2. Thailand's Long-Term Growth Potential: The Case for Reform[61] [62]

Thailand's long-term growth potential has weakened over the past two decades. This decline is attributed to sluggish private and public investment, demographic shifts from being a dividend to a drag, and stalled structural transformation. Under the staff baseline scenario, Thailand is projected to miss its target of achieving high-income country status by 2037, potentially reaching it only by 2050. An upside scenario with bold reforms could accelerate this to 2042, while a downside scenario might push it beyond 2050. To reach high-income status by 2037, Thailand would need to sustain an average GDP growth rate of 5.0 percent per year, which seems challenging even under optimistic projections, underscoring the urgency of comprehensive economic reforms, revitalized structural transformation, and more effective implementation of development plans

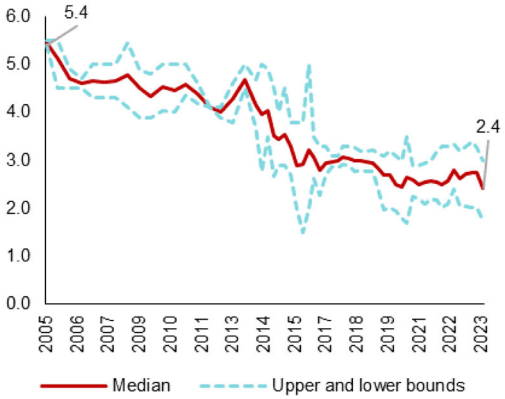
1. Thailand's long-term growth prospects have weakened over the past two decades, as evidenced by persistently downward revisions in consensus forecasts. The average 10-year-ahead consensus GDP growth forecast for Thailand has declined from 5.4 percent in 2005 to just 2.4 percent in 2024 (Figure A2.1), reflecting a trend decline in growth potential and consistent underperformance relative to expectations. This downward trend stands in sharp contrast to other ASEAN economies, which maintained an average 10-year-ahead growth forecast of about 4.0 percent, underscoring Thailand's unique challenges in sustaining a higher potential growth rate. In Part A of this selected issue, we examine the key drivers behind Thailand's secular decline in growth potential, focusing on sluggish capital investment, demographic headwinds, and stalled structural transformation.[63] We conduct a decomposition analysis to assess the evolving sources of productivity growth, distinguishing between intra-sectoral improvements and inter-sectoral reallocation. Part B presents growth potential forecasts under baseline, upside, and downside scenarios, utilizing a production function growth accounting model. This analysis enables us to evaluate Thailand's prospects for achieving high-income status by 2037 and to identify policy priorities that could expedite this goal.[64]

Explaining Thailand’s Long-term Growth Slowdown

2. The Thailand's secular decline in growth potential has been exacerbated by major crises, each leaving a lasting impact on the country's economic trajectory. The COVID-19 pandemic, like previous major crises, triggered a noticeable downshift in growth trends. Prior to 2020, Thailand's economy grew at an average rate of around 3.0 percent. However, in the aftermath of the pandemic, from Q4 2021 to Q2 2024, growth averaged only about 2.0 percent, indicating a significant decline in trend growth rather than a sustained rebound. This pattern mirrors the aftermath of the Asian Financial Crisis, when Thailand's trend growth dropped sharply from above 6.0 percent to approximately 4.0 percent. These episodes highlight a recurring challenge: the difficulty in fully recovering to pre-crisis growth levels, resulting in a stepwise decline in long-term growth potential over time (Figure A2.2).

