

# THAILAND ECONOMIC MONITOR

## THAILAND'S PATHWAY TO CARBON NEUTRALITY: THE ROLE OF CARBON PRICING

December 2023

Executive Summary



## EXECUTIVE SUMMARY

### Recent Developments

**The economic recovery faltered due to global headwinds as growth fell to 1.5 percent year-on-year in 2023 Q3, well below expectations** (Figure ES 1). Goods exports and manufacturing contracted by 3.1 percent and 4.0 percent<sup>1</sup>, respectively, amid weak external demand. Expanded cost-of-living measures, private consumption and tourism supported the recovery. However, Thailand's tourism arrivals reached only 75 percent of pre-pandemic levels in September despite the ongoing recovery in global services trade. Chinese arrivals have slowed and remained significantly below pre-pandemic levels (36 percent). Due to its heavy reliance on tourism and trade, the Thai economy's lagging recovery diverged further from peers such as Malaysia and Philippines (Figure ES 2).

**The current account turned positive at 2.6 percent of GDP in Q3 2023 but remained vulnerable as imports contracted more than exports.** The goods trade surplus reflected underlying weakness: goods imports contracted further by 10.7 percent, in line with weak manufacturing and goods exports. The financial account balance registered a deficit for the first half of this year, amid exchange rate depreciation, net FDI outflow and net foreign portfolio outflow. Meanwhile, the Real Effective Exchange Rate (REER) depreciated by 1.5 percent, one of the largest in the region. This depreciation was linked to the US dollar appreciation, concerns within local markets about uncertainty surrounding new fiscal stimulus measures, and the persistent vulnerability of the current account balance.

**Inflation has turned negative but underlying price pressures may persist.** After remaining within the Bank of Thailand's target range of 1-3 percent for 3 months, headline inflation turned negative for the first time in two years at -0.3 percent primarily due to lowered electricity price as well as lower food prices, broad energy subsidies and the lagging recovery (Figure ES 3). The dip into negative territory is temporary and primarily due to government policy of lowered electricity prices. In Q2 and most of Q3 Thailand continued to be the lowest among ASEAN peers. Core inflation (excludes energy and raw food) continued to wane, reaching 0.7 percent, reaching its pre-pandemic average of 0.7 percent over 2016-2019. However, strengthening domestic consumption and a strong pick-up in producer prices starting in 2022 may exert more pressure on consumer prices if price subsidies are reduced and global energy prices surge. The central bank has pursued monetary normalization to contain risks of underlying price pressures, that may be obscured by price controls, while supporting the economic recovery.

**Expanded fiscal responses to high energy prices have supported the recovery and contained cost-of-living pressures but slowed consolidation.** In FY23 (October 2022 - September 2023), the central government's fiscal deficit fell to 3.2 percent of GDP, improving from the 5.2 percent in the previous year. The general government structural balance is estimated to be a smaller deficit due to the less expansionary policy in FY 23, similar to the trend seen among ASEAN peers. However, fiscal consolidation progressed slowly due to continued high recurrent spending and expanded energy subsidies, as well as slow recovery in tax revenue. Spending on subsidies remained significantly above pre-pandemic levels, primarily due to continued support for the State Oil Fund. Based on the recent WB *Thailand Public Revenue and Spending Assessment* (2023), subsidies and tax reductions on diesel, gasoline, and cooking gas may benefit households but were found to be costly, regressive, and relatively inefficient in reducing poverty. For example, targeted assistance to the poor of THB 1 provides as much poverty alleviation as THB 9 of blanket subsidies. Public debt reached 62.1 percent of GDP end-FY23.

**The financial system remains stable amid improving profitability, although risks associated with high levels of household debt remain.** Capital and liquidity buffers at commercial banks remain well above regulatory requirements, with profitability rising. Indicators of asset quality continued to improve. Non-performing loan (NPL) ratio remains low at 2.8 percent, and provisions are adequate with an NPL coverage ratio of 175.6 percent as of Q2. Profitability stands below pre-pandemic levels with return on assets at 1.3 percent and return on equity at 9.4 percent but continues to improve. Household debt stands at elevated level even compared with advanced economies (90.6 percent of GDP as of 2023 Q1) and the highest among ASEAN peers. The composition of household debt in Thailand warrants attention due to the large share of



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uncollateralized lending (44 percent of GDP). Higher interest rates will further strain households' ability to service debt.

