

Asia trade benefited from AI cycle despite energy shock

- EM Asian economies' aggregate trade has remained resilient so far in 2026, driven primarily by the global AI cycle, despite rising energy prices.
- Major chip exporters like South Korea and Taiwan are seeing the largest rise in trade balances. Malaysia, Singapore and China have also benefited from their participation in the AI manufacturing supply chain. Given the substantial investment in AI data centres globally, demand for chips and related capital goods is likely to continue, which is supportive to EM Asia trade.
- The AI-driven improvement in external balances will likely continue to support the TWD and KRW, whereas the outlook for the PHP, IDR and INR is less favourable given these economies' less direct exposure to the AI investment cycle and vulnerabilities to higher energy prices.

Asia benefited by AI cycle despite energy shock

EM Asian economies' aggregate trade has remained resilient so far in 2026, driven primarily by the global AI investment cycle, despite the rise in energy prices since the Iran war began at the end of February. However, performance has diverged markedly across the region. Major semiconductor exporters like South Korea and Taiwan have seen the largest rise in trade balances, reflecting their critical role in the global AI hardware supply chain. Malaysia, Singapore and China have also benefited from their exposure to semiconductor production, tech components and AI-related manufacturing. By contrast, trade balances weakened in economies where tech-related imports have grown faster than tech exports. Within non-tech trade, energy was the main differentiator. Economies with refining capacity or LNG-export exposure, notably Malaysia, Singapore, South Korea and China, have been better placed to offset the energy shock with a smaller energy trade deficit. China's lower energy-import volumes have also helped. Most other EM Asian economies, as net energy importers, have faced a widening energy deficit.

AI supply chain exposure stays supportive to trade

Global investment in AI data centres is likely to remain substantial, sustaining demand for semiconductors, servers, networking equipment and related capital goods. Asian economies that play a major role in the semiconductor supply chain or in data-centre construction could continue to benefit from stronger exports and improved external balances. Economies with less direct participation in the AI cycle, however, are likely to face greater pressure from higher imported energy and tech related input costs, as well as intensified competition among themselves.

Higher energy prices remain an important risk for the region. While selected economies can partly offset the shock through LNG exports, refined-product exports or technology-related export gains, most EM Asian economies remain net energy importers. The resulting deterioration in their terms of trade could continue to weigh on trade balances and domestic demand if energy prices remain elevated.

FX: favouring AI beneficiaries vs energy Importers

The trade backdrop remains supportive of the TWD and KRW, as the AI cycle strengthens export earnings and external balances sufficiently to offset much of the negative effect of higher energy prices. Continued strength in semiconductor exports should provide an important buffer against broader global-growth and energy-price risks. The outlook is less favourable for currencies such as the PHP, IDR and INR. These economies have more limited direct exposure to the AI investment cycle and remain vulnerable to higher energy-import bills. Their



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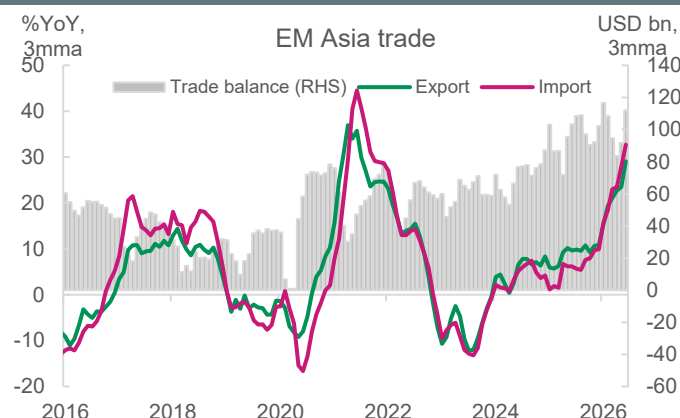
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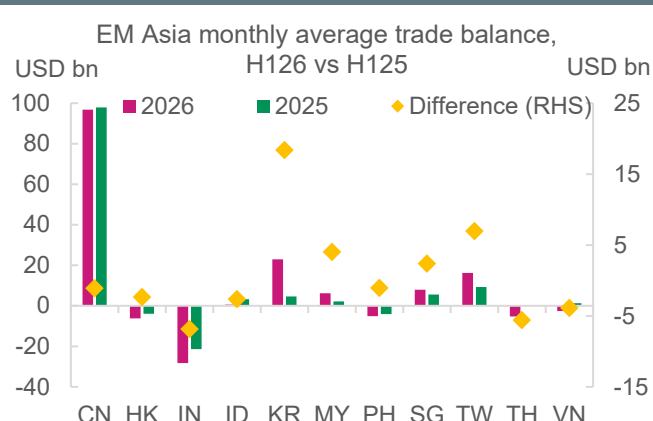
currencies could therefore face greater depreciation pressure if energy prices stay elevated.

EM Asia's trade balance is resilient



Source: CEIC, Bloomberg, Crédit Agricole CIB

Several economies saw a notable rise in trade surplus



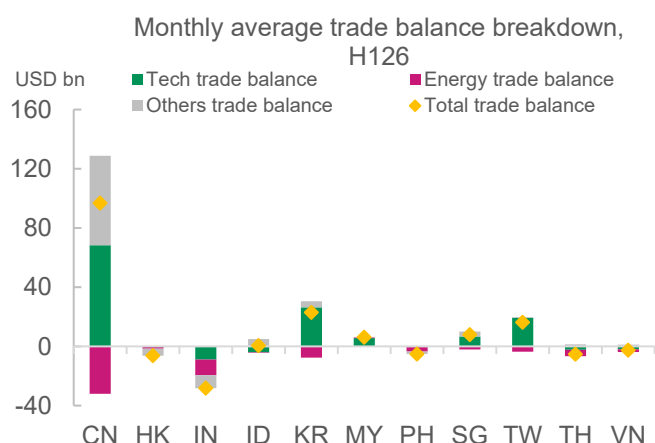
Source: CEIC, Bloomberg, Crédit Agricole CIB

EM Asia's trade remains resilient so far in 2026

EM Asian economies' aggregate trade has remained resilient so far in 2026, supported by strong exports driven by the global AI cycle despite increased energy imports due to higher energy prices since the Iran war began at the end of February. EM Asia's aggregate trade surplus widened to USD619bn in H126 vs USD570bn in H125, as the tech trade surplus more than offset the energy trade deficit in EM Asian economies, such as China, Korea, Taiwan, Malaysia and Singapore.