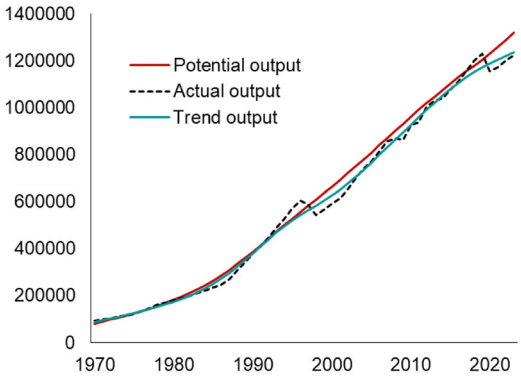
[61] Prepared by Haobin Wang and Michael Wynn.
[62] For brevity, Brunei Darussalam is referred to as Brunei and Hong Kong, China is referred to as Hong Kong in the text and figures.
[63] A complementary analysis on the structural headwinds from the perspective of export competitiveness are explored in *Selected Issue 3: Sustaining Export Competitiveness in a Rapidly Changing Global Environment.*
[64] Thailand’s ambition of graduating from an upper middle-income to high-income country by 2037 is outlined in the 20-year national strategy (2018–37).

Figure A2.1: Long-term growth expectations have steadily declined.
(10-year-ahead consensus growth forecast, percent)



Source: Consensus Forecast and AMRO staff calculation.

Figure A2.2: Growth consistently settled into lower trajectories following crises.
(Real output based on 2002p Chained-Volume-Measure, in millions)

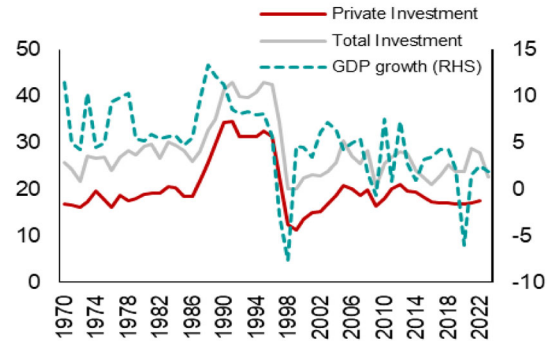


Source: Haver Analytics and AMRO staff estimation.
Note: Trend output is estimated using Hodrick–Prescott filter.

3. Sluggish investment in both the private and public sectors has emerged as a critical factor in Thailand's persistent growth slowdown. Private investment in Thailand has followed a volatile path, plummeting from an average of 30.0 percent of GDP in the decade prior to the Asian Financial Crisis to an average of 16.3 percent in the decade after, before recovering to 21.0 percent by 2012, only to trend downward again. Current investment levels are lower than those of the 1980s and 1990s and lag many ASEAN+3 peers, risking a cycle of low investment, weak GDP growth and productivity growth. Thailand's public investment has fluctuated with political changes. Historically, it had averaged 8.0 percent of GDP but fell to 5.5 percent in the years after the 2014 political upheaval. In 2023, it declined sharply again amid another political transition and delayed budget approval, highlighting the link between political stability and public investment levels.[65]

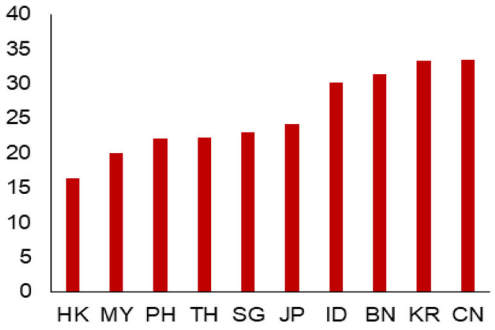
[65] Krist and others (2009) empirically demonstrate that political instability and financial crises tend to suppress private investment in Thailand. Jongwanich and Kohpaiboon (2008) identify public investment as a crucial catalyst for infrastructure development in Thailand, although they note that current levels of public investment remain insufficient.

Figure A2.3: Investment growth in Thailand has remained lackluster since the AFC
(Gross capital formation as a share of GDP, percent)



Source: World Bank.

Figure A2.4: Investment momentum trails regional peers
(Gross capital formation as a share of GDP as of the first quarter of 2024, percent)



Source: CEIC.
Note: BN = Brunei; CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KR = Korea; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand.

