

Annual Outlook

2025

Asia's economies to power ahead in the
face of global turbulence



About Asia House

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We work with companies and governments in Asia, the Middle East and Europe, facilitating high-level dialogue, providing business and market intelligence, and driving commercial outcomes.

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Executive summary

Asia's economies will again lead the rest of the world in 2025, propelled by increased regional trade, technological advancements and growing consumer demand. Asia is well-placed to defy the host of challenges on the horizon in the year ahead, including heightened geopolitical risk, a likely surge in protectionism and volatile markets.

Asia's economies will thrive in 2025, growing an estimated 4 per cent – well above the global average of 2.7 per cent (WTO, 2024). We forecast that India, Vietnam and the Philippines will be the region's star performers and that Indonesia's growth will remain strong. The pace of China's expansion is expected to slow to 3.5-4.5 per cent, with analysts on the lookout for further stimulus measures to shore up growth.¹

Asia's trade is set to increase, but there are uncertainties ahead – foremost among them US President Donald Trump's threat to implement hefty tariffs and other protectionist policies. Offsetting this, however, we can expect stronger intra-regional trade, deeper connections with the Middle East and the Global South and a strategic focus on achieving self-reliance in critical sectors such as semiconductors.

There are significant downside risks to the outlook. Trump's return to the US White House will be the defining geopolitical feature of 2025. His policies will likely accelerate de-risking strategies that shift supply chains away from China, re-route trade and challenge Asia's export-led growth. The ongoing conflicts in the Middle East and between Russia and Ukraine may trigger volatility in commodity prices and could threaten trade routes. Meanwhile, economic risks linked to China's slowdown, a potential uptick in US inflation – and its impact on the US dollar – could weigh on Asia's terms of trade and dollar-denominated debt.

Artificial Intelligence (AI) technology and digital transformation will be the main drivers of Asia's growth. The rapid adoption of these technologies is set to raise productivity, expand financial inclusion and open new markets for trade. China is already a global leader in the e-commerce sector, with neighbouring Southeast Asia, and Indonesia in particular, poised for rapid growth.

The ongoing US-China technological rivalry will open up new opportunities for non-aligned nations such as Malaysia and Singapore. The likelihood of tit-for-tat policies between the US and China that restrict the exports of components critical to technological development will be a feature of 2025. At the same time, several Southeast Asian nations are advancing ambitious AI strategies, supported by substantial government spending, workforce upskilling and increased foreign investment.

Household consumption in almost all of Southeast Asia's economies will grow at an accelerated pace in 2025, supported by easing inflation.

Asia's renewable energy capacity is set to surge, with China continuing to lead global production in the sector. India and Vietnam are expected to make huge progress in 2025 as they implement compliance-based carbon markets. Green finance, meanwhile, is poised for significant growth, driven by the expansion of green bonds and blended finance as well as progress on harmonising regional taxonomies.

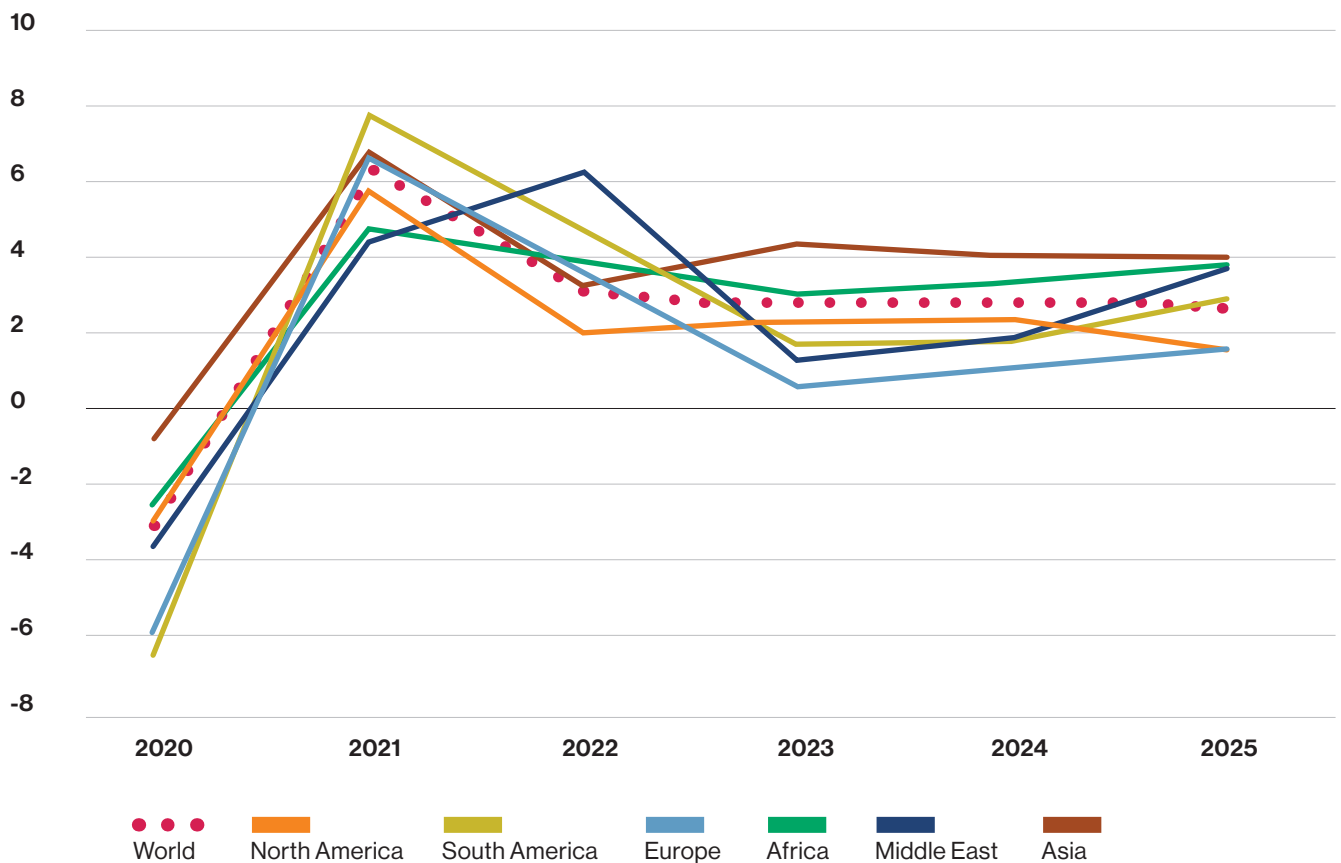
Asia House's Annual Outlook has adopted a multidisciplinary approach to estimate trends in the region in the year ahead. We have forecast the economic growth rates and drivers for each major economy. To add colour and context to these forecasts, we conducted three international roundtables, at which around 40 experts offered insights on the key trends shaping the outlook. We also collected the views of more than 50 businesses via a business perceptions survey, which offers bespoke data on expected trends.

¹ The regional growth rate is sourced from the WTO's World Economic Outlook October 2024, while individual country growth rates are sourced from Asia House's analysis and forecasts. Methodologies differ so these figures are not directly comparable.

Key Findings:

- Asia will continue to outperform the rest of the world in 2025; India, Vietnam and the Philippines will be the standout performers, posting growth rates in excess of 6 per cent, with Indonesia and Malaysia on track for 5+ per cent growth.
- China's economic growth is set to slow to 4 per cent in 2025; the extent of the slowdown hinges on the effectiveness of stimulus measures and trade policy.
- Asia's 2025 growth will be underpinned by rapid digitalisation, which will raise productivity, expand financial inclusion and open new markets for trade.
- The incoming Trump administration poses the greatest risk to Asia's outlook. US President-elect Trump's plans to impose widespread tariffs will likely result in a re-routing of trade and could trigger a renewed US-China trade war.
- Economic risks will stem from China's slowdown and the potential inflationary pressure of US tariffs, which, if implemented, will affect exchange rates and dollar-denominated debt.
- China will remain at the forefront of renewable energy production while India and Vietnam are set to make huge progress in 2025 as they establish compliance-based carbon markets.

Figure 1:
Regional GDP growth rates, 2020-2025²



Source: WTO, 2024

² 2024 and 2025 are projections

Introduction

Asia will be the world's fastest growing region in 2025, demonstrating resilience in a highly uncertain global landscape.

While the pace of China's expansion is expected to slow to 4 per cent, the economies of India, Vietnam and the Philippines are each expected to grow by more than 6 per cent. Across the region, strong consumer demand and digital transformation will drive growth. This in turn will raise productivity and accelerate inward investment over the long term. Asia will continue to evolve as a global economic centre, positioning itself as a vital and increasingly high-value segment of global supply chains.

Businesses operating in Asia must remain agile to successfully navigate an unpredictable and turbulent year. President Trump's past record of implementing sudden and significant policy shifts creates huge uncertainty. What remains clear is his unwavering focus on protecting American interests and addressing what he perceives as unfair trade practices. US-China trade tensions, which escalated in Trump's first term, are likely to be reignited. Meanwhile, other Asian countries that maintain substantial trade surpluses with the US, or which are used by Chinese companies to circumvent tariffs, may also find themselves under increased scrutiny.

The global economy is forecast to grow a modest 2.7 per cent in 2025. However, this outlook remains vulnerable to economic shocks. In Asia, inflation rates have generally eased, and it is expected that interest rates will gradually fall as a result. However, any deviation from this trajectory – such as the persistence of "higher for longer" monetary policies – could dampen investment and weaken consumption. ASEAN's deep integration with both the US and Chinese economies makes it particularly sensitive to external shocks. A slowdown in China would have knock-on effects for ASEAN's exports and supply chains.

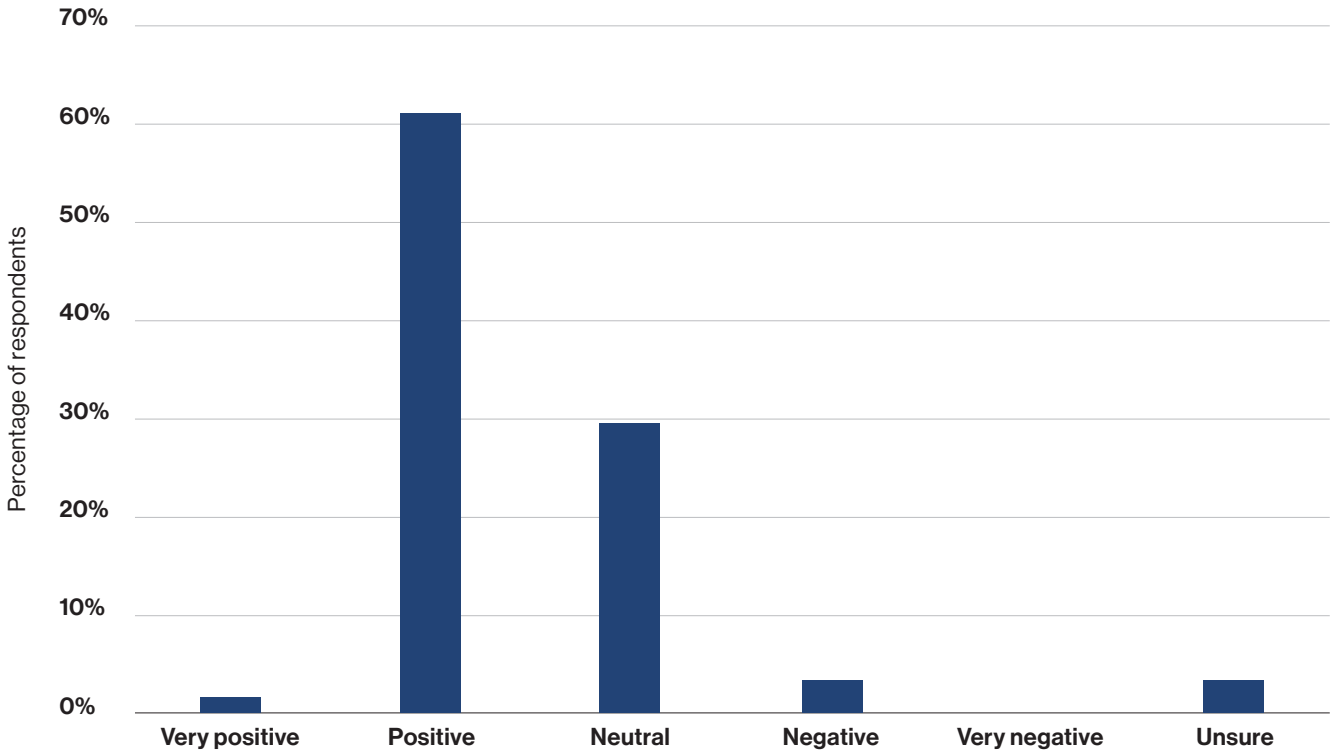
Meanwhile, if Trump follows through on his threats to impose hefty tariffs, this could fuel inflation in the US, resulting in tighter monetary policy. Higher rates would in turn strengthen the US dollar, potentially challenging Asian trade terms and dollar-denominated debt.

Despite all these uncertainties, Asia's growth is expected to remain robust and resilient. Digitalisation will drive economic transformation across the region; China is already a global leader in the e-commerce sector while Indonesia, Vietnam, Thailand and the Philippines are expected to more than double their e-commerce market values by 2030. Expanding green finance, blended finance and efforts to harmonise green taxonomies will attract increased investment to support the region's energy transition. China leads global renewable energy production, while India and Vietnam are poised for significant progress, highlighting the future value that will be generated by renewable energy production and carbon markets.

The key takeaway from our research, which was guided by the experts at our global roundtables as well as our business perceptions survey, is an expectation that of strong Asian growth despite a challenging geopolitical landscape in the year ahead.

Figure 2:

How would you describe the economic outlook for Asia in 2025?



Source: Asia House Business Perceptions Survey, 2024

Figure 3:

In one word, how would you summarise your perception of the business outlook in Asia in 2025?³



Source: Asia House Business Perceptions Survey, 2024

³ In this word cloud, the most frequently used words are presented in larger text.

Section One

Asia's outlook for 2025

Asia's economic growth will again outpace that of the rest of the world in 2025, with the economies of India, Vietnam and the Philippines each expected to expand more than 6 per cent.

In stark contrast to many Western nations, 2025 will be a period of strength and stability in Asia – a year marked by accelerated digital transformation, strong consumer demand and increased intra-regional trade. The pace of China's economic expansion will slow to around 4 per cent. While many expect the government to launch fresh stimulus measures to boost growth, exports could be hit if the incoming Trump administration proceeds with threatened increases in tariffs.

Asia's strong growth will be achieved against an uncertain and increasingly complex global economic and geopolitical backdrop.

The threat of widespread US tariffs would, if realised, have enormous consequences for the global economy and could pose significant risks to Asia. However, Asia is well-placed to withstand these shocks.

Asia's digital and green transitions will play a critical role in shaping the outlook in the year ahead,

given the likely global shifts in trade, climate and digital policy stemming from political changes in the US. In Asia, the expansion of digital payment systems, e-commerce hubs and digital technologies integral to AI and semiconductor production will finance growth and boost productivity. Similarly, Asia's green transition will not only continue, but is likely to pick up speed, with the breadth and scale of renewable energy investments a dominant theme. An expected pivot in US climate policy⁴ by the newly elected Trump administration may act as a further spur to Asia's transition.

Asia's growth in 2025 will be underpinned by the following macroeconomic trends:

- **Asia's consumers will lift overall economic growth rates.** Growth in household consumption will accelerate in almost all of Southeast Asia's economies in 2025. In most cases, this growth will be supported by a deceleration in inflation rates – and in inflation expectations – along with domestic exchange rate developments. The increase in consumption will also translate into increased dynamism and growth in the service sector, which will remain a bright spot in Southeast Asia.
- **Investment in the digital and green economies will be highlights.** Asia's overall investment spending could be restrained by heightened investor risk aversion and intermittent supply chain disruptions in the coming year. Ongoing economic transformation will support resilience in Asia's manufacturing sector, driven in large part by digital innovation, along with the expansion and application of a myriad of new technologies (Malik et. al., 2024; UNESCAP, 2024). However, how much this will feed into fixed asset investment is uncertain in that its contribution to growth could be limited to specific sectors within the digital economy and renewable energy.
- **Asia's cross-border trade could see significant disruption and re-configuration in 2025 and beyond.** Asia's total trade is expected to increase, but geopolitical risks – particularly President-elect Trump's proposed tariffs – could act as headwinds. The implementation and threat of higher tariffs will challenge Asia's export led-growth and encourage greater intra-regional trade. Asia will also continue to strengthen its ties with the Global South and the Middle East, in line with our analysis in the [Middle East Pivot to Asia](#).

⁴ President elect Trump's election agenda indicates that under his leadership, "Republicans will unleash energy production from all sources, including nuclear, to immediately slash inflation and power American homes, cars, and factories with reliable, abundant, and affordable energy." The agenda also mentions the cancellation of the electric vehicle mandate. See: <https://www.donaldjtrump.com/platform>.

Asia's economies are likely to outperform that of other regions around the world in 2025, buttressed by the strength and resilience of its regional trade, rapid digital transformation and investment partnerships. Additionally, faster growth in domestic demand will help cushion against external shocks and the economic impact of expected – and unexpected – policy announcements from the new US administration.

The risk of a potentially sharper slowdown in China also poses a downside risk but this is likely to be mitigated by the high probability of fresh government stimulus measures.

On the whole, the region will see a constellation of growth rates that will top the average pace of global growth in 2025 (Figure 4).

“Asia will continue to be the growth driver for the world” – Roundtable participant

Figure 4:

Asia House Economic Outlook: Annual GDP growth⁵



Source: Asia House Research

⁵ 2025 is a forecast

1.1 Macroeconomic outlook

Asia's domestic macroeconomic fundamentals are likely to remain generally stable in 2025, but could be adversely affected by external shocks.

The WTO forecasts that the region's economy will grow by 4 per cent in 2025.

The outlook for fundamental macroeconomic features is as follows:

Inflation – Inflation is expected to ease in 2025. The Asian Development Bank (ADB) forecasts inflation across the region at 2.9 per cent, largely driven by downward revisions in China and price competition in industries such as semiconductors, electric vehicles and solar photovoltaics (ADB, 2024a). There will be variations across the region, with advanced economies such as China, Hong Kong, Singapore, South Korea and Taiwan expected to see price rises close to central bank targets. In contrast, Myanmar and Laos are forecast to experience inflation of 15 per cent and 21.5 per cent respectively, as prices are pushed higher by currency depreciations and economic and political tensions.

Monetary policy – Asian central banks are likely to take a cautious approach to reducing policy rates, particularly since interest rate differentials with the US make currencies and markets vulnerable to shocks (S&P Global, 2024a). Regional inflation is mostly under control, and it is expected that policy rates will come down slowly towards the end of 2025. Japan is the exception. March 2024 marked the end of the Bank of Japan's eight-year negative interest rate policy as the economy recovered and wages grew and it is expected that rates there will gradually rise in the next few years.

Commodity prices – Oil prices are expected to remain broadly stable and may decline slightly in 2025, driven by China's economic slowdown and the expectation that OPEC will reduce production cuts (ADB, 2024a). This will benefit major oil importers such as China, India and South Korea. Rice production is expected to reach a new record in 2024/2025 while prices are expected to decline as the effects of El Niño dissipate. However, the incoming La Niña weather pattern raises the risks of floods which could damage agricultural crops. The impact on each Asian nation will vary depending on whether the country in question is a net agricultural exporter or importer, along with the composition of its agricultural sector. Since most commodity prices are denominated in US dollars, external shocks to the US economy will affect commodity-based traders in Asia.

Exchange rates – Exchange rates between the US dollar and Asian currencies could be volatile and will be significantly influenced by Trump's policies. The dollar reached a four-month high after Trump won the US election as investors anticipated pro-business policies. The dollar rose again when he announced he would introduce 100 per cent tariffs on BRICS countries unless they agreed to refrain from creating a new currency to rival the US dollar (Brettell, 2024; Hughes and Smith, 2024).

The dollar hit a two-year high on the first day of 2025 trading and gained against most major currencies including the Japanese Yen (Brettell, 2024). In its final 2024 meeting, the US Federal Reserve cut rates by 25 basis points and signalled a slower pace of reductions for 2025 (J.P. Morgan, 2024). Trump's promise of tariffs could increase US inflation by raising import costs. Should that be the case, the US FED may delay expected rate reductions or even look to increase borrowing costs. Such developments would further support a strengthening of the dollar.

1.2 Trade outlook

Debt – The ADB estimates that the average government debt-to-GDP ratio for developing Asia will decline marginally to around 47 per cent in 2024, after peaking at 50 per cent in 2020, as robust growth helps counterbalance primary deficits and rising borrowing costs (ADB, 2024a). However, disparities are likely to persist across the region. Laos may continue to struggle with high public debt and service payments that are causing currency depreciation and inflation.

China's corporate debt remains among the highest in the world and continues to climb (IMF, 2024a). Local government debt in China has also become problematic, estimated at between 45 trillion and 55 trillion yuan, and has recently been targeted by stimulus measures involving a debt swap to ease repayment pressures (Wu, 2024). Thailand and India also face high corporate debt levels, increasing their vulnerability to defaults (IMF, 2023). Much of Asia's debt is tied to the US dollar, exposing the region to fluctuations in US monetary policy and economic conditions.

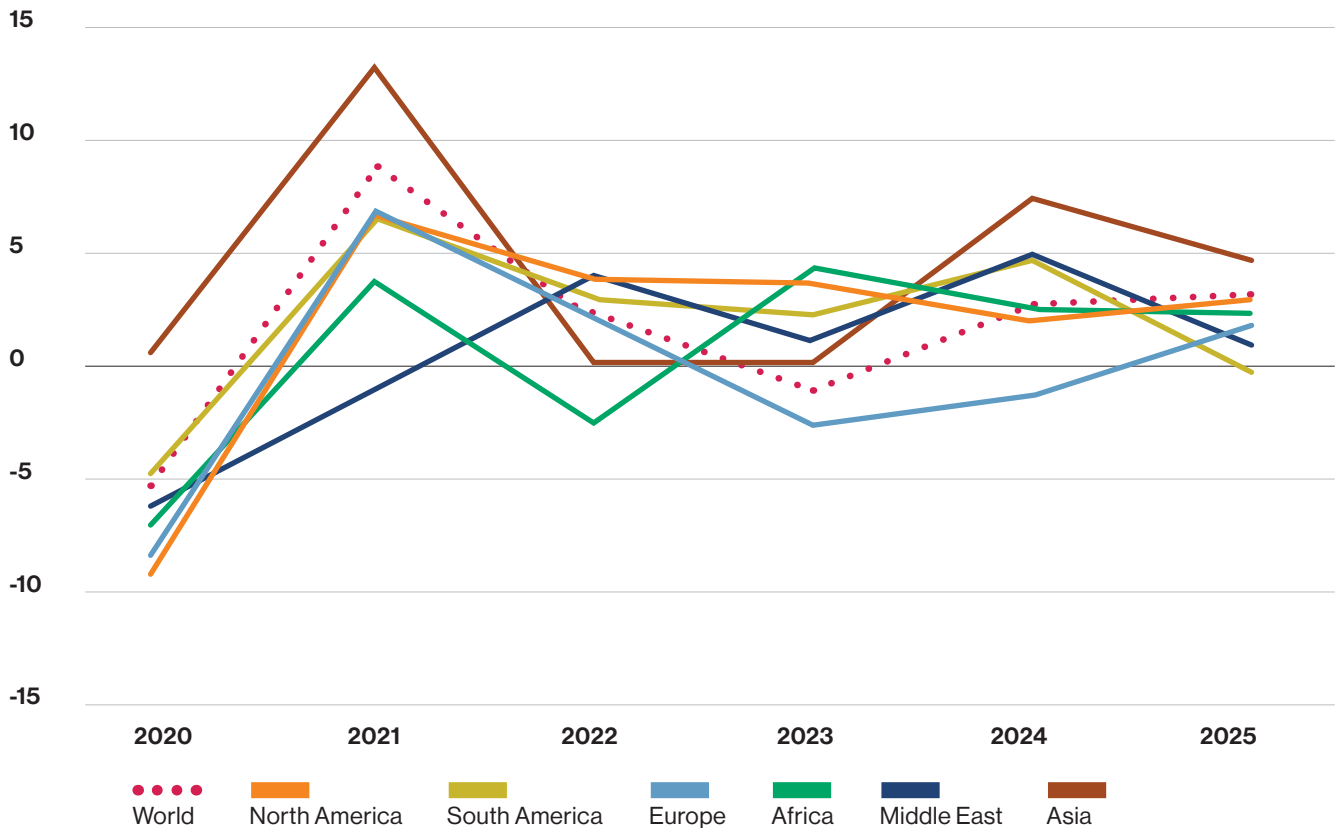
Despite mounting geopolitical and economic challenges, Asia's trade is set to grow in 2025.

The WTO forecasts that Asia's merchandise exports will increase by 4.7 per cent, faster than the world average, while imports are projected to grow by 5.1 per cent. Growth will be driven by key manufacturing economies such as China, Singapore and South Korea (WTO, 2024).

The incoming Trump presidency and its promise to impose tariffs on a number of countries could however significantly disrupt trade flows across the region. At the time of writing, Trump had announced plans for 10 per cent tariffs on Chinese imports and 25 per cent on those from Mexico and Canada. Soon after, he threatened a 100 per cent duty on BRICS members that did not pledge to eschew the creation of a currency rivalling the dollar.

