



TRENDS IN SOUTHEAST ASIA

THAILAND'S ECONOMIC DILEMMAS IN POST-PANDEMIC ASIA

Richard Yarrow

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FOREWORD

The economic, political, strategic and cultural dynamism in Southeast Asia has gained added relevance in recent years with the spectacular rise of giant economies in East and South Asia. This has drawn greater attention to the region and to the enhanced role it now plays in international relations and global economics.

The sustained effort made by Southeast Asian nations since 1967 towards a peaceful and gradual integration of their economies has had indubitable success, and perhaps as a consequence of this, most of these countries are undergoing deep political and social changes domestically and are constructing innovative solutions to meet new international challenges. Big Power tensions continue to be played out in the neighbourhood despite the tradition of neutrality exercised by the Association of Southeast Asian Nations (ASEAN).

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Thailand's Economic Dilemmas in Post-Pandemic Asia

By Richard Yarrow

EXECUTIVE SUMMARY

- While Thailand's health system has fared relatively well through the COVID-19 pandemic, the country's economy faced significant strains and likely a harsher downturn than other economies in Southeast Asia. In particular, the services sector—heavily reliant on international tourism—suffered, and debt levels worsened substantially during the pandemic.
- Thailand's economy has steadily recovered following the peak of the pandemic in 2020, with greater optimism coming from the growing trade in goods and growing investments from China and Japan. The tourism sector has also steadily regained strength since the worst points of the pandemic.
- Despite these recent positive turns, Thailand still faces daunting long-term economic and societal challenges, many of which were exacerbated by the COVID-19 pandemic. Household finances appear increasingly stressed and debt levels have risen sharply across the economy. It is unlikely that Thailand will be able to return its tourism industry to 2019 conditions for the next several years.
- Meanwhile, deteriorating demographics and education enrolments pose serious threats to long-term macroeconomic prospects. Thailand's population of young people is falling, but the country appears to lack momentum in elevating enrolment rates and improving the quality in secondary and tertiary education.
- The agriculture sector remains large, with some crop diversification but with limited gains in productivity, in the face of rising competition—for instance, from India and Vietnam.

- Policymakers may aim to revitalize Thailand's economic prospects with policies aimed, for instance, at enhancing agricultural productivity, combining and internationalizing higher education institutions, easing restrictions on foreign investments, and promoting greater competition by smaller enterprises against large conglomerates, in addition to efforts to improve on transparency and stability, and reduce corruption, within Thailand's political system.

Thailand's Economic Dilemmas in Post-Pandemic Asia

By Richard Yarrow¹

INTRODUCTION

Thailand combines many recent economic trends facing Southeast Asia, while being immersed in the geopolitics of Northeast Asia and facing demographic conditions resembling those of Northeast Asian countries. Thailand continues to economically and politically manoeuvre around the tensions in intra-Asian relations. Over the past decade, Thailand has managed to balance many disparate competitors—attracting investments from China and Japan, welcoming military cooperation with both China and the United States, and hosting travellers from Russia, Ukraine, China, the US, Israel, Saudi Arabia, and Iran—with a goal of receiving benefits from engagement with many different sides and actors.

Thailand's economy suffered greatly during the height of the COVID-19 pandemic. Today, the Thai economy appears to be on a better footing than it was on two years ago, but with substantial long-term challenges that remain unresolved.

How will Thailand's economy fare as the world leaves behind the restrictions of the pandemic era?

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Thailand holds a historic reputation as a powerhouse of Southeast Asia. It retained a large degree of political independence in the nineteenth and twentieth centuries, but quickly aligned with the United States during the Cold War, which facilitated Thailand's military upgrading and greater regional political influence. By the end of the Cold War and into the twenty-first century, Thailand was home to US military exercises, substantial Japanese foreign investments, and growing trade with China. However, in the last fifteen years, an unstable political system with few bold efforts at reform, coupled with rapidly growing competition from other Asian economies, has greatly diminished Thailand's economic lustre. Thus far, COVID-19 has only exacerbated the challenges to Thailand's future regional prominence, and has not yet generated sufficient political or social momentum for fundamental reforms to Thailand's governance and economy.

The following sections review the economic challenges that Thailand faces, centred around the enduring economic disruptions of the COVID-19 period. After weathering the 2020–21 peaks of the pandemic with relatively minor health costs but substantial financial costs, Thailand could celebrate a partial return to pre-pandemic levels of economic vitality, with particular optimism around foreign investments and trade in goods. Still, Thailand must confront daunting challenges in rising debt, poor demographics, an uncertain upgrading in labour force skills, and unmet needs for structural transformations in education, tourism, and agriculture. This essay concludes with a discussion of approaches that may help Thailand improve its economic trajectory. Beneficial approaches could include funding for greater mechanization and irrigation for farms, funding for research and development on improved crop seeds, efforts to merge and internationalize Thai universities, and efforts to reinforce small and medium-sized businesses and enhance competition against large conglomerates, including by easing current restrictions on foreign investments.

ECONOMIC PERILS OF THE PANDEMIC

Data from the last three years highlight stark differences in countries' economic reactions to the pandemic. Among Thailand's Southeast Asian neighbours, export-driven Vietnam saw growth slow sharply but still

come out positive: the country reported GDP in 2020 (in US dollar terms) some 11 per cent higher than in 2018. For the last twenty years and in the first year of the pandemic, Vietnam has reported a roughly stable household consumption share of GDP, and from 2018 to 2020, Vietnam's trade share of the economy remained stable at around 210 per cent of GDP. In Malaysia and Cambodia, GDP declined between 3 and 6 per cent during the first year of the pandemic, while expenditure component shares of GDP remained roughly stable from 2018 to 2020.²

Thailand, with an economy heavily dependent on services and especially tourism, experienced both a harsher contraction and a clearer change in the economy's components, at least in the short term. Thailand's 2020 GDP fell by about 1.25 trillion baht, or 6.2 per cent in real GDP, from 2019. The value of consumption in Thailand's economy fell, but with trade plummeting, a diminished value of consumption expenditures comprised a larger share of Thailand's GDP. That share rose from 66 to 71 per cent of GDP from 2019 to 2020, facilitated by sharply elevated debt.

In a country where per capita GDP is around 230,000–260,000 baht, National Statistical Office surveys show average household debt in one year jumped by 42,000 baht, a quarter of its 2019 value, to 206,000 baht in 2020. Household debt now amounts to slightly above 90 per cent of GDP, making Thai households on average relatively more indebted than households in the United States, China, or Britain. A 332 billion baht rise in non-social security income transfers helped to moderate the pandemic's impact on households, which saw total disposable income fall by only 1 per cent (70 billion baht) in nominal terms in 2020.³

² Data from the World Bank. For longer-term economy comparisons, see the appendix to this paper.

³ GDP component data from the World Bank. Debt, disposable income, and GDP level data from CEIC (<https://www.ceicdata.com>): Thailand National Economic and Social Development Council and National Statistical Office Household Socioeconomic Survey; and from "Total Credit to Households (Core Debt)", BIS Statistics Explorer, Bank for International Settlements, <https://stats.bis.org/statx/srs/table/f3.1> (accessed 4 July 2022). The NSO figure includes farm-related debts, which rose sharply in many provinces during the pandemic.

Similarly, non-financial corporate debt, which had been slowly declining for years before the pandemic, soared during the pandemic, from 74 per cent of GDP in 2019 to 89 per cent by the end of 2021. The non-financial corporate debt ratio in Thailand is now well below the parallel debt shares of GDP in China, South Korea, or Japan, but significantly higher than the shares in either the United States or Britain.⁴

Thailand's economic plight was led by a collapse in tourism. In 2020, exports fell by over 20 per cent in dollar terms, while services exports—which include travel services—fell by almost two-thirds.⁵ The value of personal travel services exports, which includes tourists' hotel costs and domestic transportation, fell from 486.2 billion baht in the last quarter of 2019 to just 16.7 billion baht a year later.⁶ In the years before COVID-19, Thailand welcomed 2.5–3.5 million tourists per month, peaking at 3.9 million in December 2019. In March 2020, that number fell to 819,000, after which it stayed below 100,000 for every month until December 2021. In March 2022, the number of tourists arriving in Thailand reached 211,000—an improvement, but still merely 5 per cent of the 2019 peak.⁷

Numerous factors may have helped Thailand to avoid worse aspects of the pandemic, even though Thailand was one of the first countries in the world to report COVID-19 cases. The government implemented lockdowns and quarantines in April 2020, and involved over a million people in conducting contact tracing and other health monitoring. Extensive networks of community health workers and private hospitals

⁴ Data from “Total Credit to Non-Financial Corporations (Core Debt)”, BIS Statistics Explorer, Bank for International Settlements, <https://stats.bis.org/statx/srs/table/f4.1> (accessed 19 June 2022).

⁵ Data from the World Bank; service export data from CEIC (Thailand National Economic and Social Development Council).

⁶ Data from “Balance of Payments”, Bank of Thailand, https://www.bot.or.th/App/BTWS_STAT/statistics/ReportPage.aspx?reportID=645&language=eng (accessed 11 July 2022).

⁷ Tourism data from CEIC (Bank of Thailand/Thailand Ministry of Tourism and Sports).

helped to spread prevention information and care for those infected.⁸ By the beginning of 2022, over 70 per cent of Thais had at least one vaccine dose—lower than the officially reported vaccination rates in Vietnam, Malaysia or Cambodia, but on par with the United States and higher than in Indonesia or India.⁹ In the 2010s, overseas visitors helped promote

⁸ Nattadhanai Rajatanavin et al., “Responding to the COVID-19 Second Wave in Thailand by Diversifying and Adapting Lessons from the First Wave”, *BMJ Global Health* 6, no. 7 (2021), <https://gh.bmj.com/content/bmjgh/6/7/e006178.full.pdf> (accessed 4 August 2022); Tares Krassanairawiwong et al., “Roles of Subdistrict Health Office Personnel and Village Health Volunteers in Thailand during the COVID-19 Pandemic”, *BMJ Case Reports* 14, no. 9 (2021), <https://casereports.bmj.com/content/14/9/e244765> (accessed 4 August 2022); Nayawadee Kaweenuttayanon et al., “Community Surveillance of COVID-19 by Village Health Volunteers, Thailand”, *Bulletin of the World Health Organization* 99, no. 5 (2021), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8061662/> (accessed 4 August 2022).

⁹ As of June 2022, Thai health authorities had approved 12 COVID-19 vaccines, including CoronaVac and Convidecia from mainland China; the Medigen vaccine from Taiwan; Moderna, Pfizer, and Johnson and Johnson (J&J) vaccines from the US; Sputnik V and Sputnik Light from Russia; Turkovac from Turkey; and AstraZeneca’s Covishield made in India. Vaccines from AstraZeneca, J&J, and Chinese pharmaceutical companies were the first to be significantly distributed in Thailand in spring 2021, and most vaccinated Thais likely received one of these vaccines. AstraZeneca alone committed to provide about 61 million vaccine doses in 2021, enough to fully vaccinate 43 per cent of Thais. Data from Hannah Ritchie et al., “Coronavirus (COVID-19) Vaccinations”, OurWorldInData.org, https://ourworldindata.org/covid-vaccinations?country=OWID_WRL, (accessed 5 July 2022). On vaccines, see “COVID-19 Vaccine Guide for Travellers to Thailand”, Newsroom, Tourism Authority of Thailand, 28 June 2022, <https://tatnews.org/2022/06/covid-19-vaccine-guide-for-travellers-to-thailand/> (accessed 5 July 2022); Panpit Suwagoon, “Key Things to Know about COVID-19 Vaccines”, Bangkok Hospital, <https://www.bangkokhospital.com/en/content/know-well-before-getting-the-covid-19-vaccine> (accessed 5 July 2022); Attaya Limwattanayingyong et al., “SDGHI – Thailand National Immunisation Program”, SDGHI Perspectives, SingHealth Duke-NUS Global Health Institute, April 2021, [https://www.duke-nus.edu.sg/sdghi/resources/knowledge-centre/readiness-of-thailand-national-immunization-program-\(nip\)-for-the-rollout-of-covid-19-mass-vaccination](https://www.duke-nus.edu.sg/sdghi/resources/knowledge-centre/readiness-of-thailand-national-immunization-program-(nip)-for-the-rollout-of-covid-19-mass-vaccination) (accessed 5 July 2022); Pisit Jarumaneroj et al., “An Epidemiology-Based Model for the Operational Allocation of COVID-19 Vaccines: A Case Study of Thailand”, *Computers & Industrial Engineering* 167 (2022).

a sizeable and prosperous infrastructure for medical tourism. When travellers vanished in 2020, the facilities and trained staff fostered by prior waves of medical tourism may have also helped Thailand withstand COVID-19's health strains.¹⁰

By official counts, Thailand experienced 4.4 million COVID-19 cases and 30,000 deaths as of May 2022, in a country of 70 million people. Compared to the 70,000 reported COVID-19 deaths in New York City, Thailand's health management looks impressive, although *The Economist* estimated that Thailand truly suffered closer to 90,000 excess deaths.¹¹

IS THAILAND'S ECONOMY IMPROVING?

At first glance, Thailand is undergoing an obvious recovery from 2020. In nominal terms, private consumption in the last quarter of 2021 finally reached the peak levels of 2019. Formal job vacancies are higher than they were before the pandemic began. Other labour force indicators are also significantly more promising: while the labour force remains below a 2013 peak of 40.2 million workers, it rose to 39.5 million in December 2020, helped by a partial reversal of long-term declines in labour force participation. More overseas workers are now arriving in Thailand: in

¹⁰ Apornrath Phoonphongphiphat, "Thailand to Revive Its Medical Tourism Sector Amid COVID Pandemic", *Nikkei Asia*, 6 October 2021, <https://asia.nikkei.com/Business/Health-Care/Thailand-to-revive-its-medical-tourism-sector-amid-COVID-pandemic> (accessed 4 August 2022); Steve Finch, "Thailand Top Destination for Medical Tourists", *Canadian Medical Association Journal (CMAJ)* 186, no. 1, 7 January 2014; Ivy Teh, "Healthcare Tourism in Thailand: Pain Ahead?", *Asia-Pacific Biotech News*, 30 April 2007, <https://doi.org/10.1142/S0219030307000560> (accessed 4 August 2022).

