Achievements and Assessment of the

ASEAN+3 Asian Bond Markets Initiative

2023

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1. Introduction

1. The Asian Bond Markets Initiative (ABMI) is a notable example of regional cooperation by the Association of Southeast Asian Nations (ASEAN) plus the People's Republic of China (PRC), Japan, and the Republic of Korea—collectively known as ASEAN+3. The 1997-98 Asian financial crisis revealed that a well-functioning domestic bond market is indispensable for sound economic management.

2. ASEAN+3 launched ABMI at the ASEAN+3 deputies meeting in Chiang Mai, Thailand, in December 2002. ABMI can be seen as a journey to respond to the original sin hypothesis by Eichengreen and Hausmann (1999).[1] They claimed there would be an incompleteness in international financial markets in which the domestic currency cannot be used for developing countries to borrow abroad or to borrow long term, even domestically. Thus, ABMI can be seen as a regional effort to repudiate the hypothesis by developing efficient local markets, though it appeared difficult initially.

3. This paper assesses the achievements of ABMI since its inception and discusses the next steps to consider in the ABMI Mid-term Road Map 2023 to 2026.

2. Assessment of the Asian Bond Markets Initiative

2.1 Asian financial crisis and double mismatches

4. In the early 1990s, massive short-term private capital from developed markets flew into emerging Asia, driven by optimism on macroeconomic fundamentals, interest rate differentials, and a belief that quasi-fixed exchange rate regimes would be sustained. The capital inflows led to an increase in short-term external debt. Moreover, the huge capital inflows created excessive credit expansion and risk-taking by financial institutions that led to inefficient investments in real estate and corporate activities.[2] Once the optimism was questioned, capital flows were suddenly reversed. Heavy reliance on short-term foreign currency debts created double mismatches in currencies and maturities of funding and investments. Besides, weak fundamentals and inefficient

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[1] B. Eichengreen, and R. Hausmann. 1999. "Exchange Rates and Financial Fragility." Proceedings, Economic Policy Symposium, Jackson Hole. Federal Reserve Bank of Kansas City, 329–368.

[2] M. Yoshitomi, and S. Shirai. 2001. Technical Background Paper for Policy Recommendations for Preventing Another Capital Account Crisis. Tokyo. Asian Development Bank Institute.

investments exacerbated the double mismatch, and the Asian economies fell into deep financial difficulties, triggering the chains of financial crises.

2.2 Exponential Growth of Local Currency Bond Markets in the ASEAN+3 Region

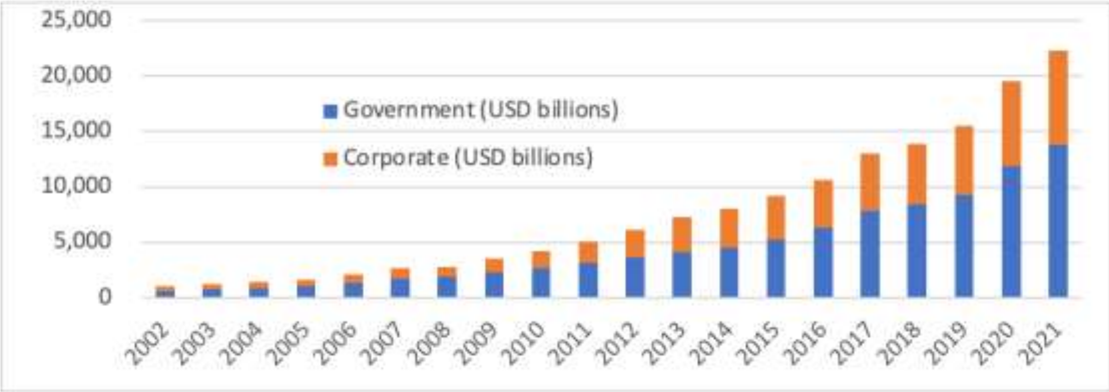
5. Developing a local currency (LCY) bond market is fundamentally a national agenda. But regional cooperation can help alleviate difficulties by dealing with the problems collectively. As the original sin hypothesis claims, developing LCY bond markets is not an easy task. But regional arrangements can support and often complement the efforts of individual countries. For instance, highlighting LCY bond market developments under ABMI has resulted in greater support from various stakeholders and established better coordination not only among the ASEAN+3 member economies but also within each economy. In addition, regional arrangements can reinforce the commitments of the governments, which also increases commitments by market participants.[3]

6. Under ABMI, ASEAN+3 established working groups and task forces to deepen various discussions including the identification of problems and impediments as well as solutions and possible implementations. In addition, the Asian Development Bank (ADB) as the secretariat of ABMI supported the regional efforts strongly.