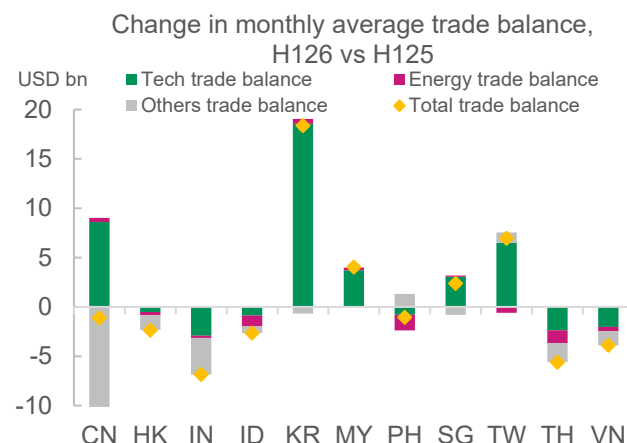
Looking ahead, we expect tech trade momentum to remain supportive for EM Asian economies. Continued demand for tech related products will support the tech trade balance, though some economies involved in the later part of the supply chain could be hurt by higher import prices for their input, along with the capital goods and inputs required to build local infrastructure supporting technology development. Regarding energy trade, we expect higher energy prices to hurt most of EM Asian economies as most of them are net energy importers, though some may be able to take advantage of higher refining margin for their energy exports.

EM Asia's trade balance by tech, energy and others



Source: CEIC, Bloomberg, Crédit Agricole CIB

Drivers of trade balance changes in H126 vs H125



Source: CEIC, Bloomberg, Crédit Agricole CIB

Trade balance drivers diverged in EM Asia

We identify three main drivers balance developments across the major EM Asian economies in H126, classified by HS two-digit codes (see appendix for detailed methodology):

- 1. Tech sector (HS 84 & HS 85):** HS 84 (machinery and mechanical equipment) includes servers, computers, data-processing machines, storage equipment

and related components used in AI data centres, including equipment used to train and run AI models. HS 85 (electrical machinery and equipment) includes AI chips and other electronic components, such as processors, memory chips, integrated circuits, circuit boards, networking equipment, cables, batteries and power supplies.

2. **Energy sector (HS 27):** HS 27 mainly covers energy products and fuels, including crude oil, petroleum products, natural gas and coal.
3. **Other sectors:** Products not classified under HS 27, HS 84 or HS 85.

When comparing the trade balance of H126 to that in H125, major chip exporters such as Korea and Taiwan showed the biggest improvement among EM Asian peers. These two economies' tech trade surplus accounted for most of the increase in their overall trade balances.

China's tech trade balance surplus also widened notably, encouraged by exporting not only the semiconductor products but also supportive items like lithium-ion batteries for data centres. But it was offset by other trade deficits, mainly due to higher gold import prices. Malaysia and Singapore's trade balance improvements were supported by both strong tech exports and better energy trade balance as energy refiners and exporters.

The wider trade deficits in H126 compared to H125 of the Philippines, Vietnam and Thailand were driven by both energy and tech. Although these economies are involved in the tech supply chain, prices for the processed semiconductor products that they import outweighed the benefits of lower-margin local assembly and packaging activities. As energy importers, higher global energy prices following the Iran war also widened their trade deficits.

Meanwhile, Indonesia and India have largely missed out on the current AI cycle. Indonesia's trade balance weakened both due to a tech and energy trade deficit. India recorded the largest negative shock in its trade balance among EM Asian peers in H126 compared with H125, most notably reflecting its tech trade deficit and the deficit in the other sectors mainly due to higher gold prices.

The respective roles of EM Asian economies in the AI supply chain

Economy	Main role in the AI supply chain	Typical products and activities	Involvement
China	Broad-based manufacturing, AI hardware, data-centre equipment and downstream applications	AI servers, chips and components, networking equipment, electronics assembly, data centres, electric vehicles, industrial robots and AI software	High
Hong Kong	Trading, financing and logistics hub	Re-exports of electronics and semiconductors, technology financing, logistics and business services; limited manufacturing	Medium-low
India	Software, IT services, chip design and data-centre development	AI software, cloud and IT services, chip design, engineering services, data labelling, system integration and electronics assembly	Low
Indonesia	Raw materials, batteries and a growing digital market	Nickel and other minerals, battery materials, data centres, cloud services and limited electronics assembly	Low
South Korea	Memory semiconductors and advanced electronics	DRAM, NAND and high-bandwidth memory chips, logic chips, displays, smartphones, AI servers and semiconductor equipment	High
Malaysia	Semiconductor assembly, packaging, testing and data-centre operations	Chip assembly and testing, advanced packaging, semiconductor equipment, printed circuit boards, servers, networking equipment and data centres	Medium-high
Philippines	Semiconductor assembly, testing and electronics manufacturing	Semiconductor assembly and testing, electronic components, printed circuit boards, and IT and business-process services	Medium-low
Singapore	Semiconductor manufacturing, equipment, logistics and regional data centres	Wafer fabrication, semiconductor equipment, advanced packaging, chip testing, data centres, cloud infrastructure and regional headquarters	Medium-high
Taiwan	Leading-edge chip manufacturing and advanced semiconductor services	Foundry manufacturing, advanced logic chips, AI accelerators, chip design, advanced packaging, testing and semiconductor equipment	High
Thailand	Electronics manufacturing and an emerging data-centre sector	Hard-disk drives, printed circuit boards, electronics assembly, power supplies, servers, automotive electronics and data centres	Medium-low
Vietnam	Electronics assembly and manufacturing	Smartphones, computers, consumer electronics, printed circuit boards, semiconductor assembly and testing, and electronics supply-chain services	Medium-low

Source: Crédit Agricole CIB

EM Asia benefited from the super AI cycle

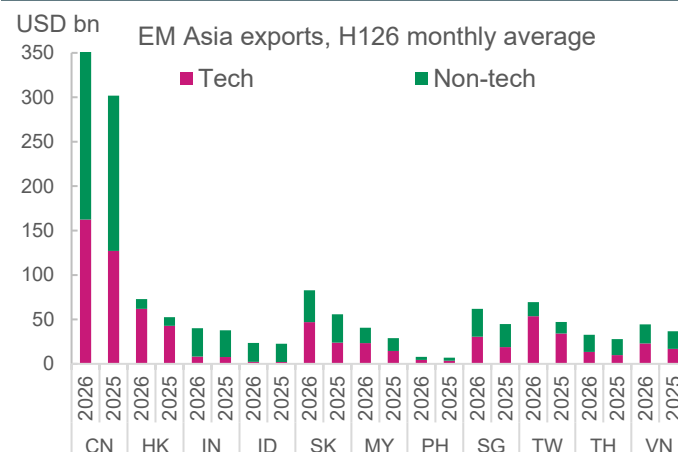
The super AI cycle started with the first launch of ChatGPT in late 2022. Since then, global hyperscalers and cloud service providers have continued to increase capex on AI data centres. As part of the global supply chain supporting this cycle, EM Asia's tech exports grew by 42.6% YoY in H126. This drove tech's share in EM Asia's total exports higher to 51.8% in H126 from 45.5% in H125. Within EM Asia economies, China, Korea, Taiwan, Malaysia and Singapore have especially benefited from surging demand for tech hardware and data-centre equipment.

