calculations

v. Inflation accelerated into the middle of the central bank's target range.

Inflation rose sharply due to supply-side factors but remains contained.

The headline inflation rate rose to 2.4 percent in October 2021, its highest level in five months (Figure 27). Increased global energy prices fueled by a worldwide energy supply crunch, coupled with the negative impact of flooding on domestic fresh food prices, drove the uptick in inflation. Transport price rose in line with fuel prices. Housing and furnishing price declined. In response, the government announced a cap on diesel prices at BHT 30 per liter. While administrative pricing can help temporarily contain supply-side shocks, it can also complicate monetary policy.[8] Meanwhile, the core inflation rate rose to 0.21 percent but remained low due to the government's household water-consumption subsidy, which was designed to reduce the cost of living during the COVID-19 outbreak.

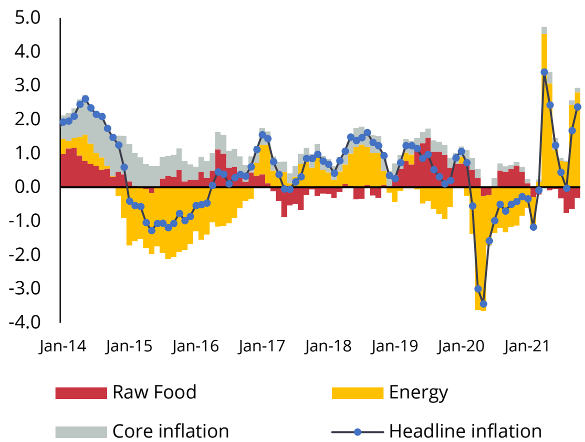
The Bank of Thailand held the policy rate constant at 0.50 percent

The central bank maintained an accommodative monetary policy stance, citing the need to contain inflationary pressures. The inflation rate is projected to remain low at 1 percent in 2021, close to the lower bound of the central bank's 1-3 percent target range. Inflationary pressure is likely to remain contained given well-anchored inflation expectations, the Thai economy's protracted recovery, and the anticipated persistence of the negative output gap until 2023.

[8] Justin-Damien Guénette (2020). *Price Controls: Good Intentions, Bad Outcomes.* World Bank Policy Research Working Paper.

Figure 27: Surging oil prices drove an increase in the headline inflation rate…

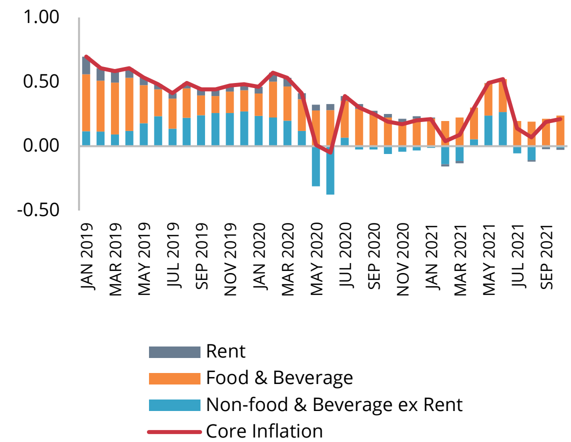
(Contribution to inflation, % change y-o-y)



Source: CEIC; World Bank staff calculations

Figure 28: … while rising processed food and beverage prices contributed to an uptick in core inflation.

(Contribution to inflation, % change y-o-y)



Source: Haver Analytics; World Bank staff calculations

vi. Thailand's financial system remains stable, but asset quality has deteriorated.

The banking system has remained resilient, with adequate capital and liquidity buffers.

The system's reported regulatory-capital-to-risk-weighted-assets ratio held stable at 19.7 as of end-June 2021, above both Thailand's statutory minimum and the Basel III minimum of 10.5 percent. Thai commercial banks maintained adequate short-term liquidity, with liquid assets equal to 34.6 percent of short-term liabilities at end-June. The loan-to-deposit ratio also remained broadly stable at between 107 and 110 percent (Figure 30), while the liquidity coverage ratio stood at 186.8 percent at end-September, well above the regulatory minimum of 100 percent.

However, profitability has declined.

Indicators of banking-sector profitability showed evidence of stabilizing after a sharp decline from pre-pandemic levels. The average return on assets fell from 1.7 percent at the end of December 2019 to 1.1 percent in June 2021, while the average return on equity dropped from 11.8 percent to 7.8 percent.

The deterioration of asset quality warrants increased monitoring.

Although the banking sector's nonperforming loan (NPL) ratio has remained manageable, with only a modest increase since the start of the pandemic, other asset-quality indicators have experienced a more pronounced deterioration. Asset quality in the banking sector declined moderately at the end of June 2021, as NPLs reached 3.2 percent of total gross loans, but other forward-looking indicators of asset quality worsened significantly. For example, the share of special-mention loans fell from 2.82 percent at end-December 2019 to 6.37 percent at end-June 2021. Though banks' provisioning levels are adequate, the ratio of NPLs (net of provisioning) to capital remained significant at 8.9 percent at end-June 2021. Importantly, emergency government interventions designed to support borrowers may mask underlying vulnerabilities in loan quality, which could deteriorate further as some of these measures expire in 2022.

Elevated corporate and household debt

Due to declining incomes, the corporate and household sectors are emerging from the pandemic with larger debt burdens and increased financial

levels pose risks to the financial sector.

vulnerabilities. Household debt increased from an already high 79.8 percent of GDP end-December 2019 to 89.3 percent in end-June 2021, with personal loans and real estate accounting for most liabilities. Deteriorating household income slowed the growth of consumer loans—including mortgage loans, auto loans, credit cards, and personal loans—during the third quarter of 2021, as households became more cautious about their spending, and a further erosion of household income amid an uncertain recovery could negatively impact the quality of the mortgage and personal-loan portfolio.

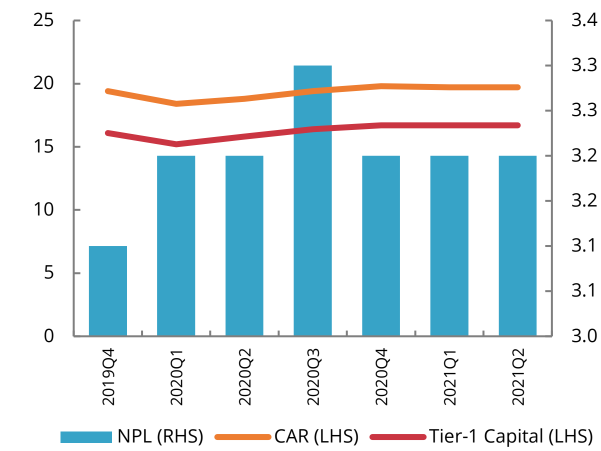
The nonfinancial corporate debt to GDP at 53.7 percent and financial corporate debt to GDP at 38.6 percent remained elevated. Of this, foreign-currency denominated debt remained stable at about 7.7 percent and 7.2 percent of GDP for nonfinancial and financial corporate debt respectively. Corporate bond yield spreads, which reflect default risk, for higher quality bonds (AAA and AA) have come down to pre-COVID levels but lower quality yield spreads (A) remain high (Figure 31). Vulnerabilities in the SME sector have increased. NPLs for small and medium enterprises are likely to worsen due to a significant slowdown in economic activities. As of end-September 2021, the NPL ratio for SMEs increased slightly to 7.18 percent while the NPL ratio for large enterprises declined to 2.41 percent (Figure 32).

The authorities maintained and extended policies to support the recovery of the private sector.

In September 2021, the Bank of Thailand introduced additional measures under its soft-loan facility, which has been extended until the end of 2022. As of November 2021, about 39,000 debtors had benefitted under this scheme, with SMEs accounting for about 44 percent. While several businesses have entered debt restructuring through asset warehousing programs, this initiative is still in its early stages, and few firms have taken advantage of it. In October 2021, the Bank of Thailand announced a temporary easing of the loan-to-value ratio for mortgage lending between October 20th, 2021, and December 31st, 2022, which will enable homebuyers to borrow up to 100 percent of their house's value. These measures are necessary to support the recovery, but providing adequate near-term stimulus while avoiding a buildup of long-term risks to financial stability will require well-targeted and transparent policy implementation.

Figure 29: The banking sector's liquidity indicators have proven resilient during the pandemic.

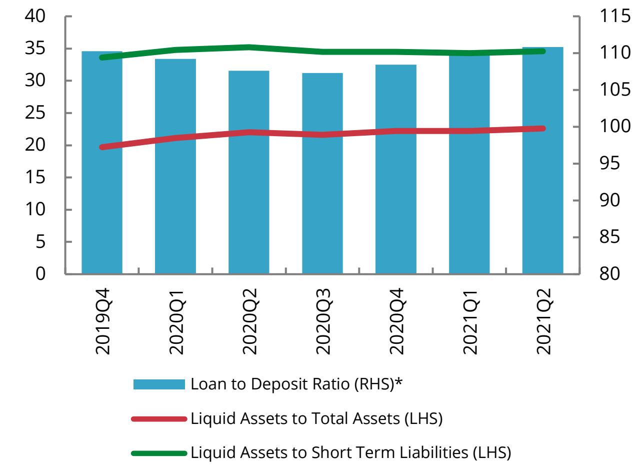
(Percent)



Source: Bank of Thailand, IMF FSI, and World Bank staff analysis

Figure 30: The NPL ratio remains elevated but manageable, while the capital adequacy ratio has been broadly stable.

(Percent)

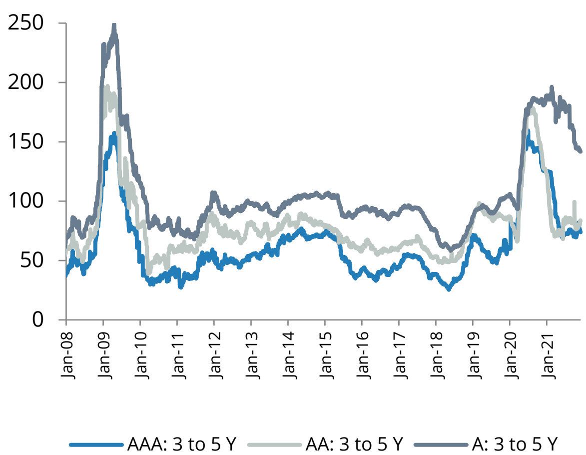


Source: Bank of Thailand, IMF FSI, and World Bank staff analysis

Note: Loan to Deposit ratio is calculated as Non-Interbank loans to customer deposits.

Figure 31: Default risk for higher quality corporate bonds have returned to pre-COVID levels.

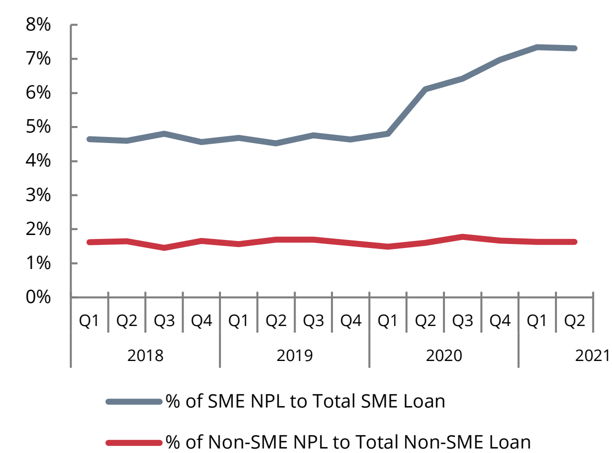
(Basis Points)



Source: The Thai Bond Market Association

Figure 32: NPLs for SMEs have ticked up.

(Percent)



Source: Bank of Thailand and World Bank staff analysis

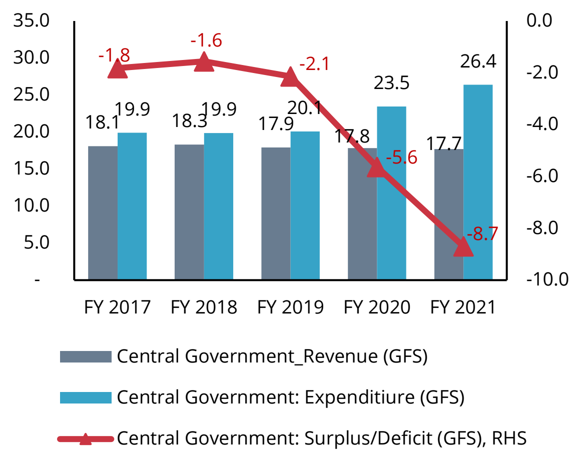
vii. The policy response to the pandemic has significantly widened the central government deficit.

Government revenue remained below pre-pandemic levels in the 2021 fiscal year (FY).

Central-government revenue for FY21 remained broadly unchanged from FY20 at 17.7 percent of GDP, with tax revenue ticking up from 14.3 percent of GDP to 14.6 percent. Value-added tax (VAT) and corporate income tax revenue—which represent about 60 percent of total revenue—improved modestly in line with the economic recovery. Personal income tax revenue has held steady at 2.0 percent of

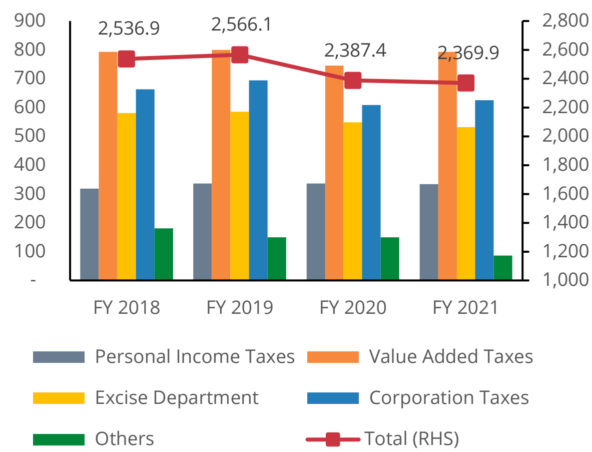
GDP since FY19. However, excise tax revenue continued to decline in FY21, as surging oil prices diminished oil tax collection and domestic lockdown measures caused oil imports to decline. (Figure 33 and Figure 34). Over the medium to long term, there is significant scope for the government to boost revenue mobilization, , as its tax-to-GDP ratio is low by the standards of regional and OECD peers.