Figure 5:

Merchandise trade volume export growth, 2020-2025 (%)⁶



Source: WTO, 2024

In light of shifting geopolitical and economic conditions, we anticipate three key trade trends to emerge across Asia:

1. Increased intra-regional trade

Asia is the world's second-most integrated trade region after the EU, with intra-regional flows accounting for 57 per cent of trade value in 2022, up from 54 per cent in 2000 (McKinsey, 2024). Interdependence between China and ASEAN has deepened, with ASEAN accounting for 15 per cent of China's total trade in 2023, up from 10 per cent in 2010, and China accounting for 20 per cent of ASEAN's trade, up from 12 per cent (ibid).

Increasing US protectionism may further bolster Asian intra-regional trade, particularly in high-value supply chains such as for electric vehicles where all segments, from raw materials to production, can be produced within the region. Regional trade agreements such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the Regional Comprehensive Economic Partnership (RCEP) will encourage greater regional trade, particularly through their advanced rules on digital trade, which is poised to be a driver of growth across the region.

⁶ 2024 and 2025 are projections

2. New trade corridors connected by Asia

Asia is strengthening its economic and trade ties with the Global South. This trend was spearheaded by China through its Belt and Road Initiative and is gaining pace across the region. Of the world's 80 largest trade routes, 49 include Asia on at least one end, and 22 on both (McKinsey, 2023). Notably, 18 of the 20 fastest-growing trade corridors originate in Asia, reflecting a shift toward a multipolar global economy (ibid).

Of note is the deepening Asia-Middle East relationship, explored in depth in our report *The Middle East Pivot to Asia*. Asia's role as a connector is also becoming more prominent, with ASEAN increasingly trading with both China and the US amidst evolving de-risking strategies.

As global fragmentation escalates in response to rising protectionism, Asia is well-positioned to capture new opportunities through its growing prominence in emerging trade corridors and its role as a connector in global supply chains.

3. Self-reliance in critical sectors

Rising protectionism is driving governments, including those in Asia, to prioritise supply chain resilience. In our roundtable discussions, self-reliance emerged as a theme expected to gain prominence across Asia in the years ahead. In Indonesia, this push for self-sufficiency involves investment in downstream activities to add value to domestic production and to reduce dependency on imports, particularly for commodities such as metals and agricultural products. In the long run, this will change the composition of exports.

Other governments may impose restrictions, as seen with China's curbs on gallium, germanium and graphite, to safeguard strategic sectors such as semiconductors. Such measures are likely to expand, especially in critical areas such as food and energy, if global trade tensions escalate.



His Excellency Zheng Zeguang, China's Ambassador to the UK speaking at the Asia House Annual Outlook 2024.

Section Two

Risks: Protectionism, tariffs, trade wars

2.1 Trump's policies: Key risks to Asia's outlook

The election of Donald Trump as US President and his threat to impose widespread tariffs will be the defining geopolitical feature of 2025.

There is a considerable risk of increased US-China tensions and, as a result, a surge in business de-risking strategies that shift supply chains away from China. Trump has emphasised his commitment to "Make America Great Again" through industrial policies and tariffs aimed at protecting US industries. His cabinet appointments further underscore his hawkish approach towards China. His nominees for CIA director, secretary of defence, national security advisor, United Nations ambassador and secretary of state are all noted for their tough views on China (Al Jazeera, 2024). Other Asian countries are also at risk from the proposed tariffs, either directly or through the impact such duties would have on China. Greater US protectionism would pose a macroeconomic risk as well, as higher tariffs would inevitably stoke inflation in the US and potentially trigger higher US interest rates and a stronger dollar, all of which would have consequences in Asia.

It remains to be seen whether President Trump will proceed with some or all of the threatened tariffs. However, his threats alone are already causing disruption and uncertainty. The high level of unpredictability poses a risk in itself, as companies and countries will need to position themselves for a range of scenarios.

Increased tariffs will challenge Asia's export-led growth and lead to expanded intra-regional trade amid a renewed US-China trade war

During his campaign, Trump pledged 60 per cent tariffs on China and 10 per cent on the rest of the world. He has since said he will impose an additional 10 per cent tariff on China and 25 per cent on Mexico and Canada. Additionally, he has threatened 100 per cent tariffs on BRICS members that do not rule out creating or supporting a currency to rival the US dollar.

Should Trump proceed with imposing any or all of these tariffs, American consumers and Asian exporters will pay the price. Goldman Sachs estimated that the cost of consumer goods would increase by 0.1 per cent for every percentage increase in the tariff rate, thus raising inflation rates (Durkee, 2024). In addition, higher US tariffs would make Asian goods relatively more expensive, leading to a fall in American demand, which would hurt Asia's export-driven economies. Within ASEAN, Cambodia has the largest exposure, with 40 per cent of its exports going to the US, followed by Vietnam at 27.4 per cent and Thailand at 17 per cent (Regalado, 2024).

It is estimated that a 60 per cent tariff hike on Chinese goods would cause China's total exports to fall by 8 per cent and China's growth to decline by 2.5 per cent (Xie, 2024; Euronews, 2024). Under the previous Trump administration, China retaliated against protectionist policies by increasing tariffs in politically sensitive sectors such as agriculture, so further steps of this kind seem likely. In retaliation against recent US regulations aimed at curbing China's semiconductor sector, China announced it will restrict exports of minerals essential in technology and mineral production (Siqi and Chen, 2024).

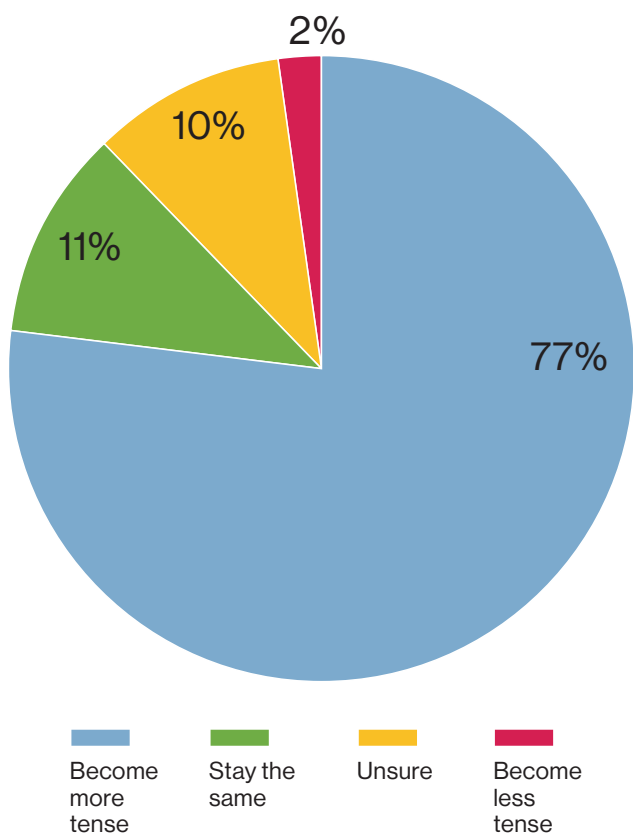
There may also be an increase in anti-dumping investigations by China, along the lines of its probe into US exports of polyoxymethylene copolymer, which is widely used in EV industries. Such tit-for-tat measures are likely to accelerate in the months to come, with some 77 per cent of respondents in our business perceptions survey saying they expect US-China trade tensions to increase (Figure 6).

Participants in the roundtable discussions suggested that Trump may use tariffs as a negotiating tool, with the threat alone potentially altering trade practices. In the medium to long term, US tariffs will reroute trade flows. A possible upside for Asia is that US policy may foster greater intra-regional trade and thus increase resilience against US protectionism.

US-China tensions are likely to accelerate, leading to a shift in supply chains as businesses de-risk by moving away from China

During his previous presidency, Trump imposed tariffs on more than US\$360 billion of Chinese goods. China retaliated with duties on more than US\$110 billion of US products, resulting in a tit-for-tat trade war (Halligan, 2020). Following Trump’s recent threat of new duties on Chinese imports, renewed animosity appears likely in 2025 – particularly in technological sectors such as semiconductors and AI development where both countries are vying for global supremacy, as well as in industries essential for national security, such as agriculture and energy. An ongoing US investigation into TikTok’s links to the Chinese government could result in the firm being banned by 19 January - a day before Trump takes office. His lawyer said Trump "opposes banning TikTok" and "seeks the ability to resolve the issues at hand through political means once he takes office" (Debusmann, 2024).

Figure 6:
How do you expect the policies of the Trump presidency will affect the US-China relationship?



“Businesses are likely to get caught in the crossfire” – Roundtable participant

Source: Asia House Business Perceptions Survey, 2024

Fearing an escalation of antagonism between the two countries, businesses will de-risk their supply chains by shifting production away from China.

This process will happen in two ways. Firstly, foreign businesses will seek alternative markets offering competitive production costs, as seen during the first trade war, where countries such as Vietnam and Thailand benefitted from the “China+1 strategy”. Secondly, Chinese businesses will look to circumvent US tariffs by shifting the final stage of production to a country unaffected by US tariffs. During the first trade war, for instance, many Chinese EV manufacturers shifted production to Mexico to take advantage of the United States-Mexico-Canada Agreement (USMCA) and significantly lower tariffs.

At a rally held during his latest campaign, Trump said: “If you’re listening, President Xi [...] Those big monster car manufacturing plants that you’re building in Mexico right now [...] We’re going to put a 100 per cent tariff on every single car that comes across the line, and you’re not going to be able to sell those cars if I get elected.” (NBC, 2024). More recently, Trump threatened to slap a 25 per cent tariff on Mexico in a bid to force it to clamp down on illegal migration. Should Trump implement either of these policies, it is likely China will rethink its strategy of EV production in Mexico.

Asian countries may suffer from reduced investment and China’s overcapacity

The unpredictability of Trump’s policies will make investors wary of committing to China and other Asian countries, potentially hampering regional growth. In 2023, the US was responsible for nearly half of the US\$9.5 billion in fixed asset investments in Singapore. Following Trump’s victory, Prime Minister Lawrence Wong was quick to offer his congratulations and to underline the US’s “consistent trade surplus” with Singapore: a clear attempt to avert the threat of tariffs and secure ongoing US investment (Regalado, 2024).

As China’s trade patterns shift, its Asian neighbours will increasingly suffer from the country’s production overcapacity and a potential influx of cheap Chinese goods.

Various neighbouring governments have already acted to shield their domestic industries against China’s dumping of metals, textiles and consumer goods. Malaysia, for example, imposed a 10 per cent sales tax, while Thailand implemented a 7 per cent VAT on low-cost e-commerce products (Reglado et al, 2024). Indonesia has announced that it will explore imposing duties of up to 200 per cent on imported fabrics as domestic textile factories have closed in the face of fierce Chinese competition. By reducing US demand for Chinese goods, Trump’s protectionist policies are likely to exacerbate the dumping of surplus products in Southeast Asia. This could intensify competition, harm local industries and stoke regional tensions. Southeast Asian nations must carefully balance their efforts to curb cheap Chinese imports with their reliance on Chinese investment and critical materials needed for high-value industries.

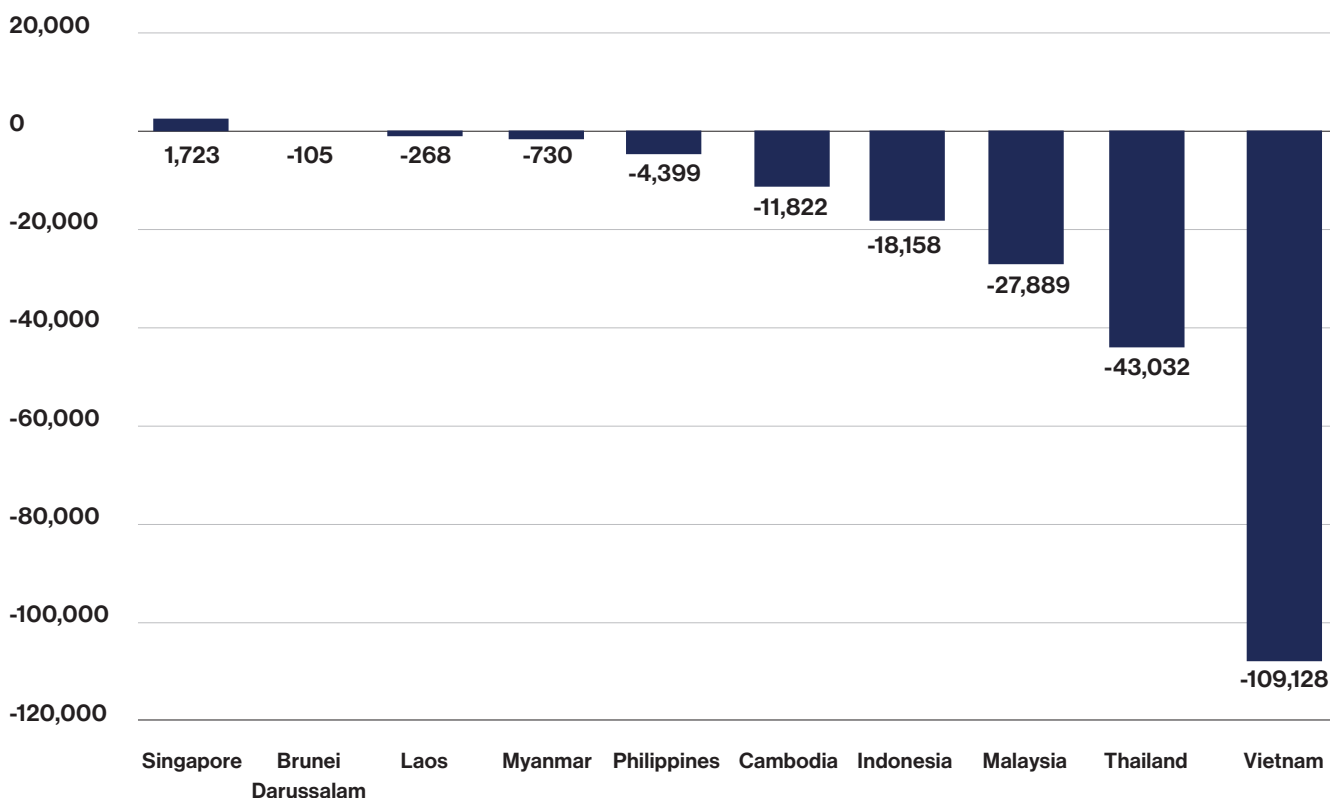
Asian countries may be targeted by US policies

Trump despises trade deficits, and any steps he takes to reduce them in his second term could pose a threat to the outlook for Asia's export-led economies. In 2023, Singapore was the only ASEAN member that the US had a merchandise trade surplus with, while the US maintained large trade deficits with Cambodia, Indonesia, Malaysia and Thailand (Figure 7).

Of note is the significant US trade deficit with Vietnam, totalling around US\$110 billion. Over the next four years, US policies towards these countries pose a risk as Trump will likely want to tackle what he deems to be unfair trade.⁷

Figure 7:

US merchandise trade balance with ASEAN members, 2023 (US\$ millions)



Source: UNComtrade, 2024

⁷ Figure 7 shows the US's bilateral merchandise trade deficit with ASEAN members. It does not include services trade, of which the US is a net exporter.

Vietnam could face increased scrutiny, given its large trade surplus with the US. Vietnam was a clear winner during the first US-China trade war, as companies seeking to reduce exposure to China shifted production there. Now, however, Vietnam's trading success is likely to encourage increased US scrutiny, with could lead to the imposition of higher tariffs in the US.

At the time of writing, Trump had not threatened Vietnam with higher duties. In 2019, however, he claimed that "Vietnam takes advantage of us even worse than China" (Lakshmi, 2024). Given that the US is Vietnam's largest export market, any tariff increases could significantly hamper Vietnam's export-driven growth and deter foreign investment.

Asian countries may attempt to appease Trump by boosting demand for US imports and scrutinising Chinese investments. Countries with large trade surpluses may increase their spending on US military equipment, civilian aircraft or liquefied natural gas, although barriers remain to their ability to meaningfully ramp up imports (ibid). Many governments will also scrutinise Chinese production that has been moved to their markets in an attempt to circumvent US tariffs. For example, Vietnam will likely take further action against Chinese firms illegally using "Made in Vietnam" labels to avoid US tariffs, and may establish stricter criteria for product labelling.



Asia House Chief Executive Michael Lawrence OBE chairs the DMCC Future of Trade Launch 2024, featuring Director-General Ngozi Okonjo-Iweala at the World Trade Organization

2.2 Global geopolitical tensions continue to threaten trade routes and security

The Russian invasion of Ukraine elevated global commodity prices, hurting energy importers like Japan. Food and oil prices have fallen from peaks hit in the early stages of the conflict, which began in February 2022, but remain above pre-invasion levels. Natural gas costs vary according to country. In the US, they have returned to pre-pandemic levels. However, they are higher in Japan, which still imports Russian LNG as it seeks alternative suppliers such as Australia, Malaysia and the US. Further escalation in the conflict could lead to another surge in commodity prices, which would adversely affect Japan as well as other Asian countries dependent on imports.

The deployment of North Korean troops in Russia has raised tensions. In October 2024, North Korea deployed some 11,000 troops to support Russia in its invasion. Observers expect Russia to provide North Korea with funds and access to military technology in return (Ng, 2024). The alliance has raised security concerns in South Korea, prompting it and the EU to condemn the deployment and to vow to coordinate to stop military cooperation between Pyongyang and Moscow (EFE, 2024).

In November, NATO's Secretary General Mark Rutte warned that the deepening military and economic ties between the two countries "don't just threaten Euro-Atlantic and Indo-Pacific security, they are deeply dangerous for global security" (NATO, 2024). If the war – and North Korea's involvement – escalates significantly, we can expect to see South Korea push for more allies and international organisations to take action to safeguard international security.

Political instability in South Korea will affect its economic outlook and terms of trade.

In December 2024, President Yoon Suk Yeol declared martial law, citing threats from "anti-state" forces linked to North Korea (Ng et al., 2024). Protests erupted, and the opposition impeached both Yoon and his successor, acting president Han Duck-soo. A Constitutional Court verdict on Yoon's removal is expected in February 2025, which could trigger a leadership election. The economic impact is significant: the won has fallen to a 15-year low, and the Bank of Korea warns of risks to the 2025–2026 growth outlook (Lee and Park, 2025). The weaker won raises import prices which is particularly concerning given Korea's heavy dependence on energy imports, which feeds through to higher prices for consumer goods (Eun-byel, 2024). These vulnerabilities, coupled with Trump's tariff plans, further threaten South Korea's export-led economy and will weigh on investor sentiment.

The conflicts in the Middle East, particularly Houthi attacks on shipping routes, have significantly increased Asia's trade costs.

Scores of attacks by Iran-backed Houthi rebels since the start of the Gaza conflict have led to severe disruptions in maritime shipping, which is significant given that more than 80 per cent of internationally traded goods are transported by sea. As a result of the attacks, the Suez Canal's share of ship transits dropped from 30 per cent to just 2 per cent by October 2024 (WTO, 2024; l'Anson, 2024). The attacks have led carriers to reroute ships around the Cape of Good Hope, which typically adds 10-12 days and an additional US\$1 million in fuel costs per voyage (Baraniuk, 2024). Asia-Europe trade has been most affected, with travel times increasing by six to 25 days. Air freight has also been impacted, with costs rising 14 per cent for shipments from Asia Pacific and 13 per cent for those from South Asia, exceeding global averages (WTO, 2024).

These elevated costs will persist as long as the conflict continues, since Houthi rebels have vowed to maintain attacks until Israel halts its offensive on Gaza and Lebanon. In late December 2024, Israel launched a number of airstrikes inside Yemen in what it said was retribution for Houthi missile and drone attacks in Israel. Hence, an escalation in conflict between the Iran-backed rebel group and Israel appeared likely (Guardian, 2024).

The abrupt end of the Syrian conflict may pose challenges for Asia and its efforts to foster stronger bonds with the Middle East.

China has in the past shown public support for Bashar Al-Assad, the Syrian leader dislodged in December 2024 following a lightning-fast assault by a coalition of rebel groups, with Xi Jinping and Assad even forging a strategic partnership in 2023. Some analysts believe that the regime's collapse, and the risks this poses to regional stability and to the influence of allies Russia and Iran in the region, could be unwelcome news for China (Reuters, 2024). However, some commentators believe that if the situation remains stable, the advent of a new Syrian regime and the removal of sanctions could ultimately offer an opportunity for China to route trade flows to Europe through Syria via a new Southern Silk Road in the long term (Asia Times, 2024).

Escalating tensions in the South China Sea and the Taiwan Strait remain contained – for now.

Both the South China Sea and the Taiwan Strait are important shipping routes, particularly for China, the world's largest exporter of goods. Almost half of the global container fleet passes through the Taiwan Strait while nearly 60 per cent of global maritime trade travels through the South China Sea (Risk Intelligence, 2022; GOV.UK, 2023). In 2025, we can expect to see more diplomacy aimed at balancing national security concerns against economic interests. Any elevation in tensions would threaten regional trade, security and could prompt greater involvement from the US and other players.

2.3 Global economic shocks could dampen Asia's growth

China's economic slowdown poses significant risks to the wider region due to the region's high level of economic integration. The main challenges to China's growth include the property sector, elevated local government debt, weak domestic consumption and high youth unemployment (see Section 3). As China and ASEAN are one another's largest trading partners,⁸ any slowdown in Chinese consumption will significantly impact ASEAN's exports, particularly in the tourism and manufacturing sectors. In 2023, bilateral trade totalled US\$468.8 billion, underscoring Southeast Asia's dependence on Chinese demand.

Within China's property sector, which accounts for roughly 20 per cent of GDP, high developer debt, unsold housing and falling prices continue to drag on growth (IMF, 2024a). While economists do not expect the property slump to trigger a global financial crisis, the spillover effects on the region are still significant (Dai and Chen, 2024). A further slowdown will reduce China's demand for key imports, including steel, copper and cement, with knock-on effects for neighbouring countries. It may also limit China's appetite to invest, particularly in overseas infrastructure projects.

China is using stimulus measures to counter the economic slowdown. In September, the Chinese government launched a stimulus package – its second in 2024 – that included such measures as interest rate reductions and debt swaps. The latest package was criticised for its lack of support for both consumers and the property sector and the renminbi suffered a sharp drop as a result (Shen, 2024; Shen and Westbrook, 2024). In 2025, further stimulus packages are likely, the effectiveness of which will help determine whether China's growth will accelerate to 4.5 per cent or slow to 3.5 per cent, as per our projected growth scenarios.

Trump's threatened tariffs, if carried out, could trigger a pick-up in US inflation. A hike in tariffs on US imports would likely result in American consumers paying higher prices for imported goods. ING estimated that if Trump were to impose tariffs of 60 per cent on China and 10-20 per cent on all other countries, this could cost American consumers up to US\$2,400 per capita annually (ING, 2024). Higher inflation could force the Fed to tighten monetary policy, which would in turn strengthen the dollar by attracting foreign investment.

The US dollar has climbed since Trump's election, and Asian governments are already taking action to protect their currencies.

A stronger dollar will weigh on Asian dollar-denominated debt and could lead to capital outflows as investors seek higher yields in the US. Governments are already taking steps to counter this. Bank Indonesia has said it stands ready to intervene in the currency markets to smooth out sharp swings, while state-owned banks in China sold large amounts of dollars to support the yuan (Carson and Kim, 2024). The dollar climbed again following Trump's announcement that he would introduce 100 per cent tariffs on BRICS countries unless they promised not to create or support a rival currency to the US dollar (Hughes and Smith, 2024).

If inflation does not ease as expected, consumption, investment and debt-servicing will be hit. Global price pressures have lessened recently and the Asian Development Bank expects that Asia's inflation rate to fall to 2.9 per cent in 2025 (ADB, 2024a). However, any deviation from this trajectory – such as the persistence of "higher for longer" monetary policies – could adversely affect regional growth prospects by dampening both investor sentiment and consumption. Prolonged higher interest rates in the US, meanwhile, would pose challenges for countries with dollar-denominated debt.

⁸ Taking ASEAN as a bloc.

Asia's capital markets are poised to benefit from improving financial conditions, yet remain vulnerable to geopolitical tensions. The capital market outlook across the region is broadly positive, but differences among countries may emerge. China's property crisis presents challenges to its capital markets, with risks of increased volatility, weakened investor confidence and spillover effects from local government debt pressures.

