APAC Economic Perspectives

ASEAN: Will policymakers pull fiscal levers next?

Economics

Asia

Grace Lim
Economist
grace-k.lim@ubs.com
+65-6495 5965

Claire Long
Economist
claire.long@ubs.com
+65 6495 7426

Rohit Arora
Strategist
rohit-b.arora@ubs.com
+65-6495 5232

Teck Quan Koh
Strategist
teck-quan.koh@ubs.com
+65-6495 4416

Permada Darmono
Analyst
permada.darmono@ubs.com
+65-6495 3137

ASEAN's fiscal trajectory: more sense than sensibility thus far

In recent years, most ASEAN governments have pursued more fiscal 'sense' than 'sensibility', i.e. they have chosen restraint and gradual reform over excessive populism. In 2024, government debt-to-GDP ratios were mostly stable (except for Thailand and Philippines to a smaller extent), and remain lower than the global average. Primary deficits have also mostly narrowed to below debt-stabilizing thresholds. The average fiscal impulse has been negative over 2021-24, at about -0.8% of GDP in the post-pandemic years, ranging from -0.9% in Indonesia/Thailand/Singapore, followed by Philippines (-0.6%) and Malaysia (-0.5%).

Fiscal budget plans signal limited growth boost

We think that the fiscal impulse in 2025 is likely to be contractionary in Malaysia, neutral for Indonesia/Philippines, and slightly expansionary in Thailand/Singapore. Budget plans for 2025 show that many governments are targeting social spending and lower income groups this year (especially in Thailand, Indonesia and Malaysia). No major acceleration is planned for public infrastructure spending. We think Thailand's stimulus plans are likely to be front-loaded in FY25. We don't see a major risk of fiscal slippage at this juncture, with VAT hikes likely at some point. In Indonesia's case, the cancellation of the VAT hike poses downside risks to revenues. However, we believe that the government will likely manage spending carefully to keep to its 2.5% deficit plan. Philippines has been able to steadily put in place a series of tax measures to shore up revenues, but its fiscal room will be increasingly limited by higher interest burdens. Its recently approved budget breaks a consecutive three-year trend of gradual fiscal consolidation. Meanwhile, Singapore's stronger-than-expected growth and revenues in 2024 opens up the possibility of an expansionary budget. That said, its fiscal impulse over 2024-25 is likely to be neutral.

Why not? The "sense" of fiscal policy probably takes precedence for now

Governments face several fiscal challenges and detractions, and fiscal room is not that ample. First, structural expenditure drags have increased, partly due to increasing subsidy bills and interest burdens. Second, revenue mobilisation remains limited. Third, debt-to-GDP levels have risen much faster in Thailand and Philippines (>20% of GDP), albeit from a low base, with weak nominal GDP growth a significant challenge for the former. Fourth, debt financing conditions could be increasingly challenged by higher for longer rates, currency pressures, and slower growth. Demand for government debt is increasingly domestic, largely reflecting less attractive yield differentials. That also means that government bonds are a smaller recurring source of foreign exchange, and basic balance trends are not as supportive of FX as before. Indonesia and Philippines could still be more constrained by market discipline considerations, in our view.

Should fiscal policy break barriers and go for growth?

Fiscal policy serves multiple purposes: redistribution, public goods provision, business cycle management, capacity building. It is also a political economy tool. As asset prices take into account expectations of fiscal solvency over the long term, maintaining credibility is crucial. The effect of fiscal policy would be diluted in the absence of a coherent fiscal plan. Market discipline aside, this also reflects Ricardian equivalence, i.e. firms and households adjust their behaviours without being convinced of a future growth dividend. Still, we don't think governments should always stick to the straight and narrow. In times of deflation, recession, and if policies are truly growth-enhancing, a judicious fiscal expansion could kick-start growth momentum and increase long-run debt-carrying capacity. Absent a crisis, when growth is weak relative to other exceptional economies and global financial conditions are not conducive, past patterns and current signals suggest governments would rather err on the side of fiscal prudence.

We structure this note along the lines of five key questions.

[1. How expansionary or contractionary is fiscal policy in 2025?](#)

[2. Where do deficits most need to narrow further in the medium term?](#)

[3. Fiscal reform is needed. How will this play out differently in the region?](#)

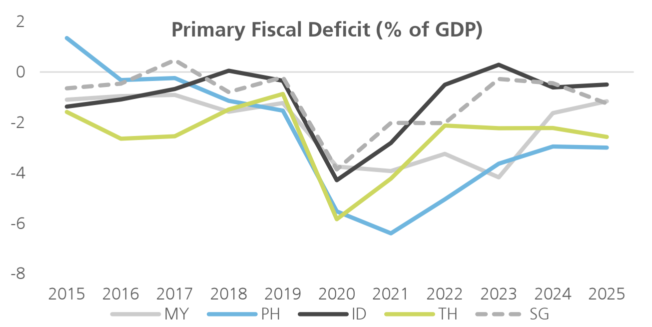
[4. Why did debt to GDP rise faster in ASEAN?](#)

[5. Where and how might market discipline come in to constrain fiscal choices?](#)

1. How expansionary or contractionary is fiscal policy in 2025?

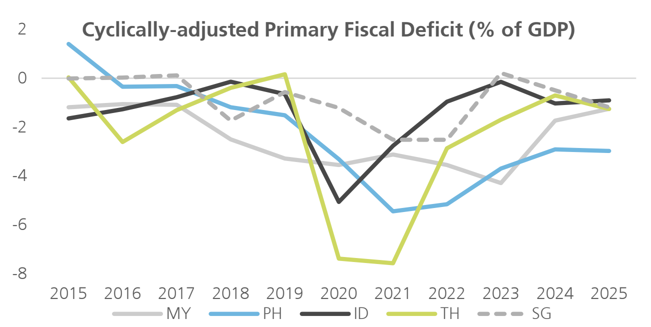
A simple indicator of the current fiscal stance of a government is the primary fiscal deficit, which excludes interest payments from expenditure. Cyclically adjusted primary balances can also be used, as this adjusts for the impact on revenues and expenditure when an economy is operating at a negative/positive output gap.

Figure 1: Primary balance trends in ASEAN-5



Source: UBS estimates. For 2025 estimates, we use budget plans (except for Singapore, which are UBS expectations)

Figure 2: Cyclically adjusted primary balance trends

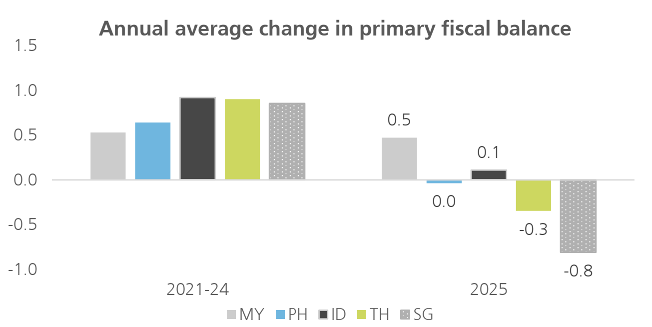


Source: UBS estimates. For 2025 estimates, we use budget plans (except for Singapore, which are UBS expectations).

The change in primary balance is a measure of the fiscal impulse, or how much fiscal policy is adding to or subtracting from growth in that year. Indonesia, Thailand and Singapore had narrowed their deficits at a relatively faster pace up until 2023, whereas Malaysia's fiscal consolidation accelerated in 2024. Philippines' fiscal consolidation had been steady and gradual through 2021-24. On average over 2021-24, the fiscal impulse has been negative, ranging from -0.9% in Indonesia/Thailand/Singapore, followed by Philippines (-0.6%) and Malaysia (-0.5%). We think the aggregate 2025 fiscal impulse is likely to be the most contractionary in Malaysia, neutral for Indonesia/Philippines, and modestly expansionary in Thailand/Singapore.

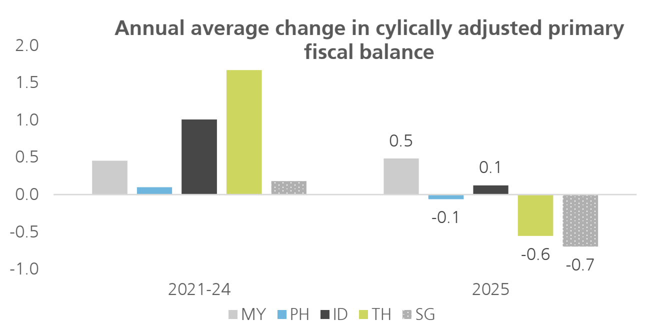
The 2025 fiscal impulse is likely to be the most contractionary in Malaysia, neutral for Indonesia/Philippines, and modestly expansionary in Thailand/Singapore.

Figure 3: Change in primary balance



Source: UBS estimates. A positive (negative) change in the primary balance indicates efforts towards fiscal consolidation (expansion) in that year.

Figure 4: Change in cyclically adjusted primary balance



Source: UBS estimates. A positive (negative) change in the primary balance indicates efforts towards fiscal consolidation (expansion) in that year.