Figure 33: The central government's budget deficit widened in FY21, as spending increased...
(% of fiscal year GDP, GFS basis)



Source: Fiscal Policy Office, Ministry of Finance

Figure 34: ...while fiscal revenues remained relatively low.
(THB billions (LHS), cash basis)

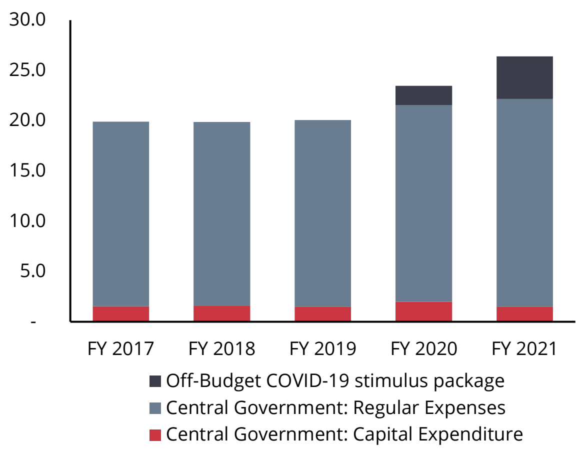


Source: Fiscal Policy Office, Ministry of Finance

Government spending increased substantially in FY21 due to the ongoing COVID-19 relief measures.

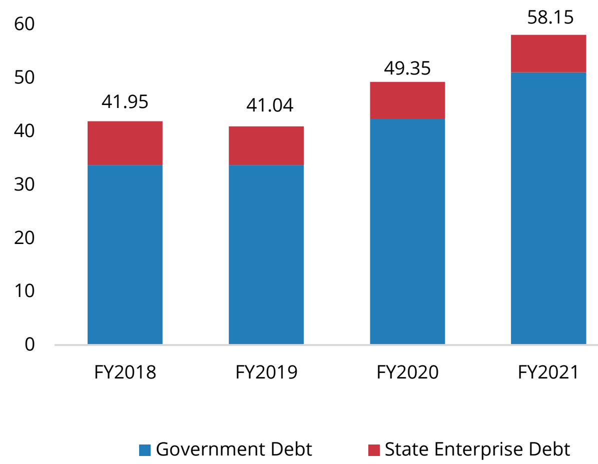
The government continued to use expansionary fiscal policy to counter the negative impact of the pandemic, and current spending increased substantially. Total central government spending rose from 23.5 percent of GDP in FY20 to 26.4 percent in FY21, accelerated by the rise in current spending, grants, and other spending under the THB 1.5 trillion loan decree. (Figure 35). Of the 1.5 trillion-baht envelope, the government disbursed THB 679.5 billion (4.2 percent of GDP) in FY2021, more than double the 300 billion disbursed in the previous fiscal year. Most of the disbursements were in form of relief (98.5 percent of total), rather than capital spending. By contrast, capital spending declined from 2.0 percent of GDP to 1.5 percent.

Figure 35: Fiscal expenditure continued to increase in FY21…
(% of fiscal year GDP, GFS basis)



***Source*:** Fiscal Policy Office, Ministry of Finance

Figure 36: … causing the public debt stock to increase substantially.
(% of GDP)



***Source*:** Fiscal Policy Office, Ministry of Finance

The central government's fiscal deficit widened further in FY 2021.

The central government deficit widened significantly from 5.6 percent of GDP in FY20 to 8.7 percent of GDP in FY21 as the government ramped up emergency spending to support the recovery and protect vulnerable households. The deficit now substantially exceeds the levels that prevailed during the five years prior to the COVID-19 crisis, when the deficit remained below 2.5 percent of GDP.

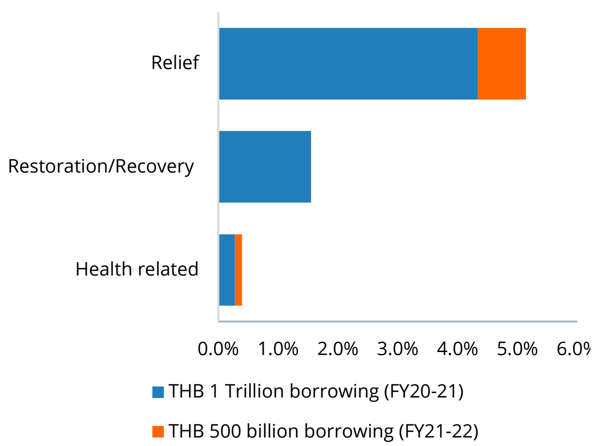
The public debt stock reached a 20-year high.

The public debt stock increased from 49.4 percent of GDP at the end of FY20 to 58.2 percent at the end of FY21 (Figure 36). In FY21, the government borrowed THB 690 billion (4.3% of GDP) of the THB 1.5 trillion authorized for the COVID-19 response, bringing total borrowing during FY20-FY21 to THB 1.03 trillion (6.4% of GDP). The borrowing undertaken during FY 2021 was used to fund cash transfers, co-payments, income subsidies, subsidies for students, and vaccine procurements from Pfizer and Sinovac (Figure 37). The remaining balance of THB 475 billion (2.9% of GDP) - out of the total 1.5 trillion in approved borrowing - is expected to be disbursed in FY22 (Figure 38).

The government raised the debt ceiling to 70 percent of GDP.

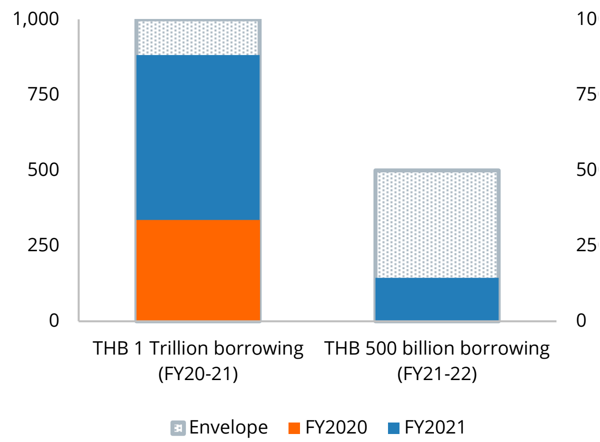
Accommodating the emergency policy response required temporary changes to the fiscal mandate, including raising the public debt ceiling from 60 to 70 percent of GDP. This change was consistent with the Fiscal Responsibility Act, which stipulates that the government has the discretion to adjust the public debt ceiling every three years. Raising the ceiling will allow the government to fully utilize the THB 1.5 trillion in borrowing authorized for the COVID-19 response effort during FY2020-22, which would push the debt-to-GDP ratio above 60 percent in 2022.

Figure 37: The 1.5 trillion-baht loan decree was used primarily to fund relief measures...
(% of fiscal year GDP)



Source: NESDC

Figure 38: ... and more borrowing to finance off-budget fiscal stimulus is expected in FY22.
(THB billion)



Source: PDMO

Nevertheless, public debt dynamics remain consistent with the government's criteria for fiscal discipline and are broadly sustainable.

The public debt stock is still below the fiscal sustainability framework's ceiling of 70 percent of GDP. The government's debt-service-to-revenue ratio also remains low at 10.7 percent, far below its ceiling of 35 percent, indicating that debt sustainability risks remain contained (Table 3). Other fiscal sustainability indicators also suggest that the debt path will remain sustainable, especially the 98 percent share of debt denominated in local currency, which is far higher than the levels of most regional peers. In addition, the relatively stable 10-year sovereign yield of 2.0 percent implies that domestic liquidity has remained sufficient (Table 4).

Table 3: Key fiscal-responsibility indicators remain well within their established parameters.

Key fiscal responsibility	Ceiling (%)	Latest (%)	As of
Public Debt / GDP	70.0	58.1	Sep-21
Government Debt Service / Revenue	35.0	10.7	Sep-21
Foreign Currency Debt / Public Debt	10.0	1.8	Sep-21
Foreign Currency Debt Service / Export	5.0	0.1	Sep-21

Source: Public Debt Management Office, Ministry of Finance; World Bank staff calculations

Table 4: Despite the recent increase in the debt stock, Thailand's debt-sustainability indicators are strong by regional standards.

%	Public Debt to GDP (FY22)	Budget Balance (FY22)	External Debt to government debt (FY20)	GDP growth 2021-2025	Inflation 2021-2025	10 Year Government Bond Yield
Indonesia	43.3	-4.8	13.8	5.3	2.7	6.2
Thailand*	**62.2**	**-4.5**	**1.2**	**3.3**	**1.3**	**2.0**
Philippines	62.3	-6.2	31.7	5.9	3.3	4.8
Malaysia	69.9	-4.1	26.1	5.1	2.1	3.6
China	72.1	-6.8	n.a.	5.9	1.8	3.3

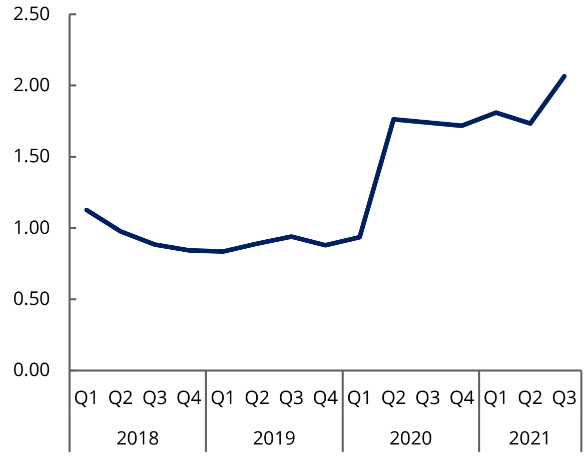
Note: * World Bank staff projections for inflation, public debt, and the budget balance
Source: Public Debt Management Office, IMF WEO, Haver Analytics; World Bank staff calculations

Poverty is estimated to stagnate in 2021 amid slow labor market recovery and gradual phasing out of the government's relief measures.

The unemployment rate remained well above the pre-crisis level at 2.06 percent in 2021 Q3 (Figure 39 and Figure 40) doubling from 0.94 percent in 2020 Q1 due to the pandemic.[9] Indicators of underemployment (self-employed, unpaid family worker) have also ticked up (Figure 40). The weak labor market recovery continued to put downward pressure on household income. A rapid phone survey by the World Bank implemented from April 27 to June 15, 2021 estimated that more than 70 percent of households experienced a decline in their income since March 2020, with vulnerable groups being hit hardest (Box 3). While large and generous relief assistance from the government helped mitigate the pandemic's impact on poverty in 2020, several programs were gradually phased out during 2021, leaving some vulnerable groups unprotected. The headcount poverty rate is estimated to remain stagnant at 6.4 percent in 2021, implying that 160,000 people have fallen into poverty since the onset of the pandemic.

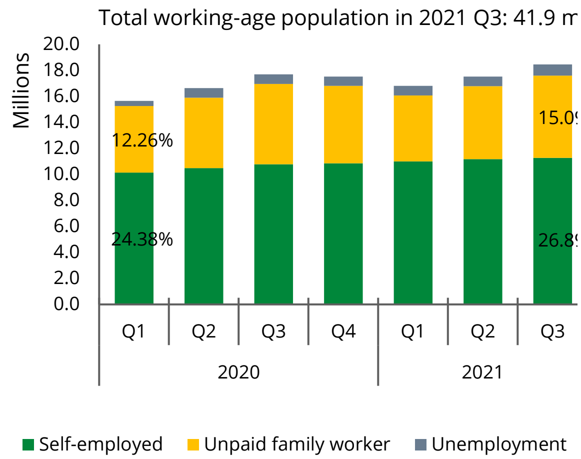
[9] Unemployment is defined as all persons who are without work or work less than one hour per week, in line with the International Labour Organization (ILO) definition. This definition has proven limited due to Thailand's large informal and agricultural sectors which typically serve as de-facto social protection buffers. As a result, the unemployment rate may undermeasure actually unemployment, especially during downturns when underemployed workers move to the informal sector or return to agricultural households.

Figure 39: The unemployment rate ticked up to the highest since there is a pandemic.
(Percent of population aged 15-64 years)



Source: Labor Force Survey, NSO

Figure 40: Underemployed and unemployed persons have increased.
(Population aged 15-64 years)



Source: Labor Force Survey, NSO

Box 3: The Impact of COVID-19 on Thai Households

To monitor the social and economic impact of the COVID-19 pandemic in Thailand, a rapid phone survey was implemented from April 27 to June 15, 2021. The survey interviewed 2,000 adults aged 18 and above, and it was designed to provide an up-to-date assessment of the pandemic's effects on employment, income, food security, education, and health, as well as the coping mechanisms used by households. The survey's results showed that despite the government's generous relief efforts the COVID-19 crisis inflicted a severe shock to vulnerable groups.

The national employment rate remained stable at 68 percent between March 2020 and June 2021, but large variations were observed between regions and population groups. Employment rates declined by 8 percentage points in Bangkok and other urban areas, while it increased by 8 percentage points in rural areas and the northern regions, as displaced urban workers returned to agriculture. More than half of respondents were affected by job losses, temporary work stoppages, reduced working hours, or reduced pay.

More than 70 percent of the interviewed households reported experiencing a decline in their income since March 2020, with about 80 percent of households in rural areas, the southern regions, and low-income groups experiencing income declines. Farming activities and nonfarm businesses were also severely affected, with about half reporting a decline in their incomes by more than 50 percent. Households in the south and those in low-income groups were the most significantly affected by income losses.

Over 80 percent of households benefitted from the emergency assistance programs introduced in 2020, including almost 90 percent of low-income households and those reporting income shocks. The share of social assistance beneficiaries almost doubled between 2019 and 2020 , yet many households reported running out of food, including 60 percent of low-income households and households with children. The most common household-level coping mechanisms including reducing food and nonfood consumption, relying on government assistance, drawing down savings, and engaging in additional income-generating activities.

Box 3: The Impact of COVID-19 on Thai Households

About 90 percent of households reported having all children ages 6 to 17 years enrolled in school during the last academic semester, but this share fell to 86 percent among lower-income households, versus 96 percent of higher-income households. Over half of all children attended a mix of in-person and remote classes, and one-fourth attended in-person only classes. About 57 percent of respondents indicated that enrolled children in their households faced learning issues, and children in rural and low-income households were more likely to have difficulty accessing remote-learning devices. The digital divide has aggravated the impacts of COVID-19 on education. Around 30 percent of households in the bottom income group cited the lack of access to remote-learning devices as the top barrier to effective education, and 15 percent cited inefficient internet as the top barrier, compared to 1 percent and 6 percent, respectively, for households in the richest income group. In addition to these effects on learning outcomes, school closures and disruptions could also negatively affect disadvantaged students who rely on schooling-linked social programs, including nutrition and early childhood support.

