Development Finance Assessment for Thailand

April 2023

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Foreword

The 2030 Agenda and the Sustainable Development Goals (SDGs) articulate the United Nations' universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. To achieve the Goals, world leaders met in Addis Ababa, Ethiopia in 2015 to agree upon a new global framework for financing sustainable development. At the heart of the Addis Ababa Action Agenda are national sustainable development plans and strategies supported by the Integrated National Financing Frameworks — or the INFFs.

The Integrated National Financing Framework (INFF) is a planning and delivery tool to help countries strengthen planning processes and overcome existing impediments to financing the SDGs. It covers a full range of financing sources – domestic public resources, aid and development cooperation, and domestic and international private finance – and allows countries to develop a strategy to increase investment, manage risks, and achieve sustainable development priorities identified in a country's national sustainable development strategy. The United Nations Development Programme (UNDP) has supported more than 86 countries in building the INFFs, as multiple shocks—from the COVID-19 pandemic to global geopolitical conflicts and triple planetary crisis—emphasize the urgent need and opportunity for each of them to put in place a fit-for-purpose financing framework to underpin SDG achievement.

In Thailand, UNDP is working with the Ministry of Finance and the National Economic and Social Development Council (NESDC) in formulating the INFF, which will present an integrated financing strategy for development—a combination of public and private financing policies and instruments that will lead to improved management of available resources and mobilization of additional resources to finance SDG-aligned priorities at national and subnational levels, including for the 13th National Economic and Social Development Plan (2023-2027). The INFF will also serve as a platform that strengthens the dialogue between policymakers, the private sector, and other development actors to unlock new and innovative financing solutions, bringing sustainable finance to scale.

As a first step, the Development Finance Assessment (DFA) was conducted to map existing financing flows. It identifies financing needs for supporting the country's development priorities and safeguarding its progress towards the SDGs, including in the following thematic priorities: (1) promoting equality, gender equality, and enhancing social protection, (2) tackling climate and environmental issues, (3) job creation in the transition towards green and inclusive development, (4) strengthening the health sector, and (5) harnessing digital finance for sustainable development. The DFA report lays out a basis for a holistic financing strategy for the INFF, which will synergize a wide range of tools—from tax and budget to public debt, incentives, and financial instruments—and match different types of financing to their most appropriate use. The ongoing SDG finance initiatives in Thailand are also incorporated as part of a comprehensive financing strategy, including the SDG Investor Map, Inclusive Insurance and Risk Finance, Biodiversity Finance (BIOFIN), and Climate Finance.

Throughout the process of conducting the DFA, UNDP has benefited from the contributions and insights from various agencies participating in multistakeholder consultations during 2021-2022, including the Ministry of Finance, the NESDC, the Budget Bureau, the Board of Investment (BOI), the Bank of Thailand, the Securities and Exchange Commission, the Thai Bankers' Association, the Stock Exchange of Thailand (SET), the Office of Natural Resources and Environmental Policy and Planning (ONEP), parliamentary standing committees, Parliamentary Budget Office, UNEP, UNFPA, UNICEF, UNIDO, WHO, the World Bank, the Asian Development Bank (ADB), the Global Compact Network Thailand, and experts in different fields of development.

We hope that this holistic approach to development finance will translate into a galvanization of capital flows, pathways for collaboration, and, most importantly, greater impact on the country's SDG-aligned development priorities. We are grateful to the Ministry of Finance and the NESDC for their collaboration as well as other stakeholders for their participation in this important initiative. UNDP is committed to continuing our work with the Royal Thai Government and development partners to advance sustainable finance in Thailand, supporting its path towards a strong, resilient recovery and sustainable development.

Renaud Meyer
Resident Representative
UNDP in Thailand

Acknowledgements

UNDP is working with the Ministry of Finance and the National Economic and Social Development Council (NESDC) in formulating an Integrated National Financing Framework (INFF) for Thailand to ensure that the country's sustainable development agenda is supported by a comprehensive and fit-for-purpose financing framework.

The INFF will present an integrated set of financing strategies for development—a combination of public and private financing policies and instruments that will lead to improved management of available resources and mobilization of additional resources to finance SDG-aligned priorities at national and subnational levels, including for the 13th National Economic and Social Development Plan (2023-2027).

As a first step towards the inception of an INFF, UNDP commissioned the Development Finance Assessment (DFA) for Thailand, which maps existing financing flows and identifies financing needs for supporting national development priorities and safeguarding the country's progress towards the SDGs, including in the following thematic priorities:

- Promoting equality, gender equality, and enhancing social protection
- Tackling climate and environmental issues
- Job creation in the transition towards green and inclusive development
- Strengthening the health sector
- Harnessing digital finance for sustainable development

The DFA forms a basis for a holistic financing strategy, which will synergize a wide range of tools—from tax and budget to public debt, incentives, and financial instruments—and match different types of financing to their most appropriate use to achieve greater impact.

The INFF will serve as a platform that strengthens the dialogue between policymakers, the private sector, and other development actors to unlock new and innovative financing solutions, bringing sustainable development financing to scale. It builds on UNDP's close partnership with the public and private sectors in creating an ecosystem to support SDG advancement, including a collaboration with the Insurance Development Forum (IDF). The ongoing work related to SDG financing is also incorporated as part of a comprehensive financing strategy, such as the SDG Investor Map, Insurance and Risk Finance Facility (IRFF), Biodiversity Finance (BIOFIN), and Climate Finance.

The DFA is completed with financial support from UNDP's COVID-19 Rapid Financing Facility (RFF). The DFA report is the result of a collaborative process involving a team comprised of UNDP staff, consultants, and academic experts as follows:

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The first interagency meeting on the INFF was held in April 2021, followed by a series of inter-agency consultations and one-on-one interviews with stakeholders in 2021-2022. Participating agencies include the Ministry of Finance, NESDC, the Budget Bureau, the Board of Investment (BOI), the Bank of Thailand (BOT), the Securities and Exchange Commission (SEC), the Stock Exchange of Thailand (SET), Office of Natural Resources and Environmental Policy and Planning (ONEP), Ministry of Social Development and Human Security (MSDHS), Ministry of Public Health, National Science and Technology Development Agency (NSTDA), Office of National Higher Education Science Research and Innovation Policy Council (NXPO), parliamentary standing committees, Parliamentary Budget Office (PBO), the Global Compact Network Thailand, the Thai Chamber of Commerce, the Thai Bankers' Association, ADB, UNEP, UNFPA, UNICEF, UNIDO, WHO, the World Bank, and experts in different fields of development.

The DFA team is particularly indebted to the guidance, inputs, and comments from Mr. Renaud Meyer (Resident Representative of UNDP in Thailand), Ms. Lovita Ramguttee (Deputy Resident Representative of UNDP in Thailand), Mr. Tim Strawson (UNDP International SDG Finance Consultant), Mr. Nohman Ishtiaq (UNDP Public Finance Management Expert), Ms. Enkhzul Dambajantsan (UNDP Policy Specialist, SDG Finance), Ms. Diyora Kabulova, (UNDP Cluster Leader on Inclusive Growth), and Mr. Sudyumna Dahal (UNDP Inclusive Growth Programme Specialist, Public Finance). The DFA report benefited from initial analyses by Mr. Joao Pedro Goncalvez, Ph.D. Finally, the report is enriched by the recommendations from various national and international stakeholders during the consultations and interviews.

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Executive Summary

The Development Finance Assessment (DFA) informs an integrated national financing framework (INFF) for Thailand to achieve national development priorities, including the sustainable development goals (SDGs). The DFA identifies key financing needs and gaps as well as new opportunities to mobilize and align development finance with the achievement of the SDGs. The DFA provides a set of recommendations to bring together public and private financial resources to more useful purposes, free up resources for development that are tied up elsewhere, and mobilize new resources—all of which will lead to the development of a comprehensive and risk-informed financing strategy to maximize the chance of Thailand in meeting its development goals and to ensure more resilience to future shocks.

Thailand's development financing demand

Despite remarkable development progress, Thailand is facing key sustainable development challenges going forward. Thailand has been an upper middle-income country since 2011 and has experienced successive decades of remarkable economic and social development. However, slower economic growth in the recent decade, together with the profound impact of the COVID-19 pandemic on the economy and people, underscores the country's existing development gaps and vulnerability to shocks. Notwithstanding Thailand's relatively strong progress on the SDGs overall, a closer look at human development indices adjusted for inequality and planetary pressure reveals key challenges that still need to be addressed to achieve sustainable, inclusive, and green development.

Thailand's national development strategy recognizes the challenges and lays out a framework to identify development financing needs in five thematic priority areas. Thailand's national development strategy—shaped by Thailand's 20 Year National Strategy (2018-2027), the 13th National Economic and Social Development Plan (NESDP) (2023-2027), and the Bio-economy, Circular Economy & Green Economy (BCG) model—lays out a strategic framework for the country to pursue green growth from low-carbon and climate resilient development, while also enhancing social inclusion and protection for the most vulnerable groups in the society from future shocks. Within this strategic context, five areas stood out as the key thematic priorities for Thailand's development financing needs: *job creation in the transition towards green and inclusive development; strengthening the health sector; promoting equality, gender equality, and enhancing social protection; tackling climate and environmental issues; and harnessing digital finance for sustainable development.*

Thailand's development financing needs can also be seen in relation to the current progress towards the SDGs both at the national and local levels. Thailand faces reversal in progress towards achieving challenges with regards to achieving SDG2 (Zero Hunger) and SDG 13 (Climate Action), while other off-track SDGs include SDG 6 (Clean Water and Sanitation), SDG 8 (Decent Work and Economic Growth), SDG 10 (Reduced Inequalities), SDG 12 (Responsible Consumption and Production), SDG 14 (Life below Water), and SDG 15 (Life on land). Within the country, there is also regional disparity in SDG performance across all the SDGs. North-Eastern provinces, deep Southern provinces, and few Western provinces tend to have lower development scores, whereas Central and Eastern provinces tend to have high scores.

Estimates suggest that Thailand's development financing demand is high and could increase further as development landscape become more complex and integrated. Before COVID-19, Thailand needed additional THB1.27 trillion (USD 36.81 billion) annual investment (11.6% of GDP in 2019) to achieve the SDGs by 2030, comprising THB 513.5 billion (USD 14.88 billion) (4.7%) for people-linked SDGs, THB 426.1 billion (USD 12.35 billion) (3.9%) for prosperity-linked SDGs and THB 327.8 billion (USD 9.50 billion) (3%) for planet-linked SDGs, respectively. For the thematic need of tackling climate and environmental issues, for example, the Thai government has targeted the total new investment in BCG sectors to be USD 23 billion in 2026, doubling the amount of US$ 12 billion in 2021, while the cumulative investment needed to achieve decarbonization in Thailand is estimated to exceed 355 billion USD (at constant 2005 price) over the period 2010–2050 in the 100% greenhouse gases (GHG) reduction scenarios. With the impact of COVID-19 and climate change, it is estimated that total additional financing need will spike to THB 2.54 trillion (USD 73.62 billion) in 2022 and return to its long-term trend in 2024. In particular, the Climate Change Financing Framework report 2022 estimated that an overall investment of THB 6.26 trillion (USD 181.45 billion) is needed to support the national GHG reduction plan 2021-2030, both to reduce greenhouse gases and to prepare for climate change adaptation.

Landscape of current development finance flows

Domestic (public and private) resources are the main source of financing for development in Thailand, constituting 96.3% of total development finance between 2013-2021. International (public and private) resources, such as foreign direct investment (FDI) (average 1.7% between 2013-2021) and official development assistance (ODA) (average 0.022% between 2013-2020), have made a small contribution to advancing sustainable development priorities to date. When comparing public and private resources (from both domestic and international origins), both the public and private sectors shared almost equally the relevance as a source of financing for development in the country, with public resources gaining more relative weight in total and absolute volumes in 2020 due to the government intervention to mitigate the impact of the COVID-19 pandemic.

While domestic public resources have become more important during the pandemic, the total net government (tax and non-tax) revenues have not yet recovered to the pre-Covid level. Almost 90% of government revenue comes from taxes, with the Revenue Department generating 67% of total tax collection. While Thailand's public revenue is dependent on taxes, Thailand shows a relatively low tax-to-GDP ratio (14.3% average from 1990 to 2021, 13.3% in 2021 source: CEIC) compared to other Asian and Pacific economies. The revenue collection is severely affected by the COVID-19 pandemic. The Ministry of Finance projects that the government revenue would reach back at the pre-covid level only in the year 2025. The World Bank (2021) identifies structural tax revenue collection gap that if closed could represent additional revenues up to 10% of GDP. Thailand has made progress in improving tax progressivity.

Government borrowing has played a key role in filling the public revenue gap especially during the pandemic. This financing strategy was enabled by the Thai government's ability to quicly access liquidity through sovereign bond issuances, but the public debt ceiling could become a constraint. The average total stock of public debt to GDP for the period 2010-2020 in Thailand is 43.4%. Since the outbreak of COVID-19, the level of public debts has kept rising. The ratio of outstanding public debt to GDP was about 60% in 2021. The debt ceiling was lifted to 70% of GDP in 2021. Through the Public Debt Management Office, the Thai Government could quickly mobilize financing, including through the issuance of thematic bonds such as the 2020 sustainability bonds, to access liquidity both domestically and internationally. However, this public financing strategy could be affected by the public debt ceiling. Based on the estimation of the Ministry of Finance, the Budget Bureau and the Office of National Economic and Social Development Council, without the impact of the Russia-Ukraine war, the percentage of public debts to GDP will hit 67.15% in 2026, about 3% shy of the 70% threshold.

Subnational public development finance largely depends on transfers from the Central Government, with rooms to improve the availability of resources at subnational levels through more fiscal localization. Currently, around 47% of revenues of the local administrative organizations is from the revenue collected by the central government (e.g., VAT, excise tax) and allocated to the local administrations according to the 1999 Decentralization Act. Another 41% is from the budget support from the Central Government (budget allocation via the Budget Bureau). The remaining 12% is from the local revenue collection. Current policy discussions explore potential options to increases fiscal localization, including allocating more budget to local administrative organizations and strengthening the capacity of these organizations to request and manage the budget as well as generating their own revenues. While local authorities have the legal authority to issue municipal bonds, this financing option has not been used in Thailand.

The trend of international public finance to Thailand is volatile, but its size is negligible comparing to the country's overall development finance resources. International public resources include ODA and Other Official Flows (OOF). Between 2010-2019, the average total annual volumes of net flows of ODA and OOF represented only 0.1% of total development financing resources, and 0.02% of the country's GDP.

Domestic private investment has shown a declining trend in terms of its GDP share. In terms of volume, domestic private investment increased between the 2010-19 period but registered a drop in 2020. The compound annual growth rate was 3.2% from 2010-20 compared to 3.8% of nominal GDP during the same period. In terms of the share of GDP, however, domestic private investment declined from 19.5% in 2010 to 18.4% in 2020 with the bottom at 18.3% in 2019. An increase in domestic private investment as a share of GDP to 18.4% in 2020 is explained by a deeper fall in the volume of GDP compared to the reduction in the volume of investment. The number increased slightly to 18.6% in 2021.

International private financing resources for development in Thailand showed an overall downward trend during 2010-2020. International private financing resources comprises Foreign Direct Investment (FDI), Foreign Portfolio Investment (FPI), remittances, and international lending. During 2010-2020, FDI accounted for 1.9% of GDP, while FPI accounted for -1.0% of GDP. At the same time, remittance and international lending accounted for 1.5% and 0.2% of GDP, respectively. International private financing resources registered strong negative trends between 2010-2020, with a compound annual growth rate of -16.1% from 2010 to 2019. The number turned from a positive of 159.6 billion baht in 2019 to a negative of 231.6 billion baht in 2020 due to a large portfolio investment outflow of 379 billion baht in 2020. However, the negative trend was not homogeneous across the four components. Both net remittances and international banks lending presented positive trends during the 2010-2020. The compound annual growth rates were 6.3% for remittances and 5.9% for international lending. On the contrary, FDI declined at a compound annual rate of -11.9% between 2010-2019. The number turned from a positive of 149.3 billion baht in 2019 to a negative of 139.9 billion baht in 2020. However, the FDI number recovered to 391.2 billion baht in 2021. In relation to GDP, FDI decreased from the average of 2.6% of GDP from 2010-2015 to the average of 1.1% of GDP from 2016-2020. Similarly, the foreign portfolio investment in Thailand decreased from the average of -0.7% of GDP from 2010-2015 to the average of -1.3% of GDP from 2016-2020.

Despite the decline shares of domestic and international private finance in GDP, new financing instruments, including public-private partnerships (PPPs) and the bond market, have played an increasingly important role in mobilizing private finance, both domestically and internationally, for development investment. PPPs have become a key instrument to finance investments in the energy and transport sectors. The bond market has also played an important role as an intermediary between savings and investment, with its total issuance volume growing faster than nominal GDP between 2010-2020. The sustainability segment of the bond market is also growing rapidly. Thailand is currently the second largest issuer of sustainable (green, social, and sustainability-GSS) debts in ASEAN after Singapore. While Thailand has been the fourth largest issuer of green debts (bonds and loans) in ASEAN, the country is the regional leader in the social and sustainability bond markets, due largely to its 2020 sovereign sustainability bond issuance, and in the issuance of unlabeled climate-aligned bonds, accounting for 96% of total volumes in ASEAN.

When looking at the country's total investment as a proxy for the use of development finance, data showed an overall decline of total investment to GDP, suggesting a room for policy and regulatory improvements to stimulate investment that boost development outcomes. The total volume of financial resources used in investment in Thailand from 2010 to 2021 showed a slightly positive trend, recording a compound nominal annual growth rate of 3.6% (4.7% for public investment and 3.3% for private investment), but the volume of investment relative to GDP showed a clear negative trend. In 2012 it was 27.0% of GDP (4.1% public, 22.8% private) and in 2021 it was 23.6% of GDP (5.0% public, 18.6% private). Thailand has the second lowest total investment to GDP ratio in ASEAN during 2016-21, recording the value of 23.2% of GDP compared to the regional average of 27.2% (ASEAN average excluding Laos). Meanwhile, Malaysia has the lowest ratio at 23.0%, whereas those of Vietnam and Indonesia came in at 27.8% and 32.0%, respectively.

Key opportunities and challenges in mobilizing development finance within an INFF framework

The above analysis suggests that Thailand's financing needs are high, and opportunities to close the financing gaps will be limited if the country continues to rely on domestic resources. Thailand also needs to boost the overall level of investment to accelerate the progress towards achieving the SDGs. Therefore, while improving public revenue collection, particularly beyond the tax channel, will be a key element in the INFF, it also has to include strategies to mobilize financing from new and diverse private and international sources. This entails increasing project-level investment options, using innovative instruments that cut across domestic and international domains, and boosting investors' appetite to engage in endeavors that contribute to Thailand's development outcomes.

Given Thailand's progress in many policy areas, several promising financing instruments and enabling tools can be further leveraged as part of a holistic financing strategy. The Thailand ***SDG Investor Map*** could serve as a primary tool in illustrating SGD-aligned investment opportunity areas (IOAs) to global investors. Given the currently low insurance penetration in the country, Thailand's ***insurance*** industry still has much room to grow in key areas relevant to SDG progress e.g., microinsurance, crop insurance and disaster risk financing. As a key instrument for ***climate mitigation finance***, ***carbon pricing instruments*** (e.g., carbon tax, carbon trade, and carbon credits) will have to play a more active role for Thailand to finance the transition to net-zero. At the same time, Thailand's climate vulnerability profile also calls for increased attention on ***climate adaptation finance***, particularly from the private sector, for scaling climate-resilient investments. Beyond climate finance, Thailand is also well-positioned to mobilize more ***sustainable finance*** through thematic bonds and loans to address other development priorities.

Thailand's ***digital finance*** infrastructure could be utilized to expand access to other financing products crucial to advance SDG progress in Thailand. For example, digital technology is promising in transforming the microinsurance market and ultimately enhancing the resilient of the vulnerable population. Finally, the ***Biodiversity Finance Plan for Thailand*** outlines a set of actions which would help to significantly improve the management and financing of biodiversity conservation.

But while these new financing opportunities could be leveraged, mobilization of financial resources alone is necessary but not sufficient. Thailand also needs to address key challenges on the resource allocation side to improve the alignment of development resource usage with sustainable development outcomes. The DFA analysis suggests that four key challenges should be prioritized:

- There is currently no clear articulation of an integrated strategy that galvanizes both public and private finance to support the national development strategy, nor are there tagging and tracking mechanisms granular enough to ensure alignment between public and private investment and the SDGs. There are no specific mechanisms to ensure that more public finance is allocated to off-track SDGs in a timely manner.
- Existing national approaches do not adequately consider the impact of risks or alternative scenarios on the scale of financing needs for public and private sectors. As a result, a systematic and consistent risk management framework, tools, and measures in government financing policies for sustainable development still need to be strengthened.
- While the SDG investor map, supported by the SEC and UNDP, was launched in July 2022, Thailand still lacks a system to develop at scale pipelines of SDG-aligned and readily bankable projects, contributing to the delay in accelerating SDG investment through both public and private resources
- Thailand still needs to enhance assessment metrics and indicators to monitor and evaluate the impact of investments that target sustainable development outcomes

Recommendations for the INFF

This report offers a set of recommendations to inform the development of an integrated financing strategy to underpin Thailand's sustainable development vision. The recommendations are organized into three main groups: 1) overall financing strategy recommendations; 2) recommendations specific to the financing of thematic priorities; and 3) recommendations to improve governance, monitoring, and reporting mechanisms for an INFF. The key recommendations are summarized as follow:

<table>
<tr><th colspan="2">1. Key recommendations for Thailand’s overall development financing strategy</th></tr>
<tr><td>1.1. Increase public revenues</td><td>
• Public revenues can be further increased by strengthening the alignment of the tax policies and instruments with the achievement of SDGs, including in the following areas:
» Addressing inequalities though tax options to enhance the progressivity in current taxes on income and VAT, introduce new forms of taxation, and improve distributional impact of tax policies
» Addressing environment and health issues through targeted tax and incentive instruments (e.g., carbon tax and incentives for carbon trading and instruments and reforestration, excise taxes on alcohol, cigarettes, sugar, carbonated drinks, salty food etc.)
» Optimize tax incentives (concessions and exemptions) to individuals and corporates to align with SDGs
• Increase public revenues through non-tax revenues, exploring opportunities from state-owned enterprises, licenses and concessions.
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<tr><td>1.2. Improve public development investment, including reprioritizing budget allocation for SDGs using the SDG budgeting framework</td><td>
• Implementing SDG budget tagging and tracking should be one of the top priorities
» Climate-related budget tagging can be a starting point to gather experience and lessons learned before expanding to comprehensive SDG budget tagging to ensure that more public resources are geared towards achieving the SDGs
» SDG-aligned Taxonomy (including Thailand’s upcoming green taxonomy) will help ensure the alignment between public and private investment and the SDGs—it will serve as a key basis for the whole investment project cycle (from project pipeline formulation to impact measurement and management)
• Reprioritize budget for tackling SDGs which are currently off-track and are under-budgeted for, for example, SDGs 13, 14, 15 related to climate and environmental challenges
• Develop an optimal project financing strategy by using mixed debt and traditional budgeting to fund projects which support SDGs achievement.
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<tr><td>1.3. Enhance financing flows to SDG investments at subnational levels</td><td>
• Strengthening fiscal framework to further improve transfers from central to subnational authorities
• Increasing the capacity of subnational authorities in revenue generation and diversification, supported by enhanced data capabilities at the local level.
• Exploring potential opportunities for formulating SDG-aligned and innovative subnational projects (including infrastructure projects) and instruments to channel funding to finance them, ranging from ecological fiscal transfers to municipal bonds.
• Providing more capacity building support for preparation of SDG-related investments at subnational levels
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1.4. ***Aligning private sector's interest to SDG progress***	• Promote private investment in SDG projects » The SDG Investor Map can be a starting point for development of SDG-aligned and viable project pipelines » This can be complemented by the establishment of a project preparation facility and an SDG investment management system • Enhance alignment between private investment and development agenda, primarily through » Adopting SDG-aligned taxonomy to ensure clarity, transparency, and impact of private investment on sustainable development—incentivizing investors to better finance the SDGs » Using the sustainability reporting to monitor the flows and the prospect of private investment in the SDGs » More usage of instruments such as Public-Private-Partnership and blended finance to match public and private funding and manage project risks • Increase FDI for sustainable development by mainstreaming SDGs and sustainability principles across FDI promotion, and promoting the synergies between foreign and domestic private finance in advancing SDG outcomes • FDI promotion towards green and inclusive development can start with industries that Thailand has comparative advantage, linking to the country's Bio-Circular-Green (BCG) economy model • Promote private investment in care economy and gender equality, building on the start of women bond issuance in Thailand • Improve ecosystem to support MSME financing for development, such as for MSMEs' green and transition investment
1.5. ***Enhance the role of insurance to mitigate and transfer financial risks across development sectors.***	• Facilitate the role of insurers in investing in SDG projects • Develop a combination of insurance products to protect lives and livelihoods of vulnerable populations • Use crop insurance and microinsurance to improve the well-being of farmers and the vulnerable • Enhance insurance contribution to disaster risk management and climate change adaptation • Expand sovereign and public asset insurance to cover, for example, critical assets with high impact on the livelihoods of vulnerable populations • Combining insurance with other financing instruments to effectively manage risks.

1.6.	***Utilize new financing instruments to mobilize private capital towards SDGs***	• Promote green bond issuance for green and climate-aligned investment opportunities for extend beyond traditional transport and energy sectors • Promote issuance of social and sustainability bonds, including through the development of a "social taxonomy" • Promote the issuance of "impactful" SDG bonds by both public and private sector entities • Scale up financing for adaptation and resilience, using resilience bonds, in combination with other sources of finance (e.g., ODA and risk finance) • More strategic use of blue bonds to support SDG 14 (life below water) • More strategic use of transition bonds to mobilize funding for hard-to-abate sectors
1.7.	***Use International public finance (ODA) strategically as a catalyzer of innovative projects***	• Direct ODA towards catalytic investments, such as in low carbon technologies and decarbonization of the industry and transportation sector, with the aim to crowd in other sources of finance
2.	**Key recommendations on financing thematic priorities**	
2.1.	***Promoting equality, including gender equality, and enhancing social protection***	• Explore the potential of using negative income tax to provide safety net while expending the coverage of the formal system • Distributional impacts of the tax on gender (between women and men/ girls and boys) as well as on paid and unpaid work (allocative effect) need to be carefully evaluated • Mainstreaming Gender-Responsive Budgeting (GRB) as part of the alignment of budget towards the SDGs (building on the GRB manual approved by the cabinet in 2021), given the asymmetric impact of crises (from COVID-19 to climate) on women • Enhance the coverage and the adequacy of social protection, particularly for informal workers, pregnant women, and children, and those not benefited from the system (e.g. migrants and sex workers) • Repurpose the social security child benefit to help finance care infrastructure • Introduce inclusive insurance to improve the resilience the poor and vulnerable populations, using government budget (e.g. premium subsidy) • Promote more tailor-made insurance products for women • Explore the formulation of social taxonomy, which will help enable the development of social project pipelines to attract private finance, including investment opportunity areas related to health ,aging society, and eco and community-based tourism specified in the SDG Investor Map • Promote private investment in care economy and gender equality, building on the start of women bond issuance in Thailand • Minimizing regulatory bottlenecks in incubating and promoting financial access for MSMEs and start-ups

2.2. ***Tackling climate and environmental issues***	• Adopt a holistic approach in financing for green and inclusive development, encompassing financing the green industries and the transition of the traditional industries • Similarly, promoting transition and reducing fossil fuel subsidy can be complemented with investments to reduce fossil fuel dependence (e.g., investment in public transportation) and promote the usage of alternative energy (including promoting small players as suppliers of renewable energy) • Address key challenges (e.g., leveraging Thailand's upcoming green taxonomy, regulatory bottlenecks, verification costs) to encourage more green investment, including from small players • Promote transition finance by providing cheaper financing to help hard-to-abate sectors reduce the costs transition from brown to green economic activities • Increase access to international climate finance, such as the Green Climate Fund • Scaling innovative Biodiversity Finance instruments (e.g., user charges, wildlife conservation license plates, local budgets) • Incubating and promoting financial access for MSMEs and start-ups to invest in green activities and/or linking them to green supply chains • Explore alternatives on tax policies to reduce pollution, such as congestion tax and landfill tax
2.3. ***Job creation in the transition towards green and inclusive development***	• Strengthen the collaboration between the public and the private sector in promoting just transition, including financing for training students and labor force to meet the requirements of green industries, using a combination of government budget, FDI, domestic private investment, and ODA • Thailand has the potential to become a talent hub—facilitating talent incubation and enhancement for the country and the region. Such potential can be supported by: » Strengthening tax and incentive policies to encourage investment in upskilling and reskilling labor force as well as MSMEs and startups, particularly in equipping them with new capacity for transitioning toward green economy » Gearing social protection towards facilitating just transition, including allowing the worker's contribution in the social security fund to be portable to support those with varied employment histories » Safeguarding the public budget for improving the quality of education system (reskilling and upskilling), including that for vocational training

2.4. Strengthening the health sector	• Whole-of-government and whole-of-society approach is needed in enhancing investment on health sector, including but not limited to investment for health promotion advocacy, facilities for health promotion and healthcare, pollution reduction, and increasing the supply of healthcare experts in remoted areas • Promote health literacy and use incentives to encourage healthy behaviors such as excise taxes on alcohol, cigarettes, sugar, and carbonated drinks • Explore the potential of earmarking public revenue for health expenditure, including in disease prevention and health promotion • Reprioritize public budget towards health promotion and prevention which can help in reducing health expenditure in the long run • Promote the role of insurance in health promotion, e.g., using insurance to supplement the mandatory healthcare coverage, reducing premium for those with healthy behaviors • Thailand has the potential to become a medical and wellness, which can be realized by promote private investment to increase the capacity of Thailand's healthcare system, including investment in sectors identified in the SDG Investor Map such as telemedicine, sustainable/organic products value chains, and food for the future • Social taxonomy can be leveraged to further promote investment project pipelines in the health sector
2.5. Harnessing digital finance for sustainable development	• Digital finance is key for reducing the costs, particularly the costs on access, transaction, verification, and monitoring, and thus debottlenecking SDG financing • Scaling up the adoption of digital finance to support SDG investment needs requires regulatory support, such as on allowing information-sharing among different agencies and permitting the adoption of new digital finance instruments for fund-raising • To support MSMEs financial access, the transaction costs need to be reduced through improving the quality of MSMEs' information required by investors and enhancing the clarity of regulations (including clarification of tax burden and incentives on digital finance transactions) • Enhancing MSMEs financing via platforms such as capital market, crowdfunding, orPeer-to-Peer digital lending—these platforms need to be complemented by technology that reduces the funding cost for MSMEs (ultimately leading to lower interest rate costs) • Utilize digital technology (e.g., block chain) to facilitate lending for MSMEs • Explore the options of utilizing digital finance tools to fund green and inclusive projects, such as green mass transit and infrastructure projects

3.	Recommendations to improve governance, monitoring, and reporting mechanisms for an INFF
3.1. ***Establish governance through an INFF committee within the National Committee for Sustainable Development (NCSD)***	• The key roles of an INFF Committee include: » Convene governmental agencies, the private sector, civil society organizations, and other development actors to align policies for directing public and private finance to advance Thailand's sustainable development vision » Reviewing and monitoring the alignment of public and private finance with Thailand's sustainable development vision • The INFF Committee can be linked to the Sustainable Finance Working Group (chaired by FPO and comprises the Bank of Thailand, the SEC, the Stock Exchange, and the Office of Insurance Commission) • The work of an INFF Committee will feed into and contribute to the work of the NCSD, given its role as an overarching governance body on advancing the SDGs in Thailand
3.2. ***Enhance and systematize the monitoring of SDGs at the strategic level, between ministries and between tiers of the government.***	• Strategic oversight by enhancing the tools used by NESDC monitor to SDG progress by adding more rigorous SDG integration to the eMENSCR System • Enhance horizontal coordination between ministries on the SDGs • Adopt a systemic and holistic approach in coordination between tiers of government at national and subnational levels on the SDGs, given the complexity and the interlinkages between each of the SDGs
3.3. ***Improve evaluation through multidimensional impact analysis on financing resources for sustainable development***	• Incorporate multidimensional impact indicators and analyses to complement to complement country-level aggregation indexes in tracking the impact of the use of development financing resources • Link the use of multidimensional impact indicators to SDG localization to better track SDG progress at the local level. • Improve the monitoring and evaluation frameworks for the use of sustainable finance instruments in Thailand, including the application of the SDG impact measurement and management framework

Abbreviation

AAAA	Addis Ababa Action Agenda
ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
BIOFIN	Biodiversity Finance Initiative
BoT	Bank of Thailand
CIF	Climate Investment Funds
COVID-19	Corona Virus Disease
CRS	Corporate Social Responsibility
DFA	Development Finance Assessment
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign Direct Investment
FOREX	Foreign Exchange
GDP	Gross Domestic Product
GNI	Gross National Income
IFIs	International Financial Institutions
IMF	International Monetary Fund
INFF	Integrated National Financial Framework
MDGs	Millennium Development Goals
MoE	Ministry of Economy
IFC	International Finance Corporation
IFI's	International Financial Institutions
MFI	Micro Finance Institutions
MoF	Ministry of Finance
MTEF	Medium-Term Expenditure Framework
MTFF	Medium-Term Fiscal Framework
MTRS	Medium-Term Revenue Strategies
NDS	National Development Strategy
NGOs	Non-Government Organizations
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
NESDP	National Economic and Social Development Plan
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
OOF	Other Official Flows
PPG	Public and Publicly Guaranteed
PPP	Public Private Partnership
SAI	Supreme Audit Institution
SBS	State Budgeting System
SDGs	Sustainable Development Goals
SOE	State-Owned Enterprise
UN	United Nations
RGoT	Royal Government of Thailand
SME	Small and Medium Enterprises
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNESCAP	United Nations Economic and Social Commission for Asia and Pacific
WB	World Bank

1.

INTRODUCTION

1. INTRODUCTION

1.1. Integrated National Financing Framework for Sustainable Development Goals

The 2030 Agenda for Sustainable Development (2030 Agenda) presents an ambitious and commonly agreed global vision of a sustainable future. As a blueprint for achieving this vision, the Sustainable Development Goals (SDGs) were adopted by all United Nations (UN) Member States in 2015[1]. Comprising 17 global goals, 169 targets and 247 officially negotiated indicators[2] to be achieved by 2030, the SDGs set a common vision for sustainable development for all countries—rich and poor—and serve as a universal call for actions to balance economic growth, social inclusion and environmental protection to achieve sustainable development. As a framework of actions, the 17 SDGs are further categorized into subgroups of five Ps: SDGs 1-5 focus on the welfare of *people*, SDGs 7-11 on economic growth and *prosperity*, and SDGs 6 and 12-15 on *the planet*. *Peace* and *partnerships* (SDGs 16 and 17) are also identified as two cross-cutting goals, whose achievement is not only intrinsically important but also creates an enabling environment for the success of other SDGs.

Figure 1.1: 17 Sustainable Development Goals SDGs

Source: *United Nations, 2015.*[3]

1 Transforming our world: the 2030 Agenda for Sustainable Development with its 17 SDGs was adopted at the UN Sustainable Development Summit in New York in September 2015.

2 The actual number of unique indicators is 231 as some indicators are used for more than one SDG. See https://unstats.un.org/sdgs/indicators/indicators-list/

3 https://sdgs.un.org/

Despite the widespread adoption of SDGs by public and private entities as a sustainable development framework, countries face several challenges in developing an integrated approach to finance the SDGs. The global SDG investment needs are large and likely increase significantly following the COVID-19 pandemic. Even before COVID, the United Nations Development Programme (UNDP) estimated that the annual cost of eradicating extreme poverty in *all* countries are about US$ 66 billion annually.[4] Estimates of annual investment requirements in infrastructure (in water, agriculture, telecommunications, energy, transport, buildings, industrial and forestry sectors) in *all* countries amount to between US$ 5 to 7 trillion.[5] Estimates for total investment needs in developing countries alone range from US$ 3.3 to 4.5 trillion per year from 2015 to 2030 for basic infrastructure (roads, rail and ports; power stations; water and sanitation), food security (agriculture and rural development), climate change mitigation and adaptation, health, and education. At current levels of investment in SDG-relevant sectors, developing countries face an annual gap of US$2.5 trillion between 2015-2030.[6] The COVID-19 pandemic has severe negative impacts on most SDGs and in some cases turns back decades of progress.[7] The pandemic has highly negative impacts on SDG 1 (No poverty), SDG 2 (Zero Hunger), SDG 3 (Good health and well-being), SDG 8 (Decent work and economic growth), and SDG 10 (Reduced inequalities).[8] Apart from increasing the SDG investment needs, the COVID-19 crisis exposes fundamental weaknesses from inadequate investment towards the SDGs, and calls for a renewed urgency for more SDG-aligned public and private investment.

Mobilizing the scale of public and private resources required to close the SDG financing gaps, while maximizing their impact on the SDG outcomes by 2030, presents a range of challenges. These include the need to manage diverse and complex financing instruments in a complementary manner, to design and implement effective policies to enable the flows of funds to SDGs, and to collaborate with a diverse range of actors to monitor SDG progress. These challenges are often rooted in, or made more difficult by, an inadequate governance framework for SDGs at the national and local levels. Key governance challenges include the misalignment between the planning and finance policy functions of the government, the participation of only a narrow group of stakeholders in dialogue and decisions on financing, the lack of a comprehensive strategy to estimate financing gaps, increase investment and manage risks to achieve SDG priorities, and inadequate monitoring mechanisms to ensure adequate financing flows towards SDGs, particularly those whose progress is not on track.

UN Member states recognized these challenges of SDG financing in the Addis Ababa Action Agenda. The 2019 Financing for Sustainable Development Report recommends countries to consider developing **Integrated National Financing Frameworks (INFFs)** to support their national development strategies. INFFs support shifting financing perspective towards long-term investment horizons and integrating sustainability as a central concern of investment decisions. It enables aligning private and public incentives with sustainable development, and better measuring the impacts on sustainability. Since 2019, already more than 86 countries have committed to developing their INFFs.

4 UNDP. 2018. Financing The 2030 Agenda: An Introductory Guidebook for UNDP Country Offices. https://www.undp.org/publications/financing-2030-agenda#modal-publication-download

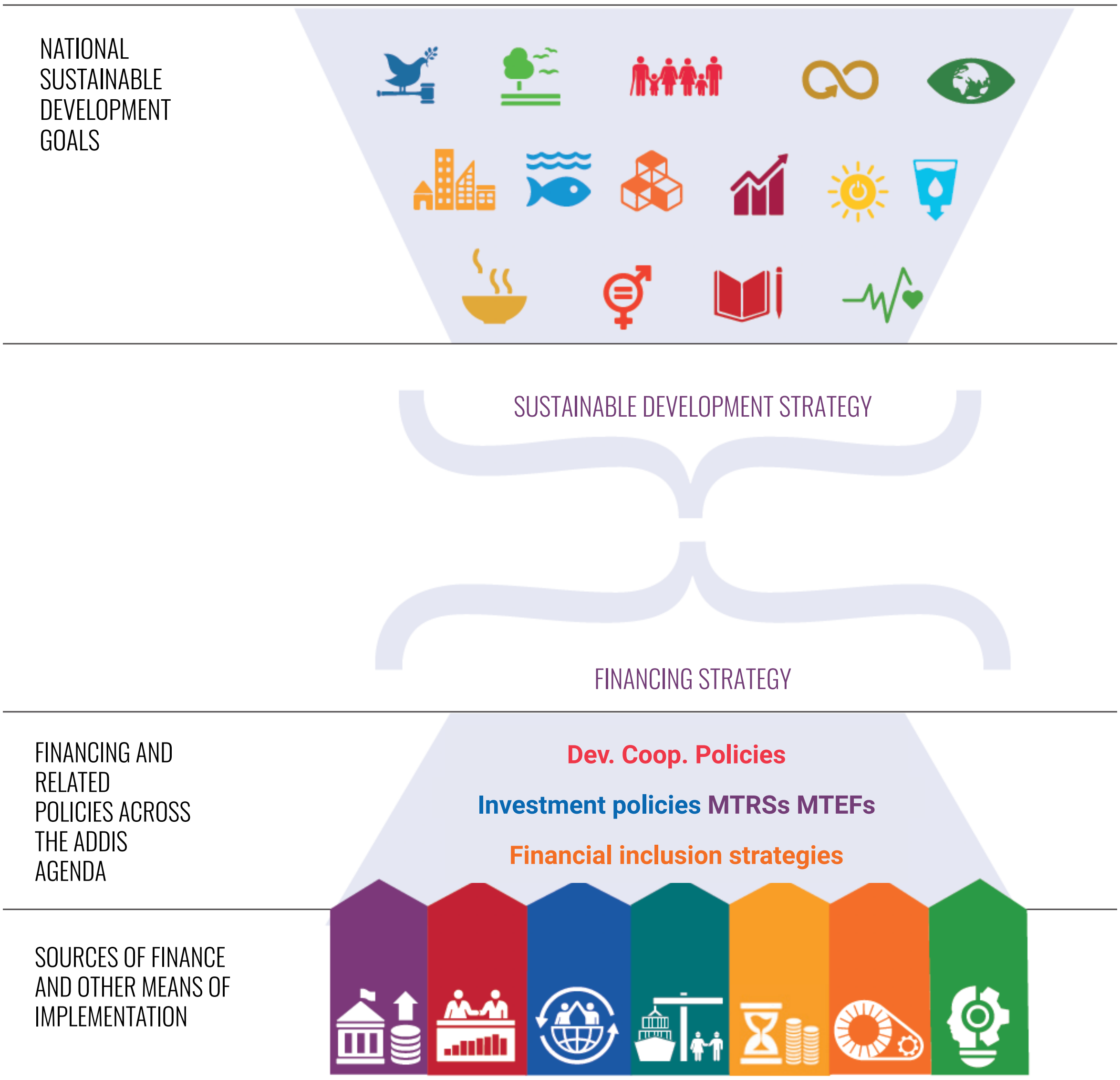
5 Ibid.

6 UNCTAD. 2014. World Investment Report 2014. https://unctad.org/system/files/official-document/wir2014_en.pdf

7 Ibid.

8 Ibid.

Figure 1.2: Integrated National Financing Framework for Sustainable Development Goals



Source: UNDP

Against this backdrop, UNDP, in partnership with the National Economic and Social Development Council (NESDC) and the Ministry of Finance (MoF), is establishing an INFF for Thailand to ensure that the country's recovery from COVID-19 and sustainable development agenda is fostered by a comprehensive and fit-for-purpose financing framework. While Thailand's sustainable development strategy lays out what needs to be financed, an INFF enables the country to formulate a risk-informed integrated SDG financing strategy by spelling out how this national strategy will be financed and implemented. The INFF serves as a planning and delivery tool that lays out the full range of financing sources – domestic public resources, development cooperation, and domestic and international private finance – and allows Thailand to develop a strategy to increase investment, manage risks, and achieve sustainable development priorities at national and subnational levels. It is a framework that not only looks at better alignment with between fiscal space and policy options and development priorities, but also how to channel private sector resource towards building forward better to support national priorities and the SDGs.

1.2. Objectives and scope of Development Finance Assessment (DFA)

As a first step towards the inception of an INFF, a **Development Finance Assessment (DFA)** has been undertaken. The overall objective of the DFA is to provide an overview of development finance flows and the institutions and policies that align this finance with national development goals and priorities, and to identify financing gaps in order to lay out a holistic financing strategy for development.

To achieve the overall objective, the scope of work of a DFA covers the following:

- An overview of the trends and composition of financial flows, including an assessment of challenges and opportunities for utilizing the existing finances more efficiently and how additional finance can be mobilized
- Assessment of how the public sector, particularly through the roles of planning and budgeting process, link both public and private finance with results, in the context of national development priorities and the SDGs
- Assessment of the roles and responsibilities of national institutions in managing or influencing the development of individual financial flows to contribute to the national development plan and SDGs

The DFA process comprises two important phases. First, a research and consultation phase analyses information related to each of the four INFF building blocks:

- Assessments and diagnostics
- Financing strategy
- Monitoring and review system
- Governance and coordination mechanisms

Subsequently, the consultation phase follows a process of multi-stakeholder financing dialogues, which brings together a wide range of public and private actors to build consensus on the key challenges and opportunities across the financing landscape and agree on ways forward.

The UNDP's Regional Bureau for Asia and the Pacific delivered a first phase of the DFA report analysis in 2017, as part of a project on Financing the Implementation of the SDGs in ASEAN, to stimulate the dialogue on SDG financing at the regional level.[9] The 2017 report assessed the opportunities and challenges Thailand was facing to mobilize the investment needed to achieve the SDGs' 2030 Agenda and its own National Economic and Social Development Plan (NESDP).

The 2017 DFA was updated in 2021 to address critical knowledge gaps around the volume and trends of available development finance in the context of the unfolding COVID-19 crisis. Furthermore, the 2021 DFA also looked at the country's enabling environment (legal, political, regulatory, etc.) and the supporting governance ecosystems (institutions and actors) for mainstreaming the SDGs across its public finance system. The 2021 DFA was undertaken during the period of September to December 2021. The 2021 DFA team comprised of one international consultant and one national consultant with the active participation in data collection and compilation by the UNDP Country Office team with the MoF, the Bank of Thailand (BoT) and the National Statistical Office of Thailand (NSO). The preliminary results of the 2021 DFA were presented and discussed with key stakeholders at the first interagency meeting on the INFF held on April 30, 2021, followed by a series of inter-agency consultations in November 2021. With suggestions

9 UNDP (2017) – *Development Finance Assessment Snapshot Thailand, Financing the future with an integrated national financing framework*. Bangkok: UNDP Regional Bureau for Asia and the Pacific.

from stakeholders, the 2021 DFA has been revised to reflect stakeholder's policy recommendations on financing for development.

As a finalization stage, the current DFA version (2022), conducted by the Fiscal Policy Research Institute (FPRI), builds on and updates the 2021 version. Analyses and recommendations in this current DFA report incorporates the stakeholder feedback from the 2021 consultations, as well as those gathered during the Consultation on Risk-Informed Financing Strategy in the INFF for Thailand, held on June 30, 2022. This DFA report also incorporates feedback and suggestions from one-on-one consultations with selected government and private sector organizations with key roles to play in the INFF framework. The consultations took place between July-September 2022 and were attended by key representative of stakeholder organizations involved in Thailand's development financing. Policy recommendations included in this report also incorporated feedback from the final stakeholder consultation workshop in December 2022.

1.3. DFA methodology

The DFA methodology was developed by the UNDP, in response to demand from countries for the support in managing the increasingly complex landscape of the development finance. The *Third International Conference on Financing for Development,* held in Addis Ababa in July 2015, opened discussions on how to mobilize the unprecedented amounts of financial resources that will be required to achieve the SDGs by 2030. The *Addis Ababa Action Agenda* assumes that countries will use their own national development strategies and plans to respond to the SDGs and calls for the use of the INFF as an analytical framework for assessing challenges and opportunities for more effective use of finance for development and in identifying additional sources of finance.[10] The DFA supports governments to help strengthen policies and actions for mobilizing different types of finance for sustainable development in a given country context. The DFA uses the INFF as an analytical framework to produce a roadmap that a government may implement to mobilize and utilize finance to achieve the SDGs and national development goals effectively and efficiently.[11]

1.4. The DFA approach in Thailand

This DFA starts by assessing the current development context of Thailand, presenting key sustainable development priorities identified in national strategy and assessing Thailand's current progress towards achieving SDGs, including key risks that could affect the progress going forwards.

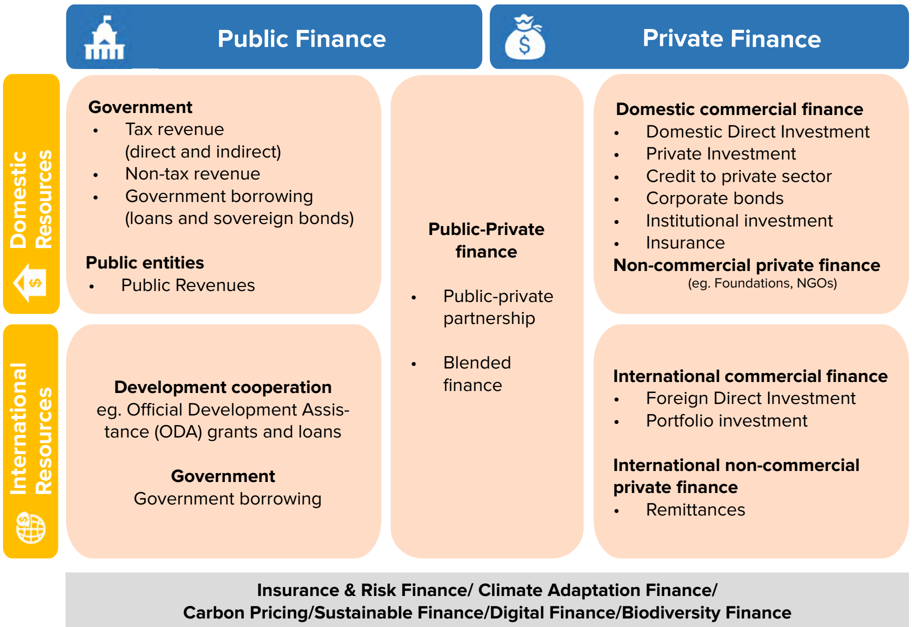
Within such context, the DFA then estimates key SDG financing gaps in Thailand, by comparing estimated needs (e.g., demand) with available development finance (e.g., supply). In this report, "**development finance", refers to "*the combination of domestic and international, and public and private capital flows, that can potentially serve to finance the Thailand's national development priorities and the SDGs."*** The conceptual framework also recognizes that there are several thematic financing flows, such as insurance and risk financing, climate finance, biodiversity finance etc., that can mobilize financing

10 United Nations. "Addis Ababa Action Agenda of the Third International Conference on Financing for Development." (2015).