Figure 5: Summary of fiscal policies in 2025

	Budget deficit '24	Budget deficit '25	Social support / fiscal reform	Infrastructure spending
Indonesia	2.3%	2.5%	• Free lunch program (Rp71tn, 0.3% of GDP) • Social assistance budget decreased to 0.6% of GDP in '25 from 0.7% in '24 • Teacher and civil servant wage hikes requiring additional budget of Rp38tn, 0.2% of GDP	• Infrastructure budget is reduced to 0.8% of GDP in '25 from 1.1% in '24
Malaysia	4.3%	3.8%	• Subsidy and social assistance allocation is scaled back to 2.5% of GDP in '25 from 3.2% in '24, reflecting the electricity subsidies rationalization and targeted fuel subsidy programs (in mid-2025; foreigners and top 15% of earners affected) • Monthly minimum wages increase to MYR1,700 from MYR1,500, effective from Feb 1, 2025 • Civil servants' wages increased by 8% in phase 1 starting Dec'24 and 7% in phase 2 starting Jan'26	• Development expenditure falls to 4.1% of GDP in '25 from 4.4% in '24 • No mega projects announced
Philippines	5.7%	5.8%	• Impose PHP100 excise tax on every kg of single-use plastics, expected to generate PHP31.5bn revenue over 2025-28 • Enhance fiscal regime for the mining industry, imposing a four-tier, margin-based royalty ranging from 1.5-5% on income from mining operations	• Infrastructure spending is stable at ~4.8% of GDP in '25 vs an estimated 4.9% in'24
Singapore	0.5% (surplus)	0.8% (deficit)	• We expect the govt to continue to give cash handouts, tax rebates, and productivity-enhancing subsidies in the election year	• Not available now. Fiscal year starting from March
Thailand	3.6%	4.4%	• Cash handout phase 1: the govt gave Bt10,000 cash to 14mn people in the lowest income group, totalling Bt140bn (0.7% of GDP) • Cash handout phase 2: starting on 27 Jan '25, the govt will give Bt10,000 cash to around 4 mn seniors totalling Bt40bn (0.2% of GDP) • Cash handout phase 3: starting in Q2'25, govt will give Bt14mn recipients Bt10,000 cash, totalling Bt140bn • Social protection spending falls to 2.1% of GDP in '25 from 2.3% in '24	• Capital expenditure jumps to 4.7% of GDP in '25 from 3.8% in '24

Source: MoF

With the exception of Thailand (and we think Singapore), most governments have planned fiscal deficits that are either stable or narrower than last year's. We have written about Malaysia (link) and Indonesia's 2025 budgets (link) previously. Malaysia's 2025 budget deficit is projected to narrow 0.5ppt to 3.8% of GDP. The government announced an explicit commitment to diesel and RON95 subsidy retargeting which could save RM15.5bn (0.8% of GDP) annually based on government estimates. The development expenditure will only focus on essential infrastructure with no mega projects announced. Meanwhile, the government will impose higher minimum wages and increase civil servants' wages and pensions to lift income level and support consumption. Indonesia's 2025 budget deficit target was set at 2.53% of GDP, well below the 3% deficit ceiling. The government expects the free meal program (Rp71tn or 0.3% of GDP) to have a small multiplier effect on growth and employment in 2025. As a trade-off, the social assistance budget was scaled back to 0.6% of GDP in 2025 (vs 0.7% in 2024), and the infrastructure budget was reduced to 0.8% of GDP in 2025 (vs 1.1% in 2024). The Philippines government on 30 December approved a P6.33tn budget that was >10% higher than the P6.18tn draft announced in early December. This likely implies a stalling of the fiscal consolidation that was in place since 2022 and a budget deficit of 5.8% of GDP, by our estimates. There were some cuts to the proposed education and health budget, and a larger budget allocated to the Department of Public Works, although the government had recently said that it would review some of the priority projects and proposed appropriations. Singapore's FY25 budget will be announced on 18 February. Given better-than-expected revenue trends, there could be S$8-9bn upside to FY24 revenues (implying a fiscal surplus) versus the S$108bn projected. That could go into a more expansionary budget in the last year of this term of government.

Most governments plan either a stable or narrower deficit for 2025, except for Thailand. Still, the general thrust of the budgets (for Malaysia, Thailand and Indonesia) is towards more progressive fiscal priorities.

2. Where do deficits most need to narrow further in the medium term?

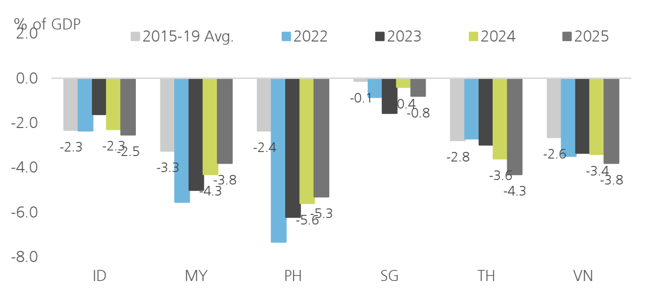
Based on announced government budget plans for 2024-25, ASEAN will run wider fiscal deficits compared to a five-year average over 2015-19. The biggest change is in Philippines, whereby the budget balance projected over 2024-25 of 5.8% of GDP is ~3ppt higher than the average 2.1% budget deficit in 2015-19. For Thailand, the fiscal deficit is expected to average 4% of GDP over 2024-25, around 1ppt higher than the 2015-19 average. Malaysia's budget deficit is expected to average 4% of GDP in 2024-25 vs. 3.3% of GDP in 2015-19, and Indonesia's budget deficit is expected to be about 0.2% of GDP wider at 2.5% of GDP in 2024-25, vs. 2.3% of GDP in 2015-19.

Despite having consolidated, fiscal deficits in 2024-25 are still running wider than the pre-COVID average in 2015-19.

The debt-stabilizing primary deficit for each of the economies is estimated to be between 1% and 2.6% of GDP. Assuming that the debt servicing cost remains broadly the same, then Thailand and Philippines may need to narrow the primary deficit further. This implies the high possibility of tax hikes and/or further expenditure consolidation in these economies. Medium-term fiscal frameworks in Malaysia, Thailand and Philippines have projected between 1% and 2% points of fiscal consolidation over the next five years.

Thailand and Philippines will likely still need to narrow the primary deficit further to keep debt to GDP trajectories unchanged, under current baseline assumptions.

Figure 6: Fiscal deficits for ASEAN-5



Source: Haver, UBS estimates

Figure 7: Fiscal deficit forecasts under Medium-Term Fiscal Framework

% of GDP	2024	2025	2025-27	2026-28
Malaysia	-4.3	-3.8	-3.5	
Thailand	-4.4	-4.5		-3.3
Philippines	-5.6	-5.2		-4.2

Source: Philippines Department of Budget and Management, Malaysia Ministry of Finance, Thailand Ministry of Finance

Figure 8: Indonesia - Estimates of debt-stabilizing primary deficit under various assumptions

		Nominal GDP growth								
		5.5%	6.0%	6.5%	7.0%	**7.5%**	8.0%	8.5%	9.0%	9.5%
Interest payment on govt debt (% of GDP)	1.6%	0.5%	0.7%	0.8%	1.0%	1.2%	1.4%	1.5%	1.7%	1.9%
	1.8%	0.4%	0.6%	0.8%	0.9%	1.1%	1.3%	1.5%	1.6%	1.8%
	2.0%	0.3%	0.5%	0.7%	0.9%	1.0%	1.2%	1.4%	1.6%	1.7%
	2.2%	0.3%	0.4%	0.6%	0.8%	1.0%	1.1%	1.3%	1.5%	1.7%
	2.4%	0.2%	0.4%	0.5%	0.7%	0.9%	1.1%	1.2%	1.4%	1.6%
	2.6%	0.1%	0.3%	0.5%	0.6%	0.8%	1.0%	1.2%	1.3%	1.5%
	2.8%	0.0%	0.2%	0.4%	0.6%	0.7%	0.9%	1.1%	1.3%	1.4%
	3.0%	-0.1%	0.1%	0.3%	0.5%	0.7%	0.9%	1.0%	1.2%	1.4%
	3.2%	-0.1%	0.1%	0.2%	0.4%	0.6%	0.8%	1.0%	1.1%	1.3%

Source: UBS calculations. The red number corresponds to the current nominal GDP growth forecasts for 2025-27, and the latest debt service costs as a % of GDP.

Figure 9: Malaysia - Estimates of debt-stabilizing primary deficit under various assumptions

		Nominal growth								
		4.5%	5.0%	5.5%	**6.0%**	6.5%	7.0%	7.5%	8.0%	8.5%
Interest payment on govt debt (% of GDP)	1.7%	1.7%	2.0%	2.3%	2.6%	2.9%	3.2%	3.5%	3.7%	4.0%
	1.9%	1.6%	1.9%	2.2%	2.5%	2.8%	3.1%	3.3%	3.6%	3.9%
	2.1%	1.5%	1.8%	2.1%	2.4%	2.6%	2.9%	3.2%	3.5%	3.8%
	2.3%	1.3%	1.6%	1.9%	2.2%	2.5%	2.8%	3.1%	3.4%	3.7%
	2.5%	1.2%	1.5%	1.8%	2.1%	2.4%	2.7%	3.0%	3.3%	3.5%
	2.7%	1.1%	1.4%	1.7%	2.0%	2.3%	2.6%	2.9%	3.1%	3.4%
	2.9%	1.0%	1.3%	1.6%	1.9%	2.2%	2.5%	2.7%	3.0%	3.3%
	3.1%	0.9%	1.2%	1.5%	1.8%	2.0%	2.3%	2.6%	2.9%	3.2%
	3.3%	0.7%	1.0%	1.3%	1.6%	1.9%	2.2%	2.5%	2.8%	3.1%

Source: UBS calculations. The red number corresponds to the current nominal GDP growth forecasts for 2025-27, and the latest debt service costs as a % of GDP.

Figure 10: Philippines - Estimates of debt-stabilizing primary deficit under various assumptions

		Nominal GDP growth								
		6.5%	7.0%	7.5%	8.0%	**8.5%**	9.0%	9.5%	10.0%	10.5%
Interest payment on govt debt (% of GDP)	1.8%	2.0%	2.3%	2.6%	2.8%	3.1%	3.4%	3.6%	3.9%	4.1%
	2.0%	1.9%	2.2%	2.5%	2.7%	3.0%	3.3%	3.5%	3.8%	4.0%
	2.2%	1.8%	2.1%	2.4%	2.6%	2.9%	3.1%	3.4%	3.7%	3.9%
	2.4%	1.7%	2.0%	2.2%	2.5%	2.8%	3.0%	3.3%	3.5%	3.8%
	2.6%	1.6%	1.9%	2.1%	2.4%	2.7%	2.9%	3.2%	3.4%	3.7%
	2.8%	1.5%	1.8%	2.0%	2.3%	2.6%	2.8%	3.1%	3.3%	3.6%
	3.0%	1.4%	1.6%	1.9%	2.2%	2.4%	2.7%	3.0%	3.2%	3.5%
	3.2%	1.3%	1.5%	1.8%	2.1%	2.3%	2.6%	2.9%	3.1%	3.4%
	3.4%	1.1%	1.4%	1.7%	2.0%	2.2%	2.5%	2.7%	3.0%	3.3%

Source: UBS calculations. The red number corresponds to the current nominal GDP growth forecasts for 2025-26, and the latest debt service costs as a % of GDP.