Roughly one-third of households that needed medical assistance reported being unable to access the necessary services due to concerns about COVID-19. Most respondents were aware of the availability of the vaccine and where to get it, with most having been informed through traditional media or social media. Concerns about potential side effects were among the main reasons for vaccine hesitancy, and more than 36 percent of respondents in the low-education and low-income groups, as well as younger respondents, did not plan on getting vaccinated.

2. Outlook: Signs of Recovery

i. Economic growth is projected to pick up in 2022 and 2023

Economic activity is projected to remain subdued in 2021 and will not return to pre-COVID levels until end-2022.

Economic growth is projected to reach 1.0 percent in 2021, unchanged from the October 2021 East Asia and Pacific Economic Update forecast (Table 5). Private consumption is expected to remain soft, due to the impact of mobility restrictions and containment measures on incomes and activity. However, income losses have been partially offset by social assistance measures. Investment is expected to expand by 5.6 percent. Private investment is expected to be supported by the rising capacity utilization in export-oriented manufacturing. Goods exports of are projected to be the main source of growth, supported by resurgent global demand. Meanwhile, service exports—which are largely related to tourism—will remain very weak in 2021 due to the third wave of COVID-19.

The economy is expected to gain momentum in the Q4 2021.

Given the decline in COVID-19 cases, the surge in the vaccination rate, and the relaxation of containment measures, economic growth is expected to accelerate in 2021, fueled by rising domestic travel and increased local mobility. By contrast, foreign tourism revenue is expected to recover gradually in Q4 despite the reopening of international borders. In addition, as changes in inventory drove GDP growth in Q3, a partial drawdown of inventories is expected in Q4 as supply-chain disruptions and logistics challenges ease.

Table 5: A modest recovery is projected to start in 2021 and accelerate in 2022 and 2023.

Percentage change	Share of 2020 GDP	2019	2020	Forecast			Contribution to GDP growth		
				2021F	2022F	2023F	2021F	2022F	2023F
GDP	***100%***	**2.3**	**-6.1**	**1.0**	**3.9**	**4.3**	**1.0**	**3.9**	**4.3**
Private Consumption	***55%***	4.0	-1.0	**1.0**	**3.8**	**3.9**	**0.6**	**2.1**	**2.2**
Government Consumption	***16%***	1.7	0.9	**2.5**	**2.0**	**-2.2**	**0.4**	**0.3**	**-0.4**
Fixed Investment	***24%***	2.0	-4.8	**5.6**	**6.0**	**3.6**	**1.4**	**1.5**	**0.9**
GFCF-Private	*17%*	2.7	-8.4	5.9	5.5	4.6	1.0	1.0	0.9
GFCF-Public	*7%*	0.1	5.7	4.8	7.2	1.0	0.3	0.5	0.1
Exports of Goods and Services	***61%***	-3.0	-19.4	**8.5**	**10.8**	**8.9**	**5.2**	**7.1**	**6.3**
Exports of Goods	*54%*	-3.7	-5.8	13.2	6.2	3.9	7.1	3.8	2.5
Exports of Services	*7%*	-0.5	-60.1	-26.9	53.3	49.1	-1.9	2.8	3.8
Imports of Goods and Services	***59%***	-5.2	-13.3	**16.6**	**6.3**	**6.7**	**9.8**	**4.3**	**4.8**
Import of Goods	*49%*	-5.8	-11.2	17.2	5.9	6.7	8.5	3.4	4.0
Imports of Services	*10%*	-2.7	-21.1	13.8	6.3	6.9	1.4	0.7	0.8
Net Export of Goods and Services							**-4.6**	**2.8**	**1.5**
BOP									
Exports of Goods, US$ term		-3.3	-6.5	16.6	5.7	5.0			
Imports of Goods, US$ term		-5.6	-13.8	25.0	8.5	7.2			
Trade Balance (US$ Billion)		26.72	40.86	30.73	25.94	21.66			
Current Account Balance (US$ Billion)		21.18	-18.64	-16.68	2.73	12.89			
Current Account Balance (% of GDP)		4.2	-3.6	-3.4	0.5	2.3			

Source: NESDC, Haver Analytics; World Bank staff calculations

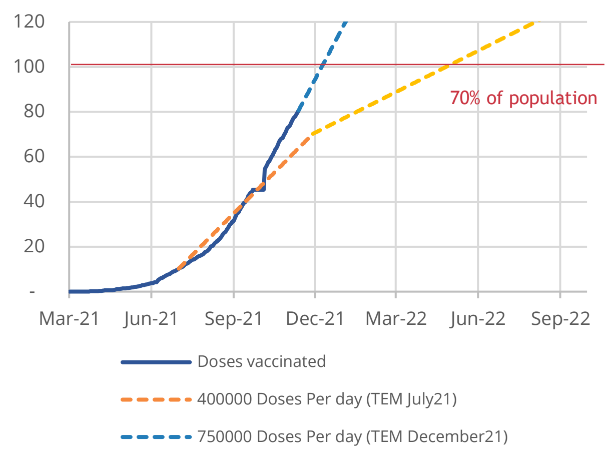
Rising vaccination rates will contribute to the economic recovery, but it will hinge on the resumption of international tourism.

The recovery is currently projected to accelerate to 3.9 percent in 2022, an upward revision from the 3.6 percent projected in the October 2021 East Asia and Pacific Economic Update. The pace of the recovery will depend on how quickly foreign tourist arrivals rise and domestic consumption increases. The forecast assumes that the government will achieve its vaccination target by the end of 2021, bolstering the confidence of international tourists. Meanwhile, the decline in new COVID-19 cases amid rising vaccination rates would also improve business and consumer confidence. However, the growth of goods exports is projected to slow in 2022 due to the softening global demand. Government consumption and investment are expected to decline in 2022 as the recovery gains traction and fiscal support measures wind down.

The projected path of COVID-19 vaccinations has been revised upward.

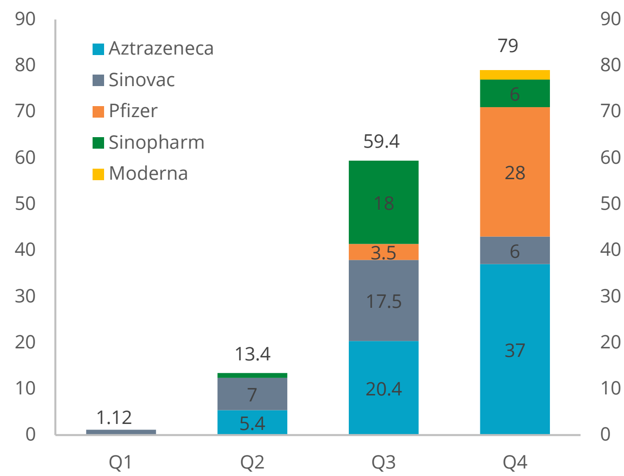
The 70 percent vaccination target is now expected to be reached by the end of this year, instead of in the first half of 2022 as previously projected (Figure 41). The significant increase in the pace of vaccination since August, including for school-aged children, reflects easing of constraints on the vaccine supply (Figure 42). Vaccine delivery in the third quarter rose sharply to 59 million doses, sufficient to fully vaccinate 40 percent of the population. An additional 79 million doses are expected to arrive in Q4. Recent trends suggest that the government will be able to achieve its target of vaccinating 70 percent of the population by end-2021.

Figure 41: The vaccination rate is projected to reach 70 percent by the end of 2021…
(Millions of doses)



***Source*:** Our world in data, CEIC; World Bank staff calculations

Figure 42: …due to the increase in vaccine deliveries since Q3 2021.
(Millions of doses per quarter)



***Source*:** Department of Disease Control; World Bank staff calculations

The recovery of domestic demand is projected to be supported by strengthening consumer confidence and additional fiscal relief.

Renewed domestic demand is expected to drive the growth of services as the impact of the pandemic wanes and the economy reopens. Emergency fiscal measures are expected to continue supporting domestic economic activity during the first half of 2022, when the remaining THB 354 billion (2.3 percent of GDP) of the THB 500 billion pandemic relief package is disbursed. As the recovery takes hold, fiscal support in FY22 is expected to be much lower than in FY21. Moreover, fiscal measures are expected to be more heavily weighted toward economic rehabilitation rather than social assistance and cash transfers.

The projection for international tourist arrivals has been revised upward to 6.8 million in 2022.

The reopening of borders is expected to attract more foreign tourists in 2022, but the increase is projected to be gradual. Despite the reopening of borders for fully vaccinated foreign tourists, beginning in Phuket in July and expanding countrywide in November, the number of foreign tourist arrivals in 2021 is projected to reach just 200,000 due to the third wave of COVID-19 infections and associated lockdown measures. As new infections decline and the government reaches its vaccination target, the number of international tourists is projected to pick up to 6.8 million in 2022, albeit just 17 percent of its 2019 level. The number of international tourists is projected to rise further in 2023, reaching 50 percent of the 2019 level by the end of 2023 (Figure 43).

However, an uncertain external environment clouds the tourism sector's outlook.

The pace of the tourism sector's recovery continues to depend on the loosening of restrictions in other countries and the confidence of travelers. Tourists may remain hesitant to travel internationally, particularly if doing so requires a quarantine period when returning home. Many Asian countries continue to impose mandatory quarantines upon entry, including for fully vaccinated travelers. Restrictive international travel policies in China are expected to keep the number of Chinese visitors low at least through the first half of 2022. As China accounted for 28 percent of total tourist arrivals in 2019, this will be a major drag on the tourism sector's recovery. The Chinese government has continued to ban outbound package travel and maintain a "zero-COVID" policy.

Goods exports are projected to remain strong, though moderating global demand will slow their expansion.

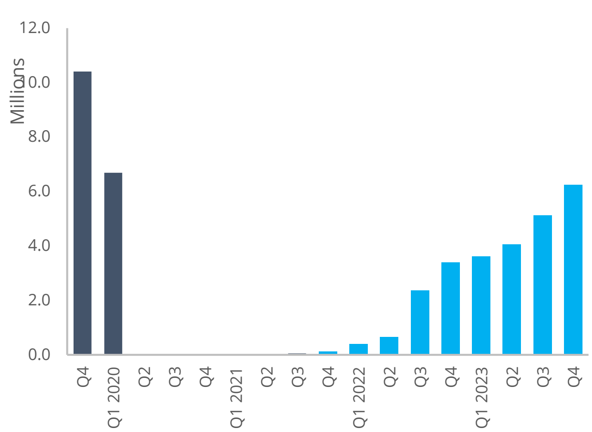
The projected growth of goods exports in 2022 has been revised down to 5.7 percent (in US dollar terms) in the wake of a 16.6 percent increase in 2021, the strongest rebound since 2010. The downward revision reflects softening global demand as macroeconomic support diminishes, risks of new COVID-19 waves persist, and supply bottlenecks linger. Global growth is projected to slow further in 2023 as pent-up demand is depleted and supportive macroeconomic policies continue to wind down. Total output in advanced economies is projected to return to its pre-pandemic trend in 2022, while emerging markets and developing economies will continue to suffer from low vaccination rates and the scarring effects of the pandemic.

Thailand's external position remains strong, with the current-account balance projected to normalize over the medium term.

The current-account balance is expected to recover from a deep deficit of 3.4 percent of GDP in 2021 to a slight surplus in 2022 (Figure 44). The 2021 deficit largely reflects the collapse in tourism receipts and the narrowing of the goods trade surplus from 7.9 percent of GDP to 6.2 percent amid rising imports of oil and intermediate goods. In 2022 and 2023, the easing of international travel restrictions and the eventual resolution of the supply bottleneck will improve the services trade balance, pushing the current account to a surplus of 0.5 percent of GDP in 2022 and 2.3 percent in 2023. However, moderating global demand and rising imports fueled by stronger domestic consumption are projected to weigh on the trade surplus.

Figure 43: The recovery of international tourist arrivals is projected to accelerate sharply in 2022...

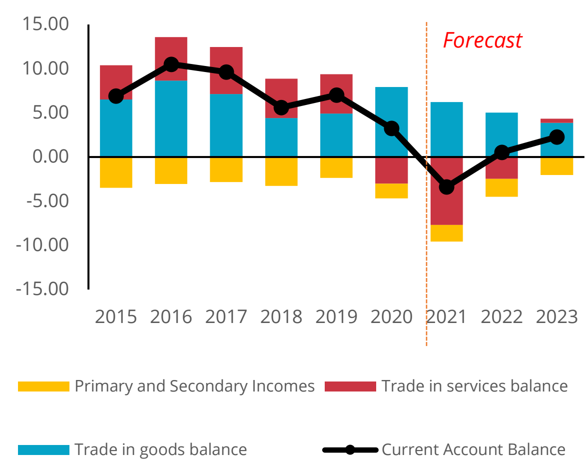
(Millions of arrivals)



Source: Forecast numbers since Q4 2021; World Bank staff calculations

Figure 44: ... and rising service exports will help push the current-account balance into surplus.

(Percent of GDP)



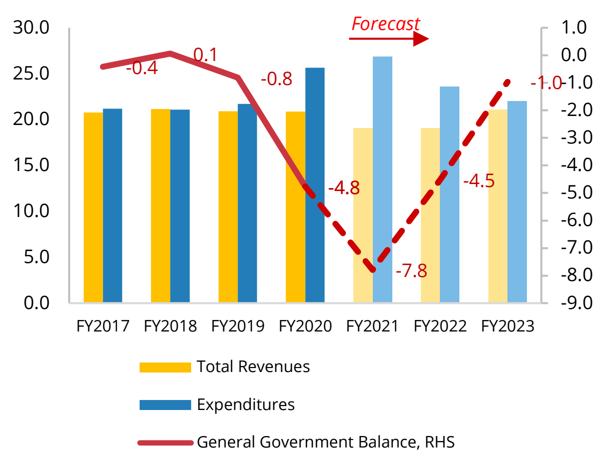
Source: World Bank staff calculations

The fiscal deficit is projected to narrow in FY22, and the public debt stock is expected to remain below 70 percent of GDP.