**Poverty is estimated to have declined in 2022 due to the labor market recovery.** Per capita household consumption showed an 8.1 percent growth between 2021 and 2022 as the unemployment rate declined and average wages rose. Certain stimulus programs, such as the half-half initiative, and social assistance programs like the state welfare card and old age allowance, provided support to low-income households. With the rise in household income and consumption, it is anticipated that the poverty rate at the \$6.85 line would have decreased to 11 percent in 2022 from 12.2 percent in 2021. The impact of the COVID-19 crisis on poverty was milder in Thailand than in peer countries with available data, as in Indonesia poverty increased from 9.4 percent in 2019 to 10.8 percent in 2021 and then declined to 9.5 percent in 2022. In the Philippines poverty increased from 16.7 percent in 2018 to 18.1 percent in 2021. On Sept 26, the cabinet approved a three-year debt moratorium for farmers (fiscal cost of THB 30 billion) which will support farmers' consumption, but obscures risks to banks' balance sheets, delays debt restructuring and may encourage further debt accumulation.

## Outlook and Risks

**The economy is projected to recover in 2024 supported by tourism and goods exports recovery as well as sustained private consumption.** Growth is projected to accelerate from 2.5 percent in 2022 to 3.2 percent in 2024 (Table ES 1). Tourism and private consumption will be key drivers. Goods exports are expected to rebound due to favorable global trade despite the slowing Chinese economy (Figure ES 4). Tourism is projected to return to pre-pandemic levels in mid-2025, set back by the Chinese slowdown. The planned Digital Wallet<sup>2</sup> is not yet included in the baseline but could potentially boost near-term growth further if implemented. Potential growth for 2023-30 is estimated at 2.7 percent, 0.5 percentage points lower when compared to the previous decades due to aging and subdued productivity growth. This slowdown is also observed among regional peers, as the average potential growth in the East Asia and Pacific (EAP) region is projected to average 4.8 percent over the remainder of this decade, down from 6.2 percent in the decade to 2021<sup>3</sup>.

**The current account balance will strengthen in 2024 and support external stability.** The current account surplus is projected to rise from an estimated 0.5 percent of GDP in 2023 to 2.4 percent of GDP in 2024, driven by both goods and services trade as well as reduced oil import bills. As a result, foreign exchange reserves are expected to increase from the current level of 43 percent of GDP, which is approximately 10 months of imports.

**Headline inflation is projected to slow to a regional low of 1.1 percent in 2024 due to continued energy subsidies and lower global energy prices.** This decline is attributed to lowered energy prices and extension of energy subsidies, while food prices and core inflation are expected to increase. Core inflation is expected to increase marginally, supported by an anticipated increase in the minimum wage and the closing of the output gap, but remain within an acceptable range in 2024.

**Public debt is projected to peak at 62.8 percent in FY24.** Due to the new government's expanded cost-of-living support measures and tax expenditures, the general government deficit is projected to widen to 3.1 percent in FY24 and remain elevated in FY25. Public investment will be set back by delays in the budget approval for FY24. While public debt is projected to remain sustainable (Figure ES 5), Thailand faces higher pressure for social spending and public investments. Thailand currently still has the room to raise tax revenue and maintain fiscal sustainability while meeting both spending pressures and investment needs (WB Thailand [Public Spending and Revenue Assessment](#) 2023).

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<sup>1</sup> Growth terms are in year-on-year terms, unless specified otherwise.

<sup>2</sup> The digital wallet scheme currently faces legal challenges; the Fiscal Responsibility Act stipulates that the borrowing must be justified on grounds of economic recession or crisis. The government is seeking approval from the Council of State. Once there is certainty about how the scheme will be implemented, the scheme would be included in World Bank baseline projections.

<sup>3</sup> World Bank Global Economic Prospects, June 2023

**Upside and downside risks to growth exist.** If the Digital Wallet program (THB 500 billion, 2.7 percent of GDP), is rolled out in May 2024, growth is anticipated to surpass baseline projections by 0.5-1.0 percentage points over the two-year period and the fiscal deficit may increase to 4-5 percent of GDP, approaching the average level observed during the COVID-19 crisis in 2020-2022. Public debt may reach 65-66 percent to GDP. Heightened geopolitical conflict and high oil prices could lead to another inflationary surge in Thailand, due to its high dependency on energy imports. Moving to a low-carbon growth path can help build energy security, reduce environmental degradation and position Thailand as a regional leader in green and sustainable growth. Carbon pricing, in conjunction with other complimentary policies and the withdrawal of fossil fuel subsidies, can be used to lower greenhouse gas emissions (Figure ES 6; see Chapter 2 on Carbon Pricing).