Figure 11: Thailand - Estimates of debt-stabilizing primary deficit under various assumptions

		Nominal growth								
		2.00%	2.50%	3.00%	3.50%	**4.00%**	4.50%	5.00%	5.50%	6.00%
Interest payment on govt debt (% of GDP)	0.20%	0.8%	1.0%	1.3%	1.5%	1.8%	2.0%	2.3%	2.5%	2.8%
	0.40%	0.6%	0.9%	1.2%	1.4%	1.7%	1.9%	2.2%	2.4%	2.7%
	0.60%	0.5%	0.8%	1.1%	1.3%	1.6%	1.8%	2.1%	2.3%	2.6%
	0.80%	0.4%	0.7%	1.0%	1.2%	1.5%	1.7%	2.0%	2.2%	2.4%
	1.00%	0.3%	0.6%	0.8%	1.1%	1.4%	1.6%	1.9%	2.1%	2.3%
	1.20%	0.2%	0.5%	0.7%	1.0%	1.3%	1.5%	1.8%	2.0%	2.2%
	1.40%	0.1%	0.4%	0.6%	0.9%	1.2%	1.4%	1.7%	1.9%	2.1%
	1.60%	0.0%	0.3%	0.5%	0.8%	1.0%	1.3%	1.5%	1.8%	2.0%
	1.80%	-0.1%	0.2%	0.4%	0.7%	0.9%	1.2%	1.4%	1.7%	1.9%

Source: UBS calculations. The red number corresponds to the current nominal GDP growth forecasts for 2025-26, and the latest debt service costs as a % of GDP.

3. Fiscal reform is needed. How will this play out differently in the region?

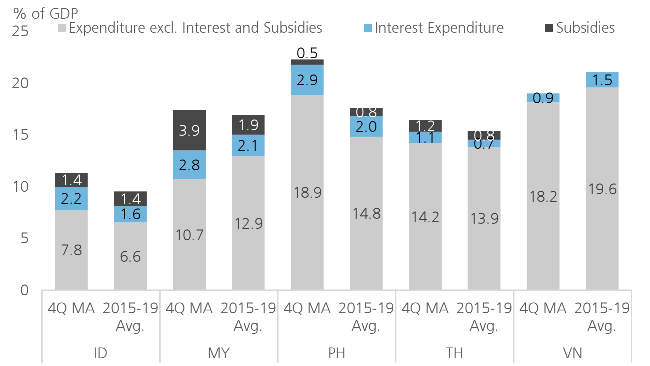
On average, ASEAN-5 expenditure to GDP ratios have risen compared to their pre-pandemic trend. However, revenues to GDP have not.

Fiscal balances deteriorated due to both higher expenditure and limited revenue mobilisation. Taking a simple average across ASEAN-5, expenditure to GDP ratios have risen about 1.2ppt compared to the 2015-19 average, whereas revenues fell about -0.1ppt compared to the 2015-19 average. In comparison, in 38 economies under UBS coverage, expenditure to GDP ratios have risen about 1.6ppt, and revenues to GDP rose by 0.6ppt on average.

Various factors weigh on revenues. Weaker growth is one. Tax exemptions and tax cuts is another.

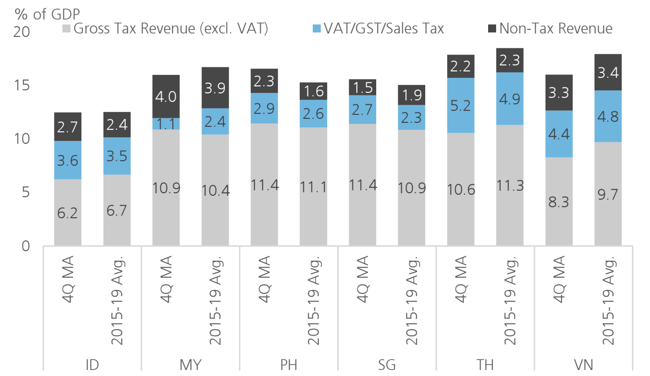
Revenue mobilisation has improved in Philippines and Singapore due to tax reform, e.g. GST hikes in Singapore's case. Philippines introduced a tax on digital services, single-use plastics, a motor vehicle road user's tax, and enhanced the fiscal regime for the mining industry, which is expected to add about 0.2ppt of GDP to revenues. Malaysia and Thailand's revenue base has narrowed. For Malaysia, this was due to the removal of GST in 2019. For Thailand, weaker tax collections reflect a slower growth recovery, and some excise tax reductions (e.g. diesel). Indonesia's revenue base is the lowest in ASEAN, at about 13% of GDP, likely because of extensive exemptions and/or relatively weaker tax administration. Non-tax revenues, which largely comprise oil and coal related income, contribute about 22% of Indonesia's revenue, slightly higher than 19% in the 2015-19 period. Meanwhile, the largest increase in spending was in the Philippines, which went up to 22% of GDP from 18% in 2015-19, mainly due to higher interest and maintenance operation expenses. Interest expenses have gone up more in Philippines and Indonesia, while subsidy spending has gone up most sharply in Malaysia. Infrastructure spending was kept broadly stable or declining.

Figure 12: Composition of expenditures



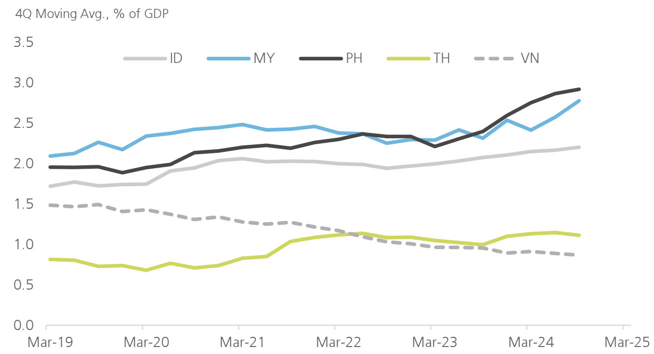
Source: Haver, UBS

Figure 13: Composition of revenues



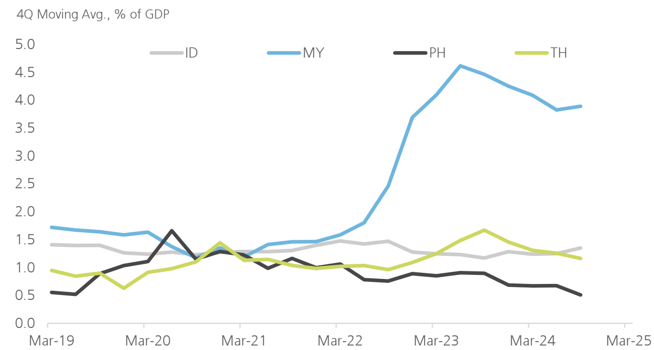
Source: Haver, UBS

Figure 14: Interest expenses as a % of GDP



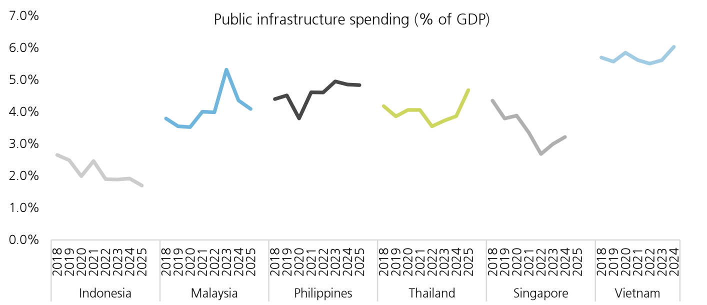
Source: Haver, UBS

Figure 15: Subsidies as a % of GDP



Source: Haver, UBS

Figure 16: Public infra spending trends in ASEAN



Source: Haver, Ministry of Finance of ASEAN governments. Where infrastructure spending is not available, we use capital expenditure or development expenditure as a proxy.

Public infrastructure spending has been coming down in Indonesia and Singapore. In Malaysia, the peak was in 2022. In Philippines, it has been kept at 5% of GDP. In Thailand, the 2025 budget bucks the recent trend by allocating more to the capital budget.

Medium-term fiscal reform depends on political priorities and tax infrastructure

Most governments in ASEAN have taken steps towards improving fiscal sustainability. For instance, Malaysia removed blanket subsidies on diesel in mid-2024, and plans to reduce blanket subsidies for RON95 petrol in the middle of this year. Savings on the removal of blanket diesel and petroleum subsidies are expected to be RM7.5bn (link) and RM8bn (link) respectively, which is a meaningful 0.8ppt of GDP. Thailand has also announced that it is exploring plans to improve the country's tax structure, including differentiated VAT taxes (with luxury goods potentially subject to higher rates). We note that in Thailand, despite a generally low VAT tax rate (with VAT rate on most goods at 7%), strong tax administration has led to buoyant VAT collections of 4.9% of GDP, the highest in ASEAN). In Indonesia, the removal of the 1ppt hike in VAT from 11% to 12% for most items (excluding luxury goods) may have a fiscal impact this year of about 0.2ppt of GDP (UBSe).

Medium-term fiscal reform depends on political priorities and tax infrastructure. Thailand is likely to raise some taxes over the medium term (e.g. VAT), while Malaysia and the Philippines could lean more on expenditure rationalization.

Generally, we think infrastructure spending will be less public-driven, and more reliant on private partnerships (PPP) across the region. An additional source of uncertainty on tax revenues is the global minimum tax. Indonesia, Malaysia, Singapore and Thailand have started to implement the global minimum tax (GMT) of 15% from January 2025, higher than the current effective corporate tax rates for MNCs (see details in the text box below).

