A Framework for Assessing Policy Space in ASEAN+3 Economies and the Combat against COVID-19 Pandemic

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Abstract

Policymakers across the world have deployed unprecedented policy measures to mitigate the impact of the COVID-19 pandemic on the economy. The extraordinarily-large economic stimulus packages could significantly narrow policy space in the future. In this regards, this study aims to provide a framework for analyzing available fiscal and monetary policy space in the ASEAN+3 region based on a combination of quantitative and qualitative indicators that also includes country-specific features. The fiscal space framework comprises a "three-block" approach, which incorporates assessments in the areas of: i) debt sustainability; ii) risk to financing capacity and debt profile; and iii) country-specific factors. Monetary policy space for conventional monetary policy measures is assessed based on comparison across economies under a "four-block" approach, taking into account: i) the degree of monetary policy autonomy; ii) level of interest rates; iii) external vulnerability; and iv) financial imbalances and the ability to address them by using macro-prudential tools. Factors that should be taken into consideration for deploying unconventional monetary policy in emerging market economies are also briefly discussed. In addition to the analytical framework, the study also highlights the importance of careful strategies for an exit from the policy support. Policymakers also need to prepare for the longer-term challenges in the post-pandemic period.

JEL classification: E62; E52; H63; E58

Keywords: Fiscal Policy; Monetary Policy; Public Debt; Debt Sustainability; Financing Capacity; Interest Rates; Financial Stability; Impossibility Trinity; Foreign Reserve; Unconventional Monetary Policy

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I.   Introduction

1.   **The COVID-19 pandemic has wreaked havoc on the global and regional economies, prompting governments to deploy unprecedented policy measures to save lives, provide treatments, limit the spread of the disease, and mitigate the impact on livelihoods and national economies.** In the ASEAN+3 region, the policy measures taken include social distancing, testing, treatment, community quarantines and city lockdowns. In addition, various financial measures have been announced to support households and companies, and to ensure that financial institutions and markets continue to function normally and provide liquidity and credit to those in need. The stimulus packages announced by several regional economies have been substantial (See IV.A. Policy Responses to the COVID-19 Outbreak and Implications on Policy Space).

2.   **Uncertainty on when the pandemic will be contained remains high and its full social and economic costs are still to be determined. These could mount significantly, which means regional authorities must be mindful of the policy space they have and use their options wisely**. It is generally acknowledged that policy space in regional economies has narrowed since the Global Financial Crisis (GFC). The policy stimulus packages during the GFC were large and comprised both significant fiscal measures and an extended period of accommodative policy to support demand. While the packages were able to help turn around the situation and put economies back on track, several regional economies were left with high levels of debt in sectors where the stimulus was injected. Authorities across the region have made progress in addressing this imbalance as part of macroeconomic and financial sector reform efforts. However, the efforts were still far from over when COVID-19 struck.

3.   **This study aims to provide a practical framework to analyze policy space on the fiscal and monetary policy fronts and employ it to make policy recommendations.** The focus is on analyzing the extent to which fiscal and monetary policies can be further deployed to address significant downward pressure on the economies in the short-term. As policy space is a complex concept and various relevant aspects need to considered, the framework relies on a combination of common quantitative and qualitative indicators to allow for cross-country comparisons. As country-specific factors not captured by those indicators can be essential, desk economists' views are also incorporated in the final part of this assessment. The fiscal space analysis considers the available concepts and benchmark levels for different types of economies established by previous studies of researchers and other international financial institutions. The monetary policy space analysis is based on our own framework and focused on country comparison without benchmarking.

4.   **The study focuses on the assessments of advanced and emerging market economies in the region, namely China, Japan, Korea, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Hong Kong, China [3] .** These economies have sufficient data pertaining to market related risks for the assessment based on our proposed framework. The assessments of the other ASEAN+3 economies, Brunei Darussalam, Cambodia, Lao PDR, Myanmar and Vietnam (BCLMV), will need a modified assessment framework given their much lower levels of international capital market access. In addition, policy environments of BCLMV are quite different from those of the advanced and emerging

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[3] Hong Kong, China will be refered to as Hong Kong hereafter.

ASEAN+3 economies. Except for Brunei, these countries have some common features in economic structure and policy framework (IMF, 2009). These include greater vulnerability to exogenous shocks - such as commodity price fluctuations, natural disasters, and volatile aid flows – as well as weaker governance and generally lower administrative capacity. Such characteristics require special consideration in assessing the policy space.

II. Fiscal Policy Space Framework

A. Framework

5. **Fiscal policy space is generally understood as the extent to which a government can undertake discretionary fiscal policy measures to mitigate short-term economic downturns without undermining fiscal sustainability.** For example, the IMF's operational definition (2016) is "room for undertaking discretionary fiscal policy relative to existing plans without undermining fiscal sustainability".

6. **The empirical assessment of fiscal space should take into consideration multiple aspects, with debt sustainability and financing availability as core elements.** Assessing a country's fiscal space naturally involves the government's capacity to service debt and to finance its operations under its inter-temporal budget constraints. In this context, the World Bank's cross-country fiscal space database (Kose et al., 2017) provides an invaluable reference. It highlights four key pillars consisting of 28 indicators: (i) government debt sustainability; (ii) balance sheet composition; (iii) external and private sector debt; and (iv) market perception of sovereign risk.

7. **Regional economies' fiscal space is assessed by combining quantitative and qualitative aspects in a "three-block" approach.** Our analysis blends the strengths of other international organizations' approaches, to assess regional economies' fiscal space. It also takes into account data availability. Our framework attempts to incorporate both quantitative as well as qualitative aspects that are relevant and may or may not be comparable across countries (Table 1):

- In the first block, key indicators on **debt sustainability** are analyzed to capture quantitative as well as comparable cross-country information. General government gross debt levels[4] and primary balances are compared with debt burden threshold levels that correspond to signals of potential debt distress, and debt stabilizing primary balances[5] as indicative benchmark levels respectively.

- In the second block, **risk to financing capacity and debt profile** are assessed to capture qualitative and comparable aspects of debt sustainability to supplement the first block's information set. This block consists of three pillars – market assessment of sovereign risk (credit default swap (CDS) spreads, rating agencies' sovereign ratings), balance sheet composition (liquidity risk, rollover risk), and external and private sector debt (contingent liabilities).

- In the last block, **country-specific factors** are incorporated to cover additional aspects or information that are not adequately captured in the first two blocks before a final judgment on an economy's fiscal space assessment is made. This idiosyncratic aspect may be with regard to the level of financial market development, country-specific fiscal institutions and other factors. Hence, this requires each country desk's in-depth knowledge of national institutions and professional judgment.

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[4] As a caveat, only using gross debt levels rather than net debt levels as a key indicator in the first block may provide insufficient information in assessing fiscal space for some countries with large government asset holdings. Such country-specific conditions are addressed in the third block.

[5] It is defined as the level of primary balance needed to keep the debt-to-GDP ratio constant at a sustainable debt level and proportional to the gap between the real interest rate and real growth rate. See Cheng and Pitterle (2018) for details.

8.   **Fiscal policy in low income countries (LICs) requires different considerations.**
LICs often need to maintain higher fiscal deficit to support higher level of public investments.
In addition, they are usually more reliant on grants and concessional loans or non-tax
revenues, which makes the second block comparison invalid. [6] In some of the BCLMV
economies, budget revenues are highly dependent on proceeds from natural resources, SOE
divestments and land usage rights. Obtaining fiscal data including public debt profile in a timely
manner remains challenging in these economies.

Table 1. Fiscal Space Assessment Framework

Information set	Fiscal space pillars	Debt sustainability information	Cross-country comparability	Selected indicators (% of GDP unless otherwise specified)	Indicative benchmark level
Block I: Debt sustainability	I. Debt sustainability	Quantitative aspect	Comparable	General government gross debt	AE 85%/ EM 70%
				Primary balance (3-year moving average)	Debt-stabilizing primary balance
Block II: Risks to financing capacity and debt profile	II. Market assessment of sovereign risk	Qualitative aspect		CDS spreads (basis points)	GFC peak level
				Foreign currency long-term sovereign debt ratings (index from 1-21)	Index value of 12
	III. Balance sheet composition			General government debt held by nonresidents (% of total)	AE 60%/ EM 60%
				Central government debt maturing in 12 months or less	-
	IV. External and private sector debt			External debt stock	AE 40%/ EM 40%
				Domestic credit to private sector	AE 30%/ EM 15% (in 3-year cumulative level change)
Block III: Country-specific factors	V. Idiosyncratic factors	Quantitative or qualitative aspects	Not comparable across economies	Depending on country cases	-

Note: Early warning threshold levels for selected indicators are largely adopted from the IMF Debt Sustainability Analysis for Market Access
Countries.
Source: AMRO

B.   Debt Sustainability

9.   **Prior to the pandemic, government debt was generally contained at a low level
across the region.** Among the economies considered, Japan and Singapore are two
exceptions with their governments' gross debt as high as 230 percent and 114 percent of GDP
respectively in 2019. Hong Kong's debt level remained close to zero. The other governments'
debt levels ranged from 30 percent to 60 percent of GDP. Notably, since 2010, the debt level
has shown a gradual increase in most countries, except for Hong Kong and the Philippines
(Figure 1), but has largely remained at moderate levels.

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[6] One exception is Vietnam, which was re-categorized as a lower middle income country in 2010, then graduating from the
International Development Association (IDA), the World Bank's fund for low income countries, in June 2017. Moreover, Vietnam
does not depend excessively on external financing, and foreign holdings of local currency government account for only 0.7
percent of total, as of March 2020.

10.   **Several economies had room to expand their primary balance deficits to cope with the unanticipated COVID-19 pandemic.** A comparison of primary balance over the past three years with its debt stabilizing level[7], which depicts a level of primary balance needed to keep debt-to-GDP constant in the long-run, indicates that some economies with higher economic growth (Philippines, Malaysia and Indonesia) and lower interest rates and low government debt (Hong Kong) had policy room that could be used before the implicit debt stabilizing level is reached. In contrast, Japan appeared to have limited room to expand primary balance deficits when assessed with its debt stabilizing levels, mainly due to its high debt stock and/or already-sizable deficits (Figure 2).

Figure 1. Government Debt
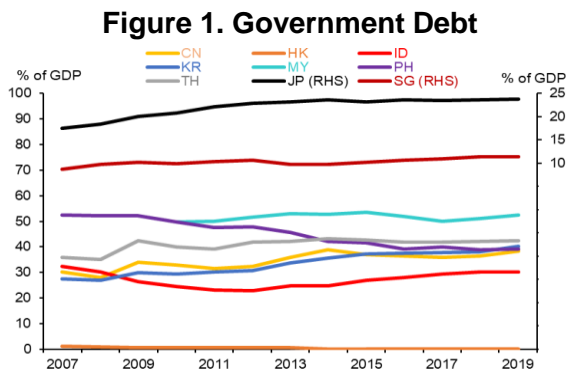
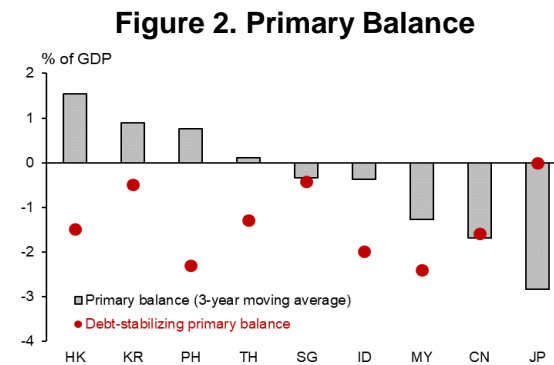Note: Based on general government gross debt with projected figures for 2019; China's debt includes both central and local government debt.
Source: IMF; AMRO

Figure 2. Primary Balance

Note: Based on the 2019 WEO projections except for China whose primary balance is obtained by deducting estimated interest payments from the official fiscal balance.
Source: IMF; AMRO staff estimation

11.   **The level of government debt is compared against an indicative debt burden benchmark.** AMRO adopted the debt burden threshold levels of 85 percent for advanced economies (AE) and 70 percent for emerging market (EM) economies from the IMF Debt Sustainability Framework for market-access countries (IMF, 2013), which were derived from an early warning (signal-to-noise) approach. Using historical fiscal distress episodes, IMF's empirical study identified the level of the indicator that best predicts the occurrence of a debt distress event with minimum probability of wrong signals (missed crises and false alarms) [8]. It is observed that most economies' gross debt levels were well below the debt burden threshold (Figure 3).

12.   **Debt sustainability indicators suggest that there was still room for expansionary fiscal policy in most regional economies.** In the first block, the room for further fiscal expansion is assessed by using two indicators: the distance between government debt level (at the end of 2019) and the debt burden threshold (85 percent for AE and 70 percent for EM), and the distance between primary balance (2017-19 average) and its debt stabilizing level, respectively. Figure 3, which combines these two indicators, suggests that Hong Kong and the Philippines had relatively large fiscal buffers; Indonesia, Korea, Thailand, and Malaysia had moderate room; China had some room to expand its debt stock; and Japan and Singapore appeared to have limited room. That said, it must be emphasized that these assessments are based on pre-pandemic conditions and that final judgment should be reserved until all other

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[7] Country-specific values of debt-stabilizing primary balances are calculated from the debt dynamics equation, using AMRO country desks' projections of long-run real interest rates and long-run growth rates. For the sustainable debt-to-GDP ratio, the indicative benchmark level of 85 percent for AEs, except for Japan (240 percent), and 70 percent for EMs is used.

