

# ASEAN+3 FINANCIAL STABILITY REPORT 2023 (SUMMARY)



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**ASEAN+3 Macroeconomic Research Office**

10 Shenton Way, #15-08 MAS Building  
Singapore 079117

[enquiry@amro-asia.org](mailto:enquiry@amro-asia.org)  
[www.amro-asia.org](http://www.amro-asia.org)



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# Message from AMRO Director

The ASEAN+3 region is a bright spot in the world economy despite unprecedented risks and challenges. Having navigated the challenges posed by the Asian Financial Crisis and subsequent headwinds, our region has demonstrated wisdom and resilience through collective efforts aimed at fostering economic and financial stability.

Nonetheless, the risks and challenges are always lurking. The financial environment is changing rapidly and growing in complexity. As global and regional integration deepens, spillovers and contagion risks are on the rise.

Given the swiftly evolving global financial landscape and its substantial reverberations on the region, the significance of financial surveillance in ASEAN+3 cannot be overstated.

Enhancing financial surveillance plays a critical role in crisis prevention by facilitating the detection and assessment of financial vulnerabilities and risks. It reinforces the resilience of financial systems, ensuring the capacity to withstand shocks, in turn fostering economic growth and development within the region.

As the only international organization established under the ASEAN+3 Finance Process, AMRO must step up as a trusted policy advisor to our members, and strongly position itself as a thought leader with regional focus and global influence.

I am pleased to introduce the inaugural issue of AMRO's second flagship report, the *ASEAN+3 Financial Stability Report (AFSR)*. As the pioneer regional financial stability report in the ASEAN+3 region, the AFSR is a unique publication, embodying the principle 'of the region, for the region, and by the region'. Its release underscores our continuous commitment to monitor, protect, and enhance the financial stability of the ASEAN+3 region, a focus sharpened since the Asian Financial Crisis.

This flagship publication underscores our common objective to safeguard the financial stability of our region. It provides an extensive analysis of the current financial sector status, highlights risk factors, and delves into policy measures to address them effectively.

The AFSR launch is a substantial move toward reinforcing our core functions in financial surveillance, aligning with AMRO's Strategic Direction 2030. Under this framework approved by our Executive Committee in 2022, AMRO is set to contribute more significantly to secure the region's macroeconomic and financial resilience and stability. And the AFSR is among our high-priority initiatives in the coming years.

In light of the more complex and challenging financial landscape, we must continue to strengthen our surveillance capabilities, remain vigilant, and be ready to respond swiftly and decisively when needed to new shocks. Only then will we be able to navigate the treacherous journey ahead with confidence. We can expedite this journey by working together and supporting each other along the way.

Finally, I would like to take this opportunity to extend my heartfelt appreciation to AMRO's member authorities, Advisory Panel, and all who have contributed to this pivotal initiative.

As always, I look forward to hearing your feedback.

**Kouqing Li**  
**AMRO Director**



# Foreword from the Chief Economist

ASEAN+3 financial systems have been tested on multiple trials during the past two decades after the Global Financial Crisis but have remained resilient given the strengthened macroeconomic fundamentals, and improved regulatory and external buffers since the Asian Financial Crisis in the late 1990s.

Chapter 1 — *Market Conjunctural – Low Visibility of Challenges Ahead* — discusses recent market developments and notes the risks facing the ASEAN+3 economies within an evolving financial landscape. Over the last decade, global financial conditions have oscillated between tightening and easing, driven by factors such as the taper tantrum, Trump election, Brexit, COVID-19 pandemic, supply chain disruptions, rising inflation, and geopolitical events. However, since early 2022, global central banks led by the Federal Reserve, have responded to the escalation in headline inflation by rapidly tightening monetary policy, resulting in a marked shift from a state of “low-for-long interest rate with ample liquidity” to one characterized by “higher-for-longer interest rate with receding liquidity.” This has led to spikes in risk aversion, market sell-offs and capital outflows, and large currency depreciation against the US dollar in both advanced and emerging markets, including those in ASEAN+3. Policymakers have responded to these heightened volatilities by intervening judiciously in the markets, providing liquidity as needed to avoid disorderly market conditions and an overshoot of exchange rates and bond yields.

Despite recent disinflation, the persistence or potential resurgence of inflation has raised concerns about prolonged high interest rates and their impact on financial stability. While the spillover effects from the recent banking stress in the US and Europe have been limited, concerns over the health of the banking sector in the US linger. The possible emergence of US dollar funding stress, particularly if investor confidence falters amid global monetary tightening and elevated market volatility, is also an area of concern. Furthermore, accelerated cross-border capital flows, driven by greater financial market integration and digitalization, can rapidly transmit shocks, creating new challenges for policymakers.

Chapters 2 to 4 of the AFSR are thematic studies focusing on more in-depth analysis of the risks facing the region. For this inaugural issue, we have chosen the theme of *Navigating High Debt in Low Visibility* to assess the financial stability implications from higher debt in the region. The zero interest rate and abundant liquidity unleashed by the Quantitative Easing policy of the Fed and ECB in the aftermath of the Global Financial Crisis and European Sovereign Debt Crisis, had resulted in a low-for-long interest rate environment which enabled many businesses, households, and governments in this region to take on large amounts of debt at low costs. The exceptionally large monetary and fiscal stimulus measures during the COVID-19 pandemic fueled further increases in debt-to-GDP ratios in ASEAN+3. However, the phasing out of financial relief and regulatory forbearance policies and the shift to a higher interest rate environment, have led to concerns over the risk of financial distress and insolvencies, particularly in the context of the much higher level of debt stock in the region. Furthermore, the resilience of some banks and nonbank financial intermediaries (NBFIs) may be tested and could potentially exacerbate vulnerabilities in the financial market.

The higher debt levels amid tighter monetary conditions have created the potential for financial stability risks to emerge. Addressing these challenges effectively necessitates a well-balanced policy mix across monetary, fiscal, and prudential policy frameworks, with concerted efforts among authorities. Central banks should prioritize price stability while striving to maintain financial stability and support growth. Monetary authorities should stand ready to provide targeted liquidity support to financial institutions with clear communication during times of stress. The soundness of financial intermediaries, including NBFIs, must be ensured through strengthening regulatory, supervisory, and risk management. Furthermore, regional cooperation and external buffers are essential to ensure access to US dollar liquidity in times of crisis and reduce dependence on the US dollar in the long term.

In response to rising nonfinancial private debt and potential systemic financial risks, policymakers can employ macroprudential tools to manage household debt and curb excessive property developer leverage. For corporate debt, it is necessary to promote responsible corporate lending, foster independent ownership, and mitigate credit risks of small and medium enterprises with credit guarantee schemes. To mitigate financial stability risks stemming from high public debt, strategies should include medium-term fiscal consolidation, maintaining a robust debt structure, and diversifying the investor base.

Amid these turbulent times, the internal and external macrofinancial conditions surrounding the ASEAN+3 region are still subject to high uncertainty and volatility. The financial landscape is swiftly changing into a new normal with potentially higher inflation and higher interest rates. In this situation, the region must come together as one and strive for macroeconomic and financial resilience and stability. AMRO holds high hopes that our *ASEAN+3 Financial Stability Report* will play a pivotal role in our collective efforts, making a substantial contribution toward achieving this objective.

**Hoe Ee Khor**  
**Chief Economist**

# Acknowledgments

This report provides AMRO staff's assessment of both the conjunctural and structural financial stability issues facing the ASEAN+3 region. It covers the short-term developments, risks, vulnerabilities, and challenges facing member economies, as well as the policy options taken by or that are available to their authorities. It also presents staff's studies on longer-term issues that are pertinent to sustained financial stability in the region.

The analysis in this report was prepared by the Financial Surveillance team led by Kevin C. Cheng. The report was peer-commented by economists from AMRO's Country Surveillance, Fiscal Surveillance, Regional Surveillance, Macro-Financial Research, and Policy Review Group. The report was reviewed and cleared by Chief Economist, Hoe Ee Khor. It has also benefited from the guidance of AMRO Director Kouqing Li and other members of the Senior Management team.

Contributors to the report are Benyaporn Chantana, Chiang Yong (Edmond) Choo, Sean R. Craig (Chapters 2 and 4 co-lead), Chenxu Fu, Laura Grace Gabriella, Kimi Xu Jiang (Chapter 1 co-lead), Leilei Lu, Yoki Okawa, Prashant Pande (Chapter 1 co-lead), Eunmi Park (Chapter 3 lead), Siang Leng Wong (Chapters 2 and 4 co-lead), with inputs from Jorge A. Chan-Lau, Aziz Durrani, Ji Ke, Kit Yee Lim, Toàn Long Quách, Alex Liyang Tang, Wanwisa (May) Vorrarikulkij and Pim-orn Wacharaprapapong. Jingwei Zhou, Yang Jiao, Junjie Shi, Huisheng Wang and Xiaofan Zhu provided research support.