4. A possible factor limiting investment in Thailand is the ineffective execution of ambitious development plans. Despite initiatives like Thailand 4.0 and the Eastern Economic Corridor (EEC) project, implementation has lagged expectations. As of August 2024, over 1.0 trillion Baht (about 5.6 percent of GDP) in cabinet approved mega infrastructure projects await implementation. The EEC plan envisions an additional 500.0 billion Baht investment over five years in sectors such as medicine, digital electronics, and new vehicle technologies. However, progress has been slow. For example, the EEC's high-speed rail link connecting three airports has faced delays due to land acquisition issues and contract negotiations. Similarly, other major projects like deep-sea port expansions and smart city developments have progressed more slowly than anticipated, highlighting a persistent gap between planning and execution in Thailand's development initiatives.

5. Demographic trends have turned from being a dividend to a drag on Thailand's economic growth. The old dependency ratio nearly doubled from 2000 to 2019, while the working-age population peaked in 2019 and has been declining relative to the total population since 2011. These trends lead to a steady reduction in labor supply, potentially hamper productivity, and increase fiscal burdens through higher pension payments and healthcare costs. An aging population and shrinking labor force are expected to drag down GDP growth by 0.4 percentage point annually between 2030 and 2050 in our baseline forecast (Figure A2.6). To maintain economic dynamism, Thailand urgently needs comprehensive reforms to boost labor force participation, improve productivity, and ensure fiscal sustainability, highlighting the critical relationship between demographics and long-term economic performance.

Table A2.1: Scale of Investment Projects Awaiting Implementation in Thailand

Category	Project Type	Scale (Billion Baht)	Time Horizon
Cabinet Approved Projects	Major infrastructure projects in EEC	>355.6	Not specified
Cabinet Approved Projects	Infrastructure projects outside EEC (urban mass transit, railway, air transportation, road transportation, Energy)	>736.9	Not specified
EEC Investment Plan	Investment projects targeted at medicine and health, future services, digital and electronics, electric and new vehicles, and BCG (excluding infrastructure)	500 (total goal), of which 210 is currently under negotiation	2024-2028

Source: NESDC.

6. Beyond investment and labor issues, Thailand's economy-wide productivity improvement is being held back by decelerating structural transformation. Historically, the flow of labor from low-productivity agriculture to higher-productivity industry and services sectors has significantly boosted overall productivity growth in Thailand[66]. However, this process has stalled since 2015, with the agriculture sector's employment share remaining high at around 30.0 percent (Figure A2.5). As of 2023, agriculture still occupies 30.0 percent of the labor force but accounts for only 8.6 percent of GDP. Moreover, agricultural output per worker is only 19.0 percent and 23.0 percent of that in the industry and services sectors, respectively, highlighting the persistent productivity gap across sectors (Figure A2.6).

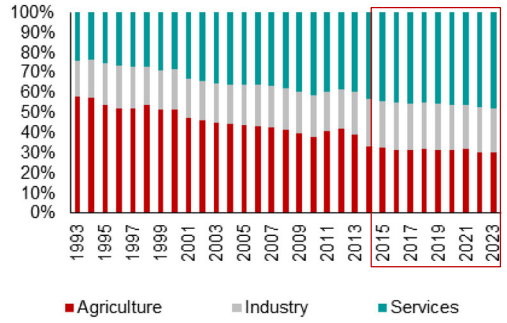
7. Decomposition analysis shows that structural transformation's contribution to Thailand's productivity growth has stalled over the past decade. Our decomposition analysis (see Box A2.2 for details) reveals that while sectoral reallocation contributed to over half of Thailand's productivity gains since the 1990s, its impact has nearly vanished since 2015 (Figure A2.7). Instead, productivity growth now stems primarily from intra-sectoral improvement. This stagnation in structural transformation is particularly concerning given the substantial productivity differences that persist across sectors, suggesting that Thailand is missing out on a historically significant source of economic growth and efficiency gains. As Figure A2.8 shows, Thailand has one of the lowest agricultural labor productivity, especially after adjusting for per capita income, and its sectoral productivity dispersion is among the largest in the region.[67]

8. Thailand's structural transformation has stalled due in part to policy distortions and insufficient reforms. Agricultural support policies have kept workers in low-productivity farming (Warr and Suphannachart 2023), while minimum wage increases have reduced formal sector opportunities for low-skilled workers (Samutpradit 2024). Educational shortcomings, especially in rural areas, have perpetuated a skills mismatch with modern urban sectors (Koen and others 2018). An aging agricultural workforce,

[66] This process of labor reallocation from low-productivity to high-productivity sectors as a driver of economic growth is theorized in Lewis (1954).
[67] Klyeuv (2015) draws similar conclusion using scaled covariance measures.