EM Asia's export growth is led by tech



Source: CEIC, Bloomberg, Crédit Agricole CIB, tech exports= HS code 84 and 85 or relevant local data

EM Asia export values by tech and non-tech

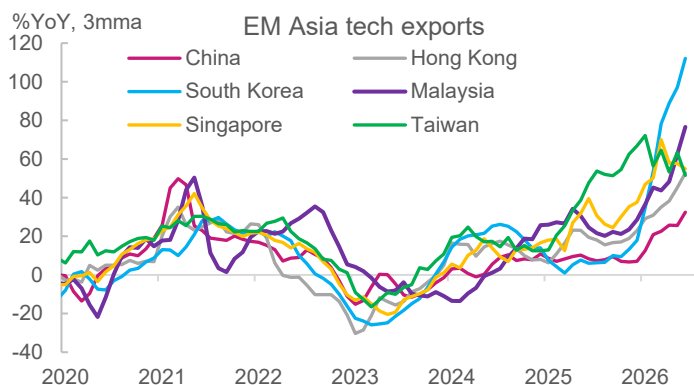


Source: CEIC, Bloomberg, Crédit Agricole CIB, tech exports= HS code 84 and 85 or relevant local data

Korea and Taiwan recorded particularly strong growth in tech exports, at 96.4% and 57.4% YoY, respectively, in H126. Both economies are major exporters of advanced semiconductors. Their export performance was boosted by rising semiconductor prices, driven by strong global demand as global hyperscalers' demand for chips surged with their AI data centre construction. Strong export growth is not only driven by increasing production volume but also by higher prices. For example, Korea's semiconductor export prices rose by 182% YoY and computer memory storage export prices rose by 502% YoY in August. Such upward pressure may persist, particularly after TSMC announced that it would raise prices for both advanced and mature-node chip manufacturing services by up to 10% from January 2027.

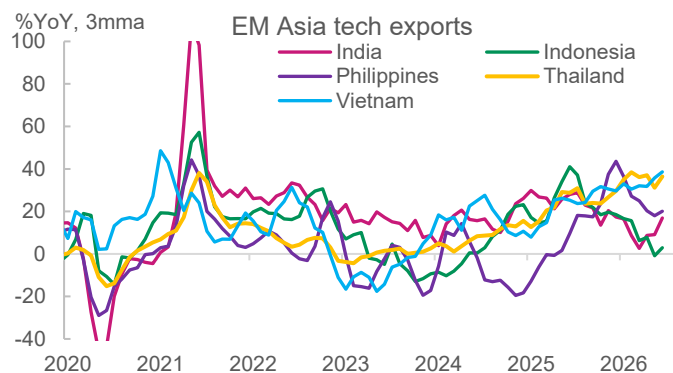
China's tech export growth accelerated to 27.7% YoY in H126, compared with 8.3% in H125. China's exports of integrated circuit (IC) and automatic data processing (ADP) machines rose substantially by 95.9% and 41.3% respectively in H126 and they jointly contributed more than half of China's total export growth. Malaysia and Singapore also recorded strong tech export growth of 60.8% and 61.7% YoY, respectively, supported by advanced chip packaging and data-centre operations.

Tech export growth is accelerating



Source: CEIC, Bloomberg, Crédit Agricole CIB

India and Indonesia showed slower tech export growth

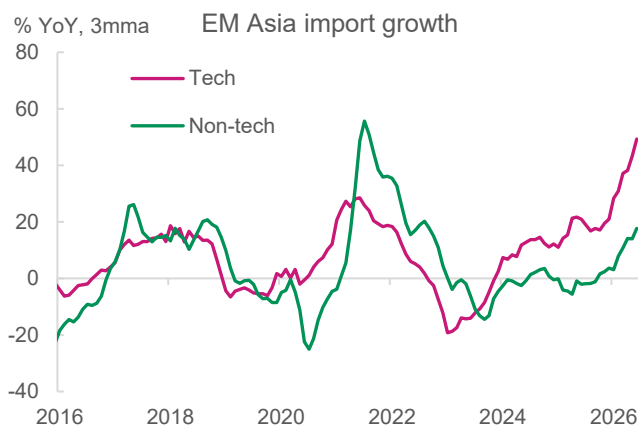


Source: CEIC, Bloomberg, Crédit Agricole CIB

Tech imports: closely linked in supply chain

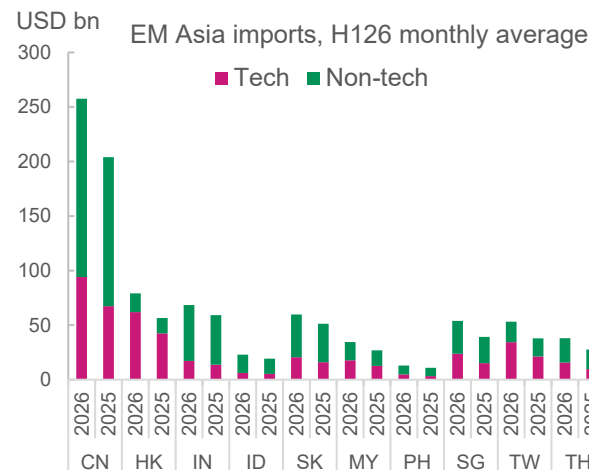
On the import side, EM Asia's tech imports grew by 43.6% YoY in H126, at a similar pace to export growth. EM Asia economies' tech import growth is high given the close linkage of the tech supply chain within EM Asia. Moreover, many of these economies are importing tech machinery to expand their production capacity to meet with surging global AI infrastructure demand.

EM Asia's import growth is led by tech as well



Source: CEIC, Bloomberg, Crédit Agricole CIB, tech exports= HS code 84 and 85 or relevant local data

EM Asia import values by tech and non-tech

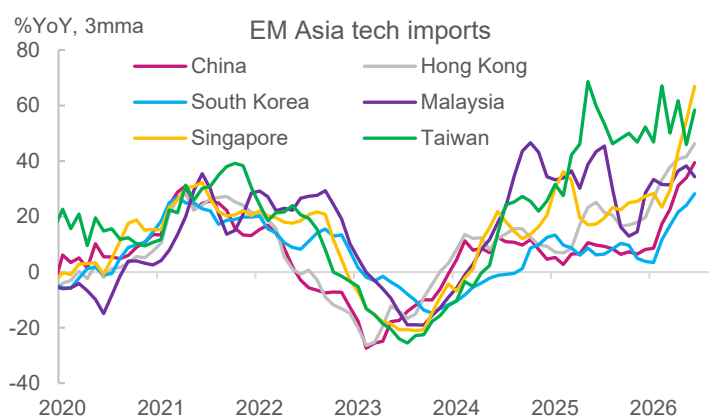


Source: CEIC, Bloomberg, Crédit Agricole CIB, tech exports= HS code 84 and 85 or relevant local data

Tech-related import growth in Taiwan (61.3% YoY), Thailand (60.7%), Singapore (56.5%), the Philippines (49.5%), Vietnam (47.9%), Malaysia (40.7%), China (39.6%) and Korea (27.9%) recorded notable YoY growth in H126.