Chiang Yong (Edmond) Choo and Leilei Lu coordinated the production of the publication, with editorial assistance from James Unwin; Qin Jie, Andrea Abellon, Hui Shan Seah, Lynn Tan and Karen Wilkinson coordinated communications and outreach.

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Finally, the views expressed in this report are those of AMRO staff and do not necessarily represent those of AMRO member authorities.



# Executive Summary



# Financial market stability under multiple trials

Global financial conditions over the past few years have oscillated between tightening and easing, underpinned by central banks shifting their monetary policy stances in response to the COVID-19 pandemic, higher inflation, and geopolitical tensions. Easy financial conditions in major markets started to gradually reverse in late 2021 amid the rise in global inflation (Figure E.1). Global central banks responded with forceful monetary tightening in 2022 leading to an aggressive tightening of financial conditions. Market perceptions that the Federal Reserve (Fed) would reduce its pace of monetary tightening saw conditions ease somewhat after November 2022.

By 2023, market focus had shifted from the pace and extent of monetary tightening to the spillover effects on financial stability. This shift was underscored by liquidity stresses that hit United States (US) regional banks in March 2023. Market concerns intensified with a run on a major global systemically important bank (G-SIB), Credit Suisse. Swift action by regulators in the US and Switzerland helped keep the broader financial system free of contagion, which enabled global markets to return to easier financial conditions.

Despite this easing, potential disruption continues in the regime shift from a “near-zero interest rate with ample liquidity” to one where rates are “higher-for-longer with receding liquidity”. This regime can be disruptive as it could expose hidden and/or less-visible financial vulnerabilities, manifested in elevated bond market volatility and underperformance in banking stocks that have yet to recover from the sharp falls in March (Figures E.2 and E.3). Meanwhile, global central banks have started again to reduce their balance sheets after expanding them during the pandemic (Figure E.4).

**Figure E.1. Selected Advanced Economies: Financial Conditions Index (FCI)**  
(Index)



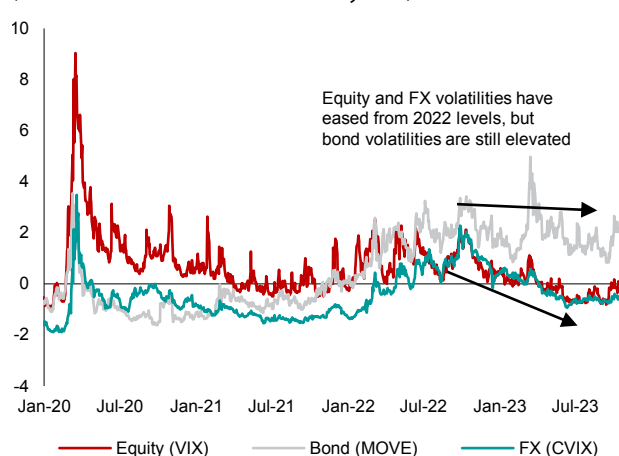
Source: Bloomberg Finance L.P.; AMRO staff calculations.

ASEAN+3 financial markets have weathered this global storm reasonably well. The effects of global monetary tightening and elevated market volatility on regional assets were notable but varied in scale and timing. Relative to US markets, most regional equity and bond markets experienced milder fluctuations in 2022 and 2023, partly because monetary policy tightening in the region was not as aggressive as in the US. Most regional currencies weakened against the US dollar, largely driven by a change in interest rate differentials as US policy rates rose at a faster pace (Figure E.5).

In light of milder inflationary pressures, improved external buffers, and the use of price subsidies and other non-monetary measures to contain inflation, monetary tightening was less aggressive overall in the ASEAN+3 region than in the US (Figure E.6). The pace of policy tightening has generally eased in the region in 2023 compared with 2022, reflecting a deceleration in inflation led by the decline in global fuel and food prices. Market pricing implies that the monetary policy tightening cycle is approaching its end in the US and in most economies in the region.

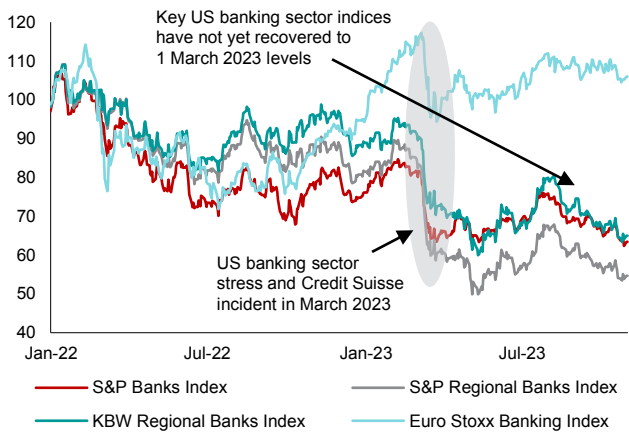
Emerging markets in the region have seen nonresident portfolio flows gradually recover, though there are some exceptions. Chinese debt markets saw a shift to large outflows in 2022, which have continued in 2023 despite the easing global financial conditions. Flows into Chinese equities have remained volatile. Asian emerging markets excluding China saw a strong recovery in debt flows but flows in equity markets moderated. The significant heterogeneity in flows across regional markets reflected differing monetary policy stances and other idiosyncratic factors.

**Figure E.2. US: Volatility in Key Assets and Corresponding Long-Term Averages**  
(Z-score based on data since 1 January 2010)

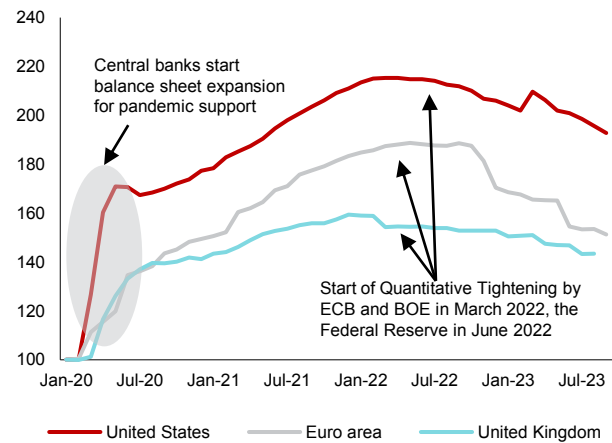


Source: Bloomberg Finance L.P.; AMRO staff calculations.

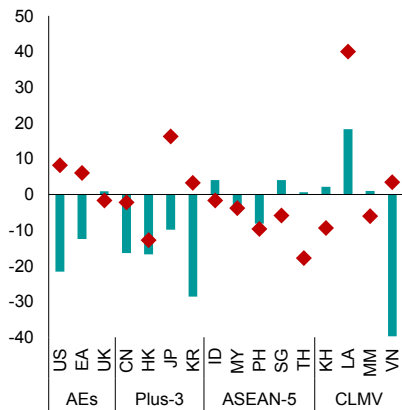
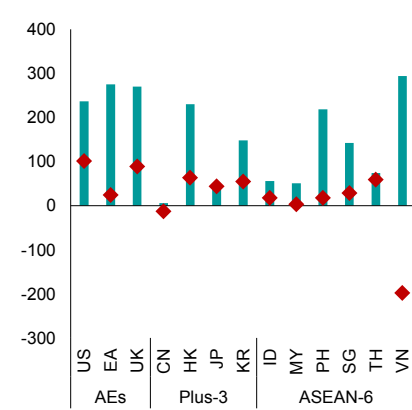
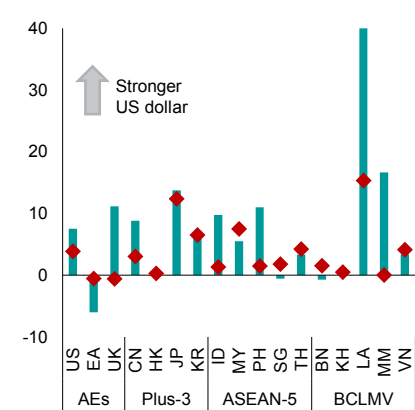
Note: VIX refers to Chicago Board Options Exchange's Volatility Index. MOVE refers to Merrill Lynch Option Volatility Estimate Index. CVIX refers to Deutsche Bank Currency Volatility Index.

**Figure E.3. US and Euro Area: Banking Sector Stock Indices**  
(Index, 1 January 2022 = 100)

Source: Bloomberg Finance L.P.; AMRO staff calculations.  
Note: KBW = Keefe, Bruyette, and Woods; S&P = Standard & Poor's.