¹¹ "Tracking COVID-19 Excess Deaths across Countries", *The Economist*, first published 20 October 2021, updated 15 June 2022, <https://www.economist.com/graphic-detail/coronavirus-excess-deaths-tracker> (accessed 15 June 2022); "Thailand – WHO Coronavirus (COVID-19) Dashboard", World Health Organization, <https://covid19.who.int/region/searo/country/th> (accessed 11 June 2022).

April 2022, the number of alien work permits issued or renewed nearly equalled the January 2019 peak of 230,000.¹²

As international borders reopen—and as Thailand eases restrictions on travel—the tourism sector appears more upbeat. In May 2022, Prime Minister Prayut Chan-ocha took the opportunity of his visit to Washington, DC, to declare that Thailand was again open to global jet setters.¹³ Business reports partly confirm his comments. Numbers of tourists from the Middle East and Europe are slowly inching toward pre-pandemic levels. Hotel occupancy rates are far below the pre-pandemic November–April norm of around 80 per cent, but have increased to around 40 per cent in recent months.¹⁴

While Thailand’s tourism sector remains weaker than its pre-pandemic condition, Thai trade levels have soared. Goods exports rose 32 per cent in 2021. Goods exports to the US grew in particular, from 86 billion baht a month in January 2021 to over 140 billion baht in March 2022, led by increasing exports of electrical equipment such as microwaves and air conditioners, electronics such as hard disks and telephone equipment, and rubber products such as tires and medical gloves. During and since the pandemic, monthly goods exports to South Korea and Taiwan nearly or roughly doubled, with large increases in agricultural goods, refined fuels, and other industrial products.¹⁵ The agricultural sector, comprising

¹² Data from CEIC (Thailand National Economic and Social Development Council, Department of Employment, National Statistical Office).

¹³ “‘We’re Open for Business’”, *Bangkok Post*, 13 May 2022, <https://www.bangkokpost.com/thailand/general/2309102/were-open-for-business> (accessed 4 August 2022).

¹⁴ Data from CEIC (Thailand Ministry of Tourism and Sports, Bank of Thailand).

¹⁵ Thailand’s export growth is impressive in US dollar terms, and more impressive in baht terms. Thai goods exports to South Korea before the pandemic amounted to US\$350–400 million per month, or 11–12 billion baht per month, reaching a low point of 10 billion baht in mid-2020. Since then, Thai exports to South Korea surged to US\$500–550 million per month, with a high point of US\$621 million or 21 billion baht in May 2022. Thai goods exports to Taiwan were around US\$300–350 million per month or around 10 billion baht in 2019, but fell to a low of 8.7 billion baht or US\$282 million in mid-2020, and then rose above US\$400 million in early 2021 and reached a high of US\$498 million or 16.6 billion baht in April 2022.

a tenth of Thailand's exports by value, performed well, with a 23 per cent growth in exports in US dollar terms in 2021.¹⁶

These improvements are paralleled by broader gauges of domestic industries. The Thailand Industry Sentiment Index (TISI), from the Federation of Thai Industries, shows a sharp recovery in sentiment around sales and profits in the fourth quarter of 2021 and the first quarter of 2022. The gain was reported by both foreign and domestic-oriented firms, but was greater for firms focused on overseas markets. March 2022 saw the steepest TISI rise in years, though the index fell in April on fears of increasing fuel prices and domestic inflation.¹⁷

Trade and manufacturing are reinforced by strong economic ties with China and Japan, which have to a great extent supported Thailand's industrial expansion. Thailand's imports from China rose especially, from 159 billion baht in January 2021 to a peak of 234 billion baht in January 2022. Exports to China rose from around 70–80 billion baht a month before the pandemic to recently over 100 billion baht, with some of the greatest gains in agricultural exports (see Figure 1 for US dollar-denominated export data). Thailand's exports to China were once overwhelmingly dominated by food: agricultural goods (including fresh fish, rice and rubber) and agricultural-industrial products (such as juices, sugar, canned foods and processed fish) comprised 63–73 per cent of Thailand's exports to China in the mid-1990s by value. After declining to under 20 per cent of Thai exports in the mid-2000s, agriculture re-emerged in recent years to comprise a third of exports to China. The dollar value of Thailand's durian exports to China was, for example, 45 times larger in 2021 than it was in 2010.¹⁸

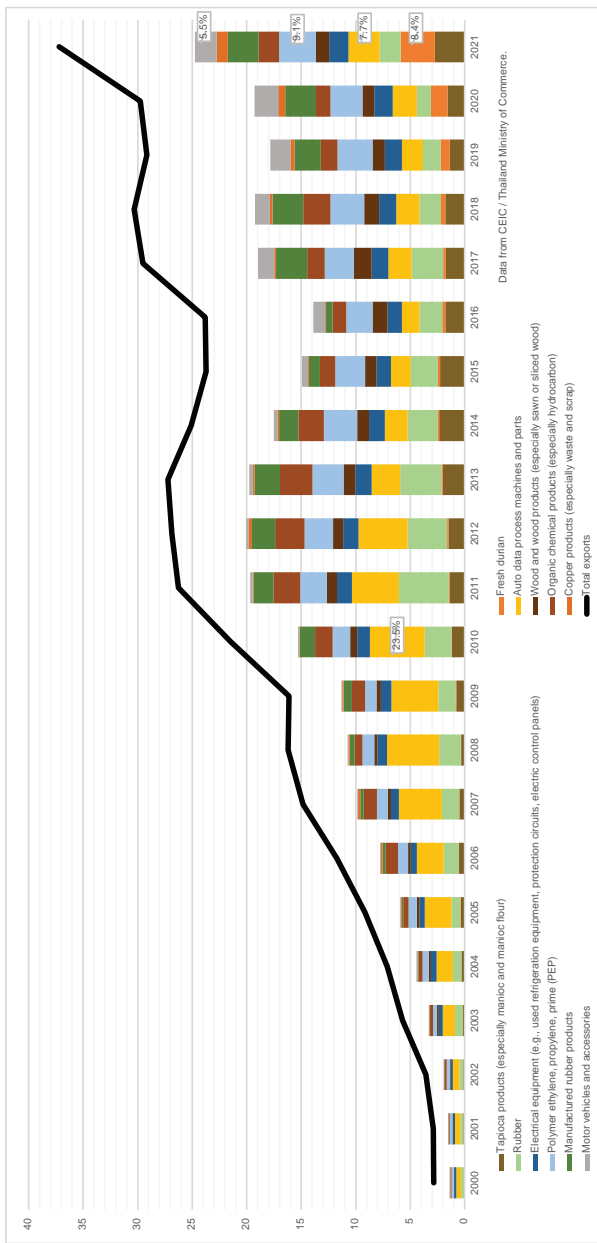
Thailand's trade and relations with Japan continue to improve. Unlike with Thailand-China trade, exports to Japan are increasingly industrial. In the mid-1990s, about 40 per cent of Thailand's exports to Japan were

¹⁶ Data from CEIC (Thailand Ministry of Commerce).

¹⁷ Data from CEIC (Federation of Thai Industries).

¹⁸ Data from CEIC (Thailand Ministry of Commerce).

Figure 1: Thailand's Exports to China (in US\$ billion) and Key Product Categories (with Selected Percentages of Total Exports)

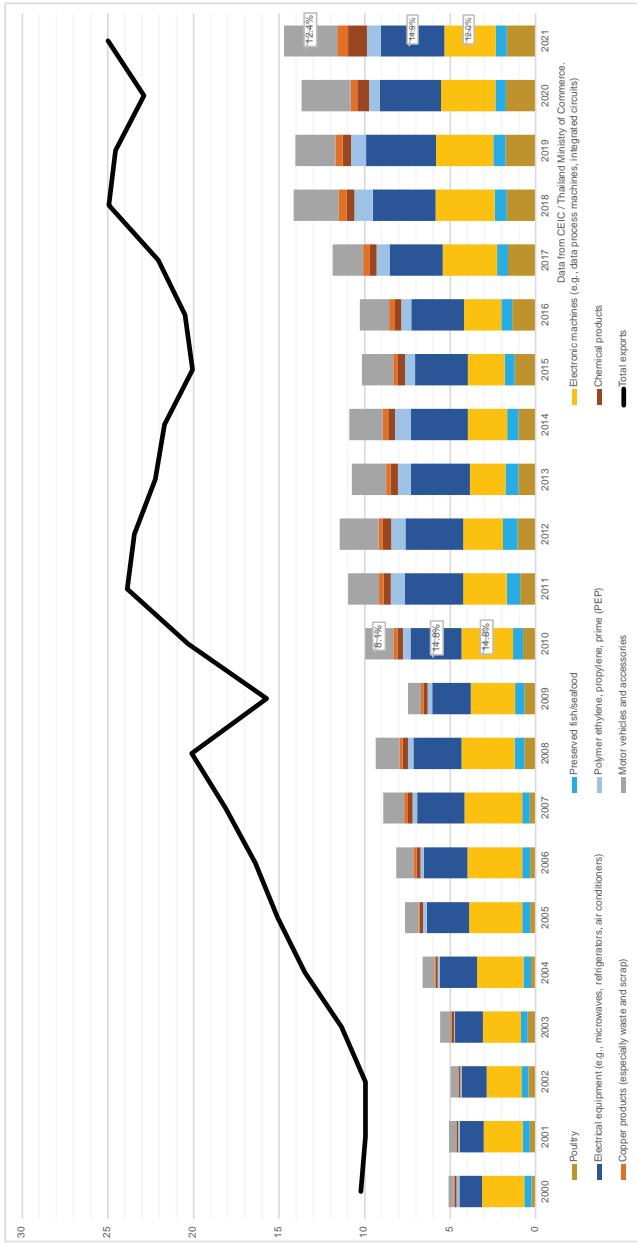


agricultural or agricultural-industrial products. By the mid-2000s, around three-quarters of Thailand's exports to Japan were in manufactured products (ranging from circuits to air conditioners), a proportion that rose to 80 per cent in 2021 (see Figure 2). In absolute terms, the monthly value of Thailand's manufactured product exports to Japan has increased by about 10 billion baht since 2015. On 20 April 2022, one of Thailand's deputy prime ministers visited Japan to promote investments. This visit was followed by a rapid series of exchanges: Japan's prime minister arrived in Bangkok on 1 May, celebrating 135 years of formal Thai-Japanese relations; Japan's Minister of Economy, Trade, and Industry visited Thailand on 22 May; and Thailand's prime minister travelled to Tokyo at the end of the same month.¹⁹

Once a major US-aligned centre in Southeast Asia's Cold War geopolitical rivalries, Thailand increasingly sees economic rewards

¹⁹ Ibid.; "Prime Minister of Japan Arrived in Thailand on an Official Visit", Thailand Ministry of Foreign Affairs, 1 May 2022, <https://www.mfa.go.th/en/content/pmjapanarrival01052565-2?cate=5d5bcb4e15e39c306000683c> (accessed 4 August 2022); "Minister Hagiuda Holds Meeting with Mr. Supattanapong Punmeechaow", Japan Ministry of Economy, Trade, and Industry (METI), 21 April 2022, https://www.meti.go.jp/english/press/2022/0421_002.html (accessed 4 August 2022); "Minister Hagiuda Attends the APEC Ministers Responsible for Trade Meeting", METI, 22 May 2022, https://www.meti.go.jp/english/press/2022/0522_002.html (accessed 4 August 2022); "Thailand's Deputy Prime Minister and Minister of Energy Pays a Courtesy Visit on Mitsubishi Motors Corporation's CEO to Explore Investment Opportunities and Strengthen Thailand's EV Roadmap and Investment", Mitsubishi Motors Thailand, 5 May 2022, <https://www.mitsubishi-motors.co.th/en/news-activity/news/prime-minister-and-minister-of-energy-pays-a-courtesy-visit-mitsubishi-motors-to-investment-ev-roadmap> (accessed 4 August 2022); Apinya Wipatayotin, "Prayut Touts Thailand as Major Global EV Hub with Japanese Support", *Bangkok Post*, 26 May 2022, <https://www.bangkokpost.com/business/2316410/prayut-touts-thailand-as-major-global-ev-hub-with-japanese-support> (accessed 4 August 2022); "Thailand Roadshow to Japan Reinforces Commitment to Partnership and Future Investments in EV, BCG and Electronics", *Bangkok Post*, 26 April 2022, <https://www.bangkokpost.com/business/2300714/thailand-roadshow-to-japan-reinforces-commitment-to-partnership-and-future-investments-in-ev-bcg-and-electronics> (accessed 4 August 2022).

Figure 2: Thailand's Exports to Japan (in US\$ billion) and Key Product Categories (with Selected Percentages of Total Exports)



from the geopolitical rivalries centred on Northeast Asia.²⁰ In relation to the Belt and Road Initiative, China has encouraged the construction of a high-speed railway connecting Bangkok to China via Laos. The mostly China-financed and China-owned portion of the railway, from Kunming in Yunnan Province through Laos to Vientiane and toward the Thai border at Nong Khai, officially opened on 3 December 2021. Thailand's portion of the railway, designed in China but financed by Thailand without Chinese loans, in theory might be finished by the late 2020s. Chinese planners envision the railway ultimately extending to Ho Chi Minh City, Yangon and Singapore.

The railway has been intensely debated in Thailand, and rightly so. It is expensive to build, and it requires extensive energy and maintenance to service largely rural regions. All of Laos has fewer people than the city of Bangkok. Furthermore, a high-speed railway may only offer a less economical form of travel than existing air routes; Bangkok-Kunming flights take under three hours and sometimes cost under US\$150.²¹ Still, Thai authorities have taken precautions to limit their overseas debt exposure from the railway, avoid commitments on the railway's speed and balance between freight and passenger service, and ensure that a

²⁰ See, for instance, "Thailand in the Middle", *Bangkok Post*, 3 December 2021, <https://www.bangkokpost.com/business/2224919/thailand-in-the-middle> (accessed 4 August 2022); Supalak Ganjanakhundee, "Thailand's 'Complex Engagement' Approach in Foreign Policy: A Balancing Act", *ISEAS Perspective*, no. 2020/23, 31 March 2020, https://www.iseas.edu.sg/wp-content/uploads/2020/02/ISEAS_Perspective_2020_23.pdf (accessed 4 August 2022); Kavi Chongkittavorn, "Stronger ASEAN-US Ties Hinge on Careful Cooperation", *East Asia Forum*, 31 May 2022, <https://www.eastasiaforum.org/2022/05/31/stronger-asean-us-ties-hinge-on-careful-cooperation/> (accessed 4 August 2022); and Ann Marie Murphy, "Beyond Balancing and Bandwagoning: Thailand's Response to China's Rise", *Asian Security* 6, no. 1 (2010).