### Carbon Pricing: An Idea Whose Time has Come

**In 2022, Thailand's Nationally Determined Contribution (NDC) was updated to increase the emission reduction target from 20% to 30% (compared to baseline) by 2030, setting a robust foundation for achieving net-zero emissions by 2065.** However, this is somewhat less ambitious than the net-zero targets of most of its regional peers including Cambodia (2050), Indonesia (2060), Lao PDR (2050), Malaysia (2050), Singapore (2050) and Vietnam (2050). The National Energy Plan supports these targets and outlines pathways for decarbonizing the energy sector. Key plans instrumental in shaping Thailand's net-zero emissions goal include the Climate Change Master Plan, Power Development Plan, Alternative Energy Development Plan, and Energy Efficiency Plan. These plans set specific targets for renewable power generation, renewable energy consumption, and energy intensity reduction.

**Carbon pricing is a critical policy instrument for achieving ambitious reductions in greenhouse gas emissions.** Policymakers considering carbon pricing must navigate between carbon taxes and emissions trading systems (ETSs). Designing these policies is complex due to multiple considerations: sectoral and emissions coverage, price levels, relation to other mitigation instruments, ease or difficulty of administration, use of revenues to address efficiency and distributional objectives, competitiveness concerns, and political risks.

**Thailand has implemented a range of policies to reduce greenhouse gas emissions and has taken the first steps to implementing comprehensive carbon pricing.** Notable climate policies in Thailand include the Environmentally Sustainable Transport System Plan, a vehicle CO<sub>2</sub> emissions tax scheme, and initiatives like the Waste Management Roadmap and REDD+ Readiness for forest protection. Integration of these policies into existing development plans aims to establish a marketplace, particularly emphasizing energy efficiency. While not currently participating in international emissions trading or carbon-pricing markets, Thailand's NDC expresses openness to such mechanisms, showing a commitment to global collaboration in reducing emissions. Both domestic and international carbon pricing schemes in Thailand could build upon the current voluntary carbon market that has been operational since 2015.

**The two main forms of carbon pricing, carbon taxes and Emission Trading Schemes (ETSs), each have their own advantages and disadvantages.** The carbon tax is simple to implement and does not require much institutional development. However, ETSs are more politically feasible in some countries and Thailand could build upon the voluntary ETS that is already operational. A hybrid policy may also be possible. Which option is best for Thailand will likely depend on other factors, such as the sectoral coverage of the scheme and the potential uses of the revenues generated.

**It is important to consider the choice of sectors covered by carbon pricing.** Carbon pricing is effective in sectors where there are technological options to reduce emissions and market operators are aware of the costs imposed on their fossil fuel use by the carbon price. If technological options do not exist, they are blocked by regulatory or institutional factors, or market participants are unaware of them, carbon prices will be ineffective at reducing emissions. There may therefore be an important role for combining carbon pricing with other policies that stimulate low-carbon technology uptake.

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**The feasibility and effectiveness of carbon taxes and ETSs could be diminished by other macro and sectoral policies already in place.** For example, if the current fossil fuel subsidies (i.e. diesel and cooking gas) remain, they will send confusing pricing signals to the market and reduce the effectiveness of carbon pricing. Removing the current price caps and subsidies would therefore need to be part of the introduction of carbon pricing in the same sectors.

**How to use the revenues from carbon pricing is an important question.** Carbon taxes generate revenues for public budgets. ETSs may also generate revenues if the traded allowances are initially auctioned by the government. The revenues from these instruments could be used to fund other climate policies. Alternatively, they could be used to offset some of the negative impacts of carbon pricing (for example on vulnerable households or trade-exposed industries), to reduce other taxes, to support public expenditure, or to reduce national debt levels. How the revenues are used is important for determining the socio-economic impacts of carbon pricing.

**Our model simulations show that Thailand could make greater use of carbon pricing to prevent further increases in emissions, but additional policy would be needed for ambitious emission reductions.** Carbon prices could restrict emissions growth. However, in the long term, the results from the modelling exercise suggest that modest carbon prices that increase rapidly after 2030 would not be sufficient for large-scale emission reductions. Additional measures, such as building EV infrastructure or providing training in solar panel installation, would thus be necessary to accelerate low-carbon technology take-up.