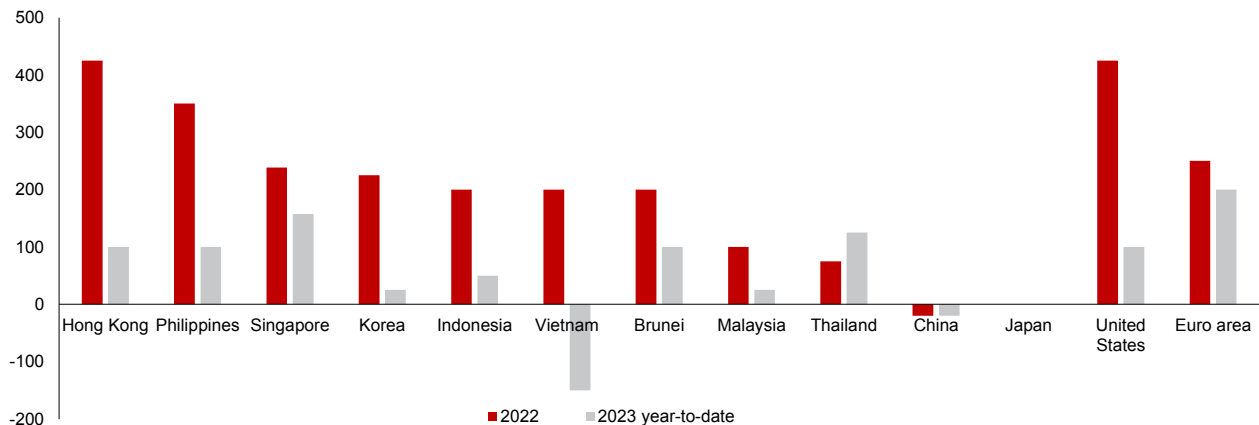
**Figure E.4. Selected Advanced Economies: Balance Sheets of Major Central Banks**  
(Index, 31 January 2020 = 100)

Source: Haver Analytics; AMRO staff calculations.  
Note: BOE = Bank of England; ECB = European Central Bank.

**Figure E.5. Selected ASEAN+3: Changes in Financial Markets, 2022 and 2023****Equity Markets**  
(Percent, log changes)**10-year Bond Yields**  
(Basis points)**Exchange Rate against the US Dollar**  
(Percent, log changes)

■ Change in 2022    ♦ Change in 2023 (year-to-date)

Source: National authorities via Bloomberg Finance L.P.; Bank for International Settlements; Haver Analytics; AMRO staff calculations.  
Note: The DXY Index is used to determine the change in the US dollar. AEs = advanced economies; BN = Brunei; CN = China; EA = euro area; HK = Hong Kong; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; UK = United Kingdom; US = United States. VN = Vietnam. Data for 2023 (year-to-date) as of 31 October 2023.

**Figure E.6. Selected ASEAN+3: Policy Rate Changes, 2022 and 2023**  
(Basis points)

Source: National authorities via Haver Analytics; AMRO staff calculations.  
Note: For Vietnam, we use the main refinancing rate. For Brunei, we use the standing facility lending rate. For Singapore, we use the overnight rate average. For China, we use the People's Bank of China (PBC) 7-day Reverse Repurchase yield. For Hong Kong, we use the Base Rate. Data for 2023 as of 31 October.

# Low visibility of challenges to financial stability

Inflation provides a challenging backdrop for ASEAN+3 authorities in safeguarding financial stability, as it is for monetary authorities in many major economies outside the region. Headline inflation has receded after its rapid rise in 2022. However, the pace of disinflation has varied across economies, with above-target inflation persisting in several. A tight labor market and lagged effects of high inflation could push up wages and, together with a potential commodity price surge and geopolitical tensions, could fuel inflation. In an adverse scenario, a resurgence in inflation could put regional central banks in a challenging situation as they try to balance multiple objectives of managing inflation, promoting economic growth, and ensuring financial stability.

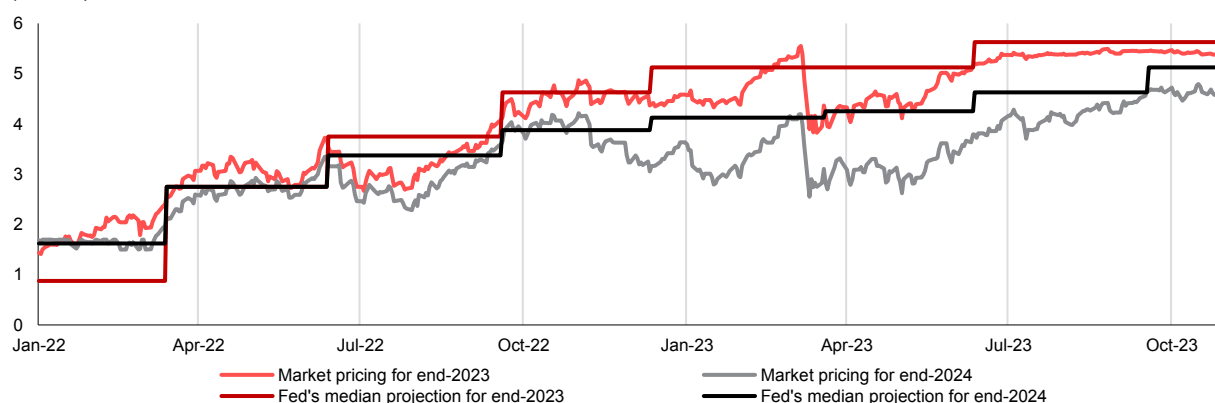
Financial markets consider the Fed to be close to the end of its tightening cycle, but the risk of further tightening cannot be dismissed amid uncertainty over how long inflation will remain elevated. Further upward revision in projections cannot be ruled out

given the strength of the US economy, its robust labor market, and the risk of a resurgence of inflation. Market evaluation of the Fed's reaction function has changed over the years (Figure E.7), with a dovish bias of market expectation re-emerging in the latest hiking cycle. The realignment of market expectations to the "higher-for-longer" scenario can lead to increased volatility in the markets.

Banking stress in the US and Europe has had limited spillovers to ASEAN+3 markets, but risks remain. The March bank run raised significant concerns about the health of the banking system across the world. Although ASEAN+3 banks appear more resilient to the factors that cause US regional banks to fail, financial stocks still fell with the increase in investors' risk aversion (Figure E.8). The lack of recovery in US banking stocks highlights lingering investor concerns about the financial sector, as shown by elevated market betas (Figure E.9). As such, the risk of contagion from further stress in US banking sector to ASEAN+3 markets remains.

**Figure E.7. Market and Fed's Projected Policy Rates Since the Start of the US Hiking Cycle**

(Percent)

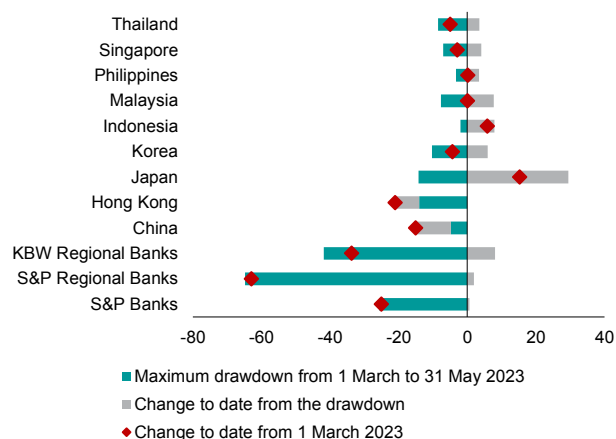


Source: Bloomberg Finance L.P.; Haver Analytics; AMRO staff calculations.

Note: The projected (at the start of the year) market pricing and median dots on 1 January for end-year policy rates are the latest available. The intra-meeting change in market projections shows the average and median change in the market projections for the policy rates of each meeting during the year from the day after the previous meeting. Data for 2023 is as of 31 October 2023.

**Figure E.8. US and Selected ASEAN+3: Drawdown and Recovery in Banking and Financial Index after the Banking Turmoil**

(Percent, log returns)

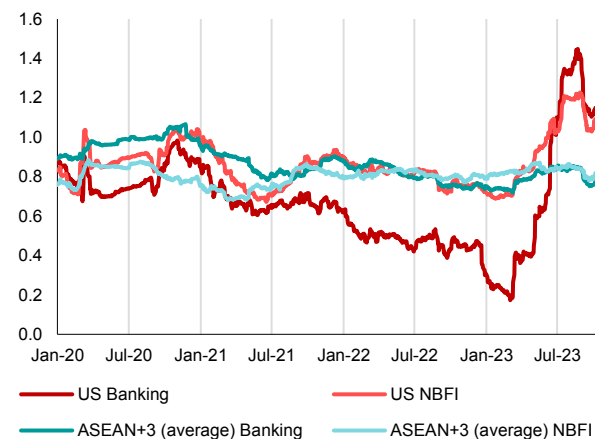


Source: Bloomberg Finance L.P.; AMRO staff calculations.