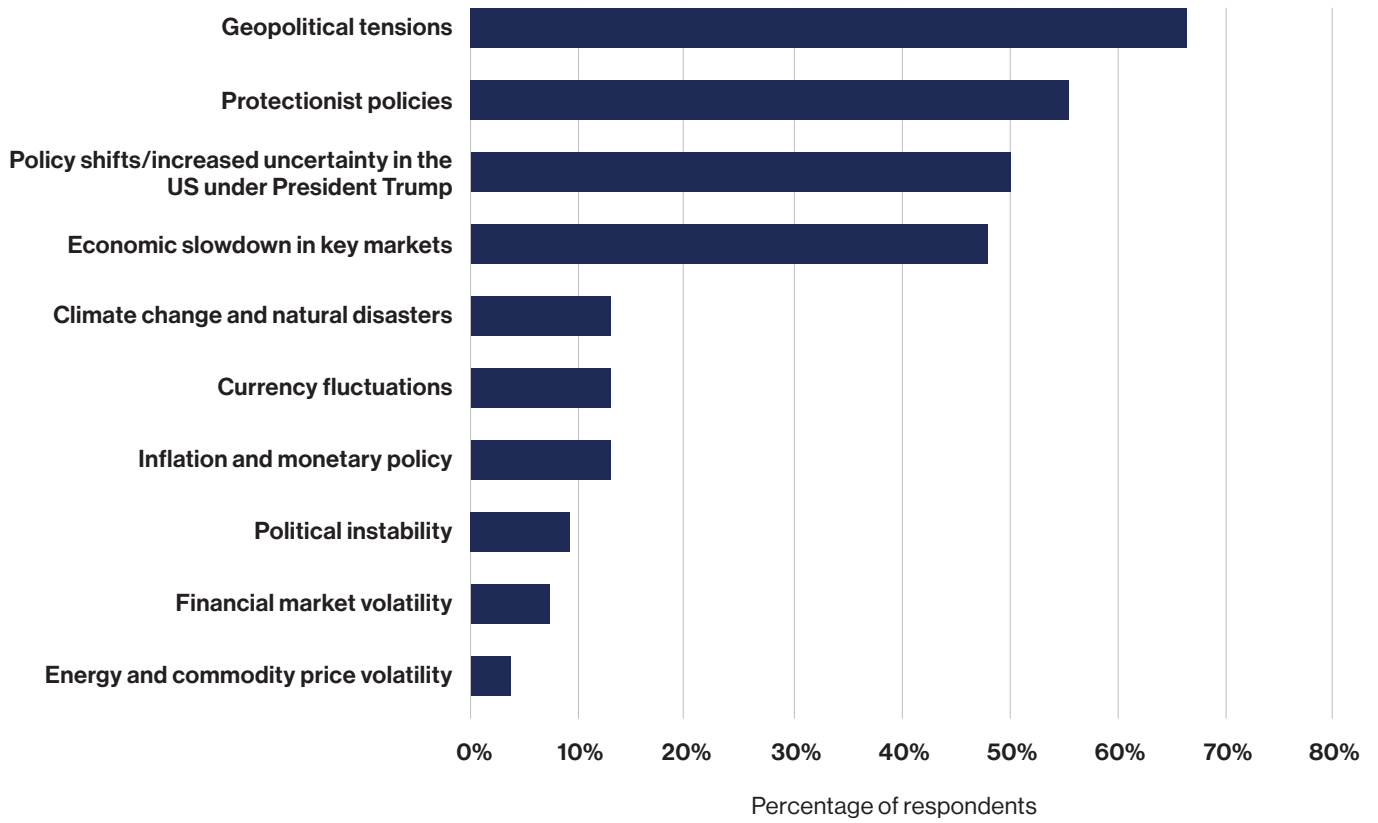
Vietnam, conversely, has a brighter outlook, with robust credit growth and declining asset-quality risks, supported by strong domestic demand and improved financial system resilience (Fitch, 2024). In 2024, Japan's Nikkei 225 reached a record high for the first time since 1989, fuelled by surging investor confidence in equity markets, while Hong Kong's Hang Seng Index posted its first yearly increase since 2019 (Chen, 2024; Hang Seng Indexes, 2024).



Paul Chan Mo-po, Financial Secretary of the Hong Kong SAR, in a briefing with Asia House Corporate Members, moderated by Asia House Chief Executive Michael Lawrence OBE.

Figure 8:

What do you believe are the most significant risks to Asia's business and investment outlook in 2025? (Select up to three options).



Source: Asia House Business Perceptions Survey, 2024

Section Three

Asia's 2025 outlook by country

The economic outlook across Asia is positive, with all major economies forecast to grow in 2025 at rates ranging from 1 per cent in Japan to 6.5 per cent in India. Across the region, economic growth will be driven by digital innovation, increased consumer demand and green finance. These factors will mitigate possible shocks from policy shifts in the US and their macroeconomic impact.

This section will take a detailed look at the economic outlook for a sample of eight Asian nations: China, Japan, India, Indonesia, Malaysia, Vietnam, Thailand and the Philippines. Briefly, we forecast the following for each of these countries (Figure 9):

- In **China**, economic growth is set to slow to around 4 per cent, with the extent of the slowdown hinging on policy effectiveness, including in relation to trade.
- **Japan's** economic outlook remains clouded by uncertainty. Its annual growth rate of approximately 1 per cent will underperform its potential.

- **India** is likely to register a 6.5 per cent growth rate, supported by resilience in multiple sectors, inward investment and bilateral trade.
- **Indonesia** will continue as a regional economic leader, with 5.5 per cent growth for 2025. Its trading relationships and digital economy will spur its expansion.
- **Malaysia's** economy will grow by 5 per cent in 2025. Notably, it is projected to reach high income status by 2028 owing to its successful macroeconomic reforms.
- **Vietnam's** 6.25 per cent growth rate will be driven by its resilient regional trade relationships and increased domestic demand.
- **Thailand's** economy is likely to grow 3 per cent in 2025 amid continued strength in household spending and service sector growth.
- **The Philippines** is on track for GDP growth of 6.25 per cent, driven by household consumption growth and continued resilience in inward foreign remittances.

Figure 9:

Asia House Economic Outlook: Annual GDP growth

	2020	2021	2022	2023	2024	2025
China	2.2	8.5	3.0	5.2	4.6	4.0
Japan	-4.2	2.6	0.96	1.9	0.86	1.0
India	-5.8	9.7	7.0	7.8	6.8	6.5
Indonesia	-2.1	3.7	5.3	5.1	5.0	5.50
Malaysia	-5.5	3.3	8.7	3.7	4.4	5.0
Viet Nam	2.9	2.6	8.1	5.1	5.8	6.25
Thailand	-6.1	1.6	2.5	1.9	2.7	3.0
Philippines	-9.5	5.7	7.6	5.6	6.2	6.25

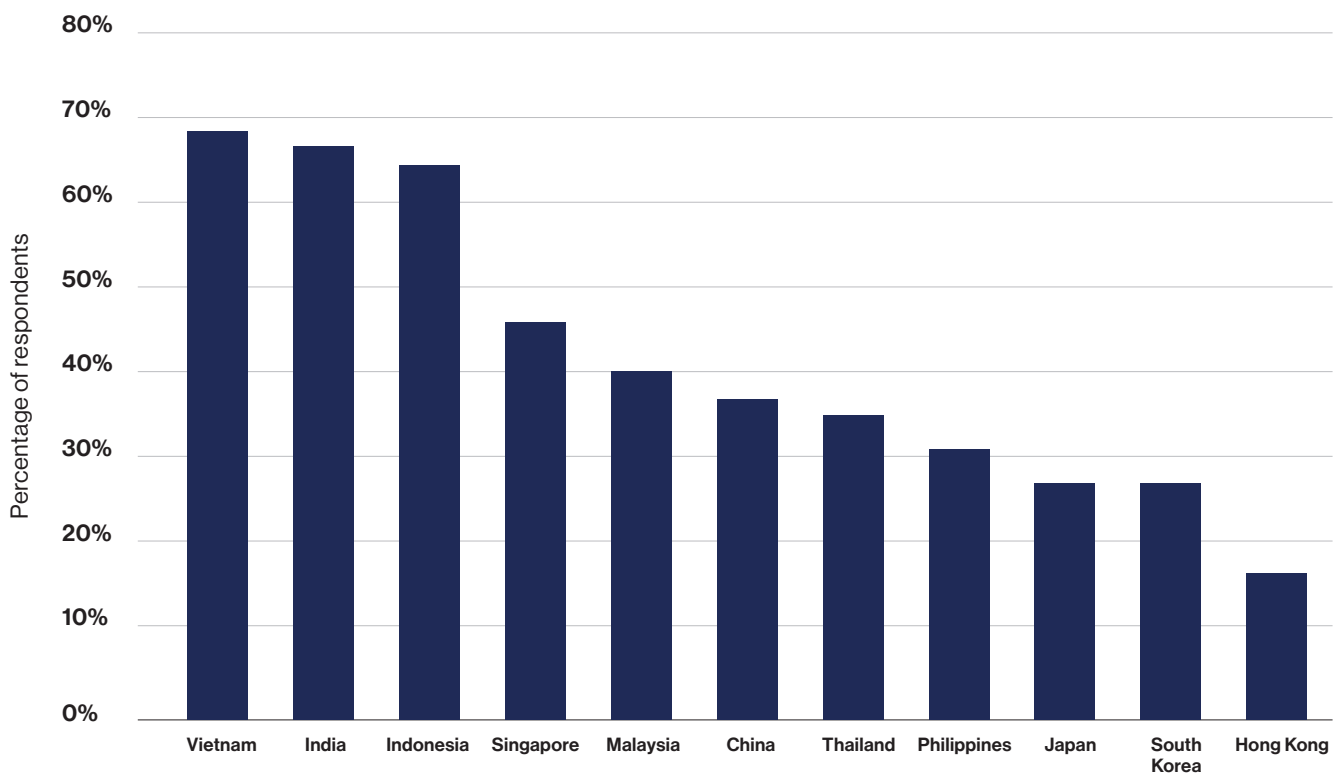
Source: Asia House Research

Both the experts who attended our roundtables and those who completed the business perceptions survey were optimistic about Asia's outlook. Of a sample of more than 50 businesses in the survey, roughly two-thirds saw Vietnam, India and Singapore as attractive places to invest in the year ahead.

However, respondents were more hesitant about other markets, with 85 per cent expressing caution towards investing in China, followed by 52 per cent for Hong Kong. Figure 10 illustrates the relative investment appeal of various countries to respondents.

Figure 10:

From the sample below, which economies do you think will offer attractive investment opportunities in 2025? Select all that apply.



Source: Asia House Business Perceptions Survey, 2024

3.1 China: Slowdown to continue in 2025

China's economy is likely to slow further in 2025 to approximately 4 per cent annual growth, notwithstanding recent fiscal and monetary stimulus measures. Given the heightened uncertainties in the outlook, we foresee a range of between 3.5 to 4.5 per cent, with risks skewed to the downside (Figure 11). The lower bound of this forecast reflects a scenario whereby the ongoing correction in the property market steepens, with an accompanying spillover into the broader asset markets and a resulting decline in investment and household wealth. The higher trajectory reflects a scenario characterised by further effective stimulus and stronger-than-expected increases in domestic consumption. The World Bank has raised its forecast by 0.4 percentage points, expecting GDP growth of 4.5 per cent in 2025, but has called for further structural reforms (White, 2024).

Domestic demand in China is likely to grow more slowly than GDP (Figure 12). This could be further dampened should the property crisis deepen. Without further government stimulus, the crisis in China's property sector, which began in 2021, is likely to continue, with knock-on effects for the rest of the economy, including investment. Consumption spending is likely to remain weak while further discounting by businesses to spur spending could contribute to disinflationary pressure.

China also faces risks associated with high youth unemployment. The world's second-largest economy has struggled with high rates of joblessness among its young people for several years. Youth unemployment hit a record high of 21.3 per cent in mid-2023, prompting the government to revise the measure to exclude students. China's youth unemployment rate has eased in recent months but still remains in the double digits (South China Morning Post, 2024).

We see a strong likelihood the government will initiate further stimulus measures in the year ahead. The comparatively high level of China's real effective exchange rate, coupled with high real interest rates, means financial and monetary conditions could act as economic headwinds

This may lead to further policy easing. China's trade performance is likely to deteriorate owing to slower export growth: a slowdown that would be exacerbated by steep tariffs in the US and political uncertainty in regional export markets such as South Korea. Any pronounced export slowdown will necessitate a further rebalancing to consumption spending (IMF, 2024b).

In the absence of structural reforms, such as further liberalisation of the country's exchange rate system and capital account, cross-border investment may slow. Both inward foreign direct investment and outbound investment could decline owing to lower risk appetite. Continued growth in renewable energy investment and liberalisation in the service sector, however, may act offsetting factors (ibid). A pivot to services could diminish China's commodity and resource demand.

Growth in China's digital economy is likely to play a pivotal role in its investment spending. Policies designed to support industry and technology (e.g. specific subsidies and tax incentives under government plans for further industrial transformation) will benefit both the country's investment ecosystem and its bilateral trading relationships. China's digital infrastructure is set to expand, comfortably meeting the targets set out in its 14th Five-Year Plan Period and expanding the country's computing power, usage of AI and intelligent manufacturing equipment (Xinhua, 2024). These developments will also continue to underpin productivity.

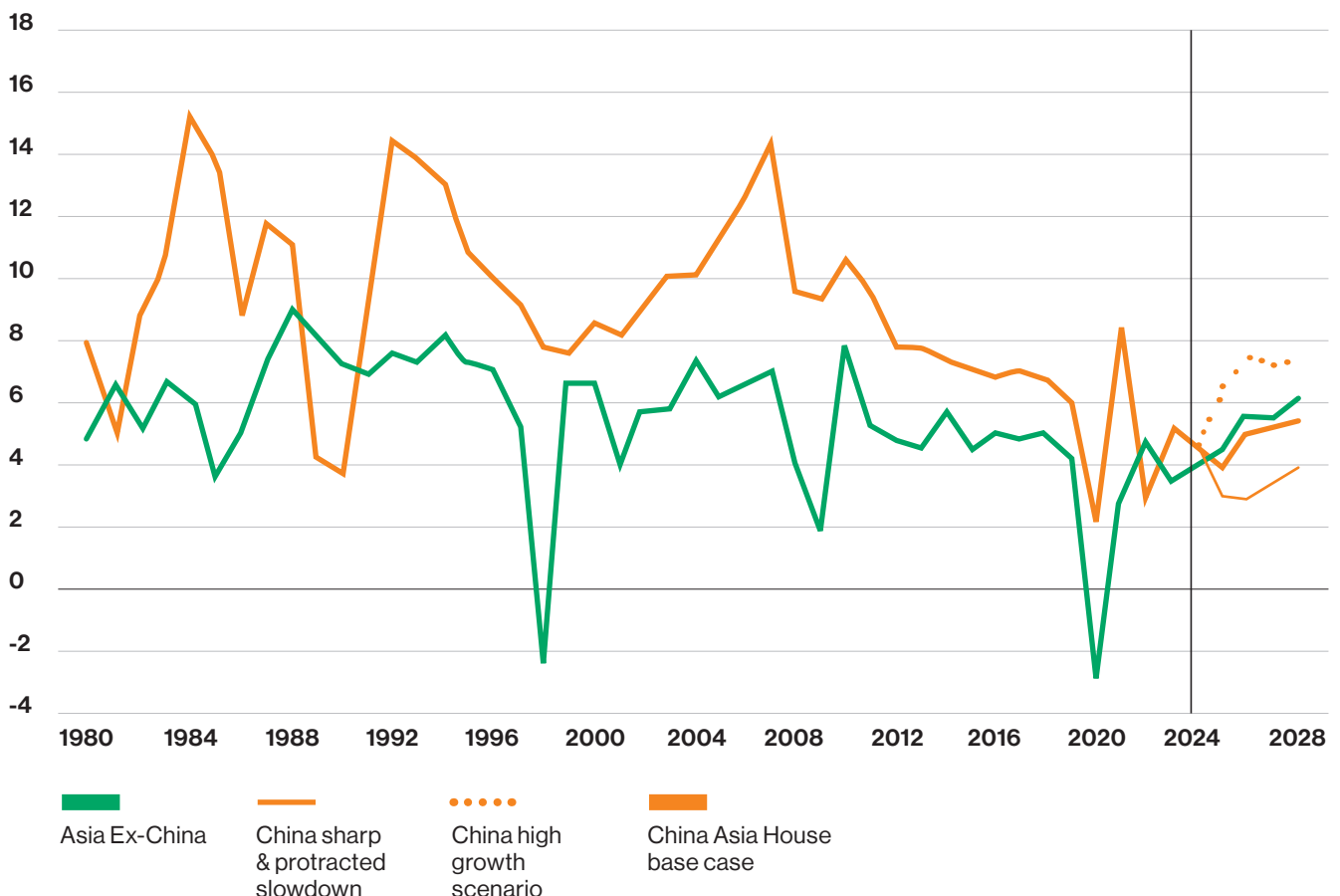
Renewable energy investment is expected to be a source of strength in the year ahead. China's actions are critical to how both Asia and the world as a whole move forward on climate change, particularly in the phasing out of fossil fuels. As discussed in more depth in Section 5, China is already a global leader in renewable energy production. Scientists have long warned that decisive action in the years between 2021 and 2030 would be essential to preventing irreversible damage to the world's climate.

This is why it is crucial for China – the world’s largest emitter of greenhouse gases – to peak its emissions (Hepburn et. al., 2021). The extension, and further expansion, of the Central Bank’s lending program to help companies make carbon-reducing investments will be instrumental in achieving this objective.

In summary, China’s growth risks are skewed to the downside for 2025, with a high likelihood of a continued correction in the domestic property market and the imposition of barriers to many Chinese goods in key markets. At the time of writing, the risk of a sharp escalation in trade

tensions, creating global trade distortions, remains high, with retaliatory measures in the EU and elsewhere aimed at China’s multiple subsidies and threats from the incoming Trump administration to impose significant trade tariffs on Chinese imports.⁹ Given these factors, it is likely that China’s trade relationships could pivot more significantly to its regional and Middle Eastern partners.¹⁰ Analysts are also on the lookout for further stimulus packages from China, which might mitigate the downside risks.

Figure 11:
China’s growth forecast scenarios



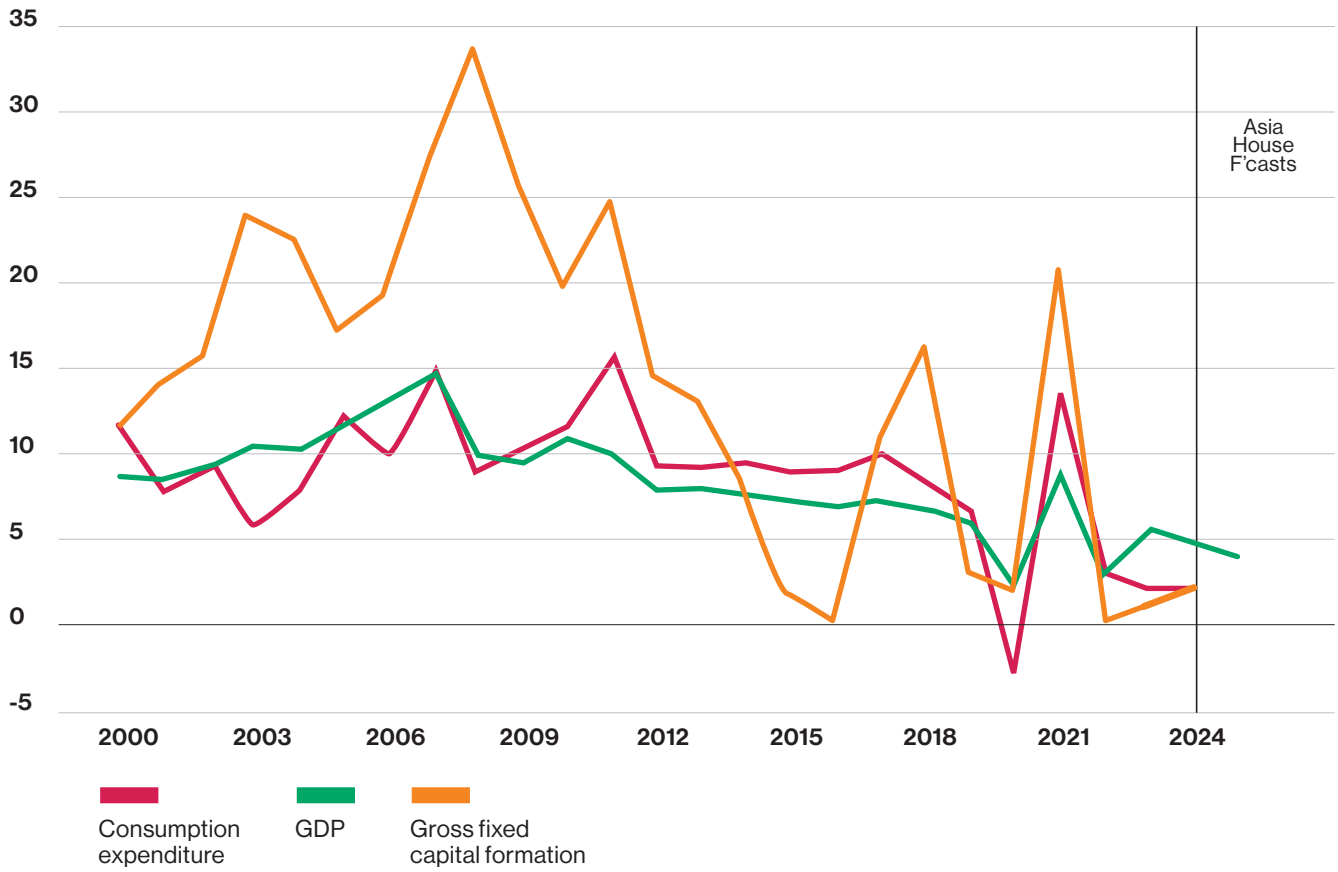
Source: Asia House Research

⁹ The empirical literature continues to indicate significant effects of China’s subsidies on its trade flows (Rotunno and Ruta, 2024).

¹⁰ As explained in Asia House’s Middle East Pivot to Asia.

Figure 12:

China's annual GDP outlook for 2025



Source: Asia House Research

3.2 Japan: Subdued yet transformative growth in 2025

Japan is likely to see a roughly unchanged growth rate of 1 per cent in 2025, with risks skewed to the downside. The main factors behind its unchanged growth rate are the anticipated weakness of global economic expansion and volatility in energy costs, which play an outsized role in Japan's economy due to its dependence on imports of energy and other inputs to its domestic production. Export growth, meanwhile, is likely to be weighed down by weak global demand, along with potential economic fallout from the political uncertainty in South Korea – Japan's third largest export market. Any ongoing weakness in the yen exchange rate, however, may be helpful in facilitating export growth.¹¹

Domestic demand is likely to play a dwindling role in Japan's growth (Figure 13). This is in part because of the inflationary impact of both a generally weak yen exchange rate and labour shortages in areas such as information services, construction, transportation and accommodation, which have pushed up wages (OECD, 2024). While it has recovered somewhat in recent weeks, the yen was largely under pressure throughout 2024, hitting a record low in mid-July. However, with the Bank of Japan expected to increase rates in 2025 and the US Federal Reserve forecast to reduce them, some commentators expect the yen to recover in the year ahead as investors seek higher yields (Japan Times, 2024).

If weakness in the yen persists into 2025, the associated decline in purchasing power would act as a brake on domestic demand. Persistent yen weakness would, however, be a positive for Japan's external position since it could make some of Japan's exports more competitive in global markets. In 2025, Japan's growth could largely be export-led if this continues. Both recent consumption and investment have been weaker than expected, due in part to unexpected domestic political events that may continue to make for an uncertain macroeconomic policy environment in the year ahead.¹²

Japan's digital economy, and the multitude of its applications, will continue to grow in importance, underpinning its economic growth and productivity. As factory digitalisation accelerates, resulting productivity gains will bolster potential growth prospects. Japan is likely to continue to lead the world in factory automation and the use of robots due to its embrace of the internet of things (IoT), big data, artificial intelligence and robotics, with feed-through to its small and medium enterprises (SMEs) (IFR, 2024). This will contribute to the ongoing transformation of its external trading relationships, which are undergoing significant changes.

Japan's financial system will continue to lead the country's green transition, with the country playing a catalytic role as a global hub for green finance and green transition bonds. The continued issuance of Japan's groundbreaking climate transition bonds – the first of which was issued in February 2024 – will finance the country's commitment to climate neutrality in 22 different fields and cover all seven carbon-emitting sectors (Japan Gov, 2024).

How these proceeds are used, and the nature of the investments they finance, will play an important role in Japan's economic outlook and its green transition. One clear example is the bond proceeds that have been earmarked for next-generation renewable technology, research and development of hydrogen-powered blast furnaces for steelmaking and technologies for energy efficiency – all of which will help boost both investment and enhance Japan's export competitiveness.