**There need not be a high economic cost to stabilizing emission levels using carbon pricing instruments.** The model simulations use the carbon pricing revenues to reduce a combination of employment taxes and personal income taxes, rather than fund climate measures. Under these conditions, GDP could increase slightly compared to the baseline scenario. Accelerating a shift to lower cost renewable electricity would help to minimize the policy costs, especially as solar power becomes cheaper than alternative generation technologies. A shift to renewables will also increase investment, providing a stimulus that boosts short-term economic growth. Finally, reductions in domestic fossil fuel consumption could improve Thailand's trade balance, providing further economic stimulus.

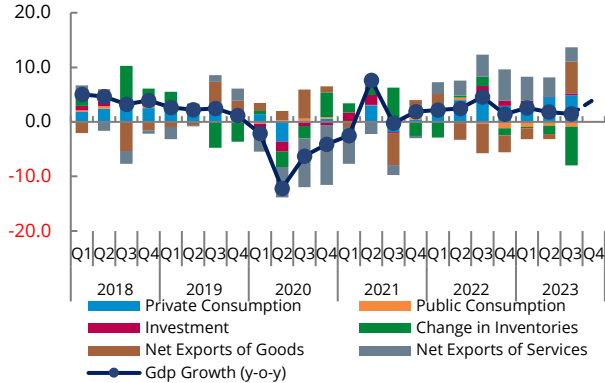
**Project-level Emission Reduction Credits could be an important source of international finance for Thailand in the future.** Although this report focuses on macro and sectoral level carbon pricing instruments, project-level Emission Reduction Credits (ERCs) could be used to connect Thailand to international carbon markets. The initial setup costs of establishing such a scheme need not be high and ERCs could generate an important source of international finance that allows project-level investments in Thailand, including in reforestation. It is therefore worth considering how ERCs might be used in Thailand in future.

**The time has come to consider the role for carbon pricing in meeting Thailand's emission reduction targets.** This report explores some of the complexities involved in implementing carbon pricing. It finds that Thailand has already taken some of the most difficult steps in setting up a comprehensive carbon pricing policy instrument. Important questions remain to be addressed about what form carbon pricing should take in Thailand and which economic sectors should be included in a carbon pricing scheme. The potential benefits from carbon pricing may be substantial. Carbon pricing is likely to play an important role in meeting future emission reduction targets, reducing environmental degradation and air pollution while positioning Thailand as a regional leader in green and sustainable growth.

### Recent Developments and Medium-Term Outlook

**Figure ES 1: Thailand's recovery has faltered due to destocking linked to manufacturing and goods export contraction...**

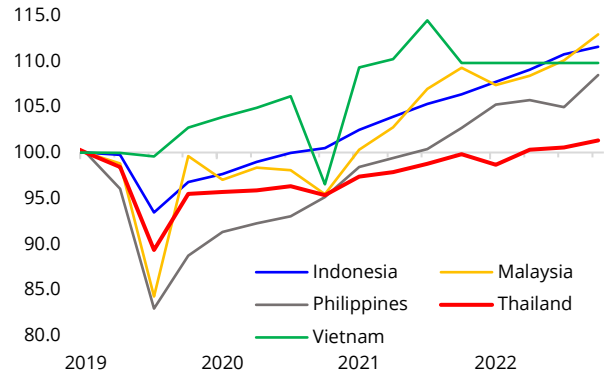
(Percentage-point contribution to real GDP growth, year-on-year)



**Source:** NESDC.  
**Note:** Change in inventories include statistical discrepancies; 2023 Q4 is estimated.

**Figure ES 2: ... as a result, Thailand's lagging recovery diverged further ASEAN peers with gaps equivalent to 7-11 percent of GDP**

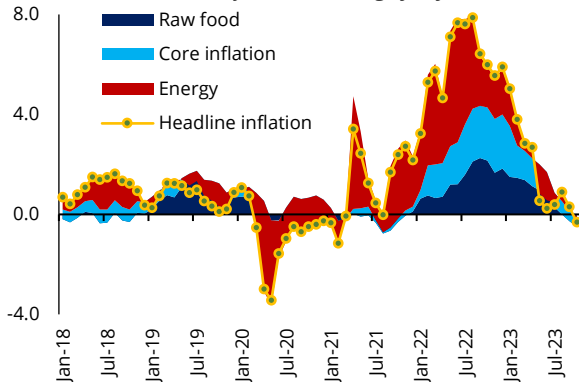
(GDP Index, seasonally adjusted, Q4 2019 = 100)