Note: MSCI Financial Indices have been used for ASEAN+3 economies. KBW = Keefe, Bruyette, and Woods; S&P = Standard & Poor's. Drawdown refers to index changes from 1 March 2023 to the trough before 31 May 2023. The change to date is from the lowest level seen between 1 March 2023 and 31 May 2023 to the latest level (as of 31 October 2023).

**Figure E.9. US and ASEAN+3: Market Betas for Banking and NBFi Sectors**

(Index)



Source: Bloomberg Finance L.P.; AMRO staff calculations.

Note: ASEAN+3 (average) is the simple average of the market betas for China, Hong Kong, Japan, Indonesia, Korea, Malaysia, Philippines, Singapore, and Thailand. NBFi = nonbank financial institution; US = United States. Latest level as of 30 October 2023.

Financial system risks and vulnerabilities could be amplified by increasingly interconnected and complex financial systems, and a high degree of dollar dependence in the region, where dollar finance increasingly is channeled through nonbank financial intermediaries (NBFIs). Faster cross-border capital movement boosted by more integrated financial markets and digitalization could propagate shocks much faster than before. Banks and NBFIs could face increasing risks of digital runs facilitated by

social media and digital payments, with potential for a rapid deposit outflow. US dollar funding stress may re-emerge as monetary tightening and balance sheet rundowns in the US could combine with a sudden shift in risk sentiment to create a shortage of dollar supply. Lower rated financial institutions are more vulnerable to the “sudden stop” in access to dollar liquidity that can happen amid concerns over counterparty risks.

## Higher debt spurred by ample liquidity and pandemic measures

Ample and low-cost liquidity provided by global central banks in the aftermath of the global financial crisis had fueled a rise in ASEAN+3 debt. In these low-for-long interest rate conditions, many corporates, households, and governments in the region took on new debt to finance consumption and investments. During the pandemic, monetary and fiscal stimulus measures further increased debt-to-GDP ratios. Central banks in the region helped stabilize the economy and financial system by expanding their balance sheets and lowering policy rates. Governments issued more debt to finance pandemic relief measures. And the nonfinancial private sector increased its borrowing, taking advantage of cheap funding costs.

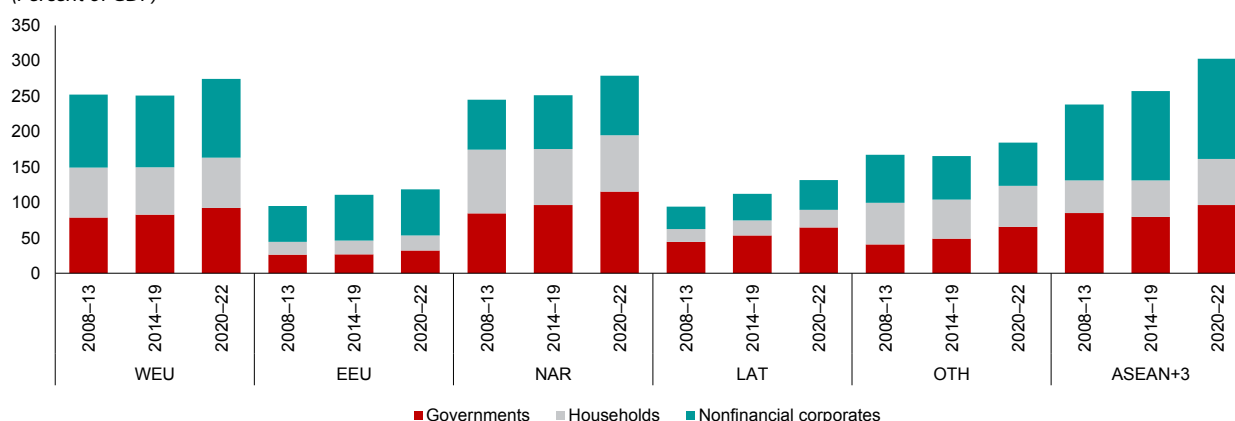
Against this background, the thematic chapters of this inaugural ASEAN+3 Financial Stability Report (AFSR) 2023 assess the financial stability implications of elevated private and public nonfinancial debt. Chapters 2 and 3 show how the region’s total debt-to-GDP ratio—including corporate, household, and public debt—has steadily increased, peaking at 325 percent of the

region’s GDP during the pandemic before declining to 299 percent of GDP at the end of 2022.

The corporate debt-to-GDP ratio is notably higher in ASEAN+3 than in other regions, whereas the ratios for household and government debt are relatively moderate (Figure E.10). The corporate debt-to-GDP ratio reached about 140 percent while for households the ratio was 63 percent in 2022, an increase of 40 and 18 percentage points respectively from 2008. The rapid expansion of private sector debt has driven the increase in overall debt in Plus-3 economies and in the international financial hubs of Hong Kong and Singapore.

The composition of debt and associated risks vary greatly across ASEAN+3 economies (Figure E.11). Relative to world averages, Hong Kong, Japan, Korea and Thailand have higher household debt, while China, Hong Kong, Korea and Singapore have higher corporate debt. Japan maintains an exceptionally high public debt.

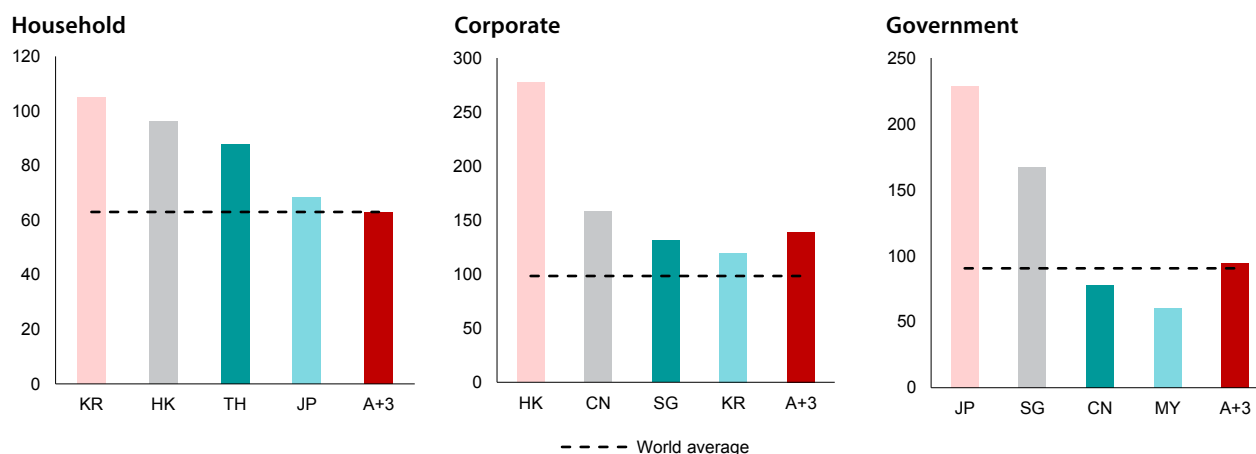
**Figure E.10. World: Nonfinancial Sector Debt-to-GDP by Region**  
(Percent of GDP)



Source: BIS; IMF; AMRO staff calculations

Note: WEU = Western Europe; EEU = Eastern Europe; NAR = North America; LAT = Latin America; OTH = Others. ASEAN+3 includes China, Hong Kong, Indonesia, Japan, Korea, Malaysia, Singapore and Thailand.

**Figure E.11. Selected ASEAN+3: Nonfinancial Sector Debt-to-GDP Ratios, 2022**  
(Percent of GDP)



Source: BIS; IMF; AMRO staff calculations

Note: For household and corporate debt-to-GDP ratios, Hong Kong, Indonesia, Japan, Korea, Malaysia, Singapore and Thailand are included in ASEAN+3. For public debt ratios, all ASEAN+3 economies are included. A+3 = ASEAN+3; CN = China; HK = Hong Kong; JP = Japan; KR = Korea; MY = Malaysia; SG = Singapore; TH=Thailand.

## Financial stability risks and vulnerabilities from higher debt

Rapid debt accumulation by private or public sectors makes financial systems more vulnerable to sudden shocks. Long periods of credit expansion and risk-taking could lead to financial instability that could eventually result in panic and crisis. The recent collapse of some US regional banks and the liquidity stress that hit Credit Suisse in Europe are reminders of the need for vigilance.

Chapters 2 and 3 warn that increased debt stocks and rising debt service in a high interest rate environment could threaten financial stability, especially when pandemic support measures for households and firms have been, or in some cases are still being, phased out.