11 United Nations Development Programme (UNDP)/Asia Pacific Development Effectiveness Facility (AP-DEF). "Development Finance Assessment and Integrated Financing Solutions: Achieving the Sustainable Development Goals in the Era of the Addis Ababa Action Agenda." (2017).

cross the international-domestic, and public-private boundaries, and therefore presents them as cross-cutting thematic financing flows. Figure 1.3 below summarizes the conceptual framework for analyzing development finance landscape in Thailand.[12]

Figure 1.3: Development Finance Landscape Framework



Source: UNDP (2021) Thailand's Development Finance Assessment Report, modified by FPRI.

The financial flow mapping has been organized into three analytical levels. At the highest level (level 1) the analysis covers a) domestic public; b) international public; c) domestic private; and d) international private flows. At level 2 the analysis covers conventional disaggregation of each of the level 1 financial flows, whereas level 3 analyses financial flows of specific interest where data availability allows for detailed disaggregated analysis (e.g., tax and non-tax revenues, different forms and channels of ODA grants, funds for promoting private sector investments). The analysis also uses a thematic lens (e.g., insurance and risk finance, climate, biodiversity, sustainability etc.) to analyze financing flows to the different development investment themes from various financing sources and instruments.

Based on this framework, the analysis highlights the current patterns of development financing flows in Thailand and discusses key opportunities and constraints in mobilizing more financing from SDGs from each source. The financial flow analysis covers, to the extent possible, the last 11 years from Fiscal Year (FYs) 2010 to 2021, and where possible presents relevant future projections.

The analysis of financing flows has made use of national data sources, such as national official statistics on public-sector finance maintained by the GoT, as primary sources. International data sets (such as ODA statistics) were used when appropriated. Financial data is always presented in the national currency. Financial data from international sources published in USD was converted into the national currency using a constant THB-USD using nominal exchange rates and GDP-based deflators, following standard practice. In addition, the data analysis, at disaggregated levels, has been supplemented by data and results from surveys and reviews undertaken on specific subjects.

12 See annex 1.

Following the mapping of finance flows and related analyses, the DFA reviewed existing governance, monitoring, and reporting mechanisms, with the focus on policies and institutional arrangements that affect development finance flows in Thailand.

Apart from primary data gathered from official sources and dialogues with public and private sector stakeholders, the DFA also draw on secondary data from diagnostic studies conducted by the UNDP (e.g., studies on the SDG Investor Map, Insurance and Risk Finance Facility (IRFF), Biodiversity Finance (BIOFIN), Climate Change Financing Framework (CCFF)), and by others (e.g., OECD, multilateral development banks, the Climate Bonds Initiative, etc.).

Drawing on the analyses above, the DFA provides recommendations on development financing options, with the context of a risk-informed INFF, to bring together public and private finance policies to redirect resources to more useful purposes. This strategy also involves freeing up resources for development that are tied up elsewhere, and mobilizing new resources to maximize the chance of Thailand meeting the SDGs and to ensure more resilience to face future shocks. The DFA also provides advice on complementary governance, monitoring, and reporting reform actions that may increase efficiency and effectiveness in use existing finance, and increase mobilization of additional finance, required to achieve Thailand's development objectives and the SDGs.

1.5. Data collection

The analysis is based on primary financial data provided by the MoF, the BoT, NSO and various sector ministries and agencies. These have been combined with data from, among others, the World Bank, the International Monetary Fund (IMF), the Organization for Economic Co-operation and Development (OECD), various United Nations (UN) agency databases as well as others, such as the Climate Bonds Initiative. This has enabled, among others, to make comparison to other countries in the region and at the same income level in some subjects. In addition, the analysis was supplemented by data and results from various surveys undertaken to enable further analysis at disaggregated levels.

The public finance data are based on data from the GoT. Data on external flows have been based on information from the BoT, while the more disaggregated analysis of individual flows has been based on the information from the MoF, BoT, TBS, OECD/DAC, World Bank, and IMF, amongst others. The information on the individual flows of development financing sources is based on data generated and complied by the national institutions while OECD/DAC, IMF and the World Bank data are from their respective international headquarters. The disaggregated data, with more detailed information about a particular flow (purpose, nature of disbursement, etc.), has been based on the other sources.

The team also collected qualitative and quantitative data from a range of stakeholders including government institutions, private sector institutions, NGOs, and development partners, who provided additional information by sharing relevant assessments, reviews, and evaluations, as well as government documents. Finally, data from one-on-one consultations with key government and private sector organizations also provided an in-depth perspective which enhanced both the financing and governance analyses. All the data sources mentioned are partially overlapped, which gave the team the opportunity to triangulate the data between the different sources.

1.6. Structure of the report

The remaining content of report is structured as the following chapters:

Chapter 2 presents the current development context of Thailand, focusing on the current national development policy framework SDG achievements, as well as gaps, which needs more attention in the context of an INFF.

Chapter 3 provides an overview of development finance flows in Thailand, and estimates the gap between SDG-related financing needs and the available development finance resources.

Chapter 4 examines the sources of development finance in Thailand in more detail, zooming in to financing flows from public, private, domestic and international sectors and identifies key opportunities and challenges related to each source.

Chapter 5 assesses the governance, monitoring, and reporting systems for SDG financing in Thailand and identifies key challenges to be addressed in order for Thailand to move towards an integrated financing strategy.

Chapter 6 presents a set of recommendations for the Thailand's INFF, comprising recommendations for an overall development finance strategy, the financing of thematic priorities, improvement of governance, monitoring, and reporting mechanisms for an INFF.

2.

COUNTRY CONTEXT: DEVELOPMENT POLICY PRIORITIES AND CURRENT PROGRESS TOWARDS SDGs

2. COUNTRY CONTEXT: DEVELOPMENT POLICY PRIORITIES AND CURRENT PROGRESS TOWARDS SDGS

This chapter reviews Thailand's overall development context and current national development policy priorities and highlights the country's current progress and gaps towards SDGs. The chapter then discusses individual SDGs that are currently most off-track, thus requiring more emphasis in an INFF.

2.1. Overall development context

Thailand has been an upper middle-income country since 2011 and has experienced successive decades of remarkable economic and social development. But given slower economic growth in the recent decade, Thailand is facing key challenges in improving competitiveness, which is key to sustain the country's long-term economic productivity. Despite marked success in controlling the coronavirus disease (COVID-19) outbreak, the pandemic severely impacted Thailand due to its high dependence on trade and tourism. Apart from structural reforms to improve competitiveness, a sustainable recovery from the pandemic also requires Thailand to devise strategies to pursue green growth from low-carbon and climate resilient development, while also enhancing social inclusion and protection for the most vulnerable groups in the society from future shocks.

Thailand ranked 51st from 127 countries in the global innovation index, which were behind regional peers such as Malaysia which ranked 37th. In addition, Thailand spends little on R&D at 0.6% of GDP again lower than regional peers such as Malaysia or Singapore which spent 1.3% and 2.2%, respectively.[13] The Thai labor market is also facing key constraints. Overall, the working age population (age of 15 years or above) grew just 0.6% per year on average compared to the labor force which shrunk 0.1% per year on average. This results in a drop in a labor force participation rate from 72% in 2011 to 68% in 2020. This trend may hinder Thailand's future economic growth. From the job market segment perspective, the current unemployment is growing in the highly skilled workforce. The absolute numbers of unemployment among new graduates increased by 1.2 times in 2020. As a result, unemployment rate for vocational and university graduates rose to 3.44% in 2020 or about twice the national unemployment rate.

Informal workers were the hardest hit from the COVID-19 pandemic, reflecting the pre-existing inequalities in social protection in the country. While overall unemployment rate is historically low at less than 1% and only just recently at around 2%, almost half (49%) of Thailand's workforce is in the informal sector.[14] The sectors most characterized by informality include accommodation and food services (2.8 million jobs with 63% informal), wholesale and retail trade (6.2 million jobs with 55% informal), construction (2.2 million jobs with 45% informal), transport, storage and communication (1.5 million jobs with 36% informal), and manufacturing (6.1 million jobs with 21% informal). Agriculture is the largest employer (11.8 million) with

13 the World Forum Global Competitiveness Index 2018,

14 According to UN (2021) and Thailand's Informal Employment Survey 2018

very high informality (92%).[15] Only 4 percent of these informal workers are covered by the social security fund (SSF); even within the formal sector, only half of workers are covered by the SSF.[16] (See Table 1) The sectors with highest informal workers (accommodation, food services, wholesale and retail trade) were most vulnerable to shocks from COVID-19 because their economic activities were more susceptible to disruptions from the pandemic. As result, the poverty rate among informal workers increased from 10% before COVID-19 to 21% after it.

Table 2.1: Employed workers by formal/informal sector and by Social Security Fund (SSF)'s insurance

2018 (unit millions)	Formal Sector	Informal Sector	Total
Insured under SSF	9.6	0.8	10.4
Uninsured	8.3	17.5	25.8
Total	17.9	18.3	36.2

Source: UN (2021)

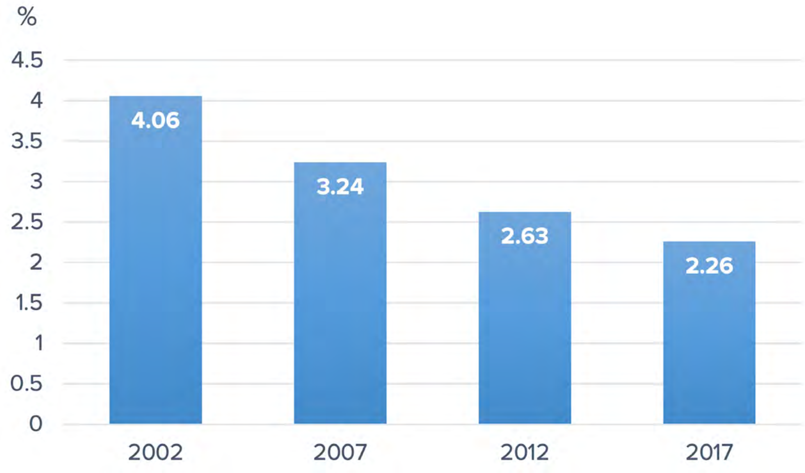
There are also other key gaps in social protection programs in Thailand. For children, the child support grants cover only 20% of children aged zero to fourteen years old. For workers, only around 30% to 40% of workers are covered with unemployment insurance, maternity benefit, and sickness income compensation. For retirees, only around 33% of those aged 55 or above receive a pension or a lump-sum retirement payment. As for people with disabilities, only half of them with disabilities receive disability grants. Moreover, the social security system excludes certain sectors that women tend to predominate such as domestic workers. The pension system also discriminates against women's more interrupted employment history.

Due to universal health coverage, there have been lower numbers of households with financial disasters from medical bills, with the number dropping from 4.06% in 2002 to 2.26% in 2017. However, because of the universal health coverage, the current health expenditures are showing a clear rising trend. Moreover, Thailand has become an aged society in 2022 as one in 5 people is 60 years old or older. An aged society, characterized by low birth rate and increasing longevity of elder groups, poses high risk to sustainable healthcare financing as healthcare burden increases.

15 UN Socioeconomic assessment of COVID

16 Thailand Social Protection Diagnostic Review: Expanding access to social security for all workers in Thailand (UN, 2021)

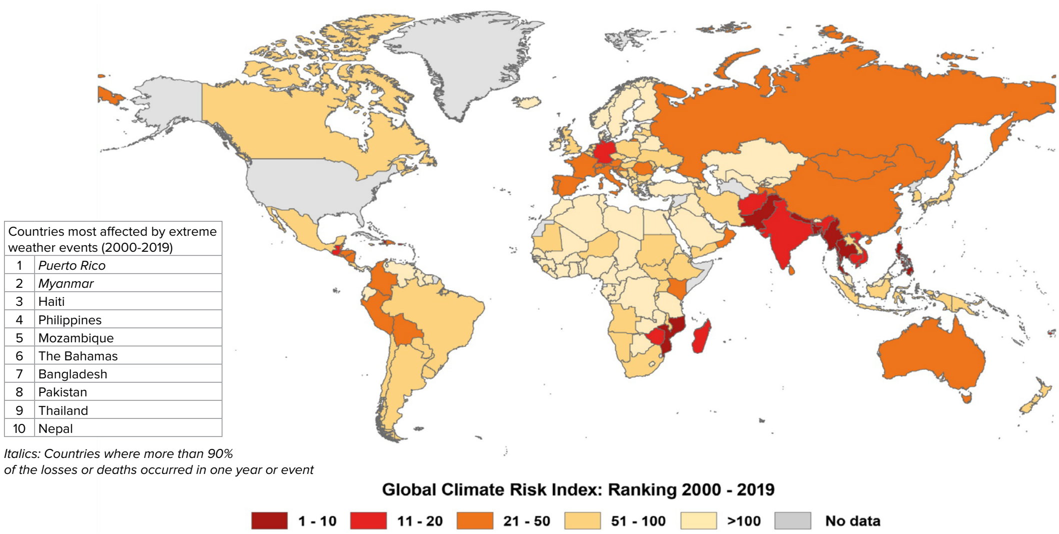
Figure 2.1: Percent of Households with financial disasters from medical bills



Source: NESDC's Thailand SDGs Report 2016-2020

Thailand also faces key challenges from climate change which has negative impacts across key economic sectors. Reflecting very high exposure to climate-related hazards, Thailand was ranked the 9th most affected country globally by extreme weather events between 2000–2019.[17] While adapting to these impacts of climate change is a priority, Thailand also needs to simultaneously engage in ambitious climate mitigation actions by reducing GHG emissions, with the policy goals of reaching carbon neutrality in 2050 and net zero emissions in 2065. Apart from climate change, Thailand also needs to address other multiple environmental challenges from pollution, air and water quality, waste management, and management and conservation of natural resources and biodiversity.

Figure 2.2: Countries most affected by extreme weather events, 2000-2019



Source: *Data from GermanWatch and Munich Re NatCatSERVICE. Graphic from GermanWatch. 2021*

17 https://germanwatch.org/sites/default/files/20-2-01e%20Global%20Climate%20Risk%20Index%202020_14.pdf

Thailand has made significant achievements on digital inclusion in the recent decades. Among countries in Asia and the Pacific, Thailand is classified in a high digital access cluster along with Australia, Japan, Singapore, and Viet Nam, as the country has a higher-than-average active mobile broad band subscriptions (>81%) and a higher-than-average percent of individuals using the internet (51%).[18] Both the percentages of individuals using the internet and of individuals aged over 15 who made or received digital payments in Thailand are higher than 60%, the levels on par with China.

2.2. Current National Development Policy Priorities

Responding to the above national development challenges and opportunities, Thailand's national development policy priorities are shaped by a strategic framework informed by Thailand's 20 Year National Strategy (2018-2027), the 13th National Economic and Social Development Plan (NESDP) (2023-2027), and the Bio-economy, Circular Economy & Green Economy (BCG) model.

2.2.1. Thailand's 20-Year National Strategy (2018-2037)

The Thailand's 20 years National Strategy, or sometimes referred to as the *2037 Vision*, aims to guide the country to become a developed society with security, prosperity, and sustainability in accordance with the Sufficiency Economy Philosophy, while integrating all the SDGs. For this purpose, it adopted six strategies:

- ***Security:*** creating national security for public contentment.
- ***Competitiveness Enhancement:*** enhancing different capacities to promote economic development.
- ***Human Capital Development and Strengthening:*** promoting multidimensional human capital development for righteous, skillful, and quality citizen.
- ***Social Cohesion and Equality:*** broadening opportunities and promoting equality in society.
- ***Eco-friendly Development and Growth:*** improving quality of life based on green growth.
- ***Public Rebalancing and Development:*** reforming government and administration with a focus on public interest.

2.2.2. The 13th National Economic and Social Development Plan (NESDP) (2023-2027)

The National Strategy is linked to the *13th National Economic and Social Development Plan* (13th NESDP), which is effective during 2023-2027. Developed by the NESDC, the 13th Plan sets out five key economic goals: 1) production restructuring and research and development (R&D) for the digital economy; 2) human resources development to cope with rapid digital changes; 3) equal opportunities and fairness; 4) environmental conservation; and 5) preparedness for future changes. Guided by these goals, the 13th plan is structured by four blocks of thirteen strategic sectoral goals.

18 (ESCAP, 2021).

Table 2.2: Building Blocks of the 13th National Economic and Social Development Plan

Blocks	Strategic sectoral goals
1) High value Eco-friendly economy	1. *High-value agriculture and agro-manufacturing* 2. *Value-based tourism* 3. *Production base for electronic vehicles* 4. *Integrated medical and health industry* 5. *Trade, investment, and logistic gateway* 6. *Smart electronics and digital services*
2) Society of Opportunities and equality	7. *SMEs, community, and social enterprises grow sustainably and continuously* 8. *Prosperous, modern, and livable areas and cities* 9. *Reduction in inter-generational poverty and sufficient social protection*
3) Sustainable way of life	10. *Circular economy and low carbon society* 11. *Reduce natural disasters and climate change risks*
4) Supporting factors for transformation	12. *Skilled manpower that meets needs of future development* 13. *High-performance government sector*

Source: NESDC[19]

In the context of the COVID-19 pandemic, the 13th NESDP is being revised to accommodate the main findings from the UN's COVID-19 socioeconomic impact assessment for Thailand, reprioritizing the goals in the short, medium, and long term to achieve a resilient recovery. For this purpose, in the short term the key priorities are support to vulnerable household and stimulus for employment and job retention. In the medium term, the key priorities are the improvement of social protection systems and gender equality. In the long term, the key priorities are the shifting toward a more independent and green economy, the rehabilitation of the local economy, including decentralization, and the movement toward an inclusive society, including reskilling and upskilling of workers for the future. More recently, the Global Compact Network Thailand (GCNT) has provided inputs to the NESDC in reprioritizing the SDGs for Thailand, and climate change adaptation as well as energy transition came in as top priorities going forward. This is a welcome change as Thailand was ranked the 9th most affected country globally by extreme weather events. The necessity to focus on climate adaptation to limit losses is apparent. In addition as the country aims for zero caron emission and the fact that around 70 percent of domestic emission comes from energy and transport sector, the shift to green and renewable energy is absolutely necessary to achieve the goal.

19 NESDC. 2021. 13th National Economic and Social Development Plan (Consultation Draft) (plan13.pdf (nesdc.go.th)

2.2.3. Bio-economy, Circular Economy & Green Economy Model (BCG)

The government is currently boosting the Thai economy through the BCG model as part of the Thailand 4.0 initiative. The BCG model emphasizes the use of cutting-edge technology and knowledge to create value for the country's existing industries, from food and beverage manufacturing to agricultural goods, energy, biochemical products and tourism. It aims to enhance the country's productivity and economic activity. The government's *bio-economy* strategy aims to maximize Thailand's biodiversity resources and strength as a global hub for agricultural products. Building a *circular economy* for Thailand will require reducing the use of raw materials, improving durability at operational plants, upgrading technology and harness innovations for higher efficiency, including in waste management. Thailand has also significantly increased its investment into the transition to a *green economy* in recent years, by promoting green industries, and enacting policies enabling businesses to capitalize on the advances in green technology and other biotechnology processes.

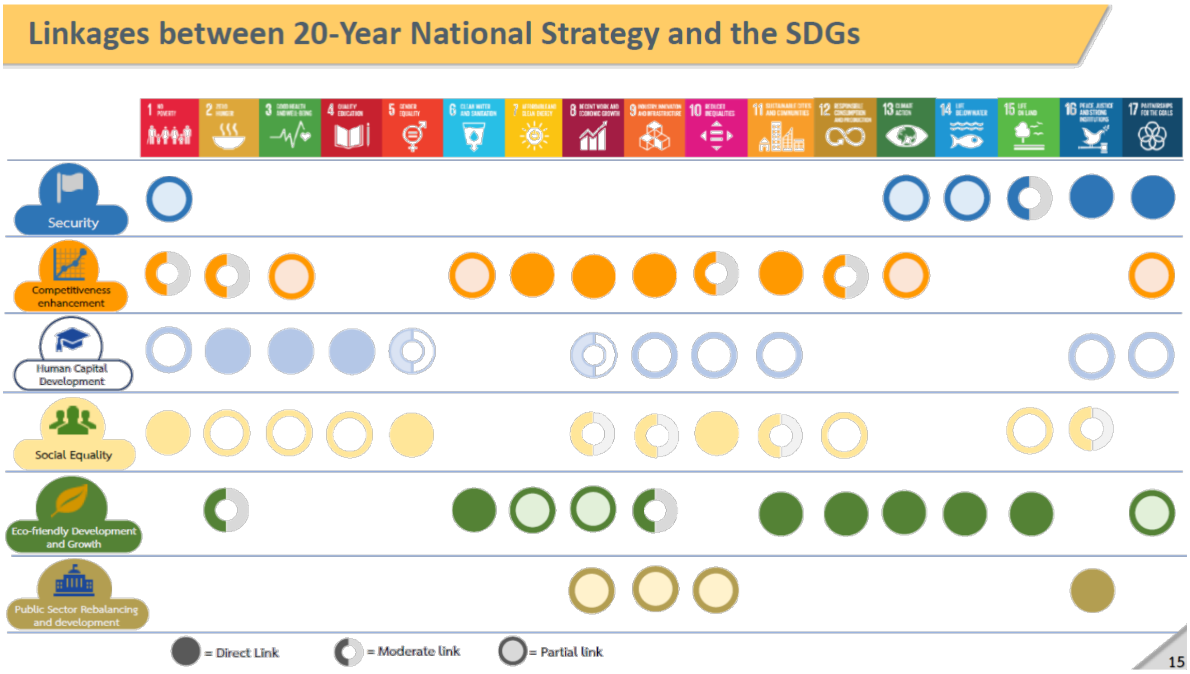
In February 2022, the cabinet approved the BCG Action Plan for 2021-2027, comprising four key strategies: 1) building sustainability among natural resources, biodiversity and culture; 2) using technology and innovation to strengthen the grassroots and creative economies; 3) strengthening the competitiveness of BCG by focusing on five sectors (farm and food; wellness and medical; energy and bioproducts; tourism; and the creative and circular economy); and 4) strengthening human resources to respond to global changes. With a total budget of almost 41 billion baht, the BCG Action plan is expected to be directed by a managament committee shared by the prime minister .[20]

2.2.4. Linkages between national development strategy and SDGs

Thailand's national development strategy, shaped by the three key cornerstones discussed above, has incorporated alignment with the SDGs. The NESDC has mapped the 17 SDGs to the six strategies under the 20 years National Strategy, recognizing varying degrees of direct to partial linkages. The BCG model is also seen as a key strategy for Thailand to achieve SDGs, particularly those related to sustainable economic growth and the environment.

20 https://www.bangkokpost.com/business/2261083/cabinet-okays-b41bn-bcg-action-plan-for-2022-27.

Figure 2.3: Linkage between 20 Years National Strategy (2018-2037) and SDGs (2030)



Source: NESDC

Despite such linkages at the strategic level, government planning and budgeting in Thailand pays attention, first and foremost, with the alignment to the six strategies identified in the 20 years National Strategy as an overarching framework. There is not yet a clear mechanism in place to further align between the planning and financing sides further to the SDGs, through the articulation of an integrated financing strategy that covers both public and private resources that could be mobilized towards investment in SDGs.

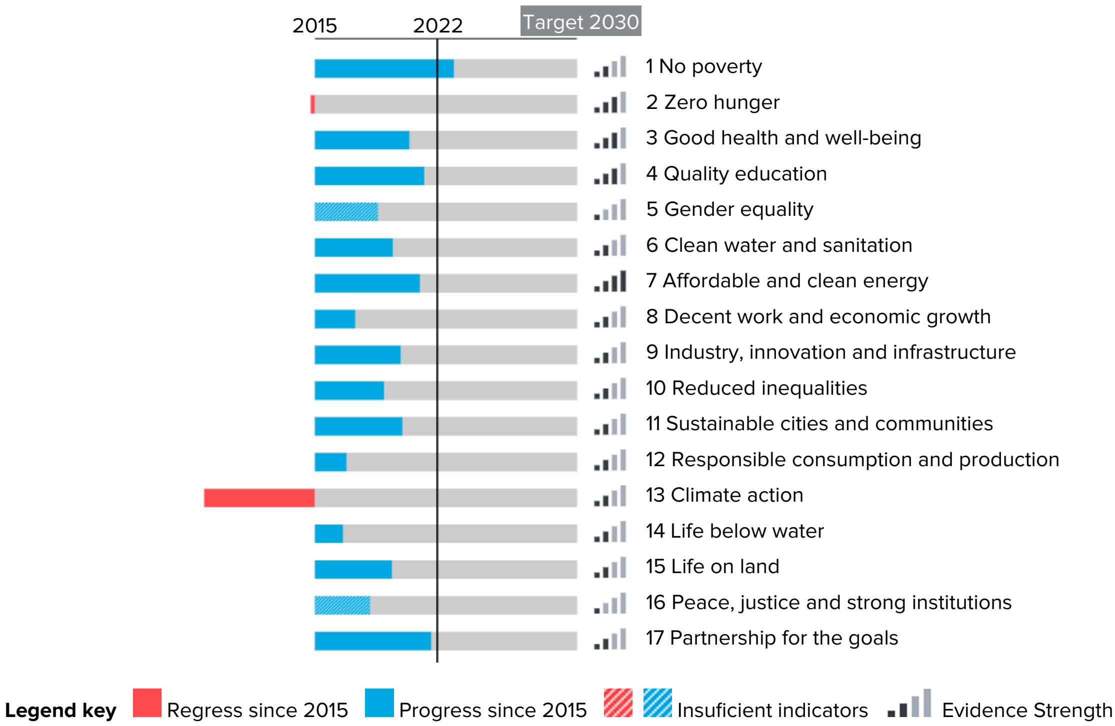
2.3. Current progress towards SDGs

A comparison of studies and global indexes provides an overview of the SDG progress in Thailand. While Thailand has achieved high progress on the SDG overall, challenges remain, especially on people and planet-related SDGs.

2.3.1. UN Socio-Economic Impact Assessment

From UNESCAP's latest finding, Thailand has made stronger progress on the goal of no poverty (SDG 1). Nevertheless, challenges remain across all the Goals and Thailand shows regression in the goals of zero hunger (SDG 2) and climate action (SDG 13).

Figure 2.4: Thailand's progress in each of the 17 SDGs since 2000



Source: SDG Snapshot: Thailand's current state of progress against regional targets, since 2015 (UNESCAP, 2023)

2.3.2 Thailand's national report on SDGs

The NESDC has also conducted a voluntary evaluation of the country's achievement on SDGs in its official "Thailand's SDGs Report 2016-2020." The report classifies achievement into four categories as follow.

1. "Red" when achieve less than 50 percent of SDG indicators in a particular goal
2. "Orange" when achieve between 50 to 74 percent of SDG indicators in a particular goal
3. "Yellow" when achieve between 75 to 99 percent of SDG indicators in a particular goal
4. "Green" when achieve 100 percent of SDG indicators in a particular goal

The result shows that no SDGs with "green" or "red" status. All the 17 SDGs are assessed to have "orange or "yellow" status, with 7 SDGs (SDG number 2, 3, 6, 11, 12, 14, 16) in "Orange" status and 10 SDGs (SDG number 1, 4, 5, 7, 8, 9, 10, 13, 15, 17) in "Yellow" status.

Figure 2.5: Thailand's achievement status of each SDG

Source: NESDC (2021) Thailand's SDGs Report 2016-2020

2.3.3. World Sustainable Development Report 2022

The World Sustainable Development Report[21] ranks Thailand 44th out of 163 countries in term of SDG performance. The country scores 74.1, indicating that its achievement of 74.1% of SDGs on average in 2022, is above the regional average at 65.9. The country also achieves at least 50 per cent of each SDG and fully achieves SDG 1. In term of commitment, the report categorizes Thailand in the moderate SDG commitment group along with Malaysia, Indonesia Philippines, South Korea, Canada, United Kingdom etc. When looking at individual SDGs, the report reveals that Thailand has 5 SDGs (SDG number 2, 3, 14, 15, 16) in “Red” status (major challenges), 10 SDGs (SDG number 5, 6, 7, 8, 9, 10, 11, 12, 13, 17) in “Orange” status (significant challenges), 1 SDGs (SDG number 6, 11, 12, 13) in “Yellow” status (challenges remain), and 1 SDGs (SDG number 1) in “Green” status (SDG achieved).

Figure 2.6: Thailand’s Performance based on the SDG Index Scores, 2022

Source: Sachs et. al. (2022) World Sustainable Development Report 2022

2.3.4. Other measurements of economic and social development

A closer look at inequality-adjusted indices reveals key challenges to achieving inclusive and sustainable development.

First, Thai individuals living above the income poverty line[22] still suffer deprivations in health, education and/or standard of living. While Thailand registers practically no people below the income poverty line (0.1% income poverty), the most recent *Multidimensional Poverty Index* (MPI)[23] indicates a multidimensional poverty headcount of 0.6 percent (402,000 people), with an additional 6.1 percent (4.1 million people) vulnerable to multidimensional poverty. Data shows that education deprivations contribute most (45.1 %) to multidimensional poverty in Thailand, followed by health deprivations (38.3 %) and standard-of-living deprivations (16.7%).

21 Sachs, Lafortune, Kroll, Fuller, and Woelm (2022)

22 Measured by the percentage of the population living below 2011 PPP US$1.90 per day

23 The MPI, which is the share of the population that is multidimensionally poor, adjusted by the intensity of the deprivations. MPI identifies multiple overlapping deprivations suffered by individuals in 3 dimensions: health, education, and standard of living. The health and education dimensions are based on two indicators each, while standard of living is based on six indicators. All the indicators needed to construct the MPI for a country are taken from the same household survey.

Table 2.3: Thailand's most recent MPI relative to selected countries

	Year	MPI value	Headcount (%)	Intensity of deprivations (%)	Population share (%)			Contribution to overall poverty of deprivations (%)		
					Vulnerable multidimensional poverty	In severe multidimensional poverty	Below income poverty line	Health	Education	Standard of living
Thailand	2019	0.002	0.6	36.7	6.1	0.0	0.1	38.3	45.1	16.7
Philippines	2017	0.024	5.8	41.8	7.3	1.3	2.7	20.3	31.0	48.7
Viet Nam	2013/14	0.019	4.9	39,5	5.6	0.7	1.8	15.2	42.6	42.2
East Asia and the Pacific	-	0.023	5.4	42.5	14.5	1.0	1.2	27.6	35.5	36.9

Source: Human Development Report (2021/2022)

Second, there is inequality in human development achievements among the different segments of populations. Thailand's *Human Development Index (HDI)*[24] value for 2021 of 0.800 is above the average (0.749) for countries in East Asia and the Pacific, and put the country in the high human development category— positioning the at 66 out of 191 countries and territories. Between 1990 and 2021, Thailand's HDI value increased from 0.577 to 0.800, an increase of 38.7 percent. However, Thailand' *Inequality-adjusted HDI (IHDI)*[25] score falls to 0.686, equivalent a loss of 14.3 percent due to inequality. Income inequality is the biggest contributor (18.8%) to this loss, followed by inequalities in education (16.8%) and in life expectancy at birth (6.9%).

Table 2.4: Thailand's HDI for 2021 relative to selected countries and groups

	HDI value	HDI rank	Life expectancy at birth	Expected years of schooling	Mean years of schooling	GNI per capita (2017 PPP$)
Thailand	0.800	66	78.7	15.9	8.7	17,030
Philippines	0.699	116	69.3	13.1	9.0	8,920
Viet Nam	0.703	117	73.6	13.0	8.4	7,867
East Asia and the Pacific	0.749	-	75.6	13.8	7.8	15,580
High HDI	0.754	-	74.7	14.2	8.3	15,167

Source: Human Development Report (2021/2022)

24 The HDI is a summary measure for assessing long-term progress in three basic dimensions of human development: a long and healthy life, access to knowledge and a decent standard of living. A long and healthy life is measured by life expectancy. Knowledge level is measured by mean years of schooling among the adult population, which is the average number of years of schooling received in a life-time by people aged 25 years and older; and access to learning and knowledge by expected years of schooling for children of school-entry age, which is the total number of years of schooling a child of school-entry age can expect to receive if prevailing patterns of age-specific enrolment rates stay the same throughout the child's life. Standard of living is measured by Gross National Income (GNI) per capita expressed in constant 2017 international dollars converted using purchasing power parity (PPP) conversion rates.

25 Like all averages, the HDI masks inequality in the distribution of human development across the population at the country level. The 2010 Human Development Report introduced the IHDI, which considers inequality in all three dimensions of the HDI by 'discounting' each dimension's average value according to its level of inequality. The IHDI is basically the HDI discounted for inequalities. The 'loss' in human development due to inequality is given by the difference between the HDI and the IHDI and can be expressed as a percentage. As the inequality in a country increase, the loss in human development also increases. We also present the coefficient of human inequality as a direct measure of inequality which is an unweighted average of inequalities in three dimensions.

Table 2.5: Thailand's IHDI for 2021 relative to selected countries and groups

	IHDI	Overall loss (%)	Human inequality coefficient (%)	Inequality in life expectancy at birth (%)	Inequality in education (%)	Inequality in income (%)
Thailand	0.686	14.3	14.2	6.9	16.8	18.8
Philippines	0.574	17.9	17.5	14.4	10.1	28,1
Viet Nam	0.602	14.4	14.3	13.1	15.3	14.6
East Asia and the Pacific	0.630	15.9	15.5	7.9	13.4	25.4
High HDI	0.627	16.8	16.5	8.0	13.9	27.5

Source: Human Development Report (2021/2022)

Finally, Thailand still needs to address gender inequalities in some key dimensions. Thailand's *Gender Development Index (GDI)*[26] value of 1.012 in 2021 places the country into Group 1 (high achievements).[27] However, Thailand's *Gender Inequality Index (GII)*[28] score of of 0.333 ranks it 79 out of 191 countries in the 2021 index. This reflects lower female representation in politics (13.9 percent of parliamentary seats are held by women), in secondary level of education (47.6 percent of adult women compared to 51.7 percent of men), and labor force participation (59.0 percent compared to 75.0 percent for men). In addition, for every 100,000 live births, 37 women die from pregnancy related causes, and the adolescent birth rate is 32.7 births per 1,000 women of ages 15-19.

Table 2.6: Thailand's GDI for 2021 relative to selected countries and groups

	F-M Ratio	HDI value		Life expectancy at birth		Expected years of schooling		Mean years of schooling		GNI per capita	
		Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Thailand	1.012	0.805	0.796	83	74.5	16.2	15.6	8.6	8.8	15,457	18,694
Philippines	0.990	0.695	0.702	71.5	67.2	13.5	12.8	9.2	8.7	7,487	10,311
Viet Nam	1.002	0.695	0.702	78.2	69.1	13.2	12.7	8,0	8.7	6,932	8,826
East Asia and the Pacific	0.978	0.740	0.756	78.5	72.9	14.2	13.4	7.6	8.1	12,357	18.711
High HDI	0.973	0.742	0.763	77.7	71.9	14.6	13.8	8.1	8.5	11,817	19,089

Source: Human Development Report (2021/2022)

26 In the 2014 Human Development Report, HDRO introduced a new measure, the GDI, based on the sex- disaggregated Human Development Index, defined as a ratio of the female to the male HDI. The GDI measures gender inequalities in achievement in three basic dimensions of human development: health (measured by female and male life expectancy at birth), education (measured by female and male expected years of schooling for children and mean years for adults aged 25 years and older) and command over economic resources (measured by female and male estimated GNI per capita).

27 Countries are divided into five groups by absolute deviation from gender parity in HDI values. Group 1 comprises countries with high equality in HDI achievements between women and men (absolute deviation of less than 2.5 percent), group 2 comprises countries with medium to high equality in HDI achievements between women and men (absolute deviation of 2.5–5 percent), group 3 comprises countries with medium equality in HDI achievements between women and men (absolute deviation of 5–7.5 percent), group 4 comprises countries with medium to low equality in HDI achievements between women and men (absolute deviation of 7.5–10 percent) and group 5 comprises countries with low equality in HDI achievements between women and men (absolute deviation from gender parity of more than 10 percent).

28 GII reflects gender-based inequalities in three dimensions – reproductive health, empowerment, and economic activity. Reproductive health is measured by maternal mortality and adolescent birth rates; empowerment is measured by the share of parliamentary seats held by women and attainment in secondary and higher education by each gender; and economic activity is measured by the labour market participation rate for women and men. The GII can be interpreted as the loss in human development due to inequality between female and male achievements in the three GII dimensions.

Table 2.7: Thailand's GII for 2021 relative to selected countries and groups

	GII value	GII Rank	Maternal mortality ratio	Adolescent birth rate	Female seats in parliament (%)	Population with least some secondary education (%)		Labour force participation rate (%)	
						Female	Male	Female	Male
Thailand	0.333	79	37.0	32.7	13.9	47.6	51.7	59.0	75.0
Philippines	0.419	101	121.0	48.2	28.0	73.4	69.1	43.8	68.3
Viet Nam	0.296	71	43.0	34.6	30.3	61.3	69.6	69.6	79.4
East Asia and the Pacific	0.337	-	82	21.6	20.9	71.4	78.2	42.9	67
High HDI	0.340	-	62.3	33.6	24.5	69.8	75.1	54.2	75.4

Source: Human Development Report (2021/2022)

2.3.5. SDG Progress at the local level

The NESDC has applied SDGs in its calculation of provincial development scores. These scores have been reported since 2015. The overall picture is quite clear that there is regional disparity in SDG performance across all the 5Ps (People, Prosperity, Planet, Peace, and Partnership) of SDGs. Nort-Eastern provinces, deep Southern provinces, and few Western provinces tend to have lower development scores, whereas Central and Eastern provinces tend to have high scores.

Figure 2.7: Provincial SDG overall development scores (2021)

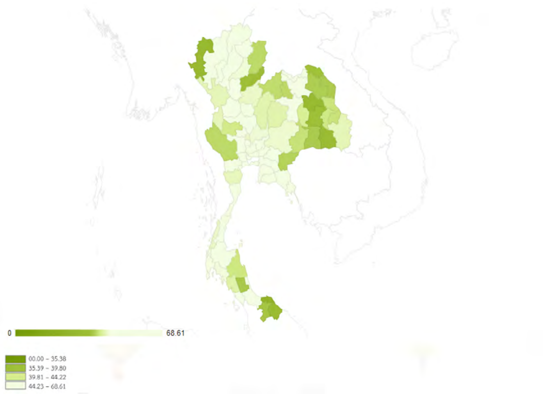


Figure 2.8: Provincial SDG "People" development scores (2021)

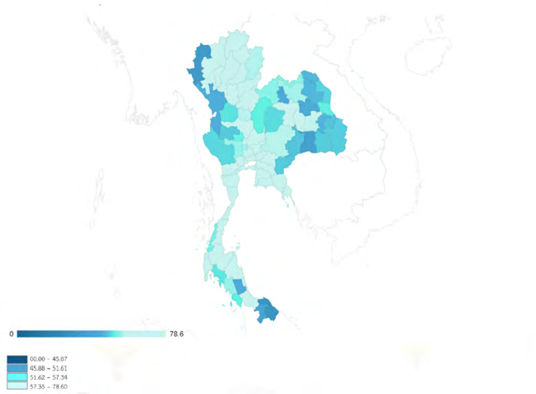


Figure 2.9: Provincial SDG "Prosperity" development scores (2021)

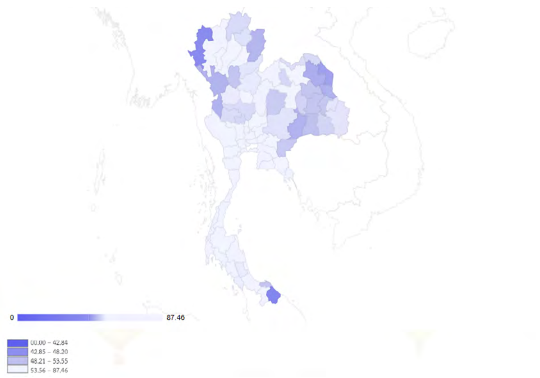


Figure 2.10: Provincial SDG "Planet" development scores (2021)

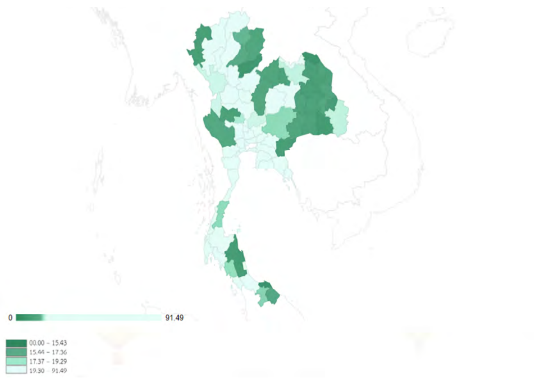


Figure 2.11: Provincial SDG "Peace" development scores (2021)

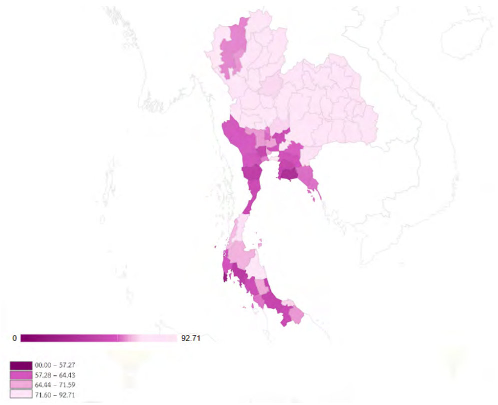
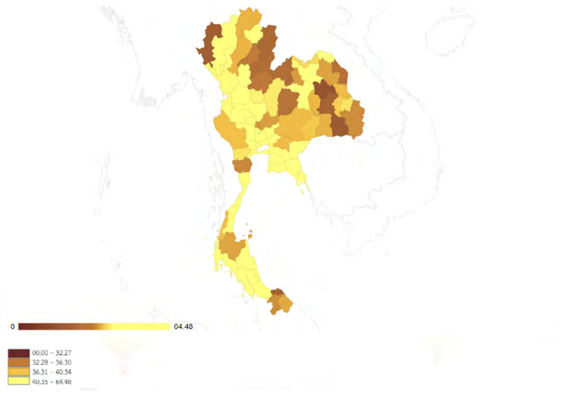


Figure 2.12: Provincial SDG "Partnership" development scores (2021)



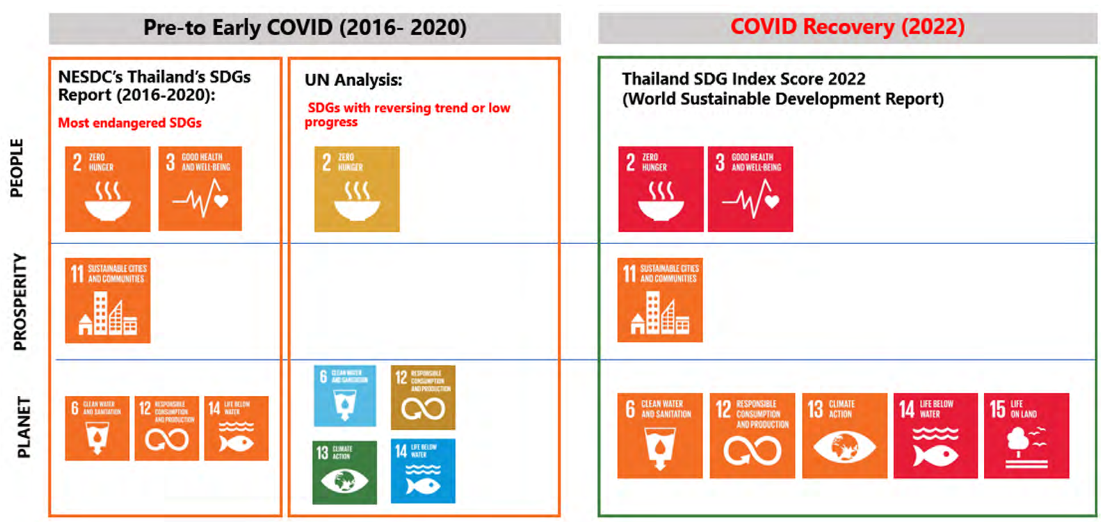
Source: https://sdgs.nesdc.go.th/การขับเคลื่อนเชิงพื้นที่

2.4. Prioritization of SDG financing needs going forward

While the three studies in section 2.3.1-2.3.3 are based on different methodologies and data periods, comparing them does provide a relatively consistent overview picture of the most off-tracked SDGs in Thailand which could be prioritized for financing.

Both during the pre-to-early COVID period (2016-2020) and the COVID recovery period (2022), Thailand faces most challenges with regards to achieving SDG2 (Zero Hunger) and SDG3 (Good health and welling-being) among all the SDGs in the "People" group, and SDG 11 (Sustainable Cities and Communities) in the "Prosperity" Group. For the "Planet" Group, the most off-track SDGs are SDG 6 (Clean Water and Sanitation), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action), SDG 14 (Life below Water), and SDG 15 (Life on land) (Figure 2.13).

Figure 2.13: Comparison of Off-Track SDGs: Pre- to-Early COVID (2016-2020) Post-COVID



Source: Analysis by the DFA team, based on NESDC (2021), UN ESCAP (2021), Sachs et. al. (2022)

At the level of SDG targets and indicators, the NESDC specially highlights nine SDG indicators that are in the "Red" status: SDG 2.1, SDG 2.2, SDG 2.4, SDG 3.4, SDG 3.6, SDG 3.9, SDG 10.c, SDG 14.1, and SDG 14.5.[29]

Box 1: SDG Indicators with "Red Status" in Thailand

1. **SDG 2.1:** By 2030, **end hunger** and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round. Discuss further in thematic priority on social protection.
2. **SDG 2.2:** By 2030, **end all forms of malnutrition,** including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons. Discuss further in thematic priority on health sector.
3. **SDG 2.4:** By 2030, **ensure sustainable food production systems** and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality. Discuss further in thematic priority on environmental protection.
4. **SDG 3.4:** By 2030, **reduce by one third premature mortality from non-communicable diseases** through prevention and treatment and promote mental health and well-being. Discuss further in thematic priority on health sector.
5. **SDG 3.6:** By 2020, **halve the number of global deaths and injuries from road traffic accidents.** Discuss further in thematic priority on health sector.
6. **SDG 3.9:** By 2030, **substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.** Discuss further in thematic priority on environmental protection.
7. **SDG 10.c:** By 2030, **reduce to less than 3 per cent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5 per cent.** Discuss further in thematic priority on harnessing digital finance for sustainable development.
8. **SDG 14.1:** By 2025, **prevent and significantly reduce marine pollution of all kinds,** in particular from land-based activities, including marine debris and nutrient pollution. Discuss further in thematic priority on environmental protection.
9. **SDG 14.5:** By 2020, **conserve at least 10 per cent of coastal and marine areas,** consistent with national and international law and based on the best available scientific information. Discuss further in thematic priority on environmental protection.

Source: NESDC (2021) Thailand's SDGs Report 2016-2020

29 NESDC (2021) Thailand's SDGs Report 2016-2020

3.

OVERALL FINANCING NEEDS, TRENDS AND GAPS FOR SUSTAINABLE DEVELOPMENT

3. Overall Financing Needs, Trends and Gaps for Sustainable Development

Understanding overall development financing needs, trends and gaps is a foundation on which a risk-informed INFF is built. The objective of this chapter is four-folds. First, on the demand side, its estimates Thailand's financing needs for sustainable development priorities, from two complementary perspectives: 1) SDG-based, focusing on three broad groups of SDGs – People, Prosperity, and Planet and 2) cross-cutting themes-based, focusing the five thematic priorities aligned with national priorities. Second, it reviews the overall historical trends of how the supply of development finance in Thailand comes from various sources, including public, private, domestic, international, and what the future trends are. Third, it presents key risk factors which could affect the future development financing needs and gaps in Thailand. Informed by the risk analysis, the final section then presents a scenario analysis of future development financing needs and gaps, and their implications for an INFF strategy.