²¹ Flight information from skyscanner.com, rome2rio.com, and trip.com. For an example of the financial problems with the Laotian railway, see Phayboune Thanabouasy, "Laos-China Railway Projected to Be Profitable after 23 Years," *Laotian Times*, 27 December 2021, <https://laotiantimes.com/2021/12/27/laos-china-railway-project-to-be-profitable-after-23-years/> (accessed 4 August 2022).

largely Thai workforce will build it.²² This is in contrast to the portion of the railway in Laos, which, in addition to having mostly Chinese management and ownership, was largely built by Chinese workers and engineers using materials imported from China. Even without a high-speed railway, Thai enterprises and authorities are preparing for growth in rail-transported goods trade with China via Laos.²³

Northeast Asian firms have warmed to Thailand's port infrastructure, relatively low-wage labour force, formal military ties with the US that reduce risks to US market access, and relative geopolitical neutrality.²⁴

²² See Jonathan Lane, "Reevaluating the Economic Benefits of the Lao People's Democratic Republic (Lao PDR)–People's Republic of China High-Speed Rail and Its Implications for Fiscal Stability of the Lao PDR", ADBI Working Paper no. 1181, Asian Development Bank Institute, September 2020, <https://www.adb.org/publications/reevaluating-economic-benefits-lao-prc-high-speed-rail> (accessed 4 August 2022); Chalongphob Sussangkarn, "China-Thailand Rail Link: Implications for Belt and Road Initiative", presentation at Qianhai Institute for Innovative Research, November 2016, <https://doi.org/10.13140/RG.2.2.19073.25441> (accessed 4 August 2022); Toru Takahashi, "China's Pan-Asian Railway Sputters to a Halt in Thailand", *Nikkei Asia*, 16 January 2022, <https://asia.nikkei.com/Economy/China-s-pan-Asian-railway-sputters-to-a-halt-in-Thailand> (accessed 4 August 2022).

²³ On Thai businesses, see Marimi Kishimoto, "Laos' Logistics Vision for ASEAN", *Nikkei Asia*, 2 April 2022, <https://asia.nikkei.com/Business/Transportation/Laos-logistics-vision-for-ASEAN-All-rails-lead-to-Vientiane> (accessed 4 August 2022); Peter Janssen, "\$6 billion Laos-China Railway on Track to Somewhere", *Asia Times*, 3 December 2021, <https://asiatimes.com/2021/12/6-billion-laos-china-railway-on-track-to-somewhere/> (accessed 4 August 2022). For more context on the railway, see Yu Hong, "The China-Laos Railway: A 'Game Changer' for Laos?", EAI Commentary no. 44, East Asian Institute of the National University of Singapore, 16 December 2021, <https://research.nus.edu.sg/eai/wp-content/uploads/sites/2/2021/12/EAIC-44-20211216-1.pdf> (accessed 4 August 2022).

²⁴ For instance, see Soji Sakai, "Expectations of Japanese Companies in Thailand for the Thailand 4.0", Japanese Chamber of Commerce Bangkok, 2018, [https://www.boj.go.th/upload/content/15.15%20-%2016.30%20\(1\)%20-%20Mr.%20Soji%20Sakai,%20President,%20Japanese%20Chamber%20of%20Commerce%20\(JCC\),%20Bangkok_EN_5ab214ec8c6ff.pdf](https://www.boj.go.th/upload/content/15.15%20-%2016.30%20(1)%20-%20Mr.%20Soji%20Sakai,%20President,%20Japanese%20Chamber%20of%20Commerce%20(JCC),%20Bangkok_EN_5ab214ec8c6ff.pdf) (accessed 4 August 2022).

Japanese and Chinese foreign investment in Thailand has been significant and growing, as companies seek to base factories in Thailand and, in part, avoid uncertainties around US restrictions on exports from China. Japan has long been the most important investor in Thailand with the greatest value of Thai Board of Investment-approved FDI projects (see Figures 3 and 4), including a Mitsubishi electric vehicle factory near the ambitiously expanding Laem Chabang port on the country's Eastern Seaboard. China is a growing investor. In 2019, China briefly claimed the top place for FDI project applications to the Board of Investment (BOI) but not the top place in BOI-approved investments, before Japan reclaimed the top position for applications in 2020.

LONG-TERM CHALLENGES REMAIN

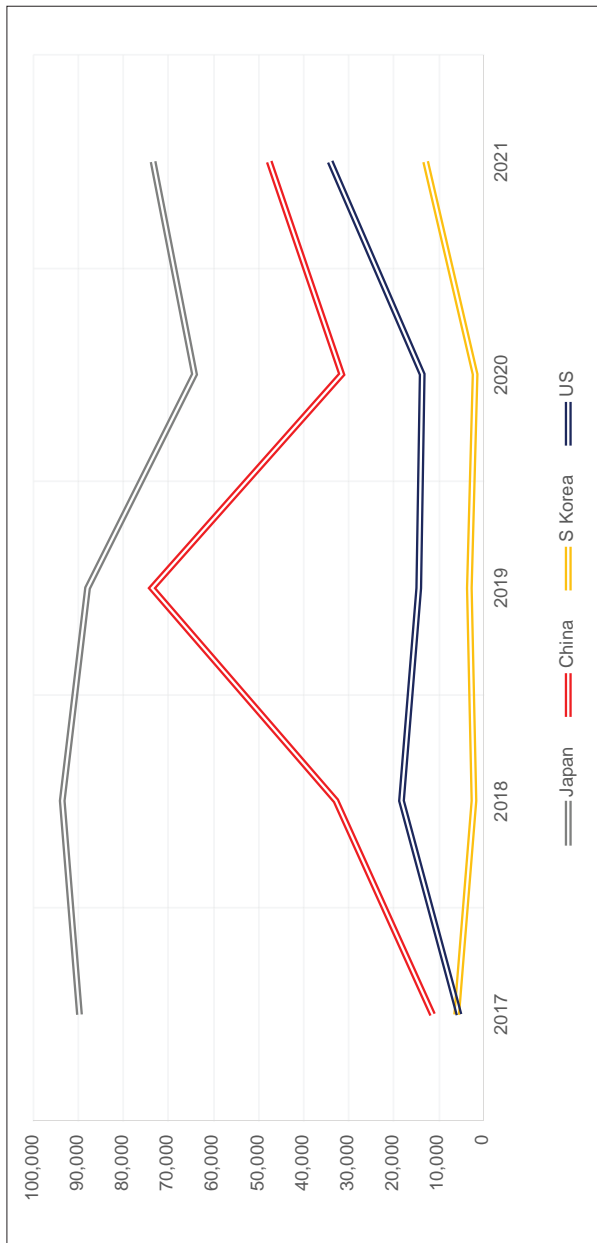
Reviving tourist inflows remains a clear challenge for Thailand's economy. Chinese tourists comprised a third or more of the travellers to Thailand before the pandemic, reaching 850,000 tourists in December 2019 and over a million in January 2020. This group generated more revenue streams than tourists of any other nationality. Chinese tourists brought Thai businesses some 37–55 billion baht a month in revenues before the pandemic, or over 530 billion baht in 2019, amounting to roughly 3 per cent of Thailand's GDP.²⁵ If one includes the upstream and downstream effects of this activity, then the economic impact of Chinese tourists appears even greater.

In March 2022, the number of tourists with Chinese citizenship entering Thailand edged just above 5,000—about 0.5 per cent of the pre-COVID figure.²⁶ The revenues from this group appear lost to Thailand for a long time. Lengthy quarantine policies in China continue to suppress the number of Chinese travelling abroad, and recent economic challenges in China could significantly slow the rise in Chinese disposable incomes from which Thailand's tourism sector benefited. Eventually, the

²⁵ Data from CEIC (Ministry of Tourism and Sports).

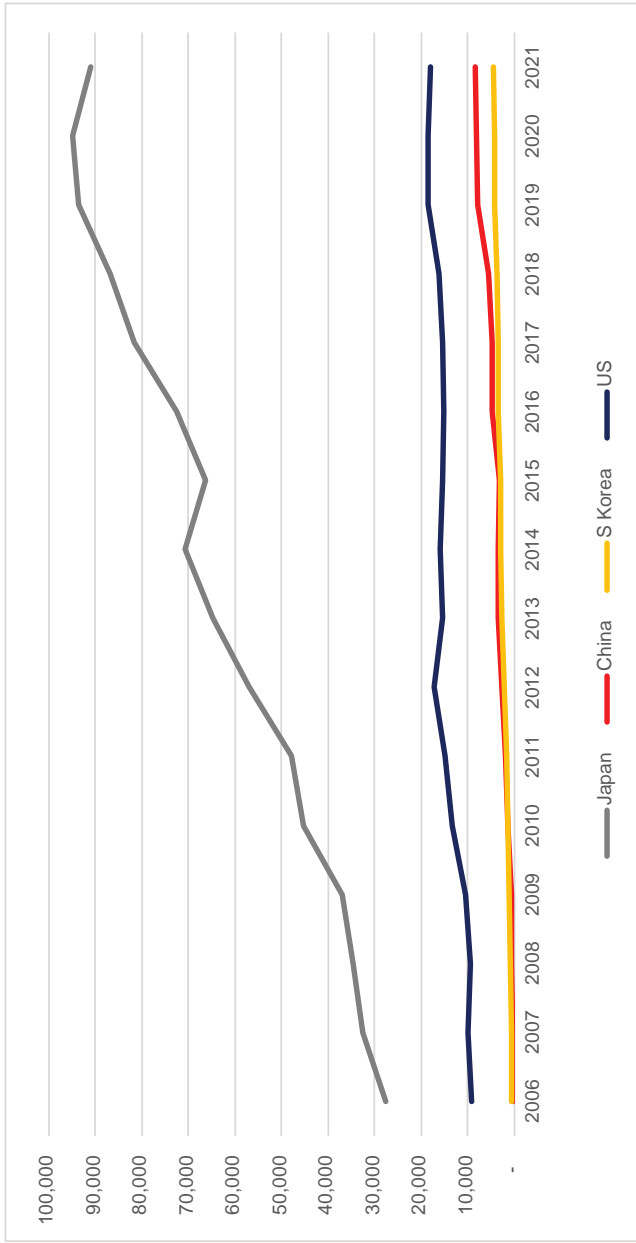
²⁶ *Ibid.*

Figure 3: Board of Investment Approved FDI (million baht)



Source: Thailand Board of Investment.

Figure 4: FDI Value Outstanding (US\$ million)



Source: CEIC.

economic and financial effects of COVID-19 in China could impact Chinese industrial investments in Thailand as well.

As a result of efforts to stabilize the economy during lockdowns, Thailand's government debt rose sharply during the pandemic, from 5.8 trillion baht in February 2020 to 8.8 trillion in March 2022, centred around a 1.9 trillion baht stimulus in 2020. Total public debt is about 10 trillion baht as of June 2022. As the economy weakened, the debt-to-GDP ratio jumped by 20 percentage points. The ratio—at 61 per cent of GDP in June 2022—remains low by Western standards and is mostly domestically financed.²⁷ However, it continues to rise and may constrain Thailand's future public investment options or ability to support an increasingly indebted private sector.²⁸

Asset prices, too, have increased, though generally by a lesser degree than in the United States or China. Condominium and land prices are about 80 per cent higher than they were in 2011. They are about 16 per cent higher than immediately before the pandemic, outpacing GDP and household incomes, although land prices have fallen in recent months.²⁹ Depending on its distribution, such asset price growth may heighten inequality among households or imbalances between Bangkok and other regions, limiting future consumption-based growth. While official data assert relatively moderate income inequality, Credit Suisse's 2017 "Global Wealth" report pointed to substantial wealth inequality, similar

²⁷ Data from CEIC (Bank of Thailand).

²⁸ See Burin Adulwattana, "Thailand's Ballooning Household Debt Is a Ticking Time Bomb", *Bangkok Post*, 17 May 2021, <https://www.bangkokpost.com/business/2117175/thailands-ballooning-household-debt-is-a-ticking-time-bomb> (accessed 4 August 2022).

²⁹ The Bank for International Settlements suggests that Thai residential real estate prices have increased more modestly, by 34 per cent in real terms from 2010 to 2021. Data from "Property Indicators", Bank of Thailand, <https://www.bot.or.th/English/Statistics/EconomicAndFinancial/Pages/StatPropertyIndicators.aspx> (accessed 11 June 2022), and "Residential Property Prices: Selected Series", Bank for International Settlements, https://www.bis.org/statistics/pp_selected.htm (accessed 11 June 2022).

to levels in the United States and greater than levels in China.³⁰ Likewise, asset prices might continue to rise if government debt and household income inequality increase—and rise in a less sustainable way than in countries with better demographic outlooks.

While most demographers of Asia focus on Korea, Japan, and China, Thailand faces a demographic conundrum which could soon lead to much greater economic difficulties. The Department of Provincial Administration suggests that Thailand's population may have been in decline since 2019. From 2019 to 2021, the number of children aged 4 and younger in Thailand fell by 8 per cent.³¹

However, this demographic trend long preceded the pandemic. The number of Thais in their twenties fell from 11 million in 2000 to 9.1 million in 2021. In the same period, the number of Thais aged 4 and younger fell from 4.4 to 2.9 million, a 35 per cent decline.³² In Japan during that time, the number of people in their early twenties fell by around 27 per cent—a steeper fall than in Thailand, but not by a very reassuring degree (see Figure 5).