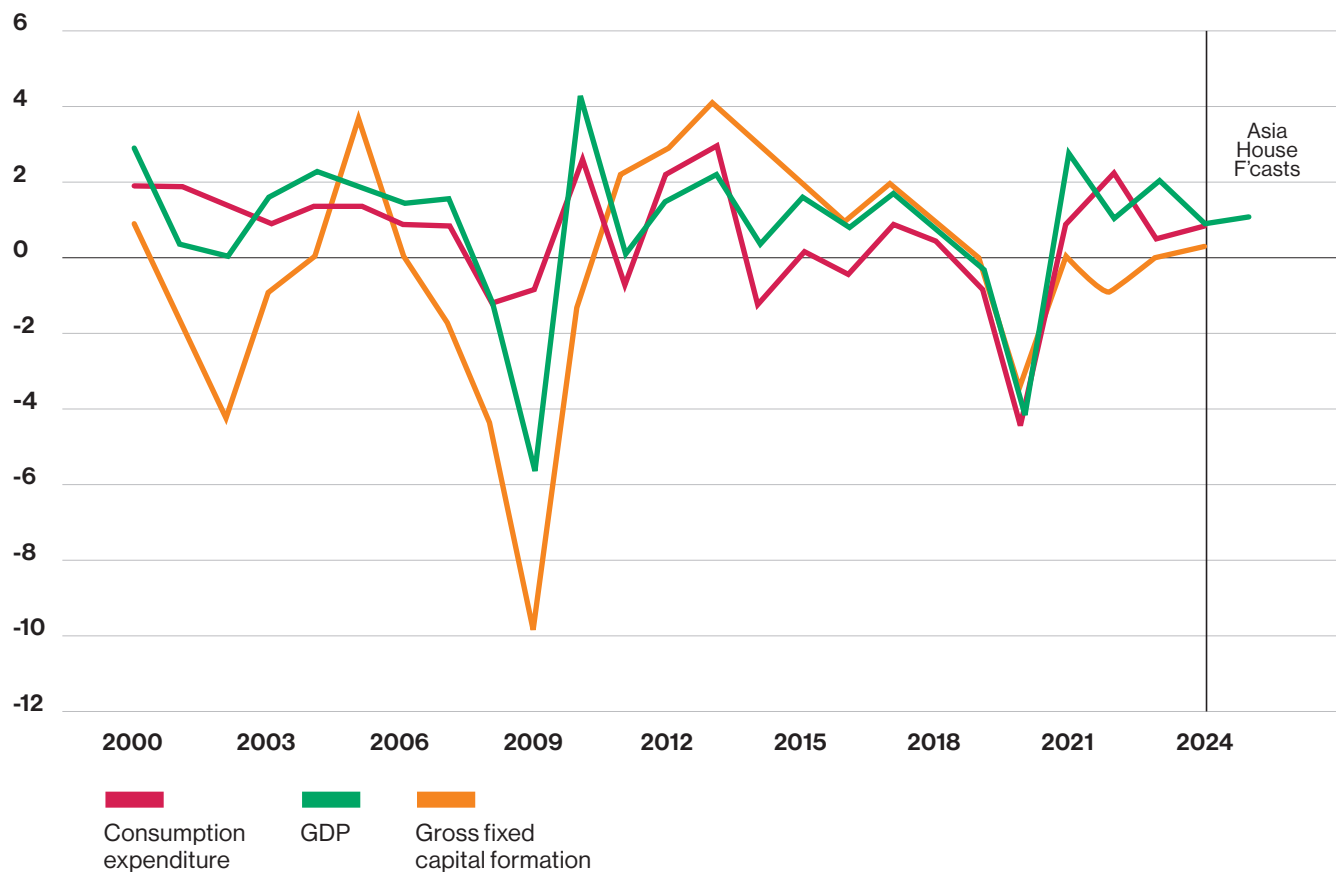
¹¹ Estimates sourced from the International Monetary Fund Direction of Trade Statistics.

¹² On 27 October 2024, Japan held a snap election where the ruling coalition lost its overwhelming majority and where no party majority emerged.

Risks to Japan's economic outlook abound, foremost among them being its uncertain political landscape and the potential impact on policy agendas. Japan's economy is likely to grow at or around 1 per cent annually in 2025, in line with some of its G7 counterparts but underperforming its potential growth rate.

Should the yen continue to remain weak, or depreciate further, depressing consumer purchasing power, Japan's consumption growth could ultimately undershoot expectations, despite the wealth effects from the record highs in its equity markets. The country's investment climate is likely to remain positive, however, with a continued pivot away from RMB-based assets, to Japan, amid China's slowdown.

Figure 13:
Japan's stagnant growth outlook for 2025



Source: Asia House Research

3.3 India: Outperformance and resilience in the year ahead

India's economy will continue to grow rapidly in 2025, at 6.5 per cent, likely outpacing the rest of the Asian economies, despite a slowdown in mid-2024. Underlying growth is likely to be driven by continued expansion in its services sector. However, increasing downside risks, including volatility in global energy and food prices, suggest caution in its outlook. We also note some weakening in 2024 such as persistently high inflation and a slowdown in quarterly growth (Ko et al., 2025). A fiscal re-orientation of expenditure toward state-level priorities will support economy-wide productivity and mitigate gaps in per capita expenditure and poverty rates between states (Govil and Chauhan, 2024), which will underpin growth.

India has seen broad-based economic growth stemming from strength in both consumption spending and investment demand (Figure 14). Its manufacturing and construction sectors are also likely to be a source of significant growth in the year ahead, supported by increases in sector-wide productivity over the course of 2024. India has been working on a number of bilateral trade agreements and the economic transformation that will underpin its exports will be crucial in 2025. An expansion in trade will also contribute to job growth. India's economy is moving increasingly toward employment formalisation, which offers a myriad of benefits for workers and ensures a greater segment of the population is covered by social security benefits (Government of India, 2024).

India's digital economy is growing at a pace that some estimates suggest is almost triple its already-high GDP growth rate. Digital applications are likely to continue to gain importance, as digital IT infrastructure expands domestically, through ongoing initiatives such as Digital India, Make in India and Startup India (ITA, 2024). This expansion is likely to further transform India's service sector and its external trading relationships.

India's climate challenges continue to be significant, and its green transition is now increasingly being incorporated into its economic policy (India Budget, n.d.).

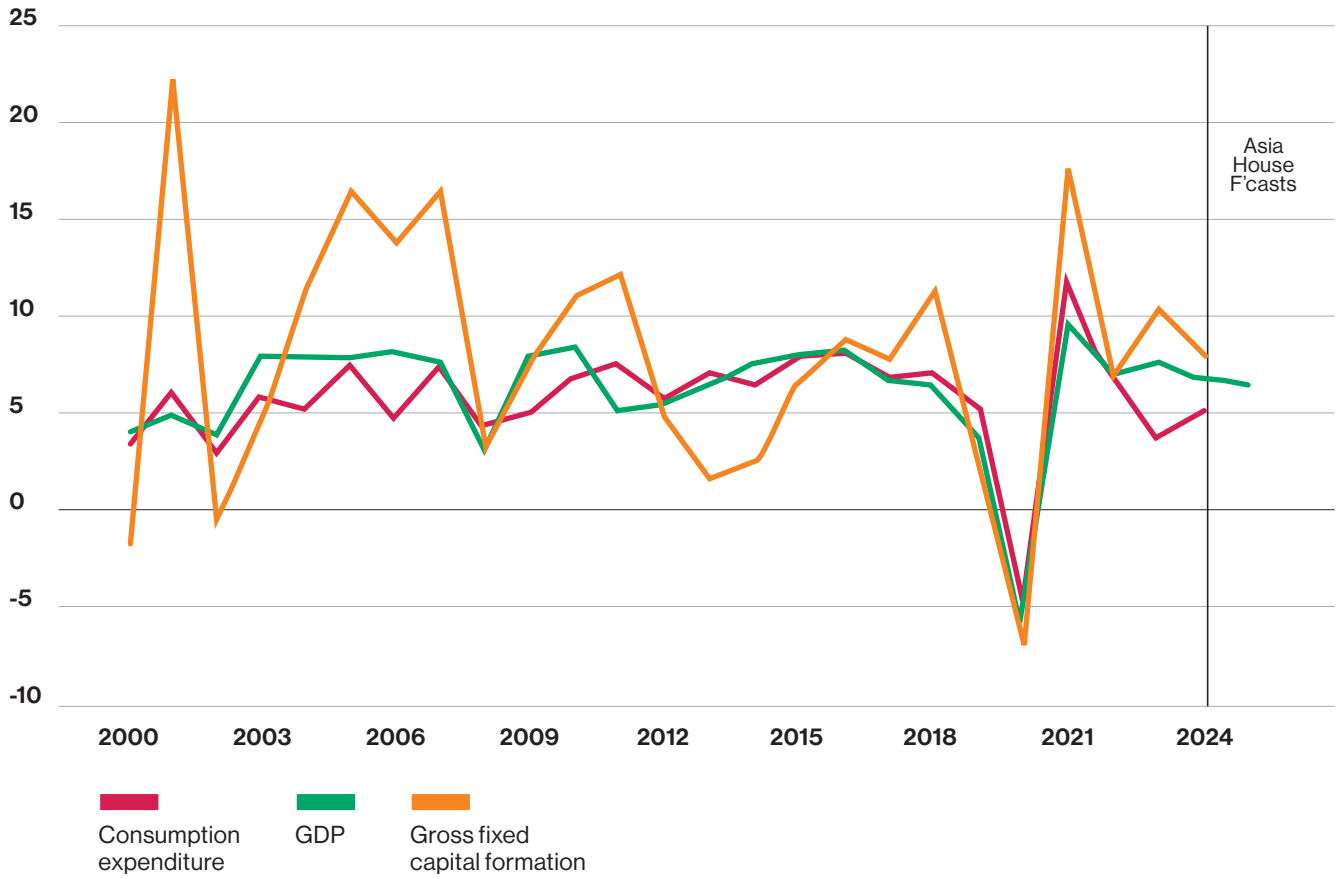
The government's efforts to scale up green finance – and particularly green sovereign and municipal bonds – bodes well for its transition. The Reserve Bank of India will continue to play an essential role in expanding the accessibility, breadth and scale of sovereign green bonds through 2025 and beyond (The Hindu Business Line, 2024). The growing spectrum of green financing instruments will spur the economy's green transition and prospects for scaled-up investment, including in renewable energy. This includes the growing number of Indian cities that are issuing their first green municipal bonds to fund climate action (Srivastava and Mazumdar, 2024).

India's growth outlook faces multiple risks.

These include continued geopolitical tensions stemming from ongoing attacks in the Red Sea and other ongoing conflicts that threaten to exacerbate supply chain risks and inflationary pressures. Climate change poses another risk. The Reserve Bank of India (RBI) estimates that the effects of climate change could reduce India's GDP by as much as 4.5 per cent by 2030, due to lost labour hours from extreme heat and humidity – and that the impact is likely to escalate over time (DD News, 2024). Increasingly severe heatwaves also risk pushing vegetable prices sharply higher and increasing demand for energy further, which could pose inflation risks for the country.

Figure 14:

India's annual GDP growth outlook



Source: Asia House Research

3.4 Indonesia: Resilience and strength for 2025

Indonesia's economic growth is likely to accelerate in the year ahead, with annual GDP growth of 5.5 per cent (Figure 15).

The archipelago nation will continue to be an economic leader in Southeast Asia, owing in part to its resource-rich trading relationships. The government's policy agenda is also likely to spur continued economic reform in the manufacturing and export sectors. This rosy outlook does face growing risks from the increase in trade tariffs between Indonesia and China, which could be detrimental for growth (Llewellyn, 2024).¹³

The expansion of household consumption and private fixed investment will continue to underpin growth, though higher real interest rates and elevated inflation pressures may act as headwinds. Indonesia's external trade relationships and net exports will also contribute to overall growth. Indonesia's outlook hinges on a continued acceleration in its exports as well as the ongoing diversification of its economy beyond its resource sectors, which is vulnerable to the swings in global prices for coal and palm oil (IMF, 2024c).

Increasing digitalisation is expected to be a source of strength for Indonesia in 2025.

The Joko "Jokowi" Widodo administration, which transitioned to President Prabowo Subianto in October 2024 after a landslide election win, had aimed to quadruple the country's digital economy in size by 2030 (Cabinet Secretary for State Documents, 2024). Airlangga Hartarto, the new administration's Coordinating Minister for Economic Affairs, backed this forecast in December at a leadership meeting of the Indonesian Chamber and Commerce and Industry (Kadin) (Antara, 2024).

Growth in the digital economy is likely to be driven by the expansion of Indonesia's digital infrastructure, including its payment systems.

AI is another priority for President Prabowo, who has stated that he recognises the "tremendous possibilities" of AI, particularly for agriculture and health (Indonesia Business Post, 2024).

The resulting productivity gains will bolster Indonesia's long-term economic prospects. As seen in the rest of Asia, the continued digitalisation of Indonesia's SMEs will boost their financial access, innovative capacity and internationalisation: all factors that will support domestic growth.

On the sustainability front, Indonesia's green bond market is growing rapidly, with the issuance of a US\$2.35 billion global sukuk (Islamic bond) in July 2024.¹⁴ In addition to its increasing issuance of green sovereign bonds – an essential catalyst for the regional green sovereign bond market – Indonesia is making significant strides in funding its green power infrastructure.

This includes construction of the country's first pumped storage hydroelectric power plant. Pumped storage plants are laid out over two levels and generate power as water passes through a turbine as it moves from one level to another (The Investor, 2024). In addition, Indonesia's state-power utility Perusahaan Listrik Negara is designing a new green transmission line which will contribute to investment growth (Reuters, 2024a). Indonesia's success in funding such advancements suggests that, over the next decade and beyond, the country's renewable energy generation capacity will grow significantly – although there has been some uncertainty about the pace of this expansion (Kannan, 2024).

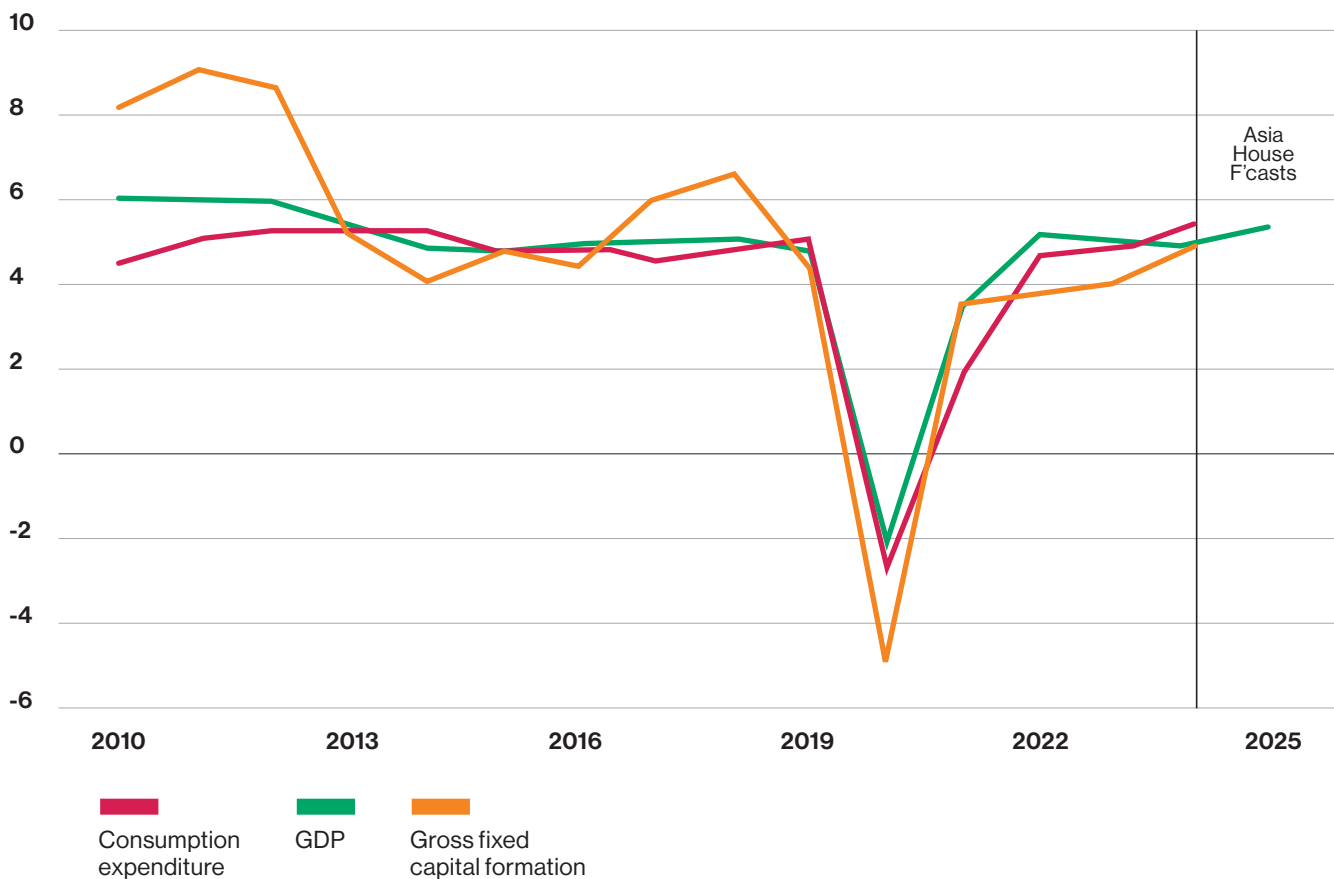
¹³ Indonesia's government has indicated that small businesses are proposing tariffs of up to 200 percent on Chinese imports, including in both textiles and food.

¹⁴ A sukuk is similar to a bond in Western financial markets but complies with Sharia law.

Slowing growth in China, Indonesia's biggest trading partner, poses a downside threat to the country's export outlook. However, risks to its economic outlook are broadly balanced. Via its Golden Indonesia 2045 Vision, the government is pursuing an ambitious growth agenda that aims to lift the country to high-income status by 2045, the 100th anniversary of national independence.

Institutional reforms are being put in place to enhance the labour market, business environment and financial sector, along with an Industrial Policy (IP) that aims to increase the value-added in its exports base (Fernandez-Villaverde et. al., 2024). Indonesia's openness and attractiveness to trade and investment will offset wider geo-economic fragmentation risks.

Figure 15:
Indonesia's annual GDP growth outlook



Source: Asia House Research



Her Excellency Dr. Sri Mulyani Indrawati, Indonesia's Minister of Finance, in conversation with Asia House Chief Executive Michael Lawrence OBE.

3.5 Malaysia: Significant growth acceleration ahead

Malaysia's economy is likely to see a growth acceleration in 2025, in line with the region as a whole. The strength of the country's service sector and digital economy, coupled with its robust external trade relationships, will together help Malaysia weather the risks associated with the current global economic uncertainty. GDP growth is likely to accelerate to 5 per cent, spurred by its domestic service sector. Despite facing a higher degree of uncertainty, Malaysia is set to be one of the best-performing economies in the region and is expected to reach high-income status by 2028 (Malay Mail, 2024).

Malaysia enjoys a strong, positive trade balance. Its net trade as a percentage of GDP is one of the highest in Asia. Export growth will be a source of strength for the economy in 2025. The anticipated slowdown in China's economy poses a downside risk to the economic outlook but this is likely to be partially offset by an expansion in domestic demand in the rest of the region. Malaysia's strong domestic spending, particularly in investment, will continue to support the economic outlook in 2025 (Figure 16).

Malaysia continues to be a regional leader in digital technologies, which will help foster economic growth and a vibrant investment climate. As the first country in the world to establish a digital free trade zone, Malaysia serves as an e-commerce hub for the region, and is likely to continue to use its platform for SMEs to attract inward investment. The scaling of digital technologies, including big data and AI, along with increased access to finance, will ensure this trend continues into 2025 and beyond.

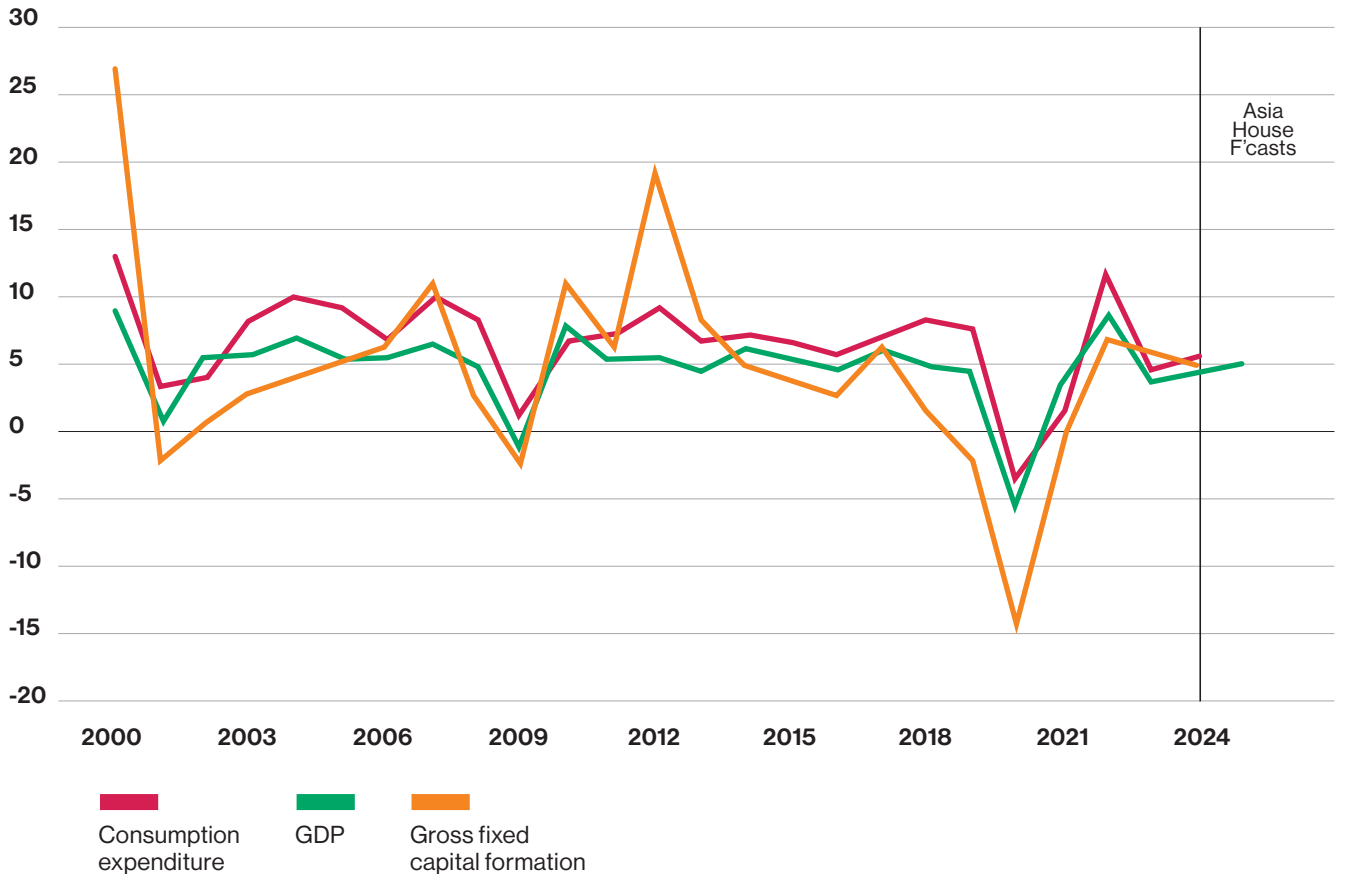
Malaysia is on track to becoming a high-income economy by 2028 – a significant milestone.

However, if it is to achieve its Sustainable Development Goals (SDGs), the scale, breadth and access to green financing need to be improved. The establishment of transition finance frameworks by key stakeholders in the private, institutional and financial sectors through mechanisms including the ASEAN Transition Finance Guidance will be essential to financing and facilitating the economy's green transition and an increase in its renewable energy capacity (ASEAN, 2024).

China's economic slowdown poses a downside risk to the outlook, with Malaysia's export growth to China likely to continue to decline on an annual basis, with an ongoing risk of a sharper contraction in China's growth. Malaysia is particularly vulnerable to shocks stemming from its three major export markets – China, the US and Singapore – particularly in relation to the electronics sector and any unexpected imposition of trade tariffs or barriers by the incoming Trump administration.

Figure 16:

Malaysia's annual GDP growth outlook



Source: Asia House Research

3.6 Vietnam: Expansion to gather speed

Vietnam's economic expansion has been firing on all cylinders and is likely to gather speed in 2025. Its GDP is projected to grow 6.25 per cent in the year ahead, propelled by domestic tailwinds (Figure 17). Despite the twin challenges of slowing global growth and heightened financial volatility, Vietnam's economy is likely to continue growing at a robust pace, supported by strong domestic demand. It is likely to be a source of strength for its regional partners.

Accelerating export growth will be another positive for Vietnam's economy, notwithstanding intermittent political uncertainties in some of its regional trading partners, including South Korea and Japan. Inward investment is likely to continue as firms seek alternatives to a slowing Chinese economy, underpinning both growth and employment in the year ahead.

The dominance of Vietnam's digital economy continues to grow. Further policies that support the scaling and financing of digital technologies will promote digital and economic transformation (Thi Viet Duc et al., 2024). In 2025, the domestic digital economy is expected to post double-digit growth on the back of an unprecedented boom in Vietnam's digital consumer base – its so-called e-commerce revolution and online travel boom – and the continued expansion of its cities (Telecom Review, 2024).