3.1. Thailand's demand for development finance

3.1.1. A review of existing estimates of SDG-related financing needs

Thailand's need for development finance resources is estimated by using the expected cost of the 13th NESDP and COVID-19 resilient recovery. It is known that the central government's financing needs usually are expressed in the short term -1 year- through the national fiscal budget, in the medium-term expenditure framework - 3 years - and the long-term national planning horizon - 5 years. These three spending frameworks operate as a continuum to link attaining the Thailand's 2037 Vision, the 13th NESDP and COVID-19 resilient recovery plan to the annual fiscal budget for implementation. While the DFA's analytical framework considers all these three, it can't focus only on the central government financing needs. It requires the inclusion of local government and public entities needs, as well the private sector needs.

A study by UNESCAP (2020) offered preliminary estimates of additional investment needed in Thailand if she were to achieve her 2030 sustainable development goals. This study indicates that before COVID-19, Thailand needed an additional THB 1.27 trillion annual investment (11.6% of GDP) to achieve the SDGs by 2030. This is equivalent to THB 50 baht per person per day. The set of people-linked SDGs needs additional investment over the period up to 2030 equivalent to THB 513.5 billion or 4.7% of GDP in 2019. In turn, prosperity-related SDGs need additional investment is equivalent to THB 426.1 billion or 3.9% of GDP in 2019 during the same period. Finally, environment-related SDGs need additional investment is equivalent to THB 327.8 billion or 3% of GDP in 2019 by 2030.

According to the United Nations Socio-Economic Impact Assessment of COVID-19 in Thailand (2020),[30] this pandemic had a strong impact in the real sectors and new financing needs emerged. Effects on economic growth were about -7.1% in 2020. The most critical impact was on the ability of businesses to maintain employment. Job loss and reduction of working hours affected household income with social impacts. Tourism is the worst hit sector, although firms in other sectors are also facing sharp falls in demand, with some estimates suggesting 50% loss of revenues. Small and medium enterprises in the services sector were also badly hit. Sectors relying on exports suffered sharp contraction. The global recession and reduced demand from Thailand's trading partners is delaying recovery in these sectors. A rise in non-performing loans is expected, some of which results from household debt due to falling income and reduced ability to service debt.

The social impacts result from poverty, which in turn, is affected by loss of household income due to lay-offs, furlough, or working hour loss, as well as from disruption of delivery of social services. Public health measures adversely affected service delivery related to education, nutrition, or protection through school closure and diversion of resources to cope with COVID-19. Poverty has been temporarily alleviated because of cash handouts but will deteriorate when it ends. The most affected groups are people in poverty, children, and the elderly, those with disability and chronic illness, and the urban poor. Informal workers also bear a heavy impact as they are not covered by social protection schemes. With less resources to mitigate the income shocks, they are the most vulnerable both before and after the crisis. The pandemic also seems to affect women more than men as more women are employed in sectors with high risk of disruption. According to ILO, 54% of workers in Thailand are in the informal economy, in which women are over-represented. COVID-19 has also increased the unpaid care and domestic workload.

All this means that new financing needs comes at least from the demand to strengthen social safety net by protecting jobs to ensure household income which will enable household to independently cope with the COVID-19 crisis, as well as expanding social protection in forms of direct cash transfers to the most vulnerable groups during the recovery period. The UN Socio-Economic Impact Assessment of COVID-19 in Thailand offers some dated estimates of public spending for some public responses to COVID-19.

Estimates are also available for investment needs related to particular SDGs. For SDG14 (Life below water) and SDG 15 (life on land) which are related to biodiversity, preliminary estimates by the UNDP's BIOFIN study (2021) indicates in aggregate that additional $1,116 million is needed to achieve national biodiversity goals. Public funds and overseas development assistance have made up the bulk of biodiversity-related expenditures. In 2020, public expenditure in biodiversity was equivalent to 0.38% of total public expenditure and 0.08% of GDP. According to BIOFIN Thailand, this gap will increase if efforts are not stepped up, suggesting that all sectors have a role to play in protecting biodiversity.

The Swiss Re's report on the Economic Impact of Climate Change: No Action not an Option suggests that our world will lose approximate 10% of total economic outputs by 2050 if the climate change remains on currently expected trajectory. For the extreme case of 3.2 degree Celsius increase in temperature with the highest uncertainty, Thailand could lose as much as 43.6% of GDP by 2050. This means Thailand will need more financing to make up for the losses due to the climate change.

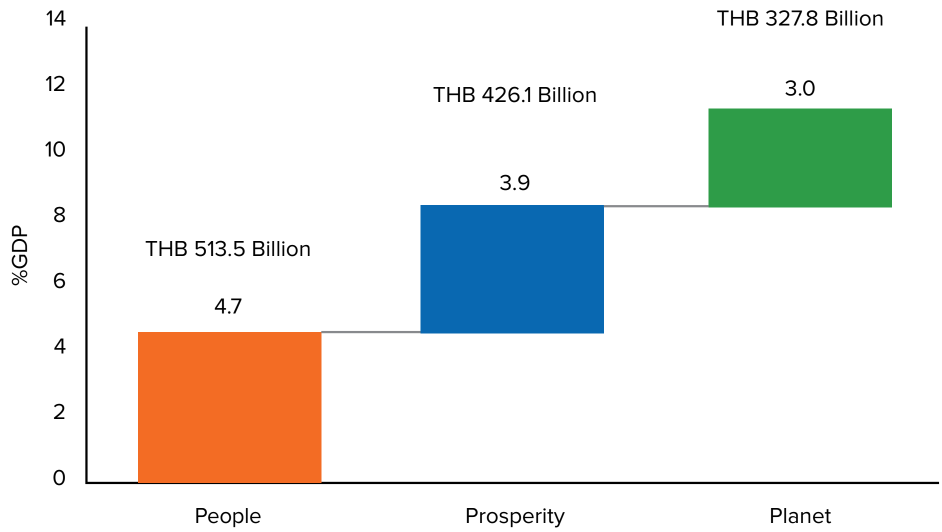
30 UN (2020) – United Nations Socio-Economic Impact Assessment of COVID-19 in Thailand.

3.1.2 The projection of Thailand's financing need over 2021-2030

Thailand does not have its own integrated framework for estimating the magnitude of public and private sector financing needed to achieve national develop priorities and SDGs in a systematic and cyclical way. To estimate Thailand SDG financing needs, this DFA has collated the estimates that already exist, and build on them with expanded analytical assumptions.

The estimation of financing needs centers around the UNESCAP's preliminary study[31] on additional investment needed in Thailand if she were to achieve her 2030 sustainable development goals. This study indicates that before COVID-19, Thailand needed an additional THB 1.27 trillion annual investment (11.6% of GDP) to achieve the SDGs by 2030. This is equivalent to THB 50 baht per person per day. The set of people-linked SDGs needs additional investment over the period up to 2030 equivalent to THB 513.5 billion or 4.7% of GDP in 2019. In turn, prosperity-related SDGs need additional investment is equivalent to THB 426.1 billion or 3.9% of GDP in 2019 during the same period. Finally, environment-related SDGs need additional investment is equivalent to THB 327.8 billion or 3% of GDP in 2019 by 2030 (Figure 3.1). Our estimation of financing need will grow will the number of Thai population.

Figure 3.1: Preliminary Estimates of Additional Financing Needs for Thailand to Achieve the SDGs



Source: UNESCAP (2019)

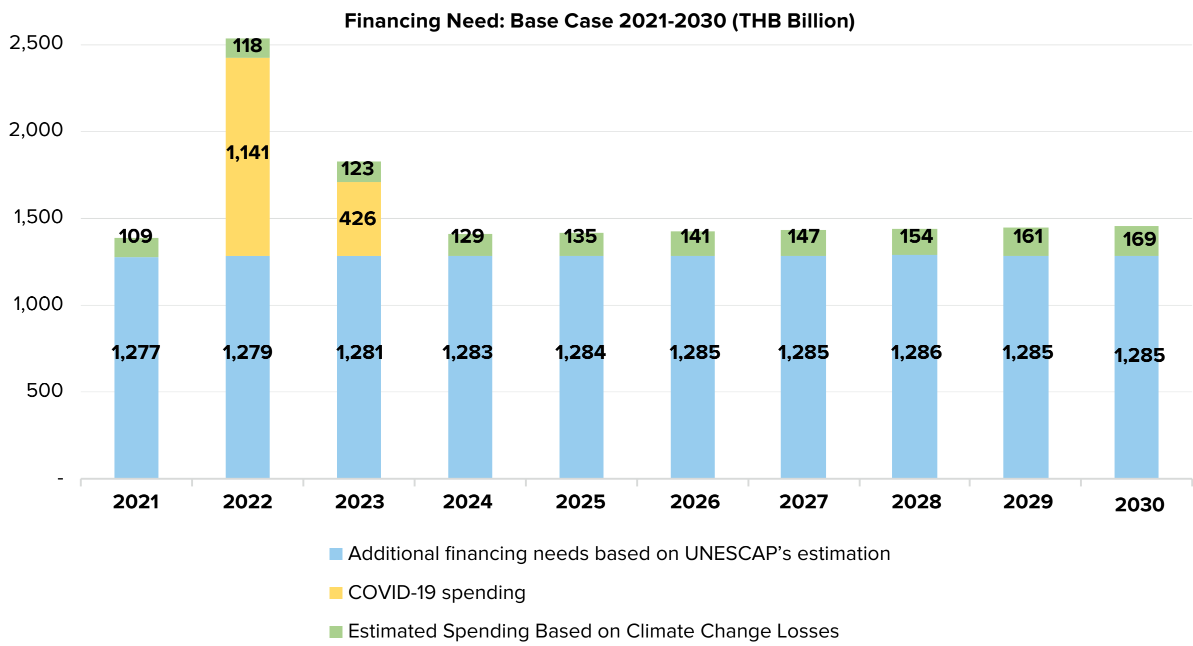
Since 2020 the COVID-19 pandemic has put a great strain on the budget of Thai government and diverted necessary budget to achieve SDG and hence derailed Thailand from her original sustainable development path. While the wave of the COVID-19 continued to hit the Thai economy, the outbreak of the war in Ukraine in February 2022 weighed on the fragile recovery of the country as commodity prices soared worldwide. Moreover, Swiss-Re Institute's study on the economic impact of climate change in 2021 showed that by 2050 Thailand could severely suffer from the effect of climate change. Her losses range from 1.2%-43.6% of GDP, depending on an increase in temperature from well below 2 degrees Celsius to 3.2 degrees Celsius and degree of uncertainty.

31 UNESCAP (2019)

Therefore, our base-case estimation must take into account these three factors. We track the actual spending on the COVID-19 economic relief measures in 2020 and 2021[32]. To be conservative, we omit the spending in 2022 as some relief programs have not ended, so we did not know the actual figure of spending. As for the impact of the war in Ukraine, we rely on the NESDC projection of economic growth in the presence of this war based on various scenarios of higher oil prices[33]. Also, we spread the impact of climate change, in terms of % of GDP, equally over 2022-2050[34]. Moreover, FPO's mid-term forecast of Thailand's fiscal position will help us to make a consistent projection of economic growth with Thai mid-term fiscal policy.

The projection of total financing needs for 2030 Thailand's SDG target over 2021-2030 shows that the additional financing need is estimated to sharply increase to THB 2.54 trillion in 2022, attributing to large sum of COVID-19 expenditure and damage due to climate change before falling to THB 1.83 trillion in 2023. Then the financing need will start to grow gradually from THB 1.41 trillion in 2024 to THB 1.44 trillion in 2030 given higher climate change-related losses.

Figure 3.2: The Projection of Thailand's Financing Need for Achieving the SDGs by 2030



Source: Author's Calculation

32 The total government expenditures for the COVID-19 relief measure in 2020 and 2021 were THB 1,141 and 426 billion respectively. We will incorporate expenditures of 2020 and 2021 to financing needs in 2022 and 2023 respectively.

33 According to the NESDC's analysis earlier this year, Thailand economic growth would be 3.5% in 2022 if Dubai crude oil price is USD 100/barrel.

34 With our base case of an increase in temperature of 2 degree Celsius, an annual average cost of climate change damage will be -0.672% of GDP.

3.1.3. Financing needs by thematic priorities

Demand for development financing in Thailand can also be seen in relation to key thematic priorities, which are national development priorities and cut across different SDGs. To arrive at an aggregate picture of thematic financing demands for a overall financing strategy, the first series of stakeholder consultations to informed an INFF were held November 2021. Stakeholders discussed possible thematic development financing priorities by simultaneously considering important filters:

1. Strategic axes of the 20-Years National Strategy
2. Strategic goals of the 13th National Economic and Social Development Plan
3. Key priorities for Thailand's resilient recovery
4. Financial dialogues with stakeholders

As a result of the consultations, stakeholders identified five key thematic priorities for future development financing emerged for Thailand. These thematic priorities are both aligned with the country's overall national development priorities and the current national SDG achievements and gaps, and can thus guide an INFF:

1. **Job creation in the transition towards green and inclusive development:** Thailand needs to create well-paid jobs only through an increase in labor productivity through investment, education, and innovation. There is an urgent need for reskilling and upskilling of current workers and the unemployed. Specifically, Thailand needs to create more jobs in green sectors and facilitate just transition for workers in brown sectors whose jobs will be lost due to the transition towards a green economy.

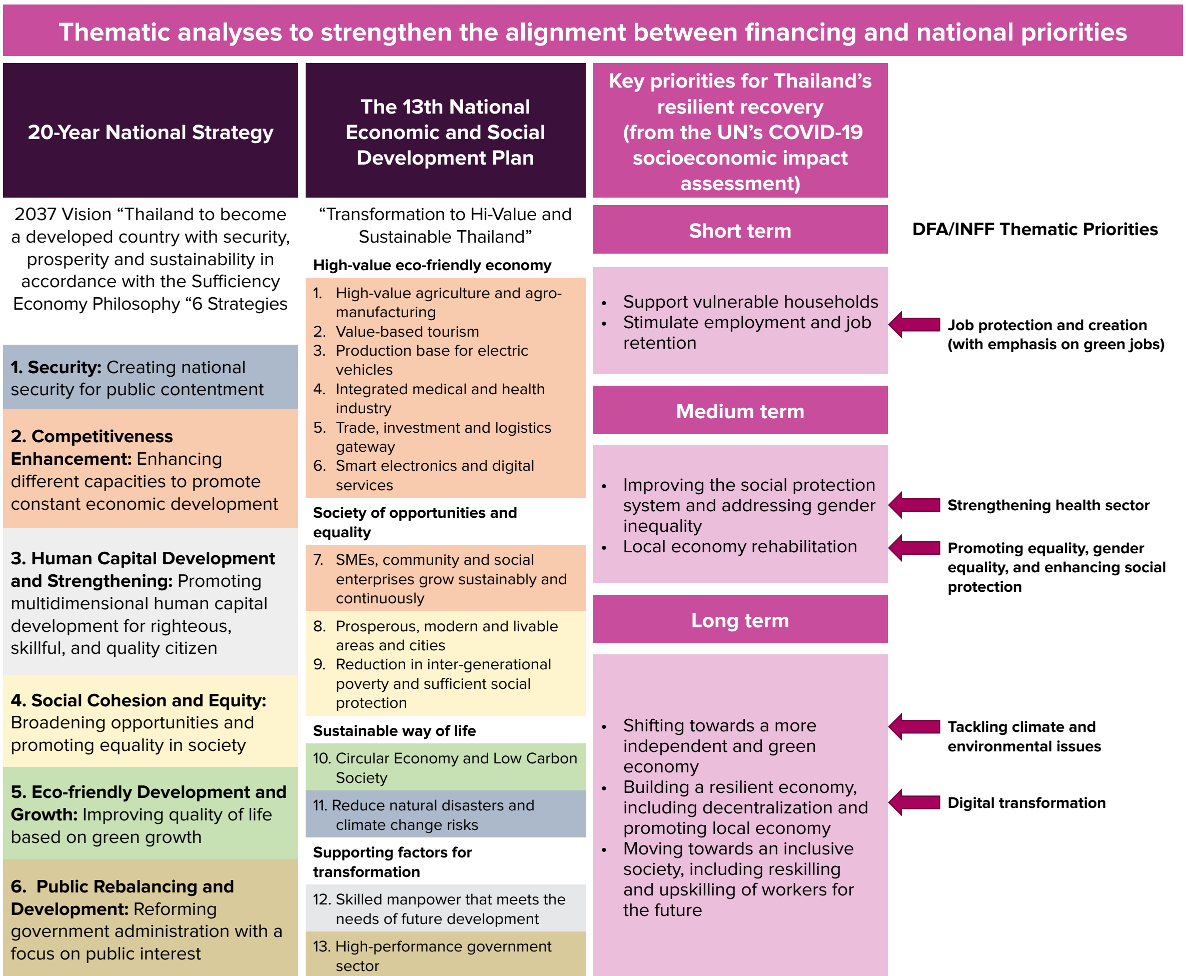
2. **Strengthening the health sector:** Thailand needs to prepare for the future of healthcare by preparing for aged population and higher health expenditures. The country should emphasize more on disease prevention and healthy behaviors among its population.

3. **Promoting equality, including gender equality, and enhancing social protection:** To address growing inequalities, including from the consequences of the COVID-19 pandemic, the government should reform the social security fund (SSF) to give more incentives for informal enterprises and informal workers to formalize their relationships and receive benefits from social security.

4. **Tackling climate and environmental issues:** Thailand needs to upscale green and sustainable financing to be commensurate with the scales of climate and environmental challenges. In COP26 in November 2021, Thailand announced its aim for carbon neutrality by 2050 and net zero emissions by 2065. The country also intends to reduce emissions by 40% from a business-as-usual level by 2030 with international cooperation (20% to 25% reduction in case of no further international assistance). These climate policy ambitions will require more low-carbon and climate-resilient investments. More investments are also needed to achieve the BCG policy objectives.

5. **Harnessing digital finance for sustainable development :** While Thailand seems to be on the right track in developing its digital finance infrastructure, more actions could be taken to strengthen the country's digital ecosystem.

Figure 3.3: Alignment between the five thematic priorities for development financing and national development policy priorities.



Job creation in the transition towards green and inclusive development

Overall, the working age population (age of 15 years or above) grew just 0.6% per year on average compared to the labor force which shrunk 0.1% per year on average. This results in a drop in a labor force participation rate from 72% in 2011 to 68% in 2020. This trend may hinder Thailand's future economic growth.

The unemployment rate in Thailand has been always historically very low at less than 1% and only just recently at around 2%. Of 0.70 million unemployed persons in 2020, 0.29 million were those who have never worked before. Basically, they are mostly new graduates from the university. Due to the lack of on-the-job training and work experiences, this may cause the economic hysteresis in the form of lower productivity in the future. The absolute numbers of unemployment among new graduates increased by 1.2 times in 2020. As a result, unemployment rate for vocational and university graduates rose to 3.44% in 2020 or about twice the national unemployment rate. This indicates that the current unemployment is in the highly skilled workforce. About 31% workers are employed in the agricultural sector and the rest 69% are in the non-agricultural sector. Thailand has a sizeable seasonal inactive labor force of about 29% of total unemployed persons, which does not count seasonal inactive labor as unemployed.

Table 3.1: Thailand Labor Data

Unit: Million	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	CARG
1. Population 15 years or over 2/	56.8	56.6	56.3	56.0	55.6	55.2	54.8	55.0	54.5	54.0	0.6%
2. Labour Force (2.1 + 2.2 + 2.3) 3/	38.5	38.2	38.4	38.1	38.3	38.5	38.6	39.4	39.4	38.9	-0.1%
2.1. Employment 4/	37.7	37.6	37.9	37.5	37.7	38.0	38.1	38.9	38.9	38.5	-0.2%
of which underemployment 5/	0.5	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	2.6%
2.1.1. Agriculture	11.8	11.8	12.2	11.8	11.7	12.3	12.7	15.4	15.4	14.9	-2.5%
2.1.2. Non-Agriculture	25.9	25.8	25.7	25.7	25.9	25.7	25.3	23.5	23.5	23.6	1.0%
2.2. Unemployed Persons	0.7	0.4	0.4	0.5	0.4	0.3	0.3	0.3	0.3	0.3	10.5%
(rate of unemployment)	1.7	1.0	1.1	1.2	1.0	0.9	0.8	0.7	0.7	0.7	
of which new entry	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	14.0%
2.3. Seasonal Inactive Labour Force	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.1%
(Share of total labour force)	0.6	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
3. Persons not in labour force, age 15 years or over	18.3	18.4	17.8	17.9	17.3	16.7	16.3	15.6	15.1	15.1	2.2%
1) Household work	5.1	5.4	5.3	5.3	5.2	4.9	4.9	4.7	4.6	4.6	1.1%
2) Studies	4.3	4.3	4.3	4.3	4.3	4.4	4.4	4.3	4.2	4.3	0.0%
3) Too young/old / incapable of work	6.9	6.8	6.5	6.3	6.0	5.6	5.4	5.0	4.7	4.7	4.2%
4) Others	2.0	1.9	1.8	1.9	1.8	1.7	1.6	1.6	1.6	1.4	4.1%

Source: BoT

Figure 3.4: Unemployment rate in Thailand

Source: Tradingeconomics.com and Bank of Thailand

Table 3.2: Employed population by economic sector in 2018 (millions)

Sector	Employed Population	% of Total
Agriculture	12.8	34%
Wholesale, retail trade	6.2	16%
Manufacturing	6.2	16%
Other Service	3.0	8%
Accommodation and Food	2.8	7%
Construction	2.1	6%
Transport	1.3	3%
Education	0.6	2%
Public Administration	0.5	1%
Health	0.3	1%
Other industry	0.3	1%
Domestic Workers	02	5%
Total	38.1	100%

Source: UN (2021)

About 34% of employed population are in agriculture. It is the largest sector in term of employment. The second largest sectors in term of employment are wholesale, retail trade and manufacturing each employ 16%.

According to UN (2021) and Thailand's Informal Employment Survey 2018, there were 38.3 million employed population, which consists of 2.1 million civil servants and 36.2 million employed workers (non-civil servant). Employed workers of 36.2 million comprise of 18.0 million in formal sector (50%), 17.8 million in informal sector (49%), and 0.4 million in households (1%).

Table 3.3: Employed workers by formal/informal sector and by Social Security Fund (SSF)'s insurance

2018 (unit millions)	Formal Sector	Informal Sector	Total
Insured under SSF	9.6	0.8	10.4
Uninsured	8.3	17.5	25.8
Total	17.9	18.3	36.2

Source: UN (2021)

Among employed workers (non-civil servant), more than half (50.6%) are in the informal sector. In addition, only 28.7% of total workers are protected under the Social Security Fund (SSF), whereas the rests (71.3%) are uninsured under SSF. Even among workers in the formal sector, 46.4 per cent are still uninsured, though most of them are supposedly required to join the SSF by law. Workers in the formal sector and insured under SSF are only 26.5% of total employed workers.

According to the World Forum Global Competitiveness Index 2018, Thailand ranked 51st from 127 countries in the global innovation index, which were behind regional peers such as Malaysia which ranked 37th. In addition, Thailand spends little on R&D at 0.6% of GDP again lower than regional peers such as Malaysia or Singapore which spent 1.3% and 2.2%, respectively. In the long-term, Thailand can create well-paid jobs only through an increase in labor productivity through investment, education, and innovation. There is an urgent need for reskilling and upskilling of current workers and the unemployed.

The SDG investor map (2022) points out that large numbers of low-income individuals and informal workers lack access to finance due to unstable income and no credit history nor collaterals. This limits investment that can potentially create jobs and improve their livelihoods. As such, the investor map rightly put microcredit for business purpose as a priority subsector to increase access to finance and create jobs.

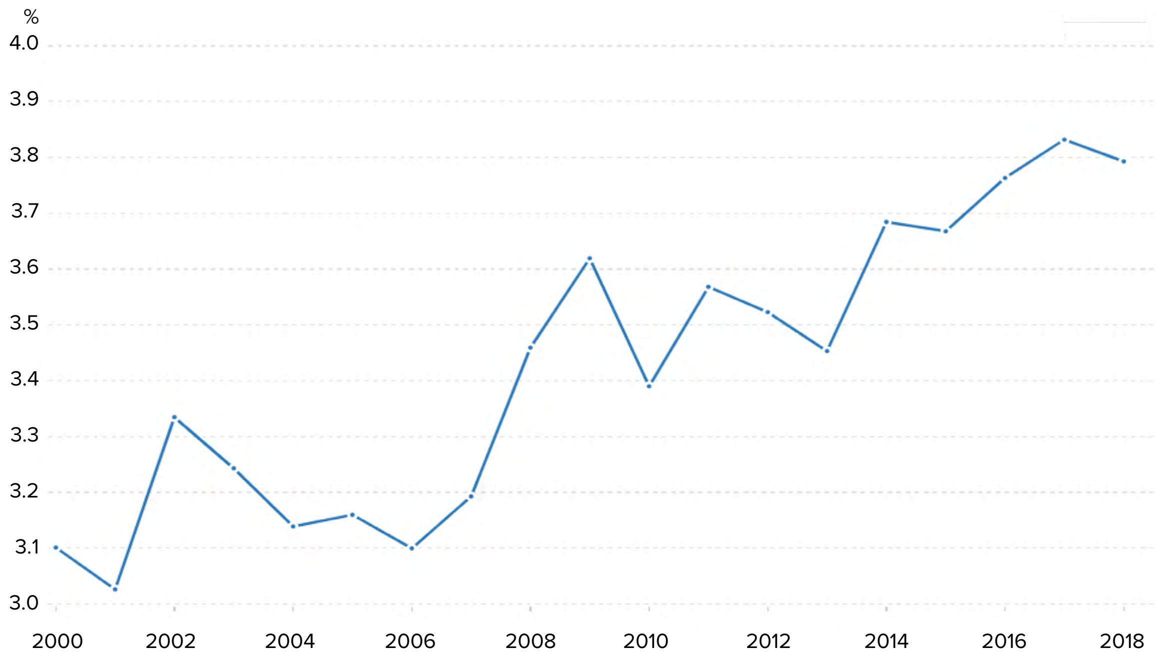
Another priority subsector that the investor map points out is the medical and wellness tourism as Thailand has one of the highest numbers of JCI accredited healthcare facilities in the world. The medical and wellness tourism is in a service sector and as such it is more labor intensive. Not only it creates medical and wellness jobs, but also creates other sustainable jobs for surrounding communities, such as organic food production by workers in the community.

Strengthening the health sector

Thailand is facing a challenge in financing rising costs in the health sector. Thailand's current health expenditures have increased persistently from 3.1% of GDP in 2000 to 3.8% of GDP in 2018. It has a clear rising trend. The budgets for current health expenditures include healthcare goods and services consumed during each year, but do not include capital health expenditures such as buildings, machinery, IT, and stocks of vaccines. Thailand just increased universal healthcare budget for 2022 to 205 billion baht, rising by 4.4% from 2021. The amount 203 billion baht would be allocated to the National Health Security Fund (NHSF) and the remaining 2.2 billion baht to the National Health Security Office (NHSO) is for management costs.

The health coverage will reach 47.9 million people in the universal healthcare scheme at the budget of 3,360 baht per head, an increase of 3.8% from 2021. This budget covers COVID-19 tests and treatment. Thailand's cabinet also approved a combined 3.62-billion-baht budget to finance R&D on two COVID-19 vaccine projects. The first project worth 2.32 billion baht is the development of a domestic mRNA COVID-19 vaccine, known as ChulaCOV-19. The second project worth 1.3 billion baht is a plant-based COVID-19 vaccine, known as "Baiya Vaccine." It is noticeable that around 75%-76% of health expenditures are financed by the government. If the rising trend persists, the universal health coverage's sustainability might be in question.

Figure 3.5: Current health expenditure as a percentage of GDP



Source: World Bank and WHO

Promoting Equality, including Gender Equality, and Enhancing Social Protection

Large-scale financing is also needed for Thailand to promote equality, including gender equality, and enhancing social protection. Social protection includes different types of instruments, including social assistance, social insurance, social care services and labor market programs.[35] The Thai government currently spent 830.2 billion baht (5% of GDP and 27.5% of government expenditure) on social protection programs. About 57.6% of this amount was spent on social security and civil servant's program, whereas the remaining 42.4% went to non-contributory programs. These non-contributory programs include universal health coverage, allowance for persons with HIV, 15-year free education, Equitable Education Fund (EEF)'s conditional cash transfer program, child support grant, old-age allowance, social welfare card, people with disabilities grant. There are still gaps in social programs for children, workers, retirees, and people with disabilities[36]. Moreover, the social security system excludes certain sectors that women tend to predominate such as domestic workers. The pension system also discriminates against women's more interrupted employment history. The advent of COVID-19 also worsens the existing inequalities, especially for the most vulnerable groups[37].

When looking at social assistance[38] in particular, a World Bank assessment report on Thailand's social protection and labor market systems points out that regular social assistance coverage in Thailand is high as 71.9 percent of all Thais, benefiting directly or indirectly from some forms of social assistance. However, the social assistance expenditure is relatively low compared to its peers as Thailand invests on this only 0.77 percent of GDP, compared to 1.60 percent of upper middle-income countries.[39]

The report also points out that Thailand's aging population, high informal workforce, and changing nature of work due to increasing automation are putting more pressure on the current social protection system. Most workers do not have protection from shocks and lack ability to smooth consumption over their life cycle. Most formal workers are covered by mandatory social insurance schemes. In contrast, social insurance under voluntary contribution is under-subscribed among informal workers. Out of the estimated 21.2 million informal workers, only about 3.24 million workers or 15 percent made voluntary contributions to social security funds in 2019. Unemployment insurance is not even covered in this scheme.[40] Given the current gaps in social protection and the expanding needs, demand for social protection financing is likely increasing in Thailand in the future.

35 https://gsdrc.org/topic-guides/social-protection/types-of-social-protection/

36 In term of children, the child support grants cover only 20% of children aged zero to fourteen years old. In term of workers, only around 30% to 40% of workers are covered with unemployment insurance, maternity benefit, and sickness income compensation. In people with disabilities, only half of them aged 55 or above receive a pension or a lump-sum retirement payment. In term of people with disabilities, only half of them disabilities receive disability grants.

37 These groups get the hardest hit because they tend to work in sectors more susceptible to disruptions from the pandemic such as wholesale and retail trade, manufacturing, accommodation, and food service. The poverty rate among informal workers increased from 10% before COVID-19 to 21% after it. Similarly, the poverty rate among people with disabilities increased from 14% to 15%.

38 Defined as non-contributary interventions financed by the government e.g., conditional and unconditional cash transfers, school feeding programs etc.

39 (World_Bank, 2022).

40 (World_Bank, 2022).

Tackling climate and environmental issues

In term of climate change, Thailand aims for carbon neutrality by 2050 and net zero emission by 2065. The cumulative investment needed to achieve such target is estimated to exceed 355 billion USD (at constant 2005 price) over the period 2010–2050 in the case of a hundred percent GHG reduction scenario (Limmeechokchai *et al.,* 2022). In addition, power transmission and distribution investments need to increase by 30%–35% to attain zero emission by 2050. The study suggests that early mitigation efforts can be less costly than the delayed ones in the long-term.

Harnessing digital finance for sustainable development

Digital technology leads to a transformation of financial sector, which promote financial inclusion in Thailand, especially for those unbanked or underbanked. The arrival of peer-to-peer platform help to match borrowers and lenders and facilitate the lending process from loan agreement drafting to loan collection. Digital lending leverages on alternative data such as spending pattern, telco information to evaluate credit risk of borrowers instead of traditional financial data and collateral requirements. This will help those, who have never had access to bank loans, can borrow from financial institutions. Buy-now-pay-later, part of embedded finance provided by online shopping platforms, also rely on the customer's spending data to gauge credit risk and provide lending services to their customers. Moreover, crowdfunding allows startups or SMEs to raise fund from a large number of people. Each people will contribute small amount of money through the funding portal. However, these new financial services are at the beginning stage.

Currently, Thailand has already had key infrastructure for digital finance. UNCTAD classifies Thailand as a country with adoption of all key e-commerce legislation, namely, E-Transaction laws, Consumer Protection laws, Privacy laws and Cybercrime laws. Moreover, Thailand has a large coverage of high speed internet network and advanced payment system infrastructure. Unsurprisingly, Thailand was rank first in mobile banking transactions, according to Digital 2021 Global Review Report. Despite a promising development of digital finance, the Bank of Thailand's survey in 2020 shows that there remained 5% of household that could not get access to finance. Therefore, investment in digital finance is needed to reduce this group of households.

Recently, the Bank of Thailand (BoT) launched the CWS (Central Web Service) database to support the digital factoring system in April 2021. The factoring business facilitates SME (small and medium-sized enterprise) access to loans. Basically, SME suppliers can sell invoices of their customers or debtors to a factoring firm at a discount and receive their payments now. Unfortunately, the use of factoring has not been widespread because factoring firms are concerned about fraudulent invoices and double financing of invoices. The BOT therefore initiated this CWS database to help digitize the processes and reduce the above problems. With this digital factoring system, interest rate charges could potentially decrease to reflect lower operating costs.

Another key recent development is the national digital e-wallet app called "Pao Tang" developed by Krungthai Bank (a state owned bank). It is an open digital platform which all Thais, including non-Krungthai customers, can use. It is open for integration with third-party partners in both public and private sectors to cover all people's needs, from banking, saving and investment products to healthcare and lifestyle. Initially, it acted as a G-wallet that the government used during the COVID-19 pandemic to deliver financial aids in a more transparent and accountable manner compared to the traditional cash handouts which are prone to corruption. It greatly familiarized the Thai people with mobile payment. It also hosted other government schemes such as Half-half and We Travel Together programs.

More recently, “Pao Tang” was used to provide people with easy access to investment (democratization of investment). For example, it offered an investment in Thai government savings bonds with an unprecedentedly low face value of only 1 baht and minimum investment of only 100 baht. This opened opportunities for the younger investors to access this low-risk investment option which had previously been accessible only by wealthier investors because of its high face value and minimum investment. The 1-Baht Bond became a big hit as the first batch of 200 million baht was sold out within 99 seconds.

In addition, corporate bonds have also been digitized as corporate bond primary market subscription and secondary market trading became available fully on a “Pao Tang” digital platform. The first digital bond was issued by PTTEP with a total issuance of 6 billion Baht. The bond was sold out in 8 minutes and 12 seconds on the platform. This is the first time in Asia that a corporate bond was issued in the primary market and traded in the secondary market via a digital wallet. Previously, it was hard to trade bonds into cash for individual or small investors. In this platform, Krungthai Bank stepped in to act as the intermediary to facilitate secondary market trading on the platform. The platform is commission-free and transactions are immediate as investors receive the bonds and sellers receive the money instantly.

3.2. Supply of development finance in Thailand

3.2.1. Overall historical trends

The analysis of historical trends characterizing the overall development finance landscape in Thailand focused on the period 2010-2021. This analysis includes reviewing financial flows from different sources—public and private, domestic and international.[41] However, there is no official data available in an intertemporally systematic and consistent approach for some sources of financial resources that could be included in the analysis. This is the case for *PPP, Blended Finance, South-South Cooperation, Spending by National NGO’s Foundations and Faith-based Organizations, Illicit Finance and Spending by International NGO’s*. These cases were excluded from the overall analysis with a note for each in the respective sections.

3.2.1.1. Volume

Thailand’s overall development finance landscape during the period 2013-2020 was quite stable around the mean for the period, but with relevant volatility. The country raised as development finance resources an average of 5,9 trillion baht per year, with an absolute volatility around 4,6 billion baht. In volume, the development finance resources presented a small positive trend with an annual average growth rate around 0,9% associated to a volatility of 9.57%. These figures in volume of Thailand’s overall development financing resources should be understood in relation to the volume of GDP, as in comparison with the country’s financing needs for development.

3.2.1.2. Percentage of GDP

The overall amount raised annually was, on average, equivalent to 39.9% of the country’s GDP with an associated volatility of 2.9%, with an expressive step decline from 47.3% in 2013 to 40.0% in 2020. However, in relation to GDP, the development finance resources presented a small negative trend with a negative annual average growth rate of 0.1%, with an associated volatility around 9.85%.

41 See figure 1.3.

Table 3.4: Thailand's Total Development Finance Resources 2013-2020 (as % of GDP)

Development Finance Resources	2013	2014	2015	2016	2017	2018	2019	2020	Mean
as % of GDP	*47.3%*	*38.8%*	*39.3%*	*37.4%*	*40.5%*	*40.6%*	*35.8%*	*40.0%*	***39.9%***

Source: DFA

3.2.1.3 Composition of sources

During this period 2013-2020, the composition of the development finance landscape in Thailand was also quite stable. On the one hand, domestic (public and private) resources constituted its main source of financing for development. Together, these resources represented, on average, 96.4% of the total value of financial resources raised for the country's development. This means that in Thailand international (public and private) resources had a residual weight as a source of development financing resources, but in every case relevant to the purpose of advancing sustainable development priorities. These resources were on average only 4.6% of the total value of development finance resources. Despite the reduced relative relevance in the total picture, these international resources reply to specific niche areas and may be leveraged in the future (Figure 3.6).

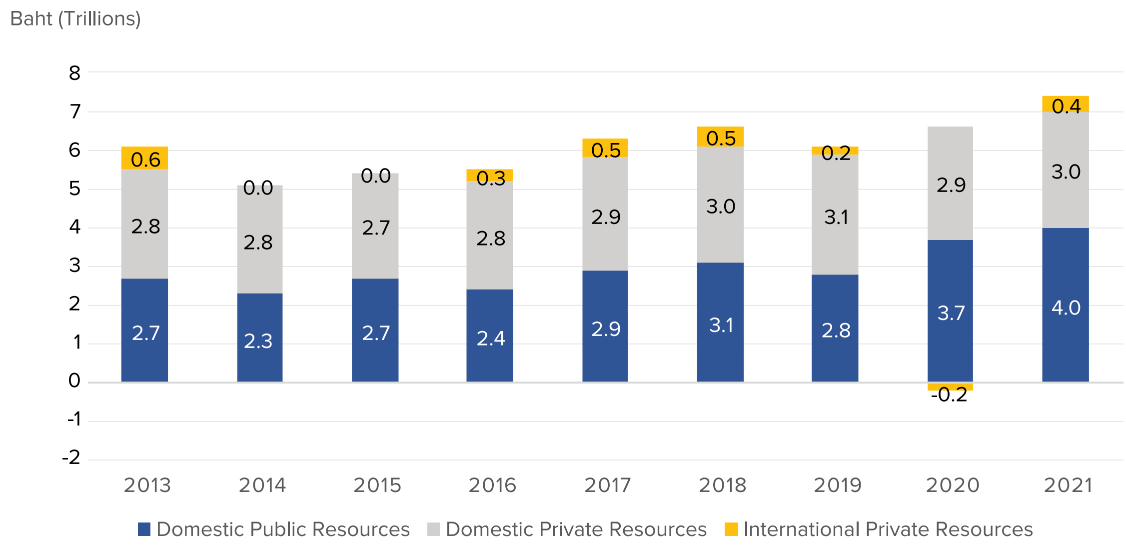
Figure 3.6: Average Composition of Thailand's Development Finance Resources (2013-2021) (%)

Composition (%)	Public Resources	Private Resources	Total
Domestic Resources	48.5%	47.8%	96.3%
International Resources	0.05%	3.7%	3.7%
Total	48.6%	51.4%	100%

Source: DFA

On the other hand, public and private resources shared almost equally the relevance as a source of financing for development in the country, with public resources gaining some more relative weight in total and absolute volume during this last period due to the government intervention to mitigate the impacts from COVID-19 pandemic amounting to THB 1.5 trillion. In 2013-2020, private (domestic and international) resources represented 52.1% of the total development finance resources. And public (domestic and international) resources represented 47.9% of those resources. 2020 was an exceptional year in the relative and absolute relevance between public and private resources in Thailand. Due to government intervention to mitigate the effects of the COVID-19 pandemic and a negative net flow in foreign direct investment, public resources increased to 58.4% of the total development financing resources and private resources decreased to 41.6% of these resources.

Figure 3.7: Thailand's Development Finance Resources (composition)



Source: DFA

3.3. Development Finance Risks and Constraints

Development Finance Risks

Several domestic and global risks could affect the demand and supply of Thailand development finance, and thus the continuous progress towards SDGs going forward. These risks need to be considered in the scenario analysis of future SDG financing gaps, and thus the formulation of a risk-informed INFF for Thailand.

Recovery from the COVID-19 Pandemic

Thailand is one of Southeast Asia's countries hardest hit by COVID-19, given heavy reliance on exports and tourism. The UNDP-UNICEF-led socioeconomic impact assessment42 reveals that among the hardest hit are informal workers, which account for over half the 37.6 million labour force, as well as women as many are employed in sectors such as tourism. The government responded quickly with a phased stimulus package worth over 2 trillion baht (over US$ 60 billion), notably for health funding, financial assistance to SMEs, cash transfers, funding for economic rehabilitation and liquidity support through commercial banks. Beyond that, the government also put in place a 2-year Contingency Plan for COVID-19 response and recovery, which focuses on local economy, human capital, future growth (including promoting green sectors), and enabling factors.

Despite the strong government response, the COVID pandemic has continue to take heavy tolls on the economy, people and the environment, thus undermining the country's progress on SDGs on serval fronts. According to the World Bank, Thailand's GDP growth has picked up modestly since the surge in COVID-19 cases in 2021, but economic activity remained below pre-pandemic levels in the first quarter of

42 The full report can be accessed via this link: https://www.th.undp.org/content/thailand/en/home/library/socio-economic-impact-assessment-of-COVID-19-in-thailand.html

2022,[43] and and the recovery is projected to be slow and uneven.[44] The social and economic impact of the pandemic remains deep and profound, especially on the most vulnerable, including the unemployed, informal workers, those with enduring health effects from long COVID etc.

Education disruptions due to lockdowns and inequitable access to online learning continue have serious negative implications for the country's long-term human capital accumulation. The pandemic also created a new crisis of medical waste[45], exacerbating the ongoing crisis of deteriorating quality of the environment and ecosystems. Post-COVID policy and financial measures will need to be designed to simultaneously address these long-term effects of COVID and provide appropriate incentives for investments to accelerate progress on the SDGs indicators that have suffered setbacks from the pandemic. Moreover, the path of recovery will entail higher demand for goods and services and hence will result in demand-led inflation and subsequently possible interest rate hike.

Climate change

Thailand is highly vulnerable to the negative impacts of climate change. According to the Global Climate Risk Index, Thailand was ranked 9th most affected country globally during 2020–2019 from extreme climate events. (Figure 3.8). Thailand's climate-related disasters have mostly been caused by floods, storms and droughts. From 1989 to 2018, floods have led to as much as THB161 billion (USD 5.1 billion) in economic damages, with the 2011 massive floods alone causing THB 23 billion (USD 0.7 billion) in damages, affecting 26 provinces and 13 million people. Droughts occur almost every year, affecting more than 10 million people, resulting in average economic damages of THB 0.6 billion (USD 20 million) annually and could cause economic losses of up to 0.1% of GDP. Similarly, the country incurs an average of THB 0.2 billion (USD 6 million) in damages annually from storms that lead to nationwide floods and landslides.

Figure 3.8: Top 10 countries most affected by climate hazards from 2000-2019 (annual averages)

CRI 2000-2019 (1999-2018)	Country	CRI score	Fatalities	Fatalities per 100 000 inhabitants	Losses in million US$ PPP	Losses per unit GDP in %	Number of events (2000–2019)
1 (1)	Puerto Rico	7.17	149.85	4.12	4 149.98	3.66	24
2 (2)	Myanmar	10.00	7 056.45	14.35	1 512.11	0.80	57
3 (3)	Haiti	13.67	274.05	2.78	392.54	2.30	80
4 (4)	Philippines	18.17	859.35	0.93	3 179.12	0.54	317
5 (14)	Mozambique	25.83	125.40	0.52	303.03	1.33	57
6 (20)	The Bahamas	27.67	5.35	1.56	426.88	3.81	13
7 (7)	Bangladesh	28.33	572.50	0.38	1 860.04	0.41	185
8 (5)	Pakistan	29.00	502.45	0.30	3 771.91	0.52	173
9 (8)	Thailand	29.83	137.75	0.21	7 719.15	0.82	146
10 (9)	Nepal	31.33	217.15	0.82	233.06	0.39	191

Source: Global Clmate Risk Index.

43 https://www.worldbank.org/en/country/thailand/publication/thailand-economic-monitor-june-2022-building-back-greener-the-circular-economy

44 https://www.worldbank.org/en/country/thailand/publication/thailand-economic-monitor-july-2021-the-road-to-recovery

45 https://www.who.int/thailand/news/feature-stories/detail/mitigate-impact-of-climate-change-ms-napapan

Addressing the above impacts from climate change calls for Thailand to rapidly up-scale investments in both climate change mitigation, through an ambitious transition to a low-carbon economy, and climate change adaptation, through investments in disaster risk management, climate-resilient infrastructure, climate-smart agriculture, insurance and risk management, and social protection, among others. Without adequate investment in these climate actions (SDG 13), the costs of climate change on the country's economy, people and the environment would increase, with ripple negative consequences on a wide range of other SDGs, such as poverty reduction (SDG1), reduction of hunger (SDG 2), public health (SDG 3), reduced inequalities (SDG10), sustainable cities and communities (SDG 11), protection of water resources (SDG6) and terrestrial and marine ecosystems (SDGs 14 and 15) etc.

Demographic shift

Thailand becomes an aged society in 2022, as the share of population aged over 60 exceeds 20% of the total population and is expected to reach 24.20% in 2030.[46] An aged society demands high healthcare expenditures. Older people are prone to higher levels of health risk particularly for noncommunicable diseases (NCD)[47], which leads to high healthcare costs and worsens the quality of life for the aged person. Healthcare inflation in Thailand is higher than overall inflation in Thailand. Per-capita cost of healthcare of old people at 65-69 years old is approximately 2.7 times as much as that of people at 25-29 years old[48] and health care inflation in Thailand is about 5-8% a year.[49] This translates into expected higher costs of healthcare per head going forward. With low savings in the poor and vulnerable groups, more investments in areas such as access to public health services and inclusive insurance are needed to assist these people. Without adequate investments to prepare for an aged society, Thailand risks facing reversed progress in several SDGs related to socioeconomic well-being in the coming decades.

Geopolitical uncertainties

China and the U.S. has permanently redefined the globalization. The economic decoupling between the two largest economies in the world will force the formation of the new global supply chain, which will add costs of production and subsequently higher cost of consumption. For Thailand, the rivalry between China and the U.S. can offer both opportunities and threats. On the one hand, Thailand's businesses, which are linked with China's exports to the U.S. and the U.S. exports to China, can suffer from their declining sales. On the other hand, the relocation of production base out of China can benefit Thailand, which are one of the most attractive country for investment.

The war in Ukraine will add tension on the supply of key commodities and energy. The impact of this war is propagated to Thailand via the prices of these commodities and energy. Thailand's inflation rate rose to 7.66% in June 2022. Recently, the economic growth of Thailand for 2022 was slashed from 3.4% to 3.2% due to the impact of the war.

46 NESDC (2019) Report of the Population Projections for Thailand 2010-2040 (Revision)

47 WHO classified noncommunicable diseases (NCD) into groups such as cardiovascular diseases (such as heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma) and diabetes.

48 Steven Globerman (2021), Aging and Expenditures on Healthcare, Fraser Research Bulletin.

49 Department of Older People, https://www.dop.go.th/th/know/15/926

Looming debt crisis

During the peak of the COVID-19 pandemic, economic disruption throughout the world prompted every government to spend and borrow to alleviate the adverse effect of the COVID-19 on their citizens, while the monetary authories worldwide kept their policy interest rate at record low. The global debt increased to USD 226 trillion. As the global recovery is on the way, the central banks started to change their stance on interst rate policy from easing to tightening. The high commodity and enegry prices from supply chain disruption and the war in Ukraine cause the rise of inflation rate. Therefore, some central banks like the Federal Reserves of the U.S. or the ECB has raise their policy interest rate to tame high inflation in their areas.

Therefore, emerging markets and low income countries face more risk of debt crisis as they has not fully recoverd from the COVID-19 and suffered from high inflation rate. This, in turn, makes they have difficulty in repay debts on time. We started to see a new case of debet default in Sri Lanka and need to keep our eyes on the case of Myanmar and Lao, PDR. For Thailand, the Bank of Thailand is still weighing between high inflation and fragile recovery of Thailand. The Thai government has already raise the ceiling of public debts from 60% to 70% of GDP. This ceiling is part of Thailand's fiscal sustainability's measure.