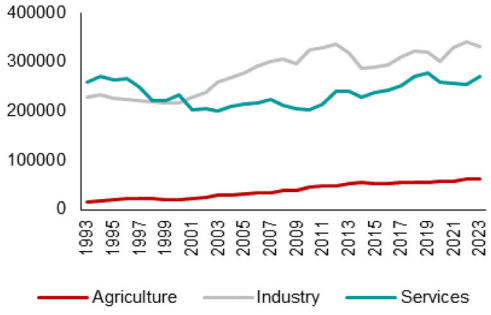
inadequate rural infrastructure, and agriculture's role as an employer of last resort further impede labor movement into higher-productivity sectors. The lack of significant land reforms and agricultural modernization policies has held back productivity growth, with fragmented land ownership restricting economies of scale (Pochanasomboon and others 2020). While agricultural subsidies provide short-term support, they may distort incentives, hindering long-term productivity growth and structural transformation. This complex interplay of factors highlights the urgent need for comprehensive policy reforms to revitalize Thailand's structural transformation.

Figure A2.5: Shift of labor to higher-productivity sectors has stalled from 2015 to 2023…
(Employment share by sector)



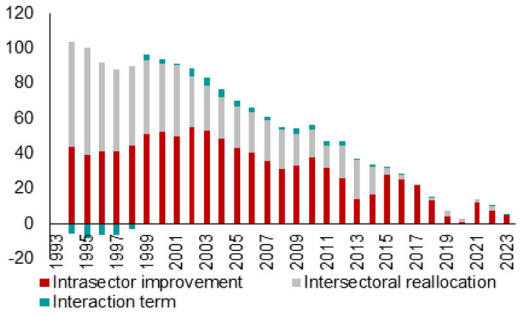
Source: World Bank.

Figure A2.6: …despite substantial productivity gaps across sectors.
(Output per worker, Baht)



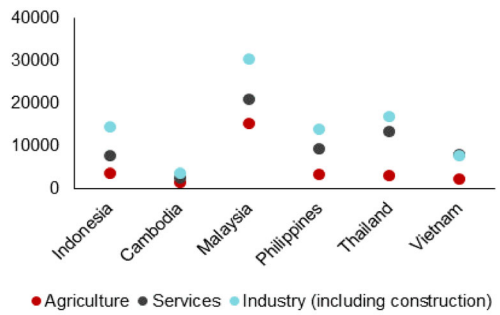
Source: World Bank and AMRO staff calculation.

Figure A2.7: Productivity enhancement via sectoral reallocation has nearly vanished.
(Percent growth from year t (x-axis) to 2023)



Source: World Bank, United Nations and AMRO staff estimation.

Figure A2.8: Dispersion of productivity between agriculture and other sectors is large in Thailand.
(value added per worker, constant 2015 USD)



Source: World Bank and AMRO staff calculation.

Box A2.1. Decomposition of Labor Productivity Growth in Thailand

We decompose labor productivity growth in Thailand into three components—intra-sectoral productivity growth; intersectoral labor reallocation; and dynamic interaction between the two, using a method similar to Klyeuv (2015) but with some modifications. Average productivity (output per worker) equals the weighted average of sectoral productivities, with the weights given by shares of sectoral employment.

$$P_t = \frac{Y_t}{L_t} = \frac{\sum Y_t^i}{L_t} = \sum \frac{Y_t^i}{L_t} = \sum \frac{L_t^i}{L_t}\frac{Y_t^i}{L_t^i} = \sum S_t^i P_t^i$$

P_t refers to total output per worker, or total labor productivity, which is computed by dividing total output Y_t by total employment L_t. S_t^i refers to employment share in sector i, while P_t^i refers to output per worker in sector i.