[8] Recent global trends of higher debt levels and lower interest rates in the post-GFC period may affect the reliability of benchmark levels for debt distress prediction. Additional empirical works with more recent episodes of debt stress will be needed to revise the benchmark levels. Until new benchmarks based on solid quantifiable empirical support become available, AMRO's approach relies on desk judgment to incorporate views about the impact of this phenomenon in the last assessment block.

aspects – risks to financing capacity and debt profile, and country-specific factors – are fully considered.

Figure 3. Debt Sustainability Indicator
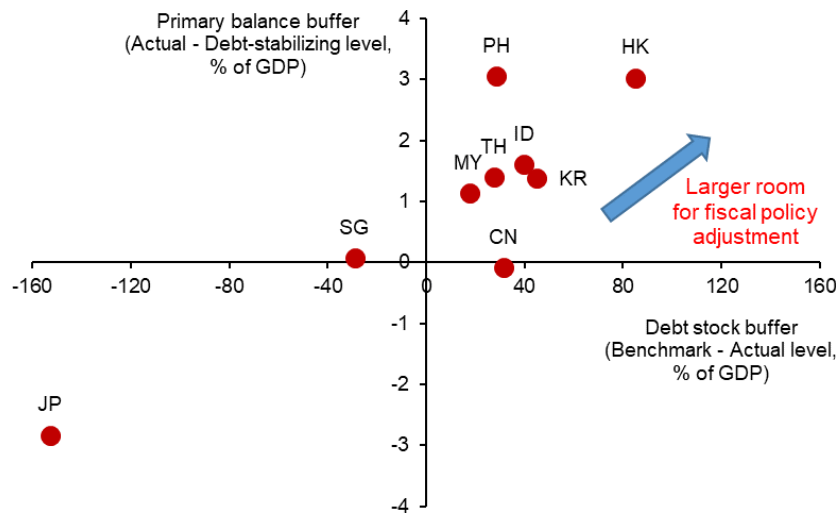
Note: As of 2019; Debt stock buffer = Debt burden threshold (85 percent for AE, 70 percent for EM) – government debt level (at the end-2019);
Primary balance buffer = Realized primary balance (2017-19 average) – estimated debt-stabilizing primary balance level
Source: IMF; AMRO staff estimates

C.   Risk to Financing Capacity and Debt Profile

13.   **This second block aims to assess the qualitative aspect of debt sustainability in terms of debt profile and the risk to financing capacity.** Considering data availability among regional economies, six indicators were selected for three pillars from the World Bank's fiscal space cross-country database: (i) market perception of sovereign risk as reflected by 5-year U.S. dollar sovereign CDS spreads and rating agencies' foreign currency long-term sovereign debt ratings; (ii) balance sheet composition as captured by ratio of general government debt held by nonresidents to total general government debt, and ratio of short term central government debt by remaining maturity to total central government debt; and (iii) external and private sector debt as captured by external debt stock to GDP, and the increase in domestic credit to private sector as a share of GDP.

14.   **Market perception of sovereign risk has generally improved.** Since the GFC, sovereign CDS spreads–among the key indicators for market perceptions about a country's ability to roll over debt or issue new debt–have significantly declined across the board (Figure 4). Among the ASEAN-4 group, Thailand's risk premium has remained the lowest in 2019. Foreign currency long-term sovereign debt ratings by major ratings agencies also indicated that market perception has improved since the GFC for all economies in the region except Japan. They also show that all economies succeeded in obtaining investment grade debt ratings or above in 2019 (Figure 5).

Figure 4. Sovereign CDS Spreads
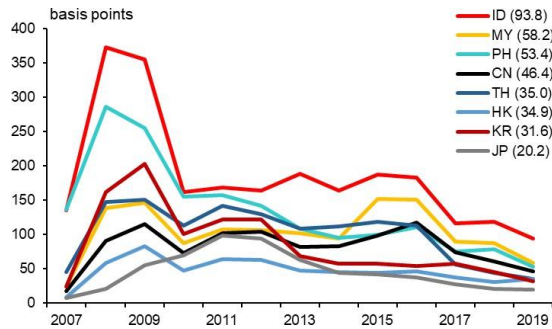
Note: Based on annual averages of the 5-year sovereign CDS spread; each figure in parenthesis indicates the basis point for 2019.
Source: Haver Analytics; AMRO staff calculations

Figure 5. Foreign Currency Long-term Sovereign Debt Ratings
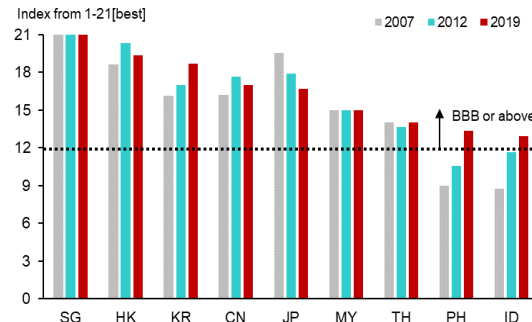
Note: Based on annual averages of the debt ratings by Moody's, Standard & Poor's and Fitch Ratings.
Source: World Bank (Fiscal Space Cross-country Database)

15. **Balance sheet indicators reveal some weaknesses in debt structure even in less indebted countries.** Indonesia's dependence on external funding[9] made it vulnerable to liquidity risks in the event of risk aversion among foreign investors. In contrast, the Philippines and Malaysia are less vulnerable due to the lower share of non-residents' holdings of government debt (Figure 6). Despite its low debt level, Korea's high share of amortization within 12 months or less, accounting for 22 percent of total government debt, exposed the economy to rollover risk in a period of financial distress (Figure 7).

Figure 6. Government Debt Held by Nonresidents
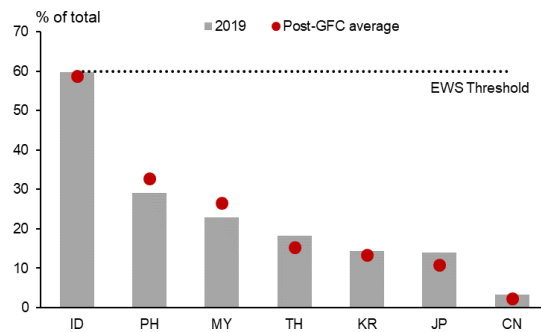
Note: Defined as gross general government debt, including debt securities and loans in all currencies, held by nonresidents.
Source: IMF; AMRO staff calculations

Figure 7. Central Government Debt Maturing in 12 Months or Less
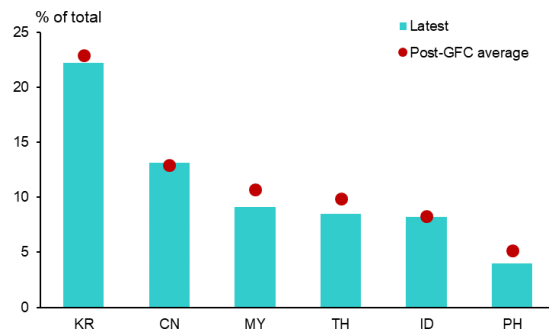
Note: Based on the sum of short-term and long-term debts due in 1 year or less; the latest figures are as of the end of Q3 2019, except for Korea (end-2017) and Malaysia (the end-2018).
Source: World Bank (Quarterly Public Sector Debt); AMRO staff calculations

16. **The sizes of external debt stock varied widely.** The IMF (2002) recommends an external debt-to-GDP ratio of about 40 percent as a useful benchmark with a caveat that exceeding the level does not necessarily imply a crisis.[10] Hong Kong, Singapore, Japan and

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[9] 'External funding' here covers the foreign holding of government bonds as well as foreign loans, in both local currency (LCY) and foreign currencies (FCY). In Indonesia, foreigners' government debt holdings - 59 percent of total government debt (as of the end-2019) - comprise LCY-denominated bond (22 percent of the total), FCY-denominated bond (20 percent) and foreign loans (17 percent).

[10] Based on its external debt sustainability analysis, IMF argues that for countries with an external debt-to-GDP ratio of below 40 percent, the conditional probability of a debt crisis or "correction" is around 2 percent to 5 percent; for countries with debt ratios above this level, the conditional probability rises to about 15 percent to 20 percent. The estimated benchmark level thus provides

Malaysia had external debt stock exceeding the 40 percent benchmark in 2019 (Figure 8). However, these levels were also affected by country-specific factors such as the role of Hong Kong and Singapore as international financial centers, and the role of Japan as the world's largest creditor nation. Malaysia's external debt level had declined from its peak in 2016. However, the still-high level of external debt against the benchmark requires prudent management of rollover and foreign currency risks, which are mitigated to some extent by the country's substantial external assets. These will be discussed further in the next sub-section on country-specific factors.

17.   **Contingent liabilities risk from rising domestic credit to the private sector was relatively well contained.** High private sector debt has the potential to impact fiscal sustainability as explicit or implicit bailout guarantees create contingent liabilities for the government. To capture a potential credit bubble, the speed of domestic credit expansion to private sector is calculated as the past 3-year's cumulative level change as a share of GDP. A comparison with the threshold of 30 percent for AEs and of 15 percent for EMs indicates that none of the economies were showing any symptom of a build-up in credit bubbles (Figure 9). On the contrary, China, Hong Kong, Indonesia, Malaysia, Singapore and Thailand saw a slowdown in private credit expansion in recent years.

Figure 8. Total External Debt Stock
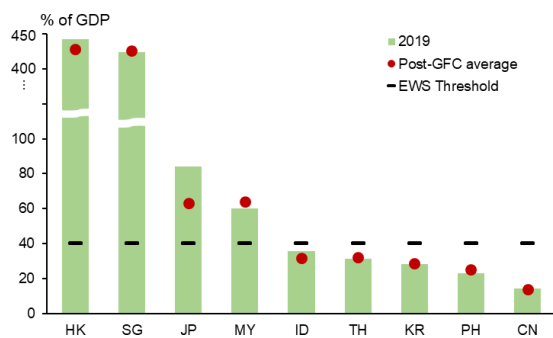
Source: World Bank (Quarterly External Debt Statistics); AMRO staff calculations

Figure 9. Changes in Domestic Credit to Private Sector
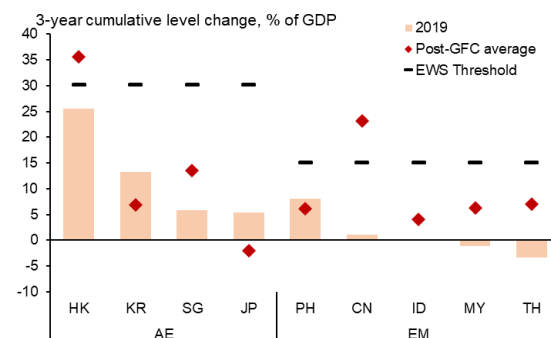
Source: BIS; AMRO staff calculations

D.   Country-specific Factors

18.   **In the third block, country-specific factors are taken into consideration to assess the need for any adjustment of preliminary assessments drawn from the first two blocks.** This block encompasses additional dimensions that are uneven across regional economies – for instance, degree of financial market development and diverse institutional framework (presence of fiscal rule, different coverage of public debt). Thus, it requires each country desk's institutional knowledge and expertise. Key considerations for different economies in this exercise are summarized as follows:

* **Japan**'s high level of gross debt apparently poses fiscal risks in terms of its long-term sustainability (AMRO, 2020a). However, the fact that 87 percent of the government debt were held by domestic investors in 2019 indicates that the source of financing is relatively stable. Furthermore, on a net basis, debt has also stabilized at around 120

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a rough guide for assessing a country's external debt ratio, with an appreciable increase in the probability of a crisis at external debt levels above it. At the same time, it bears emphasizing that an external debt ratio above 40 percent of GDP does not necessarily imply a crisis.

percent of GDP when the government's financial assets such as pension reserves and foreign currency securities are taken into account (Figure 10). Japan's net international investment position has continued to rise, reaching about 68 percent of GDP in 2019.

- In **China**, a large debt stock of local government financing vehicles (LGFV)–estimated at 35.7 percent of GDP (AMRO, 2020b)–may erode fiscal sustainability in some local governments with weak financial resources. However, the government's large holdings in state-owned enterprises (SOEs)–about 82.5 percent of GDP in 2018–provides additional fiscal space as the government can receive higher dividends and/or sell some of its stakes in non-strategic sectors. The government can also work with SOEs to boost their investments.

- **Singapore's** general government debt is high at 110 percent of GDP, but it consists mainly of Singapore Government Securities (SGS), Special Singapore Government Securities (SSGS) and Singapore Savings Bonds (SSB). These securities are issued for non-budgetary purposes and the proceeds are invested and not used for financing the budget deficit. On the contrary, the government has been running budget surpluses most years and has accumulated very large fiscal reserves. Hence, the high level of government debt is not a constraint on fiscal policy space.

- **Hong Kong** has fiscal reserves amounting to more than 30 percent of GDP. The reserves allow the government to ramp up spending to address long-term structural challenges over the next decade. Even after taking into account the substantial fiscal support packages for mitigating the impact of the COVID-19 pandemic totally about 10 to 11 percent of GDP, there is no impending need for the government to issue debt.

- **Thailand's** overall deficit has been around 3 percent of GDP. The public debt-to-GDP ratio has been broadly stable at above 40 percent, well below the self-imposed 60 percent ceiling (Figure 11). Moreover, the authorities' fiscally conservative mindset has contributed to the building up of a substantial policy buffer that can be utilized to mitigate short-term economic downturns.