Key Challenges to Development Finance

The review of analytical literature and different assessments and policy reports on Thailand and this DFA identified several major constraints that the country faces regarding its capacity for development financing for sustainable development and need to be addressed:

A. In the Economy

- a. Uncertainty in the future dynamics of COVID-19 pandemic and recovery
- b. Size of informal sectors
- c. High dependence from external demand (tourism revenues)
- d. Low levels of total investment (public and private)
- e. Low levels of foreign direct investment

B. In Public Finance

- a. Lack of public revenues targeting
- b. Low levels of efficiency and effectiveness in tax collection
- c. Low levels of public capital budget appropriation.
- d. High level of domestic public debt and limited space for public indebtedness
- e. Reduced use of tax/subsidies instruments to generate a dedicated impact on equality, gender, climate change and environment, energy and transports, health, education, and social protection, etc.
- f. Low engagement of public entities in the development planning and financing process and participation in the structures for designing, implementing, and monitoring national plans
- g. Low participation of local governments in the structures for designing, implementing, and monitoring national plans and financing strategies and policies
- h. Weak policy to engage with providers of development cooperation to achieve national priorities

C. *In Private Finance*

a. Lack of information on investment opportunities mapping for the SDGs. It is an ongoing process.
b. Weak domestic framework to engage private sector investment in national priorities.
c. Low capacity to increase the country's attractiveness for Foreign Direct Investment and engage it with national priorities.
d. Weak domestic framework to promote public-private collaboration through instruments such as PPPs, blended finance, innovative debt instruments, development impact bonds, or innovative tax instruments.
e. Weak domestic framework to build markets for the SDGs and promote certain type of investments engaging domestic and international partners.
f. Weak domestic framework to engage the NGOs, philanthropic foundations, and faith-based organizations, as well as members of the diaspora, in delivering or supporting services that support sustainable development progress.

3.4 A scenario analysis of future gaps in development financing flows for SDG-related investments

Based on aforementioned risks, we developed three scenarios as Thailand's base, best and worst cases for our scenario analysis. Table 3.5 illustrates three scenarios of our analysis in comparison: Base case or business as usual, best case and worst case. Our **base case** involves a continuous current course of action regarding climate change and the victory of Russia ending commodity price inflation.

The **best case** is characterized by successfully control temperature increase by well below 2 degree Celsius and the end of the war in Ukraine through a negotiation

On the other hand, the **worst case** is associated with an extreme case of temperature increase by 3.2 degree Celsius and a prolonged war in Ukraine

Table 3.5: Characteristics of Thailand's Base-Case, Best-Case and Worst-Case

Risk Factors	Base case	Best	Worst
Climate Change	Thailand can continue to manage the risk of climate change. Suffering from losses (Temperature increase by 2 degree Celsius)	Thailand can mitigate the climate risk and no longer suffer the adverse impact of climate change (Temperature increase by less than 2 degree Celsius)	The impact of climate change accelerates, resulting in high rate of disasters and impact the agriculture sector (Temperature increase by 3.2 degree Celsius)
Geopolitics	Russia can conquer Ukraine	The war ends after negotiation	The War is prolonged

Source: FPRI based on NESDC (2022) and Swiss Re (2021)

The characteristics of the best and the worst cases can be translated to the impact of the risks on Thailand's economy as follows (Table 3.6):

- *Impact on growth:* Based on NESDC analysis, the impact of the war in Ukraine manifests in commodity prices such as oil price. In our base case, oil price is at USD 100/barrel and leads to real growth of %3.5 in 2022. The best case will not suffer high oil price or have a pre-crisis or pre-war oil price and hence Thailand will grow at the rate of %4 in 2022. The worst case will have highest oil price of USD 150/ barrel and Thailand's economic growth of %3 in 2022.

- *Impact on economic value:* Loss due to climate change will result in losses of Thai economy. In our base case, the loss will amount to %0.672 of GDP per year over 2048-2020. In the best case, the loss will decline to only %0.169 of GDP per year, while in the worst case the loss will rise to %1.503 of GDP per year over the same period.

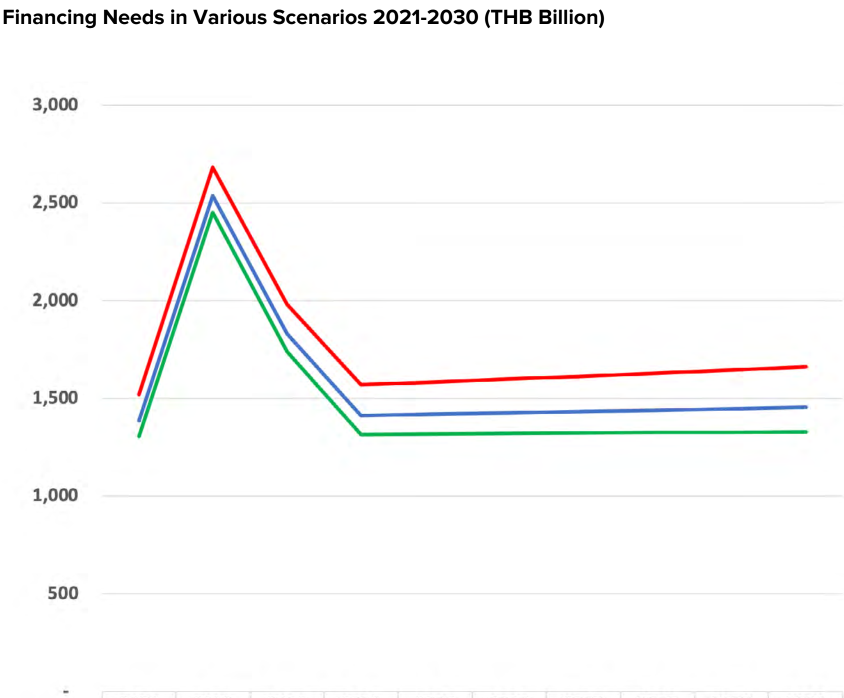
Table 3.6: Impact of Risk Factors on Thailand's Growth and Economic Value

Risk Factors	Base case	Best	Worst
Impact on Growth	Higher oil prices: USD 100/barrel Real growth rate 3.5%	Oil price before crisis Real growth rate 4%	Higher oil prices: USD 150/barrel Real growth rate 3%
Impact of Economic Value	Losses due to climate change (2020-2048): 0.672% of GDP per year (2.0 C increase)	Losses due to climate change (2020-2048): 0.169% of GDP per year (Well below 2C)	Losses due to climate change (2020-2048): 1.503% of GDP per year (3.2 C increase)

Source: FPRI based on NESDC (2022) and Swiss Re (2021)

Our projection shows that the trajectory of financing need has the same pattern in all cases and the gap between financing in all cases are not much different (See Figure 3.9). In the worst case, the total financing needs is estimated to be the largest over 2021-2030 with the peak of THB 2.68 trillion in 2022 before subsiding in 2024, from which the financing needs will start to rise as the impact of climate change is growing. The project of financing needs is smallest in the best case, with the peak financing needs reaching THB 2.45 trillion in 2022 before resuming to the long-term trend in 2024.

Figure 3.9: Total Financing Needs for Thailand's 2030 SDG Target in Various Scenarios 2022-2030



	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Total Financing Needs (Base Case)	1,385	2,538	1,830	1,412	1,419	1,426	1,433	1,440	1,447	1,453
Total Financing Needs (Best Case)	1,304	2,450	1,738	1,315	1,318	1,320	1,323	1,324	1,326	1,327
Total Financing Needs (Worst Case)	1,520	2,682	1,981	1,569	1,584	1,599	1,613	1,629	1,644	1,660

Source: FPRI

4.

MAPPING THAILAND'S DEVELOPMENT FINANCE FLOWS

4. Mapping Thailand's Development Finance Flows

While the previous chapter presents an overview of aggregate development finance flows in Thailand, this chapter zooms into different components of this finance, including public, private, domestic and international sources. The chapter highlights that opportunities to increase investments for thematic development priorities and individual SDGs in Thailand will be limited if the Government relies on tax and non-tax revenue only, but highlights opportunities from several financing areas that Thailand has done well and could be further leveraged. These include digital finance promotion, sustainable finance, particularly the growth of sustainability-related bonds and loans, climate finance, including recent developments with the carbon credit market, and biodiversity finance. On the other hand, the chapter also discusses the pattern in current allocations, particularly of public resources, that inadequately address SDG-related investment needs. These analyses lead to recommendations, which are elaborated in Chapter 6. Our research suggest that Thailand should improve public revenue collection and utilize more opportunities from private and international finance, while improving resource allocations, particularly of public resources, towards thematic development priorities and off-track SDGs.

4.1. Public Finance

4.1.1. Domestic Public Finance

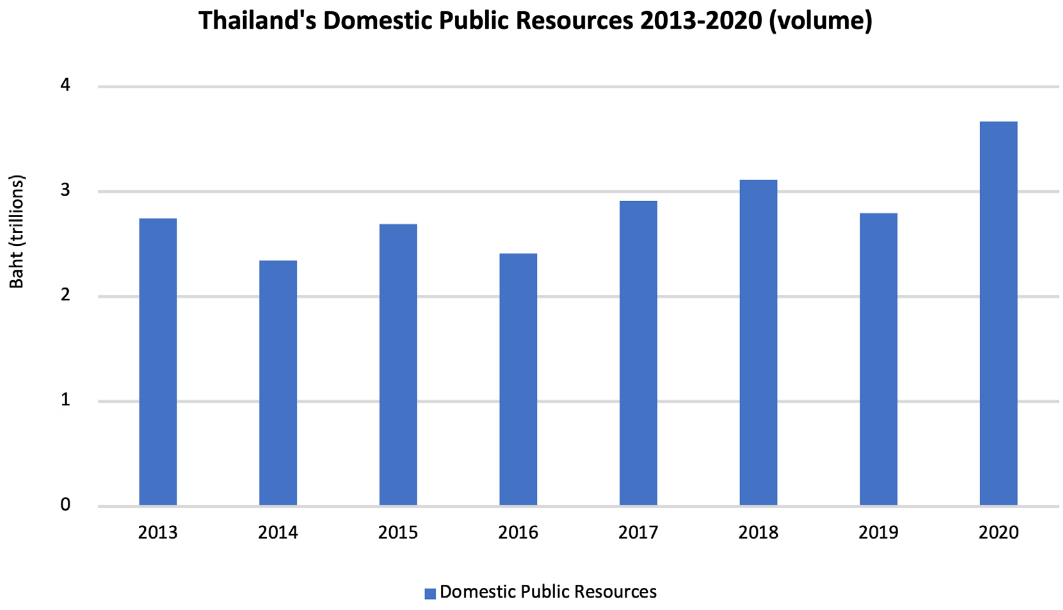
A. Overall Historical Trend

The analysis of flows from domestic sources of public finance in Thailand includes annual flows of public revenues and public indebtedness. Public revenues include tax revenues (direct and indirect) and non-tax revenues. Public indebtedness includes all domestic or external debt issues from the government and other public entities. In this DFA, domestic public finance analysis does not include flows with hybrid public-private finance instruments, such as public-private partnerships or blended finance, due to lack of consistent time series data.

Overall Historical Trend (in volume)

During the period 2013-2020, the volume of domestic public resources (public revenues and public indebtedness) in Thailand showed a clearly positive trend, although the high volatility associated. The average annual volume recorded for these resources in the period was about 2.85 trillion baht with an absolute volatility of 451 billion baht. This trend is described with an average annual growth rate of 5.5%, but this growth has an associated volatility of 17.7%.

Figure 4.1: Thailand's Domestic Public Resources 2013-2020 (volume)



Source: DFA (2021)

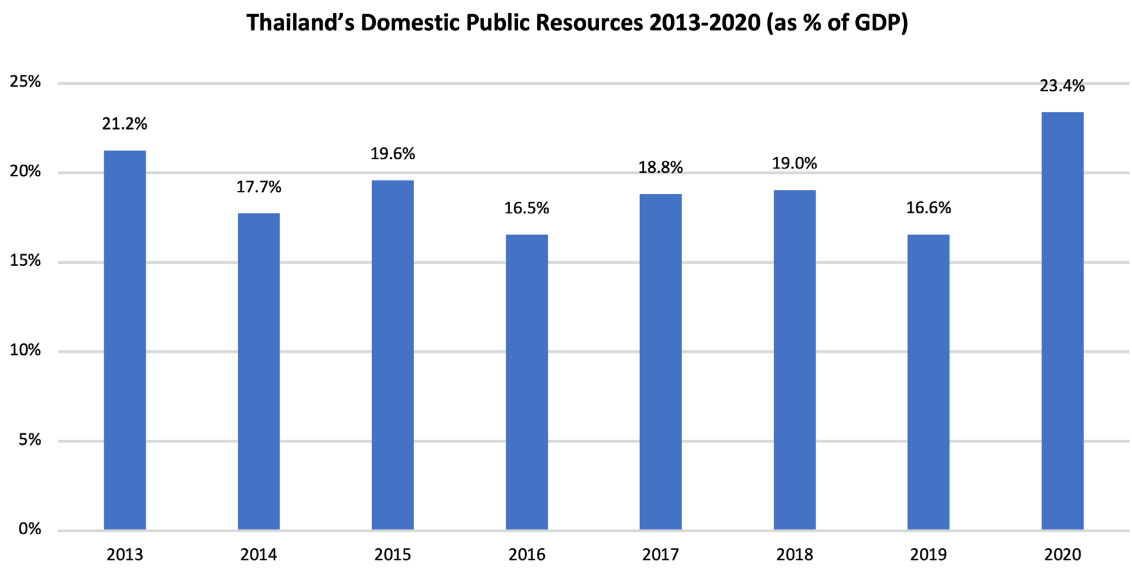
Overall Historical Trend (as % of total financing landscape)

From 2013 to 2020, domestic public resources in relation to development financing resources presented a stable relative weight. In this period, these resources represented on average 47.8% of the total volume of development financing resources. This average value has associated a volatility of 4.1%. In turn, the average annual rate of change in the weight of domestic public resources in the total volume of development financing resources was 4.3%, with an associated volatility of 11.5%. This means that in recent years public domestic resources in Thailand have gained relative relevance as a source of funding for sustainable development.

Overall Historical Trend (as % of GDP)

Finally, domestic public resources in relation to GDP as showed in the following figure presented a slight growth trend around the average value of 19.1% of GDP for the period in reference. The average annual rate of variation of this ratio was 3.1%, noting, however, a high associated volatility of 20.9%. These data show evidence that the trend is in the right direction considering the financing needs of sustainable development. However, they also show that public domestic resources carry considerable risk for the medium- and long-term commitments they want to finance.

Figure 4.2: Thailand's Domestic Resources (as % of GDP)



Source: DFA (2021)

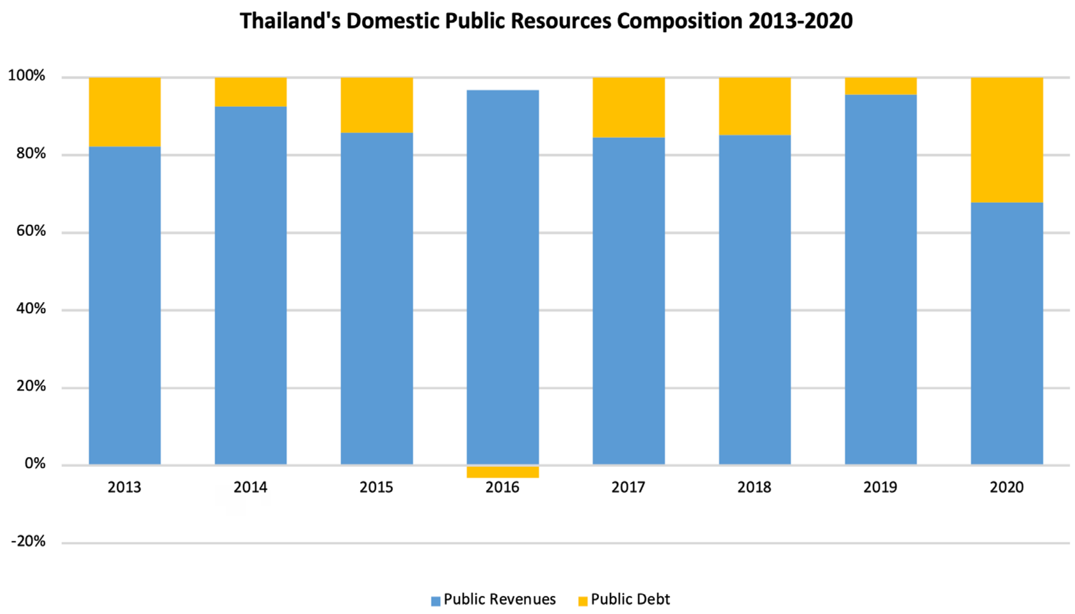
Overall Historical Trend with Effects from COVID-19

A special reference must be made in relation to the year 2020, as it can bias the trend as an outlier. This year, the domestic public resources saw an increase in volume equivalent to 874 billion baht as public response to COVID-19. In total, the volume of public domestic resources in 2020 was 3.67 trillion baht, noting an annual increase in volume of 31.3%. In 2020, domestic public resources represented 58.4% of total development financing resources. This volume was equivalent to 23.4% of GDP.

Overall Historical Trend Composition

The main sources of domestic public resources are public revenues and public borrowing. In the period 2013-2020, the largest source of domestic public resources in Thailand was annual public revenue. This source of development financing represented on average 87% of the total domestic public resources. In turn, annual public indebtedness represented on average only 13% of the total domestic public resources in the period.

Figure 4.3: Thailand's Domestic Public Resources Composition 2013-2020



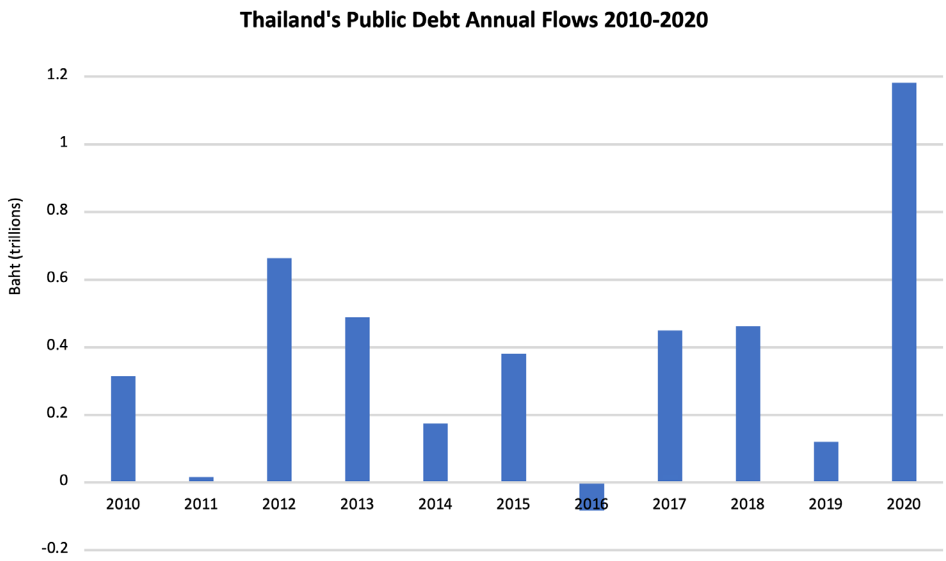
Source: DFA (2021)

B. Public Debt Trends

Public Debt Flows (in annual volume)

In the period 2010-2020, the total annual net flow of public debt in Thailand experienced an increasing but very volatile trend. In 2010, the total annual net flow of public debt was 314 billion baht. In 2020, this total annual flow was 1.18 trillion baht. The average annual total net flows of public debt for the total period were 383.7 billion baht with a related volatility of 403.8 billion baht. The average annual growth rate of these public debt net flows was 14% with a related volatility equal to 450.8%. A special reference should be made for the year 2020. In this year, the annual growth rate of the public debt flows observed was 879.2%.

Figure 4.4: Thailand's Public Debt Annual Flows 2010-2020



Source: Bank of Thailand

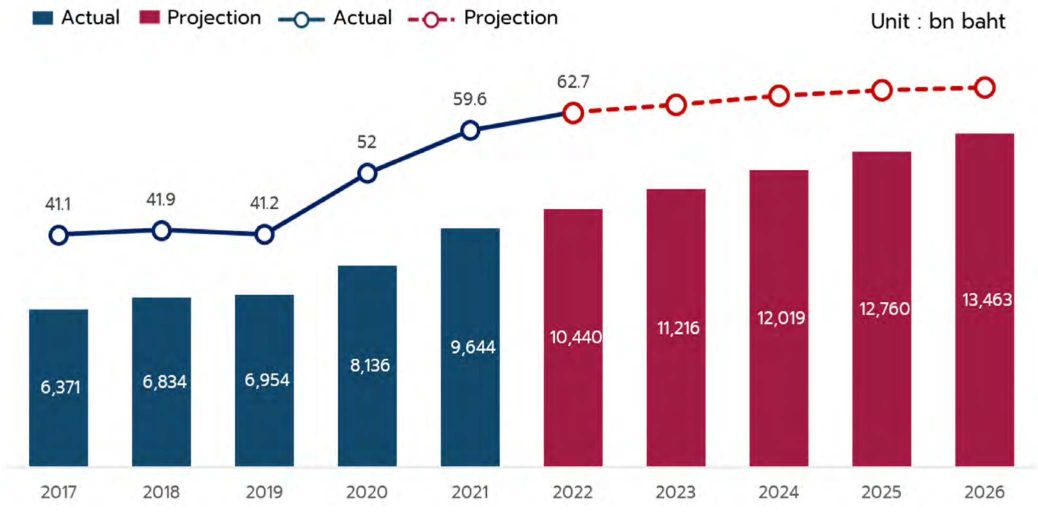
Public Debt Stock (in volume)

In 2010, Thailand's total stock of public debt was 4,28 trillion baht. In 2020, its value was 8.13 trillion baht. During this period, the total stock of public debt recorded an average annual growth rate of 6.9% with an associated volatility of 5.5%.

Public Debt Stock (as % of GDP)

In 2010, the total stock of public debt was 39.6% of GDP. In 2021, this stock increased to 59.6% of GDP. Between 2017 and 2021, the average total stock of public debts was 47.2% of GDP, with an associated volatility of 8.3%. In 2020, the total stock of public debt increased to 52% of GDP allowed by an increase in public debt ceiling to 60% to accommodate the public finance efforts to mitigate COVID-19 social and economic impacts.

Figure 4.5: Thailand's Total Public Debt (as % of GDP)

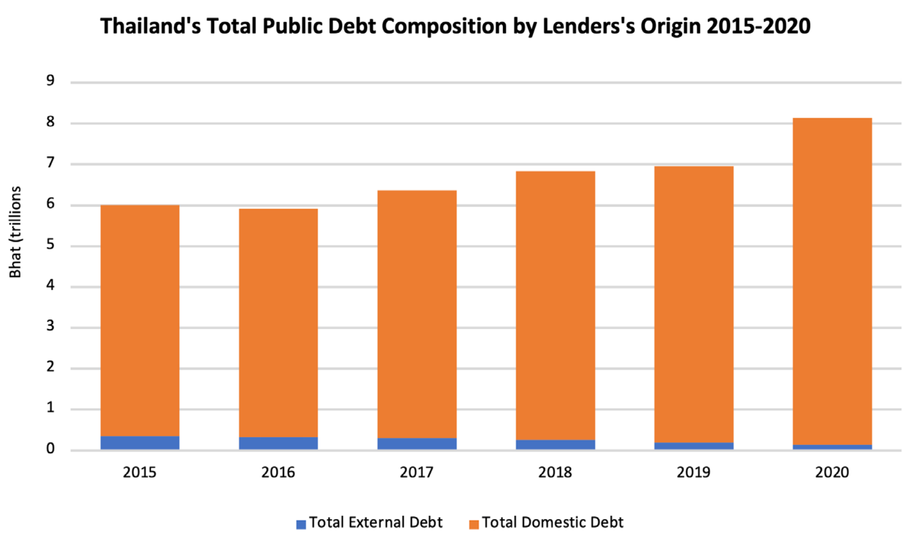


Source: Bank of Thailand

Public Debt Composition (by lender's origin)

In recent years, much of the debt issued by the state of Thailand has been underwritten by domestic lenders. In the period between 2010 and 2020, on average 94.5% of public debt issued had been subscribed domestically, with an associated volatility of 2.04%. This means that on average only 5.5% of the public debt issued in the period had been subscribed by foreign lenders. Government's debt strategy has little connection with other sustainable development financing priorities as the issuance of green bonds or other impact bonds in very small in the Thai capital market. But as we will see in the next section it has important impact on the domestic financial sector development and access for private firms to domestic credit.

Figure 4.6: Thailand's Total Public Debt Composition by Lender's Origin (2015-2020)



Source: Bank of Thailand

Public Debt Composition by Issuer

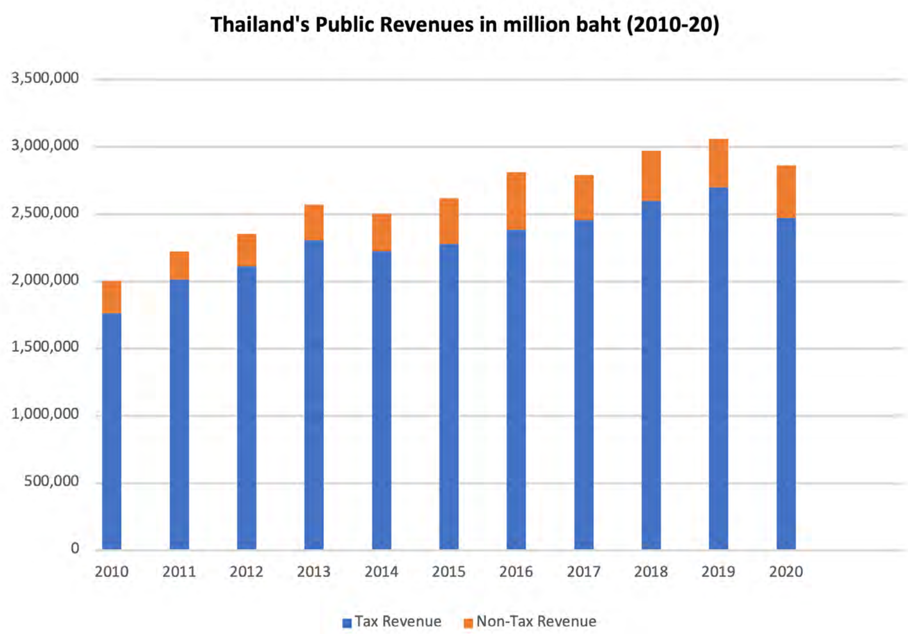
In 2020, most of the issued public debt was central government debt. This debt represented 87% of the total debt issued by the State. The second most relevant public debt issuers were state-owned companies. The debt issued by these companies represented 10% of all of Thailand's public debt. Finally, debt issued by special public financial institutions represented 3% of the total public debt. The debt issued by the autonomous agencies has no relevance to the public indebtedness analysis. Its debt represents less than 1% of total public debt.

C. Public Revenues Trends

Public Revenue Composition

Thailand's total revenue volume has shown a positive trend over the past decade. Its value has gone from around 2 trillion baht recorded in 2010 to more than 3 trillion baht in 2019. Traditionally, public revenue relies on tax revenue. These are not totally resilient to external shocks as the COVID-19 pandemic and the levels of informality in the economy affects the potential to collect revenues and engage citizens as taxpayers. However, non-tax revenues showed appreciable increases in their relative weight in total public revenues, contributing to the diversification of sources of financing of public policies for sustainable development beyond tax revenues.

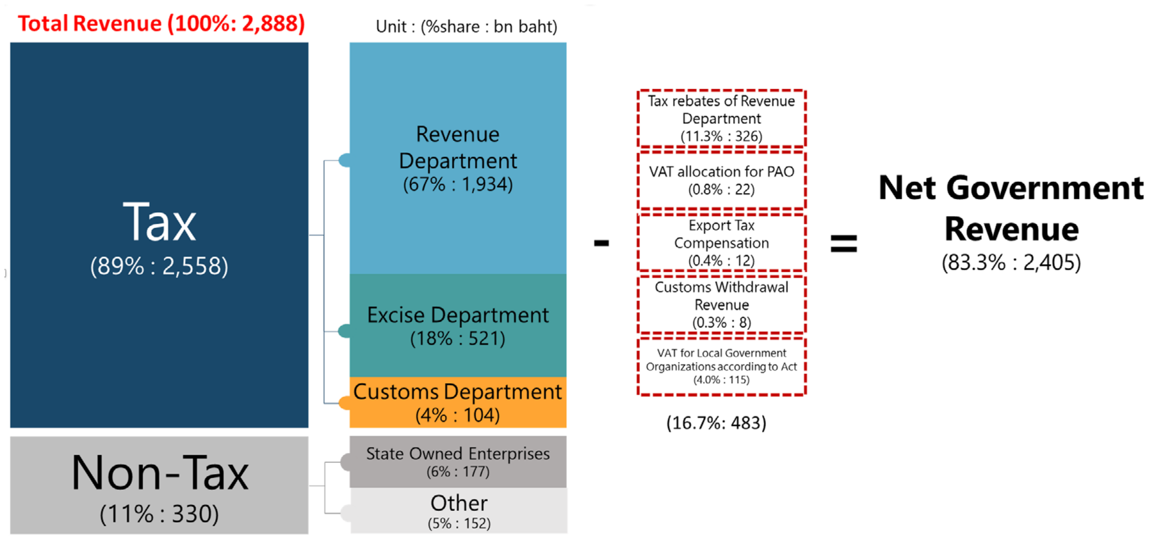
Figure 4.7: Thailand's Public Revenues (2010-20)



Source: Ministry of Finance

Almost 90% of government revenue comes from taxes. In addition, revenue department generates 67% of total tax collection. The revenue collection is severely affected from the COVID-19 pandemic. The Ministry of Finance (MoF) projects that the government revenue would reach back at the pre-covid level in the year 2024.

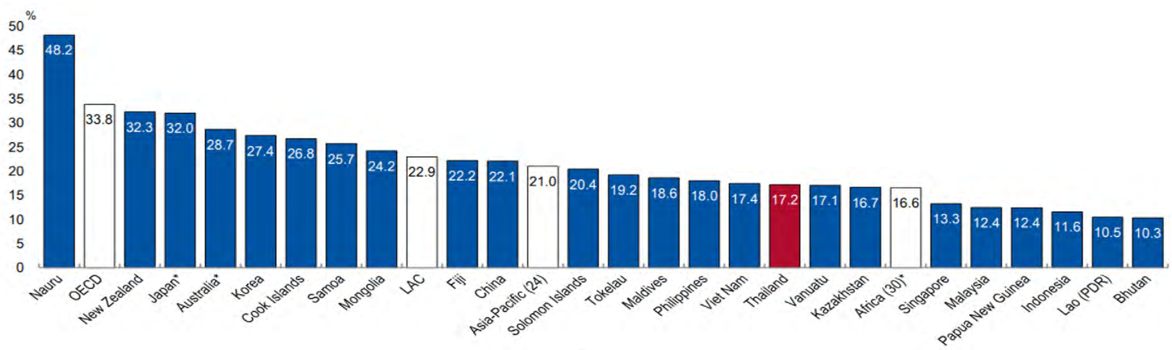
Figure 4.8: Public Revenue of Fiscal Year 2021



Source: Ministry of Finance

While Thailand's public revenue is dependent on taxes, Thailand shows relatively low tax-to-GDP ratio (17.2%) compared to other Asian and Pacific economies. The World Bank (2021) identifies structural tax revenue collection gap that if closed could represent additional revenues up to 10% of GDP. In the meantime, Thailand has made progress in improving tax progressivity, including levying tax on securities trading.

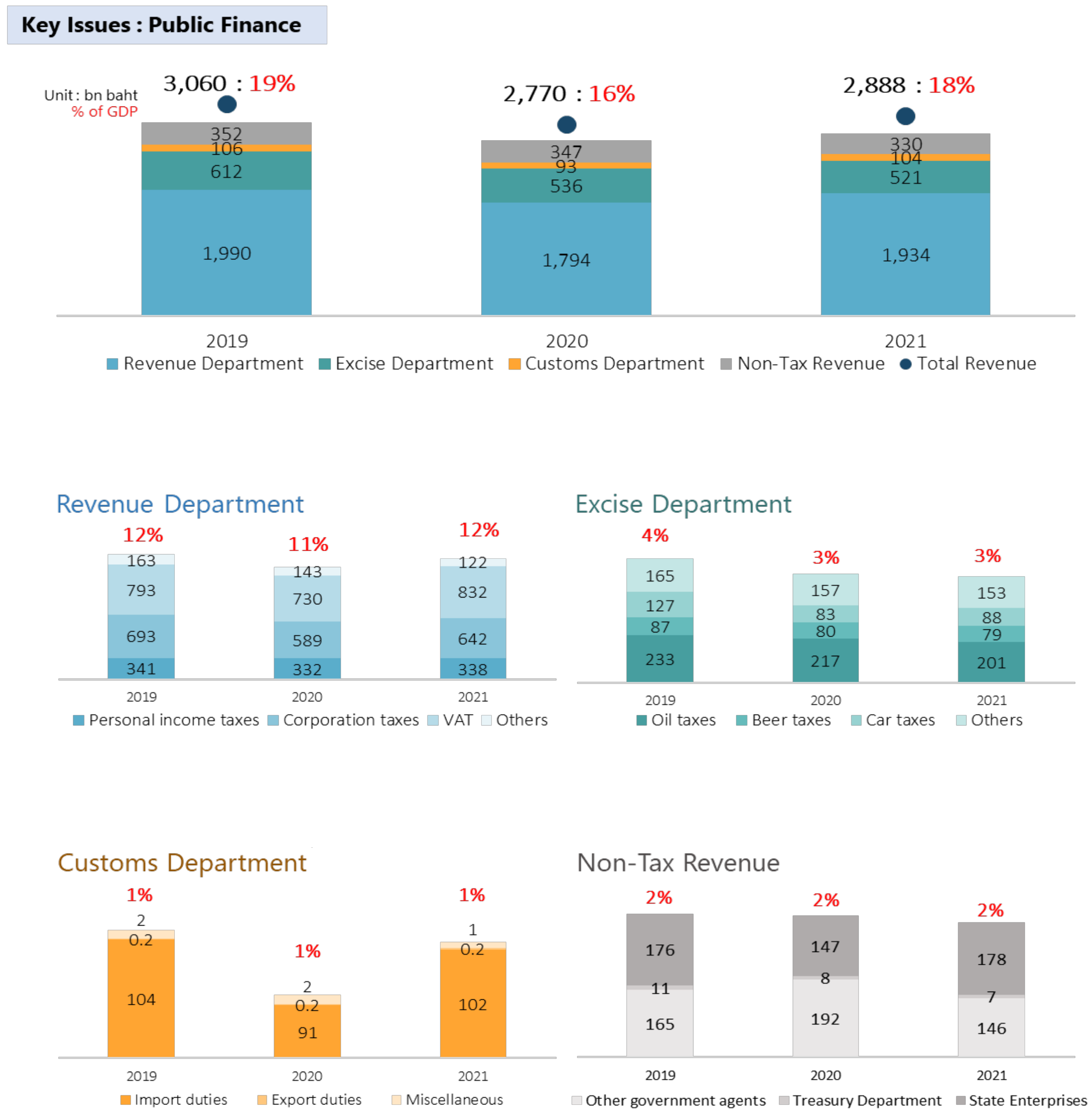
Figure 4.9: Tax-to-GDP ratios of Thailand and other Asian and Pacific economies



Source: OECD, Revenue Statistics in Asia and the Pacific: Key findings for Thailand

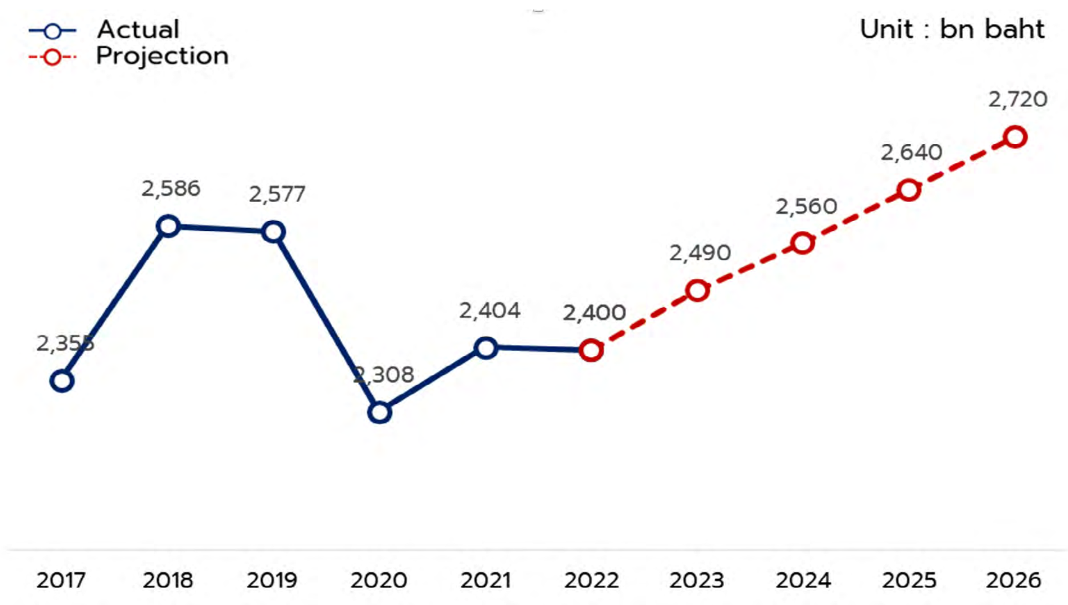
As of 2021, total government revenues have not yet recovered to pre-Covid level. PIT, CIT and VAT started to rise as the economy picked up a pace. So were import duties, which moved in line with Thai exports (Figure 4.10). Non-tax revenues were still small and continued to fall. The net revenue is expected to reach the pre-Covid level in 2025 (Figure 4.11)

Figure 4.10: Structure of Government Revenues 2019-2021 (THB Billion)



Source: Ministry of Finance

Figure 4.11: Net Revenue After Allocation Projection

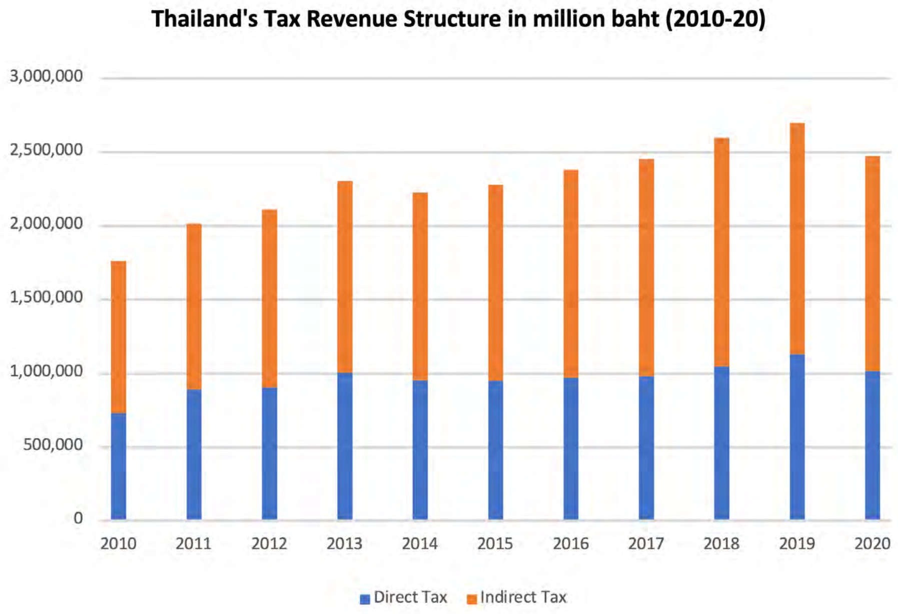


Source: Ministry of Finance

Tax Revenue Composition

In the period under review, indirect taxes were the main source of tax revenue in Thailand. The total volume collected from indirect taxes showed a strong positive trend. On the other hand, the volume of direct taxes collected in the same period showed a slightly positive trend. Looking at the period, while the relative weights of direct taxes and indirect taxes in tax revenue at the beginning were relatively close, at the end of the period indirect taxes were by far the main source of tax revenue in the country. There is limited evidence that the government manage the impact of tax revenues on sustainable development goals as equality (including gender equality) or use tax instruments to price externalities in relation to climate, health, or other aspects of sustainable development. On the other hand, there is potential to increase revenue through changes in tax policy, administrative and institutional reforms, capacity development, systemic changes, digital taxation and revenue collection, or efforts to increase compliance.

Figure 4.12: Thailand's Tax Revenues (2010-20)

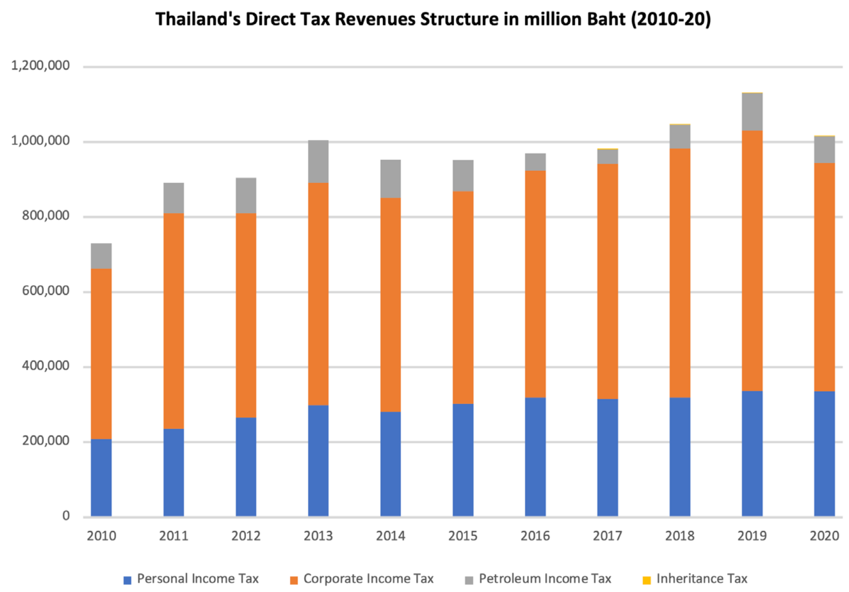


Source: Ministry of Finance

Direct Tax Revenue Composition

Taxes on corporate income were presented during the period in question as the main source of tax revenue from direct taxes. The total volume collected in corporate income taxes shows a clearly positive trend. Taxes on personal income were in the same period the second most important source of tax revenue from direct taxes. The volume collected in personal income taxes showed a slightly positive trend. Taxes on petroleum income were the third most relevant source of direct taxes. The volume collected during the period in taxes on petroleum income shows a slightly positive trend, but with relevant deviation to the mean associated with the volatility of oil prices in international markets. Finally, inheritance taxes were in this period an almost irrelevant source of tax revenue from indirect taxes. Altogether, corporate income taxes were increasingly more relevant as direct tax revenue.

Figure 4.13: Thailand's Direct Tax Revenues (2010-20)

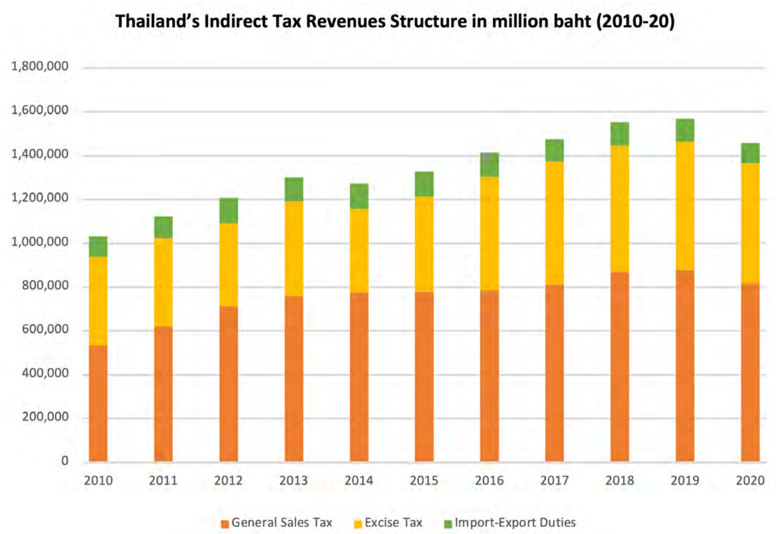


Source: Ministry of Finance

Indirect Tax Revenue Composition

General sales tax was the main source of tax revenue from indirect taxes during the 2010-20 period. The total volume collected from this source of tax revenue shows a clearly positive trend. The second most important source of tax revenue from indirect taxes was excise tax. The total volume collected from these taxes shows a slightly positive trend during the period under consideration. Finally, custom duties were the least important source of indirect tax revenue. The total volume collected with this tax revenue shows a slightly positive trend. Altogether, over the period in question tax revenues from the general sales tax became increasingly the most important source of tax revenue from indirect taxes.

Figure 4.14: Thailand's Indirect Tax Revenues (2010-20)



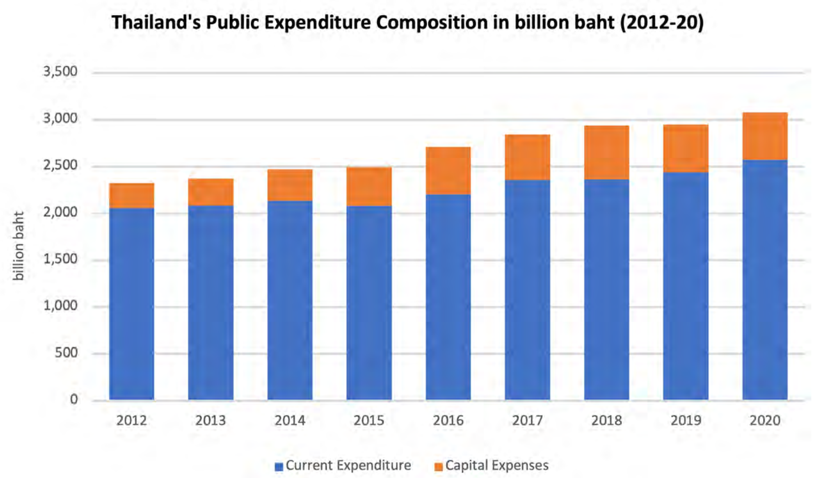
Source: Ministry of Finance

D. Public Expenditure Trends

Public Expenditure Composition

Thailand's current public expenditure in 2012 represented 86.5% of the country's total public expenditure. In 2020, current expenditure represented only 80.4% of total public expenditure. In the period 2012-20, the weight of current public expenditure in total public expenditure therefore showed a decreasing trend. The average weight of current public expenditure in total public expenditure during the period under consideration was 82.5%. On the other hand, Thailand's public capital expenditure in 2012 represented 11.1% of total public expenditure. In 2020, public capital expenditures already represented 15.7% of total public expenditures. In the period 2012-20, the weight of capital expenditures in total public expenditure showed an increasing trend. In the period under consideration, the average weight of capital expenditures in total public expenditure was 15.4%.

Figure 4.15: Thailand's Public Expenditure Composition (2012-20)

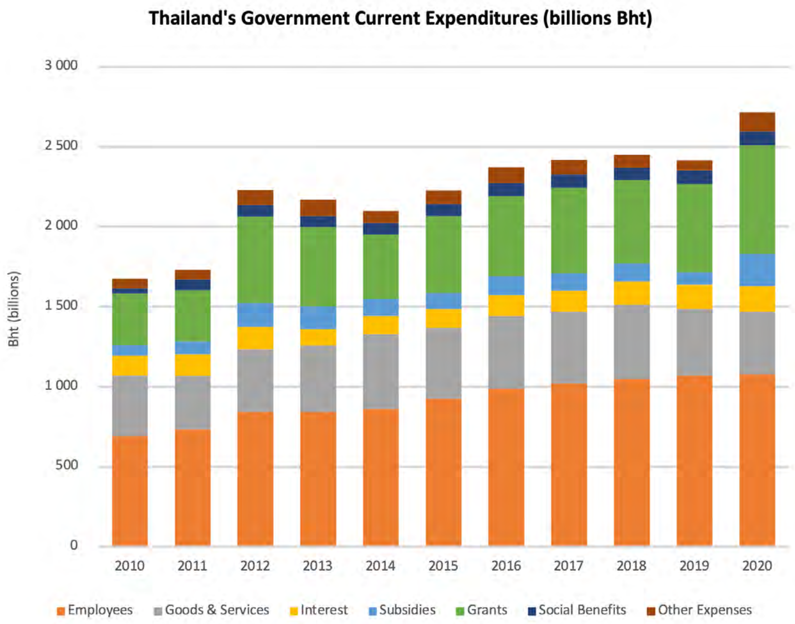


Source: Ministry of Finance

Public Current Expenditure Composition

Thailand's main current public expenditures in the 2012-20 period are expenditure on employees, on the acquisition of goods and services, and grants to other government units. On average, expenses with employees represented 36.8% of the country's total current expenses in the period. The weight of these expenses in the total current expenses showed an increasing trend. On the other hand, expenses with the acquisition of goods and services represented, on average, 18.5% of the total current expenses in the period. The weight of these expenses in the total current expenses showed a decreasing trend. And expenditure on grants to other government organizations represented an average of 20.7% of total current expenditure for the period under consideration. The weight of these expenses in the total current expenses showed an increasing trend. Thailand has also allocated part of its public resources to the distribution of social benefits. During the period 2012-20, expenditure on social benefits represented an average of 9.9% of current public expenditure. The weight of expenditure on these benefits in total current expenditure shows an increasing trend in the period in question. On the other hand, Thailand has had public debt service expenditures equivalent to an average of 6.4% of total current public expenditures during the 2012-20 period. The weight of these expenditures in Thailand's current public expenditure has shown a slightly increasing trend in recent years. Finally, expenditure on subsidies to public companies during the same period represented around 4.45% of current public expenditure in Thailand. The weight of expenditure on these subsidies in current public expenditure showed an increasing trend in the period.