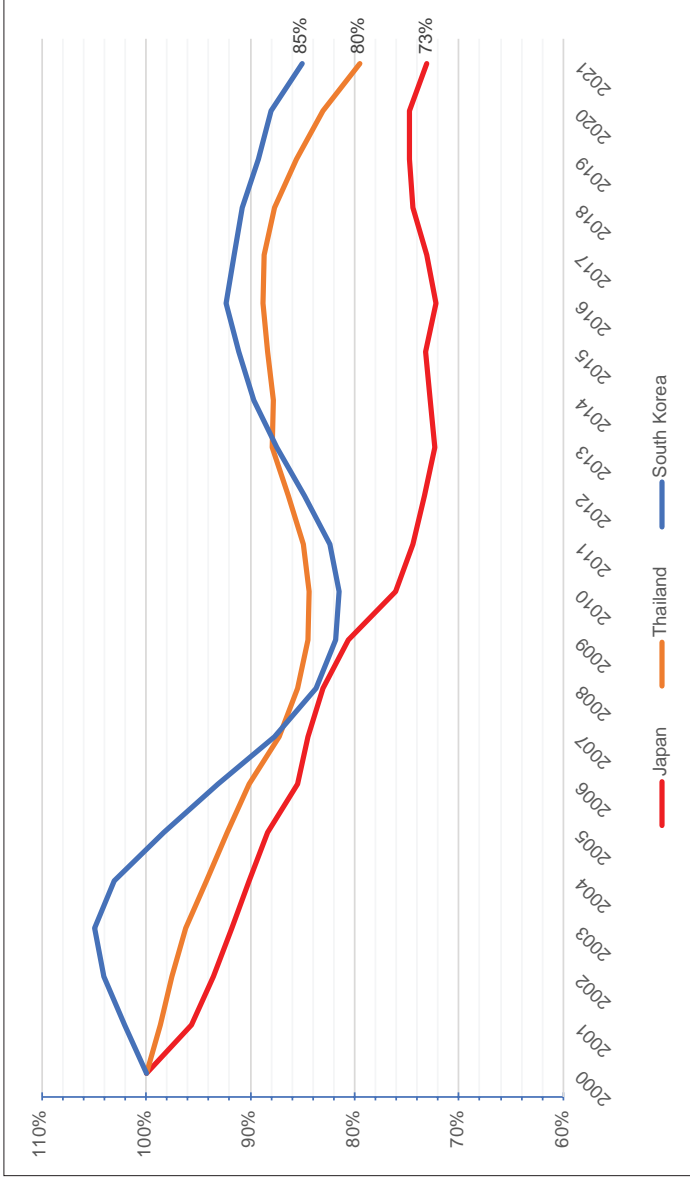
Thailand's demographic plight is unusual. Apart from Singapore, Thailand now has the lowest fertility rate in South or Southeast Asia, whereas according to official data, Vietnam has maintained a stable fertility rate over the last decade. Thailand's fertility rate fell below 2.1 in 1991, yet that fall has perhaps not prompted the intense debates on demographics and national-existential anxieties found in Japan, South Korea and increasingly China. Large numbers of lower-skill migrant workers from nearby countries in Southeast Asia have blunted

³⁰ In 2017, Credit Suisse estimated a Gini wealth score for Thailand of 85.1, compared with 78.9 for China, 85.9 for the United States, 74.5 for Vietnam, and 60.9 for Japan. Gini data on income inequality from the World Bank. On wealth inequality, see “Global Wealth Databook 2017”, Credit Suisse Research Institute, November 2017, <https://www.credit-suisse.com/media/assets/corporate/docs/about-us/research/publications/global-wealth-databook-2017-en.pdf> (accessed 4 August 2022).

³¹ Data from CEIC (Thailand Department of Provincial Administration).

³² *Ibid.*

Figure 5: Population Aged 20–24, Relative to Size in 2000



Source: CEIC; Thailand Department of Provincial Administration, Japan Statistics Bureau and Statistics Korea.

the economic effects of Thailand's demographic shift, especially in manufacturing and agriculture. Still, Thailand is likely to find it harder than other Asian countries to reinforce its labour force, particularly with better-educated workers. Japan, South Korea and Singapore face domestic political pressures around admitting immigrants, but all three countries have developed economies that can attract large numbers of incoming workers of any skill level.

Thailand's demographic shift might not pose as much of a long-term dilemma for the economy if it occurred alongside significant upgrading in skills and education. Official statistics give mixed evidence of skills upgrading, with trends notably deteriorating during the pandemic.

Between 2006 and 2019, the number of workers in Thailand with post-secondary school education grew by 3.2 million people, close to a tenth of the total labour force. The number of workers with an elementary school education or less fell from 60 per cent of the workforce in 2006 to 43 per cent at the end of 2019. By 2019, a third of the adult population had completed secondary school, and 18 per cent had received a tertiary degree.³³ By the mid-2010s, Thailand had achieved virtually universal primary school enrolment and secondary school enrolment rates well above the ASEAN average.³⁴ These improvements gave Thailand a generally stronger educational foundation than many of its Southeast Asian neighbours.

One should not discuss conditions in Thailand's education system without underscoring the significant scale of Thailand's past successes. Before the 1980s, a minuscule proportion of Thais had any university education and only a small minority had a secondary school education.

³³ *Labor Force Survey*, Thailand National Statistical Office, 2006Q4 and 2019Q4, http://www.nso.go.th/sites/2014en/Survey/social/labour/LaborForce/2019/Full%20Report_Q4_2019.pdf (accessed 4 August 2022).

³⁴ Marieke Vandeweyer et al., "Thailand's Education System and Skills Imbalances: Assessment and Policy Recommendations", Economics Department Working Papers no. 1641, Organization for Economic Co-operation and Development, 15 April 2021, [https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ECO/WKP\(2020\)49&docLanguage=En](https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ECO/WKP(2020)49&docLanguage=En) (accessed 4 August 2022).

In the 1970s, fewer than one in 20 Thais of tertiary-education age were enrolled in higher education. By the late 2000s, that rate was almost ten times larger, had caught up with the rate in Hong Kong, and was not far from the rate in Singapore, despite the latter two places having much higher per capita GDP. In tertiary enrolment rates, Thailand by the late 2000s had soared far above the Philippines, which had previously led the region in university enrolments.³⁵

However, in the last decade, Thailand's education improvements appear to have faltered. In the last three years in particular, the COVID-19 pandemic worsened the outlook for better-educated workers. COVID-19 particularly hurt workers in the cities and the tourism-dependent services sector, many of whom are better educated. The number of unemployed college-educated workers grew from 135,000 in late 2019 to almost 300,000 at the end of 2021.³⁶ From late 2019 to spring 2020, the private sector lost 191,000 jobs paying over 10,000 baht per month, prompting the government to increase its hiring to stabilize higher-wage employment. While employment conditions have partially recovered since then, labour force participation has declined over the long term among the best-educated Thais. While 90 per cent of Thais with a "general" or "academic" (non-technical) higher education worked in 2006, only 83 per cent worked by the end of 2021.³⁷

In addition to tightened household savings, limited job prospects for highly educated workers and the mediocre quality of domestic education institutions may be hindering higher education enrolments. A 2017 report from Thailand's Office of the Education Council lamented that Thailand's education quality outcomes are "much lower when compared with other

³⁵ See Chart 6 and discussion in Jay Rosengard, "Can Asian Kittens Escape the Middle-Income Trap?", *Japan Spotlight*, November–December 2016, pp. 50–55.

³⁶ Better-educated workers have often had the highest official unemployment rates in Thailand—both during and long before the pandemic.

³⁷ "Academic" (or "general") higher education is distinguished from technical or teaching-oriented post-high school degree programmes. *Labor Force Survey*, Thailand National Statistical Office, 2006Q4, 2019Q4, 2020Q2, 2021Q1, and 2021Q4.

Asian countries” and that the group of university graduates “does not meet the requirements of the labour market and possesses abilities or qualifications that are not required by many employers, leading to mass unemployment”.³⁸ Perhaps relatedly, by some estimates, Thailand’s rates of English proficiency and Thai language literacy may be deteriorating.³⁹

From 2011 to 2018, the wage premium of a college degree over a high school degree narrowed slightly. By then, higher education enrolments were stagnating or declining in relative as well as absolute terms. Thailand’s gross enrolment rates in higher education, which measure the total number of enrollees of any age as a fraction of the main age cohort for the education level, started to stagnate around the time of the 2008 financial crisis, hovering around 50 per cent of the age cohort until 2017. Such a level still contributed to a skills upgrading of the general workforce, as younger workers replaced less-educated older workers. Yet this process does not appear to be gaining momentum. China had relatively lower enrolment rates in higher education in the early 2000s, but has since overtaken rates in Thailand and now claims a rate some 10–20 percentage points above Thailand’s.⁴⁰

From 2015 to 2019, non-vocational Thai high schools lost 136,000 students in enrolments, or 10 per cent of their 2015 total, a rate roughly the same as that at which the population aged 15–19 declined (11 per cent). In other words, high school enrolments have been declining alongside the population, rather than expanding the share of the age

³⁸ “The National Scheme of Education B.E. 2560–2579 (2017–2036)”, Office of the Education Council, Thailand Ministry of Education, <http://www.onec.go.th/us.php/home/category/CAT0000196> (accessed 4 August 2022).

³⁹ See discussion in Craig Keating, “School’s Out: Thailand’s Education and Skills Crisis”, *Asialink*, University of Melbourne, 18 March 2022, <https://asialink.unimelb.edu.au/insights/schools-out-thailands-education-and-skills-crisis> (accessed 4 August 2022).

⁴⁰ Vandeweyer et al., “Thailand’s Education System”, and “China’s Higher Education Enrollment Rate Reaches 57.8%”, *Xinhua/State Council*, 17 May 2022, https://english.www.gov.cn/statecouncil/ministries/202205/17/content_WS62833890c6d02e533532aca9.html (accessed 4 August 2022). See comment on enrolment rates in footnote 41.

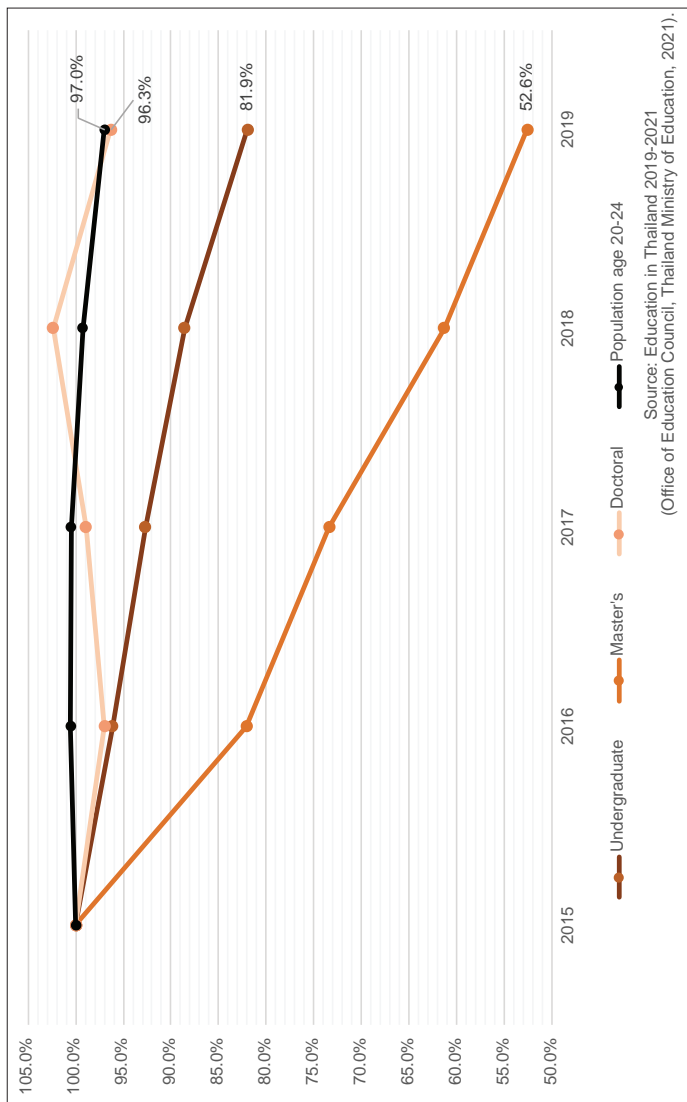
cohort enrolled in school. Thus, while the proportion of the population enrolled in primary and lower secondary school grew between 2015 and 2019, rates of high school enrolment stagnated, and universities began to face an escalating enrolment crisis (see Figure 6). The number of students enrolled in undergraduate and doctoral programmes in Thai higher education institutions failed to overcome or match the decline in the population, and the number of enrolled master's students collapsed even before the pandemic's impact on household finances.⁴¹

Trends in enrolment rates should be emphasized, as an economy that is growing in a stable and sustainable way and developing higher value-added sectors typically can maintain or raise enrolment rates regardless of demographic trends. This is the case for many wealthier countries in East and Southeast Asia. For instance, Singapore's population aged 20–24 fell from over 260,000 people in the early 2010s to under 240,000 in 2021, but Singapore has supported a steadily rising gross tertiary enrolment rate, from 71 per cent in 2010 to 91 per cent in 2019. Similarly, South Korea raised its gross tertiary enrolment rate to close to 100 per cent by the early 2010s, despite substantial declines in South Korea's young population (see Figure 5).⁴²

⁴¹ Population data from CEIC (Thailand Department of Provincial Administration); enrollment data from *Education in Thailand 2019–2021*, Office of Education Council, Thailand Ministry of Education (Bangkok, 2021), <http://backoffice.onec.go.th/uploads/Book/1926-file.pdf> (accessed 4 August 2022). While enrolments for undergraduate, master's, and doctoral degree programmes fell sharply, other forms of higher education, such as vocational certificate (non-bachelor's degree) programmes, maintained better enrolment figures. As a result, the total number of students enrolled in Thai higher education fell relatively less sharply, by 16 per cent from 2015 to 2019, or to around 40 to 45 per cent of the age cohort in 2019.

⁴² On Singapore, see “Residents by Age Group & Type of Dwelling”, Singapore Department of Statistics (last updated 19 November 2021), <https://tablebuilder.singstat.gov.sg/table/TS/M810381> (accessed 4 August 2022); and “Combined and Gross Enrolment Ratio for Primary, Secondary & Tertiary Education”, Singapore Ministry of Education (updated 15 October 2021), <https://data.gov.sg/dataset/combined-and-gross-enrolment-ratio-for-primary-secondary-tertiary-education> (accessed 4 August 2022). On Korea, see Rosengard, p. 55.

Figure 6: Thailand Higher Education Enrolments (2015 level = 100)



Source: Education in Thailand 2019–2021 (Office of Education Council, Thailand Ministry of Education, 2021).