Global Minimum Tax: Uncertainty over eventual fiscal impact

Singapore, Thailand, Malaysia and Indonesia announced that the global minimum tax (GMT) rate of 15% would take effect for large multinational corporations (MNCs) from 1 January 2025 onwards, while the Philippines is engaging with the OECD to discuss the adoption and implementation of GMT. The GMT will be levied on MNCs operating within the jurisdictions with effective tax rate below 15% and whose ultimate parent entities report consolidated revenue of at least EUR750m in at least two out of the four financial years immediately preceding the targeted financial year. The low-taxed jurisdiction has the primary right to collect top-up tax from MNC subsidiaries under the Qualified Domestic Minimum Top-up Tax (QDMTT), otherwise the top-up tax will be levied on its parent entity under the Income Inclusion Rule (IIR). When the parent MNC is located in a low-tax jurisdiction, the top-up tax will be collected by the countries in which other group companies are located.

Although the current corporate income tax rates in the ASEAN-4 are higher than 15%, MNCs often receive tax benefits, thus resulting in the actual effective tax being lower than 15%. A great number of corporates will be affected by the GMT. However, no country in ASEAN has come up with estimates for GMT implications on tax in the medium term. Every country indicates that it will be revenue-neutral or at least that they are planning to offset the tax revenue increases with increased incentives.

In Singapore, there are about 1,800 MNCs that will be affected by the GMT rules according to the MoF. MoF has updated the existing tax regulations to implement DTT (Domestic Top-up Tax or QDMTT) and IIR, but it remains unclear about its implications on the overall tax revenues. Similarly in Malaysia, the relevant rules have been incorporated into Malaysian tax law. Meanwhile, a new investment incentive framework focused on high-value activities is expected to be implemented in Q3'25, which include tax deduction for MNCs. In Thailand, while the current corporate tax is at 20%, MNCs often receive tax benefits from the BOI. The BOI is currently in the process of issuing additional measures such as tax rebate for R&D of certain categories to compensate impacted companies. We do not expect governments to actively plan for GMT-related revenues to contribute to more expansionary policies, but for just offsetting incentives for investment. In Indonesia, companies in the preferred industries (upstream basic metals, oil and gas refining and chemicals) with investment of at least IDR500bn (USD32.3mn) could get 0% of corporate income tax for up to 20 years, from the normal rate of 22%. Indonesia MoF suggested that it will extend tax holiday to ensure no disruption on investment.

Figure 17: Major tax rates in ASEAN countries

	Corporate income tax	Personal income tax*	Value-added tax
Indonesia	22%	35%	11%
Malaysia	24%	30%	Sales tax 10%; service tax 8%
Philippines	25%	35%	12%
Singapore	17%	24%	9%
Thailand	20%	35%	7%

Source: PwC, IRAS. Note: *Top income bracket.

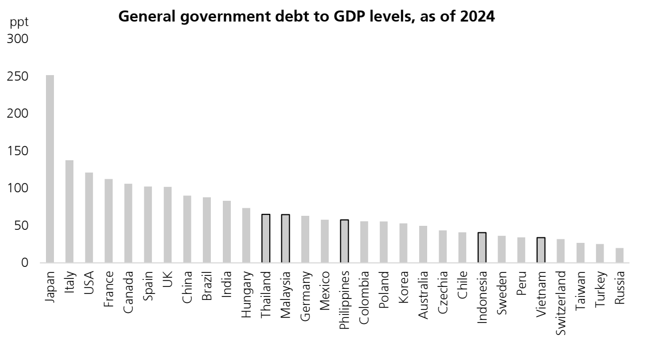
4. Why did debt to GDP rise faster in ASEAN?

On an absolute basis, government debt to GDP levels are not especially high (averaging 57% in ASEAN-4 vs. the DM/EM average of 110%/70% respectively), but the 16ppt increase on average since 2019 is slightly higher than the EM average of 15%. Within ASEAN, general government debt-to-GDP levels have gone up by 10-20+ppt of GDP since 2019, with more than 95% of the increase during the pandemic years of 2020-22. Thailand (+24ppt) followed by Philippines (+20ppt) had the largest increases, whereas debt-to-GDP went up around 10ppt in Malaysia/Indonesia.

Government debt to GDP levels have risen 16ppt since 2019, higher than the DM/EM average of 6ppt/15ppt. Weaker nominal GDP growth could have played a role.

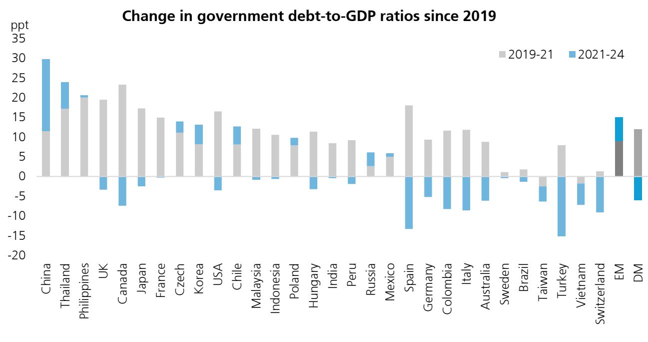
By 2024, debt-to-GDP levels had started to come down in Indonesia, stabilized in Malaysia, and continued to trend upwards in Thailand, and to a lesser extent Philippines. Weaker nominal GDP growth trends, especially in Thailand where it has taken longer to recoup the dent to GDP from tourism, contributed to the fast rise in debt to GDP.

Figure 18: ASEAN government debt-to-GDP ratios are lower than the global average



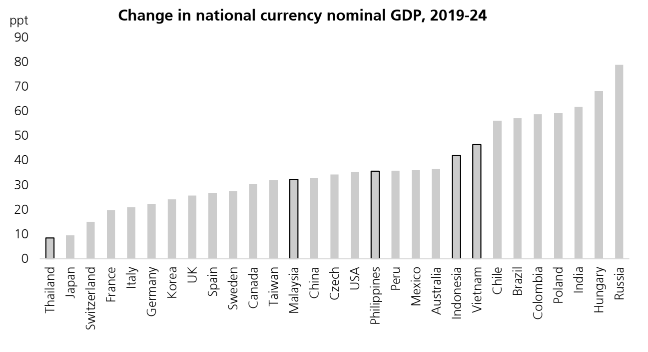
Source: IMF, Haver, UBS estimates. We use general government debt to GDP estimates, which excludes contingent liabilities, government debt guarantees, etc.

Figure 19: But the increase in debt-to-GDP levels was higher than the global average…



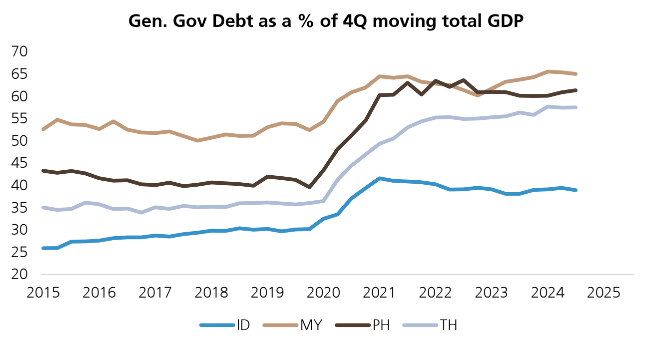
Source: IMF, Haver, UBS estimates

Figure 20: Partly because of relatively slower nominal GDP growth



Source: Haver

Figure 21: Debt-to-GDP levels mostly stabilized or coming down, except in Thailand

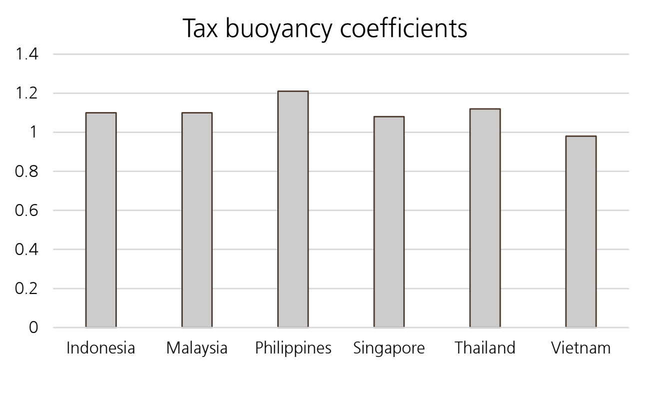


Source: Haver, UBS estimates. *Excluding non-financial debt of SOEs.

Lower nominal GDP growth is a challenge for keeping debt burdens low

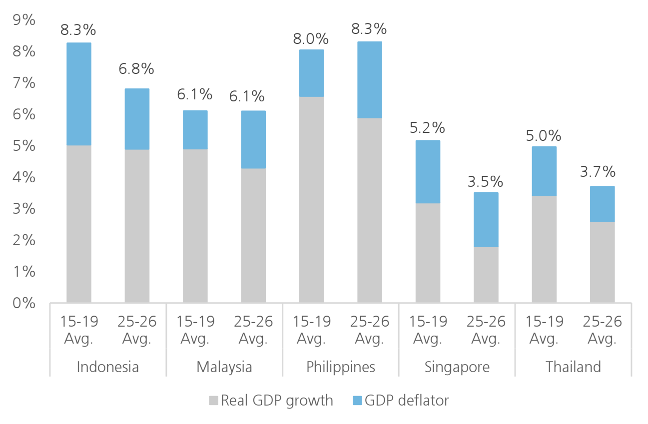
Tax mobilisation has not improved significantly in ASEAN, especially compared to the global average. This is not really a function of poor tax buoyancy, which is higher than 1, but weak nominal growth itself. In a progressive individual or corporate income tax system, effective tax rates rise as the nominal GDP deflator increases. But if inflation has been fairly muted (as was the case in parts of ASEAN, especially Indonesia), this affects tax mobilisation, and the GDP denominator that is a key driver of the economy's debt-carrying capacity.

Figure 22: Tax buoyancy coefficients are mostly above 1 in ASEAN



Source: ADB. We show coefficients estimated by ADB "Buoyant or Sinking? Tax Revenue Performance and Prospects in Developing Asia" (2022) using a autoregressive distributed lag (ARDL) model.