- For households, corrections in housing prices and rising mortgage interest payments are major pressure points. Housing prices have fallen since the pandemic but may remain above levels consistent with macroeconomic fundamentals in some economies, which continue to face the risk of further price corrections. Interest rate increases raise the cost of servicing debt, with a faster transmission in economies with a high proportion of floating mortgage loans. In a recession, defaults could rise significantly among households with reduced incomes or high leverage.
- Corporates with relatively weak balance sheets owing to low profitability and cash buffers, or/and high leverage, could find it more difficult to refinance and pay interest expenses. These risks are more evident in the property and construction sectors, especially in economies where the housing market is in a downturn, and for unlisted micro, small and medium-sized enterprises.
- Governments with elevated debt-to-GDP ratios may face increased refinancing costs and rollover risk on maturing debt.

The risk that an ASEAN+3 economy could have refinancing problems depends on factors such as the maturity and currency structure of its debt, investor composition, and market liquidity. Excessive debt levels raise concerns about debt sustainability and increase the likelihood of a fiscal crisis, which would erode investor confidence and impede credit availability.

Chapter 4 finds that while bank-based financing still dominates in ASEAN+3, the role of NBFIs has expanded. NBFIs have emerged as significant providers of foreign currency liquidity, particularly through the region's international financial centers, which represent an important channel in the propagation of financial shocks within ASEAN+3.

The resilience of some ASEAN+3 banks could be tested in a high interest rate environment despite building up capital buffers in the decades since the Asian Financial Crisis. Tighter financial conditions, combined with the exit from pandemic relief measures, could weaken banks' loan quality and increase nonperforming loans. Moreover, competitive pressures make the passthrough from high interest rates to net interest margins uncertain. Besides this, rising funding costs could exacerbate liquidity risks for banks from increased reliance on market and cross-border financing.

Risks to financial stability also arise from NBFI activities that involve substantial maturity and currency transformation. These can materialize, for example, with declines in NBFI asset values that lead investors to withdraw funds, or where declining assets values reduce access to market funding, which can force NBFIs to quickly deleverage. An associated fire sale of NBFI assets could trigger a broader fall in asset prices, further worsening liquidity and funding difficulties and impacting the broader economy.



## Policy recommendations

The combination of high debt and rising interest rates means authorities need to strengthen defenses against financial stability risks. The policy mix requires a careful balancing of monetary, fiscal, and macroprudential policies, as well as good cooperation among authorities.

Chapter 1 recommends that ASEAN+3 central banks should prioritize price stability while preserving financial stability and supporting growth. Upside risks to the outlook for prices remain, where a resurgence in inflation could lead to higher for longer interest rates. When conflicts arise between inflation and financial stability objectives, a coordinated approach involving monetary, fiscal, and macroprudential measures is warranted to achieve the right balance.

To insulate the financial system from liquidity stress amid monetary tightening, central banks should make sure that regular liquidity facilities are available for banks. In economies where NBFIs are systemically important, authorities may need to strengthen regulatory, supervisory, and risk management measures. In a potentially systemic crisis situation, where these measures could prove insufficient, authorities should be prepared to provide temporary liquidity support for the orderly functioning of core financial markets and to limit contagion to the banking system or the broader economy. Such a liquidity backstop for NBFIs should be carefully designed with clear communication to avoid lending to insolvent institutions and to strike a delicate balance between crisis prevention and moral hazard concerns. Regional authorities should cooperate to ensure continued availability of US dollar liquidity in times of stress given that the dollar remains the dominant currency in trading and investment in the region. Reducing dependence on the US dollar can contribute to regional financial stability, although this will be a multiyear initiative requiring close cooperation among ASEAN+3 authorities.

Chapter 2 recommends that policymakers deploy a wide range of macroprudential tools to mitigate systemic risks to the

financial system from higher nonfinancial private debt. These can target different sources of risk arising from high household and corporate debt, and help curb excessive leverage by property developers. Promoting responsible corporate borrowing and embarking on new initiatives such as digitalization to reduce costs and enterprise collaboration efforts to promote corporate competitiveness are important steps. Moreover, given that small and medium-sized enterprises are particularly vulnerable, credit guarantee schemes can directly promote their access to financing, which could facilitate the rollover of debts.

To rein in financial stability risks from higher public debt (Chapter 3), a medium-term fiscal consolidation plan may be warranted. In some cases, a fiscal rule can also be considered. In addition, public debt management should aim to establish a debt structure with a maturity profile and currency distribution that mitigates liquidity and currency risks. It should also develop a diversified investor base to reduce government reliance on a narrow group of investors—and so increase resilience against shocks. Lastly, efforts to promote a deep and liquid bond market should continue.

Safeguarding the soundness of financial intermediaries is paramount to ensure that credit intermediation is both stable and smooth (Chapter 4). For banks, keeping leverage in check, including through the continual use and refinement of macroprudential policies, is important to reduce vulnerabilities. Weaker banks are advised to either increase provisioning or improve their capital reserves. Learning from the experiences of US bank failures, the scope of the deposit insurance coverage could be widened to ensure depositor confidence in times of stress. NBFIs' growing systemic importance makes strengthening their supervisory and regulatory framework a priority. Their central role in the functioning of financial markets in the region, especially in dollar funding and hedging markets, requires close cooperation among regulatory and macroprudential authorities and central banks in ASEAN+3. Steps to close the major gaps in data on NBFIs can facilitate this cooperation.



## Chapter 1

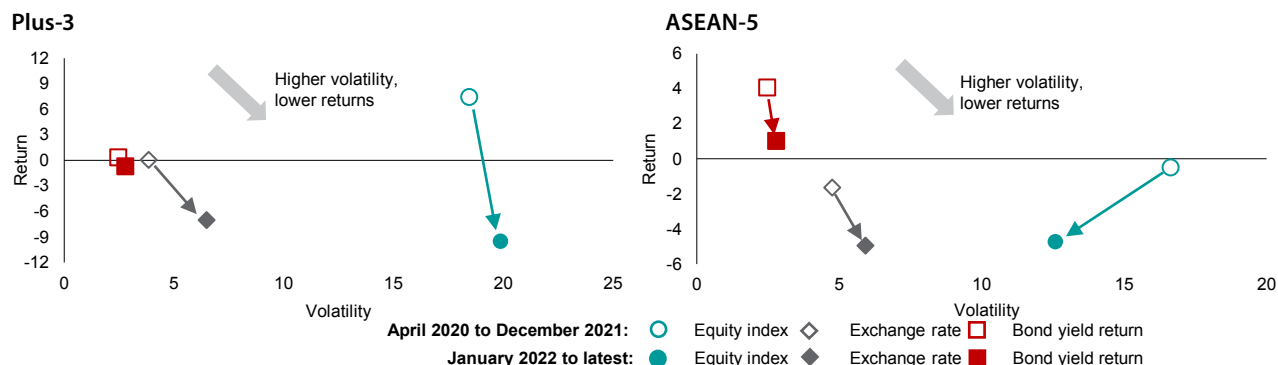
# Market Conjunctural– Low Visibility of Challenges Ahead

## At a Glance

ASEAN+3 asset volatility rose while returns fell during the past two years (a time period marked by US Fed's monetary tightening) relative to April 2020 to December 2021 (a time period marked by recovery from the pandemic).

### ASEAN+3: Realized Returns and Volatility in Financial Assets, 2020–2021 versus 2022–Now

(Percent, annualized)



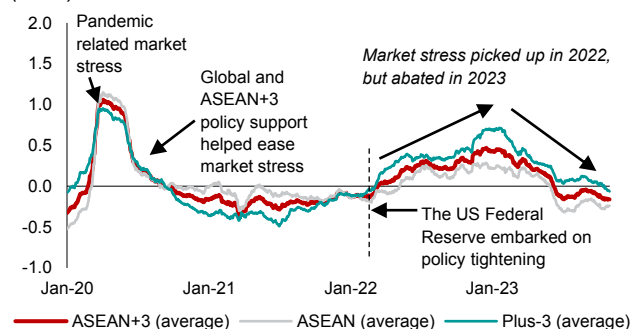
Source: Bloomberg, Haver Analytics; AMRO staff calculations.

Note: ASEAN-5 = Indonesia, Malaysia, Philippines, Singapore, and Thailand. Plus-3 = China, Hong Kong, Japan and Korea. The returns and volatilities for ASEAN-5 and Plus-3 are a simple average across the constituent markets. Latest data as of 30 October 2023.

Financial conditions have eased after November 2022 amid market perception that the Fed was becoming less hawkish.