Figure 10. Japan: Gross versus Net Government Debt
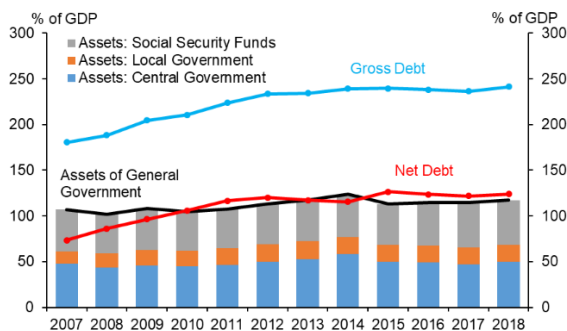
Source: Cabinet Office, Japan; AMRO staff calculations

Figure 11. Thailand: Public Debt
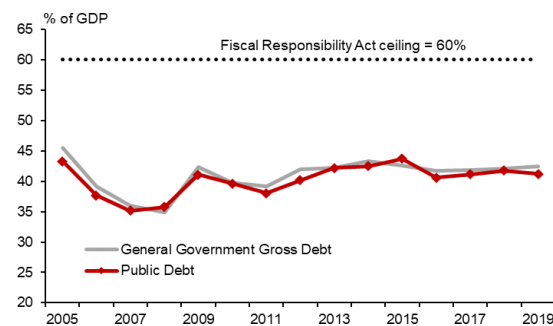
Source: Public Debt Management Office of Thailand; IMF

- In **Indonesia,** the authorities' fiscal prudence is reflected in the low government debt to GDP ratio, a well-managed primary balance, and the 3 pecent cap on its overall fiscal deficit. Due to its dependence on foreign investment in the government bond market, the economy is vulnerable to capital flow volatility risks should risk aversion

rise, prompting foreign investors to draw down their investments. In particular, foreign investors held about 39 percent of total rupiah-denominated government bonds outstanding as of the end of 2019, the highest in the region (Figure 12). Furthermore, Indonesia's capital markets remain modest in size with a fairly narrow base of domestic long-term investors, thereby limiting domestic investors' ability to absorb a potential sell-off by foreign investors.

- **The Philippines'** fiscal position has improved quite significantly after the GFC with government debt declining from more than 70 percent to around 40 percent of GDP. The government has enhanced its tax mobilization capacity and tax administration efficiency by pushing forward tax reforms. Meanwhile, the constraint on fiscal policy is more on the funding capacity of domestic investors. The government has also been trying to enhance the implementation capacity and spending efficiency of line agencies, which have more room to improve.

- In contrast, **Malaysia** benefits from a broad institutional investor base, compared to other EM economies, including its regional peers (Figure 13). Therefore, robust demand from domestic institutional investors has helped to mitigate the adverse impact of foreign capital outflows on domestic financial assets–including government bonds–which serves to widen Malaysia's fiscal policy space. Moreover, Malaysia's elevated external debt can be attributed to the large presence of foreign banks in the country relative to most emerging market peers–in line with the large stock of FDI and the existence of the Labuan financial center–and the domestic banks' extensive regional operations (AMRO, 2019).

Figure 12. Foreign Holdings of LCY Government Bonds
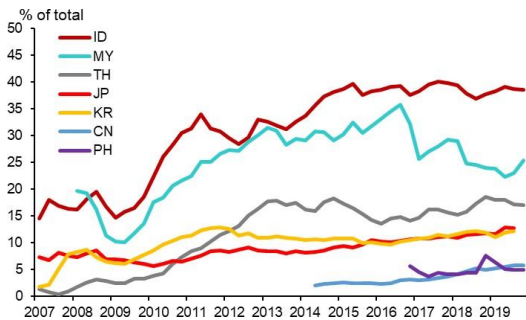
Source: National authorities; ADB AsianBondsOnline

Figure 13. Domestic Institutional Investor Base
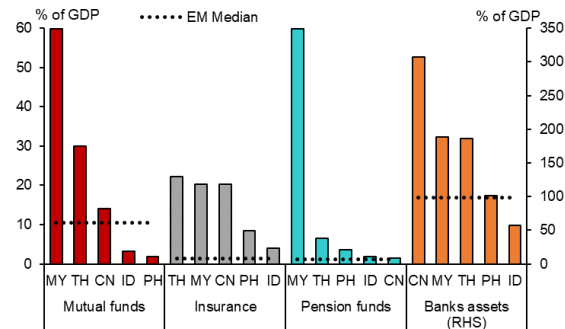
Note: As of end-2017 (Mutual funds and banks assets), or end-2016 (Insurance and pension funds); Each dotted line indicates the median for selected 17 EM economies.
Source: IMF (Global Financial Stability Report, October 2018)

III. Monetary Policy Space Framework

A. Framework

19.   **Regional economies have adopted a wide range of monetary policy frameworks to achieve their policy objectives.** Given the diverse macroeconomic and financial landscape across the region, regional economies have pursued different monetary policy regimes to achieve their price, financial, and external stability objectives (Table 3). While several economies have adopted an inflation-targeting framework, Hong Kong has chosen a currency board system to provide confidence to investors as a regional financial center. The monetary policy framework in China is transitioning from a quantity-based to a price-based framework and currently relies on a mixture of quantity-based and price-based instruments.

20.   **Monetary policy space is assessed based on the following "four-block" approach.** This framework aims to provide a consistent approach in assessing economies' monetary policy space by taking into account the diverse institutional setups, macroeconomic and financial settings and monetary policy frameworks:

- **The degree of monetary policy autonomy.** Monetary policy autonomy reflects the ability of a central bank to affect the monetary condition of its own domestic economy, with due consideration given to both external and domestic macroeconomic and financial conditions. Therefore, monetary policy autonomy is a prerequisite for having monetary policy space in this framework. In practice, each economy can simultaneously choose only two of the three following policy objectives: monetary policy autonomy, exchange rate stability and capital account openness. For example, an economy such as Hong Kong has very limited monetary policy autonomy given the policy trade-off from having a fully liberalized capital account and a currency board (officially referred to as linked exchange rate) regime that is tightly pegged to the U.S. dollar.

- **The distance of the prevailing monetary policy rate from the zero lower bound (ZLB).** Most regional central banks have chosen a particular short-term interest rate as their monetary policy instrument to transmit their policy decisions to the financial markets and the real sector. For these economies, policy rates that are close to the ZLB would face diminishing monetary policy space. For China, the considerations for this aspect need to take into account not only the ZLB but also other policy tools (See Box A: China's Monetary Policy Framework and Tools).

- **External vulnerability.** Capital flow volatility and exchange rate movements can have significant implications, especially for small and open economies' monetary policy space. For economies with weak external positions, the room to lower policy rates to stimulate the economy is likely to be less than what the ZLB indicates. This is because of the risk of greater capital outflows and their impact on the economy and the financial sector (Ghosh et al., 2016). The measure of external vulnerability in this study comprises two aspects: i) external sustainability (current account and external debt); and ii) reserve buffers to deal with shocks.

- **Financial imbalances and the ability to address them by using macro-prudential tools.** Financial imbalances–as reflected by high household and corporate debt, asset price bubbles and rapidly growing credit–can limit the room for monetary easing.

This is because a more accommodative monetary policy stance can fuel further imbalances. However, this constraint on monetary easing can be lessened by the use macro-prudential measures to mitigate financial risks. Economies that can deploy effective macro-prudential measures–to address excessive asset price growth and household and corporate leverage–will have more monetary policy space (Obstfeld et al., 2017; Nier and Kang, 2016).

21. **For the CLMV countries, the assessment of monetary policy space has to take into account for the level of dollarization and data limitations in key financial stability indicators.** The use of foreign currencies for domestic transactions is a key feature for Cambodia and Lao PDR and, to a much lesser extent, Vietnam and Myanmar. This in turn limits the scope and effectiveness of domestic monetary policy in affecting domestic macroeconomic conditions. In terms of data availability, most financial stability related indicators are not available and an accurate indicator-based assessment of the CLMV's financial conditions is challenging.

B. Monetary Policy Autonomy (Impossible Trinity)

22. **There are different degrees of monetary policy autonomy due to the various monetary policy frameworks adopted by regional economies.** The impossible trinity theorem states that economies will have high monetary policy autonomy if they are characterized by either: i) low capital account openness and high exchange rate stability (tightly pegged exchange rate); or ii) high capital account openness and low exchange rate stability (more flexible exchange rate). Using the index proposed by Aizenman, Chinn and Ito (2013), Figure 14 shows snapshots of regional economies' degree of exchange rate stability index as well as capital account openness and the implied degree of monetary autonomy before the GFC in 2008, and in 2019. In short, economies that are further away from point A have relatively higher policy autonomy compared to others.

Figure 14. Capital Account Openness and Exchange Rate Stability Index for Regional Economies
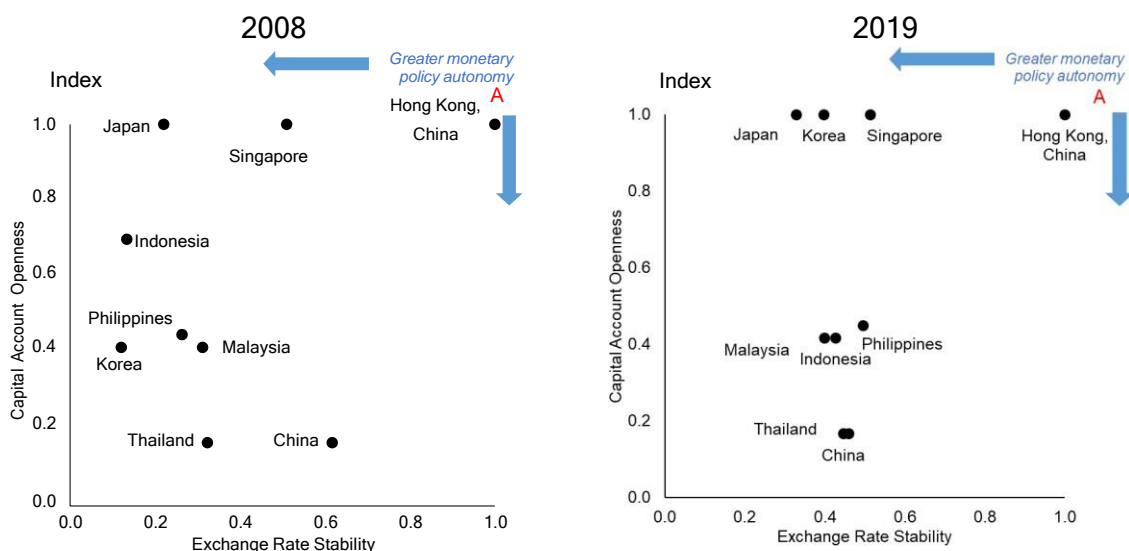
Note: 1) The 2008 and 2019 exchange rate stability index is based on the approach by Aizenman, Chinn and Ito (2013). It is calculated using the 3-year moving average annual standard deviations of the monthly bilateral exchange rate with the USD using the following formula:

$$ER = \frac{0.01}{0.01 + s.d.(\Delta(\log(exchange\_rate)))}.$$

2) The measure of capital account openness is based on the *de facto* capital account openness index constructed by Chinn and Ito (2006, 2008). It is constructed based on the IMF's AREAER on current account transactions, capital account transactions and the requirement of export proceeds' surrender.
Source: AMRO; Aizenman et al. (2013).

Table 3. Monetary Policy Frameworks

Country	Monetary Policy Regime	Policy instruments	Policy Objectives
China	Monetary aggregate target (transitioning to a price-based system)	Repo rate, reverse repo standing lending facility (SLF), medium-term lending facility (MLF), targeted medium-term lending facility (TMLF), Short-term Liquidity Operations (SLO), benchmark deposit rates, loan prime rate, RRR, Pledged Supplementary Lending (PSL), relending rate, rediscounting rate.	Maintain a stable value of RMB and financial stability, and facilitate economic growth
Japan	Inflation targeting	Under the QQE with YCC (quantitative and qualitative monetary easing with yield curve control) framework, policy rates include both short-term policy interest rate (at minus 0.1 percent) and the 10-year JGB yields (at around 0 percent).	Achieve price stability, thereby contributing to the sound development of the national economy. Since 2013, the price stability target has been set at 2 percent in terms of the year-on-year rate of change in the consumer price index
Hong Kong, China	Exchange rate anchor (USD)	Currency Board arrangements; Backing of Monetary Base at HK$7.8 per US dollar	Maintain currency stability within the framework of the Linked Exchange Rate System, which is an exchange rate anchor vis-à-vis the U.S. dollar
Korea	Inflation targeting	Overnight call rate	Pursue price stability through the formulation and implementation of efficient monetary and credit policies, and maintaining financial stability

Country	Monetary Policy Regime	Policy instruments	Policy Objectives
Indonesia	Inflation targeting	7-day reverse repo rate, deposit facility rate and lending facility rate	Maintain low and stable inflation amid global economic uncertainty. The BI implements a monetary and macroprudential policy mix and undertakes policy communication and coordination to achieve its objectives, as well as to achieve and maintain a stable value for the rupiah
Malaysia	Other	Overnight policy rate	Promote price stability and the sustainability of economic growth, as well as consider the impact of monetary policy on financial stability
Philippines	Inflation targeting	Overnight reverse repurchase (RRP) rate	Promote and maintain price stability; provide proactive leadership in bringing about a strong financial system conducive to sustainable growth of the economy
Singapore	Implicit inflation targeting	Singapore dollar nominal effective exchange rate (S$NEER) as an intermediate target of monetary policy	Maintain price stability over the medium term as a basis for sustainable economic growth.
Thailand	Inflation targeting	1-day bilateral repo rate	Pursue its primary mandate of price stability while also accounting for economic growth and financial stability

Source: 2018 IMF Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER); Corbacho and Peiris (2018); AMRO country desk survey

23.   **The degree of monetary autonomy in most regional economies has remained mostly stable since the GFC.** Table 4 shows economies' monetary autonomy computed based on their designated exchange rate stability and capital account openness indexes in Figure 14. China and Thailand have the highest degree of monetary policy autonomy in 2019. Meanwhile, Hong Kong has close to none. From 2008 to 2019, monetary autonomy remained stable or declined slightly for regional economies.