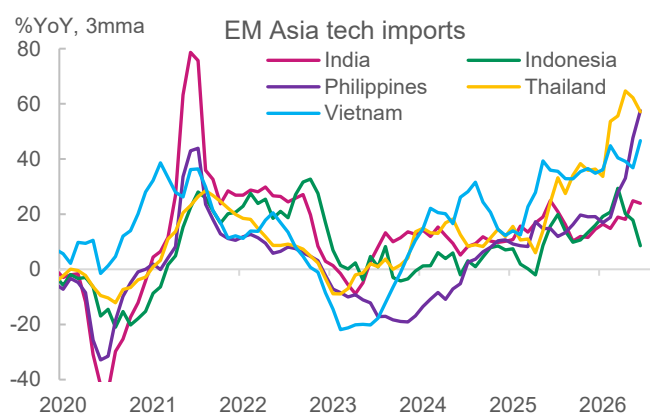
Looking at the semiconductor manufacturing process for example, Korea, Taiwan and China are key locations for wafer fabrication. Then, wafer testing and cutting are done not only in these economies but also outsourced to Malaysia, Vietnam and the Philippines. Then, the packaging process is done mainly in Taiwan, Korea and Malaysia for advanced chips and in broader EM Asian economies including Malaysia, Singapore, Vietnam, the Philippines and Thailand for mature chips. Thus, economies participating more in the back-end process tend to record rapid tech import growth as they face higher import costs amid higher chip prices. Considering the still strong chip demand globally, we expect tech import growth to remain elevated.

Tech import growth is rapid but remains softer than exports



Source: CEIC, Bloomberg, Crédit Agricole CIB

Slow tech import growth in India and Indonesia



Source: CEIC, Bloomberg, Crédit Agricole CIB

Diverging outlook across EM Asia economies

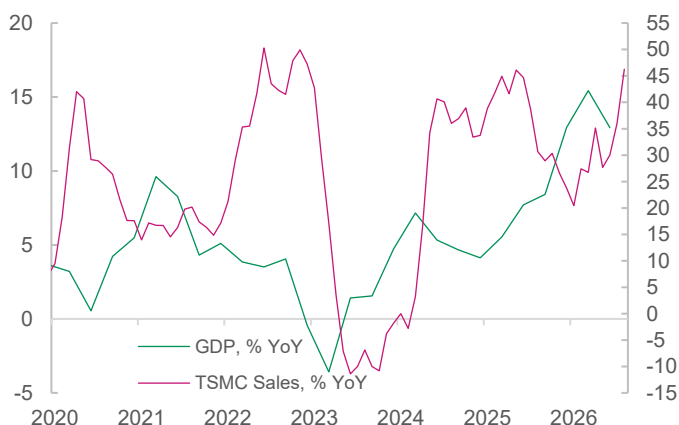
Although most EM Asian economies, except for India and Indonesia, benefit from the tech trade, the outlook is likely to diverge across economies.

Maintaining the technology edge and expanding capacity

Economies with leading-edge semiconductor capabilities, particularly Taiwan and Korea, are likely to maintain their competitive advantages. Their existing fabrication facilities are operating at high capacity, while strong and rising demand for advanced chips is encouraging further investment. Since high-end chips generally generate relatively high profit margins, continued capacity expansion and technological upgrading should support economic momentum.

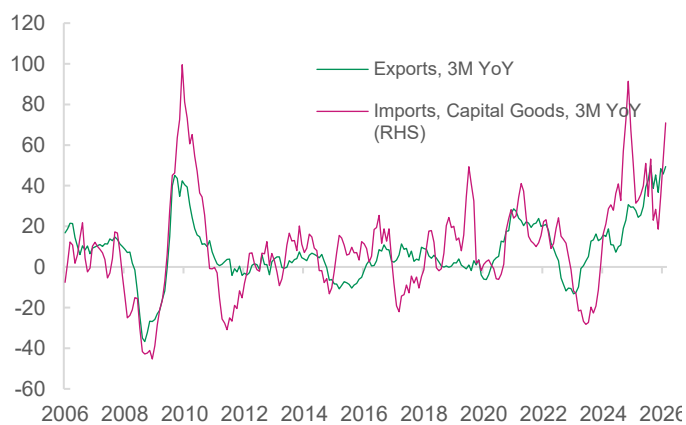
In Taiwan, TSMC's capital expenditure is expected to reach USD60-64bn in 2026, representing a 48-56% increase from USD41bn in 2025. The company is expanding multiple phases of its 2-nm fabrication facilities and developing a broader semiconductor manufacturing complex. Memory semiconductor manufacturer Micron is also expanding its production of DRAM products, including more high-end chips such as HBM.

TSMC sales can be a forward indicator for growth



Source: CEIC, Crédit Agricole CIB

Capex driving capital imports, supporting future exports



Source: CEIC, Crédit Agricole CIB

In Korea, Samsung Electronics and SK Hynix are likewise planning to increase capital expenditure. Samsung aims to bring its Pyeongtaek Plant 4 fully into operation this year, which could raise its overall DRAM production by approximately 18%, while construction of additional facilities is being accelerated. SK Hynix is aiming to begin operations at its Y1 factory in early 2027, and its Phase

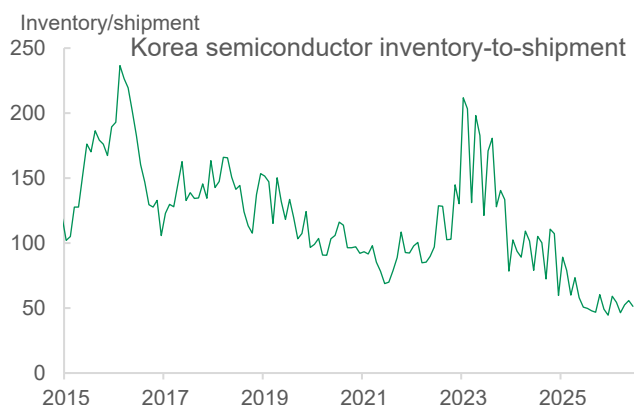
2 factory in mid-2029 in the Yongin semiconductor cluster to increase DRAM and HBM production. These investments should expand Korea's advanced-memory capacity and strengthen its position in the global AI semiconductor supply chain.

Semiconductor is the biggest part of Korea exports



Source: CEIC, Bloomberg, Crédit Agricole CIB

Semiconductor inventory is low compared to shipment



Source: CEIC, Bloomberg, Crédit Agricole CIB

Upgrading technology and attracting investments

Other economies, such as China, Malaysia and Singapore, currently have stronger positions in mature-node chip manufacturing or semiconductor packaging and assembly. While profit margins in these segments are generally lower, strong demand for chips and limited supply of high-end chips have been pushing these chip prices higher as well.