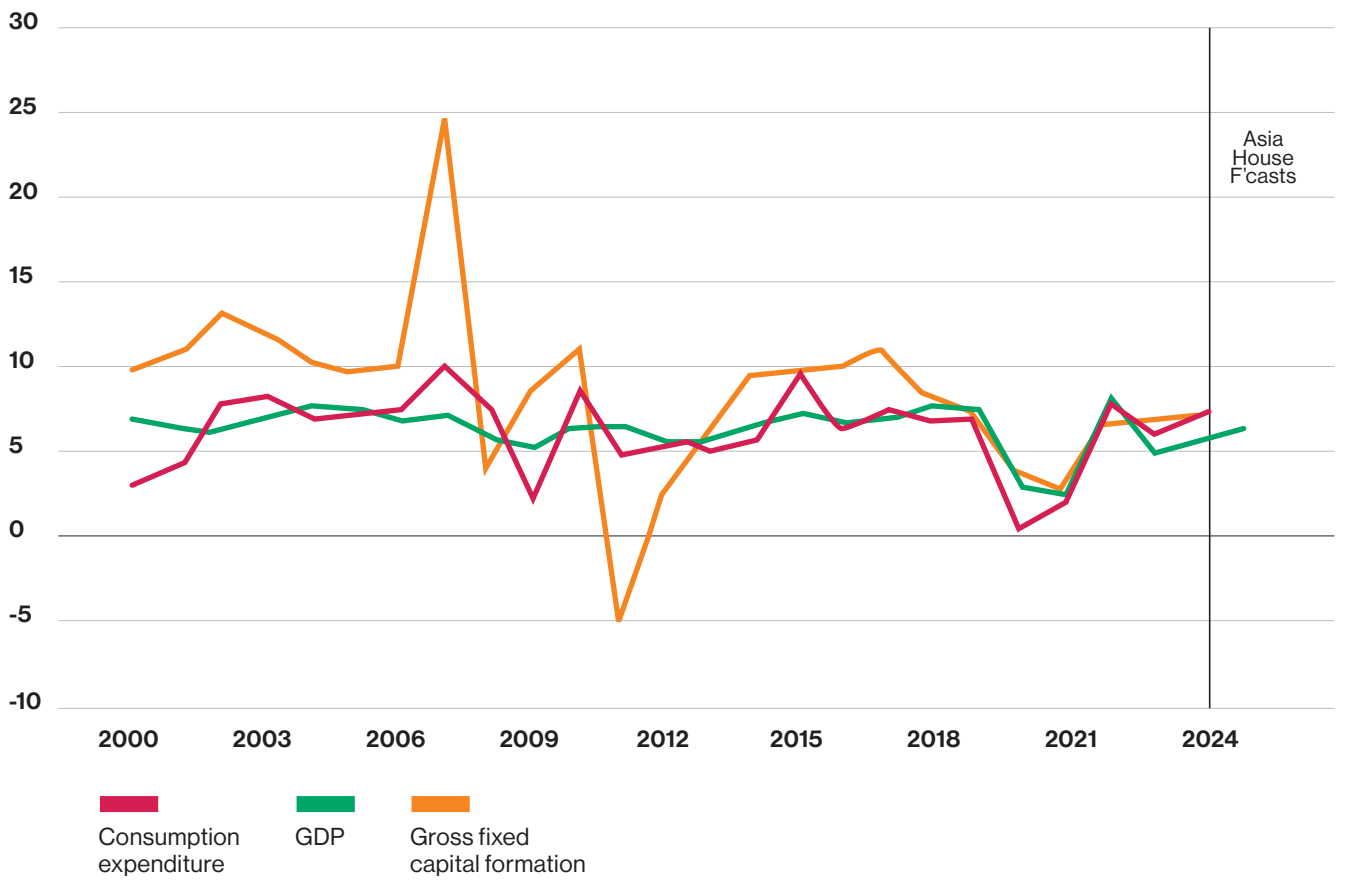
Vietnam's economic dynamism is reflected in the country's efforts to catalyse green finance. In 2024, the Joint Stock Commercial Bank for Foreign Trade of Vietnam successfully issued VND2 trillion (US\$80 million) of green bonds – the first of their kind – to support investments in renewable energy (Vietnam Plus, 2024). In fiscal 2024 ending June 30, the International Financial Corporation (IFC) provided US\$310 million of long-term finance earmarked for projects to help tackle climate change and marine plastic waste (IFC, 2024a).

The IFC supported Vietnam's first blue and green bonds, which were issued by Southeast Asia Joint Stock Commercial Bank (SeABank). Funding will be aimed at promoting a sustainable ocean economy and increasing climate resilience. The IFC's US\$25 million subscription in the country's first blue bond expands funding for sustainable economic activities associated with marine environments; while its US\$50 million green bond subscription will fund green buildings, renewable energy and energy efficiency (IFC, 2024b). Vietnam's follow-through and investments in further renewable energy capacity will be instrumental in furthering sustainability in the country.

As with those of its regional peers, the country's upbeat economic and trade outlook is subject to multiple downside risks. Vietnam is particularly vulnerable to risks from a slowdown in the US economy and geopolitical risks associated with an increase in trade barriers and an unexpected imposition of higher tariffs. A further acceleration in inflationary pressure, the cost of living and a rise in real and nominal interest rates could put an unexpected brake on private consumption and investment spending.

Figure 17:

Vietnam's annual GDP growth outlook



Source: Asia House Research

3.7 Thailand: Expansion buoyed by household consumption

Thailand's growth prospects will be underpinned by a vigorous domestic economy and continued acceleration in consumption spending (Figure 18). Investment spending is also likely to provide a catalyst for growth. Thailand's ongoing transition into services and manufacturing will help give its economy the resilience needed to weather a global economic slowdown. Meanwhile, strong external trade relationships are also likely to be supportive of its overall growth picture, which will see GDP expand by 3 per cent in 2025.

Thailand's growth will stem in equal parts from consumption spending and strength in its external trade relationships, along with investment flows into the service sector.

Private consumption spending is also likely to stimulate growth, particularly if domestic inflationary pressures continue to ease and the baht exchange rate remains steady. Export growth is also likely to be a contributing factor to economic strength. Thailand's Commerce Minister Pichai Nariphaphan said in December 2024 that he thought the country could top the government forecast for 2 per cent to 3 per cent export growth in 2025, and downplayed the danger of protectionist actions by the incoming Trump administration hurting local exporters (Reuters, 2024e).

Further growth in the depth, breadth and scale of Thailand's digital economy will be pivotal to the success of the broader economy.

An illustration of this is Thailand's urbanisation, which until now has been heavily focused in Bangkok. Digital growth would enable Thailand's secondary cities to play a pivotal role in regional economic and industrial development (World Bank, 2024a). The expansion of Thailand's digital economy will continue to be driven by regulatory measures to promote, scale and finance the adoption of digital technologies, including AI regulation and cross-border data flows.

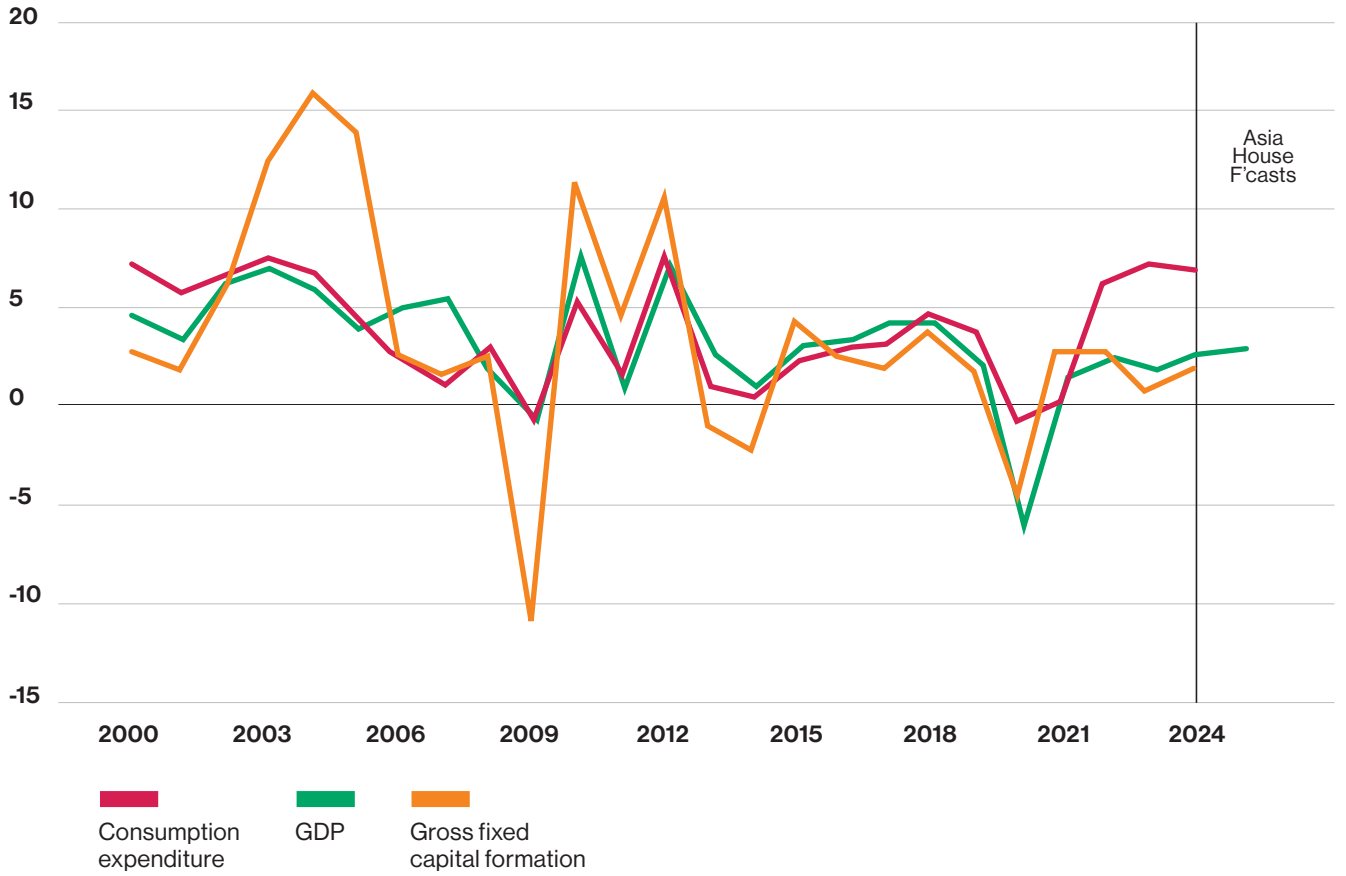
Thailand is likely to make further significant progress in its expansion of green finance, and in the breadth of its green bond issuance in 2025.

In August 2024, Thailand state utility Provincial Electric Authority issued its first sustainability bond, with the support of the Asian Development Bank. The issue's THB1 billion baht (US\$35 million) will fund renewable energy projects and improve energy access across the country (ADB, 2024b). The IFC, meanwhile, is investing in the first sustainability-linked bond issued by Thailand's Central Pattana Public Company Limited, the country's leading retail property developer. This marked the IFC's first investment in a publicly listed bond in Thailand (IFC, 2024c).

Risks to the Thai outlook include the risk that global oil or commodity prices could spike unexpectedly. Increased price pressures could lead to downside surprises in consumption spending. Growth would also be hampered by higher-than-expected rises in real interest rates. Thailand's external position is also at risk from shocks in some of its trade relationships – particularly those with the US and China, its principal trading partners. The prospect of higher tariffs in the former and slowing growth in the latter stand to disrupt Thailand's trade and export growth, which is showing moderate signs of deceleration.

Figure 18:

Thailand's annual GDP growth outlook



Source: Asia House Research

3.8 Philippines: Domestic economy to underpin growth

The Philippine economy is expected to grow robustly in 2025. GDP is expected to expand by more than 6 per cent, driven in large part by developments in its service sector economy and in private consumption growth (Figure 19). Growth is also likely to be supported by a moderation in inflationary pressures. Additionally, the impending general election in May 2025 raises the prospect of growth-boosting measures. The slowdown in the global economy is likely to have a limited impact given the strength in the domestic economy.

GDP growth in the Philippines will be supported by household consumption, along with continued resilience in the service sector economy. The structural reforms that have been put in place, along with generally low real interest rates, are likely to underpin investment spending. Inward investment, spurred by remittances, which account for approximately 8 per cent of GDP, will also offer ongoing support (BSP, 2024). However, the prospects for an acceleration in fixed asset investment are more limited.

Further expansion in the digital economy, which accounts for nearly 9 per cent of GDP, is likely (Philippines Statistics Authority, 2024). Digital growth has been driven in part by inward investment, notably from China, in the country's digital landscape, telecommunications infrastructure and financial technology (Amador and Baladjay, 2024). With continued policy progress in 2025 and beyond, the Philippines is likely to continue to close the digital gap with the rest of the region through further development of its digital infrastructure.

Green finance will be essential in both facilitating the country's climate mitigation strategy and boosting domestic investment. In 2024, the Philippines successfully issued a US\$2 billion bond, its fifth G3 ESG bond offering, following a US\$1 billion (5.5-year) Sukuk issuance (Bureau of the Treasury, 2024). Green finance will need to be scaled further, including through local community and firm participation.

These are essential to ensuring the adoption of renewable energy technology, particularly if the Philippines is to sustainably expand its renewable energy capacity and access renewable energy sources in remote areas (Franco and Taihagh, 2024).

Risks to the economic picture centre on global developments and are likely to be mitigated by domestic strength. Any financial shocks from global markets, and related spikes in investor risk aversion, could be transmitted through the depreciation of the peso, which tends to show volatility in periods of heightened global economic uncertainty.

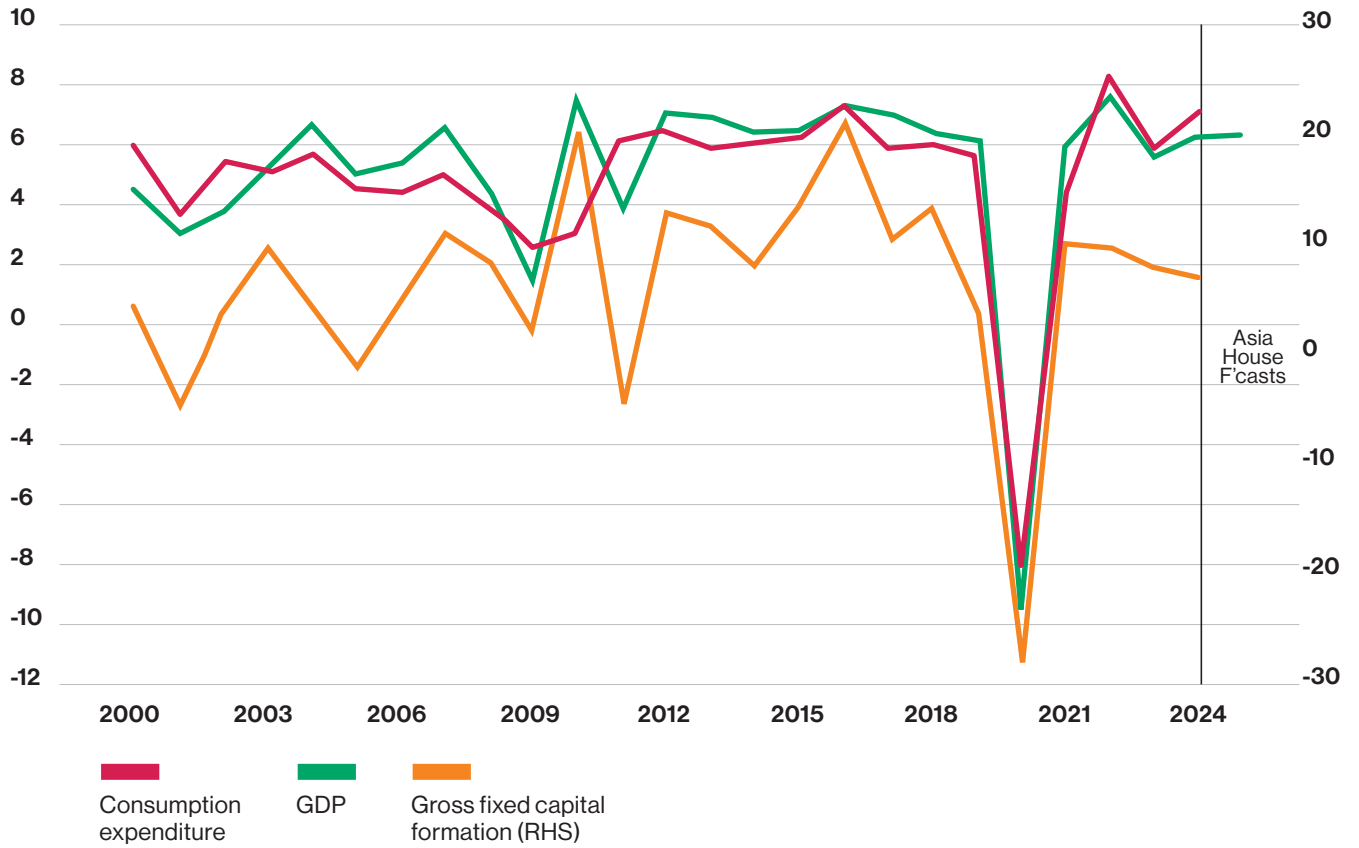
Any acceleration in inflation pressures could scupper the underlying uptrend in domestic consumption. However, the currency's stability in trade-weighted terms is likely to support the country's external trade position. Growth in the digital economy and strength in the service sector will mean that growth is supported by household spending.



Ralph Gonzalez Recto, the Philippines' Secretary of Finance, in a briefing with Asia House Corporate Members, moderated by Asia House Chief Executive Michael Lawrence OBE.

Figure 19:

Philippines' annual GDP growth outlook



Source: Asia House Research

Section Four

Digital transformation and AI technology: the drivers of Asia's growth

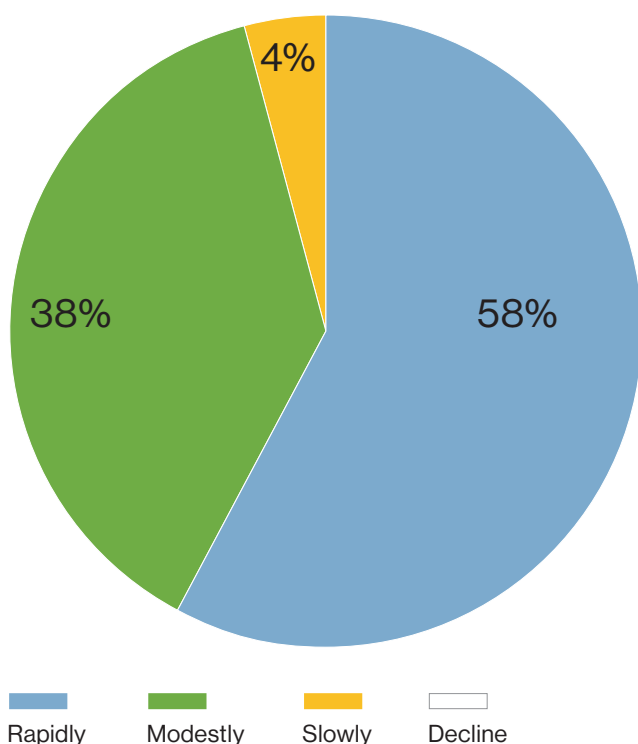
4.1 Digitalisation of Asian economies

Digitalisation is increasing at a rapid pace across Asia and is poised to transform the region's economic landscape. ASEAN's digital economy, currently valued at approximately US\$300 billion, is projected to reach nearly US\$1 trillion by 2030 (ASEAN, 2023). In our business perceptions survey, all respondents said they anticipate that Asia's digital economy will grow, with most expecting this growth to be rapid (Figure 20).

The shift to digitalisation is fuelled by favourable demographics, including a young population and a growing middle class with high internet penetration. Government initiatives such as Singapore's Smart Nation and Digital India, as well as cross-regional collaboration through ASEAN's Digital Economy Framework Agreement, are also catalytic forces fostering an environment conducive to digital transformation.

Figure 20:

How do you anticipate the Asian digital economy will grow in 2025?



Source: Asia House Business Perceptions Survey, 2024

The adoption of digital technologies across key sectors will drive productivity, expand financial inclusion and open new markets. The World Bank expects that Malaysia will reach high-income status by 2030, and that digitalisation will be a key driving force behind this. Malaysia's Digital Economy Blueprint aims for the digital economy to contribute 22.6 per cent of the country's GDP by 2025, alongside a goal of attracting US\$16.1 billion in digital investments (Reuters, 2024b). Across the region, digitalisation will have a transformative impact on e-commerce and financial inclusion.

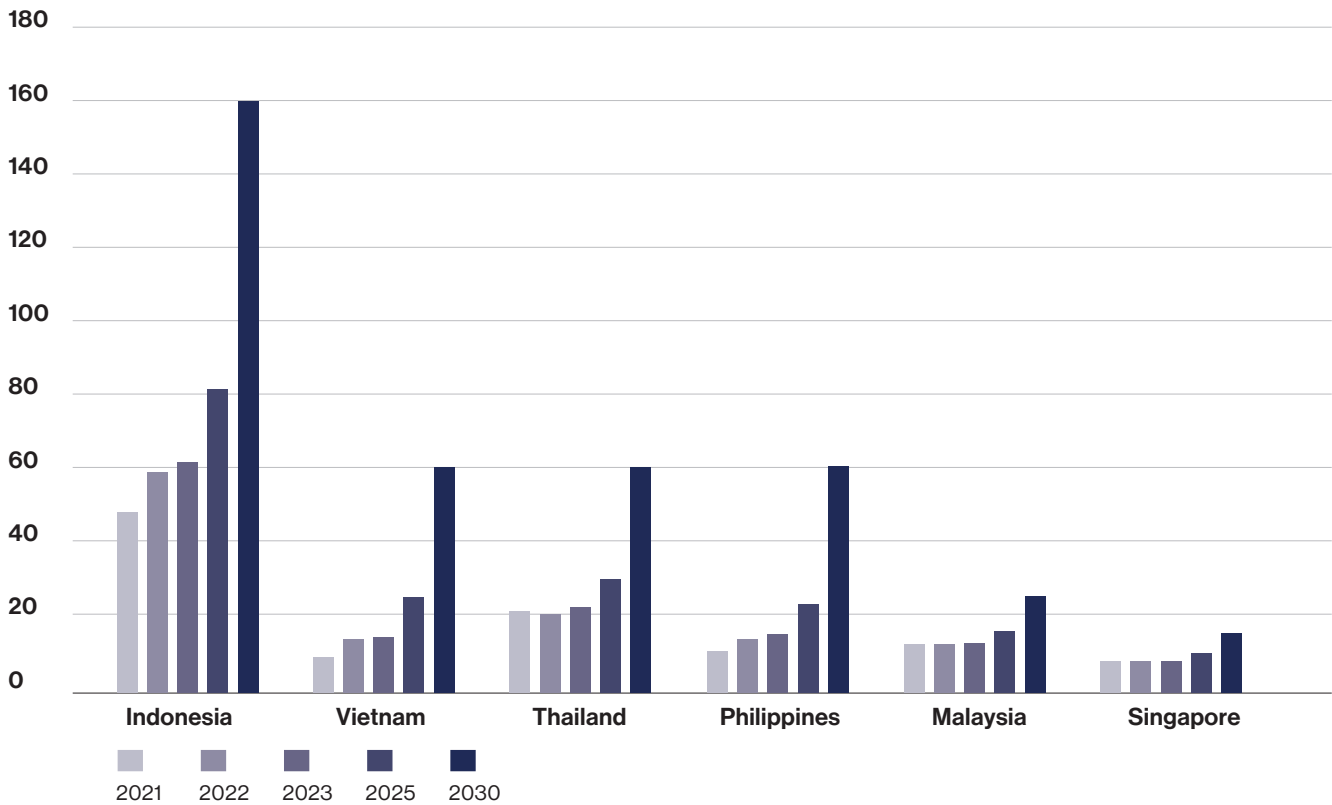
E-commerce

China is a global leader in the e-commerce sector, with neighbouring Southeast Asia poised for rapid growth. The market values of e-commerce in Indonesia, Vietnam, Thailand and the Philippines are expected to more than double by 2030, as shown in Figure 21. China's Alibaba Group, Japan's Rakuten and Indonesia's GoTo Group are major players in e-commerce, with growing revenues and global reach.

Alibaba subsidiary Lazada, Southeast Asia's largest e-commerce platform, plans to expand further into Europe, through strengthening logistics and e-wallet investments. The Alibaba platform is also facilitating European exports. These reached US\$34.6 billion last year, a third higher than in 2019 (Qu, 2023). Asia's leadership in e-commerce will continue to boost cross-border trade and transform the consumer experience by integrating technologies that provide bespoke chatbots and algorithms that will improve personalisation and increase engagement. E-commerce will also open new markets for Asian micro and SMEs.

Figure 21:

E-commerce market volume, 2021-2030 (US\$ billions)



Source: ITA, n.d.

Finance

Digitalisation of the financial sector, particularly through the use of AI and blockchain technology, will make Asian finance more efficient and transparent, resulting in greater financial inclusion. Nearly 50 per cent of adults in Southeast Asia still lack access to banking services – a gap that represents a huge opportunity for digital banks (Pershad, 2023). Digital-only neobanks, such as Vietnam's Timo, the Philippines' Tonik and China's WeBank, are set to continue to grow and attract significant investment.

Greater inclusion can bolster economic development by facilitating remittance flows and improving access to banking services. It will also have a wider macroeconomic impact as previously unbanked micro businesses will have access to loans and credit, which can facilitate growth and exports. However, obstacles remain as lenders are becoming increasingly cautious in the current macroeconomic climate.

Alongside huge advancements in fintech technologies, the trade finance gap has widened to record levels: evidence that lenders remain risk-averse despite the surge in new tools that should ease access to finance.

The 'India Stack'

The India Stack is a world-class example of how digitalisation can enhance financial inclusion. The technology, released as a set of digital public goods, offers application programming interfaces (APIs) and open-source digital systems that provide users with access to India's digital infrastructure.

The technology has contributed to a surge in digital payments. Since its inception, 462 million bank accounts have been opened in India, more than half of them by women (Sharan, 2023). Over 300 million consumers and 500 million merchants use the payments platform. Consumers also benefit from digital storage of official documents which can be verified online, allowing for fast and paperless transactions. Approximately 40 per cent of all payments in India are now digital and the platform processes more than 11 billion transactions each month (ibid).

The value of the digital economy in India is set to reach US\$1 trillion by 2028, driven by the India Stack and other advancements in digital infrastructure, along with the rapid expansion of affordable 4G and 5G networks. In 2025, it is expected that the India Stack will expand to cover more SMEs, particularly in rural areas, further boosting financial inclusion. This digital ecosystem is projected to provide significant benefits to such sectors as healthcare and education. Plans to incorporate digital health records, for example, promise to streamline service delivery and enhance access to essential healthcare for millions. Furthermore, the India Stack is being promoted internationally, with countries such as Sri Lanka and the Philippines already adopting components of the technology. Many others, including Saudi Arabia, are in talks with the government to explore its potential applications. This international interest not only underscores the scalability of the India Stack but will also enhance India's technological influence globally. The government's strategy aims to position the India Stack as a shared digital public good, especially for developing countries seeking scalable, low-cost digital infrastructure.