Figure 23: Nominal GDP growth is lower in ASEAN now



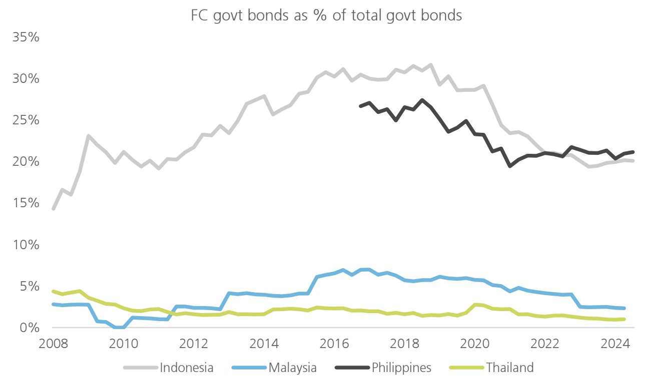
Source: Haver, UBSe. Note: 2025-26 average are UBS estimates.

5. Where and how might market discipline come in to constrain fiscal choices?

Debt is increasingly issued in local currency and held by domestic investors. Historically, Indonesia and Philippines had issued a larger proportion (25-30%) of their government bonds in foreign currency, even though that proportion has come down from a peak of 30% for Indonesia in 2018, to about 20% today. Still, that means rapid currency depreciation could lead to a spike in debt burdens and refinancing ability in the Philippine and Indonesian economies.

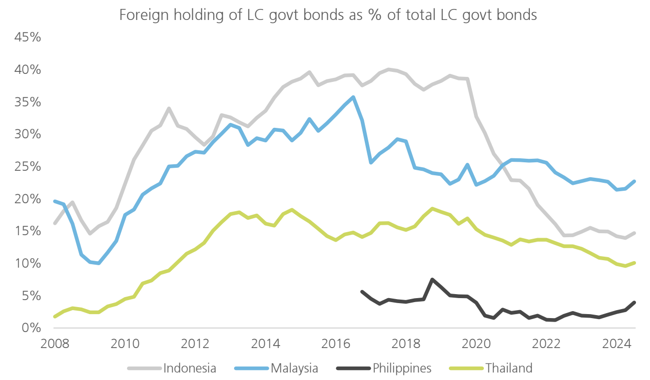
Indonesia and Philippines more vulnerable to currency depreciation due to higher share of foreign currency denominated debt.

Figure 24: A declining proportion of foreign currency government bonds



Source: ADB

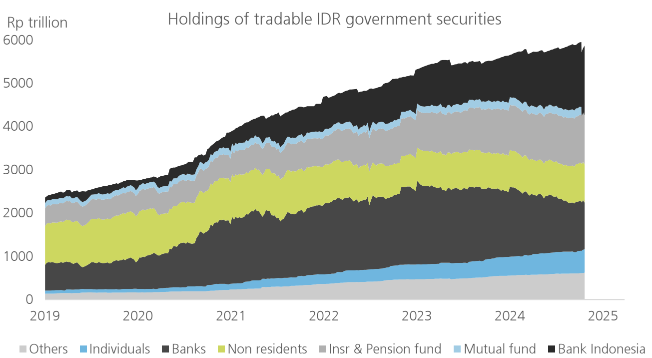
Figure 25: Declining foreign holdings of total government bonds



Source: ADB

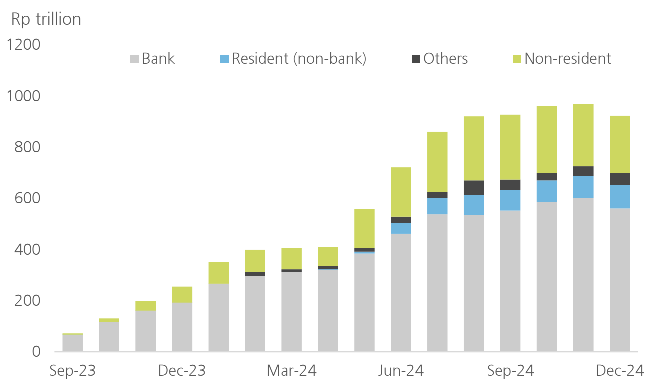
In terms of who owns the debt, across ASEAN, the share of outstanding government debt that is held by foreigners has fallen steadily. The biggest change was in Indonesia, reflecting pandemic bond financing by the central bank over 2020-22, when BI bought about Rp1.3 trillion (7% of 2019 GDP) worth of government bonds. Since 2023, BI has also bought government bonds as collateral for its issuance of SRBI, of which the outstanding stock is Rp560 trillion (2.5% of GDP). For the Philippines, even though most government bonds are held domestically, the share of foreign ownership has increased more sharply in recent years from a low base.

Figure 26: Holdings of tradable IDR government securities



Source: Haver

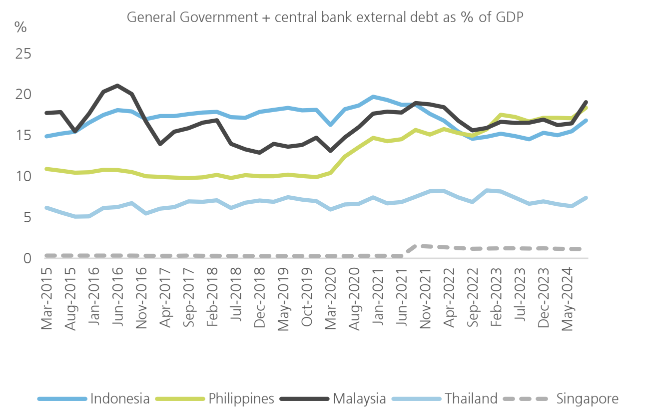
Figure 27: Bank Indonesia Rupiah Securities (SRBI) by holder



Source: Haver

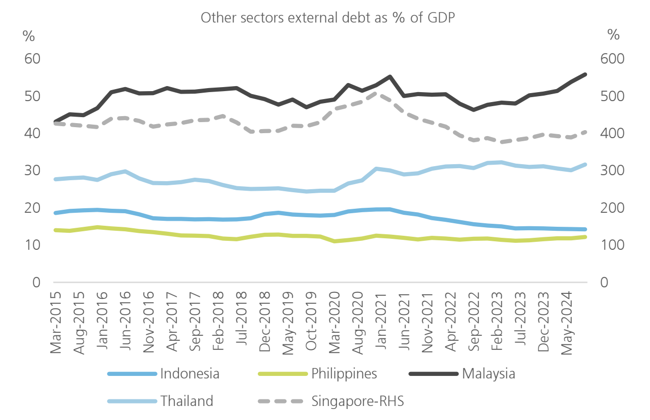
Total external debt would be a more comprehensive gauge of external liability risks, as it includes the private sector as well. In this regard, Singapore's external debt level is extremely high (400% of GDP), although that is almost all held by the private sector. The Singapore government itself has zero external debt. The Philippines general government external debt has risen from 10% in 2019 to 18% of GDP as of 2024, which is higher than what the low foreign ownership ratios of government bonds would suggest. The difference likely reflects government loans from multilateral organizations (e.g. ADB). Still, because of low private sector external debt, overall external vulnerabilities in the Philippines may not be that high. For Philippines and Indonesia, total external debt (government + private sector) is about 30% of GDP as of Q3 2024. Malaysia's private sector external debt tends to be higher than the rest of ASEAN (except Singapore), although that is partly due to intra-group lending from foreign parent institutions.

Figure 28: General government and central bank external debt as % of GDP



Source: Haver, World Bank

Figure 29: Private sector external debt as % of GDP



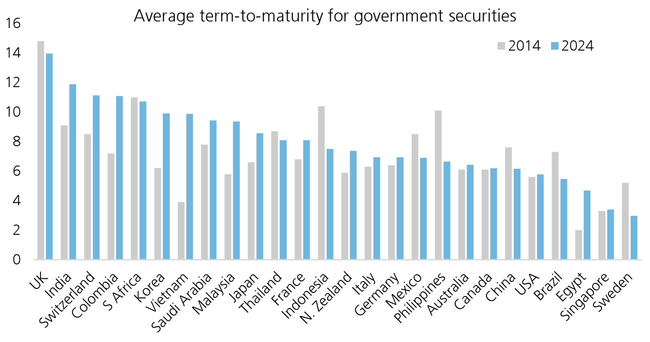
Source: Haver, World Bank

Since 2019, debt maturities have lengthened for Malaysia, Thailand and Vietnam, but shortened for Indonesia, Philippines and Singapore. It is shortest for Singapore (3.4 years), followed by Philippines (6.7 years) and Indonesia (7.5 years). Debt maturities are longer in Thailand (8.1 years), Malaysia (9.4 years) and Vietnam (9.9 years). It would make sense for government debt maturities to lengthen slightly more in countries where interest rates have been relatively stable, possibly reflecting a desire to lock in rates at fairly low levels. Conversely, where rates have gone up particularly fast, it would make sense for governments to issue shorter maturity debt, if they expect rates to come down soon. That said, it is interesting that given Indonesia's relatively stable yield curve, that the term-to-maturity has come down. Bond yields in Indonesia have gone up far less than its policy rate, partly reflecting larger central bank bond purchases.

Indonesia and Philippines might be more challenged by currency depreciation and higher rates, and greater reliance on external financing. Still, we don't see a sell-off as imminent.

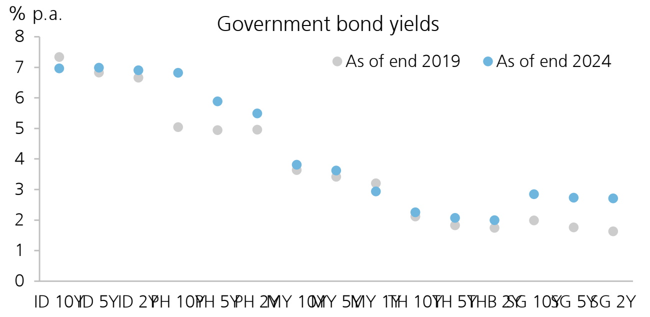
For Indonesia and Philippines, shortened maturity could mean that debt repayment as a % of GDP will go up and is a bigger drag on fiscal than thought, as long as rates remain higher for longer. This constrains how much fiscal room there would be should rates remain high. We expect four rate cuts from both BI and BSP this year, and for 10Y bond yields to fall about 90bp from current levels by the end of 2025. Monetary policy has been tighter than low inflation and growth warrants in these two economies, as shown by their high real rates (91%/100% percentile of historical levels at present). Between Philippines and Indonesia, because of the higher starting point of debt to GDP, debt financing costs in the former could be more sensitive to bond yields.