Thailand's fiscal deficit (general government) is projected to widen from 4.8 percent of GDP in FY20 to 7.8 percent in FY21 (Figure 45). In FY22, stronger revenue collection supported by the economic recovery, coupled with a decline in emergency relief spending, is projected to reduce the fiscal deficit to 4.5 percent of GDP. As the remaining THB 354 billion of the debt-financed pandemic relief package is expected to be disbursed in FY22, the public debt stock is expected to peak in FY22 at 62.2 percent of GDP before declining to 61.6 percent by the end of FY 23. Consequently, the debt stock is not expected to breach the new debt ceiling of 70 percent of GDP (Figure 46). The debt trajectory remains sustainable overall, as fiscal risks are mitigated by the fact that the debt stock is largely denominated in local currency and by the availability of sufficient domestic liquidity to accommodate the government's refinancing needs.

Figure 45: The central government's fiscal deficit is projected to widen in FY21...

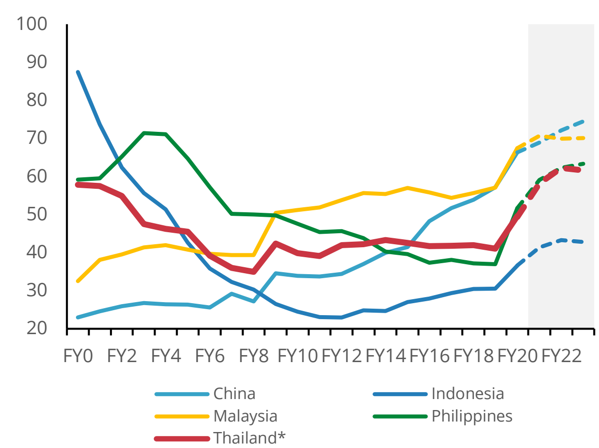
(LHS: THB billions, RHS: Percent of fiscal year GDP)



Source: Fiscal Policy Office, Haver Analytics; World Bank staff calculations

Figure 46: ...and the public debt stock is projected to rise along with those of regional peer countries.

(Percent of fiscal year GDP)



Note: *Thailand Public debt projection is based on the World Bank forecast

Source: IMF WEO October 2021; World Bank staff calculations

Inflation is expected to remain contained.

The headline inflation rate is forecast to remain low at 1.1 percent in 2021, reflecting subdued domestic demand and the limited pass-through effect of rising global oil prices, which is being mitigated by the government's cap on diesel prices at THB 30 per liter. Nevertheless, high oil prices are projected to boost headline inflation to 1.4 percent in 2022 and 1.3 percent in 2023. The core inflation rate is expected to remain low in 2022, reflecting the sizeable output gap. In 2023, some additional inflationary pressures may emerge as the economy continues to recover and the output gap closes. However, inflation is unlikely to experience a significant surge over the medium term, in part because prices administered by the government account for approximately 35 percent of the Consumer Price Index basket.[10] Monetary policy is expected to remain accommodative to support the recovery, with the policy rate forecast to remain unchanged at 0.50 percent in 2022.

ii. Downside risks remain considerable due to the possibility of a COVID-19 resurgence and the anticipated scarring effects of the pandemic

The global growth trajectory continues to hinge on the evolution of COVID-19 infections and the pace of vaccination.

The pandemic has been damaging the global economy - particularly in many emerging markets and developing economies (EMDEs) - and is projected to linger over the medium term, and the future trajectory of the pandemic cannot be reliably predicted. In 2021, the Delta variant drove renewed economic turmoil, which was exacerbated by the uneven vaccine rollout in advanced and developing countries. In advanced countries, the lower number of deaths due to the Delta variant relative to the previous wave of infections in 2020 has demonstrated the effectiveness of vaccinations and enabled governments to largely avoid the reimposition of strict containment policies. In contrast, the full vaccination rate in developing countries stayed below 60 percent of the population on average and vaccine supply has been limited, suggesting that the stringent mobility measure to contain the virus could continue to damage the EMDEs.

Another risk arises from tightening monetary policy by advanced countries.

The region's recovery now lags that of the industrial countries, and regional production disruptions could accentuate inflationary pressures abroad by creating input shortages. The concern is that rapidly growing economies such as the United States are likely to raise interest rates to counteract inflationary pressures. The prospect of higher interest rates in the United States could lead to capital outflows and depreciation pressures in some of the region's economies—an echo of the "taper tantrum" of 2013, when the Federal Reserve began normalizing monetary policy after the financial crisis. The presence of foreign currency-denominated debt in firms' balance sheets is a source of vulnerability in some EAP countries, such as Cambodia, Indonesia, and Malaysia. However, Thailand is relatively less exposed due to its strong external position (See Table 1).

The reopening of international borders is vital to the economic recovery, but it also increases the risk posed by new disease variants.

Despite its high vaccination rate, Thailand will remain vulnerable to renewed outbreaks and new variants, which may prove resistant to existing vaccines. A resurgence in COVID-19 cases could also increase policy uncertainty regarding the reopening of borders and the lifting of mobility restrictions, damaging business sentiment and consumer confidence—especially in the vital services sector. Such uncertainty could be challenging for the economic recovery in 2022 and 2023 (Figure 47), through the losses of business sentiment - especially in the services sector - and consumer confidence.

The emergence of new variants suggest that the path of recovery remains highly uncertain.

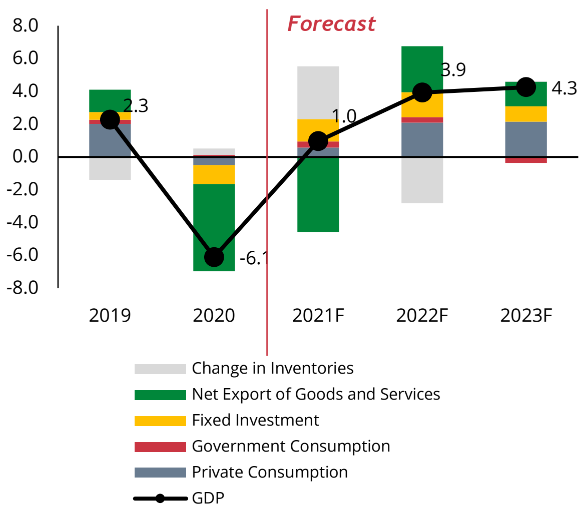
Over the past year, consecutive downward revisions in our GDP forecast were due to initial over-optimism over the improvement of tourism and the global pandemic. Going forward, should a new vaccine-resistant strain of coronavirus emerge, the nascent recovery would be set back again. The economy could drop into a slight contraction at 0.3 percent in 2022, before rebounding by 5.2 percent in 2023 (Figure 48). The downside scenario assumes the reimposition of border

[10] Wanicha Direkudomsak, (2016). "Inflation Dynamics and Inflation Expectations in Thailand" in Wanicha Direkudomsak (eds.) *BIS Papers*, vol 89, Bank for International Settlements.

closures and mobility restrictions during the first half of 2022. As a result, the private consumption and exports of services are likely to continue to be severely hit, whereas the government is expected to release more reliefs measure to help alleviate the losses. To avoid the risk of economic contraction, further vaccine distribution and expanded testing and tracing to protect the citizens against new variants will remain critical to mitigate the risk posed by variants.

Figure 47: Projected contributions to GDP growth.

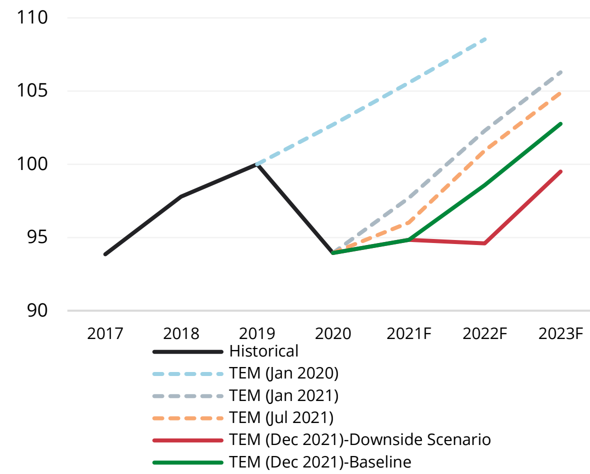
(Percentage Point)



Source: NESDC; World Bank staff calculation

Figure 48: Output will only return to the pre-pandemic level in 2022.

(GDP Index, 2019 = 100)



Source: Haver Analytics; World Bank staff calculations

Lasting scars from the crisis will reduce potential output…

In the years prior to the onset of the COVID-19 pandemic, the potential GDP growth rate was estimated at 3.0-3.5 percent per year. Post-pandemic estimates now put the potential GDP growth rate at below 2 percent, reflecting the diminished growth of the physical capital stock, loss of human and intangible assets, and impacts on total factor productivity. In contrast to other countries, the government response including substantial social assistance and mass vaccination has helped to prevent large-scale losses in human capital. But firm closures and employee separations are likely to have contributed to the erosion of valuable intangible assets, such as management and technical know-how, employee skills, and workplace networks and relationships. In addition, aging continues to reduce the share of the working-age population, putting further downward pressure on potential output (Figure 49). Diminished potential growth will constrain actual growth over the longer term unless action is taken to remedy the scarring effects of the crisis and capitalize on emerging opportunities (EAP, September 21).

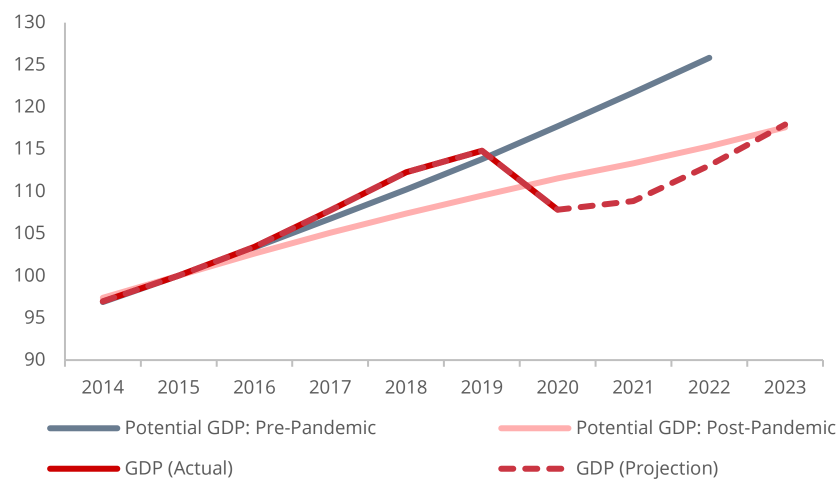
Although the recovery in investment projected in the baseline forecast would support the growth of the capital stock, firms may be reluctant to borrow and invest to the extent that their balance sheets have weakened due to the COVID shock. A deferral of productive investments could reduce potential output in the medium term. On the other hand, a further increase in debt levels in a context of prolonged uncertainty may also pose risks to the outlook—some of which may only become apparent once existing forbearance measures expire.

…while aging poses additional longer-term risks.

In the medium and long term, rapid aging is likely to weigh further on growth. The working-age share of the population is projected to decline from 71 percent of the population in 2020 to 66 percent in 2030 and then 56 percent in 2060. Job losses and school closures associated with COVID-19 may also have adverse long-term effects on skills and human capital accumulation.

Figure 49: The impact of the pandemic has lowered Thailand's estimated long-term potential GDP growth rate.

(Potential output and GDP projections, index, 2015 = 100)



Source: World Bank staff calculation

Note: The pre-pandemic potential GDP growth rate was estimated in September 2019

The adoption of digital technology has the potential to support Thailand's recovery and raise potential output over the longer-term.

Mobility restrictions and precautionary behaviors have accelerated the uptake of digital technologies in Thailand. In addition to supporting economic recovery from COVID-19, digitalization also offers the opportunity to permanently increase potential output via improvements in productivity and reduced market frictions. Digital commerce and service delivery can lower operating and transaction costs and allow businesses to reach a wider range of customers, suppliers, and workers. Financial technology can ease financing constraints among SMEs, while data analytics, artificial intelligence, and machine learning can help increase firm efficiency and augment worker skills. As described in Part 2 of the TEM, the government has taken important steps to advance the digital agenda, but more can be done to develop digital services and spur the digitalization of businesses. Key priorities include promoting competition and incentivizing interoperability in digital markets, increasing the availability of digital skills and complementary capabilities, and enhancing access to innovation finance.

Part 2. Building Back Better by Boosting the Digital Economy

i. Building back better requires bold action--a private sector led recovery can put the Thai economy back on track.

Thailand's policy makers have an opportunity to leverage global trends and promote an economic recovery model centered on innovation.

In response to the business disruptions due to COVID-19, many firms have adopted digital technologies to overcome mobility restrictions and keep operations running. This development, part of a global trend, presents risks but also enormous opportunities. As set out below, there is much that the Thai government can do to take advantage of these opportunities while minimizing the risks.

This Part 2 starts by describing the potential for digital and innovation in Thailand. The account emphasizes how the adoption of digital technology and digital services can accelerate economic recovery and address prevailing structural issues in the Thai economy.

The next section discusses recent advances in growth, investment, and market participation of digital services in Thailand. This account also emphasizes the government's efforts to advance targeted policy measures to promote digitalization and improve enabling conditions for the digital economy to flourish. The narrative also includes progress in digitalization of businesses induced by the recent COVID-19 pandemic. This part concludes with the profiling of opportunities to build on these recent gains in digital services and take these to the next level.

The final section describes how promoting competition of digital markets, boosting availability of digital and complementary skills, and enhancing access to innovation finance, can speed the business transition toward the digital technology and the increased participation of Thai firms in digital service markets. The narrative concludes by discussing the ways through which policy makers can seize these opportunities.

Part 2 builds on previous Thailand Economic Monitoring reports. The 2017 summer edition of TEM introduced Thailand's digital institutions and aspirations for the digital economy. It discussed priorities for Thailand to shorten the gap towards the digital frontier, including foundational investments in connectivity. The 2018 spring edition of the TEM discussed service liberalization, data strategy, intellectual property rights, and skilled labor as measures that could make the Thai economy more innovative (beyond the innovation paradox). A few months before the pandemic hit, the July 2019 edition of the TEM discussed how the fintech revolution could increase financial inclusion, efforts from the government to use the regulatory sandbox to support fintech innovation, the importance of policy coordination, engagement with the private sector and venture capital in helping leverage the full potential of Fintech. This edition of the TEM expands on the previous discussions of the digital economy to put it in the context of COVID recovery and business in a post COVID world. It discusses the recent trends resulting from the pandemic, and it goes deeper than all previous editions on the topic of promoting market competition, innovation finance and the digital skills.

Use of digital technologies and consumption of digital services increased during the pandemic in response to extended mobility restrictions.