These trends notwithstanding, Thailand’s aggregate labour force indicators—in terms of size and participation rate—had improved by 2021. Where were workers going? It seems that, in relative terms, Thailand’s labour force has shifted towards agriculture, as limited prospects in the services sector meant fewer incentives or opportunities for people to leave work in rural areas. In 2021, the peak quarterly agricultural labour force had grown by about 100,000 since before the pandemic—from 12.57 million workers in the third quarter of 2019 to 12.68 million in the third quarter of 2021. In contrast, the peak quarterly non-agricultural labour force was down slightly—from 26.52 million in the first quarter of 2019 and 26.66 million in the first quarter of 2020, to 26.50 million in the first quarter of 2021. These data echo two troubling phenomena in households’ cash flows. Many services sector workers, such as those in food and accommodation services, saw their monthly wages decline by around a thousand baht, or roughly 10 per cent, between fall 2019 and the end of 2021.⁴³ Consumer prices, stable for much of the pandemic, started to rise faster in December 2021, led by prices for meat, seasoning and cooking oil, and vehicle fuel.⁴⁴

CONDITIONS IN AGRICULTURE: STILL A LARGE SOCIOECONOMIC FOUNDATION

Some 13 million Thais work in agriculture, and likely a majority are to some extent engaged in rice cultivation.⁴⁵ Agriculture occupies around a third of employed people in the country’s labour force, with many people

⁴³ Data from CEIC (Bank of Thailand), and “Labour Force Survey (New Series ISIC Rev.4)”, Bank of Thailand, https://www.bot.or.th/App/BTWS_STAT/statistics/ReportPage.aspx?reportID=638&language=eng (accessed 17 June 2022).

⁴⁴ Data from CEIC (Bureau of Trade and Economic Indices).

⁴⁵ Data from CEIC and from Chaiwat Sowcharoensuk, “Industry Outlook 2022-2024: Rice Industry”, Krungsi Research, Bank of Ayudhya, 3 February 2022, <https://www.krungsri.com/en/research/industry/industry-outlook/agriculture/rice/io/io-rice-2022> (accessed 4 August 2022).

working in agriculture seasonally, part-time alongside other (such as manufacturing or small business) occupations, or as occasional helpers on family farms.⁴⁶ Thailand has long been a pillar of global rice production. As the sixth largest producer, just behind Vietnam, of rough or milled rice, and the second or third largest exporter of milled rice, behind India and sometimes Vietnam, Thailand commands some 14 per cent of the world's cross-border rice trade. Thailand's rice production is buttressed by its focus on growing higher-value jasmine rice, and by expanding cultivation—by over 100,000 hectares in 2021–22, particularly in poorer areas with less or worse infrastructure.⁴⁷

Despite Thailand's continued influence in global rice markets, improvements in agricultural production have been limited. Thailand only saw significant increases in overall rice yields per cultivated hectare in the 1990s, with only slight gains in average yields since then. In relative terms, Thailand has experienced four decades of rice yields that are around or below 40 per cent of China's rice yield level. Thailand now has a lower average rice yield than any of its neighbours (see Figures 7 and 8), in large part as nearby countries have utilized better irrigation and water access and improved seed varieties. Thailand still exports large quantities of higher-end rice grains, which can generate higher earnings

⁴⁶ *The Labor Force Survey—Whole Kingdom, Quarter 4: October–December 2019*, Labor Statistics Group, National Statistical Office of Thailand (Bangkok: NSO, 2020), p. 55. Data and discussion on off-farm occupations in Porphant Ouyyanont, *Rural Thailand: Change and Continuity*, Trends in Southeast Asia, no. 8/2016 (Singapore: ISEAS – Yusof Ishak Institute, 2016), https://www.iseas.edu.sg/wp-content/uploads/pdfs/TRS8_16.pdf (accessed 4 August 2022).

⁴⁷ Data from the US Department of Agriculture (USDA), Foreign Agricultural Service, Production, Supply and Distribution Data, <https://apps.fas.usda.gov/psdonline/app/index.html#/app/advQuery> (accessed 4 August 2022). In 2021, a USDA report estimated that 75 per cent of main-crop rice acreage is in non-irrigated areas. Mana-anya Iemsam-arng, “Grain and Feed Update”, USDA Foreign Agriculture Service report TH2021-0083, 7 December 2021, https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Update_Bangkok_Thailand_11-28-2021.pdf (accessed 4 August 2022).

Figure 7: Yields for Rough Rice in Southeast Asia

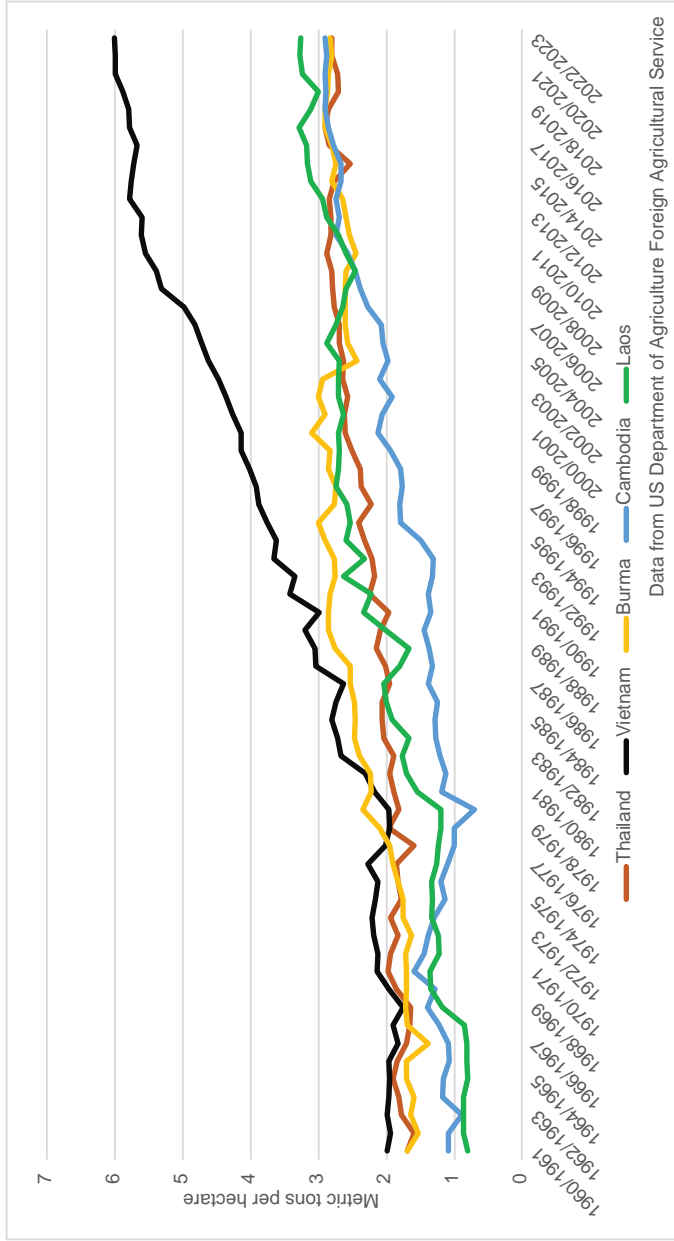
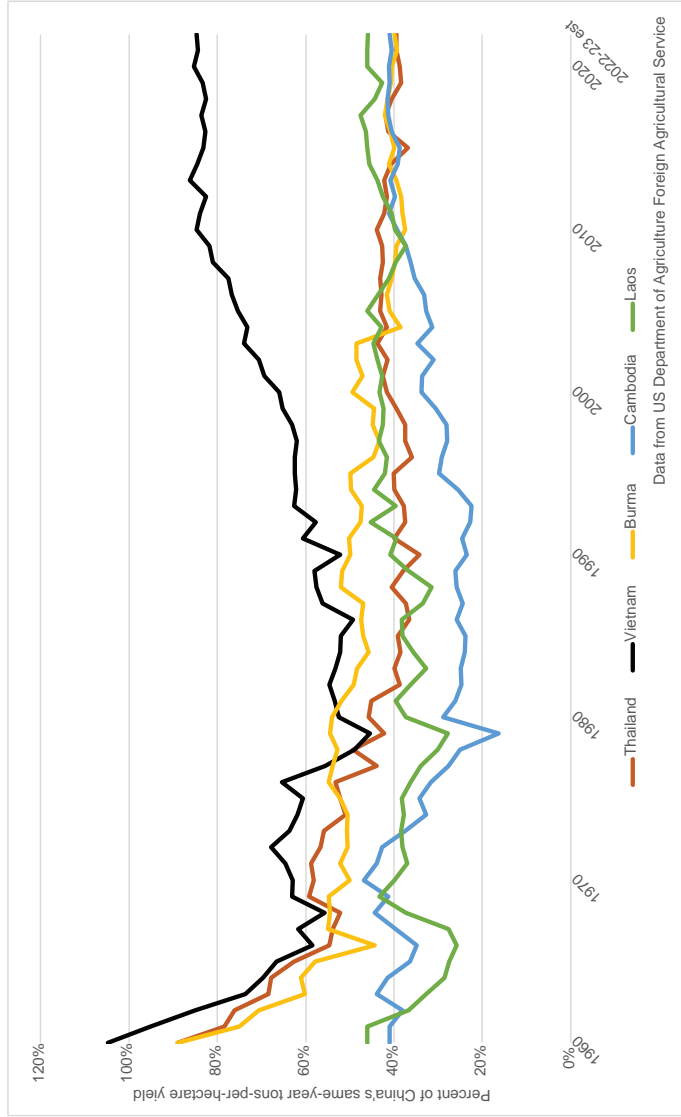


Figure 8: Yield Rates for Rough Rice Relative to China's Yield Rate



from relatively lower yields. Yet these figures do not inspire confidence about the future of Thai agriculture.

Thailand has some crops that have generated promising export revenues, as discussed later in this section. Still, the overall US dollar value of agriculture exports fluctuated year to year but did not seem to transform significantly during the 2010s. The export value of farm goods amounted to around US\$15–16 billion per year, the value of fresh fishery products declined from about US\$3 billion to US\$2 billion per year, and the value of processed food products hovered around US\$17 billion a year for most years in the decade.⁴⁸ These figures appear in the context of a fairly stable number of Thais working, at least for part of the year, in agriculture in the 2010s.

Meanwhile, India's agricultural outputs are increasingly competitive. India's rice exports doubled from 2018 to 2021 and have increased by four times since the mid-2000s.⁴⁹ If this trend continues, then much of Thailand's rice crop would not be economically viable in competition with production elsewhere in Southeast Asia, much less production in India.

Why does Thailand have prolonged stagnation in agricultural yields and apparently limited gains in the overall economic value generated from agriculture? Jonathan Rigg's ethnographic research, particularly in his 2019 book *More Than Rural*, provides some insights into the challenges of transforming Thai agriculture, which Rigg orients around the fact that "the number of smallholders appears to be increasing" even as the size of individual farms is shrinking, such that many are "too small to deliver a sustainable livelihood".⁵⁰ Some of Rigg's most salient points

⁴⁸ "Total Value and Quantity of Exports Classified by Product Group (US\$)", Bank of Thailand, https://www.bot.or.th/App/BTWS_STAT/statistics/ReportPage.aspx?reportID=979&language=eng (accessed 13 July 2022).

⁴⁹ Data from US Department of Agriculture, Foreign Agricultural Service, Production, Supply and Distribution Data.

⁵⁰ Jonathan Rigg, *More Than Rural: Textures of Thailand's Agrarian Transformation* (Honolulu: University of Hawai'i Press, 2019), pp. 124–25. Rigg claims that farm holdings of under 1.6 hectares grew from 28.1 per cent of all holdings in 1978 to 37.1 per cent in 2013, while the average age of Thai farmers grew to 51 years in 2015, with over a tenth of Thai farmers older than 65. Rigg, pp. 123 and 149.

are about age and broader employment structures. Thailand's farming workforce has dramatically aged over the last thirty years, with many rice farmers now in their fifties, sixties and seventies. At the same time, rural employment has become increasingly diversified, such that many "agricultural" families combine maintenance of a farm with contract labour, small business activity, or a regular formal job.⁵¹

Much of the evidence in *More Than Rural* is now dated, with Rigg's interviews largely from seven or over ten years ago (as of 2022) and with referenced data from the early 2000s. However, if Rigg's findings are accurate, they imply a gradual deintensification and prolonged underinvestment in Thai agriculture. Thus, families preserve small farms with limited capital investments (including in seeds), few efficiencies of scale, and sometimes also an inconsistently committed workforce—aggravating the challenges of enhancing productivity among an increasingly elderly workforce in a physically-intensive sector. While many Thai smallholders have managed to adjust their crop plantings with impressive flexibility in response to market demands, they also often lack the resources, knowledge or incentives to invest in significant capital improvements, with many farms being too small to afford or benefit greatly from intensive irrigation and technology upgrades.

A further underlying factor asserted by Rigg is agriculture's role as social insurance for many low-income rural-born Thais. Millions of Thais can count on only a meagre social security pension and little or no social insurance protections in the event of a family health crisis, death or natural disaster. Rural land, with the prospect of gaining basic subsistence from it, is the most concrete kind of safety net that many Thais, including many whose principal employment is off-farm or in urban areas, have. As a result, many rural Thais remain unwilling to part with inefficiently or under-utilized farmland—constraining overall agricultural productivity—because of a lack of alternative sources of

⁵¹ Rigg makes the latter his central point, that "the countryside [is] more than agriculture ... and rural people [are] more than farmers", although without precise standards for comparison, a vast number of rural areas across history could arguably be described with very similar language. Rigg, p. 14.

income, old age support, or social insurance. Although Rigg seems to discount the impact of government subsidy schemes for farms, such as price guarantees on rice or income guarantees for registered farmers, these no doubt also contribute to the perception of the relative security of maintaining small farms and preserving ties to relatively inefficient forms of agriculture.

Phrased differently, a lack of livelihood security from outside of agriculture, and perhaps a lack of decent employment in non-agricultural sectors, may be slowing upgrades and consolidation in Thai agriculture. Eventually, many rural Thais may be persuaded out of small-scale farms for good by better opportunities elsewhere and high rewards for transferring use rights to their land, or they may be forced out of small-scale farms due to tightening competition from other countries that push the potential earnings of Thai rice farms even lower. Alternatively, growing government support schemes may try to buttress Thailand's agricultural workforce, divided among many under-invested small-scale farms. For instance, farm income guarantees and restrictions on agricultural imports could shelter inefficient Thai farms while shifting costs onto urban productivity and the purchasing power of Thailand's urban poor and middle classes.

In crops beyond rice, Thai agriculture has performed better. Thailand's share of global sugar production has grown from only 1 per cent in the early 1970s to 8 per cent in 2018. For the last decade, Thailand has supplied roughly 10 to 20 per cent of global centrifugally processed sugar exports, matched only by Brazil. In fish meal and oilseeds, Thailand is also a leading producer.