### Selected ASEAN+3: Market Stress Indicator (Average)

(Index)



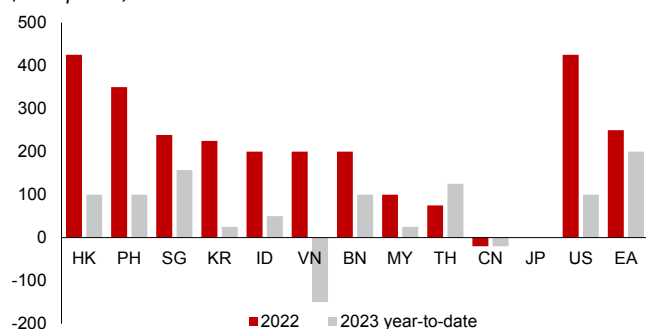
Source: Bloomberg Finance L.P.; Haver Analytics; AMRO staff calculations.

Note: The Market Stress Index is based on the Mispicing Risk (Refined) proposed in Hennig, lossifov, and Varghese (2023) which attempts to capture the slack in financial conditions. The index is constructed using real equity market returns, equity market volatility, domestic sovereign bond yield volatility, real domestic government bond yield, sovereign FX risk spreads, FX market volatility, growth of real effective exchange rate (REER) and real house price growth.

Meanwhile, domestic macroeconomic and policy backdrop allowed regional central banks to tighten less aggressively than the Fed.

### Selected ASEAN+3: Policy Rate Changes, 2022 and 2023

(Basis points)



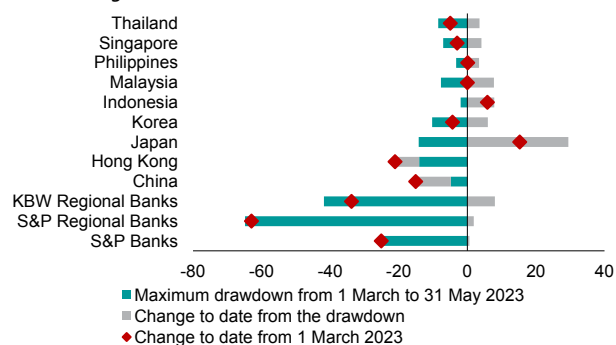
Source: National authorities via Haver Analytics; AMRO staff calculations.

Note: For Vietnam, we use the main refinancing rate. For Brunei, we use the standing facility lending rate. For Singapore, we use the overnight rate average. For China, we use the People's Bank of China (PBC) 7-day Reverse Repurchase yield. For Hong Kong, we use the Base Rate. Data for 2023 as of 31 October.

The risk of contagion from any potential stress in the US banking system to ASEAN+3 exists.

### US and Selected ASEAN+3: Drawdown and Recovery in Banking and Financial Index after the Banking Turmoil

(Percent, log returns)



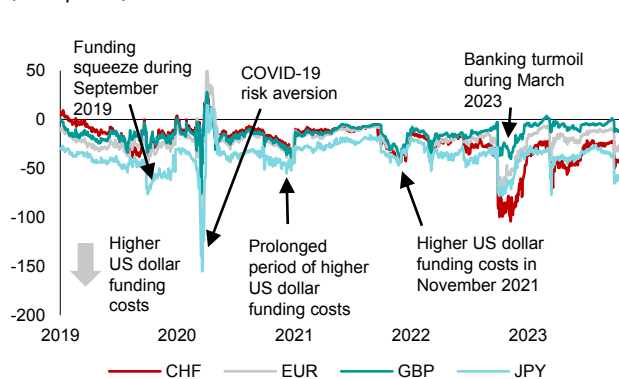
Source: Bloomberg Finance L.P.; AMRO staff calculations.

Note: MSCI Financial Indices have been used for ASEAN+3 economies. KBW = Keefe, Bruyette, and Woods; S&P = Standard & Poor's. Drawdown refers to the change in index from 1 March 2023 to the trough in the index before 31 May 2023. The change to date is the change from the lowest level seen between 1 March 2023 and 31 May 2023 to the latest level (as of 30 October 2023).

US dollar funding stress can rise in periods of heightened risk aversion, amid the backdrop of receding global dollar liquidity.

### Selected Major Currencies: Cross Currency Swap

(Basis points)



Source: Bloomberg Finance L.P.; Haver Analytics; AMRO staff calculations.

Note: CHF = Swiss franc; EUR = euro; GBP = Pound sterling; JPY = Japanese yen

## Chapter 2

# Navigating High Debt in Low Visibility – Assessing Private Debt Vulnerabilities

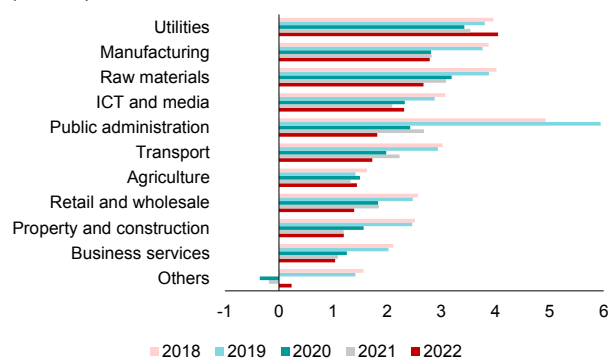




## At a Glance

Corporate sector profitability has declined since 2018 and is relatively poor in the property and construction sector.

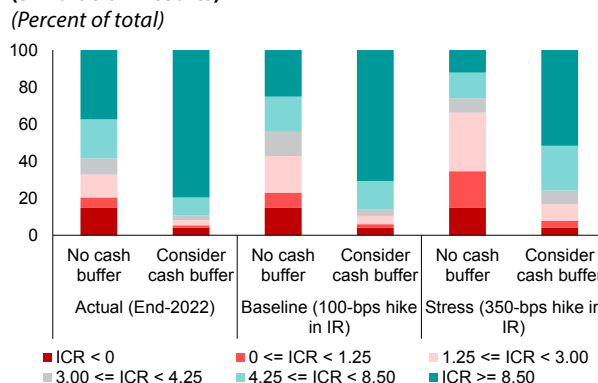
### ASEAN+3: Median Return on Assets by Sector (Percent)



Source: Orbis; AMRO staff calculations.  
Note: ICT = information and communication technology.

Higher interest rates strain the capacity of borrowers with low Interest Coverage Ratio to repay debt and cash buffers.

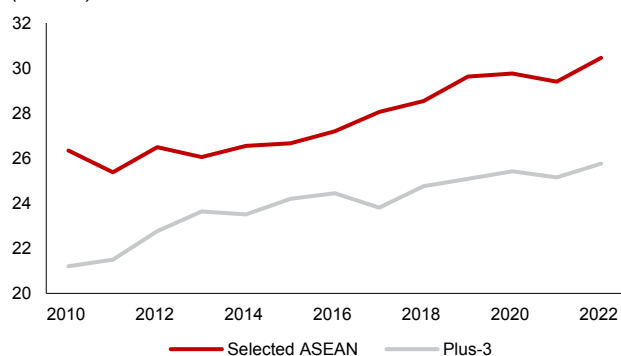
### Selected ASEAN+3: Share of Debt Under Stress, 2022 (Simulation Results)



Source: AMRO staff calculations.  
Notes: ICR = Interest coverage ratio (equivalent to EBIT/interest expense); IR = corporate borrowing rate. The scenarios with hikes in IR are assumed to affect interest expense but not EBIT. The scenarios indicating "no cash buffer" takes only account EBIT in servicing interest expense. Due to data availability, Brunei, Lao PDR, and Myanmar are not included in the ASEAN+3.

The ASEAN+3 corporate sector has increased reliance on bonds, which increases exposure to market risks.

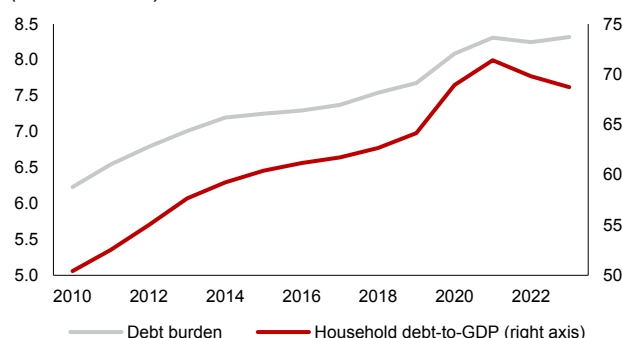
### Selected ASEAN+3: Share of Bonds in total Corporate Financing (Percent)



Source: AsianBondsOnline; IMF International Financial Statistics (IFS) via Haver Analytics; BIS via Haver Analytics; AMRO staff calculations.  
Note: Selected ASEAN includes Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

Rising household debt to GDP pushed up debt burdens, increasing risks from recession and higher interest rates.