The adoption of digital technology can help generate commerce opportunity, improve productivity, and provide resilience against the economic shocks, like the COVID-19 pandemic. Digital encompasses innovative technologies that have the potential to radically change the way organizations and people operate, creating new markets and business models, and making goods and services accessible to more consumers.

Firms started to cope with mobility restrictions and health concerns from workers and consumers by adopting digital solutions almost as soon as the pandemic began. Business pulse surveys conducted by the World Bank found that by the summer of 2020, almost two thirds of firms have used digital platforms for running their businesses. However, the type of digital technologies acquired – and the level of digitalization, was not the same across firms. Firms of all sizes have adopted front end digital business solutions, such as customer-facing digital platforms, for marketing and promotion. However, the use of backend business solutions, such as platforms for supply chain management or for internal business processes, was higher for larger firms. The monitoring surveys also found that adopting digital solutions was linked to increased sales, especially for those technologies related to backend business processes and supply change management. Long term productivity from adopting digital solutions needs to be matched with managerial and workers skills, which can enable full absorption of these technologies (World Bank Group, 2021). Digital technologies also enable the service economy. Digitally enabled firms can improve service delivery by reducing the need for physical proximity through remote assistance, virtual communications, and empowered distant work. Thailand relies heavily on the tradable services of travel and tourism. These subsectors typically spawn few links to the rest of the economy and do not contribute significantly to diversification (Mc Millan *et al.*2017). Thailand's participation in export-led global innovator services has been much lower than might be expected from its income level (Figure 50). But export-led global innovator services create greater linkages to other sectors of the economy, including manufacturing, and hence tend to be more productive

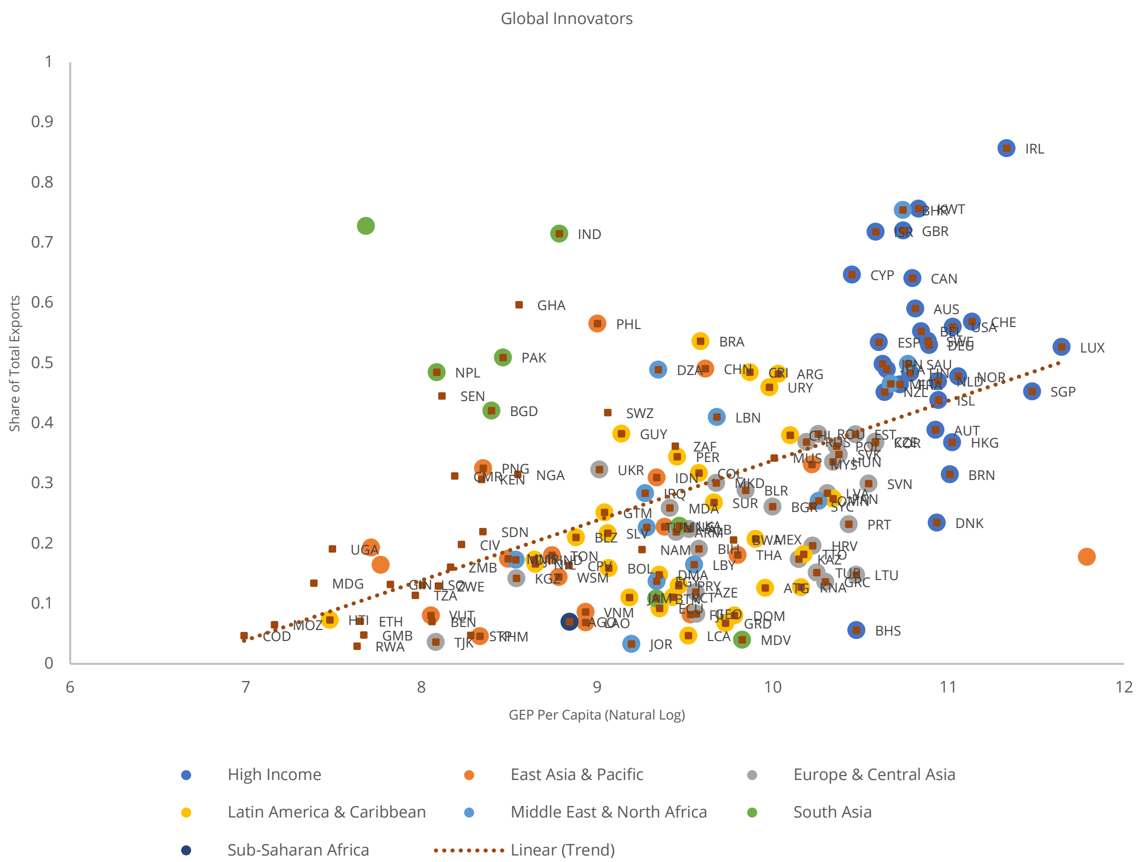
Box 4: Harnessing the power of digital technology can unlock productivity in different ways.

Digital solutions can reduce costs of search, replication, transportation, tracking and verification[1]. In addition, integrating digital technology into business operations, such as data analytics, artificial intelligence, and machine learning, increases firm efficiency and augments worker skills. Moreover, digital solutions can generate spillovers and connect firms, workers, suppliers, and customers easily. This can accelerate the transformation of business processes from analog to digital, opening opportunities for expansion of tele-health, fintech and travel tech business models, just to name a few.

Developing competitive digital services, such as digital commerce is important to promote growth. For example, digital commerce can reduce operating and transaction costs and allow small businesses to reach new markets. In Thailand, for SMEs engaged on digital commerce platforms, digitalization can lead to increased revenues, productivity, and market reach. According to a study conducted by SEA Group, digital commerce adoption in Thailand increased revenue by 133 percent, on average for SMEs with an offline business. This ranges from a 93 percent increase for merchants with online sales below 20 percent of total sales, to as high as 369 percent for sellers with online sales representing more than 80 percent of sales. Adoption of digital commerce also brought significant increases in efficiency, household income and employment for SMEs, as well as allowing SMEs to sell outside their local markets and gain access to larger demand.[11]

Figure 50: Thailand's participation in global innovator services is below expectations for its level of income.

Share of global innovator services in total exports and log of 2017 GDP per capita



Source: Nayyar, Gaurav, Mary Hallward-Driemeier, and Elwyn Davies. 2021

Thailand's prospects for digital service market growth and investments look promising.

According to data from the Electronic Transactions Development Agency, digital commerce in Thailand grew close to 36 percent from 2017 to 2018 in terms of value. Thai digital commerce was estimated to be valued at close to US$

[11] Sea Insights (2019) "E commerce & SMEs. Uncovering Thailand's Hidden Assets" Available at: https://cdn.sea.com/webmain/static/resource/seagroup/sea%20insights/%5B2019-11-07%5D%20Thailand%20Seller%20Report%202019/Thai%20Seller%20Report%202019.pdf

5 billion[12] in 2020, representing 3 percent of total retail sales[13], and is expected to generate revenue growth rates of 13.2 percent annually through 2020, 2021 and 2022.[14] Digital commerce company Lazada, which hosts roughly 200,000 merchants on its platform, added 26,000 new merchants in March 2020 alone.[15] This trend may be intensified in the COVID-19 context. In Thailand, 30 percent of all digital service consumers were new since the beginning of the pandemic, and 95 percent of these new consumers intend to continue after the pandemic. [16] According to a recent report for online merchants, by August 2021, about 9 million new individuals became digital consumers since the start of the pandemic. Consumption among internet users was 90 percent, the second highest in the region (after Singapore). The same report estimates that in 2021, Thailand's total Gross Merchandise Value will reach US$ 30 billion, driven primarily by the expansion of digital commerce.

Looking at the yearly deal activity for digital services, the e-Conomy report projects record investments for 2021, in line with the growth in consumption of digital services such as digital commerce. A recent World Bank Group study,[17] suggests that an investment opportunity of about US$ 1.8 billion lies unexploited both in currently untapped potential in five B2B digital sectors and in the possible expansion of four B2C sectors, based on an analysis of regional risk capital funding flows to digital startups (Figure 51). The study concludes that if Thailand's digital firms were to attract levels of venture capital (VC) or private equity (PE) investments comparable to Asian frontier markets, additional funding of US$ 1.2 billion would flow into Thailand on an annual basis. The remaining US$ 0.6 billion would result from Thailand strengthening the sectors in which it is already well-positioned. Investments in these underlying sectors and technologies would help accelerate the digitalization of primarily analog sectors such as automotive, health and agribusiness.

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[12] Economist Intelligence Unit; RISE. Perspective on Thailand Digital Ecosystem. Available at: https://www.boi.go.th/upload/content/Perspective%20on%20Thailand%20Digital%20Ecosystem.pdf; Google, Temasek, Bain and Co. "E-conomy SEA 2020". Available at: https://www.bain.com/globalassets/noindex/2020/e_conomy_sea_2020_report.pdf

[13] https://www.boi.go.th/upload/content/Perspective%20on%20Thailand%20Digital%20Ecosystem.pdf

[14] https://www.idginsiderpro.com/article/3301337/how-ecommerce-is-changing-thailands-economy.html#:~:text=2018%20concluded%20with%20good%20news,to%20hit%2020%25%20this%20year.

[15] https://www.globaldata.com/E-commerce-emerges-mainstream-payment-thailand-amid-covid-19-crisis-finds-globaldata/

[16] Google, Temasek, Bain and Co. "E-conomy SEA 2020". Available at: https://www.bain.com/globalassets/noindex/2020/e_conomy_sea_2020_report.pdf

[17] World Bank Group (2020) Thailand Country Private Sector Diagnostic.

Figure 51: Regional risk capital funding flows to digital startups suggests an opportunity of about US$ 1.8 billion a year by 2025.

Thailand's funding gap/potential in key digital business industries relative to Asian peers

Focus of Thailand's Strategy	Thailand's Annual Funding Gap or Surplus Relative to Asian Frontier Markets (in USD mio)	
Catch up	MobilityTech	-390
	EntertainmentTech	-326
	Big Data and Analytics	-285
	Digital Media	-208
	HealthTech	1.8
Keep growing and scale	E-Commerce	-354
	FinTech	-276
Scale and lead	FoodTech	24
	TravelTech	167

***Source*:** World Bank Global Digital Business Database, based on CB Insights and Pitchbook data

Digital financial services, or fintech, is another digital service that can power businesses.

Supporting the development of digital services, such as fintech is important to promote broad based investment and increase financial inclusion. Fintech provides SMEs access to financing that might not otherwise be available to them. Access to more and lower cost financing allows SMEs to invest and grow. Promoting the growth of SMEs is important to the Thai economy since this segment of businesses represents over 99 percent of firms in the country.

From 2016 (the year PromptPay was launched in Thailand) to 2020, there was a 169 percent increase in digital payments in the country.[18] According to the Bank of Thailand (BoT), e-payments increased by 18 percent in volume and 44.4 percent in value year-to-year by July 2020. The volume share that immediate payments represent, from overall non-paper-based transactions, increased from less than one percent in 2017 to around 25 percent in 2019.[19] By August 2021, 96 percent of the respondents in the merchants e-Conomy survey reported using digital financial payments, and 82 percent report using digital lending solutions.

Thailand performs less well on measures of the utilization and quality of financial services, however. In 2018, less than 19 percent of Thai adults reported shopping or paying bills online, far below the regional average of 39 percent and the middle-income-country average of 38 percent.[20] It has been estimated, that closing the regional gap with Singapore's financial-inclusion indicators could

[18] https://www.mastercard.com/news/perspectives/2020/how-the-mobile-payment-revolution-in-thailand-is-empowering-a-generation-of-entrepreneurs/

[19] ACI Worldwide. "Prime Time for Real-Time. The Global Real-Time Payments Report" 2020. Available at: https://go.aciworldwide.com/Global-Payments-Report-thailand.html

[20] WBG. "Thailand Economic Monitor July 2019" Available at: http://documents1.worldbank.org/curated/en/765751562176921636/pdf/Thailand-Economic-Monitor-Harnessing-FinTech-for-Financial-Inclusion.pdf#page=36

reduce the country's Gini coefficient by 10-20 percentage points.[21] Fintech innovations could play an important role in filling these gaps. Thailand's e-payment transactions have rapidly grown since the introduction of Promptpay by the Bank of Thailand and the Thai Banker Association in 2016. According to the Bank of Thailand, by mid-2021, there were over half a billion transactions per month conducted through PromptPay.[22] This is an important development but broadening the range of digital financial services available in Thailand could accelerate gains in financial inclusion.

The Thai government is committed to advance new technology, and in particular the digital technologies, under the banner of Digital Thailand and Thailand 4.0 initiatives.

"Digital Thailand" and "Thailand 4.0" are core to the government's vision for the digital transformation of the Thai economy[23] The National Economic and Social Development Plan (NESDP) (2017–2021) also emphasizes support for new entrepreneurs and for SMEs that utilize innovation and digital technology. There is also an emphasis on public-private partnership (PPP) investments, the creation of funds, and government investment in higher-risk disruptive technologies (Office of the National Economic and Social Development Board, Prime Minister's Office, Thailand 2017).[24] Furthermore, the Eastern Economic Corridor (EEC) has made the expansion of digital technologies a key component of its strategic initiatives. Under Thailand 4.0 there is a focus on a value-based strategic plan that has an important focus on SMEs and their participation in digital markets and technological

Box 5: The case of Thaitrade.com

An example of Thailand's government efforts to foster e-commerce growth and participation of SMEs in it. This is designed to facilitate and provide Thai SMEs' opportunity for cross border e-commerce by using national e-commerce as a fundamental platform. In 2016, the Bank of Thailand, together with the main commercial banks, launched PromptPay, an interbank mobile-payments system that enables users to transfer funds using only the mobile number or national ID number of the recipient. PromptPay eliminated many fees charged to the customer for small amounts of interbank and inter-region fund transfers and has lower fees for other operations. PromptPay has catalyzed the adoption of digital payments, forcing down bank fees and expanding financial inclusion. However, PromptPay could be better leveraged to allow for the development of other digital financial services.

[21] IMF Asia and Pacific Department (2018), "Financial Inclusion in Asia-Pacific" Available at: https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2018/09/18/Financial-Inclusion-in-Asia-Pacific-46115.

[22] https://www.bot.or.th/App/BTWS_STAT/statistics/BOTWEBSTAT.aspx?reportID=921&language=ENG

[23] These include agriculture and biotechnology, smart electronics, medical and welfare tourism, automotive, food, biofuels and biochemicals, the digital economy, healthcare, automation and robotics, and aviation and logistics.