7. Since the establishment of ABMI, the five original members of ASEAN, namely Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam plus the PRC, the Republic of Korea (ASEAN+2), have achieved remarkable progress in developing their respective domestic bond markets. The total size of these LCY bond markets climbed from USD 1.06 trillion to USD 22.3 trillion at the end of 2021 and is still growing (Figure 1). Now, the total size is comparable to the United States (US) Treasury bonds and euro-denominated bonds issued by the residents of the Euro Area (Figure 2). The size of LCY bond markets of some of the ASEAN+3 economies has exceeded those of some European countries as a ratio of gross domestic product (GDP). In terms of market development relative to the economic size, these ASEAN+3 markets can be considered comparable to developed markets.

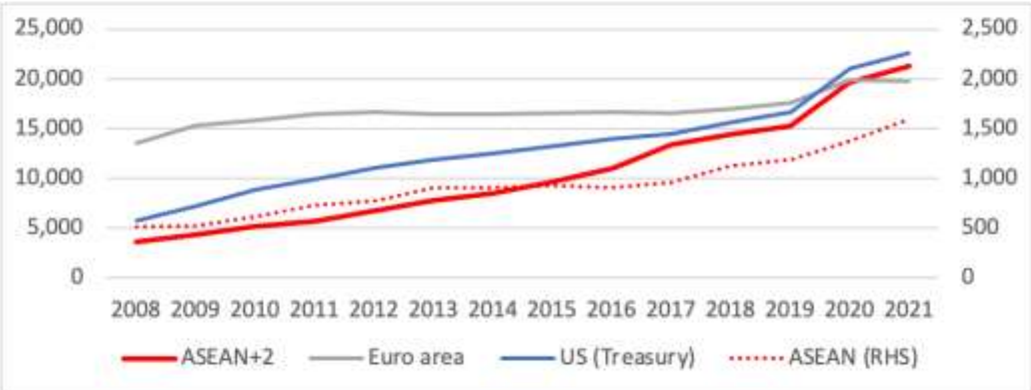
[3] S.Yamadera. 2022. Asian Bond Markets Initiative. in ASEAN+3 Macroeconomic Research Office. 2022. *TRAUMA TO TRIUMPH Rising from the Ashes of the Asian Financial Crisis.* Chapter 29. Singapore

Figure 1: Size of Local Currency Bond Market (ASEAN+2)



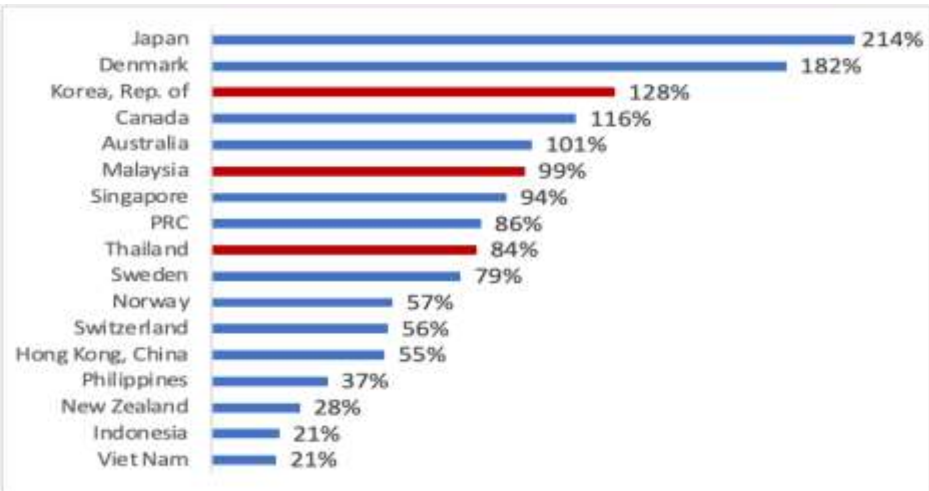
Source: AsianBondsOnline Database

Figure 2: Size of Local Currency Bond Markets in Comparison (USD Billion)



Source: AsianBondsOnline, CEIC, European Central Bank, International Monetary Fund, and Securities Industry and Financial Markets Association.

Figure 3: The Size of the Local Currency Bond Market as of GDP in 2019



Source: Bank for International Settlements, AsianBondsOnline, CEIC, World Bank

2.3 Increasing Use of Local Currencies in Intra-regional Trade

8. According to various informal data, the use of local currency usage for intraregional trade seems to expand, given the relatively large share of intraregional trade. Previously, ASEAN+3 markets were seen as a production base for the world, but as their economies grew, they became leading consumer markets. The final destination of ASEAN+3's exported goods is shifting from the U.S. and Europe to its own region. Therefore, the use of local currency for trade may continue to increase.