### Selected ASEAN+3: Debt Burden and Household Debt-to-GDP Ratio (Percent of GDP)

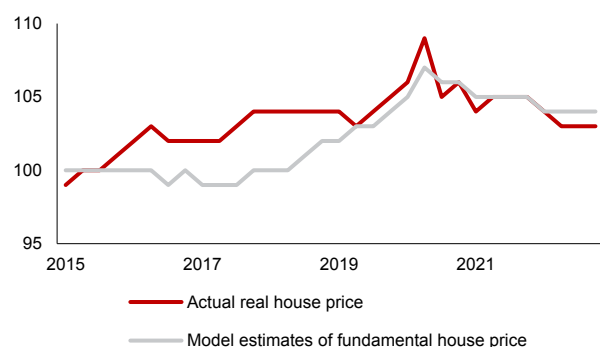


Source: National authorities; BIS; AMRO staff calculations.  
Note: Debt burden is measured by the Debt Service Ratio, estimated for countries not reporting data by and using the methodology in Drehmann et al. (2015) and assuming a 10-year average debt maturity. The latest household debt data are for 2023Q1. Selected ASEAN+3: China, Hong Kong, Japan, Korea, Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

Real house prices peaked in selected ASEAN in end-2019 and declined in line with macroeconomic fundamentals.

### Selected ASEAN+3: Real House Price Compared to the Level Consistent with Macroeconomic Fundamentals

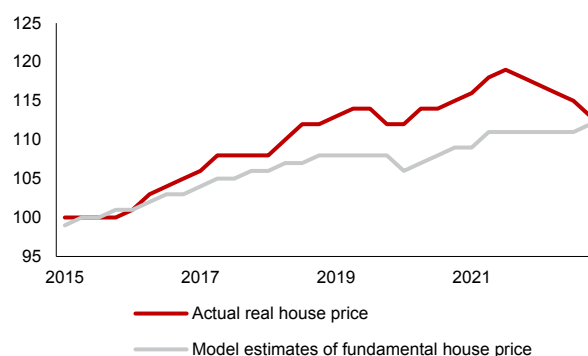
#### Selected ASEAN



Source: National authorities; IMF; BIS; AMRO staff estimations. Selected ASEAN includes Indonesia, Malaysia, Philippines, and Thailand. Plus-3 and international financial centers (IFCs) include China, Japan, Korea, Hong Kong, and Singapore. Actual and estimated real house prices are indexed so that 2015=100. The house price level consistent with macroeconomic fundamentals is estimated with panel error correction econometric model first used in Loungani and Inez (2012), IMF Working Paper 12/217 in which it depends on housing affordability, real GDP growth, the interest rate, and the stock price index,

They rose more rapidly in Plus-3 and IFCs but have also corrected closer to their fundamental level, thereby reducing risk.

#### Plus-3 and IFCs







## Chapter 3

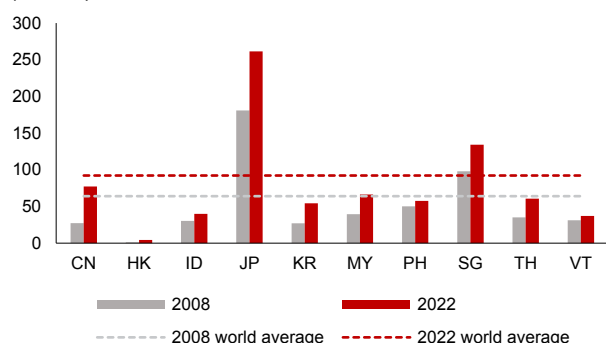
# Navigating High Debt in Low Visibility – Assessing Public Debt Vulnerabilities

## At a Glance

*The ASEAN+3 public debt-to-GDP ratio is relatively moderate, with the notable exception of Japan...*

### World and Selected ASEAN+3: Level of Public Debt-to-GDP Ratios

(Percent)

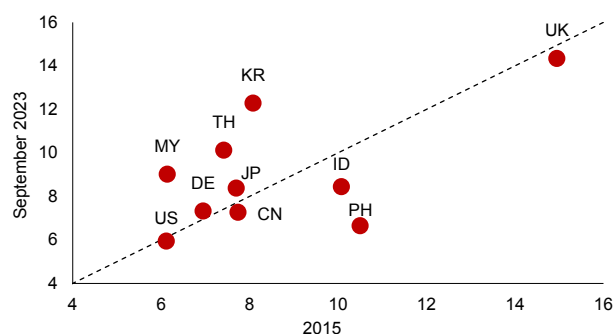


Source: IMF World Economic Outlook April 2023; AMRO staff calculations.  
Note: World averages are calculated as GDP-weighted averages of individual countries' debt-to-GDP ratios. CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KR = Korea; MY = Malaysia; PH = Philippines; SG = Singapore; TH = Thailand; VN = Vietnam

*Refinancing risk in the region is generally low, but some economies have declining average debt maturities.*

### Selected ASEAN+3, US, UK and Germany: Weighted Average Remaining Maturity of Government Bonds

(Year)

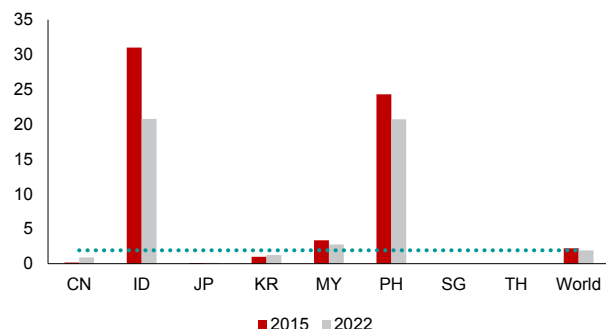


Source: Bloomberg Finance L.P.  
Note: The weighted average remaining maturities are calculated based on the outstanding Treasury/Sovereign bonds, excluding loans, and bonds issued by government-related agencies. CN = China; DE = Germany; ID = Indonesia; JP = Japan; KR = Korea; MY = Malaysia; PH = Philippines; TH = Thailand; UK = United Kingdom; US = United States.

*Exchange rate risks vary across the region, but most appear to have sufficient capacity to address the risks...*

### World and Selected ASEAN+3: Foreign Currency Debt Securities Ratio in General Government Debt Securities

(Percent)

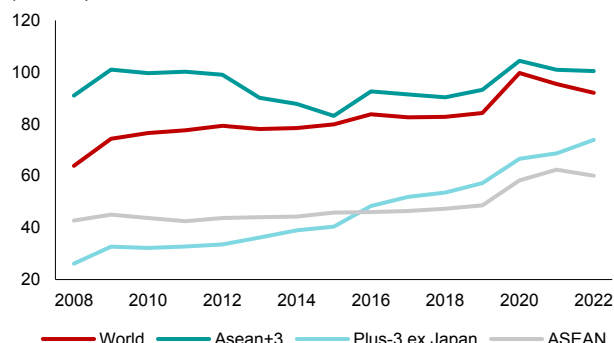


Source: BIS; World Bank/IMF via Haver Analytics; AMRO staff calculations  
Note: The ratio of foreign currency securities to general government securities for long-term securities with original maturity above one year. The dotted line represents the global average from data across 55 BIS surveyed countries.

*...but has risen sharply in Plus-3 and remains elevated above pre-pandemic levels in ASEAN economies.*

### World, Selected Economies and Region: Trend of Public Debt-to-GDP Ratios

(Percent)

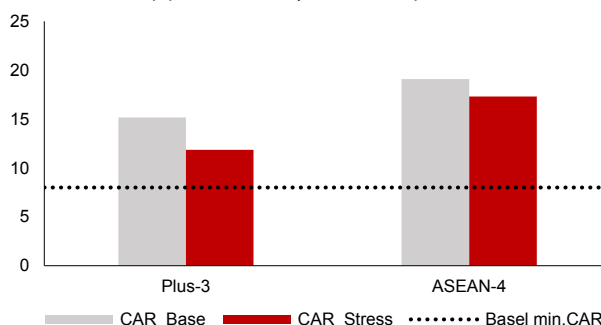


Source: IMF World Economic Outlook April 2023; IMF Fiscal Monitor April 2023; IMF Global Debt Monitor 2022; AMRO staff calculations.  
Note: A country group's average is calculated as a GDP-weighted average of individual countries' debt-to-GDP ratios. Plus-3 ex Japan = China, Hong Kong, and Korea

*Interest rate hikes can raise financial market risks, which is mitigated by robust bank capital buffers.*

### Selected ASEAN+3: Capital Adequacy Ratios (CARs) Changes Example

(Scenario: 100bp parallel bond yield curve upward shift)

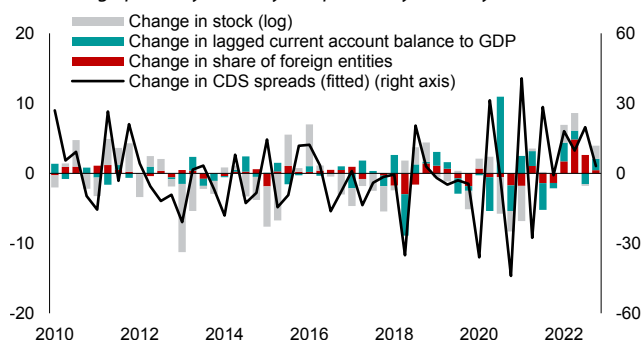


Source: IMF FSI via Haver analytics, CEIC; Sovereign Debt Investor Base, IMF; S&P Dow Jones Indices; AMRO staff calculations  
Note: All government bonds held by banks were assumed to undergo marked-to-market valuation without distinguishing their placement in the banking or trading book.