Figure 4.16: Thailand's Government Current Expenditure (2010-20)

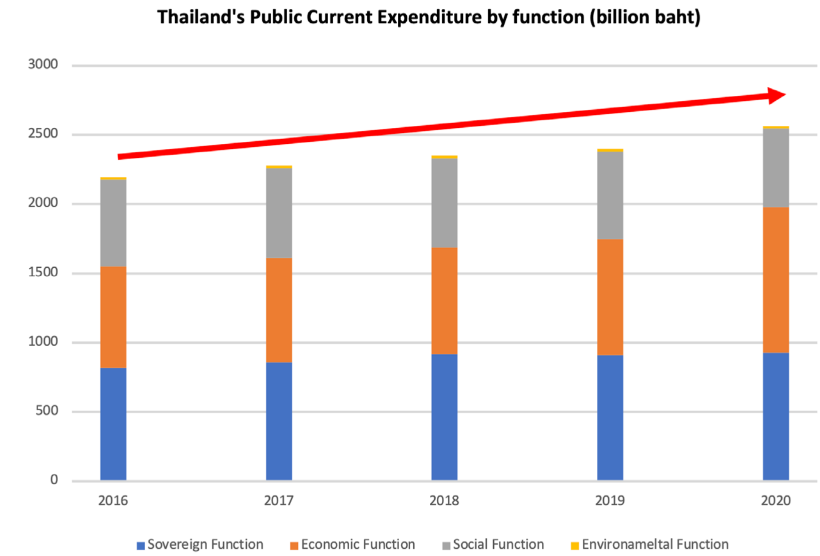


Source: Ministry of Finance

Public Expenditure Composition by Function

The total volume of public expenditure by function in Thailand has shown a slightly positive trend over the past few years. Current expenditures with the sovereign function showed also a slightly positive trend, having lost, however, some relative weight in the country's total current public expenditures. On the other hand, current expenditure on the economic function showed a strong positive trend, having gained relative weight in total current public expenditure. In turn, current expenditure on the social function showed a very slightly positive trend with some volatility during the period 2016-2020. In the end, current public expenditures with the social function ended up losing relative weight in total current public expenditures. Finally, current public expenditure with the environmental function showed a very stable trend, although with a residual value in the total volume of current public expenditure. At the end of the period under consideration, current public expenditure with the environmental function had an insignificant relative weight in total current public expenditure.

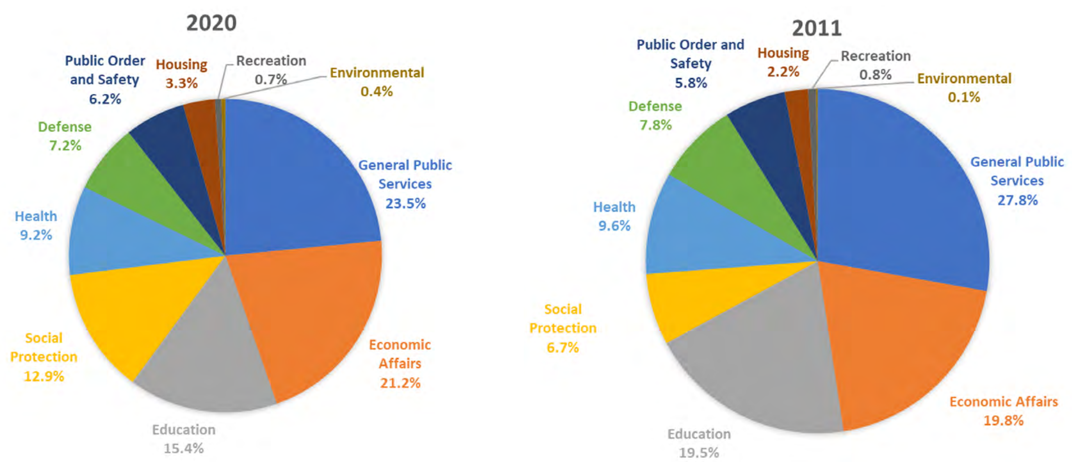
Figure 4.17: Thailand's Public Current Expenditure by Function (2016-20)



Source: Budget Bureau

For an illustration of Thai current public expenditure with the government's classification of the budget activities please see the diagram below.

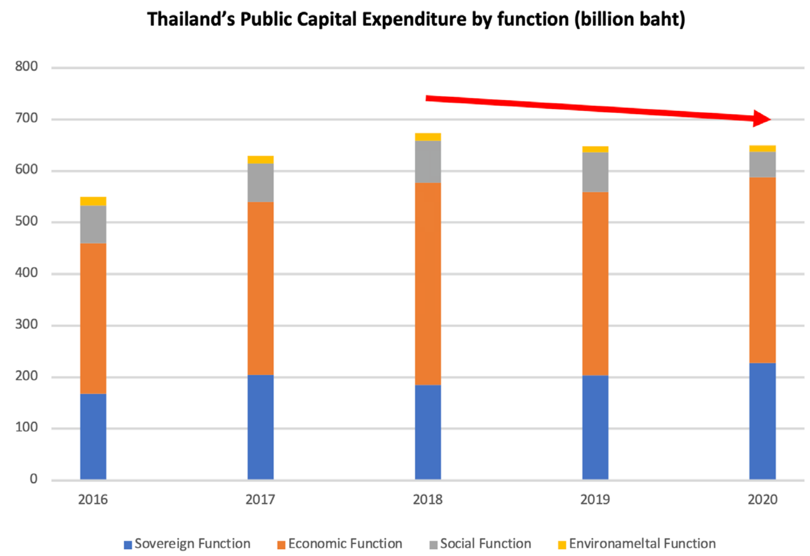
Figure 4.18: Thai Public Expenditures by Budget Activities 2011 and 2020



Source: Budget Bureau

Since 2018, the total volume of public expenditure on capital has shown a decreasing trend. However, the total volume of public capital expenditures with the sovereign function showed a positive trend, having therefore slightly increased its relative weight in total capital expenditures in the period. In the case of public expenditure on capital with the economic function, its total volume observed a positive trend, and therefore its relative weight in public capital expenditures showed a very relevant increase. This was the most important capital expenditure by function during the entire period. The total volume of public capital expenditures with the social function has shown a negative trend since 2018. As a result, its relative weight in public capital expenditures has decreased significantly. In any case, throughout the period the capital expenditure with the social function is relatively small. Finally, the total volume of public expenditure on capital with the environmental function has also shown a negative trend since 2018. Its relative weight in total public expenditure on capital throughout the period is residual, so in the end, given the observed trend, it resulted in a relative weight even more residual. This can also be explained by the lack of a detailed taxonomy to classify green activities.

Figure 4.19: Thailand's Public Capital Expenditure by Function (2016-20)

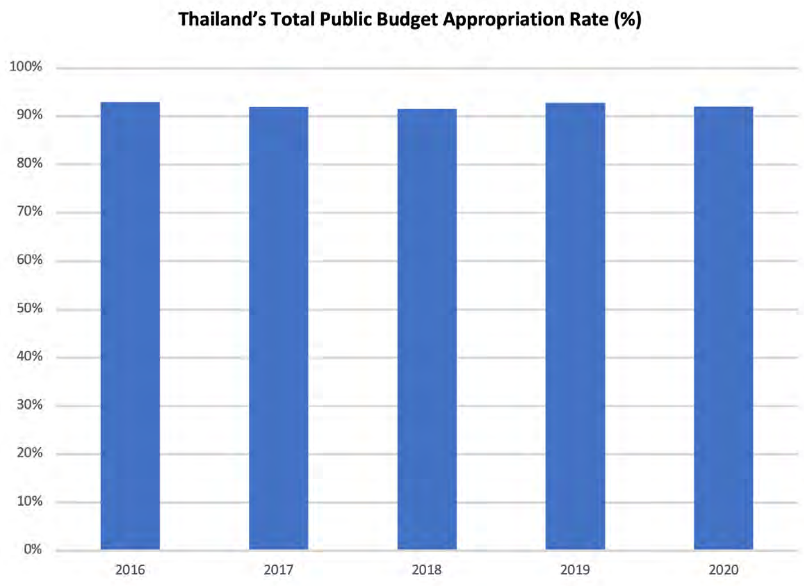


Source: Budget Bureau

Public Budget Appropriation

The appropriation rate of the total public budget in Thailand is high, having always presented overall rates above 90% during all the period 2016-2020. However, relevant differences were observed between the appropriation rates of the current budget and the capital budget.

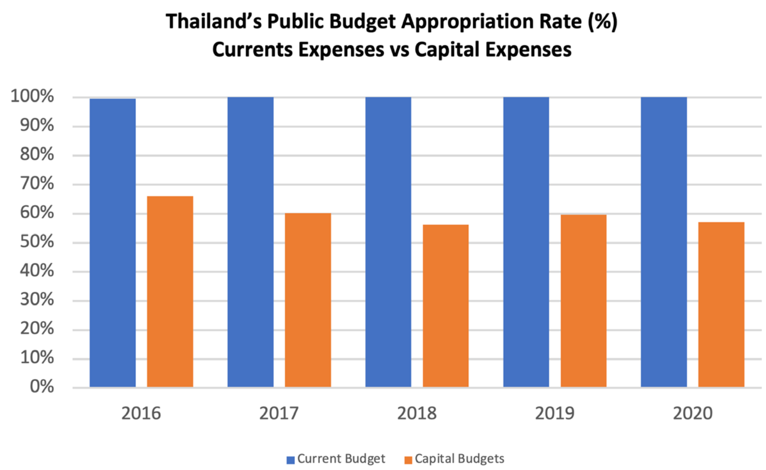
Figure 4.20: Thailand’s Total Public Budget Appropriation rate (2016-20)



Source: Budget Bureau

The current budget has clearly higher appropriation rates than the capital budget. In the case of the current budget, the appropriation rates observed in the period reached almost 100%. In the case of capital budget appropriation rates during the period, they showed a clearly negative trend, having ended up at values clearly below 60% since 2017.

Figure 4.21: Thailand’s Public Budget Appropriation Rate: Current Expenses vs Capital Expenses (2016-20)



Source: Budget Bureau

E. Recent Developments in Public Domestic Finance

Impacts of COVID-19 Pandemic on Public Finance

Table 4.1 below shows Thai government total expenditures and revenues for the latest five fiscal years from 2018 to 2022. The Thai fiscal year of year “T” would begin from October of year “T – 1” to the end of September of year “T.” The table also shows the Compound Annual Growth Rate (CAGR) for the whole period (CAGR 18-22) and only for the period before the COVID-19 pandemic (CAGR 18-20).

Before the COVID-19 pandemic (2018 – 2020), Thai government fiscal strength were improving as its revenues (4.52% per year) grew faster than its expenditures (2.43% per year) and the annual budget deficit (borrowing) were shrinking (-7.66% per year). However, after the pandemic (2020-2022), the revenue was severely affected as it dropped by 6.26% per year on average, whereas the government could manage to reduce its expenditures only by 1.57% per year on average. This led to a drastic increase in budget deficits (borrowings) as they grew by the whopping 22.17% per year on average. It is noticeable that in FY2022 the budgetary appropriation for borrowing hits the legal limit[50] for the first time. This means that the government has no room to raise more funds through borrowing.

Before the COVID-19 pandemic (2018 – 2019), the actual revenue collection was consistently higher than the budgeted revenue by 5.6% per year on average. In sharp contrast, after the pandemic (2020-2021), the actual revenues were consistently lower than the budgeted ones by 8.0% per year on average. This reveals the need for correction in revenue forecasts to better reflect the severe impacts of COVID-19.

On average, the expenditure and the budgeted revenue are normally set at around 18.4% and 15.2% of forecasted nominal GDP, respectively. As such, the implied budget deficit (borrowing) is 3.2% of forecasted nominal GDP each year. It is noticeable that during the latest three years (2019-2021) the forecasted (budget) nominal GDPs were consistently higher than subsequent realized ones. If this trend persists, the government may need to correct for this bias on its future budgets.

50 Legal limit of annual borrowing = 80% of appropriated loan repayment + 20% of appropriated total expenditure

Table 4.1: Overall trends of government expenditures and receipts (total revenues)

Item (Billion Baht)	FY2018	FY2019	FY2020	FY2021	FY2022	CAGR 18-20	CAGR 20-22
Expenditures	3,050	3,000	3,200	3,286	3,100	2.43%	-1.57%
- Current	2,237	2,273	2,404	2,538	2,354	3.67%	-1.05%
- Capital	676	649	644	649	620	-2.40%	-1.88%
- Repayment	87	78	89	99	100		
- others	50	0	63	0	26		
Receipts	3,050	3,000	3,200	3,286	3,100	2.43%	-1.57%
- Revenues	2,500	2,550	2,731	2,677	2,400	4.52%	-6.26%
- Borrowings	550	450	469	623	700	-7.66%	22.17%
Legal limits on borrowings	680	663	711	736	700		
Revenues (actual)	2,654	2,676	2,489	2,485			
Nominal GDP (budget)	16,066	17,560	17,593	16,469	17,327		
Nominal GDP (actual)	16,426	16,889	15,610	15,890			
Expenditures % GDP (budget)	19.0%	17.1%	18.2%	20.0%	17.9%		
Expenditures % GDP (actual)	18.6%	17.8%	20.5%	20.7%			
Revenues %GDP (budget)	15.6%	14.5%	15.5%	16.3%	13.9%		
Revenues %GDP (actual)	16.2%	15.8%	15.9%	15.6%			
Revenues %Δ budget	+6.2%	+4.9%	-8.9%	-7.2%			

Source: Thailand’s Budget in Brief, Budget Bureau

Note: others = expenditures for replenishment of treasury account balance or reserves, CAGR = Compound Annual Growth Rate. Nominal GDPs are from the respective fiscal years and not the calendar years. The numbers from 2018 to 2021 are actual numbers, whereas the number in 2022 are forecasted.

F. Achieving the SDGs

Section 65 of the Constitution of the Kingdom of Thailand (B.E. 2560) requires that the State should develop a national strategy to achieve sustainable national development in accordance with the principle of good governance. As a result, the National Strategy Act (B.E. 2560) was passed, and the National Strategy Committee (NSC) has been set up to draft the 20-year national strategy (2018-2037). The vision of this strategy is for the country to become “a developed country with security, prosperity and sustainability in accordance with the Sufficiency Economy Philosophy.” The key goals of national development of the National Strategy are: “A Secure Nation, Contented People, Continued Economic Growth, An Equal Society, and Sustainable Natural Resources” (Thailand National Strategy, 2018).

The national strategy consists of six strategies.

1. Inequality Reduction, which aims to develop cooperation between private sector, public, and local communities
2. Human Capital Development
3. Public Sector Efficiency Improvement
4. National Security
5. Competitiveness Enhancement
6. Fostering Environmentally Friendly Development, which aims to achieve all development aspects of the SDGs

Fiscal year 2020 is the first time that Thailand encloses the details of the policies and the budget composition according to the six national strategies, namely, inequality reduction, Human Capital Development, Public Sector Efficiency Improvement, National Security, Competitiveness Enhancement, and Fostering Environmentally Friendly Development. The budget compositions according to national strategies from FY2020 to FY2022 are reported in table below.

Table 4.2: Budget allocation according to the 20-year national strategies (billion baht)

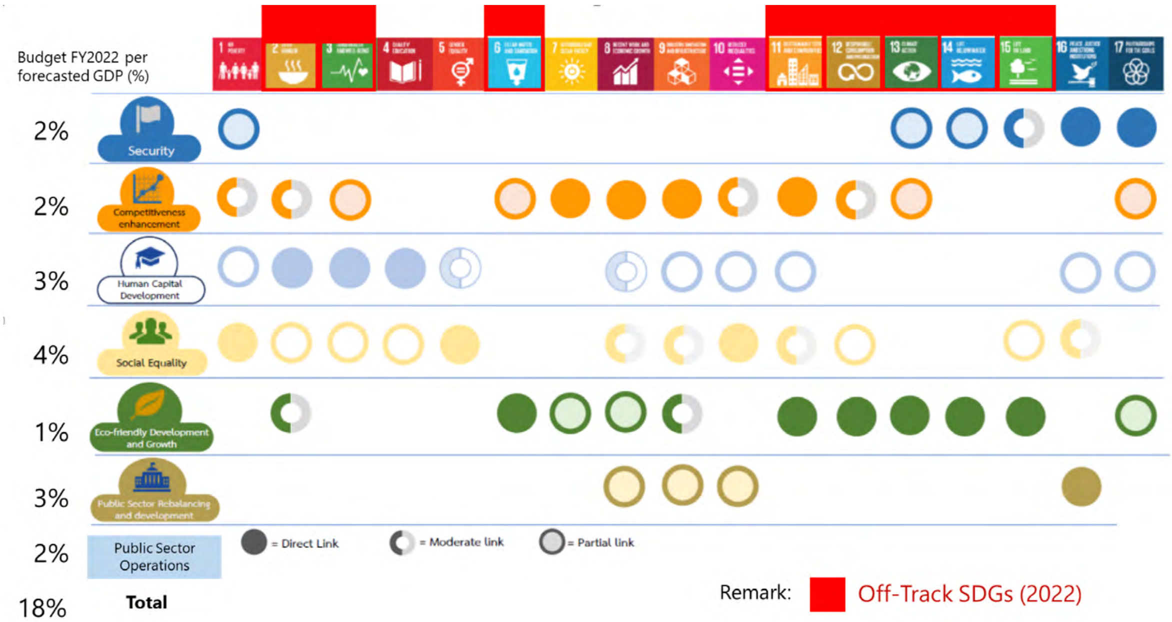
National Strategies	FY2020	FY2021	FY2022	% of Budget			% of forecasted nominal GDP		
				% 2020	% 2021	% 2022	% 2020	% 2021	% 2022
1. Inequality Reduction	765	796	734	23%	24%	24%	4%	5%	4%
2. Human Capital Development	571	578	548	17%	18%	18%	3%	4%	3%
3. Public Sector Efficiency Improvement	505	557	559	15%	17%	18%	3%	3%	3%
4. National Security	428	416	388	13%	13%	13%	2%	3%	2%
5. Competitiveness Enhancement	380	402	338	12%	12%	11%	2%	2%	2%
6. Fostering Environmentally Friendly Development	119	118	120	4%	4%	4%	1%	1%	1%
Public Sector Operations	518	433	413	16%	13%	13%	3%	3%	2%
Total	3,286	3,300	3,100	100%	100%	100%	19%	20%	18%

Source: Thailand’s Budget in Brief, Budget Bureau

The NESDC has mapped the above national strategies on the SDGs. The linkage is reported in the figure below. The figure also shows off-track SDGs (2: Zero Hunger, 3: Good Health and Well-Being, 6: Clean Water and Sanitation, 11: Sustainable Cities and Communities, 12: Responsible Consumption and Production, 13: Climate Action, 14: Life below Water, 15: Life on Land) and fiscal budget allocation as percent of forecasted GDP for the fiscal year 2022. These SDGs are considered off-track based on studies by NESDC (2021) and Sachs et al. (2022).

This mapping clearly shows that Thai government needs to invest more in environmentally friendly development which has direct links to six off-track SDGs (6, 11, 12, 13, 14, 15) and a moderate link to one off-track SDG (2). The current fiscal budget on this environmental strategy is only 1% of GDP. On the contrary, the budget for public sector development is relatively high at 3% of GDP, though it has only a direct link with one SDG (16) and only partial links with three SDGs (8, 9, 10). None of these SDGS are considered off-track.

Figure 4.22: Linkage between 20 Years National Strategy (2018-2037) and SDGs (2030)



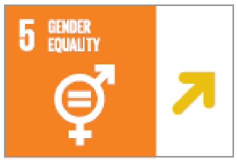
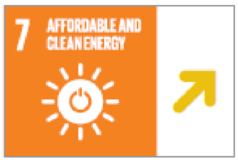
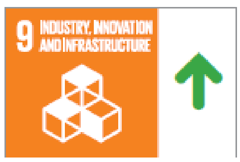
Source: NESDC, Budget in Brief, Author's calculation

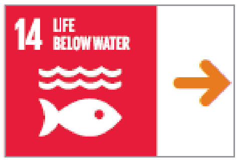
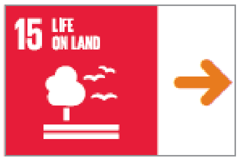
Since there is no official budget allocation on achieving each SDG, this study uses the above mapping to allocate the budget on each SDG based on the following assumptions.

1. "Direct Link" implies that 100% of the budget allocated to a specific national strategy is invested to achieve the linked SDGs.
2. "Moderate Link" implies that 50% of the budget allocated to a specific national strategy is invested to achieve the linked SDGs.
3. "Partial Link" implies that 25% of the budget allocated to a specific national strategy is invested to achieve the linked SDGs.

The table below shows the estimated fiscal budget allocation (as % of forecasted nominal GDP) on achieving each SDG. In addition, we map the allocation with SDG achievements based on Thailand's SDGs Report (NESDC, 2021) and Sustainable Development Report 2022 (SDR 2022).

Table 4.3: Estimated Budget Allocation and SDG Achievements

SDG	Budget allocation (% of forecasted GDP)	SDG achievements (NESDC, 2021)	SDG achievements (SDR 2022)
1. No Poverty	6.6% (FY 2022) 7.6% (FY 2021) 6.8% (FY 2020)		
2. Zero Hunger	5.4% (FY 2022) 6.1% (FY 2021) 5.6% (FY 2020)		
3. Good Health and Well-Being	4.7% (FY 2022) 5.3% (FY 2021) 4.9% (FY 2020)		
4. Quality Education	4.2% (FY 2022) 4.7% (FY 2021) 4.3% (FY 2020)		
5. Gender Equality	5.8% (FY 2022) 6.6% (FY 2021) 6.0% (FY 2020)		
6. Clean Water and Sanitation	1.2% (FY 2022) 1.3% (FY 2021) 1.2% (FY 2020)		
7. Affordable and Clean Energy	2.1% (FY 2022) 2.6% (FY 2021) 2.3% (FY 2020)		
8. Decent Work and Economic Growth	6.6% (FY 2022) 7.6% (FY 2021) 6.8% (FY 2020)		
9. Industry, Innovation and Infrastructure	6.0% (FY 2022) 6.9% (FY 2021) 6.2% (FY 2020)		
10. Reduced Inequalities	6.8% (FY 2022) 7.8% (FY 2021) 7.0% (FY 2020)		

SDG	Budget allocation (% of forecasted GDP)	SDG achievements (NESDC, 2021)	SDG achievements (SDR 2022)
11. Sustainable Cities and Communities	5.6% (FY 2022) 6.5% (FY 2021) 5.8% (FY 2020)		
12. Responsible Consumption and Production	2.7% (FY 2022) 3.1% (FY 2021) 2.8% (FY 2020)		
13. Climate Action	1.7% (FY 2022) 2.0% (FY 2021) 1.8% (FY 2020)		
14. Life Below Water	1.3% (FY 2022) 1.3% (FY 2021) 1.3% (FY 2020)		
15. Life on Land	2.9% (FY 2022) 3.2% (FY 2021) 3.0% (FY 2020)		
16. Peace, Justice, and Strong Institutions	8.4% (FY 2022) 9.2% (FY 2021) 8.3% (FY 2020)		
17. Partnerships for the Goals	3.7% (FY 2022) 4.2% (FY 2021) 4.0% (FY 2020)		

Note: Major challenges Significant challenges Challioges remain SDG achieved
Decreasing Stagnating Moderately improving On track or maintaining SDG achievement

Source: Budget in Brief, Thailand's SDGs Report 2016-2020, Sustainable Development Report 2022, Author's calculation

The table clearly reveals that Thai government needs to invest more on SDG 14 (Life Below Water) as the current spending is only 1.3% of GDP. It is noticeable that though the budget allocated to SDG 16 (Peace, Justice, and Strong Institutions) is quite high at around 8%-9% of GDP, the SDG achievements are quite disappointing at the "Orange" and "Red" status.

Table 4.4: Crosstab table between above-or-below budget allocation (% of forecasted nominal GDP FY 2022) and SDG status based on SDR 2022. SDGs are reported in the table.

SDG status	X < 2.8%	2.8% < X < 5.9%	5.9% < X
Red	14	2, 3, 15	16
Orange	6, 7, 12, 13	5, 11, 17	8, 9, 10
Yellow or Green		4	1

X = budget allocation as a percent of GDP, Percentile (30) = 2.8%, Percentile (70) = 5.9%
Average budget per SDG = 4.4%

Source: SDR 2022, Authors' calculation

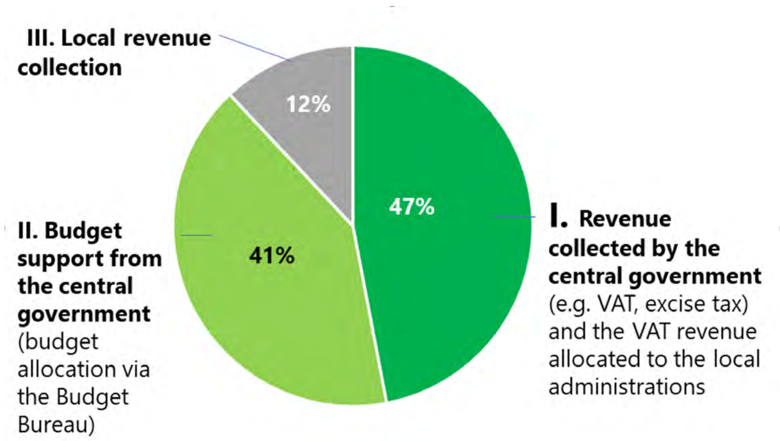
The above crosstab table clearly shows the mismatch between budget priorities and SDG statuses. The government may need to re-allocate budget more to achieve SDG 14 (Life Below Water), 6 (Clean Water and Sanitation), 7 (Affordable and Clean Energy), 12 (Responsible Consumption and Production), and 13 (Climate Action).

G. Local Public Finance

The Decentralization Act of 1999 states that the revenue transfer from central government to local authorities must be at least 20% of total central government and should aim to reach 35% by the 2006 fiscal year. The Decentralization Act of 2006 state that the revenue transfer from central government to local authorities must be at least 25% of total central government and should aim to reach 35%.

The 47% of revenues of the local administrative organizations is from the revenue collected by the central government (e.g., VAT, excise tax) that is allocated to the local administrations according to the 1999 Decentralization Act. Another 41% is from the budget support from the central government (budget allocation via the Budget Bureau). The remaining 12% is from the local revenue collection.

Figure 4.23: Revenues of the Local Administrative Organizations 2021



Source: Budget Bureau

According to the Budget procedure Act, there are 4 types of budget-receiving agencies

1. 20 Ministries
2. Provinces and provincial clusters
3. Court/attorney general—this is outside the budget of the Ministry of Justice
4. Local administrative organizations

Among local administrative organizations, the budget receiving agencies include

1. Special local administrations i.e., Bangkok and Pattaya
2. 76 Provincial Administrative Organizations (PAOs)
3. 30 City Municipalities
4. 195 Town Municipalities

These local administrations receive the budget directly from the budget bureau. Although they must submit their budget request via the Department of Local Administrative Promotion (under the Ministry of Interior), the Department of Local Administrative Promotion has no authority to screen the budget they submit—this means more freedom for them to request their budget.

In contrast, the budget allocation to 2,247 Subdistrict Municipalities and over 5,300 Subdistrict Administrative Organizations (SAOs) will be under the umbrella of the Department of Local Administrative Promotion who has the authority to allocate the budget among subdistrict municipalities and SAOs.

There are two types of budget support to the local administrative organizations:

1. General budget support—such as the budget for the direct mandates of the local administrative organizations and budget for purposes such as compensation of employees.
2. Specialized budget support—including the budget support for investment expenditure and items according to the subnational development plans

Apart from expenses such as compensation of employees, the budget allocation among local administrative organizations follows these criteria:

1. equal distribution (30% weight)
2. distribution by area size (15% weight)
3. distribution by population size (15% weight)
4. distribution in reciprocal of the local revenue collection and revenue collected by the central government (e.g., VAT, excise tax) (40% weight)

The ad hoc committee of the House of Representatives identify the following issues regarding budget allocation to the local administrative organizations:

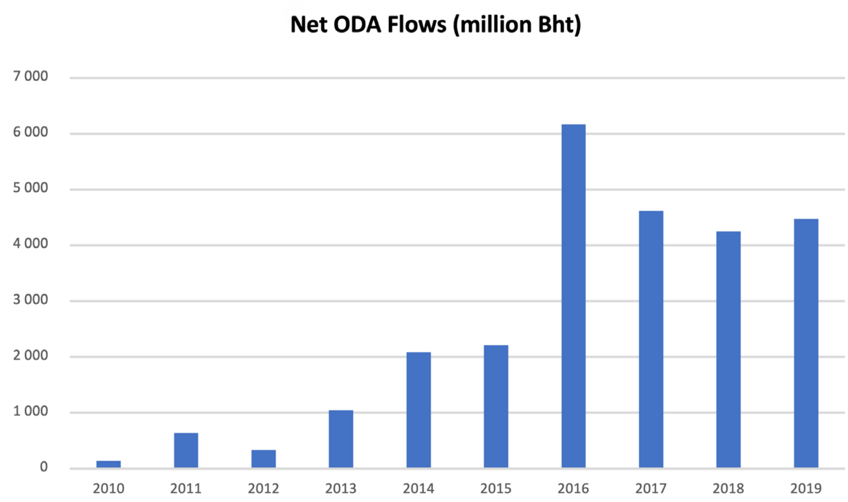
- The FY2021 budget allocation to many of the local administrative organizations are not even sufficient for compensation of employees as well as the support for elderly, people with disability, and food for children
- More budget should be allocated to support the quality of life and reduce inequality
- The budget allocation should split between the budget for usual mandates and the one for supporting government policies
- The budget allocation should utilize the database on local development and consider leftover budget, local capacity, local context, and local development plans
- The governance of the specialized budget support allocation should be strengthened
- The budget bureau itself would like to strengthen the capacity of the local administrative organizations on requesting and managing the budget

4.1.2 International Public Finance

Official Development Assistance (ODA) and Other Official Flows (OOF) Trends (in volume)

Official development assistance (ODA) and other official flows (OOF) are defined by the OECD Development Assistance Committee (DAC) as government aid that promotes and specifically targets the economic development and human welfare of developing countries, as recipient nations, including Thailand.[51] In fact, the total annual volumes of net ODA and OOF flows in the country showed an increasing trend over the last 10 years, but very volatile. However, these total annual volumes turned out to be negligible when compared to the total annual volumes of development finance resources. In 2010, the total annual volume of net ODA and OOF flows were 139 million baht. In 2019, this figure was 4477 million baht. The average annual volume for the period 2010-2019 was around 2599 million baht, but with an associated absolute volatility of 2,132 million baht. In this period, the average annual growth rate observed for these flows of international public resources was 86.9%, but with an associated volatility of 138.1%.

Figure 4.24: Thailand's Net ODA and OOF Flows (2010-2019)



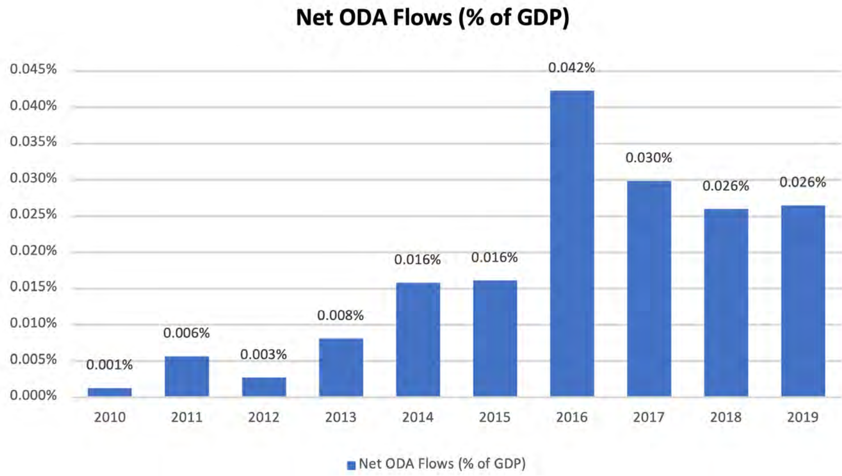
Source: OECD

ODA and OFF Trends (as % of GDP)

When the total annual volumes of net ODA and OFF flows are considered in relation to the total resources for financing development, it appears that those made a small contribution to the financing of sustainable development. In fact, the average total annual volumes of net flows of ODA+OOF represented in the reference period only 0.1% of total development financing resources, with an associated volatility of 0.03%. The irrelevance of the net ODA and OFF flows as a development financing resource in Thailand is more evident when we relate them to GDP. In the period under analysis, net ODA and OFF flows represented only 0.02% of GDP, with an associated volatility of 0.01%.

51 ODA flows are defined as those flows to countries and territories on the DAC List of ODA Recipients and to multilateral development institutions which are provided by official agencies, including state and local governments, or by their executive agencies; and each transaction of which is administered with the promotion of the economic development and welfare of developing countries as its main objective. https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/officialdevelopmentassistancedefinitionandcoverage.htm

Figure 4.25: Thailand's Net ODA and OOF Flows 2010-2019 (as % of GDP)



Source: DFA (2021)

South-South Cooperation Trends

No evidence of consistent data from official national sources is available.

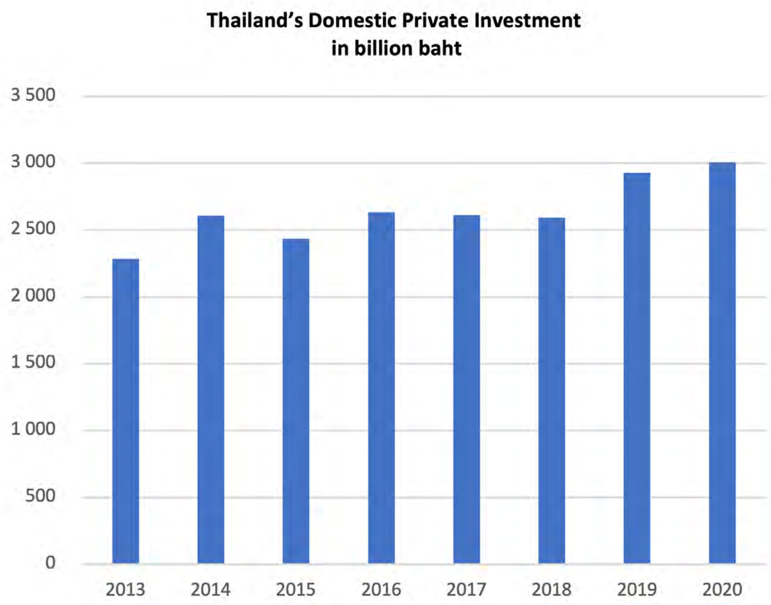
4.2. Private Finance

4.2.1. Domestic Private Finance

Domestic Private Investment Trends (in volume)

The total volume of investment in Thailand during the 2013-19 period showed a clearly positive trend, having recorded an average annual growth rate of 1.47%, however with an associated volatility of 2.92%. Conversely, in 2020, the total investment volume dropped 4.85%, reaching levels equivalent to the average levels for the years 2016-17. In relative terms, the total investment in financial resources for the development of Thailand showed a positive trend, albeit with strong volatility. Its relative weight registered an annual growth rate equal to 1.28% during the period in question, with an associated volatility of 9.7%. There is no systematic and consistent evidence on which areas of private financing are being allocated to private investment or private participation in investments of public nature with impact in national development priorities or sustainable development goals.

Figure 4.26: Thailand's Domestic Private Investment (2013-2020)

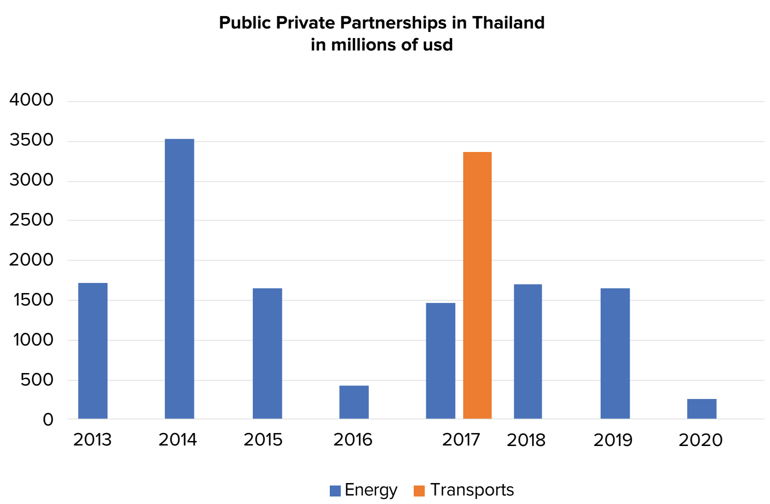


Source: Bank of Thailand

Alternative Instruments in Private Finance (Public Private Partnership (PPP), Blended Finance, etc.)

No evidence of consistent and systematic data from official national sources is available. Despite the lack of consolidated data, it should be noted that part of the investment carried out in Thailand was included in the scope of PPP's. During this period, PPPs were a relevant instrument to finance investments in the energy and transport sectors.

Figure 4.27: Public Private Partnerships (PPP) in Thailand (2013-2020)

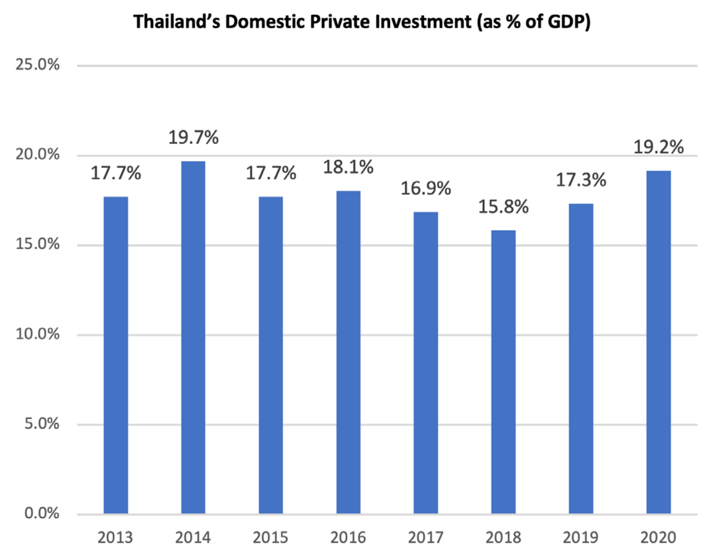


Source: Ministry of Finance

Domestic Private Investment Trends (as % of GDP)

The relative weight of total investment in relation to GDP in Thailand showed a clearly negative trend in the period under consideration. Its average annual growth rate was -1.2%, with an associated volatility of 1.8%. Apart from 2020, every year of the period registered a negative growth rate. The investment in 2020 is explained by the more intense reduction in the volume of GDP than the reduction in the volume of investment.

Figure 4.28: Thailand's Domestic Private Investment as % of GDP (2013-2020)



Source: DFA (2021)

Domestic Non-Commercial Private Finance Trends

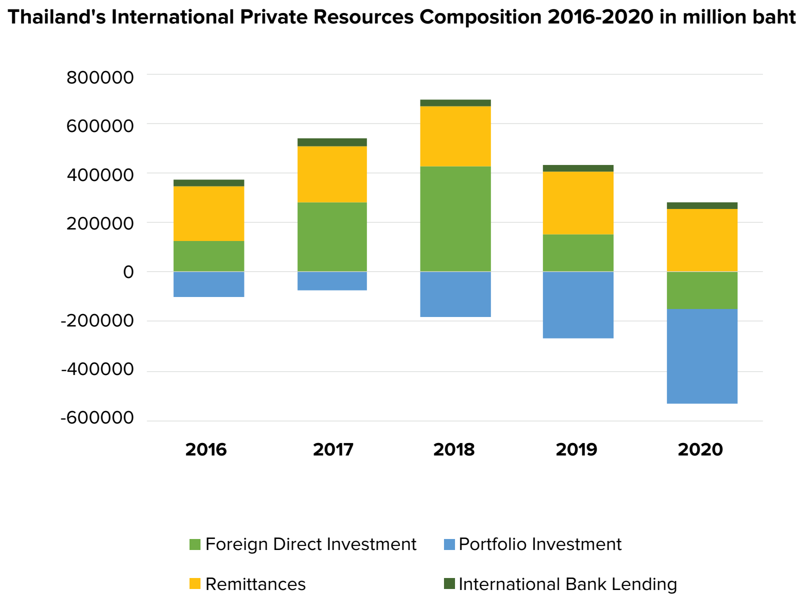
No evidence of consistent data from official national sources is available on financial flows of Foundations, NGOs. Faith-based Organizations, etc.

4.2.2. International Private Finance

International Private Finance Trends (as % of GDP)

The total volume of international private financing resources for development in Thailand showed a strong downward trend during the period 2010-2020, with very strong volatility associated with it. Its average annual growth rate for the period was -223%, with an associated volatility of 295%. In relation to the GDP, these resources registered a strong negative trend in the period under analysis. In 2010 they represented 7.18% of GDP and in 2020 the figure was 1.59%. Its average annual growth rate was -219.4% with an associated volatility of 279.4%. However, considering the behavior of its components, this was not homogeneous.

Figure 4.29: Thailand's International Private Resources (2016-2020)



Source: Bank of Thailand

International Non-Commercial Private Finance - Net Remittances Trend (in volume)

Net remittances from emigrants, which is one of the most important and consistent source of international private financing resource for development in Thailand, showed a steady upward trend during the period 2010-20. In 2010, its registered net volume was equivalent to 140 billion baht, while in 2020 it recorded a value of 252.4 billion baht. During the period, net remittances from emigrants presented an average annual growth rate of 3.3%, with a volatility of 4.3%. There are no mechanisms in place at the micro or macro levels to channel or leverage the flow of remittances to support investment in sustainable development.

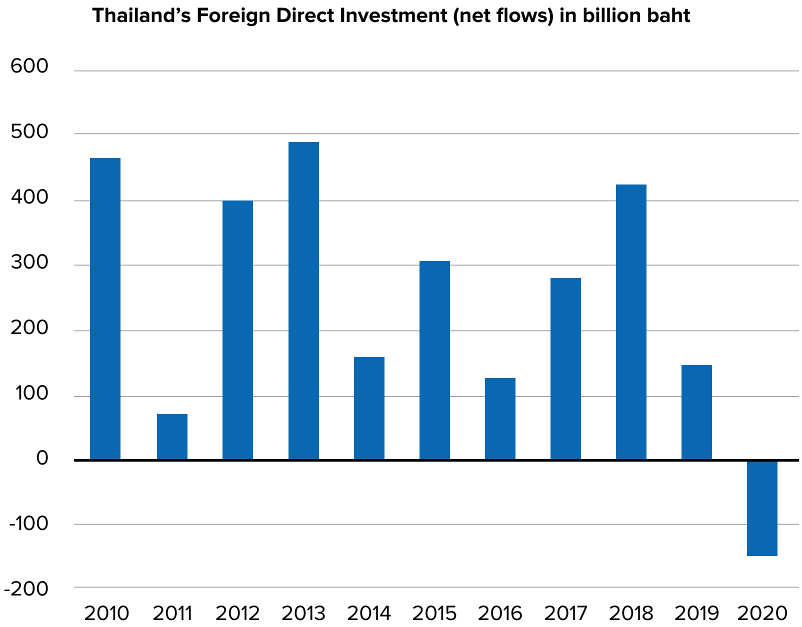
International Banks Lending Trend (in volume)

In the same sense, the total volume of international banks lending presented a consistently positive trend. In the same sense, the total volume of international banks lending showed a positive trend, albeit volatile. In 2010, it recorded a volume of 16 billion baht and in 2020 it recorded a value of 29 billion baht. Its average annual growth rate was 12.4% with an associated volatility of 28.3%.

Foreign Direct Investment Trend (in volume)

On the contrary, the net volume of foreign direct investment showed an unstable trend, having recorded in the period 2013-20 an average annual growth rate equal to -17.8% with a volatility of 103%. In the year 2020, the net value of foreign direct investment in Thailand was negative for the first time since at least 2010 by 146.8 billion baht, representing a reduction of 197.8% compared to the previous year.

Figure 4.30: Thailand's Foreign Direct Investment Net Flows (2010-2020)

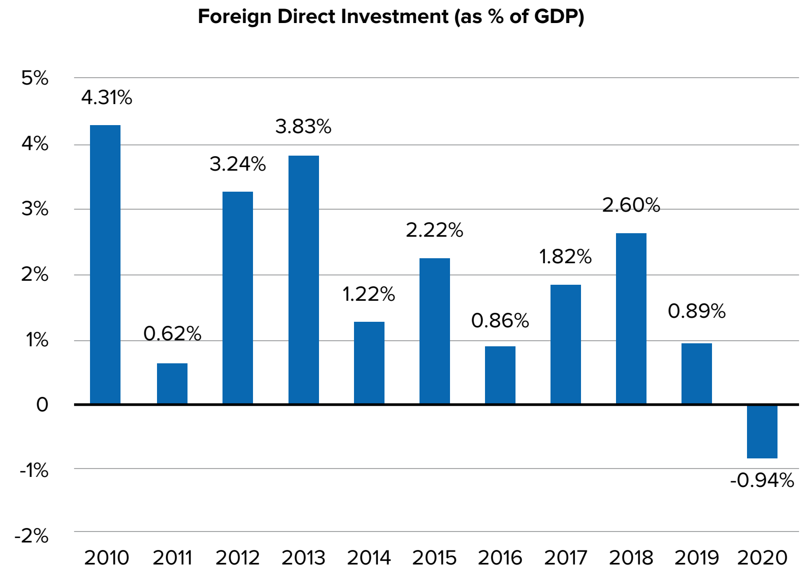


Source: Bank of Thailand

Foreign Direct Investment Trend (as % of GDP)

Foreign direct investment in relation to GDP showed a positive but also unstable trend, with its relative weight recording an average annual growth rate equal to 2.6% with an associated volatility of 1.48%

Figure 4.31: Thailand's Foreign Direct Investment as % of GDP (2010-2020)

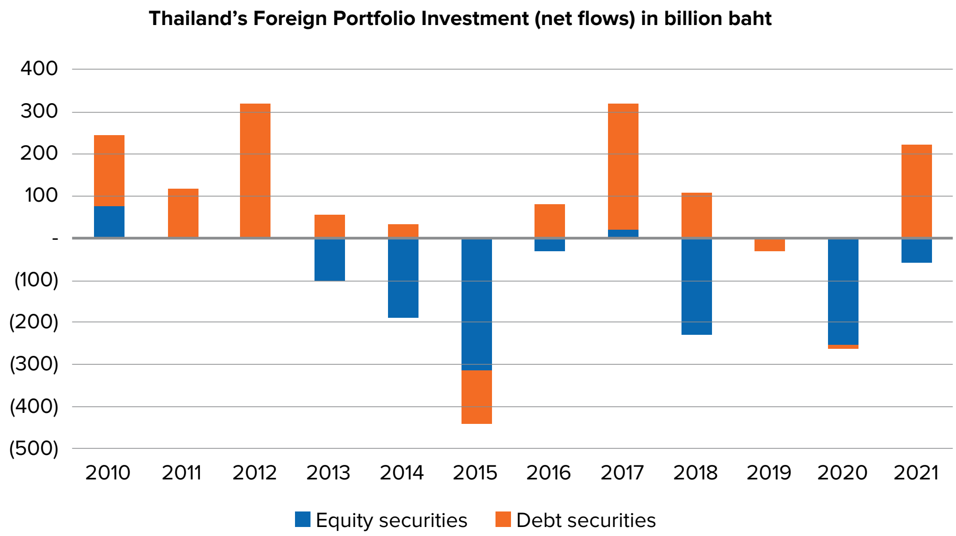


Source: Bank of Thailand

Foreign Portfolio Investment Trend (in volume)

Finally, the net volume of the portfolio foreign investment in Thailand showed an unstable trend. On average, the flow of foreign equity investment is negative at 89 billion baht per year, whereas, the flow of foreign debt investment is positive at 103 billion baht per year. In total, the average net flow is quite small at only 14 billion baht annually.