Thai agriculture has partly succeeded in diversifying its export crops over the last two decades, to a large extent thanks to rising trade with China. Rubber comprised half of the US dollar value of Thailand's agricultural exports in 2010, but less than a quarter by 2020. Meanwhile, fruit exports were worth only about 3 per cent of Thailand's agricultural exports in 2010 but were worth over a quarter of Thailand's agriculture exports in 2020, with durian heavily propelling the increase with a US\$2.1 billion export value in 2020. Exports of meats and meat products have also increased. In particular, the tonnage of prepared or processed poultry exports rose by a third from 2010 to 2021, with the dollar value

reaching US\$2.5 billion in 2021.⁵² Therefore, while rice generated a roughly consistent export value in the years before the pandemic, its centrality to the prosperity of Thai agriculture as a whole has steadily declined.

Can these successes eventually translate into benefiting Thailand's millions of poorer farmers who still represent a large share of Thailand's economic potential? Parts of Thai agriculture appear vibrant, with several large and successful export products, such as durian, that may hold promise for much greater future returns. Key constraints for Thai agriculture may relate less to agriculture itself and more to many Thais' difficulty in leaving agriculture, resulting in a bloated farm sector that limits opportunities for more productive farmers, such as expanding the size of holdings and constructing more efficient irrigation works.

At the same time, Thailand should not be complacent about the crops in which it now appears competitive. India's sugar exports, marginal until the early 2000s, by 2022 were approaching Thailand's level.⁵³ Other South or Southeast Asian countries may soon vigorously compete with Thailand on a wider range of food products, such as fish, meat, tapioca and durian.

IMPLICATIONS FOR POLICY AND FUTURE DEVELOPMENT: WHAT PATHS CAN THAILAND'S ECONOMY FOLLOW?

Like many other countries, Thailand was significantly harmed by the pandemic. Thailand may be blessed by regional geopolitical tensions, as it attracts factories and investments from countries such as China and Japan. Simultaneously, Thailand faces serious demographic challenges with a far from wealthy workforce. Can Thailand gain geopolitical benefits while ameliorating problems caused or accelerated by the pandemic and

⁵² "Total Value and Quantity of Exports Classified by Product Group (US\$)", Bank of Thailand, https://www.bot.or.th/App/BTWS_STAT/statistics/ReportPage.aspx?reportID=979&language=eng (accessed 13 July 2022).

⁵³ Ibid.

slowing the demographic changes? Expanding infrastructure, balancing geopolitical ties, shifting the focus of the tourism sector, dedicating greater resources to improve farmers' productivity and well-being, and committing to more open and predictable governing institutions are among the important policy steps for Thailand's future growth.

Of key short-term importance for many service workers is revitalizing the tourism sector. The extent to which this can be achieved is limited by pandemic restrictions elsewhere, but Thailand's government is trying, with a recent bout of pandemic policy relaxations. Thailand's tourism prospects should steadily improve as long as the government can avoid domestic political crises that shut down Bangkok, while also avoiding stark geopolitical alignments that deter visitors and investors or result in de facto sanctions from major geopolitical actors.

However, if Thailand is to reap the income it once earned from tourism, it must do more than attempt to restore the number of traditional travellers, given what appears to be a longer-term loss of revenue from Chinese visitors. Indeed, a shortfall of tourists could help provoke Thailand to undertake shifts in business models that Thailand ought to pursue anyway.⁵⁴ Thailand can attempt to move "up market" in its travel-related industries, for instance, by further striving to become a greater hub for medical tourism, international conferences, or even expatriate retirement communities, as some Thai policymakers and entrepreneurs have envisioned.

Some of these businesses require much better infrastructure, from airports to water supplies—areas where Thailand is steadily and clearly improving. Others also require the kind of public transparency that curbs corruption and ensures more reliable policing and rule of law. It is harder for people to trust the doctors of a country with which they are unfamiliar without many reliable regulatory institutions, or civic institutions such as media and advocacy groups, monitoring doctors' conduct. A very limited

⁵⁴ See discussion in Michael Montesano, "Hale and Hearty Plans for Thailand's Andaman Coast", *Fulcrum: Analysis on Southeast Asia*, 30 March 2022, <https://fulcrum.sg/hale-and-hearty-plans-for-thailands-andaman-coast/> (accessed 4 August 2022).

number of expatriates will actively choose to spend their retirement in a place where the authorities do not appear to be reliable, and the enforcement of basic laws does not seem predictable. Thailand performs better than many of its peers in Southeast Asia in these regards, but it needs further institutional reforms if it is to successfully expand and enrich these business areas.

Of medium-term importance is promoting the continued expansion of Thailand's trade in goods. This will require calm domestic and regional politics, policies facilitating foreign investment, and more trained workers, as well as stable energy prices. For much of the last decade, the US dollar traded at under 32 baht. But 2022 has seen the dollar first inch over 34 baht, surpass 35 baht in mid-June for the first time since 2016, and briefly approach 37 baht for the first time since 2006. At the same time, the baht also moderately fell against currencies of nearby economies, including the Singaporean dollar, Malaysian ringgit, and Vietnamese dong. The baht's fall aids some Thai exporters—including some rice farmers—for now, at the cost of greater inflationary pressure on Thai consumers and greater uncertainties for manufacturers in multinational supply chains. However, a series of government-backed projects have helped Thais, tourists and multinational industries alike, beyond the temporary advantages of a weaker currency. Recent major infrastructure projects include improved and expanded urban mass transit, cleaned waterways in Bangkok, and new airports and railways around the country, though Thailand still needs much better public drinking water, sanitation and transportation infrastructure.⁵⁵ With projects like these, Thailand might effectively use growing investment interest from Japan and China to enduringly strengthen the country's economy.

Thailand once aspired to become a major multinational financial centre. Before the Asian Financial Crisis in 1997, Bangkok at least

⁵⁵ For instance, see discussions of new infrastructure programmes and their employment effects in Pontakorn Vorapamorn, Nonarit Bisonyabut, and Watcharin Tantisan, "Human Capital in the Logistics and Supply Chain Industry", *TDRI Quarterly Review* 36, no. 1 (March 2021), pp. 3–13, <https://tdri.or.th/wp-content/uploads/2021/08/Volume-36-Number-1-March-2021.pdf> (accessed 4 August 2022).

appeared to move in that direction, thanks to significant foreign financial interest and capital inflows buoyed by a remarkably long legacy of positive economic growth. By the 2010s, few people considered major international financial hub status as a possibility for Thailand’s future, despite some activity around issuing baht-denominated bonds for poorer countries in Southeast Asia.⁵⁶ In the 2020s, could these prospects change for the better?

Problems elsewhere may provide a few opportunities for Thailand to revive its earlier financial sector dream. In the West, there is widespread concern about enormous legal and political changes in Hong Kong that have taken place or are about to come, with innumerable implications for what had been the most important financial centre in Asia.⁵⁷ Hong Kong authorities may try to mitigate the international reactions to changes in the city, but it is clear from the evidence on “human capital” that its status as an Asian business hub has declined.⁵⁸

Meanwhile, there is also a growing international frustration or anxiety over reliance on the US dollar—including some frustration within the US

⁵⁶ William Overholt, “Thailand’s Financial and Political Systems: Crisis and Rejuvenation”, *Asian Survey* 39, no. 6 (1999), and Kit Yin Boey, “Laos Makes Thai Baht Comeback”, *International Financing Review*, 8 April 2022, <https://www.ifre.com/story/3320578/laos-makes-thai-baht-comeback-fh7l9pyhkh> (accessed 4 August 2022). It is striking that a 2019 article in *Thailand Business News* about future Asian financial centres did not mention Bangkok; see Chris Green, “Hong Kong’s Star Is Fading—Where Will Asia’s Next Financial Center Be?”, *Thailand Business News*, 16 April 2019, <https://www.thailand-business-news.com/asean/singapore/71910-hong-kongs-star-is-fading-where-will-asias-next-financial-center-be> (accessed 4 August 2022).

⁵⁷ For instance, see Lindsay Maizland, “Hong Kong’s Freedoms: What China Promised and How It’s Cracking Down”, *CFR Backgrounder*, Council on Foreign Relations, 19 May 2022, <https://www.cfr.org/backgrounder/hong-kong-freedoms-democracy-protests-china-crackdown> (accessed 4 August 2022).

⁵⁸ Tanner Brown, “Why U.S. Companies Are Leaving Hong Kong”, *Barron’s*, 1 February 2022, <https://www.barrons.com/articles/us-companies-depart-hong-kong-51643673293?tesla=y> (accessed 4 August 2022); “Impact of COVID-19 on the Business Community”, EuroCham Survey, European Chamber of Commerce in Hong Kong, March 2022, https://www.eurocham.com.hk/_files/ugd/a9d48d_83357d9732d04e6b8b9761c537f0bfd.pdf (accessed 4 August 2022).

itself.⁵⁹ Thus far, alternatives to both Hong Kong and the US financial market have proven limited. Japan, South Korea, India and mainland China have been resistant to significant capital inflows and have legal and regulatory environments that still deter foreign investors.⁶⁰ Investors and sovereigns seeking to diversify from dollar-denominated assets have looked to a variety of smaller currencies and economies, including Australia, Canada, New Zealand, Singapore, Switzerland and Sweden.⁶¹ However, the financial sectors of these economies remain very small compared with the international dominance of the US dollar, and these countries have been able to satisfy only a small fraction of the global demand for dollar alternatives.

Such regional and international trends suggest a new chance—however small and temporary—for Thailand to establish a greater role in Asian or even global finance. Thailand might be more politically capable than some larger industrial powerhouses, such as Japan, of implementing pragmatic reforms to foster multinational financial activity and grow foreign participation in Thai businesses and assets. Nevertheless, the country also faces many of the same problems that limit the financial sectors of other countries and that constrain the potential for higher

⁵⁹ “The Competitive Dollar for Jobs and Prosperity Act”, Office of U.S. Senator Tammy Baldwin, <https://www.baldwin.senate.gov/imo/media/doc/FINAL%20ONE-PAGER%20The%20Competitive%20Dollar%20for%20Jobs%20and%20Prosperity%20Act.pdf> (accessed 4 August 2022); and Michael Pettis, *The Great Rebalancing* (Princeton: Princeton University Press, 2015), Chs 7–8.

⁶⁰ For instance, see Richard Katz, “Why Nobody Invests in Japan”, *Foreign Affairs*, 13 October 2021, <https://www.foreignaffairs.com/articles/japan/2021-10-13/why-nobody-invests-japan> (accessed 4 August 2022); and “2020 Investment Climate Statements: South Korea”, Bureau of Economic and Business Affairs, U.S. Department of State, <https://www.state.gov/reports/2020-investment-climate-statements/south-korea/> (accessed 4 August 2022).

⁶¹ Serkan Arslanalp, Barry Eichengreen, and Chima Simpson-Bell, “The Stealth Erosion of Dollar Dominance: Active Diversifiers and the Rise of Nontraditional Reserve Currencies”, International Monetary Fund Working Paper No. 2022/058, 24 March 2022.

value-added Thai enterprises.⁶² These include a small workforce with rigorous tertiary education, an uncertain legal and political environment, a lack of consistently enforced standards to ensure against corruption or poor accounting practices, and strict limits on foreign ownership of assets within Thailand.⁶³ The restrictive environment around foreign ownership, in particular, constrains possibilities for broader institutional reform, such as with better management of investment risks in the financial sector, and for greater competition with Thailand's big conglomerates, with a likely substantial impact on the productivity of many industries beyond the financial sector.

Electric vehicles have captured the attention of politicians in Thailand as well as in other ambitious developing countries. In May 2022, Indonesian President Joko Widodo made the remarkable step of travelling to Texas to meet with a tee-shirt-clad Elon Musk, to discuss and appeal for electric vehicle (EV) and battery investments in Indonesia. In the same month, Malaysian Prime Minister Ismail Sabri made a public appeal to Tesla for EV investments.⁶⁴ In the last year, senior Thai officials have followed a similar circuit to attract EV investments, including

⁶² See comments in Peter Janssen, "Citi Sees Thailand Potential as Regional Banking Hub", *Nikkei Asia*, 11 August 2017, <https://asia.nikkei.com/Business/Citi-sees-Thailand-potential-as-regional-banking-hub> (accessed 4 August 2022).

⁶³ For instance, see "Restrictions on Foreign Residents' Land Ownership in Thailand to Remain", *Thai PBS*, 20 September 2021, <https://www.thaipbsworld.com/restrictions-on-foreign-residents-land-ownership-in-thailand-to-remain/> (accessed 4 August 2022); and Craig Keating, "Thailand: Lost in Litigation", *Asialink*, University of Melbourne, 6 May 2021, <https://asialink.unimelb.edu.au/insights/thailand-lost-in-litigation> (accessed 4 August 2022).

⁶⁴ Anthony Lim, "PM Ismail Sabri Invites Tesla to Invest in Malaysia", *Paul Tan's Automotive News*, 12 May 2022, <https://paultan.org/2022/05/12/pm-ismail-sabri-invites-tesla-to-invest-in-malaysia/> (accessed 4 August 2022); and Danny Tan, "Jokowi Signs Decree to Start EV Industry in Indonesia", *Paul Tan's Automotive News*, 9 August 2019, <https://paultan.org/2019/08/09/jokowi-signs-decree-to-start-ev-industry-in-indonesia/> (accessed 4 August 2022). For a critical view, see "Indonesia Seeks to Lure Tesla Battery Investment", *Asia Sentinel*, 18 May 2022, <https://www.asiasentinel.com/p/indonesia-lure-tesla-battery-investment> (accessed 4 August 2022).

appeals in Japan and South Korea, billions in subsidies, and public goals for Thailand to become the world's largest EV production centre.⁶⁵

There are a few reasons for optimism about Thai electric vehicles. Thailand has a growing manufacturing sector that is conveniently located near major population centres and markets as well as good long-term relations with Chinese and Japanese investors (see Figures 3 and 4). Further, its expanding ports can facilitate new high-end exports. Thailand is already the largest vehicle manufacturer in Southeast Asia. In value terms, Thailand's exports of vehicles and vehicle components have been rising, although Thailand currently earns more from tapioca exports to China than it earns from vehicle exports to China (see Figure 1).⁶⁶

In other respects, though, Thailand is not well equipped to host vast electric vehicle production that can propel the country's economy. Thai research institutions have not contributed greatly to the global frontiers of vehicle and energy storage technology, and the country has few scientists and engineers compared with its larger neighbours. Thailand lacks the resources to subsidize domestic EV manufacturing to the extent that China, the United States, the European Union, or India could, and lacks large-scale mining to guarantee supplies for EV factories in the way that Indonesia potentially could. Moreover, the technology behind alternative-energy vehicles is rapidly changing, and significant EV investments by Thailand could miss the world's next technological frontier. These conditions probably would make it harder for Thailand to attract and

⁶⁵ "EV Dream May Hinge on Japan", *Bangkok Post*, 27 May 2022, <https://www.bangkokpost.com/business/2316534/ev-dream-may-hinge-on-japan> (accessed 4 August 2022); "State Pumps Billions into Green Cars", *Bangkok Post*, 16 February 2022, <https://www.bangkokpost.com/business/2264751/state-pumps-billions-into-green-cars> (accessed 4 August 2022); and Shin Ji-hye, "Thailand Partnering with South Korea on Electric Bus Development", *Korea Herald*, 21 August 2019, <http://www.koreaherald.com/view.php?ud=20190820000717> (accessed 4 August 2022).