Figure 30: Term-to-maturity for government securities



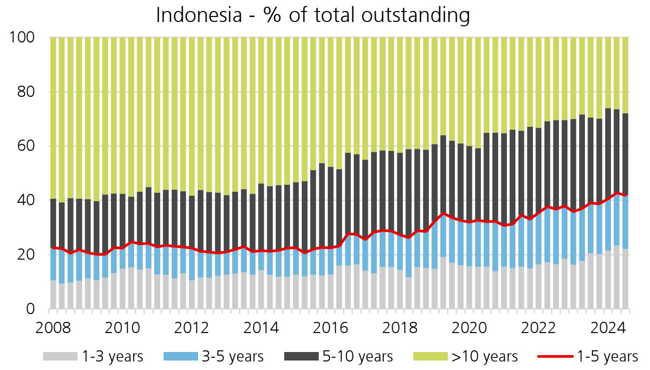
Source: IMF Fiscal Monitor database, Haver

Figure 31: Bond yields in ASEAN-5



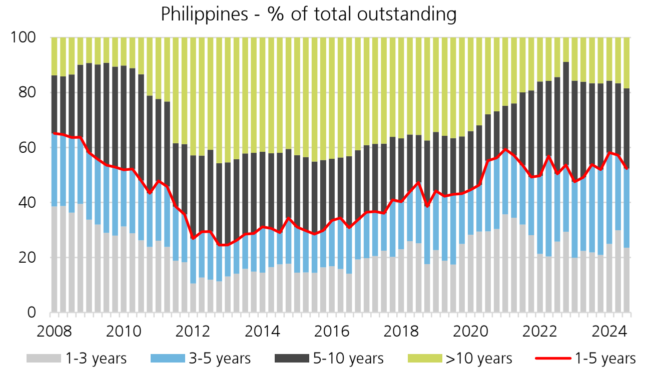
Source: Bloomberg

Figure 32: Government bond maturity profile - Indonesia



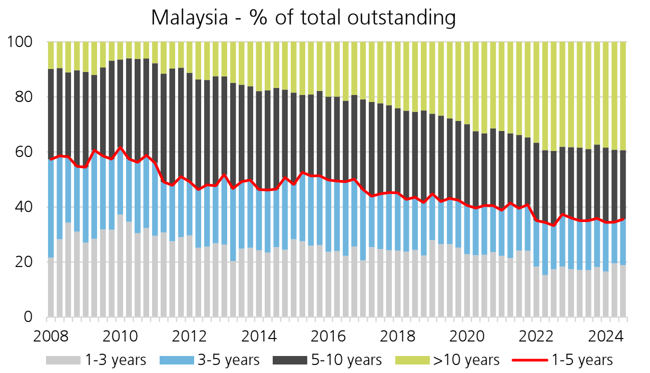
Source: ADB. Includes central and local governments, central bank and SOE bonds.

Figure 33: Government bond maturity profile - Philippines



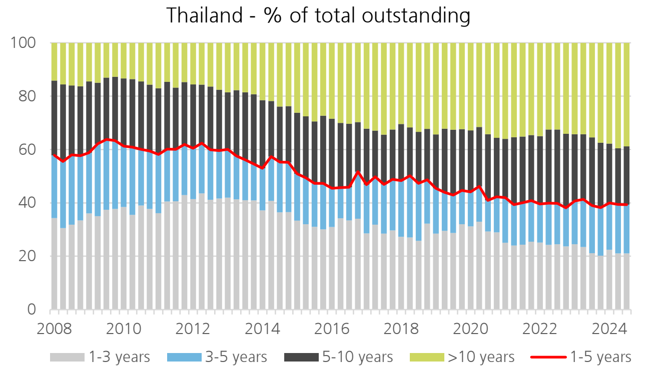
Source: ADB. Includes central and local governments, central bank and SOE bonds.

Figure 34: Government bond maturity profile - Malaysia



Source: ADB. Includes central and local governments, central bank and SOE bonds.

Figure 35: Government bond maturity profile - Thailand



Source: ADB. Includes central and local governments, central bank and SOE bonds.

Fiscal credibility is important in order to maximise the impact of fiscal policy

Fiscal policy serves multiple functions. It is primarily a redistributive tool, with taxes used to provide public goods. It also serves a countercyclical role in smoothing business cycles. Many governments are incentivized to use fiscal policy as a medium-term capacity building tool, for example via industrial policy or to 'crowd in' private investments. Occasionally, the political economy rationale dominates, leading governments to focus on narrow political rather than broad economic/social objectives. Ultimately, fiscal policy's ability to achieve these goals depends on fiscal credibility. For instance, if firms and households anticipate future tax burdens resulting from government policy (Ricardian equivalence), this could limit the policy's impact on aggregate demand. Also, bond and FX markets price in market expectations of fiscal solvency over the long term, which means that fiscal reforms and willingness to keep to a reasonable deficit path would help keep risk premia low, and aids fiscal policy's ability to stimulate short or even medium-term growth.

Valuation Method and Risk Statement

Risks of multi-asset investing include but are not limited to market, credit, interest rate and foreign exchange risks. Correlations of returns among different asset classes may deviate from historical patterns. Geopolitical events and policy shocks pose risks that can reduce asset returns. Valuations may be adversely affected during times of high market volatility, thin liquidity and economic dislocation.

Required Disclosures

This document has been prepared by UBS AG, Singapore Branch, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates, including former Credit Suisse AG and its subsidiaries, branches and affiliates are referred to herein as "UBS".

For information on the ways in which UBS manages conflicts and maintains independence of its UBS Global Research product; historical performance information; certain additional disclosures concerning UBS Global Research recommendations; and terms and conditions for certain third party data used in research report, please visit https://www.ubs.com/disclosures. Unless otherwise indicated, information and data in this report are based on company disclosures including but not limited to annual, interim, quarterly reports and other company announcements. The figures contained in performance charts refer to the past; past performance is not a reliable indicator of future results. Additional information will be made available upon request. UBS Securities Co. Limited is licensed to conduct securities investment consultancy businesses by the China Securities Regulatory Commission. UBS acts or may act as principal in the debt securities (or in related derivatives) that may be the subject of this report. This recommendation was finalized on: 21 January 2025 11:16 AM GMT. UBS has designated certain UBS Global Research department members as Derivatives Research Analysts where those department members publish research principally on the analysis of the price or market for a derivative, and provide information reasonably sufficient upon which to base a decision to enter into a derivatives transaction. Where Derivatives Research Analysts co-author research reports with Equity Research Analysts or Economists, the Derivatives Research Analyst is responsible for the derivatives investment views, forecasts, and/or recommendations. **Quantitative Research Review:** UBS Global Research publishes a quantitative assessment of its analysts' responses to certain questions about the likelihood of an occurrence of a number of short term factors in a product known as the 'Quantitative Research Review'. Views contained in this assessment on a particular stock reflect only the views on those short term factors which are a different timeframe to the 12-month timeframe reflected in any equity rating set out in this note. For the latest responses, please see the Quantitative Research Review Addendum at the back of this report, where applicable. For previous responses please make reference to (i) previous UBS Global Research reports; and (ii) where no applicable research report was published that month, the Quantitative Research Review which can be found at https://neo.ubs.com/quantitative, or contact your UBS sales representative for access to the report or the Quantitative Research Team on qa@ubs.com. A consolidated report which contains all responses is also available and again you should contact your UBS sales representative for details and pricing or the Quantitative Research team on the email above.

Analyst Certification:
Each research analyst primarily responsible for the content of this research report, in whole or in part, certifies that with respect to each security or issuer that the analyst covered in this report: (1) all of the views expressed accurately reflect his or her personal views about those securities or issuers and were prepared in an independent manner, including with respect to UBS, and (2) no part of his or her compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in the research report.

Research analysts contributing to this report who are employed by any non-US affiliate of UBS Securities LLC are not registered/qualified as research analysts with FINRA. Such analysts may not be associated persons of UBS Securities LLC and therefore are not subject to the FINRA restrictions on communications with a subject company, public appearances, and trading securities held by a research analyst account. The name of each affiliate and analyst employed by that affiliate contributing to this report, if any, follows.

UBS AG, Singapore Branch: Claire Long, Grace Lim, Permada Darmono, Rohit Arora, Teck Quan Koh.

Issuer Name
Federation of Malaysia[4,5,7,6b]
Kingdom of Thailand
Philippines (Republic of)[2,4]
Republic of Indonesia
Singapore[2,4,5,7,6a,6b,6c]

2. UBS has acted as manager/co-manager in the underwriting or placement of securities of this company/entity or one of its affiliates within the past 12 months.
4. Within the past 12 months, UBS has received compensation for investment banking services from this company/entity or one of its affiliates.
5. UBS expects to receive or intend to seek compensation for investment banking services from this company/entity within the next three months.
6a. This company/entity is, or within the past 12 months has been, a client of UBS Securities LLC, and investment banking services are being, or have been, provided.
6b. This company/entity is, or within the past 12 months has been, a client of UBS Securities LLC, and non-investment banking securities-related services are being, or have been, provided.
6c. This company/entity is, or within the past 12 months has been, a client of UBS Securities LLC, and non-securities services are being, or have been, provided.
7. Within the past 12 months, UBS has received compensation for products and services other than investment banking services from this company/entity.

Unless otherwise indicated, please refer to the Valuation and Risk sections within the body of this report. For a complete set of disclosure statements associated with the companies discussed in this report, including information on valuation and risk, please contact UBS Securities LLC, 1285 Avenue of Americas, New York, NY 10019, USA, Attention: Investment Research.