Figure 4.32: Thailand's Foreign Portfolio Investment Net Flows (2010-2021)

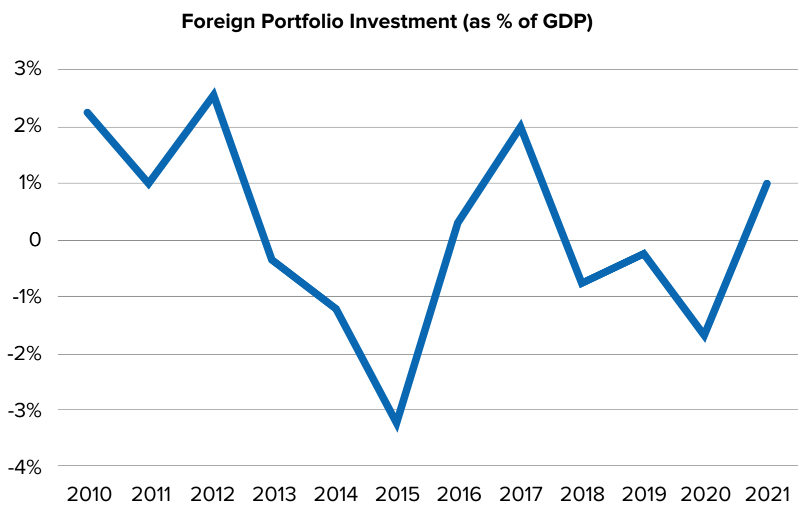


Source: Bank of Thailand

Foreign Portfolio Investment Trend (as % of GDP)

Foreign portfolio investment in relation to GDP showed an unstable trend. On average, it is only about 0.2% of GDP.

Figure 4.33: Thailand's Foreign Portfolio Investment as % of GDP (2010-2021)



Source: Bank of Thailand

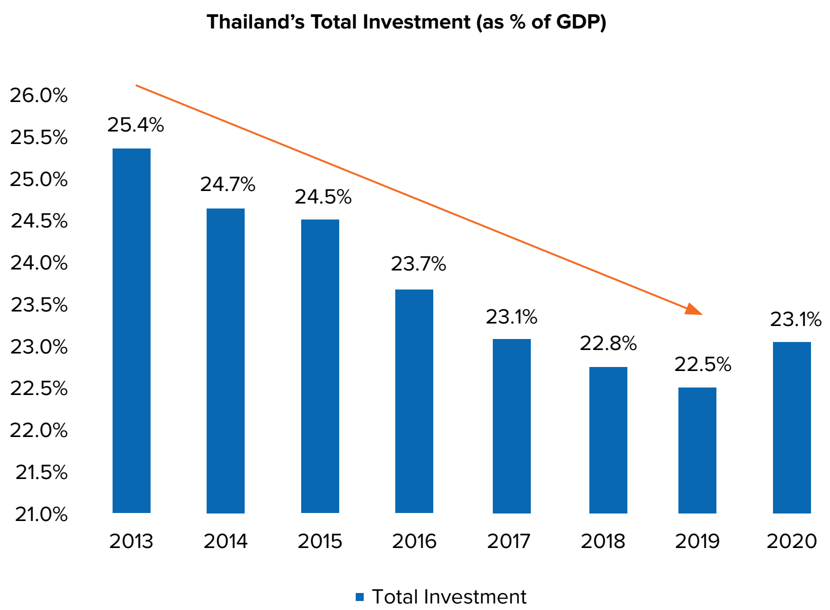
4.3. Current Investment Situation in Thailand

As a source of SDG financing, section 4.1 and 4.2 illustrate that public financing sources will be limited. Thai government need to support the process of economic recovery and help relieve the impact of high inflation. Based on the estimation of the Ministry of Finance, the Budget Bureau and the Office of National Economic and Social Development Council, without the impact of the war in Ukraine, the percentage of public debts to GDP will hit 67.15% in 2026, about 3% shy of 70% threshold. On the other hand, Thailand, as an upper-middle-income country, is not eligible for Official Development Assistance (ODA) in most cases. Therefore, private investment could play a crucial role in SDG financing.

Total Investment Trends

The total volume of financial resources used in investment in Thailand from 2013 to 2021 showed a slightly positive trend, recording an average annual growth rate of 1.47%, with an associated volatility of 2.92%. The total volume of investment during the period represented, on average, about 59.6% of the total resources for financing development in the country, with an associated volatility of 3.68%. However, the volume of investment relative to GDP showed a clearly negative trend during the same period. In 2013 it was 25.4% of GDP and in 2019 it was 22.5% of GDP. This ratio recorded an average annual rate of change equal to -1.2% with an associated volatility of 1.8%

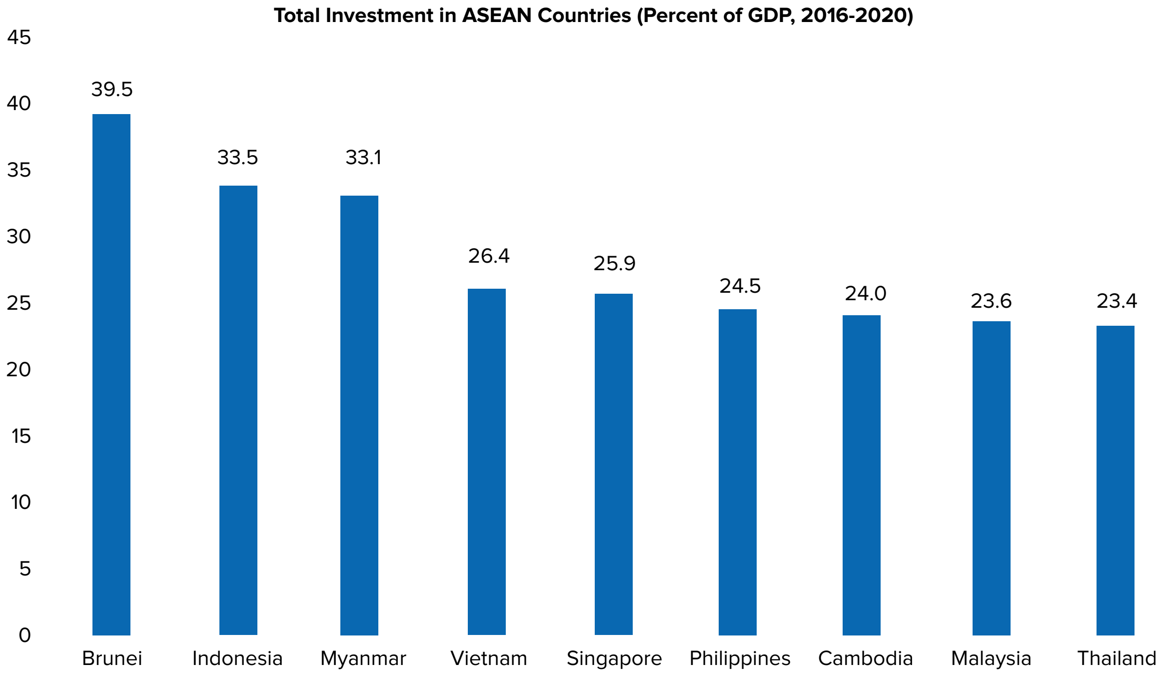
Figure 4.34: Thailand's Total Investment as % of GDP (2013-2020)



Source: Bank of Thailand

Comparing Thailand with the other countries in the ASEAN region, it appears that Thailand has the lowest total investment to GDP ratio in the period 2016-20, meaning that the other countries in the region are creating better conditions in installed capacity, challenging with this the future economic growth in Thailand if it doesn't make structural changes in its tradable sectors based in the same sectors.

Figure 4.35: Total Investment in ASEAN Countries as % of GDP (average) (2016-2020)

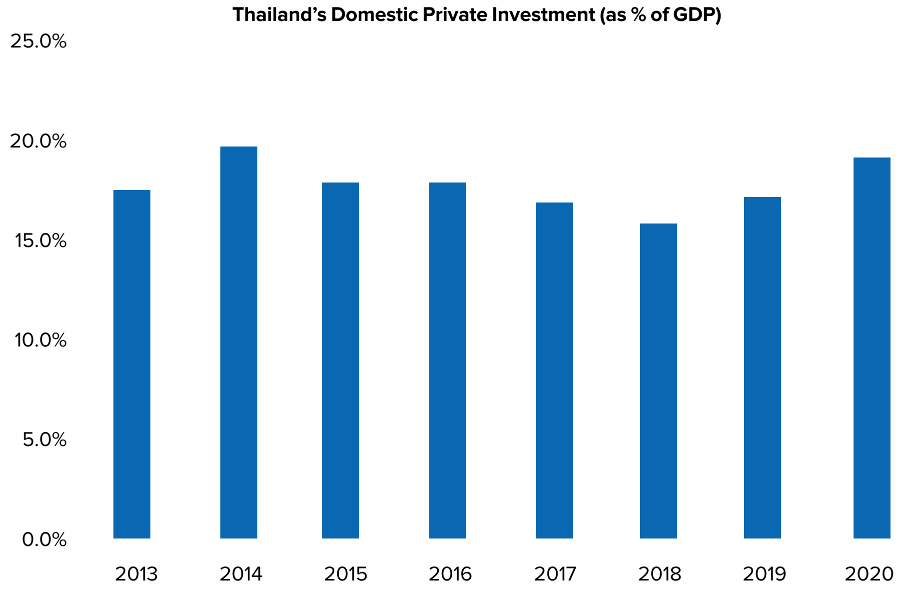


Source: ASEAN

Total Investment Composition

There is no consistent time series data about the sustainable development outcome areas that different types of public and private investment contribute toward. In any case, looking at the components of total investment in Thailand, it appears that the main driver of investment in the country was the domestic private sector. The volume of investment by the domestic private sector in the period 2013-2020 showed a positive but volatile trend, with an average annual growth rate equal to 4.2% and an associated volatility of 7.16%. In turn, the weight of private domestic sector investment in GDP during the period represented an average of 17.8% of GDP and a volatility of around 1.22%. This ratio registered an average annual growth rate equal to 1.3%, with an associated volatility of 8.43%.

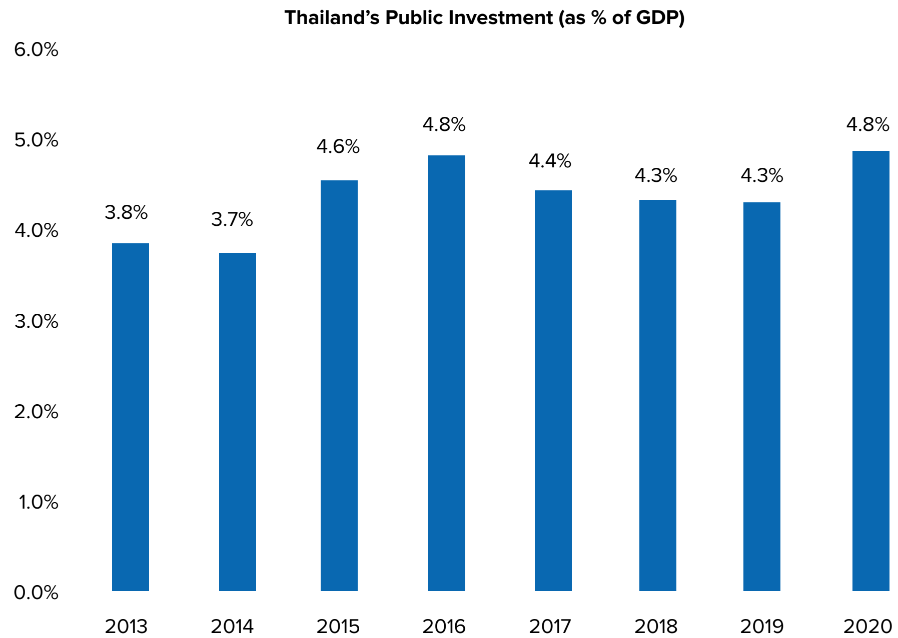
Figure 4.36: Thailand's Domestic Private Investment as % of GDP (2013-2020)



Source: Bank of Thailand

The volume of Thai public investment during the period 2013-20 showed a positive but volatile trend. Public investment volume recorded for the period under analysis an average annual growth rate equal to 6.6%, with a volatility equal to 9.36%. During this period, public investment absorbed, on average, around 11% of the total resources for financing development in the country, with an associated volatility of 1%. In relation to GDP, public investment shows a relatively flat trend, representing on average 4.4% of GDP with a volatility of 0.34%.

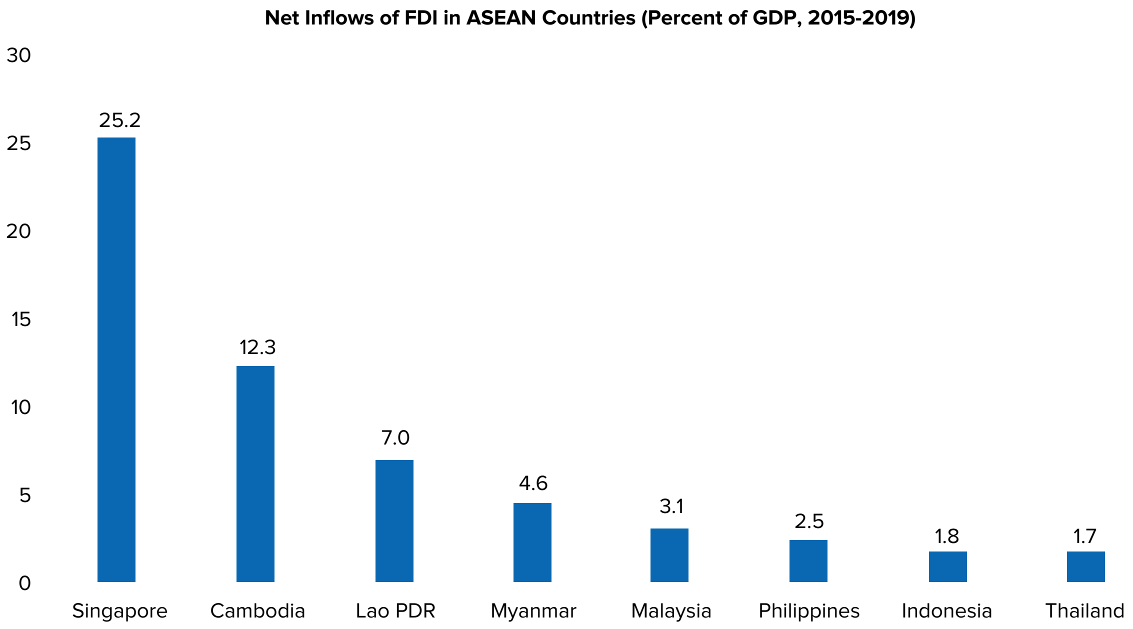
Figure 4.37: Thailand's Public Investment as % of GDP (2013-2020)



Source: Bank of Thailand

Finally, it should be noted that Thailand had the lowest ratio of foreign direct investment to GDP in the ASEAN region in the period 2015-19, recording the value of 1.7% of GDP, when Singapore recorded 25.2%. While Thailand also takes more role as an investor investing overseas, the low level of inward FDI compared to peer countries is a concerning trend that should be discussed and addressed in the context of an INFF.

Figure 4.38: of FDI in ASEAN Countries as % of GDP (average) (2015-2019)



Source: ASEAN

4.4. New financing opportunities and instruments for SDG investments in Thailand

The analyses from the previous sections suggest that Thailand's financing needs for the thematic development priorities and individual SDGs are high, and new financing opportunities need to be leveraged to help finance the key investment gaps, which could increase due to both international and domestic risk factors. Building on Thailand's progress in several areas, this section highlights some promising financing opportunities and instruments that could be further capitalized on in the context of an INFF.

4.4.1. SDG Investor Map

To set the stage for accelerating the flow of private sector capital into the country, the Securities and Exchange Commission of Thailand (SEC) together with UNDP, with the support from Centre for Impact Investing and Practices (CIIP) as a collaborative partner, developed the Thailand SDG Investor Map as a primary tool in illustrating investment opportunity areas (IOAs) to global investors to show them investment opportunities in sustainable development (UNDP, 2022c). The recent SDG Investor Map Thailand 2022 has identified 15 IOAs from 9 priority subsectors. Government agencies and private sector can use the Map as a market intelligence tool that seeks to direct capital where SDG priorities, Government policy and market opportunity meet.

Table 4.5: Key Investment Opportunity Area in Thailand

Subsector	Investment Opportunity Areas
Food & Beverages	• Smart farming and precision agriculture • Value chain development for sustainable/organic products • Sustainable packaging from agricultural byproducts and wastes • Alternative proteins as food for the future
Renewable & Alternative Energy	• Decentralized electricity generation from solar PV • Community biomass and bio-gas power plant
Health Care Providers	• Telemedicine to enhance medical access in remote areas
Land Transportation	• Smart mobility platform for passengers and freight logistics
Financial for Corporate & Retail Banking	• Microcredit for business purpose
Insurance	• Microinsurance for enhanced financial security of low-income groups
Waste Management	• Waste management systems and platform • Waste management infrastructure
Hospitality & Recreation	• Medical and wellness tourism • Eco & community-based tourism
Education Technology	• Decentralized online learning platform for STEM and digital skills and financial literacy

Source: SDG Investor Map Thailand 2022

4.4.2. Insurance and Risk Finance

The overall insurance market in Thailand had been experiencing modest growth in the past five years. The life insurance sector which comprises 70% of the market based on gross premium collections has been slightly contracting since 2019.While the GDP contracted by 6.2% in 2020, Thai non-life insurance business grew by 3.5% in 2020. Both life and non- life insurance markets showed low insurance penetration and density in Thailand. In 2020, insurance penetration for life and non-life insurance markets were 3.4% and 1.9% respectively. The average individual insurance contribution was USD 244 for life insurance and USD 139 for non-life insurance. Compared to the Asia-Pacific region, insurance penetration rates and density in Thailand are slightly lower than those of the Asia-Pacific region for both life and non-life businesses[52]

Given the currently low insurance penetration in the country, Thailand's insurance industry therefore still had much room to grow. Three key areas of opportunities in insurance and risk finance exist, that are also particularly relevant the thematic development priorities and SDG progress in Thailand: microinsurance, crop insurance and disaster risk financing, through insurance and other risk transfer mechanisms.

Microinsurance is defined as "insurance that is accessed by the low-income population, provided by a variety of different entities, but operates in accordance with generally accepted insurance practices." Thailand's micro insurance remains underdeveloped. There are five main types of microinsurance products available in the Thai market, namely; motorcyclist accident, personal accident, student accident, residential fire, and crop insurance. Crop insurance covers rice and maize farmers and is the only type of microinsurance products that the government has subsidized the premiums for since 2011. In 2020, the crop insurance premium was 3,062 million baht while accident insurance and fire insurance combined was only 507 million baht. The insurers in Thailand still hesitate to enter the microinsurance market. The

52 UNDP Insurance Diagnostic Study

insurance companies are weighing up the potentially large untapped insurance market of the poor and vulnerable groups versus the viability of this business. Low margin and relatively high operating costs of microinsurance products make the microinsurance market less attractive. Without crop insurance, the microinsurance market have shown small growth rate since 2012 and accounted for only an annual 0.2% of the overall market premium. The proportion of microinsurance has been quite stable since 2012, and can be further supported to expand through supportive policy, regulations and incentives.

Crop insurance grew rapidly over 2012-2020. With strong support and pro-active engagement from various stakeholders such as the Fiscal Policy Office, the Department of Agriculture and Agricultural Extension, the Bank of Agriculture and Agricultural Cooperatives, and the Thai General Insurance Association, the crop insurance expanded tremendously. Its direct premium grew from 26 million baht in 2012 to 3,062 million baht in 2020. Therefore, the crop insurance premiums alone pushed total premium of microinsurance products from 507 million baht to 3,570 million baht in 2020. However, given the vulnerability of Thai agricultural sectors to climate-related hazards, access to risk finance through crop insurance products, including as in a non-microinsurance setting, needs to be upscaled to cover more crops in more geographical areas.

For disaster risk financing, opportunities to integrate risk transfer instruments such as insurance into ex-ante financing require further exploration in Thailand. Currently, a comprehensive national disaster risk financing strategy is not in place to support the different phases of disaster risk management. Funding mechanisms currently in place allow for immediate response and longer-term rehabilitation and recovery. Financing for ex-ante preparations heavily relies on local and central government budgets and has not been institutionalized. A contingency fund that provides government agencies and local government with advances for immediate disaster relief and emergency assistance has been set up and comprises between 2 – 3.5 percent of the total annual budget. The use of the fund to respond to climate-related disasters has been decreasing since 2003 as government agencies tend to resort to accessing the central budget. Going forward, Thailand could explore key opportunities to jointly utilize preventive measures and ex-ante financing, include through new insurance projects such as public asset insurance, to enhance capacity of disaster risk management.

4.4.3. Climate Adaptation Finance

Thailand's current climate policy priorities include both climate change adaptation and mitigation. Climate change adaptation involves taking appropriate action to prevent or minimize anticipated damages from climate change or taking advantage of its opportunities. Examples include defenses against sea-level rise, or adoption of drought and flood-resilient crop varieties to respond to climate variability and shocks. Climate change mitigation means reducing the emission of greenhouse gases (GHG) into the atmosphere to slow down future climate change. Mitigation is achieved either by reducing the sources of GHGs, such as by increasing the share of renewable energies, or enhancing the storage of GHGs by increasing the size of forests.

While mitgation finance has received strong attention in the context of a transition to net-zero, Thailand's climate vulnerbaility profile calls for increased attention on adaptation finance for upscaling climate-resilient investments. According to the global climate risk report 2021, Thailand is ranked nineth in terms of the most adversely affected country in the world from climate change, even though Thailand has contributed only 0.8% of annual worldwide GHG emissions (Eckstein, Kunzel, & Schafer, 2021). Swiss Re Institute estimates that climate change may lower Thailand's GDP by 33-36% by 2048 (Guo, Kubli, & Saner, 2021).

The fact that Thailand will be severely affected in the long term from these climate-related hazards even with minimal contribution to climate change means that the country should focus its investment on climate change adaptation. Climate adaptation often comes with significant costs but expected benefits are also sizeable. The average benefit-to-cost ratio of adaptation investments in terms of avoided loss across various sectors was in the range of four to five times. The investments for adaptation should respond not only to today's climate but also the forecasted climate in 2030 and beyond.

The Thai carbon annual emission was 354.3 tons in 2016. The percent contributions of carbon emission among economic sectors were energy sector (71.65%), agriculture (14.72%), industrial processes and product use (8.90%), and waste (4.73%). The averegae annual emission increased on average 2.31% per year from 2000 to 2016.[53]

To moblize climate finance in an integrated and effective manner, the Thai government may apply the Climate Change Financing Framework (CCFF) as an approach for integrating climate change into its standard techniques of planning and budgeting. This framework allows governments to monitor the adaptation benefits of budget spending and prioritize budget resources. A climate change budget classification should also be linked with the budget allocation system to track and assess the budget expenditures.

In addition, the coalition of finance ministers for climate action and the IMF suggest that a country should set up a National Adaptation Plans (NAPs). The NAP process has four key steps: 1/ identifying climate vulnerabilities; 2/ developing adaptation solutions to address extreme weather events; 3/ incorporating adaptation solutions into government policies and operations; 4/ monitoring and evaluating of investment projects. The table below illustrate the adaptation policy matrix that a government might consider using to guide climate finance mobilization for different climate change adaptation themes

Table 4.6: Adaptation policy matrix based on disaster risk management frameworks developed by the Global Facility for Disaster Reduction and Recovery, World Bank, and others

Reduce and Prevent	Prepare and Respond	Restore and Recover
Agriculture research	Early warning systems	Insurance and risk finance instruments
Climate-proofing building and infrastructure	Contingency planning	Social safety nets
Land-use planning	First responders	Recovery services, including health and education
Permanent relocation	Temporary evacuation	

Source: Coalition of Finance Ministers for Climate Action

While public finance has played a predominant role in adaptation finance to date, the scale of adaptation challenges calls for more mobilization of resources from the private sector. Globally, worldwide private spending on adaptation was about 1 billion USD in 2020 (Climate Policy Initiative, October 2021), which is only a fraction of total private investment. This clearly suggests the need to boost private sector investments in adaptation projects.

53 Carbon credit from reforestation presented by TGO at the Parliament on September 30, 2022.

4.4.4. Carbon Pricing

Thailand aimed to reduce its greenhouse gas (GHG) emission by 20% to 25% compared to the projected business-as-usual (BAU) level by 2030, and is in the process of raising the targeted reduction to 40% against the BAU (with international assistance). The country now targets for carbon neutrality in 2050 and net zero GHG emission in 2065. These targets were established in its Nationally Determined Contributions (NDCs) under the Paris Agreement of the United Nations Framework Convention on Climate Change (UNFCCC). To achieve these targets, Thai government developed an NDC Roadmap (Thailand's Nationally Determined Contribution Roadmap on Mitigation 2021-2030).

Carbon pricing instruments could play a more actve role for Thailand to finance the transition to net-zero and the achivement of all climate-related SDGs going forward. Based on the "polluter pays principle", one way for Thailand to achieve a reduction in carbon emission is to collect the "Carbon Tax." According to the World Bank, there were 36 countries in 2022 that implement such carbon tax. Most countries tax only Co2 emission, while exclude other GHGs. The tax rate ranges from 1 dollar to 137 dollars per ton of Co2 equivalence. In terms of carbon taxpayers, there are two types: 1/ upstream payers such as fossil fuel producers, fossil fuel distributor, fossil fuel importer; and 2/ downstream payers such as fossil fuel users. Currently, Thailand has no direct carbon tax. Indirectly, however, Thai government charges excise taxes on car registration based on the amount of Co2 emission. The collected income goes to government general revenue as it is not earmarked for environmental issues.

Thailand still has no direct carbon tax as it has long been under government consideration. Two recent developments, however, give more support for the introduction of carbon tax: 1) the introduction of Carbon Border Adjustment Mechanism (CBAM) by the EU; and 2) changed policies of Multinational Corporations (MNCs) on their suppliers concerning carbon emission.

1) CBAM (Carbon Border Adjustment Mechanism)

To prevent carbon leakage, the EU introduced the Carbon Border Adjustment Mechanism (CBAM) as a mechanism that seeks to address this leakage by imposing a carbon price on imports of certain carbon-intensive goods from outside the EU. The EU decides to initially impose CBAM on five produce groups: iron and steel, aluminum, cement, electricity, fertilizer. Exporters to the EU of these produces need to submit their emission numbers starting in 2023. The actual collection will take place from 2025 onward. Exporters are required to pay or buy CBAM certificate whose price is linked to the EU Emission Trading System (EU ETS). If exporters do not have certificates, then they must pay fines. The EU plan to extend CBAM further into refinery products, organic chemicals, hydrogen, ammonia, and plastic polymers in the future.

The above affected five product groups amounts to 4.3% of total Thai export value to the EU or about 0.35% of total Thai export value. The export values of 2021 were 129 million USD for iron and steel, 67 million USD for aluminum. The export values of cement, electricity, and fertilizer were all less than 1 million USD. For products that might be under CBAM in the future, the export values were 202 million USD for chemicals, and 554 million USD for plastic polymers. (Pitchayuth Rerksuppasomphol, 2022)

If embedded emissions relating to a product have already been subject to a carbon price in a third country, through a tax or emissions trading system, an Authorized Declarant may claim a discount on liability to surrender CBAM Certificates. Therefore, if Thailand does not impose carbon tax on its own, this tax will be collected by the EU instead. It is true that the initial impact will be rather small, but other countries like the US or Japan may follow the EU's lead and the EU itself may expand product coverage under CBAM. Therefore, Thai export may potentially be severely affected, and the tax will be collected by those importing countries instead of Thailand.

2) Changed policies of Multinational Corporations (MNCs) on their suppliers concerning carbon emission

Since MNCs do business in lots of developed countries that impose strict carbon emission rules, they also impose high standards of carbon emission on their global supply chains as a result. If Thai suppliers could not meet MNCs' demanding standards, they will not receive future orders. In the case of domestic subsidiaries of MNCs, they face the risk of relocation as the MNCs would move production base to other countries that meet carbon emission standard.

Many firms in Thailand operate as OEM (Original Equipment Manufacturer) in the global supply chains of these MNCs. As a result, they and their downstream suppliers would need to lower their carbon emission. Carbon tax would help accelerate the process of adjustment.

A complementary approach to the carbon tax policy and to provide a means for firms to cost effectively reduce or offset their emission is the "carbon credit" and its marketplace called "carbon market." There are two kinds of carbon market: compliance market and voluntary market. Since Thailand has not collected carbon tax yet, there is no mandatory market. However, Thailand has a rather active voluntary market. The voluntary market trades the Thai carbon credits named Thailand Voluntary Emission Reduction Program (T-VER), which was initiated by Thailand Greenhouse Gas Management Organization (TGO) in 2013. Carbon credits obtained are mainly used for CSR (Corporate Social Responsibility) purposes and voluntary carbon offsets of firms in Thailand.

In addition, if Thai government were to allow carbon credit to offset tax from carbon emission, then it would create a mandatory carbon credit market, where firms or projects with lowest cost of carbon reduction could sell their carbon credits. Firms that could not economically meet the MNCs' standard may choose to offset its carbon emission through carbon credit instead. Firms that can lower emission cheaply will be rewarded from selling carbon credits.

Recently, Thailand pioneered a new Govertment-to-Government (G2G) mechanism to earn oversea income from offering carbon credits. Thailand and Switzerland have signed the world's first country-to-country cooperation pact on offsetting carbon emissions. The pact is under Article 6 of the Paris Agreement, which allows countries to voluntarily cooperate to achieve emission reduction targets. The pact will allow Switzerland to offset its carbon emissions via climate projects in Thailand. In return, Thailand will receive Swiss knowledge and expertise to drive its quest for carbon neutrality and net-zero GHG emissions. Thailand was expected to transfer carbon credits from clean energy and electric-vehicle support projects (The Nation June 25, 2022).

Thailand also recently launched the "Thailand Carbon Neutral Network" (TCNN) in 2022 with the aim to incentivize businesses to lower carbon emission through investment in green technology such as renewable energy and waste management, and to support tree planting and forest conservation. TCNN was developed by the TGO and the Federation of Thai Industries (FTI). The platform would facilitate trading of T-VER (Thailand Voluntary Emission Reduction Program) and REC (Renewable Energy Certificate). In September 2020, Thailand also launced its first carbon credit exchange, called FTIX. Operated by the Federation of Thai Industries, the platform will allow firms and government agencies to buy and sell carbon credits and track their emissions on an online dashboard. The platform will start by allowing only domestic trading with the government's T-VER program, but is expected to include international trading in the future.[54]

Even before the creation of FTIX, the trading volume of T-VER grew quickly from around 30,000 tons of carbon equivalent in 2017 to around 270,000 tons in 2021. Unfortunately, the average price per ton of T-VER remained relatively stable from around 30 baht per ton from 2017 to 2021. However, the price rose sharply to around 120 baht per ton at the end of the third quarter 2022.[55]

While the ecosystem for carbon credit trading in Thailand is improving, some key bottleneck remains for a wider participation of stakeholders. A key issue that needs to be addressed is that of high verification costs, which stood at approximately 400,000 bahts per 1000 rais (1 rai = 1,600 square meters) per one verification, while the price of 1 ton of carbon sole remains relatively low at 200 bahts. One rai of trees produces around 2-4 tons of carbon credit or about 400-800 bahts per rai. For example, TGO (Thailand Greenhouse Gas Management Organization) estimates that a reforestration project would have a total verification cost around 1.19 million baht over a period of ten years or about 125 bath per ton of carbon sequestered.[56]
Lowering verfication costs will be a key for an expanstion of carbon credit projects in Thailand.

Another bottleneck is from the demand side as there are no mandatory market. Corporate buyers purchase carban credit mainaly for CSR reason. This is not scalable. Thailand migh consider a carbon tax or a carbon cap and trade system to raise revenues and also create the mandatory market.

4.4.5. Sustainable Finance

According to the International Capital Market Association (ICMA), "Sustainable Finance incorporates climate, green and social finance while also adding wider considerations concerning the longer-term economic sustainability of the organizations that are being funded, as well as the role and stability of the overall financial system in which they operate."[57] Various fianciang instruments, including bonds and loans, are currently used to finance sustainable investments that are aligned with SDGs globally.

54 https://www.bloomberg.com/news/articles/2022-09-21/thailand-launches-first-carbon-credit-exchange-to-curb-emissions?leadSource=uverify%20wall

55 Carbon credit from reforestration presented by TGO at the Parliament on September 30, 2022.

56 Carbon credit from reforestration presented by TGO at the Parliament on September 30, 2022.

57 ICMA. 2020. Green, Social and Sustainability Bonds: A High-Level Mapping to the Sustainable Development Goals. https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/June-2020/Mapping-SDGs-to-Green-Social-and-Sustainability-Bonds-2020-June-2020-090620.pdf

Box: 4.1 Examples of sustainable finance products.

Green bonds and loans: fund projects that have positive environmental outcomes. Several categories of eligible green projects include climate change mitigation, climate change adaptation, natural resource conservation, biodiversity conservation, and pollution prevention and control.

Social bonds: raise funds for new and existing projects with positive social outcomes, such as enhancing access to and affordability of basic infrastructure and services (such as housing), employment generation, food security, and social advancement (gender, women, health, education etc.). Pandemic bond is also a type of social bond that funds projects with COVID-19 related issues.

Sustainability bonds: finance or refinance a combination of green and social projects.

Green, social and sustainability bonds are generally referred to as GSS bonds. In Thailand, they are referred to as ESG bonds.

SDG bonds: SDG bonds are GSS bonds whose use of proceeds further aligns with and contributes to the SDGs. There is currently no official SDG bond label. In practice, SDG bonds build on the GSS principles discussed, but they go one step further to map the use of proceeds to selected SDGs and report the use of proceeds, and in some cases investment impact, accordingly.

Sustainability-linked bonds and loans (SLBs and SLLs)**:** SLBs and SLLs raise general purpose finance and involve penalties/rewards (e.g., coupon or rate step-ups/ step-downs, early repayment obligations, etc.) linked to not meeting/meeting pre-defined, time bound Sustainability Performance Targets (SPTs) and associated Key Performance Indicators (KPIs), typically at the entity level.

Transition bonds: Transition debt includes instruments financing activities that are not low or zero emission (i.e., not green), but have a short- or long-term role to play in decarbonising an activity or supporting an issuer in its transition to Paris Agreement alignment. (The above described SLBs and SLLs can lend themselves well to this purpose when calibrated appropriately). In addition, the market has seen the emergence of transition use-of-proceeds (UoP) bonds. At present, transition bonds predominantly originate from highly polluting, hard and expensive-to-abate industries.

Unlabelled climate-aligned bonds: Bonds that finance climate-aligned activities but are not labelled by the issuer. Identifying these bonds highlights opportunities to scale up the labelled green bond market; for example, as climate-aligned debt rolls off, it could be refinanced with a green label.

Sources: Climate Bonds Initiative[58]

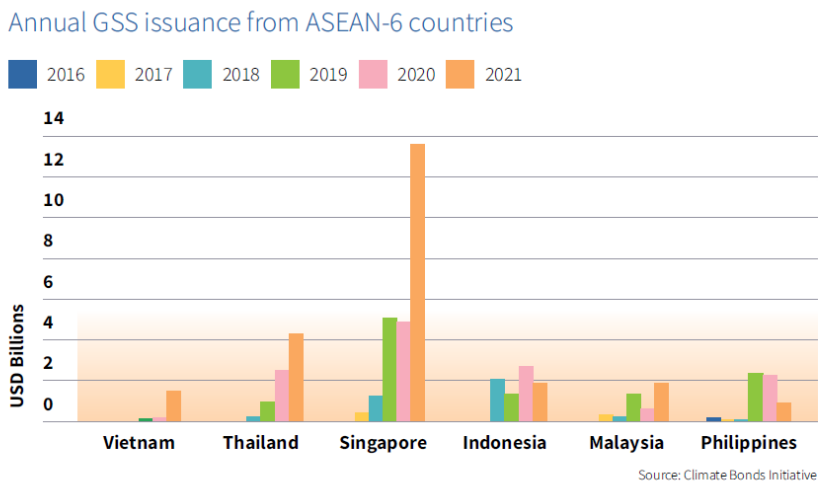
Sustainable finance is growing rapidly in Thailand. According to the Thai Bond Market Association (Thai BMA), in November 2021 the outstanding size of green bonds in Thailand was 75.1 billion baht, whereas the sizes of social bonds, sustainability bonds, and sustainability-linked bonds were 9.8 billion baht,

58 See Manuamorn, O., Nguyet, P.M., Tukiainen, K. *ASEAN Sustainable Finance State of the Market 2021*, Climate Bonds Initiative, 2022. And https://www.theacmf.org/images/downloads/pdf/ASEAN%20SDG%20Bond%20Toolkit.pdf

155.1 billion baht, and 15 billion baht, respectively.[59] There were also social bonds with 220 million USD outstanding, and sustainability bonds with 100 million USD outstanding.

From a regional perspective, Thailand is currently the second largest issuer of sustainable (GSS) debts in ASEAN after Singapore. While Thailand was the fourth largest issuer of green debts (bonds and loans) in ASEAN (both in 2021 and cumulatively between 2016-2021), the country is the regional leader in the social and sustainability bond markets, due largely to its 2020 sovereign sustainability bond issuance that was reopened seven times in 2021. The proceeds of the sovereign sustainability bond finances green transport and social impact projects to assist with COVID-19 recovery. There were only two social bonds (USD130m) issued in ASEAN in 2021, both originating from Thailand. In March, the National Housing Authority priced a USD100m social bond, with proceeds financing projects to benefit 13,569 households or 54,000 people.21 In November, Thaifoods Group launched its first social bond totalling THB1bn (USD30.5m) with a maturity of 5 years. Proceeds will finance and refinance projects and assets associated with job creation and economic advancement in local communities. This is the first social bond issued by a non-financial firm under the ASEAN social bond standards. In addition, Thailand is the ASEAN leader in climate-aligned issuance, according for 96% of total volumes and nine climate-aligned entities.[60]

Figure 4.39: Annual Green, Social and Sustainability (GSS) Issuance from ASEAN-6 countries



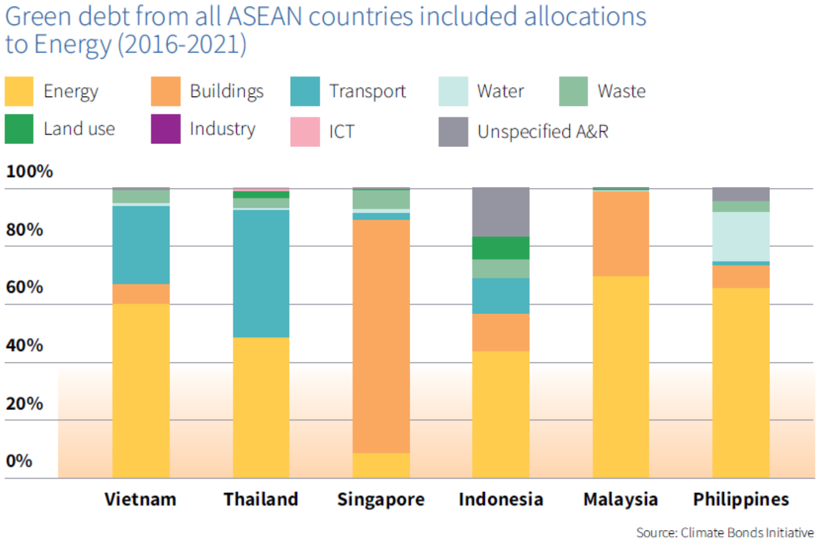
Source: ASEAN Sustainable Finance: State of the Market 2021 (Climate Bond Initiative, 2022)

While buildings dominate green use of proceeds in ASEAN, Thailand's green bond issuances currently concentrate in transport and renewable energy. Buildings, water, waste, land use and ICT constitute a very small share of use of proceeds of Thai green debts (bonds and loans), suggesting that more green projects from these sectors can tap into opportunities from this instrument of green finance. In addition, no green bonds have been issued in Thailand to targeting climate change adaptation & resilience investment so far. Given the fact that Thailand chronically has the flooding problem annually, the country might take advantage of the large green bond market and consider issuing green bonds to finance its flood prevention projects at a lower cost. Such green bonds can be labelled as resilience bonds, a label which is gaining more visibility globally.

59 See www.thaibma.or.th/EN/Bondinfo/ESG.aspx

60 Manuamorn, O., Nguyet, P.M., Tukiainen, K. *ASEAN Sustainable Finance State of the Market 2021*, Climate Bonds Initiative, 2022.

Figure 4.40: Green debt from all ASEAN countries included allocations to Energy (2016-2021)



Source: ASEAN Sustainable Finance: State of the Market 2021 (Climate Bonds Initiative, 2022)

Apart from the bonds market, Thailand has also witnessed growth in green loans. Many banks are also providing green loans and other tools for green projects, i.e., renewable energy and energy efficiency. Since 2015, 11 banks have participated in the Energy Efficiency Revolving Fund (EERF), including Bangkok Bank, Bank of Ayudhya, CIMB Thai, TMB Bank, Siam City Bank, Siam Commercial Bank, Kasikorn Bank, Exim Thai Bank, SME Bank, and UOB.[61]

From the policy and regulations perspectives, Thailand is also well-positioned to mobilize more sustainable finance to address the thematic development priorities and individual SDG needs. The Thai government has developed national and regional policies for facilitating further growth in sustainable finance. Other agencies also incorporate sustainable finance as a key strategic agenda.

For example, the Securities Exchange Commission (SEC) Strategic Plan of 2021-2023 maintains a goal to build a robust support for sustainable development. The SEC Thailand issued regulations in May 2021 to govern the issuance and sale of SLBs. The SLB regulations are based on internationally recognized standards and incorporate references to conventional debt security regulations. In September 2020, SEC Thailand amended its regulations by consolidating an annual registration statement (Form 56-1) and an annual report (Form 56-2) into the "Form 56-1 One Report." This 56-1 One Report will improve the quality of ESG disclosure by requiring the listed firms to disclose more on how their businesses have been operating under the ESG principles such as disclosure of policies, goals, and ESG-oriented performance on greenhouse gas emission, and respect for human rights. The Form 56-1 One Report came into force for the accounting period ending 31 December 2021. The report provides ESG (Environment, Social, Governance) information of the company, including its ESG performance. It consists of the following items: 1/ Corporate policy on sustainability; 2/ Stakeholder engagement along the value chain; 3/ Sustainability management with respect to the environment (including corporate environmental policy); and 4/ Sustainability management with respect to societies (including corporate social policy).

61 https://unece.org/fileadmin/DAM/energy/se/pp/eneff/5th_Forum_Tunisia_Nov.14/4_November/Prasert_Sinsukprasert.pdf

Even before the mandatory disclosure of this one report, the Stock Exchange of Thailand (SET) ranked seventh in the world in term of ESG disclosure of issuers in 2018 (Miller & Grabski, 2018). This better disclosure standard already allows investors to better evaluate firms with responsible social and environmental policies and their performance on these metrics. In fact, Thai Bond Market Association (ThaiBMA) finds that ESG bonds (such as green bonds, social bonds, sustainability bonds, sustainability-linked bonds, etc) appear to have lower yield than non-ESG bonds (www.thaibma.or.th/EN/BondInfo/ESG.aspx). This suggests that there exists a "greenium" (green premium) in the market, though the magnitude is quite modest.

Also in 2021, key government agencies including Fiscal Policy Office (FPO), Bank of Thailand (BoT), Securities and Exchange Commission (SEC), Stock Exchange of Thailand (SET) and Office of Insurance Commission (OIC), have collaboratively launched the Sustainable Finance Initiatives for Thailand. The Initiatives recommend 5 Key Strategic Initiatives (KSIs) as follows[62]:

1) ***Developing a Practical Taxonomy:*** Serving as common definition and classification system of economic activities deemed as environmentally-sustainable, a taxonomy aligns the regulators' sustainable finance policies in a congruent manner, and encourages innovative financial products and services, attracting funding towards the achievement of Thailand's sustainability goals.

2) ***Improving the Data Environment***: ESG disclosure which has quality in accordance with international disclosure standards is crucial for making and monitoring financial decisions, as well as devising financial products and policies to serve the business needs. A rich ESG data environment enhances investment analysis, effective ESG risk measurement, and heightens transparency for monitoring business conduct.

3) ***Implementing Effective Incentives***: Effective incentives could encourage both fundraisers and investors to seize better risk-adjusted return from investment, thereby creating the market and stimulating further investment in sustainable financial products.

4) ***Creating Demand-led Products and Services:*** This involves creating an environment where the real underlying demand for sustainable financial products and services is generated and encouraged to continuously grow, with a minimised level of regulatory roadblocks for new products and services.

5) ***Building Human Capital***: Equipping workforce in the financial sector with the necessary sustainable finance-related skills, competences, and values accelerate sustainability transformation of the financial sector by turning work plans into concrete actions with tangible results.

As the first initiative under Thailand's Sustainable Finance Initiatives, the first green taxonomy for Thailand, covering energy and transport sectors, is still under development as of Septermber 2022. The taxonomy would serve as a basis to further promote climate and green finance and prevent "green washing". In terms of policies, two non-exclusive approaches can be considered for the application of the green taxonomy. The first approach is a voluntary use by the private sector through reporting and labelling of sustainable or green projects. With the green or sustainable label, these projects could potentially raise fund at a lower cost and access to more funding.The second approach is government supported incentives for

62 https://www.bot.or.th/English/AboutBOT/Activities/Pages/JointPress_18082021.aspx

sustainable or green projects. The incentives in the form of investment promotion incentives, green loans incentives, subsidies for green bond certification, etc. can be provided for the taxonomy-aligned projects.

Apart from implementing the Thai taxonomy, the sustainable finance system in Thailand will also benefit from further improvement of disclosure standards in line with international practices. A key area from improvement is carbon disclosure in the financial sector. For this, the Thai financial sector should aim to adopt Global GHG accounting and reporting standards for the financial industry at a wide scale. The Partnership for Carbon Accounting Financials (PCAF) standard is a relevant example. The Partnership for Carbon Accounting Financials (PCAF) is an industry-led initiative. Created in 2015 by Dutch financial institutions, PCAF extended to North America in 2018, and scaled up globally in 2019. PCAF helps financial institutions assess and disclose the greenhouse gas (GHG) emissions from their loans and investments through GHG accounting (PCAF, 2020). GHG accounting enables financial institutions to disclose these emissions at a fixed point in time and in line with financial accounting periods. Measuring financed emissions allows financial institutions to make transparent climate disclosures on their GHG emissions exposure, identify climate-related transition risks and opportunities, and set the baseline emissions for target setting in alignment with the Paris Agreement (PCAF, 2020).

4.4.6. Digital Finance

Thailand has made advancements in developing its digital finance infrastructure. Currently, the country has two major domestic digital payment systems, namely, PromptPay, launched in 2017 (with 55.1 million users currently), and Pao Tang introduced in 2020 as a public e-wallet mobile app. For international payments, the Bank of Thailand (BoT) launched in 2021 the world's first cross-border link of real-time payment systems between Thailand's PromptPay and Singapore's Paynow, allowing international fund transfers within minutes using just a mobile number. The BoT is also developing its retail baht central bank digital currency (CBDC), using blockchain technology. As for digital identity infrastructure, the National Digital ID company system[63] allows people to open a bank account in new bank from an existing account information from another bank. Thailand also has the National Root Certification Authority of Thailand (NRCA Thailand) that provides certification service, directory service and online certificate status protocol. One of the recent developments in term of tax collection is the enactment of VAT regime on electronic services (VES). VES became effective since 1st of September 2021. Thailand has imposed a value-added tax (VAT) charge of 7% on non-resident digital service providers. VES is expected to bring in 5 billion baht from foreign e-service providers (Bangkok Post, 2021). Another important development is Digital Factoring based on central web service technology. The project is under development by the BoT. It aims to solve the problem from double factoring of the same invoice.

Thailand's digital finance infrastructure could be leveraged to expand access to other financing products crucial to advance SDG progress in Thailand. For example, **digital technology is promising in transforming the microinsurance market.** The advent of digital technology could change the landscape of microinsurance in Thailand. It can help reduce the operating costs of insurers and increase access of the poor and vulnerable groups to insurance services through the insurer's platform. Many of the stakeholders point out that mobile-based platform is the most promising deliverable channel for insurance industry. Thailand is a global leader in mobile banking usage and recent government support and relief measures are implemented through mobile applications. Many organizations share their success

63 See www.ndidi.co.th. The system is under the supervision of the Electronic Transactions Development Agency (ETDA), Ministry of Digital Economy and Society (MDES),

stories in training their clients to adopt their mobile applications. Currently, these applications provide many services such as premium payment, insurance policy information checking and hospital finder. However, some groups of the poor and the vulnerable groups still do not have access to reliable internet connection, do not have proper mobile phones and have low level of digital literacy. More investments should be mobilized to address these gaps.