[24] See the third development target, p. 26. See also section 3.1.2.

adoption.[25] The Bank of Thailand, in the Financial Sector Master Plan, is looking to transform infrastructure, modernize technology, drive innovation, address inclusion and tackle an over-reliance on cash in the financial sector. The government is looking for Thailand to move towards a cashless economy and position the country as an economic and financial powerhouse in the region.[26]

However, there is a significant opportunity to develop digital service markets further.

ii. Unlocking the opportunity to leverage expansion of digital services to accelerate economic recovery, however, will require targeted interventions

Removing constraints to private investment and improving enabling factors can expand and accelerate business participation in digital markets.

The rapid expansion of digital services and solutions in Thailand relies on market enabling conditions. These enablers include i) the level of readiness by firms to adopt digital solutions and take up of internet services by the general population, ii) a large talent pool in STEM and ICT subjects, iii) availability of high-quality connectivity infrastructure, with good coverage, that includes electronic payment systems, iv) the presence of a vibrant digital ecosystem, which includes innovation finance, and v) a conducive regulatory environment that promotes competition, investment and dynamic entrepreneurship.

This part focuses on the regulatory environment that promotes competition, STEM, ICT, and complementary skills and innovation finance for the following reasons. Thailand has shown gaps in aggregate metrics of market competition in digital markets. The tendency of Thai markets to concentration and conglomeration have been observed in E-commerce marketplaces. In addition, finance for digital upgrading and innovation is a critical ingredient in a dynamic digital ecosystem but Thailand has shown an underdeveloped finance scene for early-stage ventures. Finally, technological absorption capacity depends on the availability of highly skilled workers, yet digital literacy, while increasingly important, is not systematically taught in the country. STEM skills are below par, and firms have reported difficulty finding technical skills. A detailed discussion on these topics is offered in the next section.

There are opportunities to sensitize potential consumers on the benefits of digital services, expand usage of electronic payments, and coverage of digital infrastructure, particularly for data intensive services, which may require 5g. However, recent reports have shown that Thailand has made advances in these areas. The recent e-Conomy report reported explosive growth in consumption of digital services, and a surge in digital commerce, boosting electronic transactions. For example, the average number of new digital services consumed over time has increased from 4.2 (pre-pandemic) to 8.1 in 2021. Thailand has

[25] https://thaiembdc.org/thailand-4-0-2/#:~:text=Thailand%204.0%20is%20an%20economic,advanced%20industry%20(Thailand%203.0).; https://www.boi.go.th/upload/content/Thailand,%20Taking%20off%20to%20new%20heights%20@%20belgium_5ab4f8113a385.pdf ; https://unctad.org/system/files/non-official-document/dtl_eWeek2018p18_ChantiraJimreivatVivatrat_en.pdf

[26] Bank of Thailand (2017) "Bank of Thailand's 3-years strategic plan 2017-2019" Available at: https://www.bot.or.th/English/AboutBOT/RolesAndHistory/Documents/3yearsStrategicPlan.pdf

performed decently in access to broadband infrastructure, a measure of digital connectivity. In 2020, Thailand featured 16.6 broadband subscriptions per 100 people, within the range of comparator countries such as Mexico (16.4), Colombia (15.2) and Chile (19.6).

Promoting market contestability that rewards performance, and provides a level playing field for entrants that introduce innovations would create value for the digital economy.

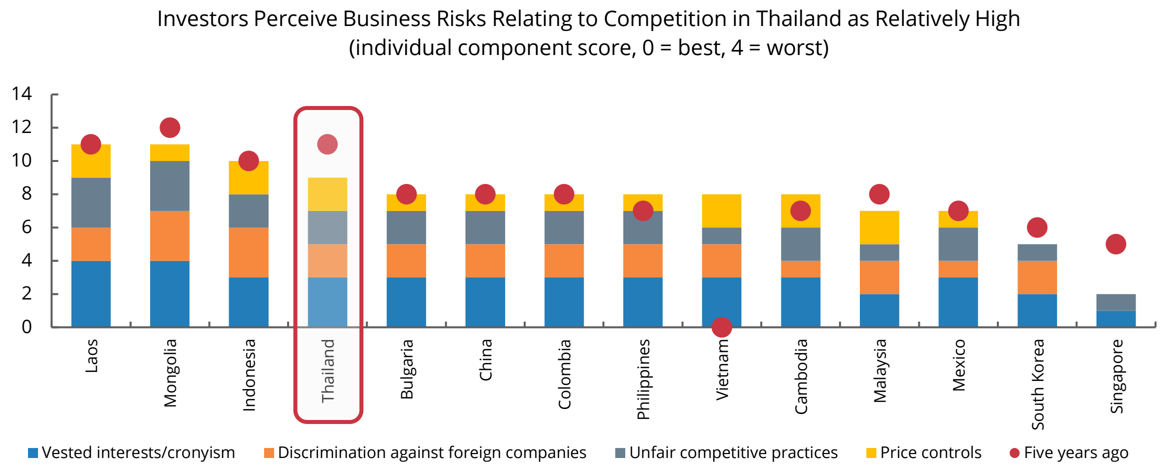
With respect to improving competition, digital services show characteristics of being dominated by networks of connected firms that create barriers to entry for new and independent firms. These barriers limit the choice of platforms and services available to entrepreneurs. Vibrant digital commerce relies on a competitive ecosystem where suppliers have adequate choice over which platforms they link to and are protected from asymmetric bargaining power in favor of large platforms. Digital commerce markets should balance the power dynamics, empowering SMEs and small entrepreneurs when interacting with digital platforms. The World Bank Group Country Private Sector Diagnostic for Thailand revealed issues related to practices of large platform players vis-a-vis small suppliers and the presence of an unleveled playing field between local and international suppliers.

As in other countries, market concentration of digital services remains high in Thailand. The B2C e-marketplace segment of digital commerce markets is dominated by two large players that belong to business conglomerates that account for almost 100 percent of market share. In 2019, Shopee was the e-marketplace leader in Thailand, accounting for 54 percent of market share.[27] Shopee is owned by SEA Group, a digital economy conglomerate with presence throughout Southeast Asia. In second place is Lazada at 46 percent market share. Lazada is one of the largest players in digital commerce in the region and is backed by the Chinese digital business conglomerate, Alibaba Group. In the B2B segment, digital commerce platforms in Thailand are part of large conglomerates that also operate in the B2C digital commerce segments. The leading B2B digital commerce services are Officemate and Pantavanij. In 2020 Officemate was acquired by Central Group, the major shareholder of the JD Central B2C platform. This merger was controversial as it was not reviewed by the competition authority. Pantavanij another B2C digital commerce platform is part of the CP and True Group, the largest Thailand conglomerate which has operations in the B2C segment through WeMall, in e-payment platforms and Fintech through TrueMoney and Ascend Nano, as well as in telecommunications.

Making fintech stronger could also benefit from efforts to boost competition and open markets to players beyond the existing large conglomerates. Ensuring that traditional financial players do not receive preferential treatment in design of regulations would also boost competition. Efforts to dismantle conditions favoring incumbents in the financial sector will allow the development of nontraditional business models that expand access and utilization of fintech operators in the country.

[27] https://www.bangkokpost.com/business/1921656/2020-online-trade-set-to-hit-b220bn

Figure 52: Challenges to a competitive market in the digital economy



Source: Economist Intelligence Unit (EIU) Risk Tracker, March 2021.

A competitive digital ecosystem: sizing on an important contributor to economic recovery

Thailand presents significant space to add dynamism to the digital economy.

Large conglomerates have a diversified offering of products and services that reach several different sectors in SEA and in Thailand.

Paired with high market shares and vertical integration, this creates a market structure that could be prone to market dominance, barriers to entry, and abusive anticompetitive practices. SEA (Shopee) and Lazada are vertically integrated into upstream and downstream segments of the digital commerce value chain, such as in logistics, and technology solutions. They are also present in adjacent markets such as electronic payments and E-wallets.[28] Also, Shopee is looking to expand to microloan services provided to sellers in the platform (an example of embedded finance). Moreover, SEA has partnerships with Gojek, one of the most important players in the ride hailing and logistics platforms in the region. Two of the largest conglomerates in Thailand, CP and Central, participate in both digital commerce and fintech sectors and have extraordinarily strong business presence in multiple different sectors of Thai's economy like retail, tourism, and food. These two conglomerates also provide logistics services and CP is a prominent telecommunications provider in Thailand.

[28] Shopee and Lazada are vertically integrated to logistic services Shopee express and Lex Express respectively. Both firms also own their own E-payment/wallets in ShopeePay (Airpay) and Lazada Wallet.

Market concentration can increase the risk of collusion from the existing linkages between firms that offer services in the same digital sectors.

This market structure can facilitate the sharing of business-related information between supposedly competing firms in markets such as fintech, digital commerce, and other digital services, facilitating collusion. Large digital commerce firms that are also vertically integrated to upstream and downstream levels of the value chain, as well as with expanded operations to adjacent/related digital markets could impose barriers to competition using cross-subsidization between business segments across the conglomerates. This would create difficulties for new entrants wanting to participate and grow in the market. New entrants that are not part of a big conglomerate with a network of operations in other business segments and levels of the value chain, and that are not backed up with large amounts of funding as the incumbents are, could find it very hard to compete. This is especially true in markets where incumbents employ strategies based on providing heavy discounts and promotions to consumer to gain market share and that are prone to tipping into dominance.

Box 6: Digital-commerce dynamism.

E-commerce markets in Thailand have had a very small number of entries to the market. The only recent entry of an e-commerce platform was that of JD Central, a joint venture of Thai Central and JD.com from China launched at the end of 2018. This launch was envisioned by the large conglomerate Central Group to provide a "complete digital ecosystem" to complement their other businesses in retail, hospitality, financial services and fintech. JD Central has grown over its first years of operation, but it remains to be seen how the dynamics in the market with the three players develop. JD Central is still very far away from Shopee and Lazada in terms of its web traffic. Additionally, in recent months, there seems to be an increase in the gap of this metric between Shopee/Lazada and JD Central.

Siloed market structures and missing interoperability across market players slows down market dynamism.

An example of these issues is epitomized by electronic payments, where interoperability is absent. There is many e-wallets and digital money services operating in Thailand. Nevertheless, most e-wallet providers link with Thai or multinational conglomerates to be used within their shopping and payment ecosystem. For example, True Money, the largest digital wallet in Thailand, is mainly used to pay products and services within the Charoen Pokphand Group extensive business lines like telecommunications (True Corp), retail (Lotus/Tesco/7eleven), digital (Ascend), etc.[29] In their respective silos, ShopeePay and Lazada Wallet, are used within the digital commerce platforms of SEA Group and Lazada respectively. Grab Pay is mainly used for transport and delivery services within the Grab ecosystem. Rabbit Line is mainly used for transportation payments but since its merger with Line has tried to expand to be accepted in other third-party outlets. In general, there is a lack of interoperability between these systems.

[29] https://thelowdown.momentum.asia/who-will-be-the-alipay-of-thailand/

Siloed payments systems can create market power in digital commerce

Siloed payments can distort markets since it allows for cross subsidization and other retention strategies that reduce consumer switching to other digital payment method/digital commerce platforms. As mentioned above, several digital payments services in Thailand were introduced by digital commerce firms and are being used within a conglomerate ecosystem. Commercial strategies from these firms are frequently focused on ensuring customers use the adjacent products/services provided by the conglomerate. To do this, they commonly offer benefits for the use of the platform's digital wallet to make purchases in its digital commerce marketplaces or even offline retail store. The kind of benefits offered range from point collection and redemption, rebates and cashback when using digital payments within the conglomerate's environment. The user of each digital commerce platform then tends to use the respective digital wallet since it offers better promotion and services. For example, the use of ShopeePay in the Shopee marketplace entails benefits like free shipping vouchers, higher number of loyalty points (Shopee Coins) collected, points redemption, exclusive deals.[30] While this certainly has benefits for the consumer in the short term it also raises entry barriers and may be worth monitoring as it can create lock-in effects for both digital wallet and digital commerce platform.

In Thailand, digital platforms have merged in recent years – but mergers present opportunity to be subject to stronger oversight.

Good practice suggests that large mergers need review by the competition authority to check for potential anticompetitive effects. Digital commerce has been the sector with the largest Mergers and Acquisitions (M&A) activity, followed by tourism and financial services. From the thirteen M&As where Thai firms were target, ten were acquisitions by foreign firm. Foreign acquirer firms came from Malaysia. Singapore, Japan, and India. Some platforms in the Digital commerce (vehicles) and the tourism sectors have acquired more than one firm. Make my Trip, an Indian online travel company acquired hoteltravel.com and itc.travel. Malaysia's iCar Asia, from Catcha Group, acquired thaicar.com (2013) and one2car.com (2014). These were the second and first largest auto classifieds sites in Thailand. There have also been reports of acquisitions of fintech firms by commercial banks after the entering of these firms into the regulatory sandbox of the BoT. Mergers in digital markets are not all anticompetitive and could produce efficiencies in the markets. Nevertheless, it becomes important to be aware of possible anticompetitive mergers that could undermine competition and affect innovation in Thai markets.

Away with entry barriers and market distortions that slow digitalization.

Thailand presents opportunities for simplifying digital regulations and adding dynamism to digital service markets.

A sound and enforceable regulatory framework for development of digital services is crucial to build trust in online and digital commerce participation. Digital commerce regulations involve rules on e-signature, e-document, online intermediation liability, data protection, cybersecurity, and online consumer protection. There are also obstacles linked to the lack of an enabling regulatory framework or lack of a new regulatory framework for new activities. Some countries lack a well-designed regulatory framework that enables online intermediation while protecting consumers. However, competition in digital service markets is characterized by high regulatory risk and uncertainty, low de facto enforcement, and a vicious cycle of increasingly tight regulations due to the government's perception of excessive risks in the digital ecosystem.

[30] https://shopeepay.co.th/service

Personal Data Protection Act (PDPA) represents a positive step towards regulating data but might unintentionally stifle competition.

The PDPA imposes disproportional costs on smaller firms, by generating uncertainty on requirements for cross border data flows, and through the dampening effect of highly stringent criminal sanctions. Although based on European Union's General Data Protection Regulation (GDPR), the Thai PDPA might have a dampening effect on investment derived from lack of clear definitions, tight registration requirements, and scarce leniency for small businesses. Thus, PDPA stringent registration requirements may affect small firms unevenly. Small firms face disproportionate costs under PDPA since the requirement for constant permission soliciting and reporting is more cumbersome to them than to large established players with better compliance capacities. PDPA allows business operators only a two-year grace period before legal enforcement, so small firms will find it complicated to adjust their operations to comply.