4.2 Asia's role as an emerging AI hub

Artificial Intelligence: China races to rival the US while other Asian countries set ambitious goals

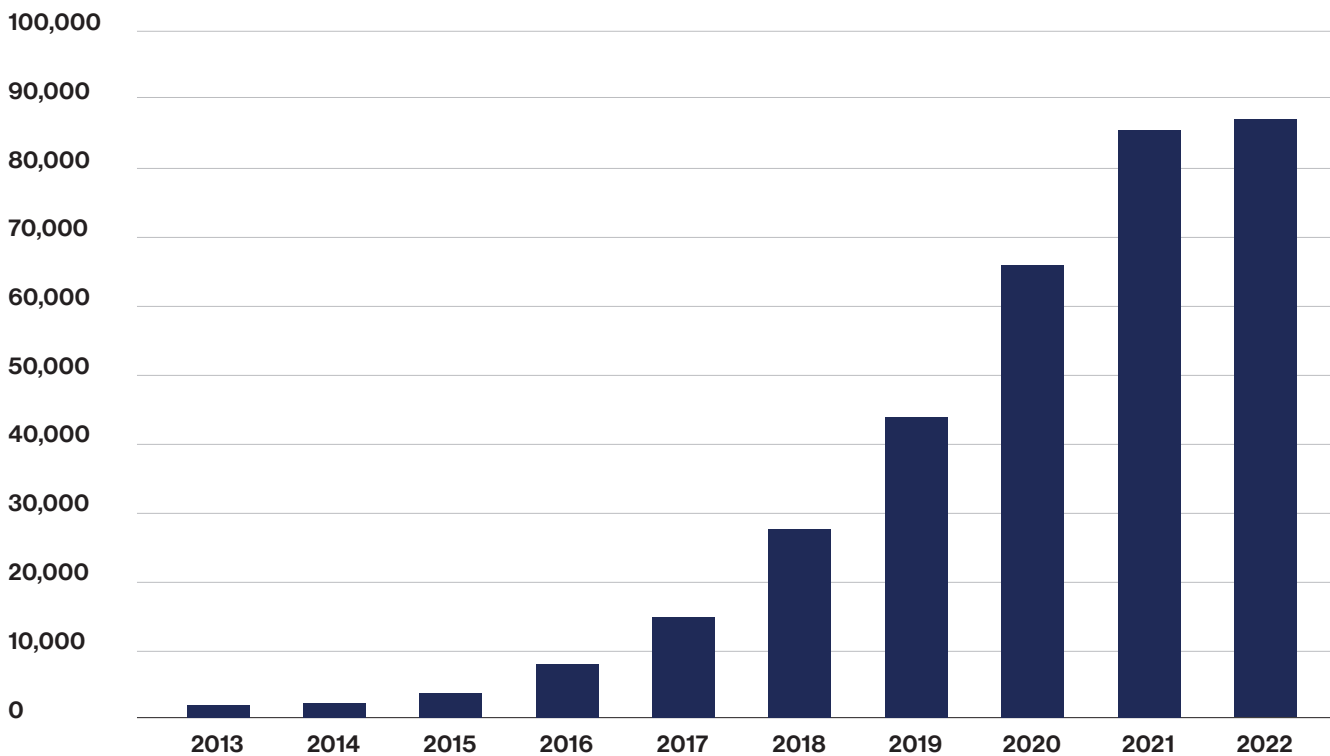
Looking ahead to 2025 – and beyond – generative AI in Asia is expected to continue its rapid evolution and will be an essential pillar of Asia's economic growth. AI is expected to drive productivity, reduce costs and encourage innovation, which in turn will stimulate investment and growth. AI is already being deployed across supply chains to digitalise processes. Across the region, AI will be used to support financial services, health sciences, manufacturing, agriculture and transport. Within Asia, China leads AI development, while India and several Southeast Asian nations are pursuing ambitious plans to upskill their workforces and integrate AI in a range of industries.

The US dominates AI development globally. But Asia, and particularly China, is making rapid progress. Foundation models – models trained on vast datasets such as OpenAI's ChatGPT – overwhelmingly originate from the US (109), followed by China (20) and the United Kingdom (8) (Stanford University, 2024). China has led the rest of Asia in AI innovation, as AI patent applications have increased more than forty-fold – from around 2,000 in 2013 to more than 86,000 in 2022 – representing huge investment in research and innovation.

As seen in Figure 22 below, China dominates AI patent applications globally, while many other economies in the region, such as South Korea, Japan, Taiwan and Singapore, are also actively pursuing novel ways to use the technology.

Figure 22:

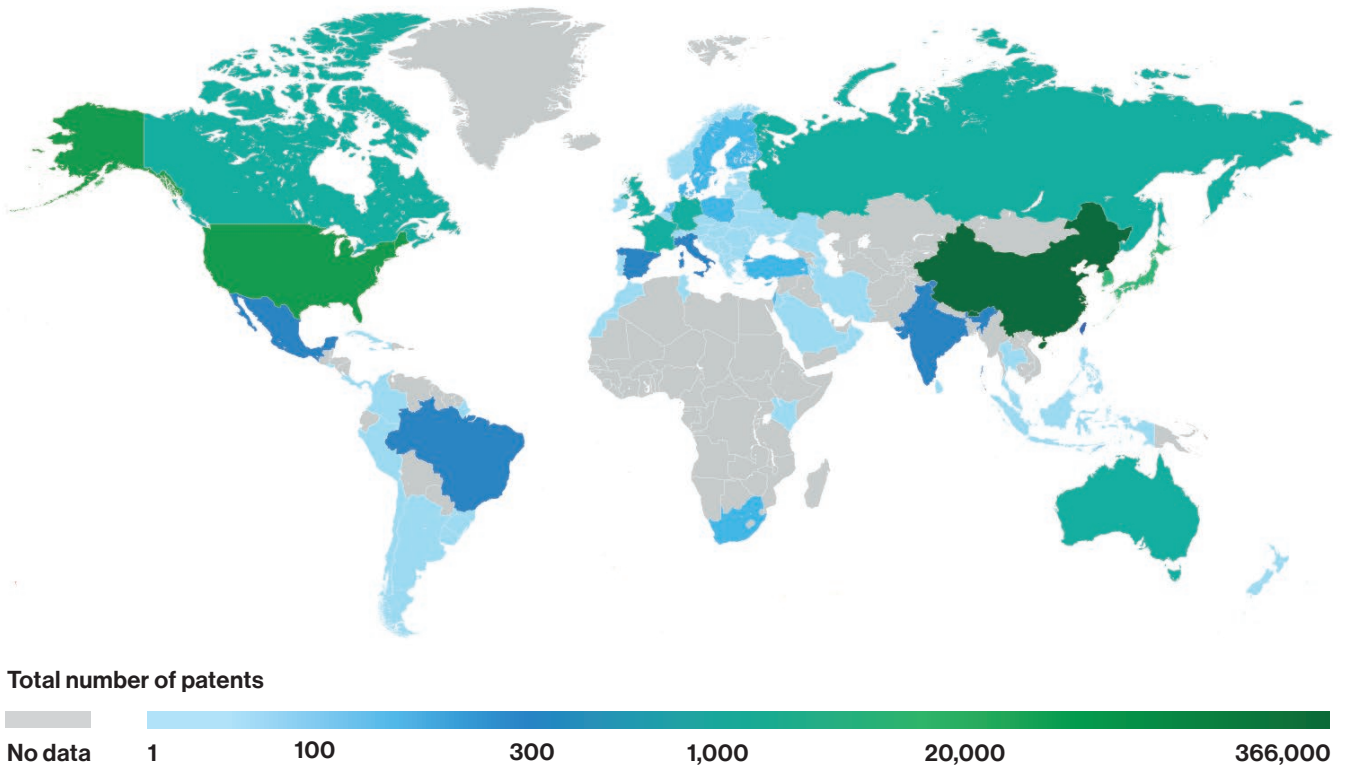
China's annual patent applications related to artificial intelligence



Source: Center for Security and Emerging Technology, 2024

Figure 23:

Total patent applications related to artificial intelligence from 2013-2023



Source: Center for Security and Emerging Technology, 2024

Asian countries are deploying AI in sectors that will drive growth and help them to tackle economic and societal challenges.

For example, Japan and South Korea are integrating AI in the healthcare sector and are deploying robots in caregiving roles to help them look after their ageing populations. India is using AI in agriculture to predict weather patterns, manage crops, monitor irrigation systems and reduce food waste.

Despite evident progress, roundtable participants flagged the need for many Asian countries to catch up with rapid technological advancements to tap into future opportunities, for example by transitioning from downstream manufacturing to high-value upstream innovation and design.

“In Asia, I think there’s a lot of **catching up** to do, and over the next five to ten years, we can expect **exponential growth** in some of the hardware components for AI, but also some of the software capabilities, particularly with **localisation, regionalisation and language customisations** [...] So there is going to be a lot of **opportunities**, and we should expect a lot more **investment**.” – Roundtable participant

In 2025, we can expect to see progress through investments in upgrading skills among the workforce. This will enable the transition to high-value AI activities, allowing countries to move up the technological supply chain which will boost incomes and national GDPs.

- **Vietnam** aims to train at least 50,000 chip engineers and designers by 2030.
- **Malaysia** plans to train 60,000 chip engineers and has launched visa schemes to attract venture capital talent.
- **India** is focusing on upskilling across all education levels, with youth programs teaching AI skills to students and the FutureSkills initiative reskilling professionals in both IT and non-IT fields.
- Various universities, such as China's Tsinghua University, the National University of Singapore and the Indian Institute of Technology, are offering AI-related courses.

The future of AI development across Asia will be driven by ambitious national strategies.

Indonesia's National Strategy, for example, sets out the framework for AI development from 2020 to 2045, and is set to transform health services, digital services, education, food security and smart cities. In 2024, Indonesia introduced ethical guidelines on the use of AI. There are plans to transition to binding legal frameworks through ministerial regulations by the end of 2025 that will later be developed into comprehensive AI laws.

China's Next Generation Artificial Intelligence Development Plan (AIDP), sets ambitious goals to establish China as a global leader in AI by 2030. Over the next several years, China will further develop its research capabilities, regulatory framework and global AI influence through the Belt and Road initiative – and specifically the Digital Silk Road, of which AI is a key component. In 2023, China launched the Global AI Governance Initiative with the aim of positioning itself as a leader in shaping international AI governance and it is likely it will seek to build support and momentum for this through partnerships with non-Western allies such as the BRICS members. This strategy will accelerate an already intense competition with the US. It is also likely that China may become increasingly self-reliant in the AI sector, amidst expected increases in US-China tensions and the growing need to circumvent US export controls.

4.3 Semiconductors: geopolitical tensions challenge major players, creating opportunities for Malaysia and Singapore

Semiconductors are integral to the digital economy and are crucial components in AI technology, electric vehicles, renewable energy systems, smartphones and machinery.

While Taiwan has emerged as a global leader in semiconductor production, other Asian countries such as South Korea and China are making huge advancements as they seek to compete with the US. Forecasts indicate that the Asia Pacific semiconductor market will grow at a compound annual growth rate (CAGR) of 8.3 per cent from 2024 to 2029, increasing from US\$446.1 billion to US\$695.7 billion (Modor Intelligence, 2024). The global drive to digitalise economies and transition to net-zero will fuel this growth.

Taiwan is well-established as the world leader in chips. Taiwan produces more than 60 per cent of the world's semiconductors and more than 90 per cent of the most advanced ones. The industry as a whole contributes 15 per cent of Taiwan's GDP (The Economist, 2023). The majority of these are produced by a single company – the Taiwan Semiconductor Manufacturing Company (TSMC) – which has developed the world's most advanced capabilities by focusing on research and development and intense efficiency (Davidson and Chi-hui Lin, 2024).

Taiwan will continue to collaborate with the US on chip design and manufacturing. TSMC is expanding into the US, and has committed to building three new facilities there and to increase its investment from US\$40 billion to US\$65 billion (Sherman, 2024). The first site is on track to begin producing 4-nanometer chips in the first half of 2025, followed by 3-nanometer chips in 2026. These investments are supported by US grants of US\$6.6 billion and loans of US\$5 billion, and align with the Biden administration's CHIPS and Science Act, aimed at reducing dependency and boosting domestic chip manufacturing.

We can expect that President Trump will favour and encourage closer ties as TSMC will be essential to increasing American semiconductor supply chain resilience. Sales of Taiwanese semiconductors in mainland China also remain high. In 2023, more than half of Taiwan's US\$90.4bn exports of integrated circuit exports were directed to China (Huang, 2024).

China's semiconductor industry is poised for growth in 2025 as it accelerates its push for self-reliance amid intensifying technological tensions. China lags the US and its Asian neighbours in terms of technological capabilities, design and fabrication, yet has made huge progress in producing logic and memory chips. The government aims to establish itself as a "closed-loop" ecosystem but faces challenges from the US CHIPS and Science Act which restricts access to critical technologies and equipment. China has been investing heavily in R&D and infrastructure and plans to continue pouring money into the sector, committing to spend US\$100 billion over the next three years and launching a US\$47.5 billion state fund to bolster chip manufacturing, design and materials (Reuters, 2024c and He, 2024).

To counter its inability to access US extreme-ultraviolet (EUV) lithography equipment, essential for cutting-edge chip production, China is exploring alternative technologies such as chip stacking and layering. It is also expected to strengthen ties with suppliers such as South Korea to secure critical components (Tabeta, 2024). The focus on self-reliance will be critical as the incoming US administration will likely seek to ramp up competition a China's domestic semiconductor market is expected to grow by another 50 per cent by 2027 to nearly US\$200 billion (ibid).

Malaysia is set to become a semiconductor investment hotspot in 2025, as it leverages its neutrality amidst mounting geopolitical tensions affecting regional competitors. Prime Minister Anwar Ibrahim has pitched Malaysia as “the most neutral and non-aligned location for semiconductor production,” aiming to attract US\$107 billion in investment (Strangio, 2024). To stimulate inward flows, the government has introduced programmes such as the Unicorn Golden Pass and VC Golden Pass, which provide tax benefits and subsidised rent to technology companies.

There has also been a huge increase in government support for the industry, with the launch of the National Semiconductor Strategy, which will allocate US\$5.33 billion over the next five to ten years, so we can expect to see the growth of local companies that will work to integrate themselves in the global semiconductor supply chain (Goh, 2024). Malaysia’s goal is to move up the value chain, transitioning from testing and packing of chips to improving its design capabilities. This transformative shift in semiconductor production will take a major step forward in 2025, when the semiconductor design park in Selangor state is due to open.

Singapore, while a smaller player, will also attract increased investment in semiconductor R&D and wafers manufacturing. Singapore contributes more than 10 per cent of the world’s total semiconductor output. In 2023, the sector generated more than US\$101 billion, accounting for 7 per cent of Singapore’s GDP (Medina, 2024). The government has committed to spending US\$13.6 billion between 2021 and 2025 on research, development and innovation, to lower the cost of business and attract investment.

Singapore and Malaysia are the only countries in Southeast Asia with semiconductor foundries – facilities that produce wafers from which chips are carved out – and this specialism has recently attracted significant investment (EDB Singapore, 2024a). For example, TSMC affiliate and European chipmaker NXP will invest US\$7.8 billion in an advanced production facility in Singapore, aiming to manufacture products by 2027 (EDB Singapore, 2024b). Singapore’s specialism in wafers, a critical downstream segment of the semiconductor supply chain, solidifies its role as a key industry player.



Gobind Singh Deo, Malaysia’s Minister of Digital, in a briefing with Asia House Corporate Members moderated by Asia House Chief Executive Michael Lawrence OBE.

4.4 Risks to Asia's technological development

Global data regulation diverges as ASEAN takes steps to liberalise data flows

Global disparities in data regulation and localisation rules risk undermining progress in AI and digital transformation. Countries such as China and India have implemented particularly tough data localisation measures, requiring that data collected within their borders must be stored and processed domestically. In contrast, Singapore, Japan and South Korea favour the free flow of data. An OECD study found that, globally, Singapore has the greatest number of provisions that prohibit data localisation as a condition for conducting business, demonstrating the country's commitment to reducing the burden on businesses in the digital space (OECD, 2023).

Roundtable participants discussed the huge cost burden that fragmented data rules places on businesses, particularly SMEs. Asia has become a hub for e-commerce giants to flourish, and yet the divergence in rules limits the scalability of these firms as companies must navigate varying compliance measures. AI's outputs are dependent on the quality and quantity of data inputs, so data localisation and access restrictions could hinder the progress and deployment of AI across the region.

However, it is important to note that data divergence is a global problem and not one unique to Asia. Roundtable participants shared a range of perspectives, with some noting the significant impediments faced by businesses and others citing Asia's progress on harmonisation relative to the rest of the world. In our business perceptions survey, more than half of respondents expect progress regarding data harmonisation and standardisation across Asia in 2025, with most expecting this progress to be moderate (Figure 24).

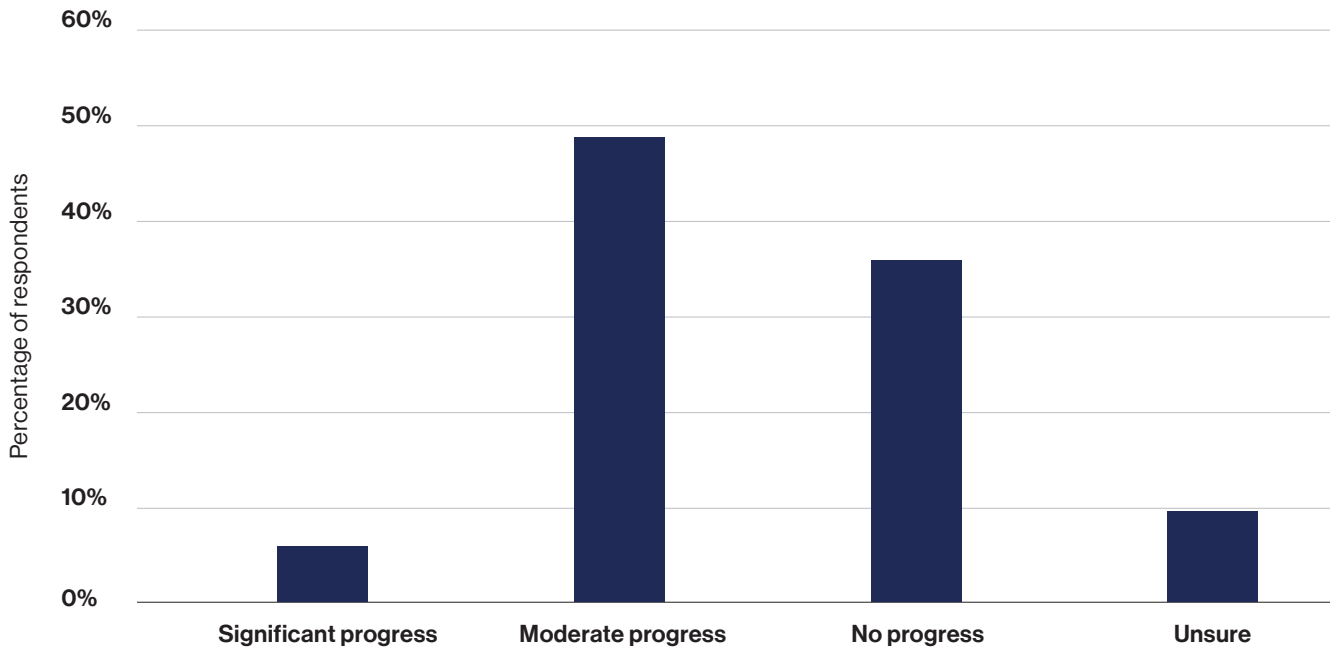
“Across the supply chains, there is **emerging clarity on standards, on approaches, on legal form**, and I think for Asia especially, the legal reform, the barriers [...] are gradually being removed.” – Roundtable participant

In 2025 and beyond, ASEAN's Digital Economy Framework Agreement (DEFA) is expected to establish common standards and enhance interoperability across its ten member states. DEFA negotiations commenced in September 2023 and are due to conclude by 2025. When complete, DEFA will streamline digital trade rules, which will enable freer data flows, boosting digital trade and payments.

It is expected that by 2030, ASEAN's digital economy could triple in size, growing from approximately US\$300 billion to almost US\$1 trillion, through the natural adoption of digital technologies. The successful completion of DEFA could double this growth, resulting in a digital economy valued at US\$2 trillion by 2030 (ASEAN, 2023). However, while DEFA will likely boost intra-regional digital trade, frictions will still persist between ASEAN and China, India and other digital hubs such as the US and EU if data divergence is not addressed on a global scale.

Figure 24:

Are you expecting any progress regarding data harmonisation and standardisation across Asia in 2025?



Source: Asia House Business Perceptions Survey, 2024

Trade tensions could slow China's electric vehicle expansion

China dominates global EV production and sales.

In 2023, China accounted for 58 per cent of global EV sales, five times the size of the US market and seven times the size of the German market (EIs, 2024). China's technological prowess in EVs has come under scrutiny from other nations, with the EU introducing tariffs of up to 35.3 per cent¹⁵ and the US increasing them to 100 per cent, citing China's extensive subsidies and non-market practices.

The impact of trade tensions on China's EV expansion will be multifaceted, affecting consumers, businesses, bilateral government relations and international supply chains.

Although European and American consumers will likely have to pay more for imported cars if Chinese EV carmakers choose to pass on the extra costs, Chinese EVs will likely still remain competitively priced.

In 2025, we can expect to see a rerouting of trade and investment as Chinese companies increasingly look to open facilities in other countries to circumvent tariffs.

Companies integrated in EV supply chains, ranging from raw material producers to advanced manufacturers, will increasingly look to de-risk and may shift some production away from China to avoid tariffs. It is of note that Tesla owner Elon Musk, who has previously criticised US tariffs on Chinese EVs, has recently been appointed to lead Trump's new Department of Government Efficiency. This could result in tension inside the White House, as the government seeks to balance the protection of US domestic industries with support for globalised sectors. In 2025, geopolitical tensions may slow China's global EV expansion, but they are unlikely to cost China its overwhelming lead in the market. It is important to note, however, that a slowdown in China's EV expansion will have knock-on effects for the global energy transition.

¹⁵ on top of the 10 per cent duty on all imported cars

Section Five

Asia's sustainable transition: China leads, while India and Vietnam are poised for major progress

5.1 The green transition: renewable energy capacity across Asia

Asia's renewable energy capacity is set to increase. Global electricity demand is projected to rise over the next few years, with Southeast Asia expected to see a 5 per cent increase through 2026, driven by strong economic activity (IEA, 2024a). Much of this appetite will be met by renewable energy, which is expected to overtake coal as the world's largest source of electricity generation in 2025 (IEA 2024b). China will continue to play a major role in the energy transition, contributing 40 per cent of the global renewable capacity expansion between 2020 and 2026 (IEA, 2021).

China is at the forefront of global renewable energy production, with huge progress expected in 2025. China's dominance of the space is set to continue as some two-thirds of global wind and solar projects under construction are located in China (Hawkins, 2024). This is being driven by a combination of factors, including strong government support and access to rare earth minerals, which have allowed China to specialise in every stage of the supply chain. In 2025, we can expect to see technological advancements in a range of renewable technologies. Take for example MingYang Smart Energy, a Chinese wind turbine manufacturer that in 2024 launched the world's first floating dual-wind turbine. Capable of operating in waters up to 100 miles deep and harnessing hurricane energy, the turbine is expected to generate 54,000 MWh annually – enough to power 30,000 homes. The energy produced will be connected to the grid by the end of 2025 (Malayil, 2024).

China's global share of all the manufacturing stages of solar panels exceeds 80 per cent and players in the sector are making huge technological advancements. In June 2024, LONGi, the world's largest solar cell producer, achieved a record-breaking 34.6 per cent sunlight-to-electricity conversion rate with its silicon-perovskite tandem cells.

Additionally, the company is investing US\$4.42 billion in back-contact solar cells, which have a greater surface area exposed to direct sunlight, through the Xixian New District Phase I project, and is set to begin mass production by June 2025 (Shaw and Thompson, 2024).

India and Vietnam are standouts among Asian countries for their huge renewable energy potential. India has set an ambitious target of installing 500 GW of renewable energy by 2030. The Bhadla Solar Park, one of the largest in the world, has a capacity of 2.7 GW (Gill, 2024). Furthermore, India's Solar Park Scheme aims to establish 50 solar parks of 500 MW by 2025-26 by attracting investment. In Vietnam, investment in renewable energy has stalled in recent years but is likely to pick up in 2025 as a new decree will allow businesses to buy energy directly from producers rather than relying on the state monopoly. This will allow businesses to make competitive purchases of renewables (Hoang, 2024a). Moreover, Vietnam's open investment environment will continue to attract new renewable energy projects. Thailand's oldest industrial group, B. Grimm Group, already operates two of Southeast Asia's largest solar farms – both in Vietnam – while HSBC has invested US\$23 million in a Malaysian solar panel plant situated in Vietnam that will generate 83,000 MW of electricity per day (Hoang, 2024b).

Across Asia, there is a diverse and uneven renewable energy landscape. China leads the way and will continue to capitalise on its huge environmental potential through R&D and investment. Singapore, in contrast, has limited renewable energy potential, owing to its small and highly urbanised land area, so plans to import up to 4 GW of low-carbon electricity by 2035 (Seah, 2024).