4.4.7. Biodiversity Finance

The Thai Government holds the largest role in providing financing and improving the sustainable management of biodiversity in the country. In particular, three key government agencies, the Department for National Parks, Wildlife and Plant Conservation (DNP), The Royal Forest Department (RFD), and The Department for Marine and Coastal Resources (DMCR) account for over 80 percent of public biodiversity spending. These agencies will continue to be instrumental to conservation, managing land-use in protected areas and maintaining a healthy marine ecosystem. However, involving other sectors in mobilizing funds, increasing private investment, employing blended financing and other resources through different forms of public-private partnerships is necessary. Such initiatives require interaction with a broad range of actors with different interests, approaches and modes of delivery. The private sector, producers and consumers alike, should be encouraged to take responsibility and invest to maintain Thailand's unique biodiversity and conserve its ecosystems.

Supported by the UNDP, the Biodiversity Finance Plan for Thailand outlines a set of actions which would help to significantly improve the management and financing of biodiversity conservation in Thailand. The Plan calls for an integrated national approach which builds on the economic and business imperative for scaling up action on biodiversity protection in order to meet national biodiversity goals. The prioritized biodiversity finance solutions in the Plan are complementary and promote a combination of systemic and local sustainable financing, policy changes, and other incentive mechanisms within four thematic areas of intervention: Sustainable Tourism Finance Solution, Wildlife and Protected Areas Finance Solution, Government Budget Finance Solution and Private Sector Finance Solution. These solutions should be integrated in an INFF for Thailand.

Recently, the Ministry of Natural Resources and Environment has a policy to use carbon sequestration in forest ecosystems as natural carbon sinks to fight climate change. The ministry pointed to strong interest among big corporations to join schemes to regrow terrestrial forests to gain carbon credits. The amount of carbon dioxide absorption will be counted as carbon credits that these firms can use as carbon offsets as they reduce their average carbon footprints or trade in carbon market. The ninety percent of carbon credits created will belong to planters, whereas the rest goes to the Royal Forest Department. In fact, there are even many more applications to join the Marine and Coastal Resources Department's program to plant mangrove forests as they generate five times more of carbon absorption compared to land forests.

5.

GOVERNANCE, MONITORING AND REPORTING MECHANISMS FOR SDG FINANCING IN THAILAND: CURRENT STATUS AND KEY CHALLENGES

5. Governance, Monitoring and Reporting Mechanisms for SDG Financing in Thailand: Current Status and Key Challenges

This chapter captures Thailand's institutional arrangements for SDG implementation and financing, mechanisms for civil society and private sector engagement, and operational details on the architecture.

5.1. Architecture and Governance

Thailand has made considerable progress in establishing mechanisms to mainstream the SDGs in government planning documents and at regional level where is has championed the SDGs in ASEAN and through the SEP for SDGs engagement.

5.1.1. National mechanisms

The highest national body responsible for formulating sustainable development policies and overseeing their implementation including the SDGs is the National Committee for Sustainable Development (NCSD). It was established in 2015 with ministerial notification as suggested by cabinet. The Committee is headed by the Prime Minister and has 36 members from the public entities, private academia and civil society[64]. Civil society is represented through seven positions. The Secretary-General of National Economic and Social Development Council (NESDC) is the secretariat for the NCSD. The Committee established four sub-committees[65] that are prominent in actioning the SDGs in Thailand.

- **Sub-Committee on Implementing the SDGs**, which established the following Working Groups:
  - Working Group 1. SDGs Integration and Prioritization
  - Working Group 2. SDG Reporting
  - Working Group 3. Economic, Social, and Legal Measures to Promote SDG Implementation
- **Sub-Committee on Promoting Sustainable Development according to the Sufficiency Economy Philosophy**
- **Sub-Committee on Monitoring and Evaluation of the Progress towards Sustainable Development**
- **Sub-Committee on Strategic Environmental Assessment**

On 17 January 2022, the NCSD dissolved the Sub-Committee on Implementing the SDGs and the Sub-Committee on Monitoring and Evaluation of the Progress towards Sustainable Development. It established two other sub-committees, namely the Sub-Committee on Implementing the SDGs by Private Sector and the Sub-Committee on Implementing the SDGs by Youth. It also established a new working group—the Working Group on Implementing the 2030 Sustainable Development Agenda in Thailand under the United Nation's Framework. Its objectives are to (1) coordinate all related government agencies and private organizations to drive SDGs and to (2) prepare a Voluntary National Review (VNR) report. For each

64 Regulation of the Office of the Prime Minister (15 Jan 2021)

65 http://nscr.nesdb.go.th/wp-content/uploads/2020/03/2020-03-03-บ-แต่งตั้งคณะทำงาน-SDGs-สศช.-ปรับ.pdf

of the SDGs, a coordinating mechanism was created and the SDG-specific Roadmap was formulated.[66] To achieve the SDGs the Royal Thai Government's approach is to apply the principles of the Sufficiency Economy Philosophy (SEP), an approached developed under the leadership of HM King Bhumibol Adulyadej and was adopted by government in 1997.[67] SEP is also a guiding principle in the 2017 Constitution[68] of the Kingdom of Thailand. In 2016, the national cabinet mandated all government agencies apply SEP to achieve the SDGs.[69] The qualities of SEP are moderation, reasonableness and self-immunity based on knowledge and virtue.

The Ministry of Foreign Affairs to drive partnerships for the SDGs and in its role as lead ministry on SDG 17 (Partnerships) and formulating the Voluntary National Review established an Open-Ended Working Group for SDGs (OEWG). It comprises members from the public sector and representatives of civil society. Meetings are held ad-hoc to engage and encourage dialogue by stakeholders and experts on partnerships for further the SDGs.
At subnational level the Ministry of the Interior plays a key role in localizing the SDGs. Additionally, national cabinet set up three committees in 2018 to target local level sustainable development.

In 2017–2018 the cabinet also established three national committees:

- A committee for the implementation of government policies, especially the national reform agenda and implementation of SDGs at a local level.[70] This committee is chaired by Mr. Kobsak Pootrakool, Minister attached to the Prime Minister's Office.
- A committee on building the capacity of local communities, chaired by Mr. Suwaphan Tanyuvardhana, Minister of the Prime Minister's Office
- A committee on the Sustainable Thai Niyom Project, chaired by the Minister of Interior, on grassroots economic development. This was formed in February 2018[71]

Government documentation

- 13th National Economic and Social Development Plan – NESDC- (2027– 2023)
- National Strategy 2037-2018
- Thailand 4.0
- Thailand SDG Roadmap

Thailand's development agenda is articulated in the National Economic and Social Development Plan (NESDP) with ten key development strategies. The National Strategy places the five-year NESDP in a longer term 20-year frame. Thailand 4.0 specifically addresses science, technology, R&D and innovation. It presents a future economic model that incorporates key objectives of the Strategy and NESDP.

66 https://www.coa.gov.ph/sdg/index.php/projects/12th-asosai-research-project

67 "The Eighth National Economic and Social Development Plan (1997-2001) adopted His Majesty's "sufficiency economy" in order to adjust the concept of national development, and that was an important turning point in the country's development planning." https://www.nesdc.go.th/nesdb_en/download/article/article_20160323113011.pdf

68 Section 75, Section 237. Constitution of the Kingdom of Thailand

69 25 October 2016. As referenced in VNR 2017.

70 http://www.oic.go.th/FILEWEB/CABINFOCENTER3/DRAWER057/GENERAL/DATA0001/00001952.PDF

71 http://203.159.154.241/innogoth/wp-content/uploads/2016/07/คำสั่งนายก.

Role of legislature or parliament

The National Legislative Assembly of Thailand has established a sub-committee on monitoring the implementation of the SDGs with a mandate to promote the role of the NLA in supporting the SDGs implementation.[72] The Sub-committee has 11 members. Additionally, a memorandum of understanding was signed in August, 2020 between the Secretariat of the House of Representatives and the UNDP to support parliamentarians and parliamentary staff play a greater role in implementing the SDGs.[73]

National-level organizational arrangements

The RTG has approached the SDGs with an inter-agency coordination structure. Each SDG has been allocated a lead Ministry which then in turns establishes a committee and or working group. For example, the Ministry for National Resources and the Environment (MONRE) created the Committee to Mobilize SDGs chaired by the Permanent Secretary for MONRE with Working Groups that each address a specific SDG. The SDG Working Groups are for SDG 6, SDG 12, SDG 13, SDG 14 and SDG 15.

The recently established Working Group on Sustainable Finance (WG-SF) is another inter-agency coordination structure that will play an increasingly important role on the SDG agenda, particularly the financing aspect. Chaired by the Fiscal Policy Office (FPO) of the Ministry of Finance, the WG-SF comprises the Bank of Thailand (BOT), the Securities and Exchange Commission (SEC), the Stock Exchange of Thailand (SET), and the Office of Insurance Commission (OIC). The WG-SF is established to cooperate on the sustainable finance agenda and to support the Thai economy in achieving the Sustainable Development Goals (SDGs) and carbon emission reduction targets. It also implements the Sustainable Finance Initiatives for Thailand, which envisions a commercially viable and sustainable Thai financial sector by 2025. [74]

Subnational-level organizational changes

Although there has not been an official nomination from the Provincial Governors in establishing an SDG specific working group, subnational sustainable development mechanisms are a feature of the Department of Local Administration of the Ministry of the Interior. The national cabinet established three mechanisms that address aspects of subnational SDG implementation that are chaired by the Ministry of the Interior and the Prime Minister's Office (refer to Section 5.1.1). Local level initiatives are built on established principles created by the whole of government approach through the Sufficiency Economy Philosophy. In 2015, the Government together with the private sector and the civil society established the Public Private Steering Committee or the "Pracharath Mechanism" in each district with the purpose of reducing inequalities, alleviating human capacity and strengthening the country's ability to compete. An example has been the establishment of the Pracharath Rak Samakee Social Enterprise in each province, to build the community's economy and sustainability through the SEP.

72 https://www.senate.go.th/view/139/ข้อมูลคณะอนุกรรมาธิการ/TH-TH/?page=2&perpage=10&cid=1831&ctype=1&scid=2033

73 https://www.th.undp.org/content/thailand/en/home/presscenter/pressreleases/2020/The-Thai-Parliament-and-the-UNDP-to-Promote-the-SDGs-Together.html

74 https://www.sec.or.th/TH/Documents/KnowledgeBase/SustainableFinanceInitiativesforThailand.pdf

Stakeholder engagement

In addition to the NCSD and its implementation framework a number of mechanisms put in place to engage domestic stakeholders for the purpose of SDG implementation. A taskforce to prepare the Thailand's Voluntary National Review of progress on SDG implementation was constituted in 2016. The Taskforce is chaired by the Ministry of Foreign Affairs. The VNR is viewed by Thailand as an opportunity to 'engage and create ownership rather than as a reporting exercise'.[75] (This is further elaborated on in section 2.1). The UN Global Compact Thailand has been a prominent grouping lead by large and medium sized Thai corporations to engage on SDG related matters. SDG Move although a program mobilized through the NCSD, has been the leading thinktank engaging in capacity development and research on SDGs in Thailand.

Regional engagement

Thailand has shown to be a prominent advocate globally and regionally for the SDGs through the sufficiency economy philosophy approach. Regionally, Thailand has been the ASEAN Coordinator on Sustainable Development Cooperation since 2017. In 2019, Thailand held the chair of ASEAN, the Bangkok Declaration created a framework to increase awareness, advance partnership and promote education for the 2030 Agenda for Sustainable Development.[76] That year the ASEAN Centre for Sustainable Development Studies and Dialogue (ACSDSD)[77] was established in Thailand and the Complementarities Roadmap (2020-2025) between ASEAN Vision 2025 and the Agenda 2030 was finalized.[78] Thailand's International Cooperation Agency (TICA) SEP for SDGs program is engaged in 21 countries. This assistance has been predominantly bilateral agreements and, in a few instances, trilateral agreements with countries such as German, Luxembourg and Japan.[79]

Advocacy and information sharing

The RTG has done well to development the mechanism to formulate its Voluntary National Review (VNR) into a regular communication channel of the government's commitment to SDG implementation. In 2017, Thailand submitted its first VNR to the United Nations High-Level Political Forum on Sustainable Development (HLPF). Since this submission Thailand has formulated a VNR in 2018 and 2019 although these reviews were not submitted to the HLPF. The reviews have bridged an important gap in information between VNR submissions. This shows that Thailand has made the VNR a process to engage on sustainable development rather than just a report. In 2021, the NESDC also lauched the "Thailand's SDGs Report 2016-2020" which promised detailed information about the country's SDG progress tracking. In Thailand, the locally generated Sufficiency Economy Philosophy (SEP) underpins the national approach to SDG implementation. Within this framework the Sufficiency Schools program was present in 23, 796 of the nation's schools. Of this 205 are specific SEP Centres in Thai schools.

75 VNR 2017

76 https://www.asean2019.go.th/en/news/bangkok-declaration-on-advancing-partnership-in-education-for-2030-agenda-for-sustainable-development-in-asean/

77 https://asean2019.go.th/en/news/chairmans-press-statement-on-the-launch-of-the-asean-centre-for-sustainable-development-studies-and-dialogue-acsdsd/

78 https://asean.org/storage/2020/06/FINAL-Co-chairs-Summary-4th-HLBD.pdf

79 https://tica-thaigov.mfa.go.th/en/index

5.2. Data and Monitoring

Overall, Thailand's national statistical system is well placed to respond to national and international data requirements for the SDGs.

5.2.1. Monitoring agency and mechanisms

The designated agency for SDG monitoring and its linkage to the overall SDG coordination mechanism. The Sub-committee on Developing Information Systems to Support the SDGs is responsible for establishing guidelines to develop data, information and statistics relating to the SDGs. Within the national architecture for sustainable development as outlined in Section 1.1 this is one of three sub-committees under the National Committee on Sustainable Development (NCSD).

The Thailand National Statistical Office (NSO) is the secretariat for this sub-committee which is chaired by an NESDC Board Member. The members of the sub-committee constitute government research and data agencies; non-profit agencies; ministries and government agencies and the secretariat.[80]

Members of the NCSD Sub-committee on Developing Information Systems to Support the SDGs

Government Research and Data Agencies	Thailand Research Fund (TRF) National Research Council of Thailand (NRCT) Geo-Informatics and Space Technology Development Agency (GISTDA) National Statistical Office (NSO)
Non-profit organisations	Good Governance for Social Development and Environment Institute (GSEI) Experts
Ministries/Govt Agencies	Representatives from 15 Ministries NESDC Bank of Thailand (BOT) Office of the Public Sector Development Commission (OPDC) Department of Local Administration (DOLA) Office of Justice Affairs (OJA) Thailand Justice Institute (TJI)
Secretariat	National Statistical Office (NSO) NESDC

The NSO is an office under the Ministry of Digital Economy and Society that has a mandate to set up and coordinate, with other agencies a statistical network that builds and maintains a high quality and timely statistical database for the country.

Thailand's Statistical is decentralized with clear functions and relations among the relevant agencies. The NSO is the central state agency to prepare statistical standards as the central state agency for technical work for statistics and coordinates various government agencies that collect data by registration systems, surveys, census and other measures.

80 https://www.slideshare.net/UNDPasiapacific/agenda-2030-sustainable-development-goals-thailands-perspectives-79473922

The NCSD assigned focal ministries to each of 17 SDGs.

Goal	Assigned respondent
Goal 1.	Ministry of Interior/Ministry of Social Development and Human Security
Goal 2.	Ministry of Agriculture and Cooperatives
Goal 3.	Ministry of Public Health
Goal 4.	Ministry of Education
Goal 5.	Ministry of Social Development and Human Security
Goal 6.	Ministry of Natural Resources and Environment/ Ministry of Agriculture and Cooperatives/ Ministry of Interior
Goal 7.	Ministry of Energy/Ministry of Interior
Goal 8.	Office of the National Economic and Social Development Council/ Ministry of Finance/ Ministry of Labour
Goal 9.	Ministry of Transport/ Ministry of Industry
Goal 10.	Ministry of Social Development and Human Security/ Office of the National Economic and Social Development Council
Goal 11.	Ministry of Interior/Ministry of Social Development and Human Security
Goal 12.	Ministry of Natural Resources and Environment
Goal 13.	Ministry of Natural Resources and Environment
Goal 14.	Ministry of Natural Resources and Environment
Goal 15.	Ministry of Natural Resources and Environment
Goal 16.	Ministry of Justice/Ministry of Interior/ Ministry of Social Development and Human Security
Goal 17.	Ministry of Foreign Affairs/ Ministry of Finance/ Ministry of Commerce

5.2.2. SDG indicators list

To date no set of national tailored SDG indicators have been made available. The Thai NSO was reported, 2019,[81] to be developing a set of indicators for sustainable development in consultation with stakeholders.

5.2.3. Baseline data

Initial Assessment[82]

Status of Data	No. of Indicators
Ready	120
Partially available for indicators	42
Replaced by proxy indicators	18
Not relevant to national context	6
No meta-data provided from IAEG-SDGs and relevant agencies have not proposed proxy indicator	55
Total	241

81 VNR. 2019. https://sep4sdgs.mfa.go.th/static/pdf-flipbook-master/index.html?file=https://image.mfa.go.th/mfa/0/wmuEa8nR2N/VNRs/VNR2019_ENG_v_4.pdf

82 https://www.oecd.org/migration/forum-migration-statistics/2.B-4-Buracharoen.pdf

5.2.4. Data gaps

In 2017 the National Statistics Office of Thailand identified the challenges for national SDG implementation included: strengthen statistical cooperation; improvement of response to greater data needs; enhancement of dissemination, communication, and use of Official Statistics; and expanding statistical cooperation. Strategies to overcome these identified challenges were formulated into the 2nd Thailand Statistical Master Plan.

Due to the decentralised system in Thailand the implementation of the Sustainable Development Goals in Thailand found that there were many challenges such as creating and collecting indicators from the relevant agencies and the lack of personnel with statistical experiences in the relevant agencies, clarity of the definition, methodology of indicators, data availability, data classification including coordination between the relevant agencies.[83]

5.2.5. Dissemination of public information

The Thailand National Statistical Office has created an SDGs webpage that details the internationally agreed indicators to each of the 17 goals translated into Thai.[84]

5.3. Key challenges in governance, monitoring and reporting of SDG financing

Four key challenges currently inhibit effective governance, monitoring and reporting of SDG financing in Thailand. First, there is no clear articulation of an integrated financing strategy in national development strategy, nor are there tagging and tracking mechanisms granular enough to ensure alignment between public and private investment and the SDGs. Specifically, national planning frameworks do not include integrated framework for estimating public and private sectors financing needs to achieve sustainable development and the national priorities in a systematic and cyclical way. There are no investment tagging mechanisms to ensure alignment between public expenditure and national development priorities, nor are there clear estimates of private investments that will be needed to realize the Thai national development vision and strategic plans. This means that national authorities also do not have their own cost estimates for national development plan and there is no link *ex ante* between financing needs for national sustainable development priorities and public budgeting process and other sources of development financing. As a result, no estimates are used within policy cycles as a whole to inform the setting of targets, or are used in the monitoring routine over time as circumstances change. The National Committee for Sustainable Development (NCSD) serves as an overarching governance body when it comes to advancing the SDGs in Thailand, but its **lack of a working group or sub-working group on financing** is key a gap in the current system.

83 ASEAN SDG Indicator Baseline Report

84 http://osthailand.nic.go.th/หน้าแรก/118-sdgs/280-เป้าหมายการพัฒนาที่ยั่งยืน-sustainable-development-goals-sdgs.html

Second, existing national approaches do not adequately consider the impact of risks or alternative scenarios on the scale of financing needs for public and private sectors, depending on policy choices, exogenous shocks, systemic risks such as climate change or other factors. As a result, a systematic and consistent risk management framework, tools, and measures in government financing policies for sustainable development still need to be development.

Third, while the SDG investor map, supported by the SEC and UNDP, was launched in July 2022, Thailand still lacks a system to develop at scale pipelines of SDG-aligned and readily bankable projects, contributing to the delay in accelerating SDG investment through both public and private resources. To mobilize more sustainability-themed finance, there is also a need to develop SDG-aligned project pipelines to cover a broader range of sectors beyond traditional green finance sectors such as transport and energy.

Finally, Thailand still needs to enhance assessment metrics and indicators to monitor and evaluate the impact of investments that target sustainable development outcomes. This currently hinder the country's ability to attract more investment that targets sustainability. For example, Thailand still lacks comprehensive carbon inventory by investment sectors. More multidimensional indicators should also be integrated in investment impact analysis to better understand, monitor and report the use of different financing resources for sustainable development outcomes, including the SDGs.

6.

RECOMMENDATIONS FOR THE INFF STRATEGY

6. Recommendations for the INFF Strategy

This chapter offers a set of recommendations that could be operationalized through the INFF strategy and roadmap for Thailand. The recommendations are organized into three main groups: 1) overall financing strategy recommendations; 2) recommendations specific to the financing of thematic priorities; and 3) recommendations to improve governance, monitoring and monitoring mechanisms for an INFF. The financing recommendations are further grouped into those related to public and private financing strategies, respectively though many have a cross cutting nature.

6.1. Overall financing strategy recommendations

Summary of challenges: Almost 90% of the Thai government's revenue comes from taxes**,** which are collected at a relatively low tax-to-GDP ratio (17.2%) compared to other Asian and Pacific economies. Total government revenues have not yet recovered to the pre-Covid level. Non-tax revenues were still small and continued to fall. Current public allocations are also not fully aligned with SDG needs and are not channeled to off-track SDGs in a timely manner. Therefore, Thailand needs to improve public revenue collection, while enhancing the alignment of public spending with SDG-aligned investment needs. As for investment, Thailand's total private investment to GDP ratio presents a clear negative trend since 2013. Downward trend in private investment will have negative effects on the levels of growth and progress towards sustainable development in the future. Thailand needs strategies to mobilize financing from new and diverse private sources and boost investors' appetite to engage in endeavors that contribute to Thailand's development outcomes. Lastly, international public finance has played a very limited role in recent years. While Thailand is an upper-middle income country that uses this stream of finance on a selective basis, there is a need to a strategy to use this resource more strategically to catalyze other forms of resources as part of an INFF.

6.1.1. Increase public revenues

- Public revenues can be further increased by **strengthening the alignment of the tax policies and instruments with the achievement of SDGs**, including in the following areas:
    - o **Addressing inequalities** though tax options to enhance the progressivity in current taxes on income and VAT, introduce new forms of taxation, and improve distributional impact of tax policies
    - o **Addressing environment and health issues** through targeted tax and incentive instruments (e.g., carbon tax and incentives for carbon trading and instruments and reforestration, excise taxes on alcohol, cigarettes, sugar, carbonated drinks, salty food etc.)
    - o **Optimize tax incentives (concessions and exemptions)** to individuals and corporates to align with SDGs:
        - » **Support the transformation of individuals and lower the cost of SDG investment** in corporates through tax incentives. The objectives of tax incentives can include:
            - To promote healthy behavior, gender equality, green and sustainable environment
            - To support carbon credit verification and sales, carbon credit trading and transition investment as well as raise awareness on carbon tax and facilitate the estimation of carbon emission and footprint for all sectors

- To promote an adoption of electric vehicles, renewable energy, energy efficiency and forestation
- To provide tax incentive for SDG fund, which invests in equity of companies with fundamentally aligned with SDGs

» Eliminate or streamline inefficient tax incentives.

» Publish tax expenditures as part of the Budget FY23 to encourage debate amongst the Parliamentarians, civil society, development partners and the public regarding how future concessions and exemptions could be tagged and realigned with the SDGs budget tagging framework (for example, tax incentives for electric vehicles).

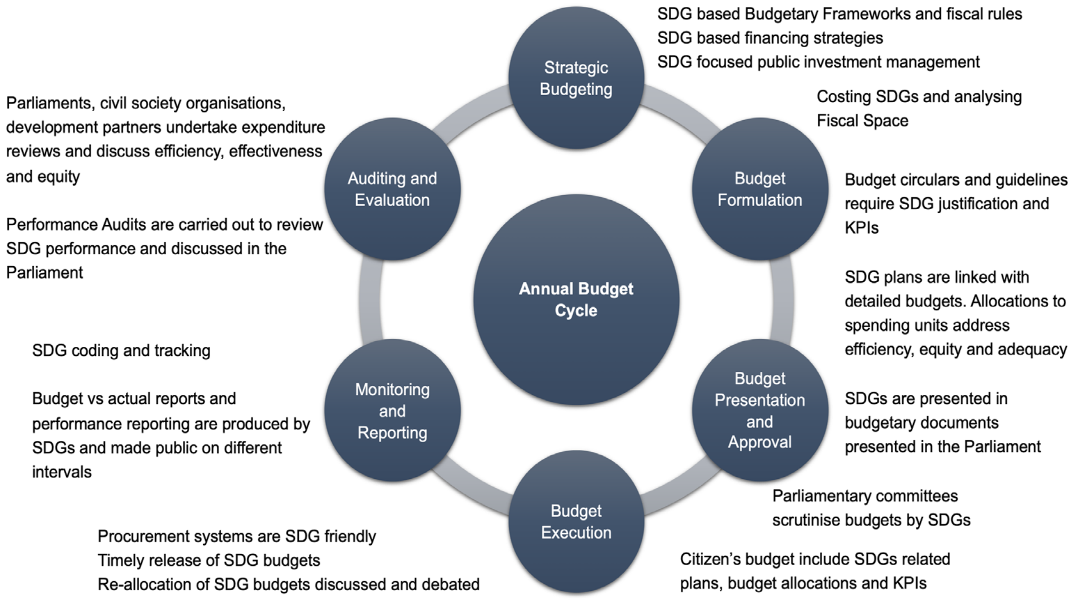
- **Improve tax administration to improve tax revenue collection**
  - o Boost the introduction of smart procedures to increase efficiency and effectiveness in tax collection and to reduce tax evasion or tax fraud with further modernization of the tax administration to increase space for SDG. The ongoing mission from Tax Inspectors Without Borders (TIWB) will highlight improvements for this purpose.
  - o Provide capacity building on tax data management to help increase efficiency and effectiveness in tax collection
  - o Enhanced use of digital technology for payments (e.g., e-wallet), and attach tracking capacity for tax purposes
  - o Enhance capacity for local tax administration using digital technology.

- **Increase public revenues through non-tax revenues, exploring opportunities from state-owned enterprises, licenses and concessions.**
  - o Strengthen the current management efficiency in state-owned companies to increase the dividend revenues for the central or local governments.
  - o Improve current revenues, royalties and other rights from licenses and concessions issued by the State to increase future non-tax revenues.
  - o Revise regulations related to restriction of state enterprise business to expand revenue opportunities.

6.1.2. Improve public development investment, including reprioritizing budget allocation for SDGs using the SDG budgeting framework

- **Reprioritize budget for tackling SDGs** which are currently off-track and are under-budgeted, for example, SDGs 15 ,14 ,13 related to climate and environmental challenges
- **Use SDG budget framework** in each step of budget cycle:

Figure 6.1: Budget for the SDGs (B4SDGs) Framework



Source: UNDP

- **Implementing SDG coding and tracking should be one of the top priorities**
  - o Start with climate-related budget tagging as a pilot to gather experience and lessons learned before expanding to comprehensive SDG budget tagging to ensure that more public resources are geared towards achieving the SDGs
  - o SDG-aligned Taxonomy (including Thailand's upcoming green taxonomy) will help ensure the alignment between public and private investment and the SDGs—it will serve as a key basis for the whole investment project cycle (from project pipeline formulation to impact measurement and management)
  - o Climate budget tagging could also be linked to a selected strategic objective which can be clearly identified and is currently prioritized by policies e.g., the promotion of EVs, and the budget tagging can be started for EV-related investments

- **Develop an optimal government project financing strategy by using mixed debt and traditional budgeting to fund projects which support SDGs achievement**.

6.1.3. Enhance financing flows to SDG investments at subnational levels

- **Strengthen fiscal framework to further improve transfers** from central to subnational authorities
- **Increase the capacity of subnational authorities** in revenue generation and diversification, supported by enhanced data capabilities at the local level.
- **Explore potential** opportunities for formulating SDG-aligned and innovative subnational projects (including infrastructure projects) and instruments to channel funding to finance them, ranging from ecological fiscal transfers to municipal bonds.
- **Explore potential initiatives on innovation in municipal project and infrastructure finance** such as municipal bonds which are structured as sustainability-themed bonds, including as green and social bonds. These bonds can finance projects that contribute to both social and environmental

SDGs such as renewable energy, smart infrastructure, clean transportation, affordable housing, quality education, quality health care etc.

- **Provide capacity building support preparation of SDG-related investments at the local level**, leveraging bottom-up ideas, initiatives, and consultations.

  Example: An EEC Fund enables local communities to access resources for project preparation. Investors in EEC are required to make contribution to this fund, proportionate to the value of their investment in EEC.

6.1.4. Aligning private sector's interest to SDG progress

- **Promote private investment in SDG projects**
  - **The SDG Investor Map can be a starting point** for development of SDG-aligned and viable project pipelines
    - This can be complemented by **the establishment of a project preparation facility and an SDG investment management system**
    - **Strengthen SDG investment management system** (complementarity between development and infrastructure plans, project screening and appraisal etc.)
- **Enhance alignment between private investment and development agenda,** primarily through
  - Adopting SDG-aligned taxonomy to ensure clarity, transparency, and impact of private investment on sustainable development—incentivizing investors to better finance the SDGs
  - Using the sustainability reporting to monitor the flows and the prospect of private investment in the SDGs
  - More usage of instruments such as Public-Private-Partnership and blended finance to match public and private funding and manage project risks
- **Increase FDI for sustainable development by mainstreaming SDGs and sustainability principles across FDI promotion,** and promoting the synergies between foreign and domestic private finance in advancing SDG outcomes
  - Mainstream SDGs and sustainability principles across FDI promotion and bilateral investment treaties, building on the emerging findings and approach of the SDG investor map process

   - o Promote the synergies between foreign and domestic private finance in advancing SDG outcomes

     Example: Enhance requirements for technology transfer, local employment (including for women), local content requirements, enhanced environmental requirements, promotion of strategic matching of foreign and domestic investors in businesses/projects aligned with SDGs.
- FDI promotion towards green and inclusive development can start with industries that Thailand has comparative advantage, linking to the country's **Bio-Circular-Green (BCG) economy model**
- **Improve ecosystem to support MSME financing for development**, such as for MSMEs' green and transition investment
- **Strengthen investment promotion capacity building**, strategy development, marketing materials, and lead investment generation activities, particularly at subnational levels

6.1.5. Enhance the role of insurance to mitigate and transfer financial risks across development sectors

- Facilitate the role of **insurers in investing in SDG projects**
- **Develop a combination of insurance products** to protect lives and livelihoods of vulnerable populations
- **Use crop insurance and microinsurance** to improve the well-being of farmers and the vulnerable
- Enhance insurance contribution to **disaster risk management and climate change adaptation**
- **Expand sovereign and public asset insurance** to cover, for example, critical assets with high impact on the livelihoods of vulnerable populations
- **Combining insurance with other financing instruments** to effectively manage risks.

6.1.6. Utilize new financing instruments to mobilize private capital towards SDGs

- Facilitate and incentivize the scaling up of issuance of green, social, and sustainability (GSS) bonds in Thailand
- Promote **green bond issuance** for green and climate-aligned investment opportunities for extend beyond traditional transport and energy sectors
- Promote issuance of **social and sustainability bonds**, including through the development of a "social taxonomy"
- Promote use of innovative thematic bonds which have not been widely used in Thailand to date
- Promote the issuance of **"impactful" SDG bonds,** which follow key principles in further strengthening the alignment of the use of proceeds from GSS bonds to individual SGDs by both public and private sector entities
- Scale up financing for adaptation and resilience, using **resilience bonds**, in combination with other sources of finance (e.g., ODA and risk finance)
- More strategic use of **blue bonds** to support SDG 14 (life below water)
- More strategic use of **transition bonds** to mobilize funding for hard-to-abate sectors

6.1.7. Use international public finance (ODA) strategically as a catalyzer of innovative projects

- Direct ODA towards investments such as low carbon technologies and decarbonization of the industry and transportation sector etc. that will crowd in other sources of finance

6.2. Recommendations on financing of thematic priorities.

Summary of Challenges: Thailand is at a crossroads and is facing various development issues, which can be summarized into 5 thematic priorities. Thai economy has yet been back to the pre-COVID-19 level and needs to develop new industries to overcome a middle-income trap. As an aged society, Thailand has to face rising healthcare expenditures due to larger portion of elderly population and high health inflation. Moreover, Thailand needs to tackle both social and environmental issues. It needs to improve the situation of inequality, gender inequality and inadequate social protection. At the same time, Thailand needs to mitigate climate change by reducing carbon emissions and adapting to the impacts of climate change that are already taking place. Finally, the fast-changing digital era prompts Thailand to undergo digital transformation to reap the benefits of digital technology. Thus, Thailand has to strengthen her digital ecosystem as a key infrastructure to deliver sustainable development outcomes

6.2.1. Promoting Equality, Gender Equality and Enhancing Social Protection

- Explore the potential of using negative income tax to provide safety net while expending the coverage of the formal system
- Distributional impacts of the tax on gender (between women and men/ girls and boys) as well as on paid and unpaid work (allocative effect) need to be carefully evaluated
- Mainstreaming Gender-Responsive Budgeting as part of the alignment of budget towards the SDGs (building on the GRB manual approved by the cabinet in 2021), given the asymmetric impact of crises (from COVID19- to climate) on women
- Enhance the coverage and the adequacy of social protection, particularly for informal workers, pregnant women, and children, and those not benefited from the system (e.g. migrants and sex workers)
- Repurpose the social security child benefit to help finance care infrastructure
- Introduce inclusive insurance to improve the resilience the poor and vulnerable populations, using government budget (e.g. premium subsidy)

- Promote more tailor-made insurance products for women
- Formulate and scale up social project pipelines to attract private finance, including investment opportunity areas related to health ,aging society, and eco and community-based tourism specified in the SDG Investor Map
- Promote private investment in care economy and gender equality, building on the start of women bond issuance in Thailand. Invest in care economy will help in job creation as well as promoting gender equality via reducing women's unpaid care burden and hence encouraging women's labor force participation.
- Minimizing regulatory bottlenecks in incubating and promoting financial access for MSMEs and start-ups

6.2.2. Tackling climate and environmental issues

- **Climate and environment**
  - o Adopt a holistic approach in financing for green and inclusive development, encompassing financing the green industries and the transition of the traditional industries
  - o Similarly, promoting transition and reducing fossil fuel subsidy can be complemented with investments to reduce fossil fuel dependence (e.g., investment in public transportation) and promote the usage of alternative energy (including promoting small players as suppliers of renewable energy)
  - o Promote transition finance by providing cheaper financing to help hard-to-abate sectors reduce the costs transition from brown to green economic activities
  - o Enhance investment in adaptation and resilience
  - o Consideration of increase in budget on environmental development especially mitigation measures to prevent flooding.
  - o Boost private sector investments in adaptation projects through investment promotions
  - o Address key challenges (e.g., leveraging Thailand's upcoming green taxonomy, regulatory bottlenecks, verification costs) to encourage more green investment, including from small players
    - » Further improve sustainability disclosure requirements
    - » Incorporate GHG accounting and reporting standard for the financial industry
    - » The government may consider increasing access to the Green Climate Fund (GCF), which focuses on reduction of greenhouse gas emissions and adapting to climate change. GCF's funding can also leverage additional private investments.
      - To increase focus on climate change, the government can consider undertaking the second round (first round was undertaken in 2014-15) of 'Climate Public Expenditure and Institutional Review' to understand the level and types of public expenditure, organizations responsible for climate change related activities, laws and regulations, and the efficiency and effectiveness in public spending.
      - Thailand should more closely follow the "polluter pay principle" and "extended producer responsibility" (EPR) At present, environmental expenses (such as wastewater treatment fee, waste disposal fee) are collected at local levels simply to cover minimum operating costs and sometime exempted. The fees can be increased to cover environmental external costs.
      - Currently, incomes collected from climate and environmental issues are going to the general government revenues. Thailand should consider earmarking these incomes to address climate and environmental issues.

- The government could also explore alternatives on tax policies to reduce pollution, such as congestion tax and landfill tax
- Finally, the government could incubate and promote financial access for MSMEs and start-ups to invest in green activities and/or linking them to green supply chains

- **Biodiversity finance**
  - o Introduce a set of biodiversity finance solutions with the aims to avoid future expenditures, deliver better, generate revenues, and realign expenditures, including:
    - » User charges as sustainable tourism finance solution—user charges have the potential to generate additional revenue for environmental protection. Koh Tao, as a nature-based tourism destination, is a good example case. It can introduce user charges collected from visitors to generate revenue for the purpose of protecting and restoring island's coral reefs. The ability to earmark revenues generated from user charges for local conservation activities is very important before this solution could be scaled up.
    - » Introduction of conservation vehicles license plates to support wildlife conservation—with more than 37 million registered cars and motorcycles, car owners can potentially contribute directly to wildlife conservation by purchasing special conservation license plate at premium prices. According to UNDP's Biodiversity Finance (BIOFIN) report, over 40 percent of surveyed respondents were willing to purchase a conservation license plate. This solution is expected to raise income up to 11 million USD per year.
    - » Enhancing effectiveness and biodiversity impact of local budgets—Local Administrative Organizations (LAOs) are required by the Ministry of Interior of Thailand to promote conservation of natural resources and the environment. However, most LAOs lack resources and expertise to align their budgets and aims for biodiversity conservation. Capacity building should be provided to strengthen the role of local governments and communities in developing common *frameworks* around budgeting for biodiversity conservation

- **Sustainable finance**
  - o Utilize more of thematic bond to finance climate and environmental actions and related SDGs[85]. There are six types of thematic bonds (ESCAP, 2021).
    - » The first type, **green bond**, helps funding projects related to energy efficiency, renewable energy, clean transportation, green buildings, and other similar projects. Green bonds also include climate bonds like projects in solar or wind technologies that reduce carbon emissions and projects that protect against flooding.
    - » The second type, **social bond**, finances projects related to affordable housing, financial inclusion, social inclusion, health and education, gender equality, and other similar projects.
    - » The third type, **sustainability bond**, raises funds for projects that have environmental and social impacts.
    - » The fourth type, **SDG-linked bond**, helps financing projects with goals aligned with SDGs.
    - » The fifth type, **blue bond**, finances ocean conservation.
    - » The newest sixth type, **pandemic bond**, funds projects with COVID-19 related issues.

      All of these bonds could be used to mobilize financing for investments that deliver climate and environmental outcomes, together with other development co-benefits.

85 Thematic bond issuance in the Asia and the Pacific has increased drastically from less than 5 billion USD in 2015 to about 70 billion USD in 2020. Among types of thematic bonds, green bond has had by far the largest proportion. Given the fact that Thailand chronically has the flooding problem annually, the country might take advantage of the large green bond market and consider issuing green bonds to finance its flood prevention projects at a lower cost.
In November 2021, the outstanding size of green bond in Thailand was 75.1 billion baht, whereas the sizes of social bond, sustainability bond, and sustainability-linked bond were 9.8 billion baht, 155.1 billion baht, and 15 billion baht, respectively (www.thaibma.or.th/EN/Bondinfo/ESG.aspx). There were also social bonds with 220 million USD outstanding and sustainability bonds with 100 million USD outstanding.

6.2.3. Job creation in the transition towards green and inclusive development

- Strengthen the collaboration between the public and the private sector in promoting just transition, including financing for training students and labor force to meet the requirements of green industries, using a combination of government budget, FDI, domestic private investment, and ODA
- Thailand has the potential to become a talent hub—facilitating talent incubation and enhancement for the country and the region. Such potential can be supported by:
    - o Strengthening tax and incentive policies to encourage investment in upskilling and reskilling labor force as well as MSMEs and startups, particularly in equipping them with new capacity for transitioning toward green economy
    - o Gearing social protection towards facilitating just transition, including allowing the worker's contribution in the social security fund to be portable to support those with varied employment histories
    - o Safeguarding the public budget for improving the quality of education system (reskilling and upskilling), including that for vocational training
- Promote environmental-friendly strategic industries and facilitate smooth transition of the traditional industries.
    - o The government should continue to promote environmental-friendly strategic industries like Bio-Circular-Green (BCG) industries and electric vehicle (EV) industry as Thailand moving toward her carbon neutrality goal in 2050.
    - o The government should work with foreign governments to facilitate the transition of the traditional automotive industry to the EV one or other industries throughout the supply chains for both Thai and foreign suppliers as well as their workers.
    - o Concurrently, the government should put forward an energy transition toward renewable and clean energies. Additional capacity of power generation should be based on clean energy, while existing power plants, which are based on fossil-fuels, should be phased out.

6.2.4. Strengthening the health sector

- Whole-of-government and whole-of-society approach is needed in enhancing investment on health sector, including but not limited to investment for health promotion advocacy, facilities for health promotion and healthcare, pollution reduction, and increasing the supply of healthcare experts in remoted areas
- Promote health literacy and use incentives to encourage healthy behaviors such as excise taxes on alcohol, cigarettes, sugar, and carbonated drinks
- Explore the potential of earmarking public revenue for health expenditure, including in disease prevention and health promotion
- Reprioritize public budget towards health promotion and prevention
    - o Currently, budgets in national health security systems of the countries are allocated mainly to curative benefits more than health promotion and preventions especially after COVID-19 pandemic hit the country. However, as healthy population would bring more economic efficiency and productivity, increasing more weight to health promotion and prevention activities would not only bring labors with productivity to the economy, but it also would uplift quality of life of the population.
- Promote the role of insurance in health promotion, e.g., using insurance to supplement the mandatory healthcare coverage, reducing premium for those with healthy behaviors

- Thailand has the potential to become a medical and wellness, which can be realized by promote private investment to increase the capacity of Thailand's healthcare system, including investment in sectors identified in the SDG Investor Map such as telemedicine, sustainable/organic products value chains, and food for the future
- Social taxonomy can be leveraged to further promote investment project pipelines in the health sector
- Promote private investment on the adopt and utilization of new technology to increase capacity of Thailand's healthcare system
  - Promote investment in the areas of telemedicine, AI-based diagnosis, process automation, robotics and IoTs
- Set scope of practical health protection to ensure financial sustainability
- Facilitate donation finance and provide tax incentives

6.2.5. Harnessing digital finance for sustainable development

- Digital finance is key for reducing the costs, particularly the costs on access, transaction, verification, and monitoring, and thus debottlenecking SDG financing
- Scaling up the adoption of digital finance to support SDG investment needs requires regulatory support, such as on allowing information-sharing among different agencies and permitting the adoption of new digital finance instruments for fund-raising
- To support MSMEs financial access, the transaction costs need to be reduced through improving the quality of MSMEs' information required by investors and enhancing the clarity of regulations (including clarification of tax burden and incentives on digital finance transactions)
- Enhancing MSMEs financing via platforms such as capital market, crowdfunding, or Peer-to-Peer digital lending—these platforms need to be complemented by technology that reduces the funding cost for MSMEs (ultimately leading to lower interest rate costs)

Example: In the second half of 2022, the Stock Exchange of Thailand (SET) launched the "LiVE" trading platform to raise funds and trade shares of startups and small enterprises. Both the exchange (SET) and the Thai Securities and Exchange Commission (SEC) will use the "light-touch approach" to impose only minimal requirements and allow only qualified investors to participate. At the end of the third quarter of 2022, there was, however, only one registered company.

- Use of digital technologies such as blockchain to facilitate lending based on factoring of customers' invoices to further facilitate financing for MSMEs.

  Example: The Bank of Thailand (BoT) is in the process of developing the digital platform for pledging and factoring of invoices that can avoid the problem of using the same invoice to secure funding twice.
- Explore the options of utilizing digital finance tools to fund green and inclusive projects, such as green mass transit and infrastructure projects

6.3. Governance, monitoring and reporting mechanism recommendations

Summary of challenges: There is no clear articulation of an integrated financing strategy in national development strategy. Nor are there investment tagging mechanisms to ensure alignment between public expenditure, private investment and national development priorities, Existing national approaches do not consider the impact of risks or alternative scenarios on the scale of financing needs for public and private sectors. In addition, Thailand still lacks a system to develop a robust SDG project pipeline and associated impact assessments.

6.3.1. Establish governance through an INFF committee within the National Committee for Sustainable Development (NCSD)

- **Establish an INFF committee within NCSD**
  - o The work of an INFF Committee will feed into and contribute to the work of the NCSD, given its role as an overarching governance body on advancing the SDGs in Thailand
  - o Link the INFF working group on finance to **the Sustainable Finance Working Group** (chaired by FPO and comprises the Bank of Thailand, the SEC, the Stock Exchange, and the Office of Insurance Commission)
- **The key roles of an INFF Committee include:**
  - o Convene governmental agencies, the private sector, civil society organizations, and other development actors to align policies for directing public and private finance to advance Thailand's sustainable development vision
  - o Review and monitor the alignment of public and private finance with Thailand's sustainable development vision
  - o The INFF committee can drive coordination to promote key actions for the algnment of public and private finance with Thailand's sustainable development vision
    - » Prioritization of off-track SDGs for policy and financing considerations
    - » Adoption of a more comprehensive SDG-monitoring and evaluation tools in government-related processes (e.g., planning and budgeting)

  - » *Development and application of SDG-aligend project screening mechanisms to public investments.* Such mechanisms would ensure that project-level infrastructure investment decisions contribute to long-term development, climate objectives, and SDGs. Projects screening and appraisal mechanisms may complement the national infrastructure planning process to ensure that such investment decisions align with national sustainable development plans.
  - » Strengthening the system of *evaluations of public investments against the SDG-aligend project screening mechanism.* This may lead to legal and regulatory, and institutional level reforms to understand the efficiency, effectiveness and impacts assessment of public investments for improved policies going forward.
  - » Drive the creation of an SDG project preparation facility, housed by an appropriate agency
    - Sandbox for pilot of technical assistance from SDG project preparation facility
    - Sandbox for pilot of cross-ministry SDG project
  - » Directing more resources from all financing sources to projects using the SDG-project screening mechanism.

    Example: promote new SDG-related incentives for BOI consideration to give to private sector.
- **Strengthen the transparency and accountability of the INFF committee** by involving the roles of:
  - o Parliamentary Budget Office (PBO), particularly in reviewing budget documents and alignment of budget with SDG priorities
  - o Supreme Audit Institution (SAI), particularly in supporting the integrity of the budget process as well as evaluating the budget performance from the SDG perspective
- **Promote citizen's right of access to public information**

6.3.2. Enhance and systematize the monitoring of cross-cutting SDGs (e.g., climate change, nutrition, gender, children, etc.) at the strategic level, between ministries and between tiers of the government.

Given the nature of SDGS and their complexity, it is impossible for an individual Ministry can achieve even a single SDG on its own. Therefore, there will need cross-ministerial collaboration.

- Strategic oversight
  - o Enhance tools to monitor SDG progress by adding more rigorous SDG integration to the eMENSCR System
    - » Using the same SDG budgeting tagging code
    - » Add more weight to off-track SDGs
- Horizontal coordination between ministries
  - o Enhance the use of "integrated budgeting" as a mechanism to enhance SDGs
  - o Develop shared KPIs between Ministries, informed by SDGs
  - o Use of cross-agency/department working groups to facilitate data gathering, sharing, and usage related to key areas of SDGs
- Adopt a systemic and holistic approach in coordination between tiers of government at national and subnational levels on the SDGs, given the complexity and the interlinkages between each of the SDGs
  - o Enhanced local participation in budget planning and allocation

- o Apply the same goal and strategic framework for both National and provincial levels to ensure consistent implementation plan at all levels of government
- o Promote SGD-aligned provincial development plans
- o Implement SDG budget tagging at the local level after the strategic oversight implementation.