Productivity growth over a time span from $t0$ to $t1$ can be represented as the sum of three components:

$$\begin{aligned} P_{t1} - P_{\mathrm{t0}} &= \sum S_{t1}^i P_{t1}^i - \sum S_{\mathrm{t0}}^i P_{\mathrm{t0}}^i = \sum S_{\mathrm{t0}}^i P_{t1}^i - \sum S_{\mathrm{t0}}^i P_{\mathrm{t0}}^i + \sum S_{t1}^i P_{t1}^i - \sum S_{\mathrm{t0}}^i P_{t1}^i \\ &= \sum S_{\mathrm{t0}}^i \left(P_{t1}^i - P_{\mathrm{t0}}^i\right) + \sum \left(S_{t1}^i - S_{\mathrm{t0}}^i\right) P_{\mathrm{t0}}^i + \sum \left(S_{t1}^i - S_{\mathrm{t0}}^i\right)\left(P_{t1}^i - P_{\mathrm{t0}}^i\right) \end{aligned}$$

- $\Sigma\, S_{\mathrm{t0}}^i \left(P_{t1}^i - P_{\mathrm{t0}}^i\right)$ represents intra-sectoral productivity growth: This is calculated by summing the productivity improvements within each sector, weighted by their initial employment shares.

- $\Sigma \left(S_{t1}^i - S_{\mathrm{t0}}^i\right) P_{\mathrm{t0}}^i$ represents productivity growth from inter-sectoral labor reallocation: This term reflects the movement of workers between sectors. It becomes positive when labor shifts towards higher-productivity sectors, and negative when the opposite occurs.

- $\Sigma \left(S_{t1}^i - S_{\mathrm{t0}}^i\right)\left(P_{t1}^i - P_{\mathrm{t0}}^i\right)$ represents interaction effect: This captures the combined impact of productivity changes within sectors and labor movement between sectors. It turns positive when workers tend to move into sectors that are experiencing faster productivity growth.

Given that the dynamics of the three terms are sensitive to the choice of initial year $\mathrm{t0}$, we use a backward-looking approach to better illustrate the evolving importance of the three components. We fix $t1$ to be the latest year of our data span, which is 2023, and allow $t1$ to vary. This approach allows us to assess the relative importance of each component from year $t0$ to 2023.

Thailand as a High-Income Economy: Scenarios for Breaking the Middle-Income Barrier

9. A production function analysis of Thailand's growth drivers since 1970 reveals a significant shift in the sources of economic expansion. This quantitative assessment (see Box A2.2 for details) shows that capital accumulation, once a major contributor to potential growth at 3.0 percentage points pre-Asian Financial Crisis, has decelerated to about 1.0 percentage point from 1999 to present. Labor's contribution has experienced an even more dramatic decline, falling from a high average of 2.4 percentage

points between 1970 and 1990 to recently turning negative, reflecting Thailand's sharp demographic shift. While total factor productivity (TFP) growth and human capital development remain key drivers, their collective contribution has also diminished, dropping from about 2.7 percentage points in the early 1990s to approximately 1.6 percentage points currently. This decomposition exercise underscores the evolving landscape of Thailand's economic growth factors and highlights the urgent need for policies that address declining capital accumulation, demographic headwinds, and slowing productivity growth.

10. Baseline staff forecast suggests that Thailand will miss its target of achieving high income country status by 2037 by a wide margin. Our baseline scenario assumes an average annual GDP growth rate of 2.7 percent from 2024 to 2030, gradually declining to 2.2 percent by 2050,[68] with TFP and human capital growth following historical trends and capital investment maintained at the average level of the past decade.[69] Under the baseline scenario, Thailand's GNI per capita is expected to reach only about USD 13,600 by 2037, falling short of the estimated high-income threshold of approximately USD 8,500 for that year.[70] Thailand is not anticipated to reach high-income status until 2050, the end of our forecast horizon. The substantial gap between projected and required growth rates underscores the magnitude of the challenge Thailand faces in achieving its development goals.