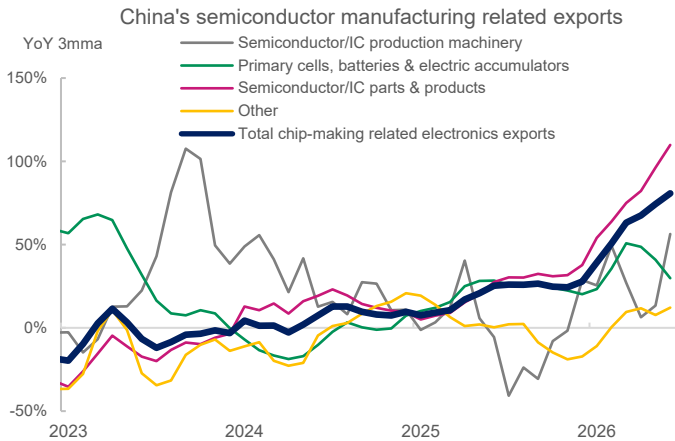
As a result, these economies are seeking to move up the technology value chain while increasing manufacturing capacity. In China, CXMT and YMTC are speeding up their capex investment and Huawei reported progress in May towards advanced chip production without access to extreme ultraviolet lithography equipment, which remains subject to strict US export controls. Malaysia is transitioning from traditional packaging towards higher-value advanced-packaging capabilities. Its National Semiconductor Strategy targets a 7% share of the global advanced-packaging market by 2035. The country is also seeking to attract investment from companies such as Intel and Micron to expand domestic packaging capacity. In Singapore, Micron announced its USD24bn investment plan in early 2026 to build an advanced wafer fabrication facility, aiming for wafer production to begin in H228 and Micron is investing USD7bn to build Singapore's first HBM advanced packaging facilities, targeting commencement of operations in 2026.

Limited positive spillover but potential for upgrades

For economies, such as the Philippines, Thailand and Vietnam, that have not yet developed competitive semiconductor capabilities, the positive impact of tech trade on growth could be limited. These economies may need to import expensive near-finished semiconductor inputs for back-end manufacturing including assembly, packaging and testing, while facing intense competition constraining their export prices. Their value added to the product and profit margins may remain limited.

But we note that there could be some development for Vietnam. Vietnam has been a manufacturing and assembly hub for Samsung Electronics' mobile phones, display, and consumer electronics, which means more semiconductor imports to Vietnam. However, in April Samsung Electronics announced it would invest USD4bn in Vietnam for a new chip factory for chip packaging and testing, suggesting more involvement in the tech supply chain. In the near term, this may weigh on tech-trade balance due to increased chip-making machinery imports but would support tech exports going forward.

China's semiconductor manufacturing related exports



Source: CEIC, Crédit Agricole CIB

China's semiconductor manufacturing exports



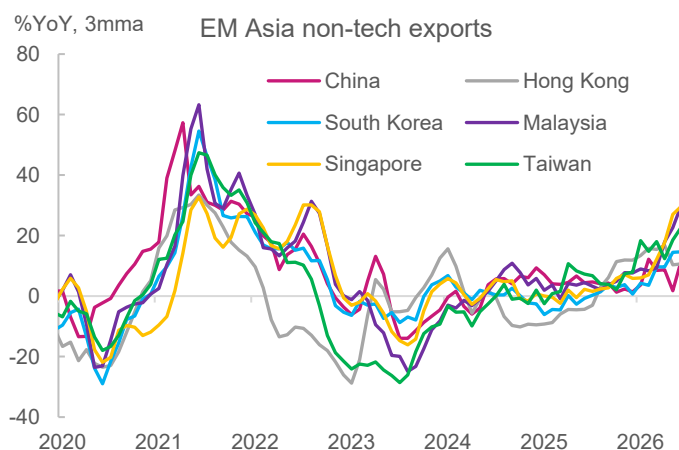
Source: CEIC, Crédit Agricole CIB

Resilient non-tech trade with regional surges

Though not as strong as tech trade growth, EM Asia's non-tech exports and imports also grew notably. The non-tech exports of EM Asia have been growing modestly by 10.8% YoY in H126. Singapore and Malaysia showed a notable uptick. Singapore's non-tech exports grew at 20.9% YoY in H126, primarily driven by mineral fuels, which surged by 25.2% YoY in H126 to account for roughly 15.0% of total exports. Malaysia followed a similar trajectory with its non-tech exports increasing by 19.5% YoY in H126; as one of the top five global exporters of liquefied natural gas (LNG), it benefited from rising global demand, with its mineral fuel exports surging 29.7% YoY in H126 to comprise c.12.4% of total exports.

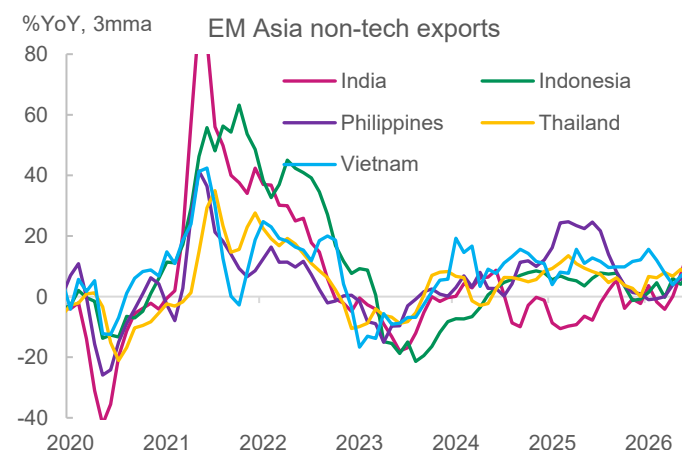
Meanwhile, China's non-tech exports grew by 9.9% YoY in H126, led by rapid demand expansion for green products amid the energy shock. For instance, auto exports rose 53.9% YoY in H126. South Korea also recorded solid non-tech export growth of 12.2% YoY in H126, with petroleum product and ship exports expanding. In contrast, other economies, such as the Philippines, Indonesia, and India, recorded low single-digit growth in H126.

Non-tech exports rising in Singapore and Indonesia



Source: CEIC, Bloomberg, Crédit Agricole CIB

Non-tech export momentum broadly stable



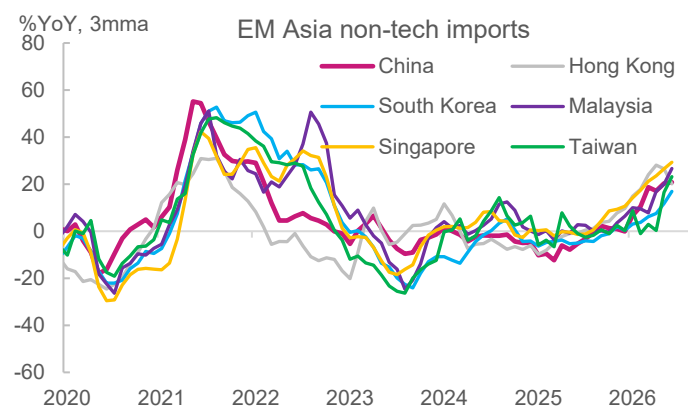
Source: CEIC, Bloomberg, Crédit Agricole CIB

Non-tech imports: energy and gold

EM Asia's non-tech imports rose more rapidly by 17.9% YoY in H126 compared to non-tech export growth of 10.8%. Most of EM Asian economies are net energy importers, exposed to higher global energy inflation. Thus, import growth was