**Table 4. Monetary Autonomy Index of Regional Economies**

Economies / Year	CN	HK	ID	JP	KR	MY	PH	SG	TH
2008 (I)	0.7	0.0	0.7	0.8	0.8	0.7	0.7	0.5	0.8
2019 (II)	0.8	0.0	0.7	0.7	0.6	0.7	0.6	0.5	0.8
Change (II) – (I)	0.1	0.0	0.0	-0.1	-0.2	0.0	-0.1	0.0	0.0

Note: The monetary autonomy score is computed based on the distance between countries' position from point A using the formula: $Monetary\ Autonomy = \sqrt{(x-1)^2 + (y-1)^2}$, and scaled by the distance from point A to either the X-axis and Y-axis that is nearest to the countries' position. x and y denote the capital account openness and exchange rate stability.
Source: AMRO staff calculation

C. Policy Rates and the Zero Lower Bound

24.   **Policy rates have declined across the region, indicating reduced monetary policy space.** Across the region, benchmark policy rates have been successively cut to support growth and mitigate the impact of trade tensions as well as the COVID-19 pandemic (AMRO, 2020c). Therefore, policy space in the ASEAN+3 has narrowed. The benchmark policy rate has moved closer to the ZLB for some regional countries, such as Korea and Thailand (Figure 15). Therefore, in this regard, the room to further reduce policy rates has declined across the region. However, inflation has remained low for most economies recently when compared with the inflation targets for inflation targeting (IT) economies and with historical averages for non-IT economies. It has been much lower compared with the historical average for Malaysia and the inflation target for Thailand. This implies that the risk of rising inflationary pressure from lowering the policy rate should be quite low. Although inflation in China has been elevated due to heightened pork prices, it is expected to moderate over the remaining course of 2020. Real interest rates have thus declined and even turned negative for certain regional economies such as China and Korea. However, negative real interest rates in China are expected to be temporary given the likely waning inflationary pressures for the rest of 2020. Other policy instruments in China, such as the reserve requirement ratio (RRR) and the interest rates of various lending facilities, are still much higher than their ZLB, indicating some further room for monetary easing.

Figure 15. Policy Rate and Inflation

Policy and Benchmark Interest Rate

Difference between Inflation Relative to Benchmark
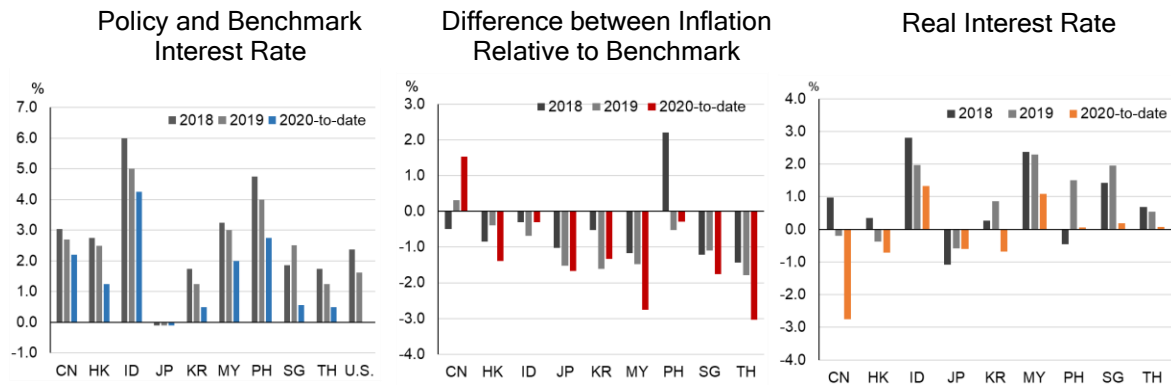
Real Interest Rate

Note:
1) For Hong Kong and Singapore, we refer to the benchmark short-term interest rates: 3m HIBOR and SIBOR, respectively.
2) The market-based 7-day repo rate is used for China.
3) For inflation-targeting countries including Japan, Indonesia, Korea, the Philippines and Thailand, the corresponding inflation benchmark is the authorities' stated inflation target during that period (mid-point of the target range for those with range targets).
4) For non-inflation targeters, the benchmark is an average of inflation over a 10-year period.
5) Based on data available as of 30 June 2020.
Source: ASEAN+3 Regional Tracker for the ERPD Matrix Indicator Scoreboard (ARTEMIS); CEIC; National authorities.

Box A. China's Monetary Policy Tools

The goal of China's monetary policy is to maintain currency stability—comprising price and exchange rate stability—in order to facilitate economic growth (Yi Gang, 2018). Over the past two decades, China's economy has rapidly become more open to trade, while financial sector development has proceeded at a more gradual pace. To achieve the above goal in this context, monetary policy design and implementation have taken into consideration several objectives. These include price level, economic growth/ employment, financial stability and balance of payments. China's monetary policy framework has been gradually reformed and several major steps–including interest rate liberalization– have been achieved since the GFC. The framework has been converging to those of advanced economies, but some different characteristics exist given its current stage of economic and financial sector development.

Figure A1. People's Bank of China's (PBOC) Monetary Policy Tools
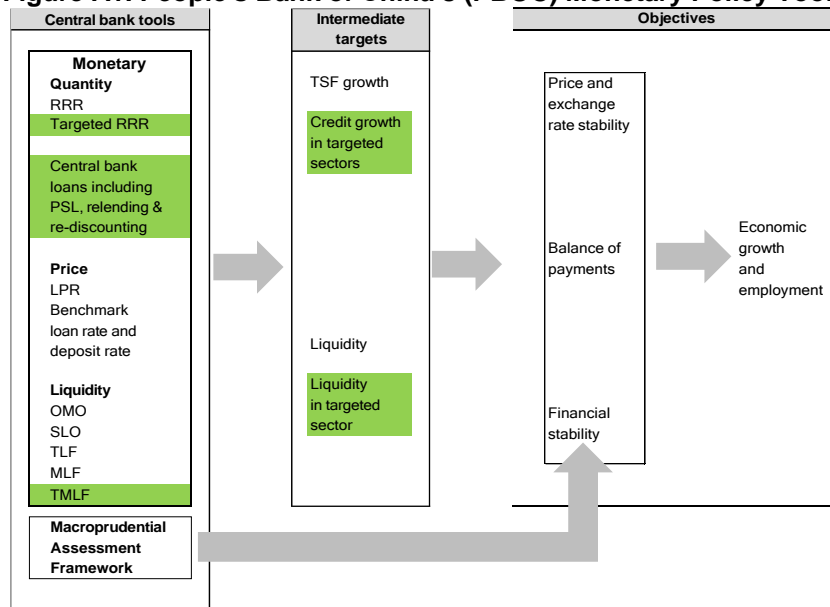
Note: The green areas indicate targeted tools or sectors. PSL: Pledged Supplementary Lending; OMOs: Open Market Operations; SLO: Short-term Liquidity Operation; TLF: Temporary Liquidity Facility; MLF: Medium-term Lending Facility; TMLF: Targeted Medium-term Lending Facility
Source: PBOC; AMRO staff compilation

Quantity-based, Price-based and Liquidity Management Tools

At present, China's monetary policy is still transitioning from quantity-based instruments to price-based instruments. Quantity-based tools and price-based tools are both employed (Figure A1) to affect intermediate targets including aggregate financing, or Total Social Financing (TSF) [11] to the real economy, credit in targeted sectors, and liquidity in the overall financial system and in targeted sectors. TSF has been used by the PBC as a reference indicator since 2012, and replaced M2 (M2 also replaced credit growth in the past).

The existing quantity-based tools serve to ensure adequate supply of credit to the overall economy and targeted sectors. The main tools are the Reserve Requirement Ratio (RRR) and central bank credit.[12] The RRR indicates the share of broad money (M2) that deposit-taking banks must park in PBC's current account. Examples of central bank credit include credit lines extended to small- and medium-sized banks to support SMEs, Pledged Supplementary Lending (PSL) and relending and rediscounting credit to banks. PSL was also established in 2014 to provide longer-term credit support for policy banks tasked with financing government projects (for example, shanty town development).

Price-based tools have been increasingly employed to transmit policy signals and affect funding costs in the real economy. To improve the monetary policy transmission mechanism, the PBC has attempted to increase the role of Loan Prime Rate (LPR) as the main policy rate. Meanwhile, it is developing an interest rate corridor system, which is commonly used by central banks in advanced economies, to guide short-term market interest rates towards the central bank policy rate. In this framework, the 7-day repo (DR0007) is the main candidate for the policy rate, with Standing Lending Facility (SLF) as a ceiling and interest rate on the excess reserves (IOER) as a floor.

In addition to Open Market Operations (OMOs), lending facilities have been established to provide liquidity support at different maturities to financial institutions. As with other central banks, OMOs are the most frequently used instruments to inject (reverse-repo operation) and absorb (repo operation) liquidity in financial markets. Two supplemental facilities for OMOs–Short-term Liquidity Operation (SLO) and Temporary Liquidity Facilities (TLF)–were established between 2013 and 2017 respectively, to enhance liquidity management. SLF was set up in 2013 to provide short-term liquidity support, mainly for small-and medium-sized financial institutions (similar to the Fed's discount window). MLF was introduced in 2014 to provide medium-term liquidity support mainly for commercial/ policy banks.

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[11] TSF measures the financing offered by the financial sector to the real economy, including loans, government bonds, corporate bonds, shadow banking loans and equity financing, among others.

[12] In addition, window guidance is still in practice to a certain extent. It is a policy by which authorities seek to guide commercial banks' lending volumes and interest rates by persuasion.

D. External Vulnerability

25.   **The speed and the magnitude of capital outflows from Asian emerging markets, since the start of the covid-19 pandemic, has exceeded those witnessed at the time of both the GFC or the taper tantrum episodes (Figure 16).** The unprecedented Q1 outflows of USD42 billion since the beginning of the crisis, has been the sharpest capital reversal from the region since the GFC. For equity investment, outflows were dominated by Korea, China and Thailand, while bond outflows were mainly from Indonesia, Thailand and Malaysia.

Figure 16. Accumulated Non-resident Portfolio Flows to ASEAN-4, Vietnam, Korea, and China
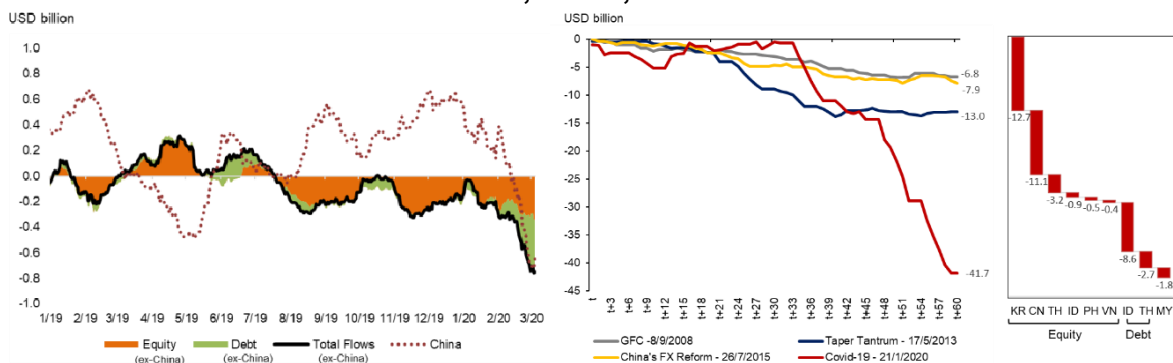

Source: Institute of International Finance (IIF)

26.   **Despite much larger capital outflows during the COVID-19 episode than in the previous stress episodes, stronger external positions in most regional economies have provided monetary authorities with more room for accommodative policy.** During the past crises, EMs with persistent and large current account deficits and low international reserve buffers were more susceptible to large capital outflows that were disruptive to the domestic economy (Ghosh and Ramakrishnan, 2020). When faced with large capital flow shocks, countries that are able to deploy reserve buffers can preserve policy space and continue to set monetary policy (Ghosh et al., 2016). AMRO's analysis show that most regional economies have relatively stronger external positions and reserve buffers compared to their benchmark peers [13] . The findings also suggest that most regional economies' external positions are strong and therefore provide more room for monetary policy easing. Concerns still exists for Indonesia and Malaysia as their external position and foreign reserves indicators continue to be relatively weaker than their peers'. Nonetheless, for Malaysia, these indicators do not reflect Malaysia's sizable external assets, which could provide some buffer during stress periods (Rozimi, 2018; Shuhaimen and Han, 2016; Malaysia ACR 2018-19).

E. Financial Imbalances and Macro-prudential Measures

27.   **Financial imbalances increased in the ASEAN+3 region after the GFC until the outbreak of the COVID-19 pandemic.** The imbalances were mostly in the form of a rapid accumulation in private sector debt and a residential property price surge (Figures 17 and 18). The build-up of financial imbalances was a result of several factors, including a long period of accommodative monetary policy, large capital inflows due to quantitative easing in advanced economies, and stimulus measures to support the economies during and after the GFC.

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[13] The benchmark peers refer to the designated country groups in the ERPD matrix, and the corresponding groups are: i) Japan and Korea (advanced economies); ii) China, Indonesia, Malaysia, the Philippines and Thailand (emerging market economies); and iii) Singapore and Hong Kong, China (international financial centers).