6.3.3. Improve evaluation through multidimensional impact analysis on financing resources for sustainable development

- Incorporate multidimensional impact indicators and analyses, for example, using Multidimensional Vulnerability Index and Multidimensional Poverty Index (MPI), to complement country-level aggregation indexes in tracking the impact of the use of development financing resources on national development outcomes, including individual SDGs.
- Link the use of multidimensional impact indicators to SDG localization to better track SDG progress at the local level. For example, the MPI can be territorially disaggregated (e.g., at municipal or island level, or even rural vs. urban areas) focusing on capacities at the family/individual level. The MPI also allows for poverty measures to be adapted to specific contexts at various levels of governance or social organization, including local and regional structures.[86] Since 2019, OPHI and UNDP have partnered to establish MPIs in as a tool to inform the SDGs and policy orientations with regards to poverty eradication and related socioeconomic measures.[87] The next step is to link MPI with SDG localization initiatives.
- Improve the monitoring and evaluation frameworks for the use of sustainable finance instruments in Thailand
  - o Enhance guidance of SDG-related disclosures and impact report, based on international guidelines (e.g. ICMA, ASEAN SDG bond toolkit)
  - o Application of the SDG impact measurement and management framework

86 Maria Santos and Sabina Alkire. *training material for producing national human development reports: The Multidimensional Poverty Index (MPI)*, (Oxford: OPHI, 2011)

87 Alkire, S., Kanagaratnam, U., and Suppa, N. (2021). *The global Multidimensional Poverty Index (MPI)* 2021, OPHI MPI Methodological Note 51, Oxford Poverty and Human Development Initiative, University of Oxford. Available in https://www.ophi.org.uk/wp-content/uploads/OPHI_MPI_MN_51_2021_3.pdf

References

1. ADB (2021) – *Accelerating Sustainable Development After COVID-19: The Role of SDG Bonds*. Manila: ADB.

2. Banchongduang, S. (2020). BoT issuing THOR bonds next year. Bangkok Post, p. B1.

3. Banchongduang, S. (2021a, 20 August). BoT details blueprint for digital currency. Bangkok Post, p. B1.

4. Banchongduang, S. (2021b, 10 August). Savings rates soar amid pandemics. Bangkok Post, p. B1.

5. BoT (2015). Thai Financial System Structure. Retrieved from www.bot.or.th/English/FinancialInstitutions/FIStructure/Pages/default.aspx

6. Chandoevwit, W. (2014, 4 June 2014). Ageing society demands urgent pension reform. *Bangkok Post*. Retrieved from https://www.bangkokpost.com/opinion/opinion/413465/ageing-society-demands-urgent-pension-reform

7. Chantanusornsiri, W., Arunmas, P., & Theparat, C. (2021, 21 September). Govt to raise debt ceiling. Bangkok Post. Retrieved from https://www.bangkokpost.com/thailand/general/2184923/govt-to-raise-debt-ceiling

8. ESCAP. (2021). Financing the SDGs to build back better from the COVID-19 Pandemic in Asia and the Pacific. ESCAP Financing for Development, Series No.4.

9. Gurkan, A., Kaiser, K., & Voorbraak, D. (2009). *Implementing Public Expenditure Tracking Surveys for Results: Lessons from a Decade of Global Experience*. Retrieved from https://openknowledge.worldbank.org/handle/10986/11104

10. Ishtiaq, N. (2021). *Budgeting for SDGs*. Financial Services Hub, UNDP. Bangkok.

11. Kasikorn_Research. (2021). Counting down to maximum deposit protection of THB 1 million… Thai financial system remains strong despite ongoing COVID-19 outbreak. Retrieved from https://kasikornresearch.com/en/analysis/k-econ/financial/Pages/Deposit-y3944.aspx

12. Languepin, O., & Prakash, A. (2021, 2 May 2021). Singapore's PayNow and Thailand's PromptPay Launch Cross-border Payment System. Retrieved from https://www.thailand-business-news.com/banking/83703-singapores-paynow-and-thailands-promptpay-launch-cross-border-payment-system.html

13. Narkthong, K. (2018, 15 February 2018). Review: K PLUS Wallet. Manager. Retrieved from https://mgronline.com/columnist/detail/9610000015968

14. NESDC. (2021). *Thailand's SDGs Report 2016-2020*. Retrieved from https://sdgs.nesdc.go.th/รายงานความก้าวหน้า-sdgs-ของ/

15. OECD (2020a) – *The Impact of the Coronavirus (COVID-19) Crisis on Development Finance*. Paris: OECD.

16. OECD (2020b) – *Six Decades of ODA: Insights and Outlook in the COVID-19 Crisis—Development Co-Operation Profiles*. Paris: OECD

17. PwC. (2021). PwC CBDC global index. Retrieved from https://www.pwc.com/gx/en/industries/financial-services/assets/pwc-cbdc-global-index-1st-edition-april-2021.pdf

18. Rapyd. (2020). Asia Pacific eCommerce and Payment Guide. Retrieved from https://www.rapyd.net/resource/asia-pacific-ecommerce-and-payments-guide/

19. Reuters. (2021, 18 June). Thailand, Malaysia banks launch cross-border QR payment linkage. Retrieved from https://www.reuters.com/technology/thailand-malaysia-cbanks-launch-cross-border-qr-payment-linkage-2021-06-18/

20. Santiprabhob, V.

21. SET. (2017). LIVE. In. Bangkok: Stock Exchange of Thailand (SET).

22. Stock_Exchange_of_Thailand, & Securities_and_Exchange_Commission. (2021). SET joins hands with SEC to promote SMEs & start-ups, paving the way for potential listing [Press release]. Retrieved from https://www2.set.or.th/set/newsdetails.do?newsId=16315749184170&sequence=2021101571&language=en&country=US

23. Suriyankietkaew, S.; Nimsai, S. (2021) – *COVID-19 Impacts and Sustainability Strategies for Regional Recovery in Southeast Asia: Challenges and Opportunities*. Sustainability 2021, 13, 8907.

24. Taweelappontong, V. (2021, 25 May). Thailand a CBDC trend-setter. Bangkok Post, p. B2.

25. TMB_Analytics. (2017). New Types of Collateral Ease Financial Constraints on Small Business. Bangkok Post, p. B2.

26. UN (2020) – United Nations Socio-Economic Impact Assessment of COVID-19 in Thailand.

27. UN (2021) – Thailand Social Protection Diagnostic Review: Expanding access to social security for all workers in Thailand. Retrieved from Bangkok:

28. UN ESCAP (2021) – Financing the SDGs to build back better from the COVID-19 Pandemic in Asia and the Pacific. ESCAP Financing for Development, Series No.4.

29. UNCTAD (2020) – *World Investment Report 2020*. New York: United Nations.

30. UNDP (2016) – *Green Bonds.* New York: UNDP.

31. UNDP (2017) – *Development Finance Assessment Snapshot: Thailand, Financing the future with an integrated national financing framework*. Bangkok: UNDP Regional Bureau for Asia and the Pacific.

32. UNDP (2018a) – *Biodiversity Finance Workbook 2018*. New York: UNDP.

33. UNDP (2018b) – *Enterprise Challenge Funds*. New York: UNDP.

34. Wangkiat, P. (2021, 2 August). Payment Transformed. Bangkok Post, pp. 1, 3.

35. World Bank (2020) – *Thailand Economic Monitor: Thailand in the Time of COVID-19*. Washington, DC: World Bank.

36. World Bank (2021) – *Thailand Economic Monitor: The Road to Recovery*. Washington, DC: World Bank.

ANNEX 1: Data Sources and Methodology

Financing flows data

Analysis of financing flows has been undertaken from the country perspective; thus, national data sources were preferred over international data sets, where adequate coverage and metadata were provided. Data is reported in the national currency. Data from international sources reported in US$ have been converted into constant Baht-US$ using exchange rates and GDP-based deflators, following normal practice.

Development Finance Resources

Development finance refers to the set of public, private, domestic, and international resources allocated to financing development.

Domestic Public Resources

Domestic public resources refer to government resources that are originated domestically. It covers government revenue (excluding any grants received, to avoid double-counting with international resources) and government borrowing. Data was sourced from the Ministry of Finance.

Domestic Private Resources

Domestic private resources refer to investment by the domestic private sector in the country. Data are based on private gross investment, with FDI deducted in order to obtain estimates for domestic private investment alone.

International Public Resources

International public resources include official development assistance (ODA), other official flows (OOFs) and government borrowing from international sources. ODA is sourced from OECD DAC data. OOFs data are sourced from OECD DAC for all countries, as comprehensive data on this type of finance are not readily available from national sources. Government borrowing refers to lending received or guaranteed by the state from bilateral and multilateral institutions and private entities.

International Private Resources

International private resources include FDI, portfolio equity, private borrowing from international sources and remittances. Data are based on national sources.

List of Questions for One-on-One Interview

In this study, we plan to conduct several one-on-one interviews with key stakeholders in the SDG financing as follows:

- Public Debt Management Office
- Office of the National Economic and Social Development Council
- Thailand Board of Investment
- The Revenue Department
- Budget Bureau
- Stock Exchange of Thailand
- The Thai Bankers Association

For each interview, we will prepare a list of questions, customized for each stakeholder. For example, the questions for the Office of National Economic and Social Development Council can be shown as follows:

Interview Questions

1. Monitoring of SDGs status assessment
   1.1. According to the report, published in August 2021, by the NESDC on the progress of Thailand's SDG 2016-2020, you see that
      1) How has the overall status of the SDGs target changed? Has the COVID-19 changed the way we achieve the goals?
      2) Which goal of the SDGs is looking better, and is expected to achieve the goal in 2030?
      3) Which goal of the SDGs has an increasing risk and expected not to achieve the goal by 2030?
      4) Which goal of the SDGs urgently needs acceleration? And what are the financing sources envisaged to implement these priorities?
      5) Which internal and external factors will be the main factors that have the most positive and negative effect on Thailand's SDGs?
   1.2. Have the suggestions in the Thailand SDGs progress report 2016-2020, such as accelerating actions to address issues of the sub-goals whose status is below the critical target (red) or central database development and the monitoring and evaluation system to reach international standards, been implemented and how?
   1.3. Once the progress of the SDGs has been assessed, what are the mechanisms for the government to adjust plans to better achieve the SDGs? How does this assessment affect budget allocation?
   1.4. Under rapidly changing circumstances and uncertainty which has resulted in the advancement of the SDGs, what is the process of risk management to achieve country's SDGs?

2. Linkages to the 20-Year National Strategy, the 13th National Economic and Social Development Plan, BCG Model, and the SDGs
   2.1. The progress report on Thailand's SDGs 2016-2020 states that the SDGs are the primary and secondary linkages to the National Strategy 2018-2037. However, we would like to know that ...
      1) Does the roadmap have a consistent timeline, and whether by 2030 the SDGs goals to be achieved will account for the progression of the master plan under the National Strategy?
      2) Primary and secondary links are included to the connection with the state budget or other sources of funding as well?

2.2. The NESDC has focused on at least three development issues namely the Sufficiency Economy Philosophy (SEP for SDGs), Strategic Environmental Assessment (SEA) and SDG Localization. In actual operation, how these development issues are in line with the state budget allocation and the national strategy?

2.3. For NESDC side, is there any preparation of overview and evaluation of the linkages of the National Strategy, the 13th NESDP, BCG Model, and the SDGs?

3. Has NESDC undertaken any exercise to understand the financing requirements for achieving the 2030-Agenda?

4. In monitoring and evaluation process of the SDGs, has there been monitoring of public and private finance used to develop the SDGs in line with the roadmap? Both in terms of the adequacy of funds and efficiency of capital utilization? If so, what tools are currently being used for monitoring and evaluation? Which agency is responsible? In the future, what tools should be available to increase the coherence between planning and the government's resource allocation policy? Both in terms of public revenue and budgeting, as well as policies to attract private investment.

5. What is the opinion from NESDC side on the cooperation between various agencies to drive the SDGs? Which agencies and sectors NESDC should increase cooperation? How should there be cooperation in funding sources to drive the SDGs?

6. Roles and duties of the National Sustainable Development Committee

6.1. What is the role of the committee in pushing forward to achieve the goals? How is the current situation of the SDGs? Is there any obstacle, and having sufficient authority or not?

6.2. Can the committee participate in commenting or defining the SDGs indicators related to various agencies, monitoring and evaluation, and budget allocation or not?

6.3. In the future, will the committee have a guideline to support the attraction and allocation of funds from both public and private sectors for driving the SDGs in Thailand? And how?

6.4. What is the opinion of the NESDC on setting up a working group to support funding and its monitoring for SDGs?

ANNEX 2: Thailand's Financial Sector Landscape

A. Banking System and other financial institutions

There are many types of financial institutions in the Thai financial system (BoT, 2015). The biggest and most important one is obviously a commercial bank. The special financial institutions were created to fill gaps left by commercial bank and support governmental policies like agricultural and mortgage lending. Similarly, a finance company and a credit foncier company were first created to do lending for hire purchase and mortgage, which were not serviced by commercial banks at that time. As commercial banks changed to provide these services also, the business of finance company and credit foncier has shrunk over time. Thailand also has special financial institutions that focus more on small business and personal finance. These are Saving Cooperative and Credit Union, Pawnshop, Nano finance, Pico finance, and Personal loan business.

Commercial bank business serves as the intermediaries that allocate funds from depositors and loan out to household and business sectors. Commercial bank business can be categorized to many different forms, namely commercial bank (universal banking), retail banks, foreign commercial bank's subsidiary, and foreign commercial bank's branch. These forms of commercial bank business are registered under the Financial Institutions Business Act B.E. 2551 (2008) and supervised by the Bank of Thailand (BoT).

Special Financial Institutions (SFIs) were established with each specific law, whose objectives are to serve the government policies in promoting economic development and supporting investment. These institutions are under the supervision of the Ministry of Finance.

Finance Company is a business that raises funds from the public in the form of promissory notes (P/N) and employing such funds in several forms of investment including commerce, development, purchases and consumption, and housing. Such business is established in accordance with the Financial Institution Business Act, B.E. 2551 (2008) and under the supervision of the BoT.

The **Credit Foncier Business** is registered under the Financial Institutions Business Act B.E. 2551 (2008) and supervised by the BoT. The law defines the Credit Foncier as business that can receive money as deposit from the public in the form of promissory notes (P/N) and repay at maturity. The Credit Foncier can utilize the money in the form of loans by mortgage real estate as collateral or purchase property with a right of redemption. This size of this business is relatively very small in the Thai financial landscape.

Saving Cooperative and Credit Union established on voluntary basis by members that generally consists of people with the common bond (e.g., same occupation or living areas), where the operating fund of the cooperative is contributed periodically by members. The contributed funds will be loaned out to support other members who need money with interest charged. The benefit gained from permitting loans will be contributed to members in the form of interest rate, dividend, or other benefits. Saving Cooperative and Credit Union is under the supervision of the Board of National Cooperative Development in accordance with the Cooperatives Act, B.E. 2542.

Pawnshop is a business that offers secured loans of maximum 100,000 baht per customer, with items of personal property used as collateral. The collateral can be redeemed within a certain contractual period. Such business is established in accordance with Pawn-shop Act, B.E.2505 and amended and under the supervision of the Ministry of interior.

Nano finance is in the business to lends money to retail enterprises and entrepreneurs of small enterprises. The aim is to finance working capital. Where the nano finance focuses on small businesses, the complementary **pico finance** focuses on the underserved segment of low-income customers. It aims to replace loan sharks and illegal lending and borrowing. With respect to personal finance, the recent **personal loan business** focuses on customers with fixed salaries. It makes loans using a car registration as a collateral.

A. Players

Commercial Banks. The number of domestic commercial banks increased a bit over the last decade from 17 banks to 19 banks whereas the branches of foreign bank decreased noticeably partly because they decided to register domestically. As a result, the total number remains relatively stable at around 30 commercial banks. In the second half of 2021 the number of domestic banks dropped to 18 due to a merger between two banks.

Table A2. 1: Number of Commercial Banks

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Commercial Banks	17	16	16	16	17	19	19	19	19	19	19
Branches of Foreign Bank	15	15	15	14	13	12	11	11	11	11	11
Total	32	31	31	30	30	31	30	30	30	30	30

Source: CEIC

At the end of June 2021, the total deposits were 15.7 trillion baht (14.9 trillion baht in domestic banks and 0.8 trillion baht in branches of foreign banks) and the top-5 domestic banks have the market share of around 75%. In term of loans, the total credit outstanding were 13.8 trillion baht (13.1 trillion baht from domestic banks and 0.7 trillion baht from branches of foreign banks) and the top-5 domestic banks have the market share around 74%.

The top-5 domestic banks are Bangkok Bank, Krung Thai Bank (majority owned by the government), Kasikorn Bank, Siam Commercial Bank and Bank of Ayudhya. The market is heavily concentrated both in terms of deposits and loans.

Special Financial Institutions (SFIs) were established with specific laws, whose objectives are to serve government policies in promoting economic development and investment. There are 8 SFIs: Bank for Agriculture and Agricultural Cooperatives (BAAC), Government Saving Banks (GSB), Government Housing Banks (GHB), Export-Import Bank of Thailand (EXIM), Small and Medium Enterprise Development Bank of Thailand (SME Bank), Islamic Bank of Thailand (Ibank), Thai Credit Guarantee Corporation (TCG) and Secondary Mortgage Corporation (SMC). These institutions are under the supervision of both the Bank of Thailand (BoT) and the Ministry of Finance (MoF).

Finance companies and Credit Foncier companies. At the end of 2020, there were only two finance companies. The loans outstanding were around 16 billion baht. At the same time, there were three credit foncier companies. Their combined loans were around 2.5 billion baht.

B. Loans and Deposits of Commercial Banks

The loans (credits) outstanding in 2020 was 14.2 trillion baht. The relative size of bank loans increased from 68% of nominal GDP in 2010 to 90% in 2020. The total loans increased on average 6.7% per year whereas deposits and nominal GDP increased by 7.6% and 3.8%, respectively, over the last decade. It is noticeable that deposits increased faster than loans. This implies that the loan to deposit ratio (without B/E) would go down. It means that the banking system has a capacity to make more loans for investment or consumption.

Table A2. 2: Loans and Deposits of all commercial banks (including both domestic banks and branches of foreign banks) (trillion baht)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Credits (Excluding interbank)	7.4	8.5	9.6	10.7	11.2	11.7	12.0	12.5	13.2	13.5	14.2
Deposits (Excluding interbank)	7.4	7.9	10.0	11.0	11.7	12.0	12.3	13.0	13.5	14.0	15.4
Fund Mobilization through B/E	1.0	1.6	0.4	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Loan/Deposit and B/E	88%	90%	93%	97%	96%	97%	96%	96%	98%	96%	92%
Credit / GDP	68%	75%	78%	83%	85%	85%	82%	81%	81%	80%	90%

Source: Bank of Thailand (BoT)

C. Loans and funding of other financial institutions

Special Financial Institutions (SFIs) The loans (credits) outstanding in 2020 was around 4.8 trillion baht. The total loans increased on average 7.2% per year whereas commercial bank loans and nominal GDP increased by 6.7% and 3.8%, respectively, over the last decade. The average growth rate is even higher than that of commercial banks. The largest SFI is the Government Saving Banks (GSB). It aims to provide financial access to low-income earners, small enterprises, and communities. It also grants loan to the government and governmental agencies. Its loan size was about two trillion baht. The second and third largest SFIs are the Government Housing Bank (GHB) and the Bank for Agriculture and Agricultural Cooperatives (BAAC). The GHB aims to make mortgage loans accessible to low-income earners, whereas the BAAC provides financial services to farmers and agricultural cooperatives. The loan size was about 1.2 trillion baht each. The fourth largest SFI is the Export-Import Bank of Thailand (EXIM). It provides trade credits to Thai exporters and importers. Its loan size was relatively small as it was only one tenth of that of the third largest SFI. Its loan size was about 0.124 trillion baht. It is noticeable that a loan portfolio of the Small and Medium Enterprise Development Bank of Thailand (SME bank) was relatively small at less than 0.1 trillion baht. It aims to provide financial access to Thai SMEs. Its relatively small size might hinder Thai SME's financial access to credits.

Table A2. 3: Loans of five bank-like SFIs including Bank for Agriculture and Agricultural Cooperatives (BAAC), Government Saving Banks (GSB), Government Housing Bank (GHB), Export-Import Bank of Thailand (EXIM), Small and Medium Enterprise Development Bank of Thailand (SME Bank)] (Billion baht)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
GSB	1,051	1,297	1,470	1,515	1,576	1,623	1,700	1,897	1,999	2,006	2,058
BAAC	581	790	907	1,040	905	1,002	1,053	1,123	1,173	1,194	1,243
GHB	617	642	666	701	756	818	881	959	1,041	1,140	1,245
EXIM	54	63	64	64	69	68	77	84	100	111	124
SME	76	89	84	79	70	31	31	91	89	89	92
Total	2,379	2,881	3,191	3,399	3,375	3,542	3,741	4,155	4,402	4,541	4,762

Source: annual reports of SFIs

Saving Cooperative and Credit Union established on voluntary basis by members that generally consists of people with the common bond (e.g., same occupation or living areas), where the operating fund of the cooperative is contributed periodically by members. The loans (credits) outstanding in 2020 was around two trillion baht. In fact, the total loan outstanding was even higher than that of the largest SFI, namely GSB. The total loans increased on average 8.3% per year whereas commercial bank loans, SFI's loans and nominal GDP increased by 7.2%, 6.7% and 3.8%, respectively, over the last decade. It has the highest loan growth among financial institutions.

Table A2. 4: Cooperative and Credit Union household loan outstanding (Billion Baht)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cooperative loans	945	1,131	1,314	1,465	1,591	1,732	1,849	1,935	2,013	2,056	2,102

Source: Bank of Thailand (BoT)

Pawnshop is a business that offers secured loans of maximum 100,000 baht per customer, with items of personal property used as collateral. The collateral can be redeemed within a certain contractual period. It is one the easiest way for low-income earners to gain access to loans. The loans (credits) outstanding in 2020 was around 77 billion baht. In fact, the total loan outstanding was just a bit lower than the smallest SFI, namely GSB, which had the load outstanding at 92 billion baht. The total loans increased on average 4.6% per year whereas commercial bank loans, SFI's loans and nominal GDP increased by 7.2%, 6.7% and 3.8%, respectively, over the last decade.

Table A2. 5: Pawnshop household loan outstanding (Billion Baht)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Pawnshop loans	49	63	69	68	68	69	76	79	80	84	77

Source: Bank of Thailand (BoT)

D. Recent development

Deposit Insurance

Thailand's Deposit Protection Agency (DPA) offers protection to both Thai and foreign individuals and juristic persons who hold accounts in Thai baht in any of 35 financial institutions. The institutions covered include 18 commercial banks, 12 foreign banks with branches in Thailand, 2 finance companies and 3 credit foncier firms. In case, licenses of these financial institutions get revoked, account holders will get their deposits under protection back within 30 days. Deposits covered include current account, savings account, fixed deposit, deposit card and deposit receipt.

From 11 August 2021 onwards, DPA will only provide protection up to only 1 million baht per account holder per financial institution instead of the previous coverage of 5 million baht (Banchongduang, 2021b). The protection covers 98 percent of all accounts in the financial system. At the beginning of August 2021, Deposits under DPA's protection is about 15.28 trillion baht.

However, by diversifying deposits across financial institutions, a depositor can have his maximum protection at 35 million baht. Another alternative is for a depositor to move his money to state-owned banks such as Government Saving Bank (GSB), Government Housing Bank (GHB) or Bank for Agriculture and Agricultural Co-operatives (BAAC).

This lower protection was not expected to affect much since financial institutions are financially strong and command depositor confidence (Kasikorn_Research, 2021). Financial institutions registered with the Bank of Thailand (BoT) have a high average capital adequacy ratio at 20.21%, greater than its requirement of 12%. Their liquidity coverage ratio is also high at 195.14%, and greater than the BoT's requirement of 100%.

Digital Payment System

Launched in 2017, PromptPay is one of the most used payment methods in Thailand. It allows its users to make real-time interbank mobile payments or transfer funds by linking the user's bank account to the mobile number or national ID. As of September 2020, PromptPay reported 55.1 million registrants (out of a population of 69 million), with 20 million transactions a day. PromptPay was used by 37% of respondents at least once in the past month (Rapyd, 2020).

There are three types of connections to PromptPay. Firstly, the national ID number can connect with PromptPay. The default payment from Thai social security and tax revenue department is this method. Secondly, up to three personal mobile phone numbers can be linked. Lastly, PromptPay can be linked with e-wallet issued by banks or non-bank operators. A moblie phone number is required to open a 15-digit e-wallet account code. In 2021, there are four e-wallet non-bank providers. Each bank also has its own e-wallet such as K-Plus from Kasikorn bank (Narkthong, 2018). This method has the advantage in terms of privacy.

In terms of public e-wallet, the Thai government introduced the Pao Tang mobile app in 2020. It is issued by the Krung Thai bank, a public commercial bank majority owned by the government. Through this e-wallet, Thai people can pay bills and receive government subsidies under Covid stimulus packages.

In April 2021, the Bank of Thailand and the Monetary Authority of Singapore launched the world's first cross-border link of real-time payment systems in 2021 (Languepin & Prakash, 2021). Users of the countries' two national payment systems - Thailand's PromptPay and Singapore's PayNow – can transfer money across borders faster and cheaper, just by using their mobile phone numbers. This new cross-border integration allows international fund transfers within minutes and could pave the way for a cross-border payments network with other ASEAN countries. The linkage allows customers of participating banks in Thailand and Singapore to transfer funds of up to THB25,000 or USD1,000 daily across the two countries, using just a mobile number. It also aims to halve remittance fees and be more upfront about pricing.

The central banks of Malaysia and Thailand also pioneered cross-border QR code payments in 2021 for businesses and consumers from both countries (Wangkiat, 2021).

This cross-border QR (Quick Response) payment linkage will enable consumers and merchants in both countries to make and receive instant cross-border QR code payments. The first phase is to link the real-time retail payment systems of Malaysia's RPP/DuitNow and Thailand's PromptPay. Users in Thailand are now able to use mobile payment applications to scan DuitNow QR codes to make payments to merchants in Malaysia. Under phase two, expected in the fourth quarter of 2021, users in Malaysia will be able to do the same with Thailand. The final phase will enable both countries to make real-time fund transfers and is due to be in place in the fourth quarter of 2022 (Reuters, 2021).

CBDC (Central Bank Digital Currency)

The Central Bank Digital Currency (CBDC) has the potential to offer less costly transactions and improve the overall efficiency of the payment system, especially when using blockchain technology to create a safer and a more transparent system. In addition, Retail CBDC, to be used among ordinary people, will lead to more inclusive financial services. Introducing CBDC can also improve tax collection and better manage money-laundering risks at the potential cost of privacy.

The "PwC Global CBDC Index 2021" analyses central banks' level of maturity in deploying their own digital currency, including tracking their progress and stance on CBDC development (PwC, 2021). The index ranks the world's most advanced CBDC projects in terms of retail CBDCs held directly by corporations and citizens, and interbank/wholesale CBDCs restricted to financial institutions for interbank payments and financial settlement processes. Thailand and Hong Kong were at the tops as the world's most mature interbank/wholesale projects. In terms of retail CBDC, the Bahamas was at the top for its Sand Dollar, the world's first digital currency issued by a central bank. This was followed by Cambodia's Project Bakong. Both projects are now live.

According to the survey, Blockchain is the technology of choice as more than 88 percent of CBDC projects, at the pilot or production phase, use blockchain as the underlying technology (Taweelappontong, 2021).

The Bank of Thailand (BoT) plans to test its Retail Central Bank Digital Currency (Retail CBDC) in 2022's second quarter. The BoT will launch the Retail CBDC project on two tracks: foundation and innovation.

Under the foundation track, the central bank plans to test and evaluate the use of Retail CBDC in conducting cash-like activities to a limited extent, such as acceptance and conversion of the unit, as well as using it to pay for goods and services. This phase of testing is expected to begin in the second quarter of 2022.

The innovation track will evaluate the ways in which CBDC can be developed for innovative use cases by allowing the private sector and technology developers to participate.

The BoT plans Retail CBDC to be cash like and non-interest bearing. Financial institutions will be the distributors of CBDC to the public. BoT also wants to ensure that CBDC does not compete with deposits or cause a run-on financial institution, preserving the role of intermediaries in collecting deposits and providing credit. The BoT predicts that Retail CBDC will behave like a substitute for cash and e-money (Banchongduang, 2021a).

THOR (Thailand Overnight Repurchase Rate)

The Thailand Overnight Repurchase Rate (THOR), in effect since April 2020, was developed to replace LIBOR (phased out after year-end 2021) as the interest rate used as a reference for the repurchase of corporate bonds between banks (Banchongduang, 2020). This new rate will better reflect Thailand's financial market conditions and will be more in line with the BoT's policy interest rate. THOR is basically the interbank overnight private repurchase rate.

Under the transition plan, the BoT will stop using the Thai Baht Interest Rate Fixing (THBFIX), the existing reference rate computed from LIBOR and Swap rate, at year-end 2021 and adopt the temporary Fallback THBFIX, a collateral-based rate, from 2022 to compensate for those who have transactions referenced with THBFIX. The use of Fallback THBFIX is expected to end in mid-2022. THOR will be fully adopted thereafter.

For the Thai financial market in 2020, there are about 50,000 contracts based on LIBOR and THBFIX, accounting for US$610 billion. Of the amount, $40 billion consists of loan contracts and the rest is from bonds and derivatives. The BoT expects that the switch from LIBOR and THBFIX to THOR will have a limited impact on the overall domestic financial market.

Business Security Act of B.E. 2558 (2015)

The Business Security Act, which came into effect in July 2016, allows pledge various assets without handling those assets to creditors. Conditional on their ability to service debt, SMEs would be able to obtain more loans since they can pledge collateral beyond fixed assets such as accounts receivable, inventories, machines, ships, airplanes, or even entire business franchises. Lenders will feel more comfortable because the increased collateral value will reduce the credit risk of borrowers (TMB_Analytics, 2017).

According to this law, there are six types of pledge able assets. They are 1) business franchises, 2) financial claims such as deposits, leasehold rights, accounts receivable, 3) operating assets such as inventories, tools, cars, and trucks, 4) real estate belonging to property developers, 5) intellectual properties such as trademarks, patents, copyrights, 6) other assets such as perennial plants.

3.2 Securities Market

Thai securities markets have become important alternatives to bank loans after the end of the Asian financial crisis starting in 1997. The stock market capitalization was higher than a hundred percent of GDP in 2020 (106%), whereas total bank loans outstanding were only 90% of GDP in the same year. The private bond market has grown drastically during the last decade with the compound annual growth rate (CAGR) of 11.5%, while that of the Thai nominal GDP is only 4.2% during the same period. At the end of 2020, the amount of corporate bonds was 24.5% of GDP compared to just 11.8% in 2010.

A. Bond Market

At the end of 2020, the total outstanding value of Thai bond market was 13.94 trillion baht compared to nominal GDP of 15.26 trillion baht or 91.3% of nominal GDP. The government bond (Gov) came first with the largest proportion at 43% of total outstanding value. The corporate bond (Corp) and the BoT bond (bond issued by Bank of Thailand, the Thai central bank) came second and third with shares of 25% and 24%, respectively. The rest consisted of SOE (State Owned Enterprise) bond at 7% and foreign bond at 1%.

Table A2. 6: Nominal GDP and Outstanding Value of Thai Bond market (Trillion Baht)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	CAGR
GDP	10.10	10.54	11.38	11.90	12.14	13.54	14.36	14.92	16.32	16.88	15.26	4.2%
All Bonds	6.76	7.11	8.58	9.00	9.29	10.02	10.87	11.40	12.79	13.30	13.94	7.5%
Bonds (%GDP)	66.9%	67.5%	75.4%	75.6%	76.5%	74.0%	75.7%	76.4%	78.4%	78.8%	91.3%	
Gov	2.59	2.63	3.08	3.42	3.45	3.91	4.07	4.43	4.86	4.98	6.02	8.8%
Gov (%GDP)	25.6%	25.0%	27.1%	28.7%	28.4%	28.9%	28.3%	29.7%	29.8%	29.5%	39.4%	
Corp	1.19	1.28	1.66	1.89	2.38	2.56	3.07	3.17	3.54	3.86	3.74	11.5%
Corp (%GDP)	11.8%	12.1%	14.6%	15.9%	19.6%	18.9%	21.4%	21.3%	21.7%	22.9%	24.5%	
BoT	2.41	2.64	3.12	2.84	2.74	2.82	3.14	3.04	3.48	3.72	3.37	3.4%
BoT (%GDP)	23.9%	25.0%	27.4%	23.9%	22.6%	2.08%	21.9%	20.4%	21.3%	22.0%	22.1%	
SOE	0.50	0.48	0.62	0.73	0.79	0.78	0.77	0.87	0.82	0.87	0.93	6.3%
SOE (%GDP)	5.0%	4.6%	5.4%	6.1%	6.5%	5.8%	5.4%	5.8%	5.0%	5.2%	6.1%	
Foreign	0.06	0.08	0.10	0.12	0.09	0.09	0.08	0.09	0.09	0.10	0.08	3.5%

Source: Thai Bond Market Association (www.thaibma.or.th)

The bond market grew relatively quickly over the last decade with the CAGR of 7.5% higher than that of nominal GDP at 4.2%. The relative size of bond market compared to nominal GDP increased from 66.9% in 2010 to 91.3% in 2020. The government remains the main active issuer in Thai bond market partly due to funding need for economic recovery from COVID-19 outbreak. Interestingly, it is the corporate bond segment that grew fastest with the CAGR of 11.5%. It clearly shows that the bond market increasingly become the major source funding for Thai corporate firms.

The top 5 sectors contributed around 58% of the total corporate bond outstanding in 2020. The top sectors were energy (15%), food (12%), property (12%), finance (non-bank) (10%), and bank (9%). The rest (42%) came from various other sectors.
The ESG bond issuance rose nearly three time from 30 billion baht in 2019 to 86 billion baht in 2020. The accumulated outstanding value reached 130 billion baht at the end of 2020.

B. Equity Market

The equity market capitalization is about the same size as the nominal GDP. The capitalization as percent of nominal GDP increased from 82% from 2010 to 106% in 2020. The compound annual growth rate between 2010 to 2020 is 6.8% compared to that of nominal GDP at 4.2%. In 2020, the value of corporate bond outstanding is approximately one fourth of the equity market capitalization.

Table A2. 7: Nominal GDP and Thai Equity Issuance (Billion Baht)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	CAGR
GDP	10,105	10,540	11,375	11,899	12,141	13,538	14,360	14,920	16,316	16,876	15,264	4.2%
Equity Issuance	96	93	249	152	213	230	230	260	104	376	152	4.7%
Equity Issuance (% of GDP)	1.2%	1.1%	2.1%	1.3%	1.5%	1.9%	1.5%	1.5%	0.7%	2.2%	0.9%	
SET market capitalization	8,335	8,408	11,831	11,497	13,856	12,283	15,079	17,587	15,978	16,747	16,108	6.8%
Capitalization as (% of GDP)	82%	80%	104%	97%	114%	91%	105%	118%	98%	99%	106%	

Source: Bank of Thailand (www.bot.or.th), Stock Exchange of Thailand (www.set.or.th) and Thai Bond Market Association (www.thaibma.or.th) Note: Equity Issuance includes issuances of common stocks, preferred stocks and warrants.

C. Recent Development

Digital Assets, Initial Coin Offering (ICO) and ICO Portal

The digital assets, which are not classified already as "securities" under the Securities and Exchange Act, are regulated under the Emergency Decree on Digital Asset Business Operation B.E. 2561 (2018) (DA law).

Under Thai law, Digital Assets consist of two types of assets: cryptocurrencies and digital tokens. Cryptocurrencies are created to be a medium for exchanging goods, services, rights, or digital assets. However, they are not considered legal tender. As of 2021, Thai SEC has approved four cryptocurrencies: Bitcoin (BTC), Ether (ETH), Ripple (XRP), and Stellar (XLM). Digital assets including both cryptocurrencies and digital tokens can be traded only on approved digital asset exchanges.

There are two types of digital token: investment token and utility token. Investment token allows investors to get a return from an investment in ay project or business. On the other hand, utility token gives investors the rights to receive specific goods, services, or other rights as agreed. The offering of digital tokens can only be done through the SEC-approved portal (funding portal). The funding portal must conduct due diligence and a screening process.

The revenue department considers the ICO as like selling goods and as such is subject to the Value Added Tax (VAT). In addition, the money raised from offering ICOs is considered as revenue and the resulting profit is subject to the Corporate Income Tax (CIT). Before the decree and the tax law interpretation from the revenue department, many companies have shown interests in launching ICO projects. However, no ICO projects have been launched yet under the DA law.

Crowdfunding

There are four types of Crowdfunding, namely, donation-based, reward-based, debt-based, and equity-based. Thailand has crowdfunding platforms of every type. The biggest ones are donation-based platform.

The well-known platforms of this type are Gofundme,[88] Taejai[89] and Sinwattana.[90] Many of their projects serve various SDGs.

The second type is the reward-based crowdfunding platform. The well-known platforms of this type are Sinwattana[91] and Asiola.[92] Like the donation-based, many projects in this type of platform serve SDGs. However, they focus more on raising funds for SMEs (Small and Medium Enterprises). The ICO (Initial Coin Offering) is in fact a sub type of the reward-based crowdfunding. However, it normally involves larger amount of money and secondary market for trading. As such, it is heavily regulated by the Securities and Exchange Commission (SEC) as explained previously.

The third type is debt-base crowdfunding platform. The platform itself needs the Thai SEC's funding portal license and must comply with relevant SEC's regulations. If the company could raise funds up to the target (at least 80 percent of total offering), then the company would get the money. If not, then the money raised, which is kept in the escrow account, will be returned to investors. The well-known platforms are PeerPower[93] SiamValidus[94] and InvestTree.[95] One important limitation for investors is the lack of secondary market of these crowdfunded bonds.

The last type is equity-based crowdfunding platform. The purpose is to raise equity financing for SMEs. Like a debt-based one, the platform needs the Thai SEC's funding portal license and must comply with relevant SEC's regulations. If the company could raise funds up to the target, which is the total offering, then the company would get the money. If not, then the money raised, which is kept in the escrow account, will be returned to investors. It is based on the all-or-nothing model. The well-known platforms are PeerPower, Sinwattana and Dreamaker.[96] The important limitation of these platforms is again the lack of secondary market. Partly to overcome this limitation, the Stock Exchange of Thailand (SET) launched a funding portal of its own called "LiVE," which also serves as the electronic OTC trading platform for non-listed shares (SET, 2017). However, to protect small retail investors, LiVE still does not allow them to trade on the platform.

LiVE Platform and IPO for SME

The Stock Exchange of Thailand (SET) will establish LiVE Exchange as a new trading board for the initial public offering (IPO) of SMEs and start-ups. The SET will apply different trading and supervisory mechanism from those of SET and Market for Alternative Investment (MAI) to the new LiVE Exchange. The trading will be auction-based at one round per day. In addition, settlement and delivery will be completed within a trading day. However, the types of permissible investors are restricted. The LiVE Exchange will be launched within 2021.

88 www.gofundme.com

89 www.taejai.com/en/

90 www.sinwattana.com/en

91 www.sinwattana.com/en

92 www.thailandsocialinnovationplatform.org/project/asiola/

93 www.peerpower.co.th/en

94 https://siamvalidus.co.th/en/

95 www.investree.co.th/en

96 www.dreamaker.co.th/

In terms of Private Placement (PP), from the beginning of 2021 to the end of August 2021, 83 entrepreneurs raised funds on this platform totaling 795 million baht (approximately USD 24.32 million) via LiVE's SME-PP and crowdfunding.[97]

Thai government to raise debt ceiling

In September 2021, Thai government decided to raise the public debt ceiling from 60% to 70% of GDP in accordance with section 50 of the 2018 State Fiscal and Financial Discipline Act (Chantanusornsiri, Arunmas, & Theparat, 2021). The aim is to open more room for higher government's borrowing to spend on projects that rehabilitate the economy batted by COVID-19.

In response to COVID-19, the government borrowed one trillion baht in 2020 and another half trillion baht in 2021 to fund its stimulus packages. The Bank of Thailand (BoT), Thai central bank, estimated that additional of one trillion baht was required to address the severe economic impact of the pandemic and improve the country growth prospects.

Thai public debt increased from 7.4 trillion baht (45.83% of GDP) at the end of 2020 to 9.4 trillion baht (58.80% of GDP) estimated at the end of September 2021 when the government decided to increase the debt ceiling.

3.3. Insurance Market

There are two types of insurance in Thailand. **The Life insurance** insured against the loss or damage of individual or group of individual where the insurer promises to pay a designated beneficiary in exchange for a premium, upon the death, disability, or critical illness of the insured person. Life Insurance businesses are under the supervision of the Office of Insurance Commission in accordance with the Life Insurance Act, B.E.2535 and amended. And **non-life insurance** is broadly divided into 4 areas, namely **fire insurance**, **auto insurance**, **marine insurance**, and **miscellaneous insurance**. Non-life Insurance businesses are under the supervision of the Office of Insurance Commission in accordance with the Non-life Insurance Act, B.E. 2535 and amended.

A. Life Insurance

The total investing assets of life insurance in 2020 was about 26.2 percent of nominal GDP. It was just a bit higher than the outstanding amount of corporate bonds at 24.5 percent of nominal GDP. The density rate, which is basically the number of insurance policies over the number of populations, was still lower than half. This suggests more room to grow both in terms of policies and investing assets.

97 (Stock_Exchange_of_Thailand & Securities_and_Exchange_Commission, 2021)

Table A2. 8: Premium and Investing Assets of Thai Life Insurance

	2019	2020
Life Insurance Premium (Billion Baht)	611	600
Investing Assets (Billion Baht)	3,877	3,994
Insurance Penetration (%) [Premium / GDP]	3.84%	3.82%
Density Rate (%) [# of policies / population]	39.92%	43.28%
Insurance Density (Baht) [Premium / population]	9,173.19	9,062.39

Source: Office of Insurance Commission (OIC) (www.oic.or.th)

B. Non-Life Insurance

The total investing assets of non-life insurance in 2020 was relatively small as it was only 8.2 percent of that life insurance and only 2.2 percent of nominal GDP. The non-life premium was only 1.1 percent of nominal GDP in 2020. However, when compared to life premium, non-life premium was 42.2 percent of annual life premium in 2020.

Table A2. 9: Premium and Investing Assets of Thai Non-Life Insurance

	2019	2020
Non-Life Insurance Premium (Billion Baht)	244	253
Investing Assets (Billion Baht)	335	329
Insurance Penetration (%) [Premium / GDP]	1.53%	1.61%
Insurance Density (Baht) [Premium / population]	3,666.75	3,816.75

Source: Office of Insurance Commission (OIC) (www.oic.or.th)

3.4 Financial Development

A. Private Credit

Private credit by banks and other financial institutions grew steadily from 107.1 percent of GDP in 2010 to 160.7 percent in 2017. The credit was financed only partially by bank deposits. The deposits increased from 88.0 percent of GDP in 2010 to 126.1 percent in 2017.

The stock market capitalization increased steadily from 69.0 percent of GDP in 2010 to 109.5 percent in 2017. However, the market liquidity as measured by turnover ratio seems to decline over the years.

The remittance inflows were kept stable at around 1.5 percent of GDP from 2010 to 2017.

Table A2. 10: Banking system

	2010	2011	2012	2013	2014	2015	2016	2017
Private credit by Banks to GDP	86.2%	95.0%	101.7%	108.0%	112.4%	113.3%	112.8%	
Bank Deposits to GDP	88.0%	92.9%	100.8%	110.3%	114.4%	126.5%	128.8%	126.1%
Private credit by Banks and other financial institutions to GDP	107.1%	121.8%	130.6%	138.0%	143.5%	160.1%	164.2%	160.7%
Bank's net interest revenue to its interest-bearing assets	3.2%	2.9%	2.9%	2.8%	2.9%	2.7%	2.9%	3.5%

Source: World Bank, Financial Development and Structure Dataset (2019)

Table A2. 11: Insurance

	2010	2011	2012	2013	2014	2015	2016	2017
Life insurance premium to GDP	2.7%	2.9%	3.1%	3.4%	3.7%	3.9%	3.9%	3.9%
Non-life insurance premium to GDP	1.1%	1.1%	1.3%	1.4%	1.4%	1.3%	1.2%	1.2%

Source: World Bank, Financial Development and Structure Dataset (2019)

Table A2. 12: Stock Market

	2010	2011	2012	2013	2014	2015	2016	2017
Stock market capitalization to GDP	69.0%	76.0%	82.3%	89.2%	94.8%	94.4%	93.6%	109.5%
Stock market value traded to GDP	52.8%	60.9%	56.9%	70.4%	79.5%	70.6%	71.4%	74.3%
Stock market turnover ratio	94.5%	76.4%	73.0%	93.3%	80.5%	71.6%	84.2%	68.1%

Source: World Bank, Financial Development and Structure Dataset (2019)

Table A2. 13: Bond Market

	2010	2011	2012	2013	2014	2015	2016	2017
Private bond market capitalization to GDP	50.5%	51.3%	47.3%	40.5%	45.2%	42.3%	46.8%	47.4%
Public bond market capitalization to GDP	25.1%	22.2%	25.0%	24.6%	25.9%	27.2%	27.5%	29.7%
International Debt issues to GDP	2.7%	2.7%	4.1%	4.4%	5.2%	4.8%	4.9%	4.6%

Source: World Bank, Financial Development and Structure Dataset (2019)

Table A2. 14: Remittance

	2010	2011	2012	2013	2014	2015	2016	2017
Remittance Inflows to GDP	1.3%	1.4%	1.4%	1.6%	1.6%	1.5%	1.5%	1.5%

Source: World Bank, Financial Development and Structure Dataset (2019)

B. Financial Access

According to a survey by the Bank of Thailand, the proportion of the Thai household that could not access to the formal financial services like bank accounts decreased from 2.7% of total number of households in 2016 to 1.3% in 2018. This clearly shows that the Thai financial system provides better access to financial services to its population.

C. Household Debt

Thai household debt has increased steadily over the last decade. Its share in the country GDP increased from 59% in 2010 to 88.9% in 2020. This partly reflects successful financial development in terms of financial access of the country. However, it may also create macroeconomic vulnerability.

Table A2. 15: Total Household Debt (Billion Baht)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Household Debt	6,406	7,484	8,870	9,893	10,548	11,154	11,584	12,101	12,829	13,489	14,040
Debt/GDP	59.3%	66.2%	71.8%	76.6%	79.7%	81.2%	79.4%	78.1%	78.4%	79.8%	89.4%
Debt/GDP seasonal adjusted	59.0%	65.9%	71.4%	76.2%	79.3%	80.7%	78.9%	77.7%	77.9%	79.4%	88.9%

Source: Bank of Thailand (BoT)

D. Nano Finance, Pico Finance and Personal Loan

Nano finance lends money to retail businesses and entrepreneurs of small enterprises. The aim is to finance working capital. In contrast, Pico finance focuses on the underserved segment of low-income customers. It aims to replace loan sharks and illegal lending and borrowing. Personal loan business focuses on customers with fixed salaries. Recently, it also makes loans using a car registration as a collateral. The Bank of Thailand caps the loans to be 3 to 5 times of borrower's income.

Table A2. 16: Nano Finance

	2015	2016	2017	2018	2019	2020
Number of Accounts	7,464	55,454	191,155	2,038,841	1,172,889	774,316
Outstanding Loans (Million Baht)	153	1,433	4,777	35,635	19,318	17,441
Outstanding loans overdue more than 3 months (Million Baht)	0	18	197	803	1,485	1,061
% Loans overdue	0%	1.26%	4.12%	2.25%	7.69%	6.08%
Number of Nano finance providers	8	24	25	32	40	45

Source: Bank of Thailand (BoT)

The following table compare differences between Nano and Pico Finance.

Table A2. 17: Comparison between Nano Finance and Pico Finance

Items	Nano Finance	Pico Finance	Pico Plus
Registered and already Paid-up Capital	50 million baht	5 million baht	10 million baht
Max Loan per person	100,000 baht	50,000 baht	100,000 baht
Max interest rate	36% p.a.	36% p.a.	36% p.a. for the first 50,000 baht 28% p.a. for the second 50,000 baht
Collateral	Required	Not Required	Not Required
Service Coverage	Whole country	Only in the registered province of the headquarter	Only in the registered province of the headquarter

Source: Fiscal Policy Office (FPO)

For Pico finance, the amount of loans outstanding was 2,424.28 million baht at the end of 2019. The NPL ratio was 11.93% compared to that of Nano finance at around 6% (FPO journal July 2020). The ministry of finance already allows the use of car registration as a collateral for Pico loans. At the end of 2019, there were 607 operating Pico finance firms in 68 provinces (out of 77 provinces in Thailand). In addition, there were 12 operating Pico Plus finance firms in 7 provinces. Total loans from credit cards, leasing and personal loans grew on average 11.1 percent over the last decade compared to that of nominal GDP at 4.2%. These loans were 4.8 percent of nominal GDP in 2010 and increased to 9.4 percent in 2020.

Table A2. 18: Credit cards, Leasing and Personal Loans (Billion Baht)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Credit card, Leasing, Personal loans	515	625	874	1100	1,159	1,137	1,096	1,132	1,245	1,398	1,475
% of GDP	4.8%	5.5%	7.1%	8.5%	8.8%	8.3%	7.5%	7.3%	7.6%	8.3%	9.4%

Source: Bank of Thailand (BoT)

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