⁶⁶ Nguyen Minh Hanh, "Thailand Issues New Incentive Package for Electric Vehicle Industry", *ASEAN Briefing*, 10 March 2022, <https://www.aseanbriefing.com/news/thailand-issues-new-incentive-package-for-electric-vehicle-industry/> (accessed 4 August 2022).

secure the loyalty of multinational EV manufacturers. By themselves, these conditions do not necessarily prevent Thailand from developing a successful EV industry; after all, there are numerous countries with few natural resources and domestic research that nevertheless foster thriving manufacturing sectors.

A further challenge is that Thailand lacks a significant domestic market that can afford electric vehicles, and lacks much of an infrastructure for charging them. Similar circumstances appear in several of Thailand's current export markets for vehicles. Thailand established a large role in producing internal combustion vehicles and related vehicle parts, largely for export to other ASEAN countries, the Middle East, Australia and Japan. Many of these countries lack charging networks and large domestic markets that can afford the high prices of EVs. Several other ASEAN countries are already trying to subsidize and foster their own EV production centres and may be less receptive to Thai EV exports.

The focus on EVs perhaps follows a risky precedent of countries pursuing what appear to be “cutting edge” industries, with vast fiscal costs and longer-term consequences from avoiding reforms and investments that aid broader swathes of the economy. In recent years, China has devoted stunning resources to semiconductor manufacturing, with many examples of wasted investments. In the 1970s and 1980s, Japanese firms and government agencies invested heavily in technologies ranging from artificial intelligence to analogue television, only to overlook technological revolutions happening elsewhere, such as the Internet and personal computing. At a similar time, the Soviet Union focused on restoring the vitality of heavy industries, painfully neglecting problems facing much of the real economy, from smaller industries to agriculture.⁶⁷ China, Japan, and the USSR represented economic and geopolitical

⁶⁷ For instance, see discussions in Mathieu Duchâtel, “The Weak Links in China’s Drive for Semiconductors”, Policy Paper (January 2021), Institut Montaigne, <https://www.institutmontaigne.org/ressources/pdfs/publications/weak-links-chinas-drive-semiconductors-note.pdf> (accessed 4 August 2022); Marcus Noland, “Industrial Policy, Innovation Policy, and Japanese Competitiveness”, Working Paper 07-4 (May 2007), Peterson Institute for International Economics,

titans, which could better afford riskier technological and industrial investments. It may be harder for Thailand to afford similar risks, in an industry that in any case is becoming increasingly competitive.

Thai authorities' focus on EVs seems emblematic of a broader fascination with "innovation" and "high technology" in Thailand and across the region. In recent years, politicians in many East and Southeast Asian countries have trumpeted "innovation" as a perceived launching-point toward rapid economic growth and higher international prestige, mimicking earlier generations' embrace of Alexander Gerschenkron's analysis of taking advantage of "backwardness" to propel rapid industrial growth toward the world's economic frontiers.⁶⁸

For Thailand, the embrace of "innovation" has included a popular fascination with new products like cryptocurrencies, and a governmental pivot to advanced technology in agendas like "Thailand 4.0" (T4.0) and the development of the Eastern Economic Corridor (EEC). The corridor mainly concentrates on the expansion of industrial infrastructure and advanced manufacturing (along with medicine and tourism) in three coastal eastern provinces, facilitated by a mix of government funding and subsidies, tax exemptions, and easing of regulatory approval processes.⁶⁹

<https://www.piie.com/sites/default/files/publications/wp/wp07-4.pdf> (accessed 4 August 2022); and Paul Blustein, "Japan Backs U.S. Design for High-Definition TV", *Washington Post*, 23 February 1994. See also comparisons in William Overholt, "The Rise of China's Economy", *Business Economics* 29, no. 2 (April 1994), and William Overholt, *The Rise of China: How Economic Reform is Creating a New Superpower* (New York: Norton, 1993), Ch 1.

⁶⁸ Alexander Gerschenkron, "Economic Backwardness in Historical Perspective", in *Economic Backwardness in Historical Perspective: A Book of Essays* (Cambridge: Harvard University Press, 1962).

⁶⁹ For discussion of the EEC and T4.0 and shortcomings of their sectoral focus, see Archanun Kohpaiboon, "Industry 4.0 Policies in Thailand", ISEAS Economics Working Paper No. 2020-02 (Singapore: ISEAS – Yusof Ishak Institute, 2020), https://www.iseas.edu.sg/images/pdf/ISEAS_EWP_2020-2_Archanun.pdf (accessed 4 August 2022). For further data on EEC, see Bonggot Anuroj, "Thailand 4.0—A New Value-Based Economy", Thai Board of Investment (2017), https://www.boi.go.th/upload/content/Thailand,%20Taking%20off%20to%20new%20heights%20@%20belgium_5ab4e8042850e.pdf (accessed 4 August 2022).

T4.0 expresses futuristic goals to make Thais “competent human beings in the 21st Century” as “Thais 4.0 in the first world” who will “make technologies” instead of “buy[ing] technologies”. The plan’s direction highlights ten “future industries”, which include robotics and “mechatronics”, biochemicals, medicine, “smart electronics”, and digital industries that will receive corporate tax and import duty exemptions. These plans loftily and probably unrealistically aspire for Thailand to be “an exporter of technology in agriculture, seeds, [and] vaccine[s]”, “a leader in automatic system[s], industrial robotics, and service robotics in ASEAN”, and an “innovation hub for... [the] neutraceuticals [sic] industry” among other sectors.⁷⁰ Though Thailand has already enacted many tax and regulatory changes to support favoured investments, much of T4.0 represents ideals waiting to be precisely formulated and strategized.

Such policies may work best if they inspire momentum for broad changes that lay a stronger foundation for any new technology or kind of business that may arise in the future. For instance, the goal of attracting

⁷⁰ Quotations from “Thailand 4.0”, Royal Thai Embassy in Washington, D.C., <https://thaiembdc.org/thailand-4-0-2/> (accessed 14 July 2022); “Agenda 2: Development of Technology Cluster and Future Industries”, Royal Thai Embassy in Washington D.C., <https://thaiembdc.org/agenda-2-development-of-technology-cluster-and-future-industries/> (accessed 14 July 2022); “Agenda 4: Strengthening the Internal Economy through the Mechanisms of 18 Provincial Clusters and 76 Provinces”, Royal Thai Embassy in Washington, D.C., <https://thaiembdc.org/agenda-4-strengthening-the-internal-economy-through-the-mechanisms-of-18-provincial-clusters-and-76-provinces/> (accessed 14 July 2022). For varied interpretations and background on “Thailand 4.0”, see “Thailand 4.0: In Sight but not in Reach”, Economist Intelligence Unit, 16 November 2017, <https://country.eiu.com/article.aspx?articleid=1746126758> (accessed 4 August 2022); Kannapat Kankaew, “Coping with the Changes that Challenge Business and Education Sectors in Thailand 4.0”, *International Journal of Asian Business and Information Management* 13, no. 2 (2022); Charlie Jones and Paitoon Pimdee, “Innovative Ideas: Thailand 4.0 and the Fourth Industrial Revolution”, *Asian International Journal of Social Sciences* 17, no. 1 (2017); Prapimphan Chiengkul, “Uneven Development, Inequality and Concentration of Power: A Critique of Thailand 4.0”, *Third World Quarterly* 40, no. 9 (2019).

investors for advanced industries might be used to rally political, business, and civil society leaders to tackle corruption, improve education and public infrastructure, and reduce the power of oligopolies, similar to how the possibility of entry into the European Union rallied reform momentum across Eastern Europe.⁷¹ These reforms may be good for the overall economy as well as specifically beneficial in fostering innovation. To foster innovators, Thailand needs to ensure that intellectual property is protected by reliable and honest courts and regulators with prompt reviews of patent applications; that there is space for entrepreneurs to compete against large established firms; and that middle-class consumers are prosperous enough to enjoy the fruits of innovation and provide profits for creative businesses.

To this end, T4.0's plans for launching "University 4.0" with more funding and international cooperation; for expanding financing options for small and medium-sized enterprises (SMEs) to raise SMEs' share of national GDP; and for "unlocking individual limitation[s]"—with greater social insurance, job training, and presumably regulatory reform—are good starting points and ought to be pursued. The EEC's encouragement of business partnerships between foreign investors and Thai research institutions may also be a positive way to strengthen Thai institutions and worker skills with foreign best practices and accountability procedures while generating private sector profits. Crucial proximate constraints to Thailand's current innovation environment include little funding for research relative to funding in other countries, a lack of researchers with advanced training, little effort to attract researchers from overseas, and few interactions between existing government-run research institutions and private enterprises.⁷² Though many specifics of their implementation remain to be seen, the EEC and T4.0 to some extent respond to each of these challenges.

⁷¹ See Marcin Piatkowski, *Europe's Growth Champion: Insights from the Economic Rise of Poland* (Oxford: Oxford University Press, 2018).

⁷² See discussion and data in Saowaruj Rattanakhomfu and Somkiat Tangkitvanich, "Innovation Policy in Thailand", in *Innovation Policy in ASEAN*, edited by Masahito Ambashi (Jakarta: Economic Research Institute for ASEAN and East Asia, 2018).

Thailand’s innovation policies may flounder if they focus narrowly on subsidizing particular technologies and industries, if they rely on “beggar thy neighbour” policies to persuade businesses to move operations from nearby ASEAN countries, if they focus on achieving innovation primarily through the best-resourced and most politically influential firms, or if they fixate on a prestige-driven quest to develop temporarily popular technologies, as historical cases from elsewhere in Asia may suggest. While innovation is often beneficial, some kinds of innovation can prove distracting if not destructive: the collapse in cryptocurrency values has hurt many young Thais who were captivated by innumerable social media and billboard advertisements for new blockchain assets.

Moreover, in no major economy do jobs specifically focused on new research and development comprise a large proportion of total employment. In focusing on fostering innovation, Thai policymakers should not lose sight of the fact that (to use T4.0’s terminology) “traditional SMEs” or “traditional services” will always determine a large share of employment and therefore a large degree of the economy’s well-being. If Thailand succeeds at enhancing industrial productivity in some sectors, the government must concentrate on ensuring—through tax or welfare policies, business competition rules, regionally targeted subsidies, or infrastructure spending, for instance—that the benefits of greater productivity eventually spread to workers and consumers across the economy. T4.0’s plan for “provincial clusters” to foster investments in poorer provinces appears to recognize this need, but it remains to be seen if and how Thai policymakers will ultimately implement it.

China launched its growth miracle with rapid improvements in agricultural productivity in the 1970s and 1980s—improvements that were translated into greater rural prosperity and household consumption. Thailand might take inspiration from China’s path by striving to enhance prosperity in its large agricultural sector. Thai agriculture is limited partly by geography—particularly, the conditions of soil quality and rainfall in the northeast—but also by too little infrastructure and capital goods. Many farms are small, rely on labour rather than machines, lack access to irrigation canals, and are at risk of occasional flooding, problems which state policies and investments can help to mitigate. Thailand has been more resistant than many countries to genetically modified crops, but

even if Thailand avoids GM foods, it can still invest heavily in research, development, and the introduction of improved rice seeds. Vietnam has invested over ten times more than Thailand has in rice research and development. Now, Vietnam is reaping the dividends while displacing Thai rice exports.⁷³

Eastern European countries, as well as China, faced harsh challenges in reforming inefficient industries with large workforces in the 1980s and 1990s. In many regions, dismissed employees of former state-owned firms never managed to recover their former livelihoods, with steep long-term social and economic repercussions for their societies. In Poland, however, post-communist governments combined efforts at privatization and market reform with expansive social insurance schemes, so that many former state enterprise employees could find security through government financial support amid the economic transition. These programmes helped reinforce political backing for Poland's economic reforms and ensure that subsequent growth would be broad-based with fewer pockets of de-industrialized poverty.⁷⁴

⁷³ On challenges facing the productivity of Thai agriculture, see Sina Xie and Orachos Napisintuwong, "Review of Rice Policies in China, Thailand and Vietnam", Agricultural and Resource Economics Working Paper No. 2557/1 (March 2014), Kasetsart University Department of Agricultural and Resource Economics, available at <https://ageconsearch.umn.edu/record/284032?ln=en> (accessed 4 August 2022); "Rice Strategy to Focus on Yield, Variety: Higher R&D Budget Desperately Needed", *Bangkok Post*, 28 August 2020, <https://www.bangkokpost.com/business/1975863/rice-strategy-to-focus-on-yield-variety> (accessed 4 August 2022); Pearly Neo, "The Rice and Fall: Vietnam Eyes More Global Opportunities as Thai Supply Totters", *Food Navigator Asia*, 17 March 2020, <https://www.foodnavigator-asia.com/Article/2020/03/17/The-rice-and-fall-Vietnam-eyes-more-global-opportunities-as-thai-supply-totters> (accessed 4 August 2022); Wirat Krasachat, "Technical Efficiencies of Rice Farms in Thailand: A Non-Parametric Approach", *Journal of the American Academy of Business* (March 2004); Axel Ebers, Trung Thanh Nguyen, and Ulrike Grote, "Production Efficiency of Rice Farms in Thailand and Cambodia", *Paddy and Water Environment* 15 (2017); and Pichayada Promchertchoo, "Rice and the Climate Crisis: Thai Rice Exports Taking a Hit", *Channel News Asia*, 22 April 2022, <https://www.channelnewsasia.com/asia/thailand-rice-exports-struggling-lack-research-development-2628001> (accessed 4 August 2022).