11. In an upside scenario with bold reform initiatives and more forceful implementation of investment projects, Thailand will be able to achieve high-income status in 2042. This scenario, as outlined in Table A2.2, assumes successful implementation of key structural reforms, including improvements in education and skills training and acceleration of structural transformation. It also assumes more effective execution of planned investments and sustained inflow of FDI. Under this scenario, potential growth could increase to 4.0 percent per year over the forecast horizon, driven by higher TFP and human capital growth and stronger capital accumulation, before normalizing to 2.8 percent by the end of the forecast period. While this would still not be sufficient to reach high-income status by 2037, it would put Thailand on a path to achieve this milestone by the early 2040s. To reach high-income status by 2037, Thailand would need to sustain an average growth rate of around 5.0 percent per year, a significant acceleration from current levels that seems difficult to achieve even under the upside scenario.

Box A2.2. Growth Accounting Using Production Function

We assume standard Cobb-Douglas production technology with constant returns to scale. Potential output can be decomposed into total factor productivity, capital, labor, and human capital:

$$\ln Y = \ln A + \alpha \ln K + (1-\alpha) \cdot (\ln H + \ln L)$$

where Y is potential GDP, A is total factor productivity, K is capital stock, L is labor supply, H is human capital stock, and α is the output elasticity of capital.

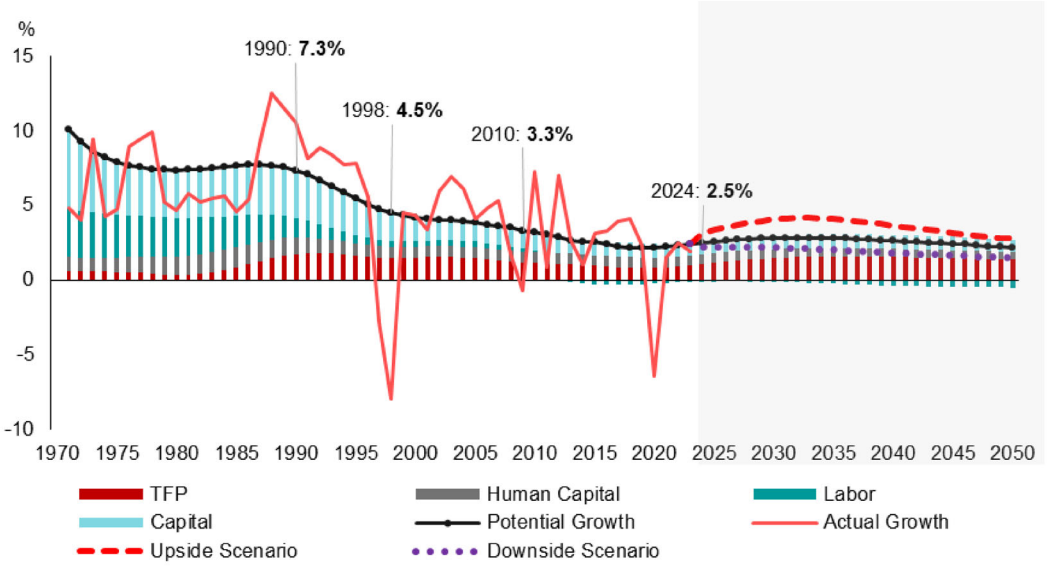
[68] Our forecasts are comparable to those of the World Bank, see World Bank (2023, 2024) and (Kilic Celik and others 2023).
[69] Given the large pipeline of investment projects awaiting implementation and the growing trend of investment applications with Thailand's Board of Investment, we believe it is plausible that the investment-to-GDP ratio will be maintained at its average level over the past decade.
[70] The nominal high-income threshold is projected to grow at 2.0 percent annually from 2024 onward, based on the World Bank's 2023 threshold of USD 14,005.