Figure 17. Private Credit
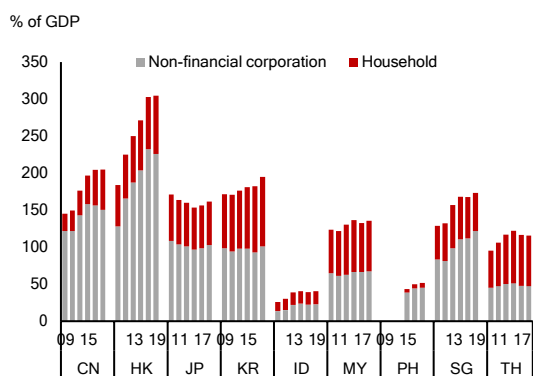
Source: Bank for International Settlements; Bangko Sentral ng Pilipinas (BSP); AMRO staff calculations

Figure 18. Prices of Residential Property in Selected Regional Economies
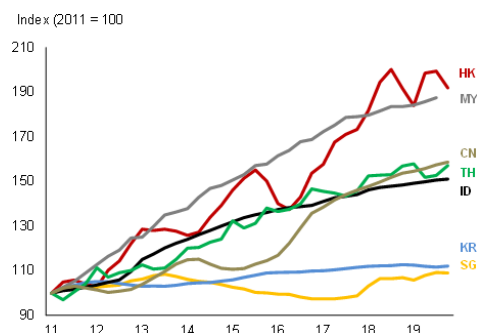
Source: National authorities; Local research institutes; AMRO staff calculations

28.   **ASEAN+3 economies have used widely macro-prudential policy instruments since the GFC, with the primary goal of containing financial imbalances.** The policy instruments employed can be categorized into two groups in response to different policy objectives (Table 5). The first policy objective is to curb financial imbalance arising from property speculation and household indebtedness. The policy instruments–including financial regulations, taxes and housing supply management–were put in place as preemptive measures. The other policy objective is to strengthen the soundness of financial institutions, reinforced by a change in the global regulatory framework. This set of policy instruments aim to improve financial institutions' capitalization and liquidity conditions.

Table 5. Macroprudential Policy Instruments in Select ASEAN+3 Economies

Policy objective	Policy instruments	CN	HK	ID	JP	KR	MY	PH	SG	TH
Property market related measures (i) to curb overheating in the housing market; or (ii) to safeguard the banking system from a possible abrupt downturn of the local property market	Banking regulations (Credit related)									
	Loan to value ratio	O		O				O		
	- Second or -th mortgage	O	O			O	O		O	O
	- Speculation-prone areas		O			O				
	- Property value	O	O			O				
	- Non-resident		O							
	Loan cap on property developer or mortgage borrowers	O	O			O			O	
	Risk weights for property loans		O		O		O	O		O
	Maximum loan tenure	O	O				O		O	
	Mortgages for the purchase of residential property in speculation prone areas are prohibited.					O				
	Debt service ratio, applied specifically to property mortgage loans		O							
	Other policy instruments									
	Stamp duty or annual property ownership tax		O			O	O		O	O
	- Non-resident	O					O		O	
	Supply management		O			O			O	
	Price ceiling	O				O				
Household debt management	Banking regulations (credit related)									
	Debt service ratio / debt-to-Income ratio	O				O	O	O	O	
	Credit limits on credit cards or personal loans	O					O			O
Capital strengthening	Countercyclical capital buffer > 0%		O							
	Capital conservation buffer		O		O	O		O	O	O
	Leverage ratio	O	O		O			O	O	
	Dynamic provisionings									O
	Capital surcharge for SIFI or DSIB	O	O	O	O	O	O	O	O	O
Liquidity adequacy	Reserve requirement	O		O				O		
	Liquidity coverage ratio	O	O	O	O	O	O	O	O	O
	Net stable funding ratio	O	O			O	O	O	O	O
	Loan to deposit ratio / loan to funding ratio			O		O		O		

Source: National authorities; AMRO staff compilation

29.   **Regional economies employed different macro-prudential policy measures to address financial risks that emerged in different segments.** For example:

- Non-residents' purchases of residential properties were discouraged in Hong Kong, Singapore and Malaysia when their economies faced an influx of overseas capital into their real estate markets as a result of quantitative easing in advanced economies. For instance, in Hong Kong and Singapore, foreign buyers are subjected to higher stamp duties and taxes. Meanwhile, in Malaysia, foreigners can only purchase high-rise properties that are valued above a certain price level.

- In China, various macro-prudential measures, both at the national as well as city levels were employed to limit episodic increases in house prices in different tiered cities since the GFC.

- Korea's regulatory authorities imposed comprehensive measures to limit household debt and housing speculation concurrently, as the two problems are intertwined in the low interest rate environment.

- Thailand's macro-prudential measures targeted a broad range of household debt in response to an increase in car loans and personal consumption loans in a low interest rate environment.

30.   **In addition, macro-prudential measures were tightened and became more targeted over time.** In the residential property market, the authorities tightened measures on market segments that continued to boom due to speculative demand. For example, in Korea, the ceilings on loan-to-value (LTV) ratio was reduced gradually for mortgage loans in prime locations and homebuyers with multiple mortgages from 70 percent in 2016 to 0-40 percent in early 2020 (Table 6). Macroprudential measures to curb household leverage also become more targeted. Many ASEAN+3 authorities set a cap on the debt servicing ratio or tighten eligibility criteria for consumer loan applicants such as minimum income of credit card holders. (Table 7).

Table 6. Korea's LTV Ratio

Type of Property	2016	2017	2018	2019	2020
All properties	70				
Properties in other areas		70	70	70	70
Single mortgage borrowers in *non speculative areas* in Seoul, Gyeonggi, Busan and Sejong		60	60	60	60
Multiple mortgage borrowers in *non speculative area* in Seoul, Gyeonggi, Busan and Sejong		50	50	50	50
First-time home buyers in *speculative areas* in Seoul, Gyeonggi, Busan and Sejong		50	50	50	50
Single mortgage borrowers in *speculative areas* in Seoul, Gyeonggi, Busan and Sejong		40	40	40	
- House price <= KRW 900 million					40
- House price > KRW 900 million					32
- House price > KRW 1.5 billion					0
Multiple mortgage borrowers in *speculative area* in Seoul, Gyeonggi, Busan and Sejong			30	30	30	...
Buying house for a rental purpose in designated speculative areas with house value < KRW 900 million			40	40	...

Source: Financial Supervisory Commission; AMRO staff compilation

Table 7. Household Debt Measures

	Measures
HK	- For general cases, the Debt Servicing Ratio (DSR) of property mortgage loans are capped at 50 percent. The DSR cap will be lowered in the cases that the property is not for self-use, the applicant's income is mainly derived from outside HK and/or that the applicant has borrowed or guaranteed other outstanding mortgage(s) at the time of making a mortgage application.
	- For unsecured personal lending, the maximum DSR is expected to be around 70 percent, with prudent calculation of income and debt repayment, for all income groups with all loan purposes.
KR	- Cap on borrower's Debt to Income ratio of 30-60 percent is set as a criteria for mortgage loan application.
	- DSR limit has been applied to new loans since October 2018. Target of average DSR is set to be reached 40 percent for individual commercial banks, 80 percent for regional banks, and below 80 percent for specialized banks by the end of 2021.
MY	- DSR limit is 60 percent for an individual borrower.
	- Increase minimum annual income eligibility for new credit cardholders.
	- Limit a number of card issuers and maximum credit limit for individual card holders.
SG	- Total Debt Servicing Ratio (TDSR) and this ratio is capped at 60% of all borrowers' gross monthly income.
TH	- Increase minimum annual income eligibility for new credit cardholders.
	- Reduce maximum credit limit for individual card holders.

Note: HK = Hong Kong; KR = Korea; MY = Malaysia; SG = Singapore; TH = Thailand
Source: National authorities; AMRO staff compilation

31.   **These measures are effective in curbing a build-up of financial imbalances to different degrees in different economies, but pockets of risks are still observed.**

- In the residential property market, macroprudential measures have helped moderate increases in housing prices but some upward price pressures remain, especially in prime segments. Housing market activity in certain major cities are still active, despite economic fallouts of the COVID-19 pandemic.

- The measures were successful somewhat in moderating household debt accumulation prior to the pandemic, but the debt level already remained at a high level in many ASEAN+3 economies. The debt level increased in some economies in the second quarter of this year as many households tend to secure more liquidity amid job and income uncertainty. Moreover, vulnerable households – those with low incomes and high indebtedness – are unlikely to be able to withstand economic recessions.

- In China, deleveraging policy has led to a gradual decline in the ratio of non-financial corporate debt levels over the past few years. Nonetheless, this ratio was still high at 151 percent at the end of 2019 and continues to be a lingering concern, and constrains monetary policy space.

- Micro, small and medium sized firms, small merchants, and self-employed business operators are among the hardest hit group by the current health and economic crisis. Mass bankruptcy may appear after financial support programs including debt moratorium ends.

32.   **Meanwhile, continued regulatory reforms have improved the resilience of the banking sector, and have thus helped expand the room for accommodative monetary policy.** Most regional central banks have an explicit mandate for financial stability. The banking system in the region is generally more resilient than before the GFC, as the adoption of Basel III and strengthened macro-prudential measures, have led to improved bank soundness, especially in terms of capital adequacy and liquidity buffers and their ability to absorb shock. In China, risks from shadow banking activities–which increased significantly post GFC–have declined since 2017. This is because the stricter financial regulatory framework and the policy focus on financial deleveraging have led to a reduction in shadow banking activities, improved asset quality and liquidity conditions. That said, the barely adequate capital adequacy ratios of a number of small banks and their rising NPLs could become a constraint in monetary policy easing going forward.

33.   **Overall, strengthened regulatory efforts in the region have fostered financial stability, while macro-prudential measures have helped mitigate financial imbalances. This has resulted in reduced constraints in terms of monetary easing in several regional economies.** However, pockets of risk remain and will continue to pose some limits on monetary easing. Moving forward, as the global economy enters into a recession, macroprudential measures and regulatory policy decisions will depend on financial system situations and the evolution of systemic risks. This will be discussed subsequently in the section on policy recommendations.

IV.   Policy Discussion

A. Policy Responses to the COVID-19 Outbreak and Implications on Policy Space

34.   **The current stimulus packages in most regional economies are substantial and mainly consist of financial support to the healthcare sector, cash transfers and wage subsidies, and loan deferals (See Appendix).** The average size of the economic stimulus package in economies that are part of this study is about 11.0 percent of GDP, while most economies rely on both budget financing and non-budget financing for their packages (Figure 19). All have provided economic relief for households, employees and SMEs. These include cash transfers to households, the provision of food to the poor, electricity subsidies, tax reliefs, waivers on social security contributions and wage subsidies to employers. Sector-specific relief measures have been offered to support SMEs in tourism, agriculture, and manufacturing. More measures will likely be deployed if the situation deteriorates further.

Figure 19. Economic Stimulus Package (1 February 2020 – 3 August 2020)
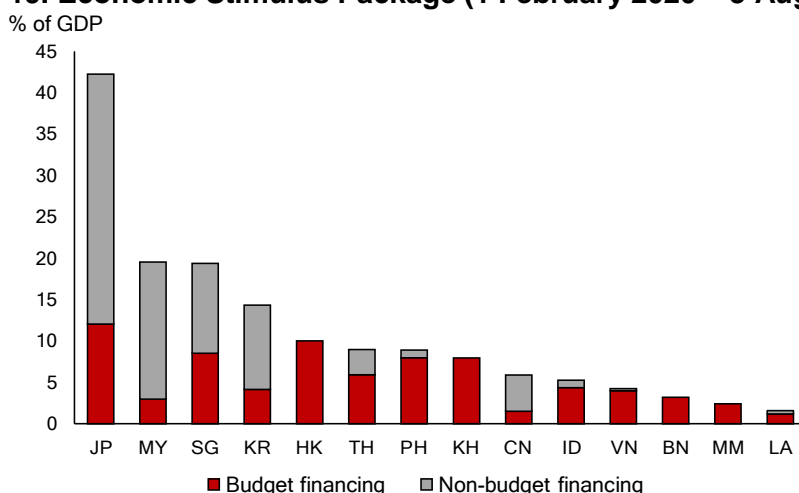
Source: National authorities; AMRO staff estimates

35.   **While most monetary authorities in the region have reduced policy rates to lower borrowing costs, several regulators have relaxed certain macro-prudential measures, provided financing relief measures, adopted unconventional measures, and resorted to regulatory forbearance to support lending amid rising default risks.** For instance, several economies have allowed greater flexibility in banks' loan classification, encouraged deferment of loan repayments and expanded credit guarantees. Regulators in China and Indonesia have reduced the reserve requirement ratio and regulatory funding ratio, while Hong Kong Monetary Authority has reduced countercyclical capital buffers and regulatory reserve requirement. Moreover, the BOK and BOT have expanded their lender-of-last-resort role by establishing liquidity backstop facilities to prevent sudden liquidity shortages driven by corporate distress. MAS has also introduced new short-term and medium-term liquidity facilities to meet unexpected SGD term funding needs of banks and finance companies and provide greater financing access for SMEs, respectively. Several regional authorities, including BOK and BOT, have adopted unconventional measures to help stabilize and alleviate the liquidity stress in the local bond markets to safeguard financial stability. These measures include purchasing government bonds and also preemptively setting aside bridge financing for high-quality corporates with bonds maturing in the near-term. In the case of Bank Indonesia (BI), the purchases of Government Debt Securities (SUN) and/or Government Islamic Securities

(SBSN) in the primary market, on a last resort basis, are to help finance a larger budget deficit resulting from exceptional fiscal spending in response to the COVID-19 pandemic.