⁷⁴ See discussion in Piatkowski, Ch 5.

Thai policymakers might take note of Poland's example in considering ways to provide a better safety net for rural Thais to shift out of agriculture, thereby enabling farm consolidation and other productivity improvements. For instance, expanded state pensions for elderly farmers, housing subsidies for people leaving rural villages and higher education benefits for their children, and programmes to guarantee a basic standard of rights and income for groups of farmers who rent out contiguous land could ease Thailand's agricultural transition and provide a foundation for broader-based future growth.

Can Thailand reverse demographic trends, revive deteriorating education enrolments, and raise the quality of the education that most people can access? Higher education systems often benefit from competition and decentralized operations, but not if enrolments are sharply declining and basic funding is threatened. Such a condition risks an increasingly vicious cycle, where universities face prolonged underinvestment and promising students and faculty depart from the national higher education system. Therefore, it may be wise for Thailand to pursue consolidation of higher education institutions to soften the effects on finances, personnel, and institutional survival from falling enrolments.

At the same time, Thai leaders must reverse the decline in enrolment rates even with a shrinking population. In education terms, this means restoring confidence in the value of Thai higher education institutions. Increasing the number of international university partnerships and overseas students, hiring more overseas scholars at roughly competitive salaries under a strategy similar to those pursued by Chinese universities, and obtaining greater business and government investment in new faculties and facilities may help toward this goal. In macroeconomic terms, reversing the enrolment trend means pursuing policies that stabilize the recent decay in household finances and restore the momentum behind private sector and services-based high-wage jobs, in addition to ensuring the affordability of university education for greater numbers of less affluent families.

Many factors falling in the categories of culture and material prosperity shape countries' demographic changes. A variety of reforms could target cultural and economic influences behind Thailand's

worsening demography. However, it seems likely that increasingly stressful economic prospects for households have a significant effect on Thailand's worsening birth rates. Households that face rising debt, increasingly inaccessible basic assets such as Bangkok real estate, rising consumer prices (at least in 2022), and disappointing employment prospects would likely feel more reluctant to undertake the material and emotional burdens of having children. Economically-driven reluctance to having children may be all the greater in the context of a common perception of unfair or "captured" political institutions and markets dominated by large businesses.⁷⁵ To the extent that they are feasible

⁷⁵ Weak economic growth, household debt, domestic political problems, corruption, and poor education have appeared as leading concerns on Thai public opinion surveys for a long time. In stark contrast with many opinion surveys in the West, one survey in 2007 found approximately 0 per cent of respondents ranking "foreign affairs" as a top concern for Thailand. In a 2019 survey, only 12 per cent of respondents said Thailand was improving on corruption, and over half said corruption was worsening, though over half at the time also said the economy was growing in a way that created new jobs. For polling, see "Thailand National Public Opinion Survey", International Republican Institute and InsightAsia, 2007, <https://www.iri.org/wp-content/uploads/2021/12/200820March201820Survey20of20Thai20Public20Opinion20October2010-November201520200728129.pdf> (accessed 4 August 2022); and "FY 2019 Thailand Country Opinion Survey Report", *Country Opinion Surveys*, World Bank, November 2019, <https://documents1.worldbank.org/curated/en/729501594320946758/pdf/FY-2019-Thailand-Country-Opinion-Survey-Report.pdf> (accessed 4 August 2022). On perceptions of corruption and anti-competitive markets and politics, see "Most Companies Accept Corruption", *Bangkok Post*, 2 April 2014, <https://www.bangkokpost.com/business/403126/most-companies-accept-corruption> (accessed 4 August 2022); Thitinan Pongsudhirak, "Thai Politics' Murky Tunnel to Nowhere", *Bangkok Post*, 7 January 2022, <https://www.bangkokpost.com/opinion/opinion/2243271/thai-politics-murky-tunnel-to-nowhere> (accessed 4 August 2022); and John Reed, "Thai Retail Deal Adds to Questions on Market Dominance," *Financial Times*, 17 November 2021, <https://www.ft.com/content/d6ecfed1-5477-4054-8a62-0ea71d919a12> (accessed 4 August 2022). For scholarly analyses of corruption and market dominance, see Alex Mutebi, "Explaining the Failure of Thailand's Anti-corruption Regime", *Development and Change* 39, no. 1 (2008), and Ali Mirza, "The Dynamics of Large Asian Corporate and Family Conglomerates", in *Infrastructure and Productivity in Asia*, ed. John Kidd and Frank-Jürgen Richter (London: Palgrave Macmillan, 2005).

without greatly undermining political cohesion, redistributive policies—such as anti-monopoly enforcement or greater spending on childcare benefits, public services and social insurance funded by progressive taxes—might help improve households’ optimism about their economic futures and average families’ ability to comfortably raise children.

CONCLUSION

Thailand will continue competing with other Southeast Asian countries for industries, investments, and trade deals from Northeast Asia as well as Europe and the United States. Ideally, this competition can be virtuous, with rising wages and living standards, for every country in the region. While Vietnam has attracted enormous growth in foreign investments—and Vietnam’s prime minister called in May 2022 for his country to be “a developed, high-income country”⁷⁶ by 2045—investors and economists are still waiting to see how Vietnam approaches the management of major state-run industries, such as in the energy and transport sectors. Thailand, too, needs institutional changes to secure future growth, from improvements in education and infrastructure to honest, transparent policymaking structures.

The COVID-19 pandemic has, so far, only led to a few structural changes to the Thai economy. Manufacturing and trade in goods have grown over the last two years, making up for some losses in tourism. But, in other respects, Thailand’s economic foundations appear weaker following the pandemic, and there has been too little momentum for greater structural transformation. Debt has risen greatly across the economy, the demographic outlook has not improved, falling university enrolments threaten the potential for upgrading the labour force, and agricultural productivity remains disappointing. Traditional tourism will be slow to fully reach pre-pandemic levels, if such levels are ever possible again; yet there have been too few efforts to foster higher value-

⁷⁶ For instance, see the comments of Prime Minister Phạm Minh Chính at Harvard’s Ash Center on 14 May 2022, <https://ash.harvard.edu/visit-harvard-kennedy-school-vietnamese-prime-minister-underscores-multilateral-ambitionsin> (accessed 4 August 2022).

added travel industries. These are sobering challenges for Thailand's long-term trajectory, and without strong new efforts to address them, Thailand could witness many more years of relative economic decline.

Tied to many of Thailand's economic dilemmas is a seeming limit to the number of higher wage and higher skilled jobs in the economy, or a limit to the purchasing power flowing to middle-class households and occupations. Relatedly, there seem to be limited incentives for rural Thais to leave agriculture, for young Thais to pursue higher levels of education, and for enterprises to invest in non-tourism consumer sectors, among other predicaments. In the much-discussed sphere of innovation, too, one might argue that limited middle-class consumer demand, and limited prospects for profiting from such demand, reduces Thai entrepreneurs' motivation to innovate and the chances that an innovative product or business model can succeed. These dilemmas likely closely relate to Thailand's record of limited growth in total factor productivity, which the country must raise in order to reach a higher-income status.⁷⁷ While Thailand is slowly improving its physical infrastructure, the country has few workers with high-quality tertiary education and who can generate growth in higher quality, higher value-added goods and services.

In theory, a variety of approaches might help to address these challenges and build a political-economy groundwork for expanding Thailand's middle class. Such approaches include government investments in public services and broadly beneficial infrastructure such as transportation and sanitation; reformed regulations such as around foreign investments;

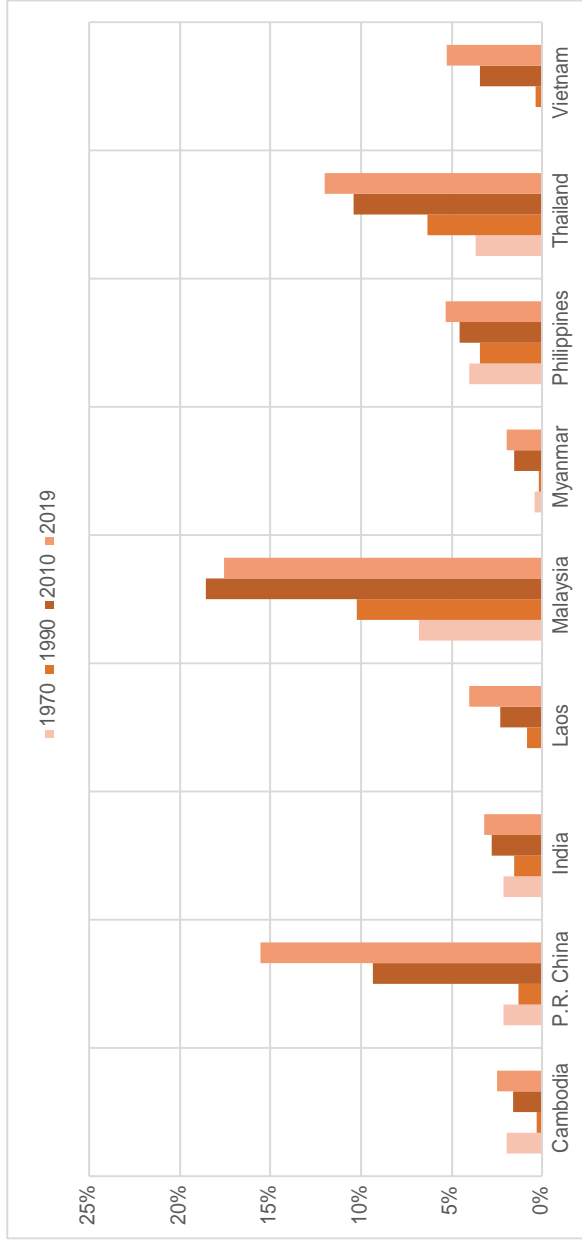
⁷⁷ Although Thailand maintained impressive growth rates through much of the late twentieth century, the country's total factor productivity (TFP) growth on average likely only hovered around 1 per cent per year. This rate falls below TFP rates in countries that succeeded in significantly narrowing relative gaps between their per capita GDP and that of the United States—such as South Korea, China, Poland or Singapore. See historical (political) economy comparisons in Dwight Perkins, "Understanding Political Influences on Southeast Asia's Development Experience", *Fulbright Review of Economics and Policy* 1, no. 1 (2021); and Barry Eichengreen, Donghyun Park, and Kwanho Shin, "When Fast Economies Slow Down: International Evidence and Implications for China", NBER Working Paper 16919, March 2011.

efforts to mitigate inequality and the capture of markets and political institutions; and political reform to ensure stability, honesty, and transparency in the law and governance. At the time of their political and economic reforms in the 1980s and 1990s, China and many Eastern European countries had experienced decades of stagnant or mediocre growth under highly indebted or sectorally imbalanced economies. The successes of their political and economic transformations should offer cautious optimism for Thai policymakers seeking to avoid or escape the “middle-income trap”.

From the 1960s to the 1990s, Thailand experienced three decades of continuous economic growth, a record that few countries can come close to matching. From 1960 until 1997, Thailand never experienced GDP growth below 4 per cent; China and Vietnam have had higher growth rates, but with shorter streaks than what Thailand sustained. With careful reforms, Thailand might yet revive some of its historical growth legacy and regain its prominent role in Asia’s post-COVID economic future.

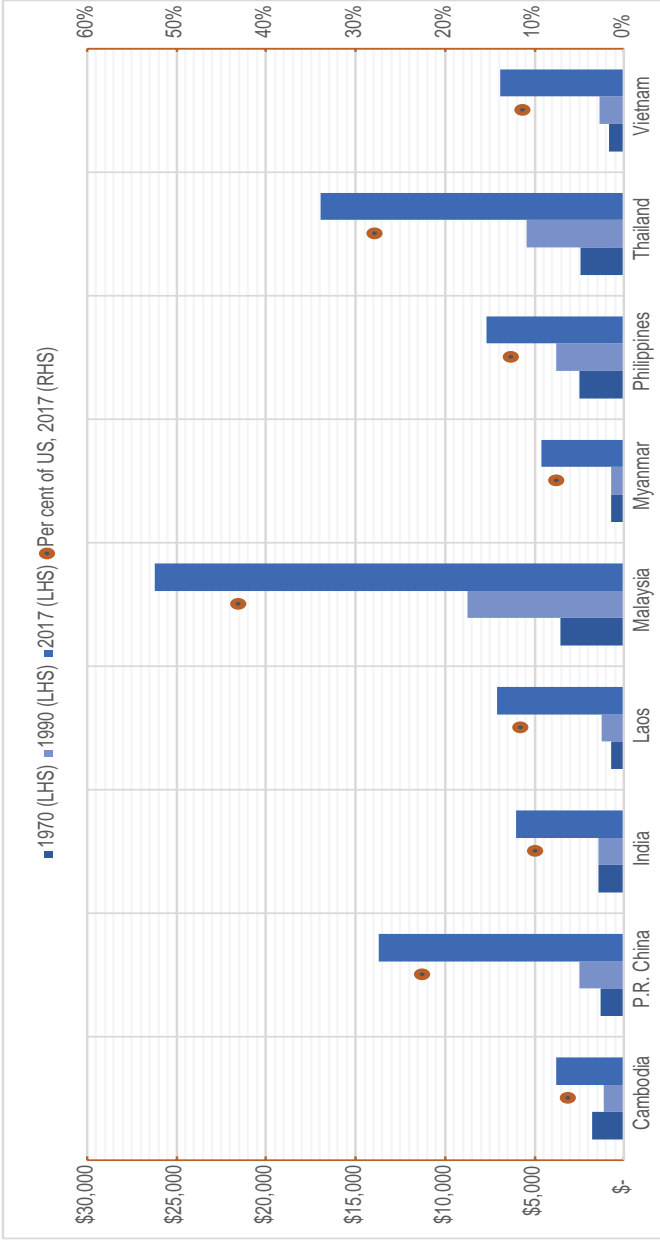
APPENDIX
Post-1970 Economic Performance of Selected Asian Countries

Figure A1: Per capita GDP (in current US\$) as per cent of US per capita GDP



Source: Calculated from World Bank data. Data are absent for Laos and Vietnam in 1970.

Figure A2: Real GDP per capita at Chained PPPs (in 2017 US\$)



Source: Data from Penn World Table version 10.0, <https://www.rug.nl/ggdc/productivity/pwt/>. See Robert Feenstra, Robert Inklaar, and Marcel Timmer, "The Next Generation of the Penn World Table", *American Economic Review* 105, no. 10 (2015).

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