UBS Global Research Disclaimer

This document has been prepared by UBS AG, Singapore Branch, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates, including former Credit Suisse AG and its subsidiaries, branches and affiliates are referred to herein as "UBS".

Any opinions expressed in this document may change without notice and are only current as of the date of publication. Different areas, groups, and personnel within UBS may produce and distribute separate research products independently of each other. For example, research publications from **UBS CIO** are produced by UBS Global Wealth Management. **UBS Global Research** is produced by UBS Investment Bank. Research methodologies and rating systems of each separate research organization may differ, for example, in terms of investment recommendations, investment horizon, model assumptions, and valuation methods. As a consequence, except for certain economic forecasts (for which UBS CIO and UBS Global Research may collaborate), investment recommendations, ratings, price targets, and valuations provided by each of the separate research organizations may be different, or inconsistent. You should refer to each relevant research product for the details as to their methodologies and rating system. Not all clients may have access to all products from every organization. Each research product is subject to the policies and procedures of the organization that produces it.

This document is provided solely to recipients who are expressly authorized by UBS to receive it. If you are not so authorized you must immediately destroy the document.

UBS Global Research is provided to our clients through UBS Neo, and in certain instances, UBS.com and any other system or distribution method specifically identified in one or more communications distributed through UBS Neo or UBS.com (each a system) as an approved means for distributing UBS Global Research. It may also be made available through third party vendors and distributed by UBS and/or third parties via e-mail or alternative electronic means.

All UBS Global Research is available on UBS Neo. Please contact your UBS sales representative if you wish to discuss your access to UBS Neo. Where UBS Global Research refers to "UBS Evidence Lab Inside" or has made use of data provided by UBS Evidence Lab and you would like to access that data please contact your UBS sales representative. UBS Evidence Lab data is available on UBS Neo. The level and types of services provided by UBS Global Research and UBS Evidence Lab to a client may vary depending upon various factors such as a client's individual preferences as to the frequency and manner of receiving communications, a client's risk profile and investment focus and perspective (e.g., market wide, sector specific, long-term, short-term, etc.), the size and scope of the overall client relationship with UBS Global Research and UBS Evidence Lab and legal and regulatory constraints. UBS HOLT is an offering of UBS Global Research. HOLT Lens is a corporate performance platform offering that provides an objective accounting-led framework for comparing and valuing companies and is available to clients of UBS Global Research; for further details and pricing please contact your UBS Sales representative. In particular, HOLT has a variety of warranted prices based on the scenario chosen; please mail UBS Securities LLC, 1285 Avenue of Americas, New York, NY 10019, USA, Attention: Investment Research, if you are interested in the warranted price on a particular company, again subject to commercial considerations. For all other HOLT specific disclaimers, please see https://www.ubs.com/disclosures.

When you receive UBS Global Research through a system, your access and/or use of such UBS Global Research is subject to this UBS Global Research Disclaimer and to the UBS Neo Platform Use Agreement (the "Neo Terms") together with any other relevant terms of use governing the applicable System.

When you receive UBS Global Research via a third party vendor, e-mail or other electronic means, you agree that use shall be subject to this UBS Global Research Disclaimer, the Neo Terms and where applicable the UBS Investment Bank terms of business (https://www.ubs.com/global/en/investment-bank/regulatory.html) and to UBS's Terms of Use/Disclaimer (https://www.ubs.com/global/en/legalinfo2/disclaimer.html). In addition, you consent to UBS processing your personal data and using cookies in accordance with our Privacy Statement (https://www.ubs.com/global/en/legalinfo2/privacy.html) and cookie notice (https://www.ubs.com/global/en/legal/privacy/users.html).

If you receive UBS Global Research, whether through a System or by any other means, you agree that you shall not copy, revise, amend, create a derivative work, provide to any third party, or in any way commercially exploit any UBS research provided via UBS Global Research or otherwise, and that you shall not extract data from any research or estimates provided to you via UBS Global Research or otherwise, without the prior written consent of UBS.

In certain circumstances (including for example, if you are an academic or a member of the media) you may receive UBS Global Research otherwise than in the capacity of a client of UBS and you understand and agree that (i) the UBS Global Research is provided to you for information purposes only; (ii) for the purposes of receiving it you are not intended to be and will not be treated as a "client" of UBS for any legal or regulatory purpose; (iii) the UBS Global Research must not be relied on or acted upon for any purpose; and (iv) such content is subject to the relevant disclaimers that follow.

This document is for distribution only as may be permitted by law. It is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or would subject UBS to any registration or licensing requirement within such jurisdiction.

This document is a general communication and is educational in nature; it is not an advertisement nor is it a solicitation or an offer to buy or sell any financial instruments or to participate in any particular trading strategy. Nothing in this document constitutes a representation that any investment strategy or recommendation is suitable or appropriate to an investor's individual circumstances or otherwise constitutes a personal recommendation. By providing this document, none of UBS or its representatives has any responsibility or authority to provide or have provided investment advice in a fiduciary capacity or otherwise. Investments involve risks, and investors should exercise prudence and their own judgment in making their investment decisions. None of UBS or its representatives is suggesting that the recipient or any other person take a specific course of action or any action at all. The recipient should carefully read this document in its entirety and not draw inferences or conclusions from the rating alone. By receiving this document, the recipient acknowledges and agrees with the intended purpose described above and further disclaims any expectation or belief that the information constitutes investment advice to the recipient or otherwise purports to meet the investment objectives of the recipient. The financial instruments described in the document may not be eligible for sale in all jurisdictions or to certain categories of investors.

Options, structured derivative products and futures (including OTC derivatives) are not suitable for all investors. Trading in these instruments is considered risky and may be appropriate only for sophisticated investors. Prior to buying or selling an option, and for the complete risks relating to options, you must receive a copy of "The Characteristics and Risks of Standardized Options." You may read the document at https://www.theocc.com/publications/risks/riskchap1.jsp or ask your salesperson for a copy. Various theoretical explanations of the risks associated with these instruments have been published. Supporting documentation for any claims, comparisons, recommendations, statistics or other technical data will be supplied upon request. Past performance is not necessarily indicative of future results. Transaction costs may be significant in option strategies calling for multiple purchases and sales of options, such as spreads and straddles. Because of the importance of tax considerations to many options transactions, the investor considering options should consult with his/her tax advisor as to how taxes affect the outcome of contemplated options transactions.

Mortgage and asset-backed securities may involve a high degree of risk and may be highly volatile in response to fluctuations in interest rates or other market conditions. Foreign currency rates of exchange may adversely affect the value, price or income of any security or related instrument referred to in the document. For investment advice, trade execution or other enquiries, clients should contact their local sales representative.

UBS notes that no globally accepted framework or definition (legal, regulatory or otherwise) currently exists, nor is there a market consensus as to what constitutes an "ESG" (Environmental, Social or Governance) or an equivalent-label, or as to what precise attributes are required for the Information (as defined below) to be defined as ESG or equivalently-labelled. Any information, data or other content including from a third party source contained, referred to herein or used for whatsoever purpose by UBS or a third party ("Information"), in relation to any actual or potential ESG objective, issue or consideration is not intended to be relied upon for ESG classification, regulatory regime or industry initiative purposes ("ESG Regimes"). Nothing in these materials is intended to convey, suggest or indicate that UBS considers or represents any product, service, person or body mentioned in these materials as meeting or qualifying for any ESG classification, labelling or similar standards that may exist under the ESG Regimes. UBS has not conducted any assessment of compliance with ESG Regimes. Parties are reminded to make their own assessments for these purposes.

The value of any investment or income may go down as well as up, and investors may not get back the full (or any) amount invested. Past performance is not necessarily a guide to future performance. Neither UBS nor any of its directors, employees or agents accepts any liability for any loss (including investment loss) or damage arising out of the use of all or any of the Information.

Prior to making any investment or financial decisions, any recipient of this document or the information should take steps to understand the risk and return of the investment and seek individualized advice from his or her personal financial, legal, tax and other professional advisors that takes into account all the particular facts and circumstances of his or her investment objectives.

Any prices stated in this document are for information purposes only and do not represent valuations for individual securities or other financial instruments. There is no representation that any transaction can or could have been effected at those prices, and any prices do not necessarily reflect UBS's internal books and records or theoretical model-based valuations and may be based on certain assumptions. Different assumptions by UBS or any other source may yield substantially different results.

No representation or warranty, either expressed or implied, is provided in relation to the accuracy, completeness or reliability of the information contained in any materials to which this document relates (the "Information"), except with respect to Information concerning UBS. The Information is not intended to be a complete statement or summary of the securities, markets or developments referred to in the document. UBS does not undertake to update or keep current the Information. Any statements contained in this report attributed to a third party represent UBS's interpretation of the data, information and/or opinions provided by that third party either publicly or through a subscription service, and such use and interpretation have not been reviewed by the third party. In no circumstances may this document or any of the Information (including any forecast, value, index or other calculated amount ("Values")) be used for any of the following purposes:

(i) valuation or accounting purposes;

(ii) to determine the amounts due or payable, the price or the value of any financial instrument or financial contract; or

(iii) to measure the performance of any financial instrument including, without limitation, for the purpose of tracking the return or performance of any Value or of defining the asset allocation of portfolio or of computing performance fees.

By receiving this document and the Information you will be deemed to represent and warrant to UBS that you will not use this document or any of the Information for any of the above purposes or otherwise rely upon this document or any of the Information.

UBS has policies and procedures, which include, without limitation, independence policies and permanent information barriers, that are intended, and upon which UBS relies, to manage potential conflicts of interest and control the flow of information within divisions of UBS and among its subsidiaries, branches and affiliates. For further information on the ways in which UBS Global Research manages conflicts and maintains independence of its research products, historical performance information and certain additional disclosures concerning UBS Global Research recommendations, please visit https://www.ubs.com/disclosures.

UBS Global Research will initiate, update and cease coverage solely at the discretion of UBS Global Research Management, which will also have sole discretion on the timing and frequency of any published research product. The analysis contained in this document is based on numerous assumptions. All material information in relation to published research reports, such as valuation methodology, risk statements, underlying assumptions (including sensitivity analysis of those assumptions), ratings history etc. as required by the Market Abuse Regulation, can be found on UBS Neo. Different assumptions could result in materially different results.