Excessive regulation for firms to register to supply products and services through digital commerce – may deter participation of young and SMEs.

Unlike in other countries, a firm willing to participate as a supplier in digital commerce must go through several layers of registration with different agencies including the Department of Business Development, the Office of Small and Medium Enterprise Promotion, the Bank of Thailand, and the Consumer Protection Board. Digital commerce registration is scattered under these different agencies according to the type and size of businesses, creating confusion among business operators. For example, an SME that wants to participate in digital commerce, would need to register under the Department of Business Development and, once their earnings exceed 1.8 million baht, they also need to register with the Revenue Department to be part of the VAT system. To get any support from the Office of Small and Medium Enterprise Promotion, then it must also register there. If a firm wants to have its own payment system, permission from the Bank of Thailand is required. Registration is disincentivized for small firms due to cumbersome and unclear processes. Small firms that are not registered cannot access state services which can prevent them from strengthening their capacities, increase their market reach, and are at a disadvantage with bigger players.[31]

Box 7: Regulations that deter entry.

New laws that affect digital firms' market activities like the Computer-Related Offences Act and Cybersecurity Act may be over-stringent and lack flexibility, which could dampen the investment atmosphere in the sector. The fact that these laws have criminal liability could be worrisome for market participants, especially since there is no clarity on what constitutes an offence and how omissions will be treated. This could be dampening new investments in the sector, especially in business models and technologies that are highly based on handling of large volumes of data such as Internet of Things (IoT) and artificial Intelligence (AI). Some cloud service providers want to enter the Thai market through the eastern Economic Corridor (ECC) to install data centers but seem to show concern with the legal regulatory uncertainty. This would be indicative of legal uncertainty and risks of high penalties not being compensated by the incentives given to investors under EEC. Furthermore, Lack of clarity of high paid up capital requirements to handle electronic payments could be another obstacle for the entry of small businesses to operate an e-commerce platform. Current regulation[1] lacks clarity in terms of small business requirements to register with BoT to handle payments electronically, even if not with their own payment system. If this is the case, small businesses (with paid-up capital below 10 million baht) may not be permitted to handle e-payments from their customers in their e-commerce businesses[1].

[31] https://tdri.or.th/en/2019/10/bureaucratic-maze-hampers-E-commerce-growth/

Enabling pro-competition regulation can speed digital uptake

Procompetitive regulation could reduce risks associated with market power of platforms.

Some of the features of digital markets raise the need for pro-competition regulation to mitigate risks. Asymmetric bargaining power between large platforms and the small businesses and individuals that connect to them need to be addressed. This can ensure that third party platforms and innovators can connect to and interoperate with the systems on large platforms. Thai regulators are reviewing approaches of Australia and Japan in regulating digital platforms to curb their market power and prevent harmful effects on their users. They are also looking at the Digital Services and the Digital Markets Acts in the European Union. In Thailand, this could translate to regulations being imposed on transparency and fairness in the terms and conditions imposed on small suppliers to platforms, regulations around sharing data and establishing interoperable systems, managing risks associated with algorithmic decision making (e.g., the risks of discrimination and bias).

Expansion of mechanisms to promote transparency, managing reports of abusive practices, and mechanisms to resolve disputes, should be considered.

An important constraint for platform adoption is lack of trust in conducting transactions online. Small suppliers to prominent digital commerce platforms in Thailand report practices such the use of data on transactions to develop the platform's own products that then compete alongside the products from small businesses. Regarding commissions, there also seems there is a possibility to improve clarity and transparency on the commission fees being charged to sellers in leading digital commerce marketplaces.[32] Regulation along the lines the EU is adopting, which prevent these types of practices, is one option, but other mechanisms such as facilitating industry codes of conduct and dispute resolution mechanisms are also possible. A direct and clear path for channeling complaints would be beneficial for small businesses participating in digital markets, especially in digital commerce. Currently, there is no clear path for a provider to follow when in need to report issues in its interaction with digital commerce platforms. If a supplier faces such an issue, they can go to Electronic Transactions Development Agency (ETDA) and ETDA will try to discuss the issue with the platforms, or its legal team would look for relevant provisions under other laws/regulations to channel the complaints.

Expanding investor's access to businesses data that does not infringe on data privacy could help potential investors in digital markets in Thailand.

One goal of ETDA is to enable access to digital data for business planning and development. However, opening access to data should not violate provisions of the PDPA Act. In the EEC, the government is establishing a data lake to pool data from public and private sectors for use by businesses.[33] The aim is that this should contribute towards innovation in the industry 4.0 space. This is a positive effort but there is room for improvement in its implementation. For example, entities have lacked incentives to add their data to the data lake as there is no mechanism for contributors to concentrate. It is difficult to update data as there is a lack of standardization. In practice, much of the data that has been contributed is low value government data. Moreover, given the segmentation of

[32] For example, Shopees's terms and conditions to sellers stipulate that sellers agree that Shopee can charge them a sales transaction fee. The fee shall be deducted from the purchase amount of the buyer that Shopee transfers to the Seller. Nevertheless, the details of the sales fee calculation method and any other relevant conditions are notified through the Shopee platform from time to time. Shopee Thailand Terms of Service. Available at: https://shopee.co.th/docs/3607

[33] https://www.thaitch.org/wp-content/uploads/2021/01/210217-PPT-webinar-TICC_EEC-ProgressInvestment-Opportunities_Dr-Luxmon.pdf

Thai digital financial services, regulations[34] that mandate data sharing in the financial sector could help to spur innovation and entry (this could follow the Open Banking example being pioneered by several countries, including Singapore and the Philippines).

Some countries have introduced national level data strategies and instituted protection policies for data-intense solutions to underpin digitalization in several traditionally 'analog' sectors, such a health, and retail services. Transparency in data-sharing arrangements (e.g., access rules, security measures) and clear rules on data safeguards have emerged as good regulatory practices. Estonia's data-sharing infrastructure X-Road is a case in point. X-Road provides a distributed information platform that represents a pillar in the country's digitalization initiative as it connects different information systems and allows the secure exchange of public and private data. The platform architecture ensures interoperability using common Application Programming Interfaces, APIs, and open standards.

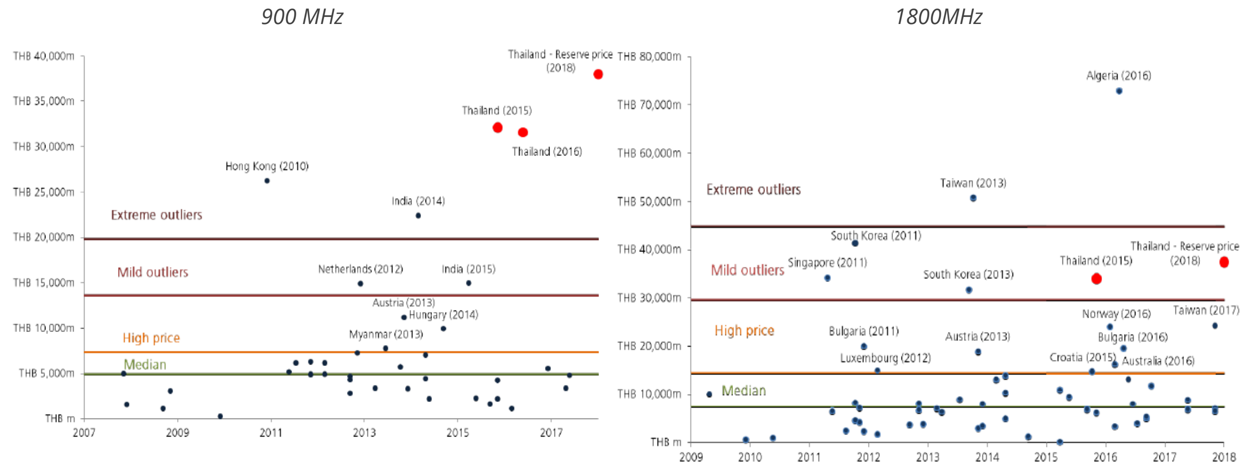
Expanding provisions to prevent spectrum hoarding can increase the quality of broadband services.

Low availability of spectrum at high prices in Thailand can produce more expensive, lower quality mobile broadband services and impose limitations of firms for the adoption of cutting-edge digital technologies (Figure 53). Thailand has considerably less spectrum available for use by telecom operators than many countries. There have been reports of high amounts of spectrum assigned in perpetuity to government bodies (police, military, intelligence) which is left unused but is also not auctioned for private sector use. Although there might be valid concerns regarding the possible need to use this spectrum in emergency situations, this spectrum could be auctioned to private sector providers that are obliged to run dynamic capacity networks to allow for government needs in case of emergencies. There is no clear roadmap for spectrum management that can put unused spectrum to more efficient use, which creates uncertainty for private sector operators and undermines their capability for improvements in capacity, coverage, quality, and innovation.

It is worth noting, at the time of writing this note, DTAC and True have announced intention to merge. If this merger goes through (The merger would need to go through a regulatory review before being approved), it will likely shape competition in both, upstream services markets of telecommunications and downstream digital technology markets. Thai authorities would need to consider how to best undertake this regulatory review, since the merger will likely impact the dynamics of competition in adjacent markets and downstream digital markets, well beyond the sole responsibility of the telecoms regulator as they have a narrower remit than a competition authority.

[34] There have been talks about implementing this in Thailand but it has not been established yet.

Figure 53: Thai reserve prices versus actual prices in other countries



Source: Richard Marsden and Hans-Martin Ihle (2017) "Spectrum Auction Risks Leaving Thailand Stranded in a Mobile Data Slow Lane" Nera Economic Consulting.

iii. Availability of factor complementarities in the digital ecosystem are key to promote investment on digital services.

Innovation finance and improving digital skills can serve as accelerants to digital transformation.

Expanding access to innovation financing presents the power to boost the ability of firms, especially SMEs, to adopt new business models and digital technology. As well, unless the high demand for digital skills can be met, digital technologies will remain relatively unexploited.

Digital and complementary skills.

Expanding the pool of skilled workers could help meet the needs of modern industries in the process of digitalization

While more digitalization at the level of the firm will increase demand for tech savvy workers, there exists the possibility that many untrained workers fall behind in skills and face employment difficulties. Demand for digital skills is best exploited when coupled with good cognitive and socioemotional skills. A recent regional study, which includes Thailand, found that digital occupations require not only digital skills, but also cognitive and socioemotional skills (Cunningham *et al.* 2021)

Thailand is faced with the opportunity to bridge the gap between demand for digital skills and supply.

IT, engineering, and programming skills, and other STEM related disciplines are critically needed in the digital economy. Business managers point out that Thai tech and entrepreneurs do not have deep, differentiated experience in their sectors and are mostly recent graduates. The inability to meet the rising demand is owed to both, a lack of supply of the right digital and complementary skills, and a problem of misallocation, stemming from skills mismatch. Technology skills are in high demand, but their availability is still limited – a major constraint to the adoption of technology.

Trend analyses suggest that high-skilled jobs in

The share in total jobs is roughly equivalent to that of Vietnam, which has a GDP per capita just under a third of Thailand's. Thailand, however, has a large concentration of mid-skilled workers. The medium-skills jobs comprise the largest pool of workforce available in Thailand, but they stand to bear the highest

Thailand lag regional peers.

risks of obsolescence (Figure 54). The relative scarcity of digital skills is aggravated by the falling share of the working age population. Furthermore, the working-age population is expected to drop from 71 percent in 2020 (as a share of the total population) to 56 percent in 2060.

The absence of complementary investments and the presence of labor market externalities may explain some of the digital skill gap.

Why the economy would not pay workers a premium to make it worth their while to get those skills? The absence of high-skilled jobs points out toward potential problems of market distortions, coordination externalities, and information asymmetries in labor markets. In addition, the absence of complementary firm-level investments in projects and business initiatives, such as R&D activities and non-R&D based innovation (quality improvement, or business process innovation), and the unavailability of complementary cognitive and socioemotional skills at the level of workers, could play a part in the diminishing returns to education investments. A firm-level productivity analysis from the World Bank conducted in 2020 found that manufacturing firms with an increased share of skilled labor payments in their operating budget did not have significantly higher productivity. However, the same study found that firms that spend simultaneously more on R&D and skilled labor payments show a significantly higher TFP growth than firms that do not spend as much (or not at all). Notwithstanding, the recent CPSD study found that Thailand's R&D expenditure as a percentage of GDP, although it has increased over time, continues to lag peers. This provides evidence that advanced skills necessitate complementary investments on innovation to pay off, but that the low level of complementary investments in innovation may be part of the problem.

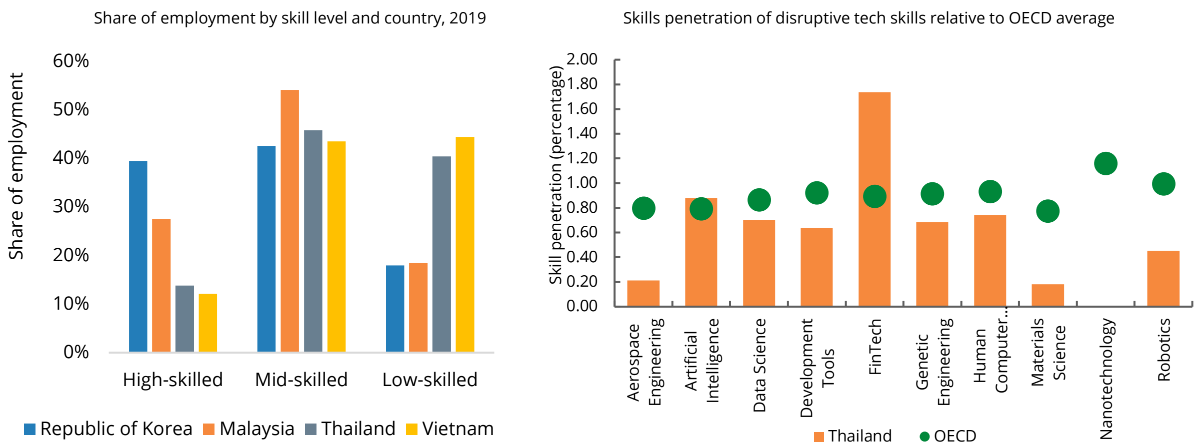
Similarly, the presence of complementary cognitive and socioemotional skills can also be affecting the incentives to acquire advanced digital skills. The cognitive skills linked to analytical and critical thinking can help workers make sense of the information accessed through digital skills (Cunningham *et al*, 2021). Similarly, critical reasoning can help to develop more digital skills and take advantage of advanced computer and programming routines. Socioemotional skills, such as team playing and group collaboration, can enable workers to conduct collective work through digital solutions, and leverage the utilization of digital technology to combine several results or continuously acquire ever more sophisticated skills (i.e., by learning how to learn).