36.   **In light of the abrupt emergence of USD liquidity shortages in March, several regional authorities have entered into special arrangements and temporary repo lines with the US Federal Reserve Bank (US Fed).** The arrangements have helped enhance the capacity of the region's central banks to meet short-term funding needs in their domestic market amid a temporary market stress. For instance, the BOJ has tapped on the standing USD liquidity swap arrangements with the US Fed, to offer USD liquidity operations at lower interest rates and longer maturity. The Monetary Authority of Singapore (MAS) and the Bank of Korea (BOK) have also obtained temporary bilateral currency swap lines from the US Fed. Meanwhile, the Hong Kong Monetary Authority (HKMA), BI and Bank Negara Malaysia (BNM) have secured the temporary repurchase agreement facility for Foreign and International Monetary Authorities (FIMA Repo Facility) from the US Fed to boost USD liquidity in the onshore market during episodes of stress.

Implications for Fiscal Policy Space

37.   **The ongoing fiscal stimulus measures will lead to a deterioration in debt sustainability indicators in most economies.** As a result of ongoing emergency fiscal packages to combat COVID-19, primary balances are projected to show sizable deficits across the region in 2020 and 2021 (Figure 20). The high reliance on debt-financing will eventually lead to an increase in government debt in most economies, with the exception of Hong Kong and Singapore, which have ample fiscal reserves to cover the large deficits. In particular, Indonesia, Malaysia, Philippines, Thailand, Korea, Japan and China are expected to see a significant increase in government debt in the next two years, while most of them likely remaining below 60 percent of GDP (Figure 21).

Figure 20. Primary Balance Projection for 2020-21
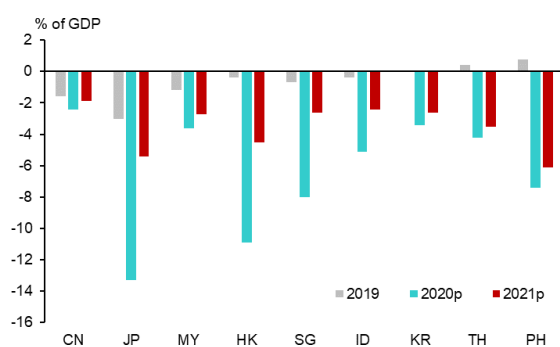
Note: The 2020-21 projections are based on information available up to 29 September 2020.
Source: AMRO staff estimates

Figure 21. Government Debt Projection for 2020-21
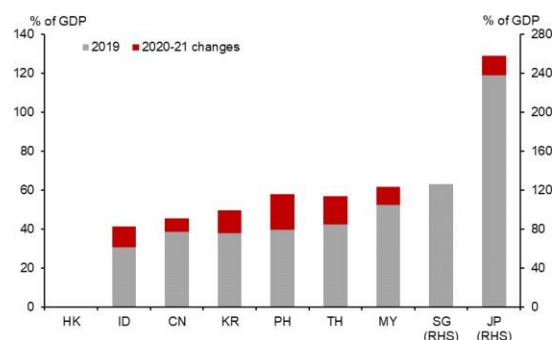
Note: The 2020-21 projections are based on the information available up to 29 September 2020.
Source: AMRO staff estimates

38.   **Debt profile and risk to financing capacity are assessed to be minimally affected in advanced regional economies and to worsen moderately in China and the ASEAN-4 economies moving forward.** The region's advanced economies are assessed to be less affected by massive fiscal stimulus packages, mainly owing to strong fiscal buffers (Hong Kong and Singapore), the government's sizable financial assets and a broad domestic investor base (Japan), and relatively low debt levels (Korea). On the other hand, China and ASEAN-4 members will likely see a mild deterioration in market perception of sovereign risk and/or

higher borrowing costs with higher debt stocks in coming years, while the degree of severity in an individual economy may depend on country-specific factors such as the availability of local currency debt financing, the reliance on foreign investors, and the presence of a broad domestic institutional investor base (Table 10).

Table 10. Impacts of the COVID-19 on Debt Profile and Risk to Financing Capacity

	Expected Change in 2020-21	Key Considerations
HK	No significant change	• Due to large fiscal reserves, the prospect of tapping into markets for financing will not be imminent
JP	No significant change	• The government's sizable financial assets and broad domestic investor base will continue to support government debt issuances
KR	No significant change	• Given the low level of public debt, the overall fiscal position will remain at a sustainable level after the COVID-19 stimulus package
SG	No significant change	• Fiscal buffers will remain strong after the COVID-19 stimulus package
CN	Worsening somewhat	• Debt levels will increase substantially due to the COVID-19 stimulus package and also because of weaker growth. • However, borrowings in local currency will facilitate debt financing
ID	Worsening somewhat	• Larger budget deficits than the 3 percent cap were approved to support the economy in 2020 - 2021 • There is still considerable reliance on external financing owing to a still shallow capital market and the narrow domestic institutional investor base
MY	Worsening somewhat	• Despite the increase in the debt level to mitigate the impact, borrowing costs will remain relatively low owing to Malaysia's ample domestic savings and large domestic institutional investor base
PH	Worsening somewhat	• Debt levels will increase in the short term but a strong growth recovery will lower future debt to GDP levels • Deficit financing mainly relies on domestic market; for the external financing part, a large portion of external borrowing in the current stimulus is from development partners such as World Bank and ADB.
TH	Worsening somewhat	• Public debt will rise significantly to 57 percent of GDP by 2021, attributable to higher debt as well as lower GDP • New borrowing will be financed in local currency

Note: Based on AMRO country desks' assessments using the information available up to 15 April 2020.
Source: AMRO

Implications for Monetary Policy Space

39.   **Monetary policy space across the region has narrowed following the significant easing measures to support the economy.** As discussed in the second block of the monetary policy space framework, the gap between prevailing policy rates and the ZLB have declined following cuts in policy rates to support growth in recent years. In particular, policy rates are already quite close to the ZLB for Korea and Thailand, and have been lowered in the ASEAN-4 economies.

40.   **However, policy actions to ease regulations, provide special loans programs and ensure adequate domestic and U.S. dollar liquidity in the system have helped preserve some monetary space.** Regulatory forbearance and targeted relaxation of macro-prudential measures have helped ensure sufficient liquidity in the banking system and have also mitigated increasing credit risks. These have helped mitigate financial stability risks in the monetary policy space. Efforts to secure U.S. dollar liquidity and greater access to U.S. dollar liquidity via bilateral and multilateral swap lines or borrowings from other international financial

institutions have also helped address some of the concerns on FX liquidity and have preserved monetary policy space to a certain extent.

B. Policy Recommendations

41. **Amid the unprecedented COVID-19 situation, regional authorities are compelled to deploy significant fiscal stimulus measures which go beyond what is fiscally prudent in normal times, to minimize the pandemic's impact on people's health and the economies.** Uncertainty around the outbreak and the extent of its eventual economic impact is still high. Fiscal sustainability in some regional economies could be undermined. Therefore, it is important to find ways to mitigate this risk as soon as economic recovery is on a firm footing.

42. **Well-targeted spending and swift implementation are essential for the efficacy of fiscal stimulus packages.** Fiscal stimulus packages must be carefully designed to provide direct assistance to targeted households and industries that are hardest hit. In particular, extraordinary policy measures—such as direct cash payouts to households or the unemployed, wage subsidies, financial support and tax cuts for SMEs—can be considered as life and livelihood support. Swift implementation is essential for the fiscal stimulus packages to be effective during the current emergency period.

43. **The reduced fiscal policy space necessitates strong commitment to fiscal discipline and a credible medium-term plan to keep debt levels in check.** Once the pandemic subsides, regional economies must start rebuilding their respective policy spaces by prioritizing fiscal discipline and prudent debt management. Policy efforts should consider both quantitative as well as qualitative aspects of fiscal policy space where the priority should be to enhance debt sustainability by slowing debt increases while also improving debt profiles and mitigating the risks to financing capacity. To this end, strong commitment to a well-designed medium-term plan to reduce fiscal deficits and improve debt management with transparent and credible debt targets, will help foster market confidence.

44. **Deepening financial markets will help enhance debt management, facilitating fiscal policy buffer rebuilding.** Unlike most advanced economies, several emerging regional economies need to rely on external financing and are consequently also exposed to capital reversal risks. Experience from financial distress episodes in the past have shown that emerging economies with well developed domestic institutional investors, are less vulnerable to massive capital outflows than those with higher dependence on foreign investors. In this regard, a continuing build-up of domestic savings and investment institutions will enhance debt management capacity by improving the debt profile and deepening liquidity in the debt market. More specifically, continued development of local currency-denominated government bond markets and greater efforts to widen the range of investors and instruments are pivotal in strengthening debt management capacity and improving fiscal policy space.

45. **Although there is still scope for regional economies to ease monetary policy further, economies with weaker external positions and financial conditions, must be cautious in doing so.** Economies with stronger external positions and reserve buffers, as well as lower financial imbalances, have more room to ease monetary policy. For those with external stability constraints, their policy intentions, direction and exit strategies need to be communicated clearly with a view to ensure that financial markets remain orderly and investors' confidence is preserved in tandem with efforts to strengthen external resilience.

Similarly, economies with greater financial imbalances and elevated indebtedness may find it challenging to ease monetary policy given the risk to financial stability. Under these circumstances, monetary policy must be carefully calibrated and well-sequenced with macro-prudential and exchange rate policies to help balance these trade-offs.

46.   **Challenges to countries' external stability can be partly alleviated through more flexible but orderly exchange rate adjustments, tapping onto external U.S. dollar funding, or deployment of capital flow management (CFM) measures, prudential policies and foreign exchange interventions, if necessary.** Policymakers can pursue a multi-pronged approach comprising monetary, macroprudential, exchange rate management and administration, as well as prudential policies to minimize the economic impact of external and domestic shocks as a result of the pandemic. Greater exchange rate flexibility can help cushion external shocks in the short-term. In addition, securing external U.S. dollar funding through swap and repo lines with the Federal Reserves, as well as borrowings from international financial institutions, are encouraged to bolster investor confidence and alleviate U.S. dollar funding stress over the short-term. In particular, regional economies can also access the Chiang Mai Initiative Multilateralization's Precautionary Line (CMIM-PL). The temporary deployment of CFMs and prudential policies can be considered in the event of sudden and sharp capital outflows during episodes of severe financial stress but their potential impact on investors' confidence warrants careful consideration. Lastly, policymakers may consider employing foreign exchange interventions judiciously in the presence of volatile capital flows.

47.   **To help the household, corporate and financial sectors weather the disruptions and cash flow problems of the lockdowns, authorities can consider the following financial support measures and macroprudential policy options while staying vigilant to the risk of financial crisis:**

*   Financial relief measures should be temporary and targeted at the virus-stricken sectors of the economy such as SMEs and low-income households. Risk sharing mechanisms between financial institutions and the government should be established to prevent credit rationing. Additionally, the authorities should ensure that credit is available at reasonable costs for households and corporates, while preserving banks' financial strength and ensuring transparency across the financial sector.

*   Time-bound regulatory forbearance and debt moratorium should be established to help alleviate pressure on financial institutions and borrowers. At the same time, financial institutions' soundness must be monitored closely amid heightened credit risks, liquidity squeeze and declining profitability.

*   The authorities and financial institutions should work together to develop strategies to cope with rising systemic risks from a likely surge in business bankruptcy after the period of debt moratorium ends, especially in the area of corporate debt restructuring and impaired asset management.

*   As liquidity problems are an immediate risk to financial stability, and could become a solvency risk to firms and financial institutions, policymakers must act quickly and preemptively to provide emergency liquidity assistance. In addition, regulatory liquidity requirements could be adjusted so that banks can deploy liquidity buffers more flexibly.

- The easing of macroprudential measures in the real estate sector should be avoided, if housing prices remain high and speculation is rife. Authorities should be mindful that easy monetary conditions along with high liquidity in the financial system, could fuel speculation once the pandemic is contained.

- However, macroprudential measures could be eased if the property market were to undergo a major correction. Besides policy adjustment, clear and timely communication is important to prevent panic selling of properties, which could lead to a property market slump. Effective communication can also help alleviate market concerns and shore up public confidence.

48. **Given narrowing policy space, unconventional monetary policies can be considered as part of the monetary policy toolkit** (See Box B. Unconventional Monetary Policy and Potential Deployment in EMs)**.** Unconventional monetary policy tools such as quantitative liquidity measures and forward guidance can provide additional space for policymakers to ease monetary policy, especially for economies with policy rates near the ZLB or faced with constraints on either the external or financial stability fronts. A few regional countries such as Japan and more recently, Korea, Indonesia and Thailand, have adopted some unconventional measures to ease monetary or liquidity conditions, and ensure orderly markets. An example is liquidity injections by central banks to help ensure markets are functioning in an orderly manner during stress periods. However, the design and implementation of unconventional monetary policy tools should be done properly to minimize potential side effects. Moreover, clear communication of the intention to adopt unconventional tools is key in ensuring that these measures are effective in achieving their policy goals and do not result in unintended consequences.

49. **International policy coordination should be enhanced to improve outbreak control and treatment, to strengthen the impact of economic policy measures, and to provide financial support to countries in need.** Policy coordination at both the global and regional levels is crucial. This will allow faster information and knowledge sharing and encourage research collaborations for vaccines development and treatment. Well-coordinated macroeconomic policies across countries can send a strong signal to help avert a deep recession. Besides, trade policy coordination can help reduce the escalating problems of industrial and supply chain disruptions worldwide. As many emerging and developing countries have inadequate resources to cope with the pandemic on their own, financial assistance, especially through international financial institutions, should be expanded and made more accessible. This study indicates that the regional economies are in relatively good position to weather this storm. This should, therefore, allow them to participate and contribute actively in all the areas discussed above, to both help one another as well as other countries impacted by the pandemic.