*...and the share of foreign investors is currently low, although their growth could increase sovereign default risk.*

### Selected ASEAN+3: Contributions to Change in Credit Default Swap (CDS) Spreads

(Percentage points, year-on-year; percent, year-on-year)



Source: IMF Sovereign Debt Investor; International Financial Statistics; CMA Datavision; National Authorities; AMRO staff calculations  
Note: Only significant variables are included. Selected ASEAN+3 = China, Indonesia, Japan, Korea, Malaysia, Philippines, and Thailand





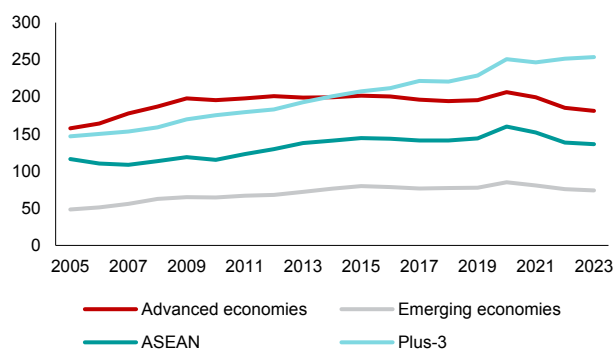
## Chapter 4

# Navigating High Debt in Low Visibility – Assessing Resilience of Financial Intermediaries

## At a Glance

*ASEAN+3 bank credit-to-GDP ratios have risen steadily, led by increases in Plus-3 economies relative to other regions.*

**Selected Regions: Credit-to-GDP Ratio**  
(Percent)

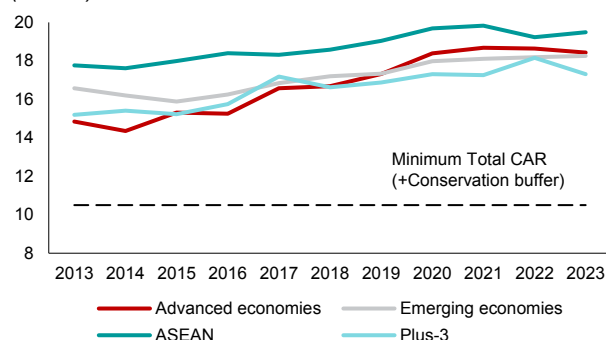


Source: BIS via Haver Analytics; AMRO staff calculations.

Note: The credit-to-GDP ratios are computed based on simple averages amongst economies in the specific region. Selected ASEAN includes Indonesia, Malaysia, Singapore, and Thailand. Plus-3 economies covered are China, Hong Kong, Japan, and Korea.

*...but ASEAN+3 banks have bolstered their resilience by building larger capital buffers above regulatory minimums...*

**Selected Regions: Total Capital Adequacy Ratio (CAR)**  
(Percent)

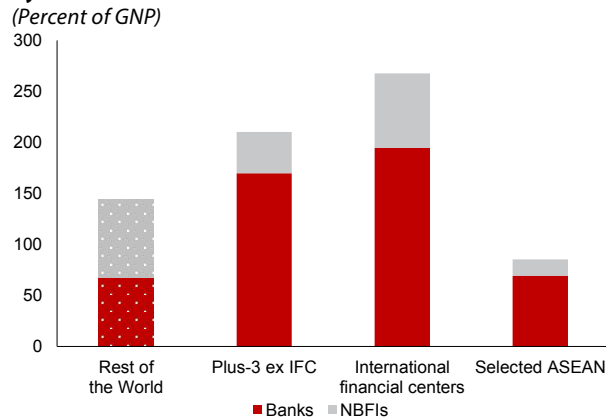


Source: National authorities; IMF via Haver Analytics; AMRO staff calculations.

Note: The capital adequacy ratios are computed based on simple averages amongst economies in the specific region. Due to data availability, ASEAN countries not covered are Brunei, Cambodia, and Malaysia.

*ASEAN+3 is bank-dominated with NBFIs providing a lower share of credit to the nonfinancial private sector...*

**World and ASEAN+3: Financing of Nonfinancial Private Sector by Banks and NBFIs**  
(Percent of GNP)

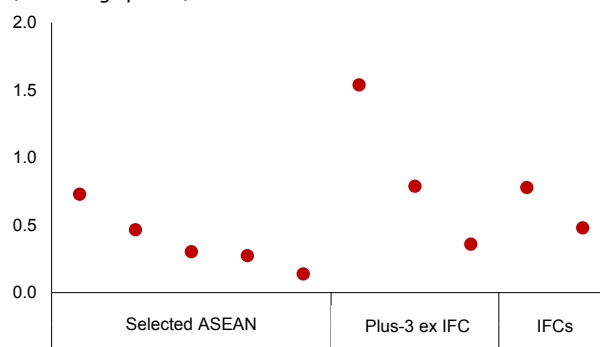


Source: BIS via Haver Analytics; AMRO staff calculations.

Note: International financial centres (IFCs) consist of Hong Kong and Singapore. Selected ASEAN consist of Indonesia, Malaysia, and Thailand.

*Rising interest rates may cause loan portfolio credit quality to deteriorate due to increased refinancing and default risks.*

**Selected ASEAN+3: Effect of 100bps Increase in Interest Rate on Nonperforming Loan (NPL) Ratios**  
(Percentage points)

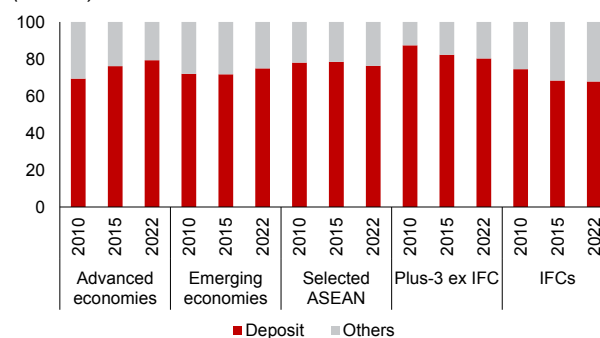


Source: AMRO staff calculations.

Note: Selected ASEAN includes Indonesia, Malaysia, the Philippines, Thailand, and Vietnam. IFCs = international financial centers, covering Hong Kong and Singapore.

*...and improving liquidity buffers help withstand liquidity shocks as reliance on market-based financing increases.*

**Selected Regions: Share of Bank Liabilities**  
(Percent)

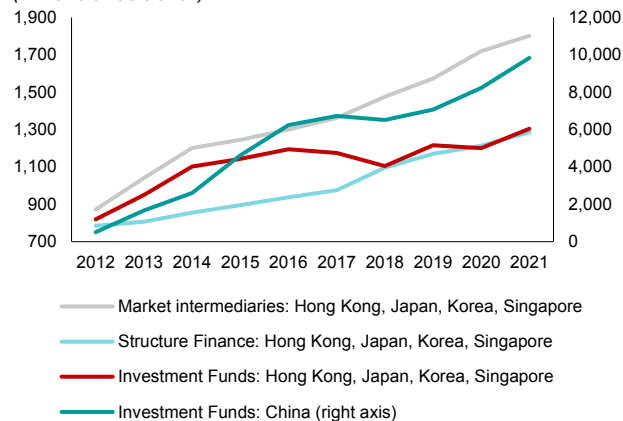


Sources: IMF via Haver Analytics; AMRO staff calculations.

Note: IFC = international financial centers, covering Hong Kong and Singapore. Selected ASEAN excludes Lao PDR due to data availability issue. The share of liabilities is computed based on simple averages of economies in each region. Data are extrapolated where necessary.

*...but NBFIs have rapidly expanded their critical market intermediation role, especially providing dollar liquidity, adding to systemic risk in ASEAN+3.*

**Selected ASEAN+3: Credit Intermediation of NBFIs**  
(Billions of US dollar)



Source: Financial Stability Board; AMRO staff calculations.

Note: Selected ASEAN+3 includes China, Japan, Korea, and the international financial centers of Hong Kong and Singapore.



## ASEAN+3 Macroeconomic Research Office

10 Shenton Way, #15-08,  
MAS Building, Singapore 079117  
Tel: +65 6323 9844  
Email: [enquiry@amro-asia.org](mailto:enquiry@amro-asia.org)

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