Increasing female labor force participation and enhancing the availability of foreign professionals emerge as potential ways to bridge skills gaps in the short term.

In addition to an aging workforce, the female labor force participation rate, before the pandemic hit was comparatively low, especially after childbirth. In 2018, female workforce participation was at about 67 percent, and drop out of the labor pool during motherhood was found to be a contributing factor. This suggests that if labor force participation for women were reversed, they would be able to fill some of the unmet demand for high-tech workers. It is worth noting, the measures to contain COVID-19 pandemic may have changed the female participation in the labor market. Further, foreign professionals who could bring expertise and know-how in digital and STEM related disciplines, are scarce – a situation worsened by restrictions on foreign ownership of firms. The CPSD study found that obtaining work permits and visas were frequently referred to as one important hindrance to foreign operations. Challenges reported by sources included lengthy paperwork to be completed in Thai language, location restrictions reducing worker mobility, stringent reporting requirements, high standards for staff-to-capital ratios, and requirements for local hires.

Inter-agency coordination was also identified as a challenge, given that hiring of foreign experts requires involvement of several different institutions, including the Ministry of Labor, profession-specific bodies who set their own rules and regulations, and the Immigration Bureau. It is worth acknowledging that the government has taken steps to address these issues. The BOI introduced the SMART Visa program, which is a valuable measure to attract foreign professionals. Yet because of multiple paper-based and disconnected bureaucratic requirements, uptake has been slower than expected. The BOI can take the program a step further making SMART visa program fully digital. For example, allowing all documentation to be centralized and uploadable to a secure website, relaxing requirements for certification by the issuing organization (or notarization or legalization by any government agency), and accepting English version for the required documents can go a long way to attract foreign talent.

Figure 54: Workforce lacks skills of the future



Source: ILOStat (Left); World Bank LinkedIn Data for Development (Right)

Market information and employment services emerge as a useful proposition to reduce the mismatch of skills.

Design of training curricula for digital and complementary skills could better align with employers' demand. Measures to reduce market mismatch in the labor market were already identified in the January 2021 Thailand Economic Monitor. These included the lists of gaps in market skills, occupational professions, job matching and placement services. The CPSD study (forthcoming) also found that including the private sector's perspective on the curriculum design of training and academic establishments could be a valuable way to address the problem. These could be coordinated by MOL/TVET agency and industry associations. Furthermore, the introduction of skills -monitoring to address skill shortages is also a potential measure to bridge the availability of digital and complementary skills in the Thai labor market.

Thailand Professional Qualification Institute (TPQI) has recently established the E-workforce Ecosystem to electronically link relevant public databases from MOL, MHESI and MOE. Prospective job applicants can update their skills profile in the electronic database and allow potential employers to access their data. This system can also provide policymakers with market information, opening the opportunity for cooperation in designing evidence-based policies.

Other countries have introduced similar programs to improve the efficiency of investments in skilling. The UK and Australian governments have set up skills imbalances monitoring procedures and published regular "skilled occupation shortage lists" based on labor market data and inputs from the private sector. These lists are used to inform a range of policies, including curricula development and public employment programs. Recently, Malaysia has also introduced a similar tool—the Critical Occupations List—to inform both immigration and human resource development policies.

Reskilling the workforce, in the context of the rapidly aging population can expand the pool of digital skills in the market.

Upskilling and reskilling of existing workers offers one solution and would address the supply issue and the issue of reducing unemployment from workers that technology would otherwise pass by. With a higher stock of aged workers, the need to update employer skills to satisfy evolving needs of an ever-more-demanding market becomes imminent. Thai policymakers have a chance to expand the availability of lifelong learning models through e-learning platforms, tax incentives, and voucher systems, in partnership with the private sector. Complementary skills to ICT and digital capabilities include metacognitive and cognitive skills, which should remain as part of the long-term labor planning policy. Policy makers could also link re-skilling and training in emerging sectors to wage subsidies to incentivize firms to hire workers.

Financing business digitalization and acquisition of digital technology

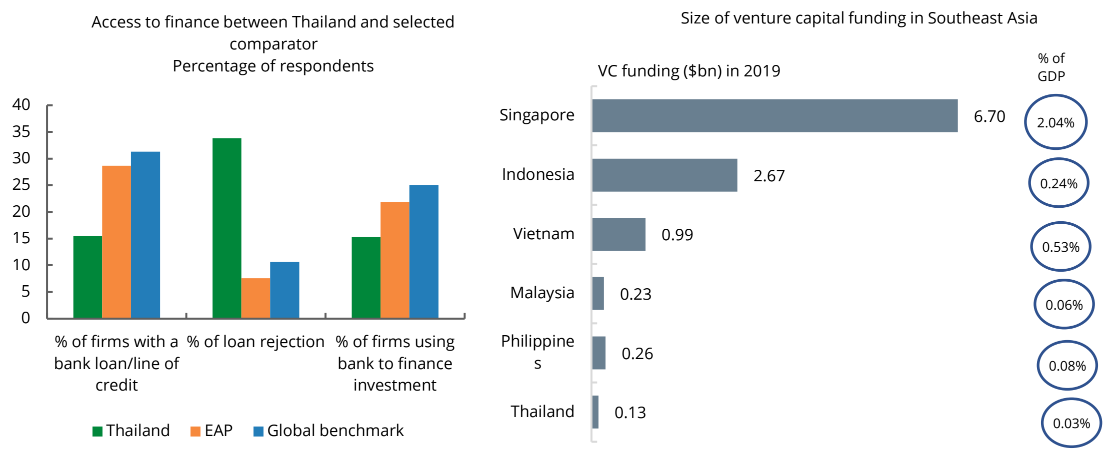
Financial support for digitalization and investment in new technologies is an essential first step in the process of a fully digital economy.

Most financial services that support investments in innovation and acquisition of technology are relevant for supporting digitalization of businesses. A vibrant innovation finance ecosystem can generate income, high growth employment and entrepreneurship opportunities. This includes the type of financing that supports digitalization at the level of the firm, as well as innovation finance, which supports entry of digital technologies, including risk capital, investment fund, and corporate funds.

Innovation finance, which is relevant for accelerating the process business digitalization, presents a potential for growth.

Thailand's landscape has relatively little presence of regional-level financial VC funds - pool money from investors to take equity shares in high-growth, high-risk startups and features a dominant role of Corporate Venture Capital fund, primarily representing in-house financing arms of business conglomerates. Further, while some high-net-worth individuals have entered the innovation finance space, angel investors thus far play only a limited role in contributing to early-stage funding in startups and providing guidance and mentorship to aspiring entrepreneurs. Government funding, primarily through grants, presents a third option for accessing innovation financing. However, mid-sized firms (that is, firms that are beyond seed stage) are unable to benefit from government grants set out for smaller firms yet are also unable to access later-stage VC funding, which is typically targeted to larger companies that have achieved some degree of regional expansion. Based on the evidence collated under the recent CPSD, the gaps in presence of innovation finance, can be attributed to problems with prospective borrowers (or investees), issues related to the supply of innovation capital, and opportunities to make the operating environment more conducive.

Figure 55: Limited access to innovation financing impedes the ability of firms to adopt new business models and technology.



Source: World Bank Enterprise Survey, 2016 ; SEA venture capital landscape 2020, White Star Capital (Right)

On the demand side, information asymmetry problems appeared to be prevalent among young, small, and medium sized firms.

The 2020 Bank of Thailand (BOT) Survey of SMEs[35] revealed that elevated costs of technology, lack of reliable financial statements, and narrow margins compromised their ability to obtain finance (Figure 55). The undependability of financial records leads to higher interest rates on the loans for SMEs. Financial institutions impose stringent standards in considering loans to SMEs, given data paucity. In addition, the World Bank Enterprise Survey found that collateral requirements for a loan in Thailand were high, at over 300 percent of the value of the loan, much higher than the regional average of about 200 percent.

On the supply side of innovation finance, a few signs suggest the availability of finance remains subdued

Regional risk capital for digital enterprises is relatively absent, while conglomerate-led finance remains dominant. The absence of regional VC operators in Thailand deprives startups not only of financing, but also of regional market experience and customers, access to know-how and networks (Figure 55).

The range of policy instruments that can support early-stage innovative ventures is varied. The Thai government could expand its existing support in this area. Some of the best-known instruments include incubators, accelerators, science, and technology parks. The Thai government has introduced several of these instruments to support startups, and to improve the investment readiness of promising entrepreneurs. Typically, this support has been channeled through grants to young firms.

Governments can also play a critical role in facilitating the investment process, particularly on the supply side of the risk-capital market. Equity finance for innovative enterprises can be made available through direct investment funds, co-investment funds and funds of funds. These funds typically operate at arms-length from government institutions and present rules for government involvement and exits, letting private investors take a leading role in making investment decisions and committing to the longer-term maturity of investment.

[35] The Bank of Thailand conducted a nationwide survey and in-depth interview of SMEs in 2020. The survey covered 2,416 SMEs nationwide.

The Thai government has made use of these instruments. It has introduced Private Equity Trusts over the past years to support high growth SMEs, and technology intensive SMEs. One example of these is the SME Private Equity trust, which was established in 2017 and counts with the participation of specialized trust management and advisors. The fund supports mid to late funding stage for high growth potential SMEs (Pre series A, Series A and Series B++).

However, opportunities to expand government support in this area are ripe. According to the CPSD study, despite funding exists at seed stage, access to non-financial support in the form of managerial advisory and commercial linkages, which are indispensable for sustaining growth until maturity remains limited. Second, the current equity instruments that would help de-risk and increase the attractiveness of investments seem underutilized. The scale of support seems limited. The Thai government could take steps to enhance the use of matching equity fund schemes to de-risk investments and catalyze early-stage capital markets (co-investment funds, fund-of-funds). These present the potential to expand the availability of expertise and funding from regional financial VCs. Several countries like Israel, Brazil and Singapore have scaled the use of such instruments. It is believed that Israel's *Yozma* Fund helped successfully catalyze the VC industry, which is one of the largest centers for VC financing in the world.

Other countries have put in place programs that promote innovative startups attracting foreign talent at the same time. Examples include Start-Up Chile, which was launched in 2010, and seemed effective in attracting early-stage entrepreneurs, regardless of nationality. The program offered a 24-week training program in which selected entrepreneurs working with startups less than two years of age receive about US$28,000 in grants as seed capital. Another is Bridge Alfa, launched in 2012 in Poland by the National Center for R&D. The program aimed to support young innovative startups by co-financing private seed venture capital funds.

In addition, financial regulations in Thailand do not align with international practices and standards, and there is no comprehensive regulatory framework in place for venture capital (VC) financing. The SEC has introduced measures to improve exit options for venture capital investors in Thailand. Exit options can increase the country's attractiveness for private VCs/PEs to invest in startups. However. there are opportunities to improve the Thai Civil and Commercial Code – for example, by introducing Employee Stock Option Plans (ESOPs) and issuing convertible notes and preferred shares, areas which have shown gaps and provide disincentives to regional investors.

Another opportunity is related to Peer to Peer (P2P) lending and crowdfunding platforms. These could expand financing for innovative SMEs. A few of these platforms have been launched in the sandbox but the number of borrowers has significant room for growth, and the ratio of borrowers to users who start the application process can be boosted. The SEC regulates security-based crowdfunding platforms, under which corporate issuers can raise funds through issuance of stocks or debentures, while the BOT regulates P2P lending platforms, under which individual borrowers, including SME owners, can obtain loans. The BOT's sandbox can be further improved in speed and flexibility. The BOT is reviewing the existing framework accordingly. However, other factors such as adjustments in either the platform's business model or target customers, as well as the lack of readiness of key platform's partners, can also come into play and delay sandbox exit.

The operating environment of innovation financing also presents opportunities for development.

First, a unified legal framework and collateral registry can go a long way in strengthening the secured transactions regime. The range of assets that can be used as collateral for SMEs was expanded in 2015 through the promulgation of the Business Security Act (BSA). However, the framework could be significantly enhanced if it were to adequately cover non-bank credit providers. In addition, the BSA could enhance its coverage of current assets such as inventory and accounts receivable as well as security rights of various claimants throughout the supply chain, broadening the availability of collateralizing assets for SMEs. Finally, increased capacity of financial institutions to develop movable asset-based lending products can significantly expand the available options to SMEs.

Second, expansion of coverage for the credit reporting system can bridge a gap and financial service availability. The credit bureau coverage is almost entirely focused on consumers and offers limited data on firms. The advent of fintech, P2P lending, crowdfunding and PromptPay[36] open the opportunities to expand information-based lending, adding urgency to the improvement of credit information systems.

Third, well-formulated policy for open banking will also promote growth in financing for innovation. Many banks have digital strategies to modernize their products and delivery channels and to enable the use of digital data for decision-making purposes. However, there is an absence of an open Application Programming Interface (API) regulatory framework that would allow third-party providers (TPPs) to access the financial information of banking customers. Further, a lack of privacy and data ownership standards creates a lack of trust among customers who become unwilling to share their information.

With digital led development, the Thai government can ensure growth that is inclusive and equitable.

The recovery from COVID-19 is likely to be uneven, given the unequal effects of the economic shock between the haves and the have nots. If the path to develop digital service markets is left completely unattended, it could head in two alternative and divergent destinations. One where a widening digital divide could increase the income gap, leaving behind the most disadvantaged and vulnerable groups of society, such as the poor, the youth, and women. Or an alternative path (and the one advocated in this note), where the regard for digital led development becomes an inclusive force of opportunity, which can help policy makers to extend young and smaller firms with access to markets and income generating opportunities. Fostering a new development model, which gives prominence to the role of digital technology can be useful to steer the business sector, particularly young and innovative entrepreneurs, into the more inclusive and equitable development path.

[36] PromptPay is a real-time electronic fund transfer system launched in January 2017. It was part of national strategy aimed at development of an integrated digital payment infrastructure. It enables consumers, businesses and government agencies to make real-time payments in Thai Baht. PromptPay could be a good source of credit scoring data for SMEs.

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