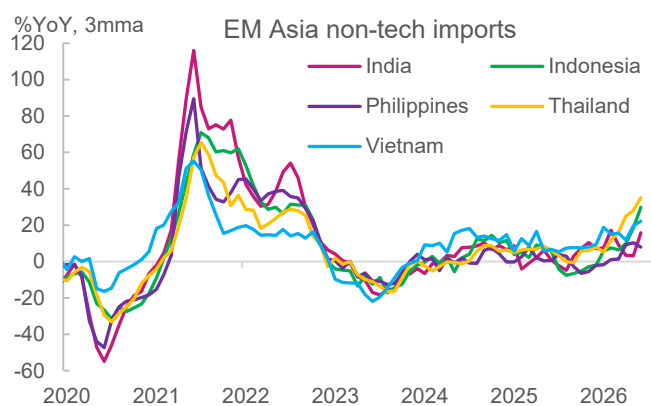
broad across EM Asia, with non-tech imports in Thailand, Singapore, Hong Kong, China, Indonesia and Vietnam growing by around 18% YoY to 26% YoY in H126.

Non-tech import growth broadly across EM Asia...



Source: CEIC, Bloomberg, Crédit Agricole CIB

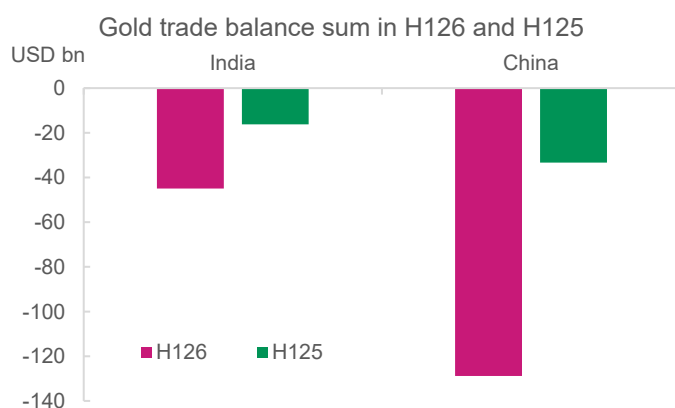
Particularly for Thailand and Indonesia



Source: CEIC, Bloomberg, Crédit Agricole CIB

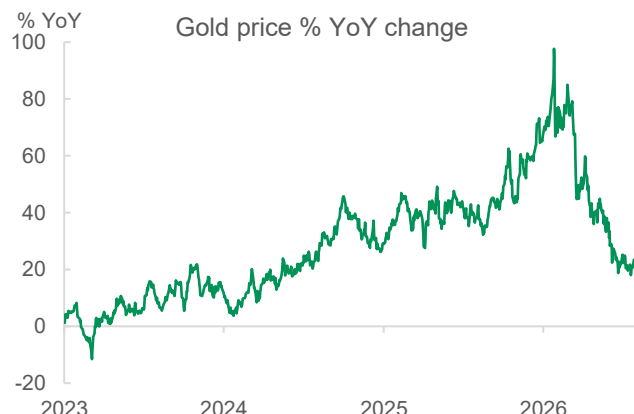
Besides energy, gold imports were another driver of non-tech import growth. Average gold prices rose by more than 50% in H126, pushing up the gold import value. Especially, gold imports of China and India, which are the global gold buyers, surged rapidly.

China and India suffered from high gold import price



Source: CEIC, Bloomberg, Crédit Agricole CIB

Higher gold prices weighing on gold importers



Source: CEIC, Bloomberg, Crédit Agricole CIB

Non-tech trade balance: diverging energy balance

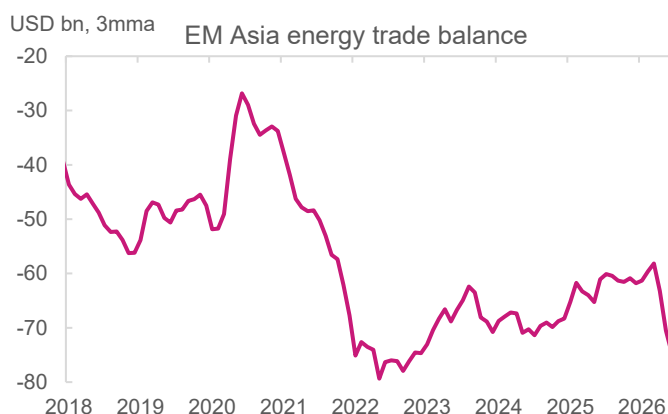
In H126, both energy exports and imports surged with higher energy prices and led EM Asia's energy trade deficit to widen compared to H125. But the impact differed by economy as some economies could ramp up refined energy product exports.

Malaysia, the fifth largest global liquefied natural gas (LNG) exporter, benefited from higher LNG prices, improving its energy trade balance surplus by USD0.3bn in H126 compared to H125. Meanwhile, energy trade deficits in Korea, China, and Singapore improved by USD0.5bn, USD0.4bn, and USD0.1bn respectively in H126 compared to H125. As major oil refiners, these economies passed higher energy import costs through to export prices.

On the other hand, energy deficits widened in Thailand (-USD1.3bn), Indonesia (-USD1.1bn), Taiwan (-USD0.6bn), Vietnam (-USD0.4bn), Hong Kong (USD-0.3bn), and India (-USD0.2bn). These economies mainly rely on energy imports while their energy exports are limited, especially for Thailand. Indonesia, one of the largest coal exporters, had an energy trade surplus in H125 but had a deficit in H126 due to higher crude oil import prices. Though Vietnam produces and exports some crude oil, its energy trade deficit worsened, as it is still a net energy importer. India's energy export increased as it is one of the major oil refining economies, but its

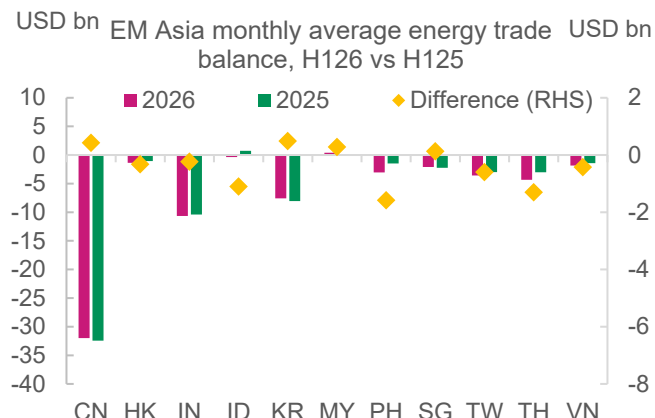
energy trade deficit widened with relatively big energy import value compared to exports as well as a greater focus on meeting domestic demand amid growing energy imports.