5.2 Carbon markets: notable progress amid growing divergence

India and Vietnam will be the countries to watch in 2025 as each implement compliance-based carbon markets. Carbon trading is designed to support the reduction of greenhouse gases by incentivising businesses to adopt less carbon-intensive practices and generate revenue to channel into climate adaptation strategies. By 2024, carbon taxes and emissions trading systems (ETS) grew to cover 24 per cent of global emissions – up from 7 per cent a decade earlier (World Bank, 2024b). Asian countries have implemented a diverse range of systems, including China's ETS, which has the largest coverage in the world, and Malaysia's sharia-complaint voluntary system, the first of its kind.

The ongoing development of ETSs in large, high-emission middle-income countries such as India will make significant contributions to the global coverage of emissions (ibid).

Below is a country-by-country overview of progress toward carbon market creation:

- **China's** national ETS regulates the power sector, accounting for more than 40 per cent of the country's emissions. Alongside this, China relaunched a voluntary system in 2024 and regional ETSs are used to pilot new design options. The national ETS is expected to expand to more than 3,500 companies by the end of 2025 and include new sectors such as cement and aluminium. In the longer term, the market could be expanded to encompass glass and chemicals (Reuters, 2024d). Regulation has been enhanced and is expected to become more robust. In 2024, ETS governance was elevated to the State Council level and new enforcement measures and penalties have been introduced, which should facilitate greater compliance (ICAP, 2024).
- In **Japan**, the cities of Tokyo and Saitama have mandatory ETSs covering buildings and industry. The fourth compliance period runs from 2025 to 2029 and will set a target of a 50 per cent reduction in emissions from their base-year levels. Japan also introduced a voluntary ETS in 2023 and is expected to transition to compulsory participation after 2026. Upper and lower price limits will be introduced to increase the predictability of the carbon price. The ETS is expected to feature prominently in the country's Strategic Energy Plan, which is set to be revised in March 2025.
- **India** has proposed a phased introduction of a voluntary market, which will be followed by a compliance market scheduled to commence activities in 2025-26. Initially this will cover petrochemicals, iron and steel, cement and pulp and paper: all of which are heavily dependent on fossil fuels (Singh, 2023). In preparation for the launch, India has over the past couple of years created the legal basis for a carbon market and established the institutional framework for the system, outlining roles and responsibilities of the different governing authorities.
- **Vietnam** will pilot a carbon credit exchange from 2025 and plans a national launch in 2028. The government recently amended a 2022 decree to expediate carbon market development and has assigned emissions quotas to its power, iron, steel and cement industries. The pilot will help to prepare Vietnamese businesses for the introduction of the EU's Carbon Border Adjustment Mechanism (CBAM) in 2026. As the EU is now the largest market for Vietnam's iron and steel products, swift decarbonisation is crucial to avoid additional carbon taxes that would be applied to Vietnamese exporters (Yin, 2024).

- **Indonesia** launched its carbon exchange, IDX Carbon, in September 2023, but trading levels have remained stubbornly low – a fact traders have attributed to a lack of incentives and administrative errors (Rachman, 2023). Carbon credits are traded infrequently. In June and July 2024, for example, trading only occurred on a total of 18 and 23 days respectively (IDX Carbon, 2024). The low demand has depressed carbon prices, which stand around US\$0.61 per tonne of carbon dioxide (World Bank, 2024c). The government has twice postponed the implementation of a carbon tax, which is currently due in 2025.
- **Malaysia and Thailand** both have voluntary ETSs. Neither of these are mandated but encourage participation from the private sector through the voluntary purchase and sale of carbon credits to meet corporate social responsibility and sustainability goals. Thailand's Climate Change Bill, which is currently under review, focuses on developing a legal and institutional framework to support a mandatory national ETS in the future, but timelines are not yet established.

COP29 fuelled further support for Asia's carbon markets. At the November 2024 meeting in Azerbaijan, countries agreed on standards for the creation of carbon credits. This is expected to drive demand and ensure market integrity. Norway pledged US\$50 million to ADB's Climate Action Catalyst Fund (CACF), which was launched in 2024 to purchase carbon credits and support transformative mitigation in developing member countries (COP29, 2024; ADB 2023). The CACF aims to secure more than US\$100 million in commitments from governments and the private sector and the first transaction is expected in 2025 (Stankova, 2024). COP29 also set a new climate finance target, tripling the annual goal for funding for developing countries from US\$100 billion to US\$300 billion by 2035.

If this objective is met, it would offer critical support for Asian developing countries' energy transitions. Still, there is a history of signatories falling short on such targets, raising doubts about its realisation.

Divergences across systems will challenge the effectiveness of international carbon trading.

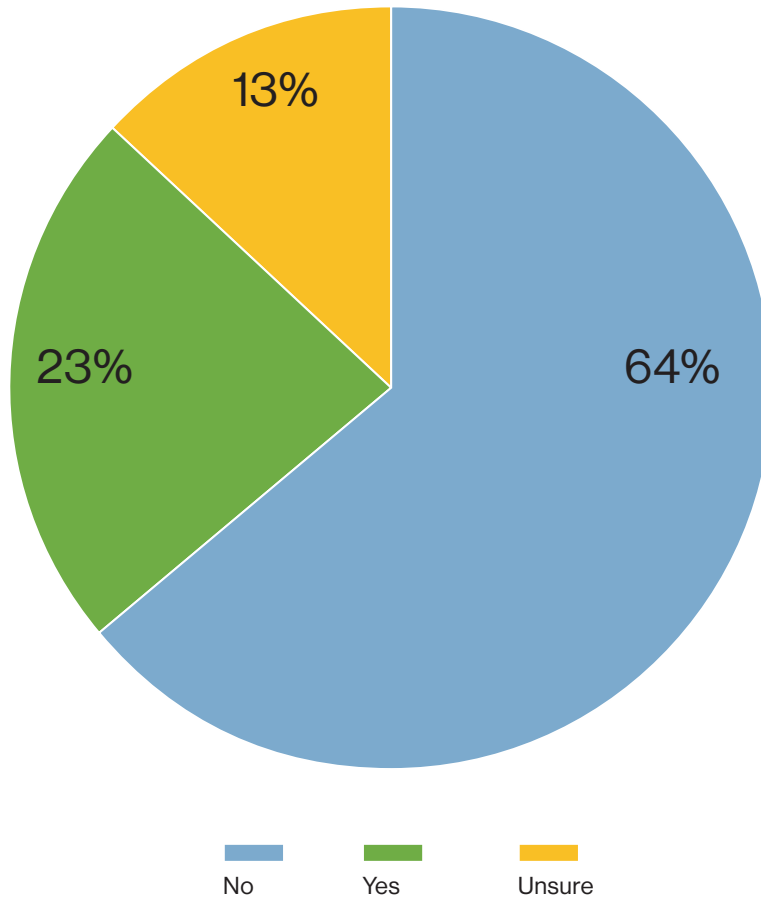
The Asian Development Bank predicts that by 2050, Asia will sell approximately 4 gigatons of carbon dioxide equivalent (CO₂e), an amount that represents more than 10 per cent of global annual emissions in 2023 and could potentially be worth more than US\$40 billion (ADB, 2023). However, issues surrounding data integrity, administrative errors and slow legislative enforcement could undermine the effectiveness of carbon trading in Asia, particularly in the short term.

Moreover, the significant price divergence across the region – with carbon prices ranging from US\$0.61 per tonne of CO₂e in Indonesia to US\$12.57 in China, both well below the US\$61.30 per tonne in the EU – leads to distorted incentives and increases the risk of carbon leakage (World Bank, 2024c). Price variations stem from the variety of national systems across Asia. As major systems expand their coverage and transition to official implementation, businesses will need to navigate these divergent approaches, which will present additional barriers for exporters.

Around two-thirds of respondents in our business perceptions survey do not believe businesses in Asia are preparing sufficiently for the impact of carbon trading regulations, which could have adverse effects on their operations and costs (Figure 25).

Figure 25:

Do you believe that businesses in Asia are sufficiently preparing for the impact that carbon trading regulations will have on their operations?



Source: Asia House Business Perceptions Survey, 2024

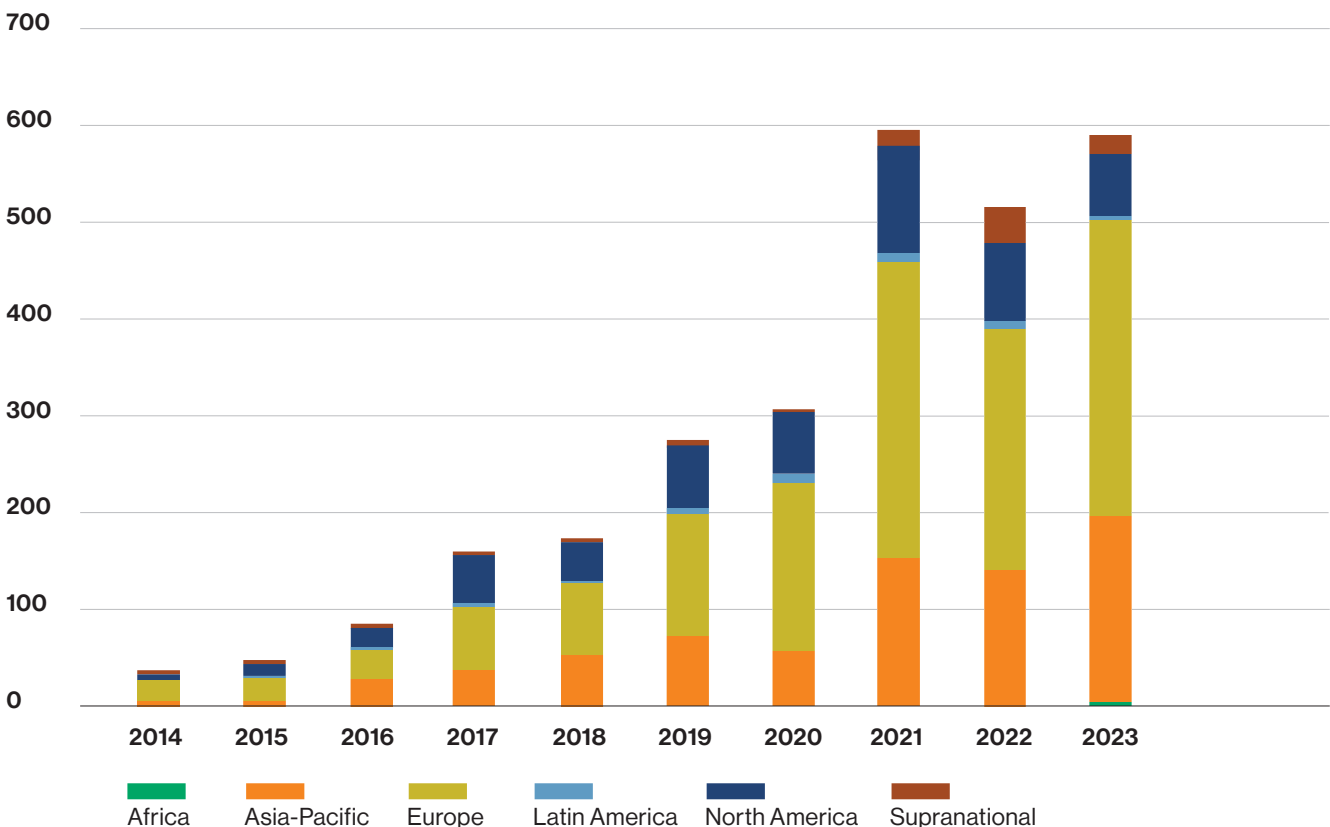
5.3 Green finance: unlocking growth potential

Green finance in Asia is poised for significant growth, driven by the expansion of green bonds and blended finance as well as progress on harmonising regional taxonomies.

Since 2015, Asia's share of global green bond issuance has surged, as shown in Figure 26. This growth has been primarily driven by a significant rise in issuance from China, which now accounts for 44 per cent of the regional total (Climate Bonds, 2024). China is the second-largest issuer of green bonds after the US, having issued US\$371.9 billion in 2023.

China's strong performance has been driven by government support in the form of lower issuance costs, favourable monetary policy and longer bond duration, which together have led to consistent outperformance versus broader fixed-income markets (MSCI, 2024). Future progress can be expected across the region; in 2022, Singapore launched its Green Bond Programme, aiming to issue up to SGD 35 billion by 2030; Thailand issued its first green bond in 2024; and Indonesia continues to expand its green sukuk market (PwC, 2023).

Figure 26: Green bonds issued by region 2014-2023 (US\$ billion)



Source: Climate Bonds, n.d.

Asian countries are working to fix the problem of divergent green taxonomies, which, if they are successful, should boost green investment.

Since 2015, countries such as China, South Korea, Malaysia and Indonesia have developed national taxonomies, but these disparate systems can confuse investors and raise compliance costs (Um, 2023). To simplify cross-border green funding, China is aligning its green bond standards with international criteria and collaborating with the EU on the Common Ground Taxonomy (CGT). ASEAN's 2021 sustainable finance taxonomy, updated in 2024, is set to expand its coverage to sectors such as transport and construction. This updated framework aims to clarify what qualifies as environmentally sustainable, thereby encouraging greater green investment in the region.

ASEAN is prioritising blended finance to encourage greater green investment by corporations.

Policy volatility and high business risk reduces the incentive for businesses to pursue green investments (Hardcastle et al., 2024). Blended finance, where development funds and other philanthropic capital is used to lessen risk and thus attract private sector investors, is viewed as the key to de-risking projects and unlocking private capital. The ASEAN Catalytic Green Finance Facility (ACGF) was established in 2019 to accelerate funding for green infrastructure projects, of which there is a shortfall of more than US\$100 billion a year (ADB, n.d.).

The ACGF provides ASEAN member governments with technical assistance and access to more than US\$1 billion in loans designed to de-risk green infrastructure projects and make them more appealing to private investors (ibid). One example is the public-private support that was provided to develop Cambodia's National Solar Park. Over the next few years we can expect to see an increase in the solar energy generated there and connected to the Cambodian national grid, as well as further technical assistance to develop similar projects in the region (ADB, 2021).

Conclusion

Asia will continue to be a driver of global economic growth in 2025, despite what promises to be a challenging and unpredictable year.

China's growth is forecasted to slow to 4 per cent, although effective stimulus measures and considered trade policy could support a growth rate closer to 4.5 per cent. China is set to remain a global leader in renewable energy production, accelerate its technological advancements – particularly in AI – and strengthen its trade ties with neighbouring Southeast Asia.

India, Vietnam and the Philippines will be the region's standout economies, all with growth of more than 6 per cent. Indonesia and Malaysia will also be strong with growth rates in excess of 5 per cent. Across Asia, we can expect to see strong consumer demand, supported by easing inflation and increased intra-regional trade.

The election of Donald Trump and his threats of widespread tariffs pose the greatest risk to Asia's 2025 outlook. Trump's tendency to make sudden and significant shifts in policy creates uncertainty, requiring businesses operating in Asia to remain agile. It is possible that a renewed US-China trade war will ensue, which will result in a re-routing of trade, a shifting of supply chains and increased scrutiny of the Asian economies that Chinese companies use to circumvent tariffs. Trump's protectionist policies may feed through to US inflation and dollar volatility, which will affect Asia's export-led economies.

Digitalisation will drive economic transformation across the region, raising productivity, increasing financial inclusion and opening new markets to trade. The US-China technological rivalry will hamper China's AI and semiconductor progress, opening up new opportunities for non-aligned nations such as Malaysia and Singapore. Meanwhile, several Southeast Asian countries are advancing ambitious AI strategies, supported by substantial government spending designed to drive workforce upskilling and attract increased foreign investment.

Asia's renewable energy production will surge, with India and Vietnam set to make huge progress as they invest in new plants and implement compliance-based carbon markets. Green finance is poised for significant growth, driven by the expansion of green bonds and blended finance as well as progress on harmonising regional taxonomies.

References

ADB (2023a) 'ADB announces start of Climate Action Catalyst Fund,' *Asian Development Bank*. Available at: <https://www.adb.org/news/adb-announces-start-climate-action-catalyst-fund>

ADB (2023b) 'National strategies for carbon markets under the Paris Agreement,' *Asian Development Bank*. Available at: <https://www.adb.org/sites/default/files/publication/928596/national-strategies-carbon-markets-paris-agreement.pdf>

ADB (2024a) 'Asian Development Outlook,' *Asian Development Bank*. Available at: <https://www.adb.org/sites/default/files/publication/995536/asian-development-outlook-september-2024.pdf>

ADB (2024b) 'ADB Supports Thai State Utility Operator's First Sustainability Bond,' *Asian Development Bank*. Available at: <https://www.adb.org/news/adb-supports-thai-state-utility-operator-first-sustainability-bond>

ADB (n.d.) 'ASEAN Catalytic Green Finance Facility,' *Asian Development Bank*. Available at: <https://www.adb.org/what-we-do/funds/asean-catalytic-green-finance-facility/main>

Amador III, J.S., Baladjay, D.M.N. (2024) 'The Impact of China's Digital Silk Road on the Digital Domain of the Philippines,' *ISEAS Perspective*. Available at: <https://www.iseas.edu.sg/articles-commentaries/iseas-perspective/2024-43-the-impact-of-chinas-digital-silk-road-on-the-digital-domain-of-the-philippines-by-julio-s-amador-iii-and-deryk-matthew-n-baladjay/>

ANTARA (2024) 'Minister Airlangga calls digital economy leap in economic growth,' *ANTARA*. Available at: <https://en.antaranews.com/news/336589/minister-airlangga-calls-digital-economy-leap-in-economic-growth>

ASEAN (2023) 'Digital Economy Framework Agreement (DEFA): ASEAN to leap forward its digital economy and unlock US\$2 Tn by 2030,' *ASEAN*. Available at: <https://asean.org/asean-defa-study-projects-digital-economy-leap-to-us2tn-by-2030/>

ASEAN (2024) 'ASEAN Transition Finance Guidance,' *ASEAN*. Available at: <https://www.theacmf.org/initiatives/sustainable-finance/asean-transition-finance-guidance-v2>

Baraniuk, C. (2024) 'Red Sea crisis: How global shipping is being rerouted out of danger,' *BBC Future*. Available at: <https://www.bbc.com/future/article/20240119-red-sea-crisis-how-global-shipping-is-being-rerouted-out-of-danger>

Barnett, E., and Frankel, J. (2024) 'Trump says there will be a 'bloodbath' if he loses the election,' *NBC News*. Available at: <https://www.nbcnews.com/politics/donald-trump/trump-bloodbath-loses-election-2024-rc-na143746>

Bird & Bird (2024) 'Malaysia to Singapore Electricity Imports,' *Bird & Bird Insights*. Available at: <https://www.twobirds.com/-/media/new-website-content/insights/pdfs/power-import-from-malaysia-to-singapore.pdf>

Borger, J. and Tantesh, M. (2024) 'Houthi claim to have targeted Ben Gurion airport after Israel hits Sana'a,' *The Guardian*. Available at: <https://www.theguardian.com/world/2024/dec/27/houthi-missile-israeli-airport-airstrikes-sanaa-yemen>

Brettell, K. (2024) 'Dollar at two-year high on growth outlook,' *Reuters*. Available at: <https://www.reuters.com/markets/currencies/dollar-starts-2025-higher-yen-rooted-five-month-lows-2025-01-02/>

BSP (2024) 'Personal Remittances Set a New Record High in December 2023 at US\$3.6 Billion; Full-Year Level of US\$37.2 Billion Highest to Date,' *Bangko Sentral Ng Pilipinas*. Available at: <https://www.bsp.gov.ph/SitePages/MediaAndResearch/MediaDisp.aspx?ItemId=7005>

Bureau of the Treasury (2024) 'Republic of the Philippines Announces Launch of 5.5-Year, 10.5-Year, and 25-Year Sustainable US Dollar Global Bonds,' *Bureau of the Treasury*. Available at: <https://www.treasury.gov.ph/wp-content/uploads/2024/08/ROP-Transaction-Launch-Press-Release.pdf>

Cabinet Secretary for State Documents (2024) 'President Jokowi: Indonesia's Digital Economy Has Potential to Reach Rp5,800 Trillion by 2030', *Cabinet Secretariat of the Republic of Indonesia*. Available at: <https://setkab.go.id/en/president-jokowi-indonesias-digital-economy-has-potential-to-reach-rp5800-trillion-by-2030/>

Carson, R., and Kim, H. (2024) 'Dollar surge on Trump win pushes Asia into currency defence,' *Bloomberg*. Available at: <https://www.bloomberg.com/news/articles/2024-11-06/asia-starts-tentative-defence-against-dollar-election-strength?embedded-checkout=true>

Chen, H. (2025) 'Asian stocks 2025 outlook: Hong Kong and Japan face diverging paths in 2025,' *IG Group*. Available at: https://www.ig.com/uk/news-and-trade-ideas/hang_seng_and_nikkei2025-241205#:text=Outlook%20for%202025%3A%20optimism%20meets%20uncertainty&text=The%20BOJ's%20anticipated%20interest%20rate,tensions%20and%20internal%20political%20instability

Chen, L., Pomfret, J., Slodkowski, A. (2024) 'Assad's fall in Syria exposes limits of China's Middle East diplomacy,' *Reuters*. Available at: <https://www.reuters.com/world/middle-east/assads-fall-syria-exposes-limits-chinas-middle-east-diplomacy-2024-12-10/>

Chen, J., and Zhang, J. (2022) 'China's green-bond market: Growing issuance and historical outperformance,' *MSCI*. Available at: <https://www.msci.com/www/blog-posts/china-s-green-bond-market/03029315810>

Climate Bonds Initiative (n.d.) 'Interactive Data Platform,' *Climate Bonds Initiative*. Available at: <https://www.climatebonds.net/market/data/>

COP29 (2024) 'COP29 opens in Baku with breakthrough on global carbon markets,' *COP29*. Available at: <https://cop29.az/en/media-hub/news/cop29-opens-in-baku-with-breakthrough-on-global-carbon-markets>

Dai, X., and Chen, Y. (2024) 'China property market: Navigating the downturn,' *Swiss Re Institute*. Available at: <https://www.swissre.com/institute/research/sigma-research/Economic-Insights/china-property-market.html#:text=The%20downturn%20in%20China's%20property,and%20business%20in%20P&C%20insurance>

Dang, T.V.D., Tran, T.D., Dang, H.L., and Bui, X.P. (2024) 'Measuring the digital economy in Vietnam,' *Telecommunications Policy*, Volume 48, Issue 3.

Davidson, H., and Lin, C. (2024) 'How Taiwan secured semiconductor supremacy – and why it won't give it up,' *The Guardian*. Available at: <https://www.theguardian.com/world/article/2024/jul/19/taiwan-semiconductor-industry-booming>

DD News (2024) 'Heatwaves could adversely affect India's economic growth,' *DD News*. Available at: <https://ddnews.gov.in/en/heat-waves-could-adversely-affect-indias-economic-growth/#:text=%E2%80%9CIndia%20could%20account%20for%2034,humidity%20conditions%2C%E2%80%9D%20stated%20RBI>

Debusmann, B. (2024) 'Trump urges US Supreme Court to delay TikTok ban,' *BBC*. Available at: <https://www.bbc.co.uk/news/articles/cr-4r1qrqw2vo>

EDB Singapore (2024a) 'Singapore wins more investments from major chipmakers as they seek to de-risk supply chains,' *EDB Singapore*. Available at: <https://www.edb.gov.sg/en/business-insights/insights/singapore-wins-more-investments-from-major-chipmakers-as-they-seek-to-de-risk-supply-chains.html>

EDB Singapore (2024b) 'TSMC affiliate Vanguard to build \$7.8bn Singapore plant with NXP,' *EDB Singapore*. Available at: <https://www.edb.gov.sg/en/business-insights/insights/tsmc-affiliate-vanguard-to-build-7-8bn-singapore-plant-with-nxp.html>

- EFE (2024) 'North Korea and Russia bolster ties amid global tensions,' *EFE News*.
Available at: <https://efe.com/en/latest-news/2024-11-04/north-korea-russia/>
- Els, F. (2024) 'Charts: China's global electric car dominance,' *Adamas Intelligence*.
Available at: <https://www.adamasintel.com/charts-china-global-electric-car-dominance/>
- Eun-byel, I. (2024) 'What falling won means for Korea,' *The Korea Herald*.
Available at: <https://www.koreaherald.com/article/10032974>
- Euronews (2024) 'Senior Chinese official warns that any future US tariff hikes will backfire,' *Euronews*.
Available at: <https://www.euronews.com/business/2024/11/22/senior-chinese-official-warns-that-any-future-us-tariff-hikes-will-backfire>
- Fernandez-Villaverde, J., Mineyama, T., Song, D. (2024) 'Are we fragmented yet? Measuring geopolitical fragmentation and its causal effect,' *NBER Working Paper Series*, Working Paper 32638.
- Fitch Ratings (2024) 'Asia-Pacific developed market banks outlook 2025,' *Fitch Ratings*.
Available at: <https://www.fitchratings.com/research/banks/asia-pacific-developed-market-banks-outlook-2025-28-11-2024>
- Franco, M.A.J.Q., and Taeihagh, A. (2024) 'Sustainable energy adoption in poor rural areas: A comparative case perspective from the Philippines,' *Energy for Sustainable Development*, Volume 79, 101389.
- Gill, T., and Birch, T. (2024) 'The world's biggest solar farms,' *The Eco Experts*.
Available at: <https://www.theecoexperts.co.uk/solar-panels/biggest-solar-farms>
- Glass, M. (2024) 'Yen bulls lie in wait for US-Japan yield gap to shrink next year,' *Bloomberg*.
Available at: <https://www.bloomberg.com/news/articles/2024-11-17/yen-bulls-lie-in-wait-for-us-japan-yield-gap-to-shrink-next-year>
- Goh, N. (2024) 'Malaysia to train 60,000 engineers in bid to become chip hub,' *Nikkei Asia*.
Available at: <https://asia.nikkei.com/Business/Tech/Semiconductors/Malaysia-to-train-60-000-engineers-in-bid-to-become-chip-hub>
- Government of India (2024) 'The Transition of India's Economy Towards Formalization'.
Available at: <https://pib.gov.in/PressNoteDetails.aspx?No-teld=153420&ModuleId=3®=3&lang=1>
- Govil, R., and Chauhan, K. (2024) 'Growth, Convergence and Public Finances of India and its States,' *International Monetary Fund*.
Available at: <https://www.imf.org/en/Publications/WP/Issues/2024/11/11/Growth-Convergence-and-Public-Finances-of-India-and-its-States-555567>
- Hale, E. (2024) 'Trump signals hard line on China with hawkish cabinet picks,' *Al Jazeera*.
Available at: <https://www.aljazeera.com/news/2024/11/13/trump-signals-hard-line-on-china-with-hawkish-cabinet-picks>
- Halligan, H. (2020) 'Investors must get used to reality that US-China trade war is now a fact,' *The Telegraph*.
Available at: <https://www.telegraph.co.uk/business/2020/01/15/investors-must-get-used-reality-us-china-trade-war-now-fact/>
- Hang Seng Indexes (2024) '2024 Year-end Market Report,' *Hang Seng Indexes*.
Available at: https://www.hsi.com.hk/static/uploads/contents/en/dl_centre/other_materials/20241231e.pdf
- Hardcastle, D., Tsukamoto, Y., Tan, K., Harris, T.W., Park, K., and Lee, B. (2024) 'Southeast Asia's green economy 2024,' *Bain & Company*.
Available at: <https://www.bain.com/insights/southeast-asias-green-economy-2024/>
- Hawkins, A. (2024) 'China building two-thirds of world's wind and solar projects,' *The Guardian*.
Available at: <https://www.theguardian.com/world/article/2024/jul/11/china-building-twice-as-much-wind-and-solar-power-as-rest-of-world-report>

He, L. (2024) 'China is pumping another \$47.5 billion into its chip industry,' *CNN*.