We rely on data input from Penn World Table (PWT) 10.01 (Feenstra and others 2015), which are updated to 2019. To extend the dataset beyond 2019, TFP was recalculated as the Solow residual of output, employment was extended using data from the United Nation. For capital stock data beyond 2019, they are estimated using investment data from national statistical agencies by the perpetual inventory method. Labor and capital shares follow those reported in Penn World Tables. Human capital is separately accounted for in the production function as described in the equation above.

For baseline projection beyond 2023 until 2050, we use the UN's medium variant population scenario for the growth projection of working-age population. A constant labor force participation rate is assumed for the future. Human capital is assumed to follow historical trends and grow at an average of 1.0 percent from 2024 to 2030 and 0.86 percent from 2031 to 2050. The investment-to-GDP ratio from 2024 to 2030 is assumed to remain at the average level of the preceding decade, considering the pipeline of mega investment projects waiting to be implemented in the years to come, and will gradually decline thereafter. Capital depreciation rate is assumed to maintain at the average level in the preceding decade over the projection horizon. Finally, A is assumed to follow historical trend and grow by an average of 1.6 percent per annum before 2030 and decline to an average of 1.5 percent in 2030–2050.

12. However, if progress in reforms and implementation of development plans were to stall or fall behind, the achievement of high-income status could be pushed well beyond 2050. In a downside scenario, where structural reforms stall and investment plans continue to face significant delays, Thailand's potential growth could fall to an average of 2.5 percent or lower. This would not only delay the country's transition to high-income status but could also lead to a middle-income trap, where Thailand fails to make the leap to advanced economy status. Factors that could contribute to this scenario include political instability, failure to address demographic challenges, and inability to boost productivity in key sectors. In this case, Thailand's GNI per capita might struggle to exceed USD 12,000–13,000 by 2050, leaving it well short of the high-income threshold.

Figure A3.9: Potential Growth Forecast for Thailand



Source: World Penn Table, United Nations, Haver Analytics, and AMRO staff calculation.

13. To slow down or reverse the secular decline in long-term growth potential, policy measures to address the identified drags—stalled structural transformation, shrinking labor force, and sluggish investment—are critical. Three key policy pillars will serve this purpose: 1) Revitalizing structural transformation by facilitating the movement of resources from low to high-productivity sectors and modernizing traditional industries; 2) Focusing reforms on innovation, human capital accumulation, and infrastructure to enhance productivity and competitiveness; and 3) Strengthening implementation of development plans through improved coordination among stakeholders and prioritization of approved investment projects. Our scenario exercise demonstrates that with a collective commitment to all three policy pillars, Thailand has the potential to overcome its growth challenges and accelerate its journey toward high-income status, paving the way for a more prosperous and dynamic economic future.

Table A2.2: Forecast Scenarios for Potential Growth

Scenario	Average growth from 2024-2030 (%)	Peak growth over projection horizon (%)	Average growth from 2030-2050 (%)	Underlying assumptions	Year in which "high-income country" status will be achieved if economy grows at potential
Baseline	2.7	2.8	2.6	• Moderate progress in the implementation of public investment projects, FDI attraction, and human capital development. • Real investment as a share of GDP from 2024 onward is maintained at the average level over the preceding decade. • TFP and human capital will grow along historical trend. • Labor force projection is based on UN's medium variant population scenario with constant labor force participation rate.	2050
Upside	3.7	4.0	3.6	• Bold reform and structural transformation measures, accelerated implementation of development plans, increasing inflows of	2042

				FDI, expedited human capital development. • Real investment as a share of GDP from 2024 onward will gradually increase to the average of ASEAN countries by 2030 and remain unchanged thereafter. • Under a revitalization of reforms and structural transformation, TFP and human capital are assumed to grow at a pace similar to that of the decade before 2015, when structural transformation was still progressing.	
Downside	2.2	2.2	1.8	• Real investment as a share of GDP, TFP and human capital growth from 2024 onward will continue to decline following long-term historical trend	After 2050

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