EM Asia's energy trade deficit widened in 2026



Source: CEIC, Bloomberg, Crédit Agricole CIB, Based on HS code 27

China, Korea and Malaysia energy balance improved



Source: CEIC, Bloomberg, Crédit Agricole CIB, Based on HS code 27

Implications on FX markets: divergence

The trade dynamics outlined in this report have clear FX implications that mirror the divergence seen across EM Asian trade balances. The TWD and KRW stand out as the most supported currencies, with both benefiting from structurally stronger external balances driven by surging semiconductor exports – a tailwind that looks set to persist given continued global AI investment and planned capacity expansions by TSMC, Samsung and SK Hynix.

The MYR and SGD also look relatively well-supported, as both economies benefit from a dual tailwind of AI cycle participation and improved energy trade balances through refining and LNG exports. The CNY remains supported by its elevated trade surpluses, with tech and green exports cushioning a terms-of-trade shock brought by higher energy and gold inflation. We expect modest gains in the CNY, with PBoC guidance of gradual appreciation.

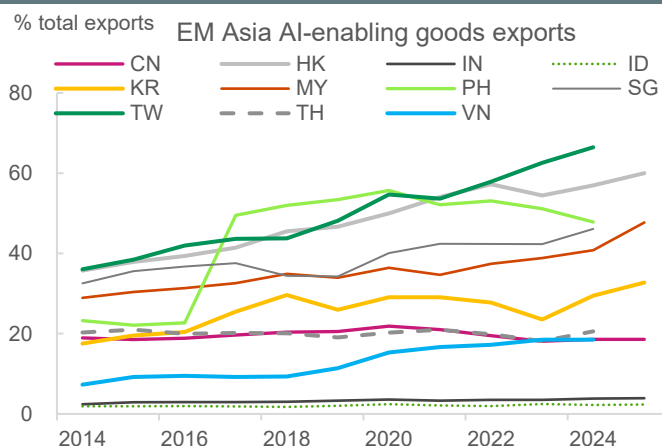
On the other side of the ledger, the PHP, THB and VND face headwinds from deteriorating trade balances, as expensive tech imports for low-margin assembly work combined with wider energy deficits weigh on their external positions. The IDR and INR are also exposed, having largely missed out on the AI cycle while remaining vulnerable to elevated energy prices as net importers – with India further burdened by surging gold imports. With energy prices unlikely to ease in the near term given the ongoing Iran war, the divergence in FX performance across EM Asia looks set to persist, broadly favouring the tech exporters at the expense of energy-dependent, AI-peripheral economies.

Appendix

Methodology for categorisations

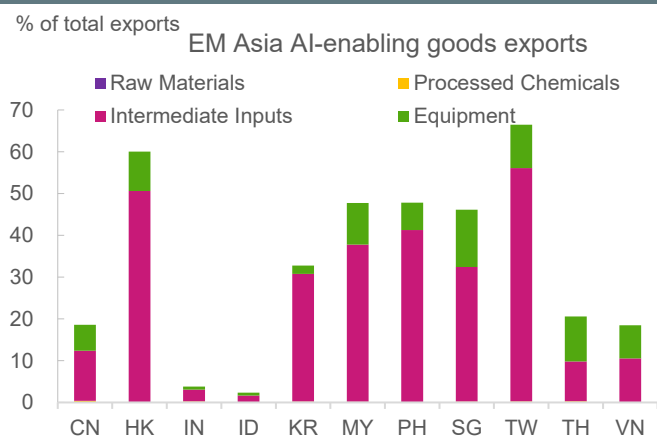
According to the WTO, AI-enabling products can be categorised into 100 or more products based on a specific 6-digit HS code, which is a globally standardised numerical classification for traded products. These products range from raw materials to semiconductors and high-performance computing equipment, used to train data and cloud services.

Many EM Asian economies export AI-enabling goods



Source: UN Comtrade, WTO, Crédit Agricole CIB

Mostly intermediate inputs and equipment



Source: UN Comtrade, WTO, Crédit Agricole CIB

Many EM Asian economies export numerous AI-enabling goods. For example, AI-enabling goods exports account for more than 60% of Taiwan and Hong Kong's total exports, and more than 40% in Malaysia, Singapore and the Philippines, and more than 30% for Korea.

In order to examine the latest export trends, we further looked into the monthly export data with more simplified and broader export categories from each economy's data sources, as the UN Comtrade data was detailed but had a time lag, with some data only available up to 2024 or 2025. Instead of analysing 6-digit HS codes, we used the most commonly released and broader HS 2-digit codes. AI-enabling goods exports were mostly intermediate inputs and equipment.

For most EM Asian economies, more than 90% of AI-enabling goods exports fell into HS 2-digit codes 84 and 85, and approximately 87% and 77% for Indonesia and India, respectively. HS84 code covers mechanical machinery, which includes non-electrical or mechanical engines, pumps, and industrial machines, including computers. HS85 covers electric equipment, including semiconductors, phones, batteries and wires.

As such we can infer AI-enabling goods exports using HS 84 and 85 codes. AI-enabling goods exports account for approximately 70-88% of exports under HS84 and HS85, except for China (41%), Indonesia (21%) and India (20%). Based on the latest monthly data, the strength of the recent EM Asia export growth is mainly driven by HS84 and 85 exports, which we have labelled as tech exports. For a few economies with their own export item categories, similar categories are used.

AI-enabling goods mostly classified into HS 84 and 85

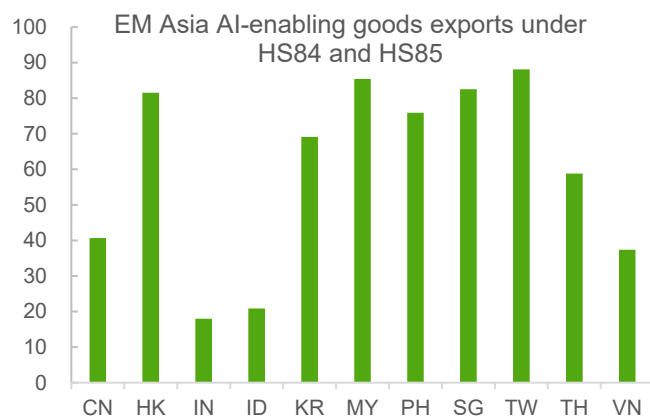
% total AI-enabling goods exports



Source: UN Comtrade, WTO, Crédit Agricole CIB

Many of HS 84 and 85 exports are AI-enabling goods

% total HS84 and HS85 exports



Source: UN Comtrade, WTO, Crédit Agricole CIB

EM Asia chip production supply chain by major companies

Phase 1: Front-End of Line (FEOL) & Back-End of Line (BEOL)