50. **As the pandemic situation gradually comes under control, authorities should prepare an exit strategy from the stimulus package to ensure that the transition to the recovery phase is smooth.** Given the greater fiscal burden from the substantial stimulus, and the macro and financial risks that can escalate during a prolonged period of accommodative policies, the stimulus package should be wound down when the pandemic is contained and the economy is on a firm recovery path. Lessons from the previous stimulus packages across the region show that it will likely take time and efforts to cope with unintended consequences of the packages. On the fiscal front, authorities need to reaffirm their strong commitment to the medium-term consolidation plan. On the monetary front, an exit from

accommodative policy stance should start once the economy has rebounded and inflation is on a rising trend. The phasing out from unconventional policy measures should start once the pandemic is well contained, the financial institutions are functioning in an orderly manner, and the economy is on a recovery track, in order to help prevent the building up of financial vulnerabilities. Regulatory forbearance measures that are not time-bound should be phased out when household and corporate debt repayment problems subside to avoid rising moral hazard and maintain the confidence of depositors and investors. A clear timeline for the removal will provide leeway for banks to adjust capital and liquidity levels. The design and sequencing of the overall exit strategy must be well-coordinated among all relevant policy makers and regulators and should aim at avoiding a "cliff" effect after the measures are terminated. Winding down the substantial support as well as unconventional measures in the new economic environment after COVID-19 pandemic is contained will require active and transparent communications with the public and the market. And the communication of the exit strategy should precede the start of the phasing out, to give the public and the market enough time to adjust, thus minimizing unintended adverse impact.

Box B. Unconventional Monetary Policy and Potential Deployment in EMs

Unconventional Monetary Policy since GFC

Since the GFC, an increasing number of central banks in the advanced economies have introduced new monetary policy tools that are described as unconventional compared to pre-GFC era. Indeed, many of the tools are not fundamentally different from ones that were used in the past. What set this period apart is the broad use of these tools and the scale of their deployment (BIS, 2019). These unconventional tools refer mainly to negative policy interest rates (NPIR), balance sheet (BS) tools, commonly referred to as quantitative easing (QE and its variant) and forward guidance (FG) (Figure C1). Despite different forms, they broadly serve the purpose of either smoothing or enhancing monetary policy transmission, or adding stimulus, or both.

Figure C1. A Classification of Unconventional Monetary Policy Tools
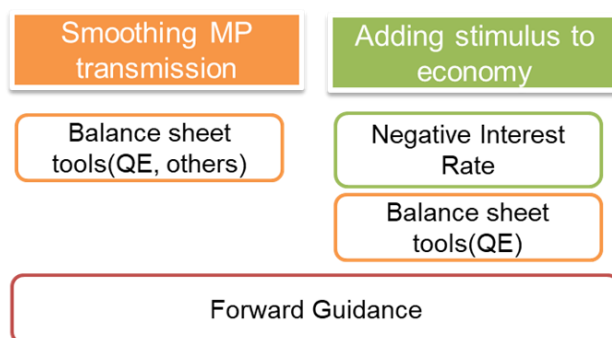
Source: AMRO

Central banks have adjusted their balance sheets—both in terms of size (quantitative easing) and composition (qualitative easing)—to deal with the disruption to financial markets and to add stimulus during and after the GFC [14] **.** Based on operational characteristics and different objectives, various balance sheet tools can be divided into three categories. The first category comprises mainly liquidity backstop tools to help financial institutions reduce re-investment risk and stave off liquidity-driven defaults. Effectively, these facilities extend a central bank's lender-of-last-resort role to cover non-depository financial institutions and specific securities markets[15]. The second category comprises long-term asset purchase programs, which mainly aim to compress the term

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[14] This paragraph does not aim to be exhaustive of central bank balance sheet tools but to show typical examples of each category.

[15] Primary Deal Credit Facility, Money Market Mutual Fund Liquidity, Commercial Paper Funding Facility of the Fed and purchases of Commercial Paper, Asset-backed Commercial Paper and Corporate Bond of the BOJ, etc. belong to this type.

premium[16]. The third category is primarily comprised of direct lending and refinancing operations of central banks, which usually entails conditionality, aiming to deal with structural issues[17].

Negative Policy Interest Rates (NPIRs) were introduced due to the need to inject further stimulus when nominal policy interest rate have been cut to zero or near zero. The adoption of NPIR has provided these central banks with additional room when the nominal policy rate has reached ZLB[18].

Forward guidance (FG) has been employed and strengthened to reduce uncertainty and enhance policy effectiveness. As a communication tool, FG provides the public with information on the economic outlook and policy consideration ahead. It can take many forms and occur in many venues. Two types of FG by central banks, namely, Delphic and Odyssean, have been gradually developed[19]. The former is intended only to be informative by providing information on the economic and policy forecasts. In contrast, the latter also provides a commitment by policymakers to conduct policy in a specified, possibly state-contingent way in the future (either a calendar-based or outcome-based threshold). Central banks in advanced economies have increasingly shifted toward the Odyssean type of FG that is more committed and explicitly connected to the future path of the policy rate and balance sheet operations.

Achievements and Unintended Effects of Unconventional Monetary Policy

Central banks' assessments and empirical studies show that unconventional policy tools have in general achieved their policy objectives. However, the effectiveness seems to be more significant in restoring financial markets' functioning and less so in boosting lending in the real economy. The pass-through of negative policy rates to most market rates appears to have become more or less complete, but this has been less evident for bank deposit rates (Ball et al., 2016; Eisenschmidt and Smets 2019).This could be due to different business, funding models and market structures. Balance sheet tools that aim to ease liquidity strains are also found to be very effective in alleviating funding stress and restoring market functions. While those providing additional monetary accommodation were also generally perceived as being effective in terms of lowering interest rates, the results were mixed in terms of boosting credit. Empirical research has generally found that major central banks' asset purchases have lowered government and corporate bond yields by around 100 basis points (Bernanke, 2020; Kuttner, 2018; Haldane et al., 2016). As for FG, studies generally suggest that it was effective in reducing yields to varying degree.

Despite the proven effectiveness, concerns regarding their side effects have been growing. The main concerns around the side effects of unconventional monetary policy fall into three areas. So far, these side effects seem contained and manageable, but they could become more significant if the policy remains in place for a longer period.

- **Risk of disintermediation.** With central banks' increasingly larger footprint and prolonged operations though unconventional tools, financial markets and financial intermediaries could become over-reliant on central banks or be driven out of some segments of the market. An indication of such a concern is the decline of money market trading activities across advanced economies.[20]

- **Financial stability risk.** As central banks continue to flatten yield curves by buying up safe haven assets, financial institutions are forced or encouraged to move up the risk curve. The flattening of the yield curve would undermine the profitability of financial institutions, especialy banks which traditionally make theirearnings on interest rate spreads. As a result, it will also increase the risk-taking behavior of financial institutions. To meet their return objectives, financial institutions would

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[16]The quantitative easing of Bank of England, Cooperate Sector Purchase Program, Public Sector Purchase Program, Outright Monetary Transaction of the European Central Bank (ECB) and Large scale asset purchases of the Fed and purchase of JGB under the QQE with YCC of BOJ all belong to this category.

[17]Typical examples include Targeted Longer-term Refinancing Operations (TLTRO) of the ECB and Primary Market and Primary Market Corporate Credit Facility of the Fed.

[18]The NPIR was pioneered by Nordic central banks, Denmark National Bank (DNB), Swedish National Bank (SNB), Sveriges Riksbank and European Central Bank (ECB) mostly from mid-2014 to early 2015, then followed by BOJ in early 2016. As of end-March 2020, most of these central banks' policy rates still remain in negative territory except Riksbank, which exited negative policy rate in December 2019.

[19] The distinction is between Delphic and Odyssean FG was introduced by Campbell et al. (2012).

[20] However, it is still not very clear whether it is due to negative policy interest rate side effects or due to ample liquidity in the system resulting from unconventional monetary policy.

be forced to resort to higher leverage and larger maturity mismatch (increasingly short-term funding for increasing longer term investment). Besides, a prolonged period of low interest rates would also encourage excessive corporate or government borrowing. The large-scale share buybacks funded by borrowing in the U.S. in the past few years occurred in such an environment.

- **Resource allocation efficiency.** In a very accommodative monetary environment, financial resources would be allocated to less-productive firms, thereby worsening productivity growth and delaying economic adjustment.

Unconventional Monetary Policies as Additional Tools for EMs

While most EMs are unlikely to face ZLB, their conventional tools could become inadequate or inefficient due to other constraints in terms of external and financial market stability. First, disruptions to financial market that impair monetary transmission tend to occur more often in EMs, particularly due to abrupt capital flows reversals. Moreover, market segmentation tends to be more prevalent and financial intermediation capacity tends to be weaker in EMs. Consequently, when financial markets or financial institutions are under stress, the failure of some segments of financial market becomes more likely, rendering conventional policy tools ineffective.

In such an environment, unconventional monetary policy tools such as balance sheet tools and FG can provide some additional policy leeway. In fact, some of these unconventional operations are not new to a number of EM central banks. Bank Indonesia's operations in the bond market when the market was under strain, and the pledged supplementary lending (PSL) operation of People's Bank of China, are two examples. Therefore, the adoption of unconventional monetary policy tools and operation may be more of a question of scope and magnitude.

Nevertheless, EM central banks should be more cautious on the design and implementation of unconventional monetary policy to minimize potential side effects. A bank-based financial system in most EMs implies that several unconventional monetary policy measures via market-based operations in advanced economies may be less practical for EMs. The less developed financial markets with scarce collateral, inadequate liquidity due to shallow markets, inadequate eligible assets and inadequate infrastructure, may constrain the scope of implementation and operations.

Central banks' operations should avoid creating incentives that will encourage excessive speculation or other imprudent behaviors of financial institutions and increase financial vulnerabilities. Policy design should make clear whether the tool is a backstop or a standing nature. The price of the tool should not deviate significantly from a market price that prevailed before the disruptions for liquidity backstop tools. Close policy coordination among monetary and regulatory authorities is essential. In addition, micro-prudential and macro-prudential measures should be deployed and strengthened to contain excessive risk-taking behavior of both financial institutions and real sector players, households and cooperates.

EM central banks should be mindful of the trade-offs between the explicit commitment-type and the less-binding types of FG. In principle, the Odyssean guidance–which ties future policy rates to economic conditions–is preferable. It can be more effective as it permits the market's rate expectations to adjust endogenously to incoming information bearing on the outlook. However, it lacks flexibility that the Delphic guidance offers – especially for those whose institutional setup is not as ready. As credibility is critical for FG to be effective, central banks have to weigh the benefits of strong commitment and flexibility, by considering the strengths of their monetary policy frameworks, ability to forecast, uncertainty levels in the economy and the public's understanding of these policies.

Communication should be strengthened to increase policy effectiveness and avoid undesirable consequences. Some previous examples highlight the importance of communication in unconventional monetary policy. Effective communication could temper the tail risk as shown by the success of Mario Draghi's "the ECB will do whatever it takes" comment. On the other hand, miscommunication or perceived misunderstanding of policy deliberation could create substantial unintended risk as demonstrated by the taper tantrum event.

51.   **During the transition period, the design of exit policy should prioritize a resilient economic recovery, while carefully assessing risks from the withdrawal of emergency response measures.** Authorities need to be cautious and take into account the Covid-19 situations both domestically and overseas, including an objective assessment of the progress

made in the development of various COVID-19 vaccines, so that the risk of a second wave can be mitigated. AMRO has come up with some general principles to help guide policy makers in designing and implementing the policy transition from emergency responses to robust recovery, consisting of 4C approaches and 4R areas (AMRO, 2020d).

- **The first group of principles (4C) presents approaches that the authorities should take when designing and implementing the policy measures in the post-pandemic period:**

    – **Cautiousness**. Great caution should be exercised in withdrawing short-term emergency measures and restarting the economy to avoid cliff effects.

    – **Comprehensiveness**. Various policy objectives should be considered comprehensively to avoid conflict and to maximize policy effects.

    – **Cooperation**. Strong cooperation between public and private sectors and among countries will make policy efforts more effective.

    – **Communication**. Building public trust through effective communication strategy is a necessary condition for successful policy implementation

- **The second group of recommendations (4R) addresses four key areas that policy measures need to focus on as the economy progresses out of the crisis:**

    – **Recovery**. Near-term economic policy should focus on the smooth transition from crisis survival to recovery support.

    – **Risk Management**. Risk management is critical for a robust recovery and economic resilience.

    – **Restructure and reform**. Structural reform policies should be forward looking and strike a balance between economic resilience and pre-crisis structural priorities

    – **Rebuilding of the policy space**. The need for continued policy support after the pandemic demands the authorities' strong commitment to rebuilding the policy space in the medium term.

C. Longer-term Challenges

52.	**While massive policy support is needed to avoid economic collapse and facilitate a rapid recovery in the short term, attention should also be paid to the medium- to long-term challenges.**

- **First, the long-term impact of stimulus policies on indebtedness, financial stability and macroeconomic management will likely be significant.** When economies emerge from the current crisis, both public and private indebtedness are expected to increase significantly. The financial system is also likely to become more fragile owing to loan losses and impaired balance sheets of borrowers. In addition, a likely prolonged period of accommodative monetary policy may also lead to rising financial imbalances going forward. Macroeconomic management would be very

challenging if inflation were to rise against the backdrop of highly indebted public and private sectors and a weakened financial system.