**Source:** CEIC; World Bank staff calculations.

**Figure ES 3: Headline inflation turned negative due to cost-of-living measures and easing global prices**

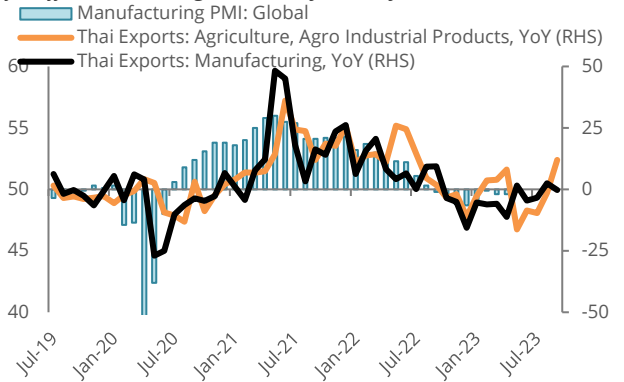
(Contribution to headline inflation, % change y-o-y)



**Source:** CEIC; World Bank staff calculations.

**Figure ES 4: Indicators point to an ongoing recovery in goods exports**

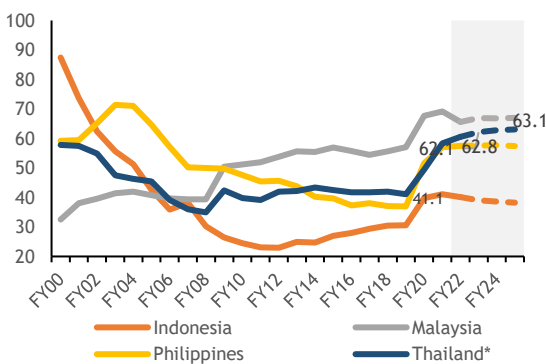
(left: diffusion index; right: Percent year-on-year)



**Source:** Haver Analytics; CEIC; World Bank staff calculations.

**Figure ES 5: Public debt is projected to rise but remains sustainable**

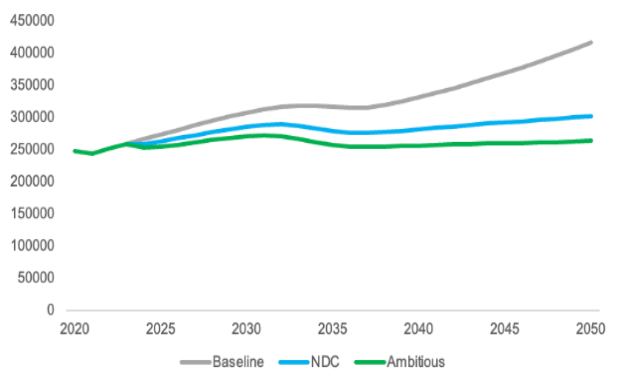
(Percent of GDP)



**Source:** CEIC; World Bank staff projections.

**Figure ES 6: Thailand can use carbon pricing to pursue a low-carbon growth path**

(CO<sub>2</sub> emissions (KtCO<sub>2</sub>))



**Source:** World Bank staff projections.

**Table ES 1: Macroeconomic Indicators**

	2020	2021	2022	2023f	2024f	2025f
<b>Real GDP Growth Rate (at constant market prices)</b>	-6.1	1.5	2.6	2.5	3.2	3.1
Private Consumption	-0.8	0.6	6.3	6.2	3.9	3.4
Government Consumption	1.4	3.7	0.2	-4.5	2.5	2.7
Gross Fixed Capital Investment	-4.8	3.1	2.3	1.8	3.2	3.8
Exports of Goods and Services <sup>1</sup>	-19.7	11.1	6.8	2.2	5.8	4.1
Imports of Goods and Services	-13.9	17.8	4.1	-1.5	4.8	2.5
<b>Real GDP Growth Rate (at constant factor prices)</b>						
Agriculture	-2.9	2.6	0.5	2.7	2.1	2.2
Industry	-5.1	6.0	-1.0	-1.6	1.2	1.3
Services	-5.6	-0.5	4.9	4.7	4.4	4.0
<b>Inflation (Consumer Price Index)</b>	-0.8	1.2	6.1	1.4	1.1	1.5
<b>Current Account Balance (% of GDP)</b>	4.2	-2.1	-3.5	0.5	2.4	3.5
<b>Fiscal Balance (General Government, % of GDP)</b>	-4.7	-7.0	-4.5	-2.4	-3.1	-2.8
<b>Debt (% of GDP)</b>	50.2	57.8	59.7	62.1	62.8	63.1

*Note:* 1/ Exports of goods and services accounted for 69.4 percent of GDP in 2022. See more details in the outlook section.

*Source:* NESDC; World Bank staff calculations.



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