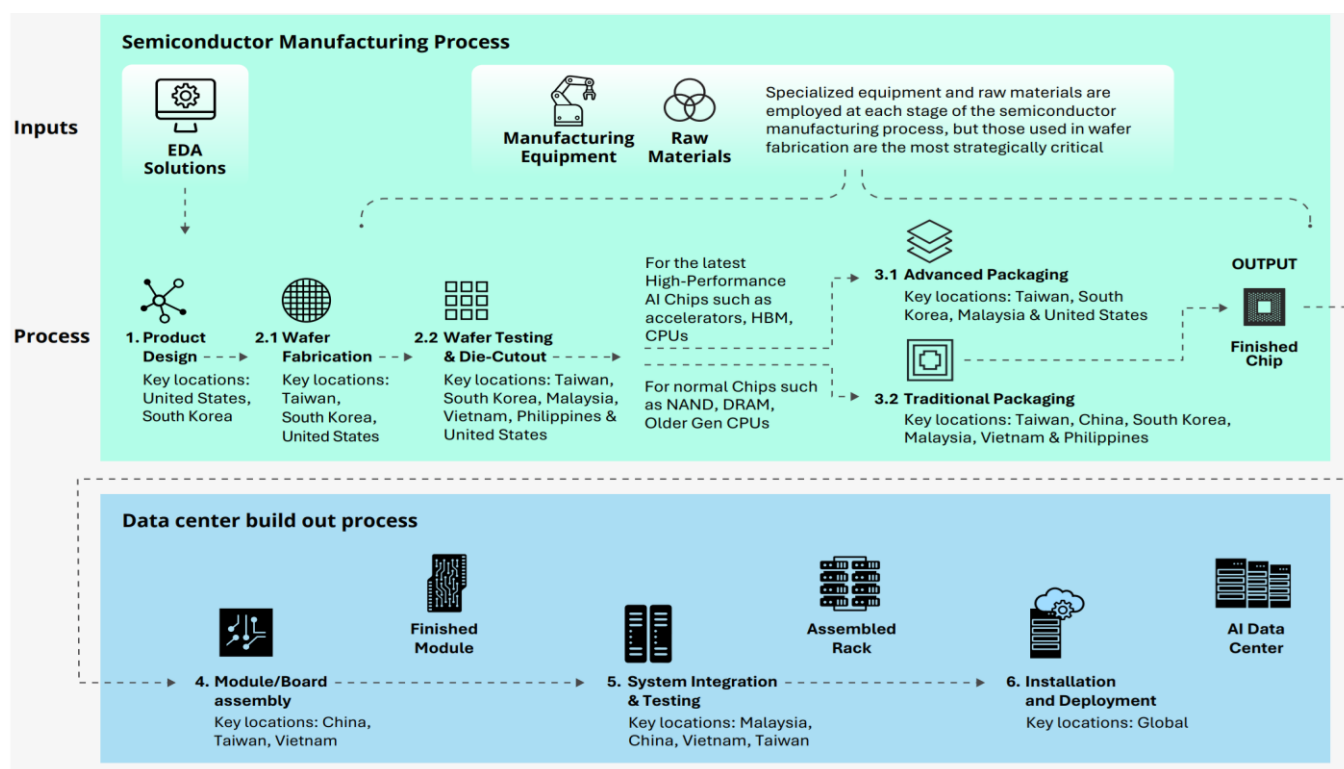
Phase 2: Back-end Manufacturing (OSAT)

	DRAM	HBM	NAND	SSD	GPU	CPU /AP	ASIC	Assembly, packaging, test
China	CXMT; SK Hynix; JHICC	—	YMTC; Samsung Electronics; SK Hynix	Samsung Electronics; SK Hynix / Solidigm; YMTC	SMIC; Hua Hong; (Samsung electronics deleted)	SMIC; Hua Hong; TSMC	SMIC; Hua Hong; (Samsung Electronics-Broadcom removed); TSMC China; Nexchip Semiconductor	Samsung Electronics; JCET; Tongfu Microelectronics; Huatian Technology; TFME; ASE; Amkor Technology; UTAC; Unisem; Carsem; Hana Microelectronics; Texas Instruments
Hong Kong	—	—	—	—	—	—	—	—
India	—	—	—	—	—	—	Tata Electronics (under development/ramping)	Micron (operational/ramping); Tata Electronics (under development/ramping); CG Power (under development/ramping); Kaynes Semicon (under development/ramping)
Indonesia	—	—	—	—	—	—	—	Infineon Technologies; UTAC
South Korea	Samsung Electronics; SK Hynix	Samsung Electronics; SK Hynix	Samsung Electronics; SK Hynix	Samsung Electronics; SK Hynix / Solidigm	Samsung Foundry	Samsung Foundry	Samsung Foundry; SK Hynix	Samsung Electronics; SK Hynix; Amkor Technology; ASE; JCET; Hana Micron; SFA Semicon; NEPES; LB Semicon
Malaysia	—	—	—	Micron; Western Digital / SanDisk	—	—	—	Intel; TF-AMD; ASE; Amkor; TFME; UTAC; Chipbond; Unisem; Carsem; NXP; Inari Amertron; Globetronics; Infineon; Texas Instruments
Philippines	—	—	—	—	—	—	—	Amkor Technology; SFA Semicon; Texas Instruments; Analog Devices; NXP;

								Onsemi(Greatek Electronics); Microchip ; STMicroelectronics
Singapore	—	—	Micron	—	—	—	GlobalFoundries ; UMC ; STMicroelectronics (W/B)	Micron (HBM advanced packaging only); JCET ; UTAC ; KYEC ; Silicon Box ; ASE ; Infineon
Taiwan	Micron Taiwan ; Nanya Technology ; Winbond ; PSMC ; TSMC	Micron ; Nanya	—	—	TSMC	TSMC	TSMC (Broadcom, Google and others); UMC	ASE ; SPIL ; Powertech Technology / PTI ; KYEC ; ChipMOS ; Chipbond ; TSMC ; Micron
Thailand	—	—	—	—	—	—	—	UTAC ; Hana Microelectronics ; Stars Microelectronics ; Analog Devices ; Infineon ; (ADI removed); Western Digital; Seagate technology; Microchip Technology; NXP Semiconductors; onsemi
Vietnam	—	—	—	—	—	—	Viettel Group	Intel Products Vietnam ; Amkor Technology Vietnam ; Hana Micron Vietnam ; Carsem ; Samsung electronics; Intel; Phison & Kingston Contract Assembly; FPT Corporation

Source: IMF, Crédit Agricole CIB

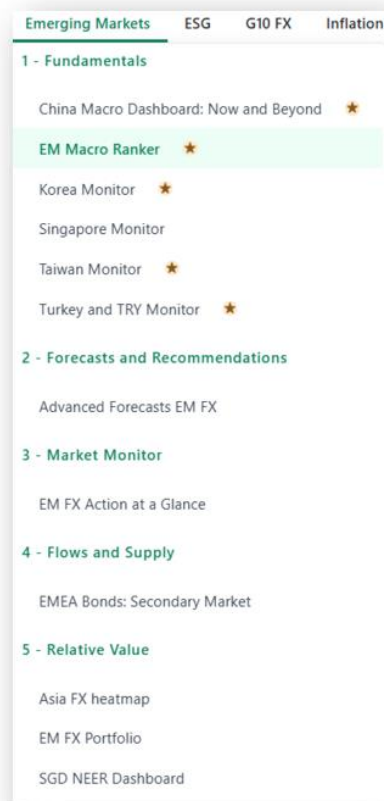
From semiconductor manufacturing into the data centre build out process



Source: SIA

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