- **Second, the pandemic's adverse impacts on the real economy are expected to be substantial and enduring.** While the strong stimulus measures are expected to mitigate severe damages to capital and production capacity, the labor force is likely to suffer significant scarring from economic downturn. The unavoidable surge in unemployment will pose major challenges. Unemployed workers may find that their skill sets have become less relevant due to the structural changes in various sectors of the economy. In particular, there could be a significant reduction in jobs in some sectors because of a shift to a less labor intensive digital on-line platforms by businesses during the pandemic. This hysteresis effect could also be experienced by business owners. As lockdowns are extended, many small businesses will suffer cash flow problems and go bankrupt and it will take time for new ones to emerge. This will mean a loss of productivity and lower potential growth ahead.

- **Third, the pandemic will lead to a reconfiguration of GVCs.** The public health crisis and severe supply disruptions have exposed the hidden fragilities in current global supply chains and production networks. Many economies have faced shortages of essential supplies such as masks and ventilators and discovered that they lacked the production capacity and capability to produce them. Meanwhile, a lot of companies had to suspend manufacturing production due to shortages of intermediate inputs, and were unable to find alternatives in the short term. These experience will prompt both governments and corporates around the globe to come up with strategies to reduce their reliance on the current global supply chains and production networks in order to improve their resilience. Some goods production will be relocated closer to home and the supply chain will likely to be shortened.

- **Finally, in the immediate post-pandemic period, economies are likely to suffer from reduced resilience, lower potential growth and more compressed policy room for demand management.** Hence, the need to design and push forward effective structural reforms will become even more pressing and critical. Exit strategies from the current stimulus measures will also need to take into account the new challenges.

Appendix

Table A: Main Policy Measures to Address COVID-19 (as of 9 October 2020)

References

Adrian, Tobias, Christopher R Burke, and James J McAndrews. (2009). "The Federal Reserve's Primary Dealer Credit Facility." *Current Issues in Economics and Finance, Volumes* 15, no. 4: Federal Reserve of New York.
https://www.newyorkfed.org/medialibrary/media/research/current_issues/ci15-4.pdf

Adrian, Tobias, Karin Kimbrough, and Dina Marchioni. (2011). "The Federal Reserve's Commercial Paper Funding Facility." *The Federal Reserve*.
https://www.newyorkfed.org/medialibrary/media/research/epr/11v17n1/1105adri.pdf

Aizenman, J., Chinn, M., and Ito, H. (2013). "The 'Impossible Trinity' Hypothesis in an Era of Global Imbalances: Measurement and Testing." Review of International Economics (3): 447-58.
https://onlinelibrary.wiley.com/doi/abs/10.1111/roie.12047

Armantier, Olivier. (2008). "The Federal Reserve's Term Auction Facility" *Current Issues in Economics and Finance, volune*14, no. 5, Federal Reserve of New York.
https://www.newyorkfed.org/research/current_issues/ci14-5.html

ASEAN+3 Macroeconomic Research Office. (2019). "Annex 1: An Examination of Malaysia's External Debt" AMRO Annual Consultation Report on Malaysia – 2018-19. Singapore.
https://www.amro-asia.org/wp-content/uploads/2019/05/AMRO-ACR-on-Malaysia-2018-19_publication_final_compressed.pdf

ASEAN+3 Macroeconomic Research Office. (2020a). "Annex 1: Will Japan's Government Debt Reach Its Limit?" AMRO Annual Consultation Report on Japan - 2019. Singapore.
https://www.amro-asia.org/wp-content/uploads/2020/03/AMRO-Annual-Consultation-Report-on-Japan-2019_for-publication_compressed.pdf

ASEAN+3 Macroeconomic Research Office. (2020b). "Annex 3: An Analysis of Local Government Debt and Debt Repayment Capacity." AMRO Annual Consultation Report on China - 2019. Singapore.
https://www.amro-asia.org/wp-content/uploads/2020/03/AMRO-Annual-Consultation-Report-on-Japan-2019_for-publication_compressed.pdf

ASEAN+3 Macroeconomic Research Office. (2020c). "ASEAN+3 Regional Economic Outlook (2020)". ASEAN+3 Macroeconomic Research Office. Singapore
https://www.amro-asia.org/full-report-asean3-regional-economic-outlook-2020/

ASEAN+3 Macroeconomic Research Office. (2020d). "Now What? Post Pandemic Policy Considerations". AMRO Policy Perspectives Paper, ASEAN+3 Macroeconomic Research Office. Singapore
https://www.amro-asia.org/now-what-post-pandemic-policy-considerations/

Ball, Laurence M., Joseph Elbridge Gagnon, Patrick Honohan, and Signe Krogstrup. (2016). "*What Else Can Central* Banks *Do?",* Geneva Reports on the World Economy. Geneva: ICMB International Center for Monetary and Banking Studies.
https://cepr.org/sites/default/files/geneva_reports/GenevaP285.pdf

Barkbu, B., C. Beddies, and M.-H. Le Manchec (2008), "The Debt Sustainability Framework for Low-Income Countries." Occasional Paper No. 266, International Monetary Fund, Washington, DC.
https://www.imf.org/en/Publications/Occasional-Papers/Issues/2016/12/31/The-Debt-Sustainability-Framework-for-Low-Income-Countries-21531

Basel Committee on Banking Supervision. (2010). "Guidance for national authorities operating the countercyclical capital buffer". Bank for International Settlements.
https://www.bis.org/publ/bcbs187.htm

Bech, Morten, and Aytek Malkhozov. (2016). "How Have Central Banks Implemented Negative Policy Rates?," *BIS Quarterly Review (March),* Bank for International Settlements.
https://www.bis.org/publ/qtrpdf/r_qt1603e.htm

Bernanke, Ben S. (2020). "The New Tools of Monetary Policy", American Economic Association Presidential Address, Brookings.
https://www.brookings.edu/blog/ben-bernanke/2020/01/04/the-new-tools-of-monetary-policy/

Blundell-Wingnall A., Atkinson P and Lee SH. (2009). "Dealing with the Financial Crisis and Thinking about the Exit Strategy". Financial Market Trends. Pre-publication version for Vol 2009/1. Organisation for Economic Co-operation and Development.
https://www.oecd.org/finance/financial-markets/43002511.pdf

Bradley J. and Joel B (2019). "China's Evolving Monetary Policy Framework in International Context". *Research Discussion Paper*. Reserve Bank of Australia.
https://ideas.repec.org/p/rba/rbardp/rdp2019-11.html

Campbell, Chalres L. Evans, Jonas D. M. Fisher, Alejandro Justiniano, and Jeffrey R. (2012). "Macroeconomic Effects of FOMC Forward Guidance." Brookings.
https://www.brookings.edu/bpea-articles/macroeconomic-effects-of-fomc-forward-guidance/

Chang, Roberto, and Andrés Velasco. (2016). "Financial Frictions and Unconventional Monetary Policy in Emerging Economies." Working Paper no w21955, National Bureau of Economic Research.
https://www.nber.org/papers/w21955

Cheng, Hoi Wai Jackie, and Ingo Pitterle. (2018), "Towards a More Comprehensive Assessment of Fiscal Space." DESA Working Paper No. 153, Department of Economic and Social Affairs, United Nations, New York.
https://www.un.org/esa/desa/papers/2018/wp153_2018.pdf

Chinn, M., and Ito, H. (2006)."What Matters for Financial Development? Capital Controls, Institutions, and Interactions," Journal of Development Economics, Volume 81, Issue 1, Pages 163-192 (October).
https://minds.wisconsin.edu/bitstream/handle/1793/36202/chinn2005-007.pdf?sequence=1

Corbacho, M., and Peiris, S. (2018). "Chapter 2: Evolution of Monetary Policy Frameworks". The ASEAN Way: Sustaining Growth and Stability. IMF
https://www.elibrary.imf.org/view/IMF071/23550-9781513558905/23550-9781513558905/ch02.xml?language=en&redirect=true

Eggertsson, B., and Krugman, P. (2012): "Debt, Deleveraging, and the Liquidity Trap: A Fisher-Minsky-Koo Approach," The Quarterly Journal of Economics, 127(3), 1469-1513.
https://academic.oup.com/qje/article/127/3/1469/1924252

Eisenschmidt, Jens, and Frank Smets. (2019). "Negative Interest Rates: Lessons from the Euro Area." Central Banking, Analysis, and Economic Policies Book Series. Central Bank of Chile.
https://cepr.org/sites/default/files/40021%20Eisenschmidt%20Smets%202017%20March%202018.pdf

Farmer, Roger, and Pawel Zabczyk. (2016). "The Theory of Unconventional Monetary Policy." Working Paper. Working Paper no 222135, National Bureau of Economic Research.
https://www.nber.org/papers/w22135

Gambacorta L, A Illes and MJ Lombardi (2015), 'Has the Transmission of Policy Rates to Lending Rates Changed in the Wake of the Global Financial Crisis?', International Finance, 18(3), pp 263-280.
https://www.bis.org/publ/work477.htm

Ghosh, A. and Ramakrishnan, U. (2020). "Current Account Deficits: Is There a Problem?" Finance and Development.
https://www.imf.org/external/pubs/ft/fandd/basics/current.htm

Ghosh, A., Ostry, J., and Chamon, M. (2016). "Two targets, two instruments: Monetary and exchange rate policies in emerging market economies, Journal of International Money and Finance.
https://www.imf.org/external/pubs/ft/sdn/2012/sdn1201.pdf

Haldane, Andrew, Matt Roberts-Sklar, Tomasz Wieladek, and Chris Young. (2016). "QE: The Story so Far." *Working Papers*, Bank of England.
https://www.bankofengland.co.uk/working-paper/2016/qe-the-story-so-far

He D and H Wang (2012), 'Dual-Track Interest Rates and the Conduct of Monetary Policy in China', China Economic Review, 23(4), pp 928-947.
https://www.sciencedirect.com/science/article/pii/S1043951X12000491

Jorda, Oscar, Sanjay R. Singh, and Alan M. Taylor (2020). "Longer-Run Economic Consequences of Pandemics." Working Paper Series, 2020-09. Federal Reserve Bank of San Francisco
https://www.frbsf.org/economic-research/publications/working-papers/2020/09/

International Monetary Fund. (2002). "Assessing Sustainability." International Monetary Fund, Washington, DC.
https://www.imf.org/external/np/pdr/sus/2002/eng/052802.pdf

International Monetary Fund. (2013). "Staff Guidance Note for Public Debt Sustainability Analysis in Market-Access Countries." International Monetary Fund, Washington, DC.
https://www.imf.org/external/np/pp/eng/2013/050913.pdf

International Monetary Fund (2016). "Assessing Fiscal Space: An Initial Consistent Set of Considerations." IMF Staff Paper. International Monetary Fund, Washington, DC.
https://www.imf.org/en/Publications/Policy-Papers/Issues/2017/01/13/pp5080-Assessing-Fiscal-Space-An-Initial-Consistent-Set-of-Considerations

Kose, M. Ayhan, Sergio Kurlat, Franziska Ohnsorge, and Naotaka Sugawara. (2017), "A Cross-Country Database of Fiscal Space." Policy Research Working Paper No.8157. World Bank Group, Washington, DC.
http://documents.worldbank.org/curated/en/601211501678994591/pdf/WPS8157.pdf

Kuttner, Kenneth N. (2018). "Outside the Box: Unconventional Monetary Policy in the Great Recession and Beyond." *Journal of Economic Perspectives* 32, no. 4: 121-46.
https://www.brookings.edu/wp-content/uploads/2018/10/WP47-Kuttner.pdf

Mohanty, M S (2014). "The Transmission of Unconventional Monetary Policy to the Emerging Markets," BIS Paper No 78, Bank for International Settlements.
https://www.bis.org/publ/bppdf/bispap78.htm

Nier, E. and Kang, H. (2016). "Monetary And Macroprudential Policies – Exploring Interactions". BIS Papers No. 86. Bank for International Settlements.
https://www.bis.org/publ/bppdf/bispap86e.pdf

Obstfeld, M., Ostry, J., and Qureshi, M. (2017). "A Tie That Binds; Revisiting the Trilemma in Emerging Market Economies," IMF Working Papers 17/130.
https://www.imf.org/~/media/Files/Publications/WP/2017/wp17130.ashx

Potter, Simon M, and Frank Smets. (2019). "Unconventional Monetary Policy Tools: A Cross-Country Analysis", CGFS Papers No 63, Bank for International Settlements.
https://www.bis.org/publ/cgfs63.htm

Rozimi, A. (2018) "Profile of Malaysia's External Debt". BNM Quarterly Bulletin 3Qs 2018.
https://www.bnm.gov.my/files/publication/qb/2018/Q3/p3ba1.pdf

Shuhaimen, M. and Han, J. (2016). 'Payoffs from Going Global: Assessing the Returns from Malaysia's DIA'. Bank Negara Annual Report 2016.
https://www.bnm.gov.my/files/publication/ar/en/2016/cp01_002_box.pdf

Summers, L. (2014). "US Economic Prospects: Secular Stagnation, Hysteresis, and the Zero Lower Bound," Business Economics, 49(2), 65-73.
http://larrysummers.com/wp-content/uploads/2014/06/NABE-speech-Lawrence-H.-Summers1.pdf

The People's Bank of China (2020), Beijing, Press Conference on Monetary Policies, 19th April 2020
http://www.pbc.gov.cn/goutongjiaoliu/113456/113469/4005810/index.html

Yi, Gang (2018), 'China's Monetary Policy Framework - Supporting the Real Economy and Striking a Balance between Internal and External Equilibrium', Speech given at Chang'an Forum held by the Chinese Economists 50 Forum, Beijing, 13 December
https://www.bis.org/review/r190130b.htm

Yi, X. (2020), "Monetary Support in Place, Waiting for Fiscal Stimulus". Deutsche Bank

Yoichi, K. (2018) "Monetary Policy Instruments in China and Next Steps". AMRO Memo.