Available at: <https://edition.cnn.com/2024/05/27/tech/china-semiconductor-investment-fund-intl-hnk/index.html>

Hepburn, C., Qi, Y., Stern, N., Ward, B., Xie, C., and Zenghelis, D. (2021) 'Towards carbon neutrality and China's 14th Five-Year Plan: Clean energy transition, sustainable urban development, and investment priorities,' *Environmental Science and Ecotechnology*, Volume 8, 100130.

Hoang, L. (2024a) 'Deregulation to heat up Vietnam's solar sector, other renewables,' *Nikkei Asia*.

Available at: https://asia.nikkei.com/Business/Energy/Deregulation-to-heat-up-Vietnam-s-solar-sector-other-renewables?utm_campaign=GL_asia_daily&utm_medium=email&utm_source=NA_newsletter&utm_content=article_link&del_type=1&pub_date=20240711123000&seq_num=3&si=13198b6c-ce44-4b9c-99e7-e5959cc1a52b

Hoang, L. (2024b) 'HSBC lends \$23m for Malaysian firm's Vietnam solar project,' *Nikkei Asia*.

Available at: <https://asia.nikkei.com/Business/Energy/HSBC-lends-23m-for-Malaysian-firm-s-Vietnam-solar-project>

Huang, K. (2024) 'Taiwan's semiconductor export conundrum,' *The Diplomat*.

Available at: <https://thediplomat.com/2024/10/taiwans-semiconductor-export-conundrum/>

Hughes, J., and Smith, I. (2024) 'Dollar climbs after Donald Trump's Brics tariff threat and French political woes,' *Financial Times*.

Available at: <https://www.ft.com/content/c21bf9ec-ecba-4b0c-bb21-e26ab1e25519>

ICAP (2024) 'China strengthens legal foundation for national ETS,' *International Carbon Action Partnership*.

Available at: <https://icapcarbonaction.com/en/news/china-strengthens-legal-foundation-national-ets>

IDX Carbon (2024) 'IDX Carbon Monthly Report,' *IDX Carbon*.

Available at: <https://www.idxcarbon.co.id/document/share/67/ea9cd68d-ebd1-4b9b-94e2-3b39fbff37f9>

IEA (2021) 'Renewables 2021: Executive summary,' *International Energy Agency*.

Available at: <https://www.iea.org/reports/renewables-2021/executive-summary>

IEA (2024a) 'Electricity 2024: Executive summary,' *International Energy Agency*.

Available at: <https://www.iea.org/reports/electricity-2024/executive-summary>

IEA (2024b) 'Clean sources of generation are set to cover all of the world's additional electricity demand over the next three years,' *International Energy Agency*.

Available at: <https://www.iea.org/news/clean-sources-of-generation-are-set-to-cover-all-of-the-world-s-additional-electricity-demand-over-the-next-three-years>

IEA (2024c) 'Solar PV global supply chains: Executive summary,' *International Energy Agency*.

Available at: <https://www.iea.org/reports/solar-pv-global-supply-chains/executive-summary>

IFC (2024a) 'IFC's Record Climate Financing in Viet Nam Supports Green Transition, Private Sector Resilience,' *International Finance Corporation World Bank Group*.

Available at: <https://www.ifc.org/en/pressroom/2024/ifc-s-record-climate-financing-in-viet-nam-supports-green-transition-private-sector-resilience>

IFC (2024b) 'IFC Supports SeABank to Issue Viet Nam's First Blue Bond, Boost Climate Finance,' *International Finance Corporation World Bank Group*.

Available at: <https://www.ifc.org/en/pressroom/2024/ifc-invests-in-sustainability-linked-bond-issued-by-central-pattana-in-thailand>

IFC (2024c) 'IFC Invests in Sustainability-Linked Bond Issued by Central Pattana in Thailand,' *International Finance Corporation World Bank Group*.

Available at: <https://www.ifc.org/en/pressroom/2024/ifc-invests-in-sustainability-linked-bond-issued-by-central-pattana-in-thailand>

- IFR (2024) 'Record 435,000 robots now working in Japan's factories,' *IFR*. Available at: https://ifr.org/downloads/press2018/2024-SEP-24_IFR_press_release_World_Robotics_2024_-_Japan.pdf
- IMF (2024a) 'Assessing Vulnerabilities Of China's Corporate Sector' *IMF*. Available at: <https://www.elibrary.imf.org/view/journals/002/2024/276/article-A005-en.xml>
- IMF (2024b) 'China's real estate sector: Managing the medium-term slowdown,' *International Monetary Fund*. Available at: <https://www.imf.org/en/News/Articles/2024/02/02/cf-chinas-real-estate-sector-managing-the-medium-term-slowdown>
- IMF (2024c) 'IMF Staff Completes 2024 Article IV Mission to the People's Republic of China,' *International Monetary Fund*. Available at: <https://www.imf.org/en/News/Articles/2024/05/28/pr24184-china-imf-staff-completes-2024-art-iv-mission>
- IMF (2024d) 'IMF Staff Completes 2024 Article IV Mission to Indonesia,' *International Monetary Fund*. Available at: <https://www.imf.org/en/News/Articles/2024/06/14/pr24221-imf-staff-completes-2024-article-iv-mission-to-indonesia>
- India Budget (n.d.) 'Climate change and India: why we must look at the problem through our lens,' *India Budget*. Available at: <https://www.indiabudget.gov.in/economicsurvey/doc/eschapter/echap13.pdf>
- ING (2024) 'How American consumers will bear the burden of Trump's tariffs,' *ING*. Available at: <https://think.ing.com/articles/revealed-how-american-consumers-will-bear-the-burden-of-trumps-tariffs/>
- ITA (2024) 'India - Country Commercial Guide,' *International Trade Administration*. Available at: <https://www.trade.gov/country-commercial-guides/india-digital-economy>
- ITA (n.d.) 'Southeast Asia region forecast: eCommerce markets growth,' *International Trade Administration*. Available at: <https://www.trade.gov/southeast-asia-region-forecast#:~:text=Southeast%20Asia%20eCommerce%20Markets%20Are,USD%2482%20billion%20in%202023>
- Japan Gov (2024) 'Climate Transition Bonds Show Japan's Commitment to Carbon Neutrality,' *The Government of Japan*. Available at: https://www.japan.go.jp/kizuna/2024/09/climate_transition_bonds.html
- J.P. Morgan (2024) 'December 2024 Fed meeting: Fed cuts rates by 25 basis points to bolster labor market, triggering market shifts,' *J.P. Morgan*. Available at: <https://www.jpmorgan.com/insights/outlook/economic-outlook/fed-meeting-december-2024>
- Kannan, D. (2024) 'Indonesia's renewables target likely to be revised lower amid slow additions: Ember,' *S&P Global*. Available at: <https://www.spglobal.com/commodity-insights/en/news-research/latest-news/coal/081424-indonesias-renewables-target-likely-to-be-revised-lower-amid-slow-additions-ember>
- Ko, H., Kay, C., and Reed, J. (2025) 'In charts: has the 'India trade' run out of steam?,' *Financial Times*. Available at: <https://www.ft.com/content/b667ccd3-b066-4308-8d6f-8ee0a08f635e>
- Lakshmi, A. (2024) 'Why Vietnam risks ending up a big loser from Donald Trump's tariffs,' *Financial Times*. Available at: <https://www.ft.com/content/4f9f1dd-2278-49a6-9e70-b87916667fbe>
- L'Anson, R. (2024) 'Update on Red Sea trade flow impacts,' *Kpler*. Available at: <https://www.kpler.com/blog/update-on-red-sea-trade-flow-impacts>
- Li, A. (2024) 'China's youth-unemployment pressure eases as index falls for third straight month,' *South China Morning Post*. Available at: <https://www.scmp.com/economy/economic-indicators/article/3291510/chinas-youth-unemployment-pressure-eases-index-falls-third-straight-month>

- Lee, J., and Park, Y. (2024) 'South Korean won hits 15-year low as hawkish Fed, domestic politics weigh,' *Reuters*. Available at: <https://www.reuters.com/markets/currencies/south-korean-won-hits-weakest-since-march-2009-hawkish-fed-2024-12-19/>
- Llewellyn, A. (2024) 'Indonesia eyes hefty tariffs on China as businesses decry cheap imports,' *Aljazeera*. Available at: <https://www.aljazeera.com/economy/2024/10/11/indonesia-eyes-hefty-tariffs-on-china-as-businesses-decry-cheap-imports>
- Malay Mail (2024) 'World Bank: Malaysia on track for high-income nation status by 2028, even earlier if ringgit's strength prevails,' *Malay Mail*. Available at: <https://www.malaymail.com/news/malaysia/2024/10/08/world-bank-malaysia-on-track-for-high-income-nation-status-by-2028-even-earlier-if-ringgits-strength-prevails/152947>
- Malayil, J. (2024) 'China installs world's 1st dual-headed wind turbine to harness hurricane power,' *Interesting Engineering*. Available at: <https://interestingengineering.com/energy/china-wind-turbine-to-harness-hurricane-power>
- Malik, S., Muhammad, K., and Waheed, Y. (2024) 'Artificial intelligence and industrial applications- A revolution in modern industries' *Ain Shams Engineering Journal*, Volume 15, Issue 9.
- McKinsey & Company (2024) 'Asia: The epicenter of global trade shifts,' *McKinsey & Company*. Available at: <https://www.mckinsey.com/featured-insights/future-of-asia/asia-the-epicenter-of-global-trade-shifts>
- Medina, A. F. (2024) 'What Makes Singapore a Prime Location for Semiconductor Companies,' *ASEAN Briefing*. Available at: <https://www.aseanbriefing.com/news/why-singapore-is-the-top-choice-for-semiconductor-companies-in-2024/>
- Mordor Intelligence (n.d.) 'Asia-Pacific semiconductor device market,' *Mordor Intelligence*. Available at: <https://www.mordorintelligence.com/industry-reports/asia-pacific-semiconductor-device-market>
- Muir, D., Novta, N., and Oeking, A. (2024) 'China's Path to Sustainable and Balanced Growth,' *International Monetary Fund*, Volume 2024, Issue 238.
- NATO (2024) 'The evolving NATO-Russia dynamics: Perspectives and challenges,' *NATO*. Available at: https://www.nato.int/cps/en/natohq/opinions_230278.htm
- Ng, K. (2024) 'What we know about North Korean troops in Ukraine,' *BBC News*. Available at: <https://www.bbc.co.uk/news/articles/cm2796pdm1lo>
- Ng, K. Tan, Y., and Kwon, J. (2024) 'How one man threw South Korea into a political crisis,' *BBC*. Available at: <https://www.bbc.co.uk/news/articles/c0lg-w1pw5zpo>
- North, K. (2022) 'East Asia: Impact of China and Taiwan conflict,' *Risk Intelligence*. Available at: <https://www.riskintelligence.eu/analyst-briefings/east-asia-impact-of-china-and-taiwan-conflict>
- OECD (2023) 'The nature, evolution and potential implications of data localisation measures,' *OECD*. Available at: https://www.oecd.org/en/publications/the-nature-evolution-and-potential-implications-of-data-localisation-measures_179f718a-en.html#:~:text=It%20highlights%20that%20data%20localisation,restrictive%20form%20of%20data%20localisation
- OECD (2024) 'OECD Economic Outlook, Volume 2024 Issue 2 – Japan,' *OECD*. Available at: https://www.oecd.org/en/publications/2024/12/oecd-economic-outlook-volume-2024-issue-2_67bb8fac/full-report/japan_0a2908f4.html
- Pershad, V. (2023) 'The Future of Banking in Asia: Innovation, Inclusion, and Investment Opportunities,' *M&G Investments*. Available at: <https://www.mandg.com/investments/professional-investor/en-ch/insights/mandg-insights/latest-insights/2023/08/the-future-of-banking-in-asia>

Philippines Statistics Authority (2024) 'Digital Economy contributes 8.4 percent to the Economy in 2023,' *Philippines Statistics Authority*. Available at: <https://psa.gov.ph/statistics/digital-economy>

PwC (2023) 'The little green dot: Singapore as a sustainable asset management hub,' PwC. Available at: <https://www.pwc.com/sg/en/publications/assets/page/singapore-as-a-sustainable-asset-management-hub.pdf>

Qu, T. (2024) 'Alibaba e-commerce platforms key channel for European businesses to sell in China, says study,' *South China Morning Post*. Available at: <https://www.scmp.com/tech/big-tech/article/3244952/alibaba-e-commerce-platforms-key-channel-european-businesses-sell-china-says-study>

Rachman, J. (2023) 'Slow start for Indonesia's much-hyped carbon market,' *Climate Change News*. Available at: <https://www.climatechangenews.com/2023/11/20/slow-start-for-indonesias-much-hyped-carbon-market/>

Reglado, F. (2024) 'Trump tariffs and trade in Southeast Asia: 5 things to know,' *Nikkei Asia*. Available at: <https://asia.nikkei.com/Economy/Trade/Trump-tariffs-and-trade-in-Southeast-Asia-5-things-to-know>

Reglado, F., Maulia, E., and Goh, N. (2024) 'Southeast Asia pushes back on cheap Chinese imports,' *Nikkei Asia*. Available at: <https://asia.nikkei.com/Spotlight/The-Big-Story/Southeast-Asia-pushes-back-on-cheap-Chinese-imports>

Reuters (2024a) 'Indonesia to build 75 GW of renewable energy in the next 15 years, COP29 envoy says,' *Reuters*. Available at: <https://www.reuters.com/business/energy/indonesia-build-75-gw-renewable-energy-next-15-years-cop29-envoy-says-2024-11-12/>

Reuters (2024b) 'Malaysia - driven by digital evolution,' *Reuters*. Available at: <https://www.reuters.com/plus/malaysia-driven-by-digital-evolution>

Reuters (2024c) 'China, South Korea, Taiwan to spend most on chip equipment 2025-2027, industry body says,' *Reuters*. Available at: <https://www.reuters.com/technology/china-south-korea-taiwan-spend-most-chip-equipment-2025-2027-industry-body-says-2024-09-26/>

Reuters (2024d) 'China to crack down on emissions data fraud as CO2 market expansion nears,' *Reuters*. Available at: [https://www.reuters.com/sustainability/boards-policy-regulation/china-crack-down-emissions-data-fraud-co2-market-expansion-nears-2024-02-05/#:~:text=BEIJING%2C%20Feb%20%20\(Reuters\),market%20into%20new%20industrial%20sectors](https://www.reuters.com/sustainability/boards-policy-regulation/china-crack-down-emissions-data-fraud-co2-market-expansion-nears-2024-02-05/#:~:text=BEIJING%2C%20Feb%20%20(Reuters),market%20into%20new%20industrial%20sectors)

Reuters (2024e) 'Thai minister says aiming to beat 2025 export growth forecast,' *Reuters*. Available at: <https://www.reuters.com/world/asia-pacific/thai-minister-says-aiming-beat-2025-export-growth-forecast-2024-12-18/>

Rinaldi, R. (2024) 'Prabowo welcomes NVIDIA to join Indonesia's AI development drive,' *Indonesia Business Post*. Available at: <https://indonesiabusinesspost.com/insider/prabowo-welcomes-nvidia-to-join-indonesias-ai-development-drive/>

Rotunno, L., and Ruta, M. (2024) 'Trade Implications of China's Subsidies,' *International Monetary Fund*, Volume 2024: Issue 180.

S&P Global (2024a) 'Economic Research: Economic Outlook Asia-Pacific Q1 2025: U.S. Trade Shift Blurs The Horizon,' *S&P Global*. Available at: [https://www.spglobal.com/ratings/en/research/articles/241124-economic-research-economic-outlook-asia-pacific-q1-2025-u-s-trade-shift-blurs-the-horizon-13331648#:~:text=In%20this%20setting%2C%20we%20expect,Malaysia%20\(see%20chart%205\)](https://www.spglobal.com/ratings/en/research/articles/241124-economic-research-economic-outlook-asia-pacific-q1-2025-u-s-trade-shift-blurs-the-horizon-13331648#:~:text=In%20this%20setting%2C%20we%20expect,Malaysia%20(see%20chart%205))

S&P Global (2024b) 'China's 12 trillion yuan debt swap to ease local debt pressure, bank margins,' *S&P Global*. Available at: <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/china-s-12-trillion-yuan-debt-swap-to-ease-local-debt-pressure-bank-margins-86126459>

Sharan, A. (2023) 'India's digital leap in financial inclusion,' *OMFIF*. Available at: <https://www.omfif.org/2023/11/indias-digital-leap-in-financial-inclusion/>

Shaw, V., and Thompson, V. (2024) 'Chinese PV industry brief: Longi to mass-produce back contact solar cells,' *PV Magazine*. Available at: <https://www.pv-magazine.com/2024/07/16/chinese-pv-industry-brief-longi-to-mass-produce-back-contact-solar-cells/#:~:text=ESS%20News-,Chinese%20PV%20Industry%20Brief%3A%20Longi%20to%20mass%2Dproduce%20back%20contact,Xixian%20New%20Area%2C%20Shaanxi%20province>

Shen, J. (2024) 'Five things the market got wrong about China's stimulus package,' *Financial Times*. Available at: <https://www.ft.com/content/a897109d-8af2-480b-9138-4d8592078f2f>

Shen, S., and Westbrook, T. (2024) 'China's latest stimulus falls short of expectations,' *Reuters*. Available at: <https://www.reuters.com/world/china/chinas-latest-stimulus-falls-short-expectations-2024-11-08/>

Sherman, N. (2024) 'TSMC wins subsidies to expand US chip manufacturing in Arizona,' *BBC News*. Available at: <https://www.bbc.co.uk/news/business-68763232>

Singh, S.C. (2023) 'India to set emission reduction mandates for 4 sectors, start carbon trading by 2025,' *Reuters*. Available at: <https://www.reuters.com/sustainability/climate-energy/india-set-emission-reduction-mandates-4-sets-start-carbon-trading-2025-2023-09-26/>

Siqi, J., and Chen, F. (2024) 'China to restrict exports of critical minerals to US, commerce ministry says,' *South China Morning Post*. Available at: <https://www.scmp.com/economy/global-economy/article/3289148/china-restrict-exports-critical-minerals-us-commerce-ministry-says?module=latest&pgtype=homepage>

Srivastava, S., and Mazumdar, R. (2024) 'Green municipal bonds grow as many Indian cities seek climate funding,' *Bloomberg*. Available at: <https://www.bloomberg.com/news/articles/2024-10-28/green-municipal-bonds-grow-as-indian-cities-seek-climate-funding?embedded-checkout=true>

Stankova, T. (2024) 'COP29: Norway commits up to \$50m to ADB's pioneering Article 6 carbon fund,' *Carbon Herald*. Available at: <https://carbonherald.com/cop29-norway-commits-up-to-50m-to-adbs-pioneering-article-6-carbon-fund/>

Strangio, S. (2024) 'Malaysia unveils plans to become next global chip hub,' *The Diplomat*. Available at: <https://thediplomat.com/2024/05/malaysia-unveils-plans-to-become-next-global-chip-hub/>

Tabeta, S. (2024) 'China rushes to boost domestic chip supply ahead of Trump's return,' *Nikkei Asia*. Available at: https://asia.nikkei.com/Business/Tech/Semiconductors/China-rushes-to-boost-domestic-chip-supply-ahead-of-Trump-s-return?utm_campaign=GL_asia_daily&utm_medium=email&utm_source=NA_newsletter&utm_content=article_link&del_type=1&pub_date=20241119123000&seq_num=3&si=13198b6cce44-4b9c-99e7-e5959cc1a52b

Telecom Review (2024) 'Vietnam's E-Commerce Revolution: Telecom Infrastructure Paves the Way,' *Telecom Review*. Available at: <https://telecomreviewasia.com/news/featured-articles/4378-vietnam-s-e-commerce-revolution-telecom-infrastructure-paves-the-way/>

The Economist (2023) 'Taiwan's dominance of the chip industry makes it more important,' *The Economist*. Available at: <https://www.economist.com/special-report/2023/03/06/taiwans-dominance-of-the-chip-industry-makes-it-more-important>

The Hindu Business Line (2024) 'RBI designates 10-year Sovereign Green Bonds under FAR for investment by non-residents,' *The Hindu Business Line*. Available at: <https://www.thehindubusinessline.com/money-and-banking/rbi-designates-10-yr-sovereign-green-bonds-under-far-for-investment-by-non-residents/article68841908.ece>

The Investor (2024) 'Indonesia secures funding for green power infrastructure at COP29,' Available at: <https://theinvestor.vn/indonesia-secures-funding-for-green-power-infrastructure-at-cop29-d13357.html>

UK Government (2023) 'What happens in the South China Sea matters globally: UK Indo-Pacific minister to tell maritime conference in Vietnam,' *GOV.UK*. Available at: <https://www.gov.uk/government/news/what-happens-in-the-south-china-sea-matters-globally-uk-indo-pacific-minister-to-tell-maritime-conference-in-vietnam>

UNESCAP (2024) 'Asia-Pacific Digital Transformation Report 2024: Digital Innovation for Smarter Climate Action,' *Economic and Social Commission for Asia and the Pacific*. Available at: <https://www.unescap.org/kp/2024/asia-pacific-digital-transformation-report-2024-digital-innovation-smarter-climate-action>

Vietnam Plus (2024) 'Vietcombank issues 2 trillion VND worth of green bonds for first time,' *Vietnam Plus*. Available at: <https://en.vietnamplus.vn/vietcombank-issues-2-trillion-vnd-worth-of-green-bonds-for-first-time-post304113.vnp>

White, E. (2024) 'World Bank lifts China growth forecast but calls for deeper reforms,' *Financial Times*. Available at: <https://www.ft.com/content/0097fd02-99c2-4b99-923b-4b9d08c84470>

World Bank (2024a) 'Thailand Economic Monitor July 2024: Unlocking the Growth Potential of Secondary Cities,' *World Bank*. Available at: <https://www.worldbank.org/en/country/thailand/publication/temjuly2024>

World Bank (2024b) 'Global carbon pricing revenues top a record \$100 billion,' *World Bank*. Available at: <https://www.worldbank.org/en/news/press-release/2024/05/21/global-carbon-pricing-revenues-top-a-record-100-billion>

World Bank (2024c) 'Compliance Carbon Prices,' *Carbon Pricing Dashboard*. Available at: <https://carbonpricingdashboard.worldbank.org/compliance/price>

WTO (2024) 'Global Trade Outlook and Statistics Update: October 2024,' *World Trade Organization*. Available at: https://www.wto.org/english/res_e/booksp_e/stat_10oct24_e.pdf

Xinhua (2024) 'Digital economy expands in scale, demonstrating enormous potential,' *Xinhua*. Available at: https://english.www.gov.cn/archive/statistics/202405/26/content_WS6653223bc6d-0868f4e8e77a9.html

Yin, I. (2024) 'Vietnam expedites domestic carbon market development to tackle CBAM and Article 6,' *S&P Global Commodity Insights*. Available at: <https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/energy-transition/052424-vietnam-expedites-domestic-carbon-market-development-to-tackle-cbam-article-6#:~:text=The%20EU%20has%20become%20the,accord-ing%20to%20recent%20customs%20data>

Yong, J. (2024) 'China's new Silk Road might go through Syria, skipping Russia,' *Asia Times*. Available at: <https://asiatimes.com/2024/12/chinas-new-silk-road-might-go-through-syria-skipping-russia/>

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