The analyst(s) responsible for the preparation of this document may interact with trading desk personnel, sales personnel and other parties for the purpose of gathering, applying and interpreting market information. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS into other areas, units, groups or affiliates of UBS. The compensation of the analyst who prepared this document is determined exclusively by UBS Global Research management and senior management (not including investment banking). Analyst compensation is not based on investment banking revenues; however, compensation may relate to the revenues of UBS and/or its divisions as a whole, of which investment banking, sales and trading are a part, and UBS as a whole.

For financial instruments admitted to trading on an EU regulated market: UBS (excluding UBS Securities LLC) acts as a market maker or liquidity provider (in accordance with the interpretation of these terms under English law or, if not carried out by UBS in the UK the law of the relevant jurisdiction in which UBS determines it carries out the activity) in the financial instruments of the issuer save that where the activity of liquidity provider is carried out in accordance with the definition given to it by the laws and regulations of any other EU jurisdictions, such information is separately disclosed in this document. For financial instruments admitted to trading on a non-EU regulated market: UBS may act as a market maker save that where this activity is carried out in the US in accordance with the definition given to it by the relevant laws and regulations, such activity will be specifically disclosed in this document. UBS may have issued a warrant the value of which is based on one or more of the financial instruments referred to in the document. UBS and its affiliates and employees may have long or short positions, trade as principal and buy and sell in instruments or derivatives identified herein; such transactions or positions may be inconsistent with the opinions expressed in this document.

Within the past 12 months UBS may have received or provided investment services and activities or ancillary services as per MiFID II which may have given rise to a payment or promise of a payment in relation to these services from or to this company.

United Kingdom: This material is distributed by UBS AG, London Branch to persons who are eligible counterparties or professional clients. UBS AG, London Branch is authorised by the Prudential Regulation Authority and subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. **Europe:** Except as otherwise specified herein, these materials are distributed by UBS Europe SE, a subsidiary of UBS AG, to persons who are eligible counterparties or professional clients (as detailed in the Bundesanstalt fur Finanzdienstleistungsaufsicht (BaFin) Rules and according to MIFID) and are only available to such persons. The information does not apply to, and should not be relied upon by, retail clients. UBS Europe SE is authorised by the European Central Bank (ECB) and regulated by the BaFin and the ECB. **Germany, Luxembourg, the Netherlands, Belgium and Ireland:** Where an analyst of UBS Europe SE has contributed to this document, the document is also deemed to have been prepared by UBS Europe SE. In all cases it is distributed by UBS Europe SE and UBS AG, London Branch. **Turkey:** Distributed by UBS AG, London Branch. No information in this document is provided for the purpose of offering, marketing and sale by any means of any capital market instruments and services in the Republic of Turkey. Therefore, this document may not be considered as an offer made or to be made to residents of the Republic of Turkey. UBS AG, London Branch is not licensed by the Turkish Capital Market Board under the provisions of the Capital Market Law (Law No. 6362). Accordingly, neither this document nor any other offering material related to the instruments/services may be utilized in connection with providing any capital market services to persons within the Republic of Turkey without the prior approval of the Capital Market Board. However, according to article 15 (d) (ii) of the Decree No. 32, there is no restriction on the purchase or sale of the securities abroad by residents of the Republic of Turkey. **Poland:** Distributed by UBS Europe SE (spolka z ograniczona odpowiedzialnoscia) Oddzial w Polsce. Where an analyst of UBS Europe SE (spolka z ograniczona odpowiedzialnoscia) Oddzial w Polsce has contributed to this document, the document is also deemed to have been prepared by UBS Europe SE (spolka z ograniczona odpowiedzialnoscia) Oddzial w Polsce. **Russia:** Prepared and distributed by UBS Bank (OOO). Should not be construed as an individual Investment Recommendation for the purpose of the Russian Law - Federal Law #39-FZ ON THE SECURITIES MARKET Articles 6.1-6.2.**Switzerland:** Distributed by UBS AG to persons who are institutional investors only. UBS AG is regulated by the Swiss Financial Market Supervisory Authority (FINMA). **Italy:** Prepared by UBS Europe SE and distributed by UBS Europe SE and UBS Europe SE, Italy Branch. Where an analyst of UBS Europe SE, Italy Branch has contributed to this document, the document is also deemed to have been prepared by UBS Europe SE, Italy Branch. **France:** Prepared by UBS Europe SE and distributed by UBS Europe SE and UBS Europe SE, France Branch. Where an analyst of UBS Europe SE, France Branch has contributed to this document, the document is also deemed to have been prepared by UBS Europe SE, France Branch. **Spain:** Prepared by UBS Europe SE and distributed by UBS Europe SE and UBS Europe SE, Spain Branch. Where an analyst of UBS Europe SE, Spain Branch has contributed to this document, the document is also deemed to have been prepared by UBS Europe SE, Spain Branch. **Sweden:** Prepared by UBS Europe SE and distributed by UBS Europe SE and UBS Europe SE, Sweden Branch. Where an analyst of UBS Europe SE, Sweden Branch has contributed to this document, the document is also deemed to have been prepared by UBS Europe SE, Sweden Branch. **South Africa:** Distributed by UBS South Africa (Pty) Limited (Registration No. 1995/011140/07), an authorised user of the JSE and an authorised Financial Services Provider (FSP 7328). **Saudi Arabia:** This document has been issued by UBS AG (and/or any of its subsidiaries, branches or affiliates), a public company limited by shares, incorporated in Switzerland with its registered offices at Aeschenvorstadt 1, CH-4051 Basel and Bahnhofstrasse 45, CH-8001 Zurich. This publication has been approved by UBS Saudi Arabia (a subsidiary of UBS AG), a Saudi closed joint stock company incorporated in the Kingdom of Saudi Arabia under commercial register number 1010257812 having its registered office at Tatweer Towers, P.O. Box 75724, Riyadh 11588, Kingdom of Saudi Arabia. UBS Saudi Arabia is authorized and regulated by the Capital Market Authority to conduct securities business under license number 08113-37. **UAE / Dubai:** The information distributed by UBS AG Dubai Branch is only intended for Professional Clients and/or Market Counterparties, as classified under the DFSA rulebook. No other person should act upon this material/communication. The information is not for further distribution within the United Arab Emirates. UBS AG Dubai Branch is regulated by the DFSA in the DIFC. UBS Investment Bank is not licensed to provide banking services in the UAE by the Central Bank of the UAE, nor is it licensed by the UAE Securities and Commodities Authority. **Israel:** This Material is distributed by UBS AG, London Branch. UBS Securities Israel Ltd is a licensed Investment Marketer that is supervised by the Israel Securities Authority (ISA). UBS AG, London Branch and its affiliates incorporated outside Israel are not licensed under the Israeli Advisory Law. UBS may engage among others in issuance of Financial Assets or in distribution of Financial Assets of other issuers for fees or other benefits. UBS AG, London Branch and its affiliates may prefer various Financial Assets to which they have or may have an Affiliation (as such term is defined under the Israeli Advisory Law). Nothing in this Material should be considered as investment advice under the Israeli Advisory Law. This Material is being issued only to and/or is directed only at persons who are Eligible Clients within the meaning of the Israeli Advisory Law, and this Material must not be furnished to, relied on or acted upon by any other persons. **United States:** Distributed to US persons by either UBS Securities LLC or by UBS Financial Services Inc., subsidiaries of UBS AG; or by a group, subsidiary or affiliate of UBS AG that is not registered as a US broker-dealer (a **'non-US affiliate'**) to major US institutional investors only. UBS Securities LLC or UBS Financial Services Inc. accepts responsibility for the content of a report prepared by another non-US affiliate when distributed to US persons by UBS Securities LLC or UBS Financial Services Inc. All transactions by a US person in the securities mentioned in this report must be effected through UBS Securities LLC or UBS Financial Services Inc., and not through a non-US affiliate. UBS Securities LLC is not acting as a municipal advisor to any municipal entity or obligated person within the meaning of Section 15B of the Securities Exchange Act (the "Municipal Advisor Rule"), and the opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of the Municipal Advisor Rule. **Canada:** Distributed by UBS Securities Canada Inc., a registered investment dealer in Canada and a Member-Canadian Investor Protection Fund, or by another affiliate of UBS AG that is registered to conduct business in Canada or is otherwise exempt from registration. **Brazil:** Except as otherwise specified herein, this Material is prepared by UBS Brasil Corretora de Câmbio, Títulos e Valores Mobiliários S.A. (UBS Brasil CCTVM) to persons who are eligible investors residing in Brazil, which are considered to be Professional Investors (Investidores Profissionais), as designated by the applicable regulation, mainly the CVM Resolution No. 30 from the 11th of May 2021 (determines the duty to verify the suitability of products, services and transactions with regards to the client´s profile). UBS Brasil CCTVM is a subsidiary of UBS BB Servicos de Assessoria Financeira e Participacoes S.A. ("UBS BB"). UBS BB is an association between UBS AG and Banco do Brasil (through its subsidiary BB – Banco de Investimentos S.A.), of which UBS AG is the majority owner and which provides investment banking services and coverage in Brazil, Argentina, Chile, Paraguay, Peru and Uruguay. UBS Brasil CCTVM is regulated by the Comissao de Valores Mobiliarios (CVM) and by the Central Bank of Brazil. Ombudsman: 0800-940-0266/ https://www.ubs.com/br/pt/ubsbb-investment-bank/ombudsman.html. UBS may hold relevant financial and commercial interest in relation to the company subject to this Research report. **Hong Kong:** Distributed by UBS Securities Asia Limited. Please contact local licensed persons of UBS Securities Asia Limited in respect of any matters arising from, or in connection with, the analysis or document **Singapore:** Distributed by UBS Securities Pte. Ltd. [Co. Reg. No.: 198500648C] or UBS AG, Singapore Branch. Please contact UBS Securities Pte. Ltd., an exempt financial adviser under the Singapore Financial Advisers Act (Cap. 110); or UBS AG, Singapore Branch, an exempt

UBS