2.4 Local Currency Bond Finance to Sustain the Economies under Market Stresses

9. The global financial crisis in 2007–2008 also made us realize the importance of the LCY bond market. In 2011, the Group of Twenty (G20) launched an initiative at the G20 Cannes Summit to develop LCY bond markets. The G20 recognized that a well-developed LCY bond market (i) increases a country's ability to withstand global capital flows; (ii) reduces its reliance on foreign currency borrowing and lessens exchange rate risks; (iii) contributes to the reduction of current account imbalances; (iv) lowers the need for large precautionary reserve holdings; and (v) allows bank and corporate balance sheets to adjust more smoothly, hence, improving the capacity of macroeconomic policies to respond to external shocks.[4]

10. In addition, by mobilizing domestic savings, a domestic bond market can reduce negative spillovers from weaknesses in the banking sector including the impact of global financial stress through the banking sector. According to Valendia-Rubiano, Silva, and Anderson (2010), the countries with larger and more developed domestic bond markets were less affected by the global financial crisis.[5]

11. The efforts of ASEAN+3 to develop LCY bond markets have paid off during the past crises. Thanks to timely policy stimulus measures, the ASEAN+3 member economies weathered the crisis and experienced a V-shaped recovery from the sharp downturn of the global financial crisis from 2008 to 2009. The recent shock due to the COVID-19 pandemic was also mitigated by various fiscal policy measures by the

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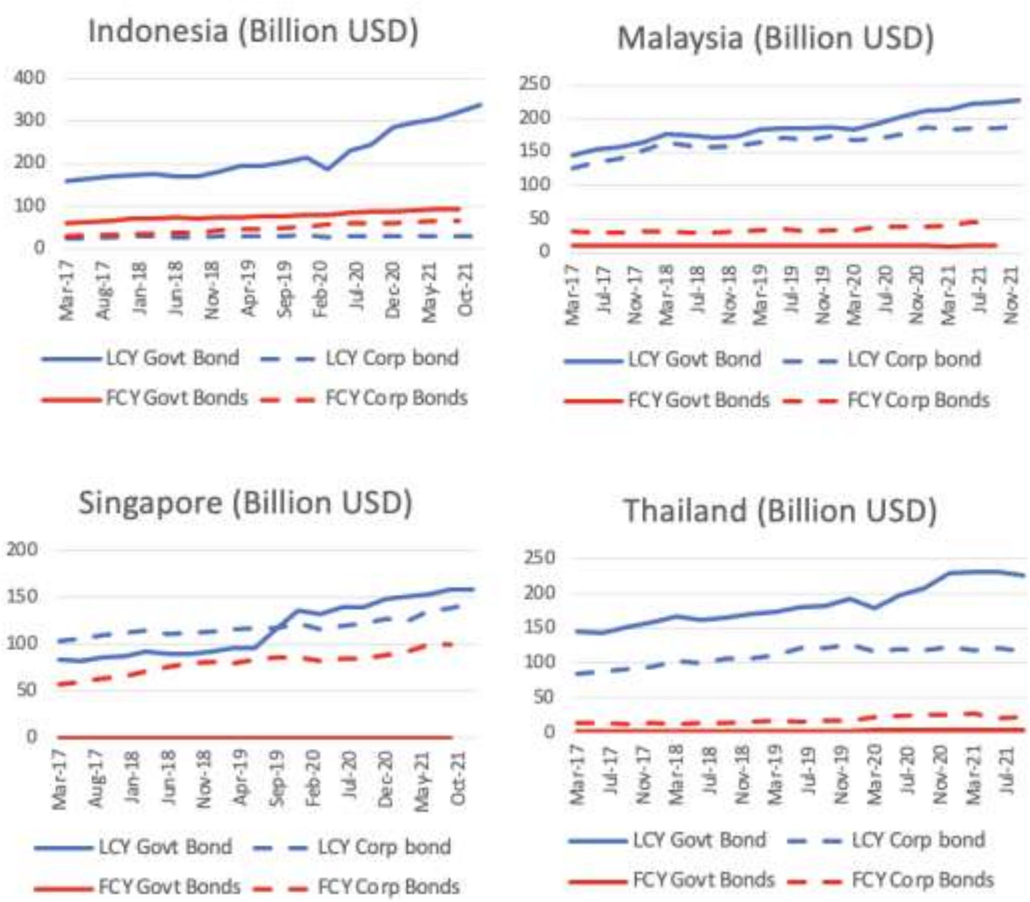
[4] IMF and World Bank. 2018. *Staff note for the G20 International Financial Architecture Working Group (IFAWG) recent developments on local currency bond markets in emerging economies*. Washington, DC.

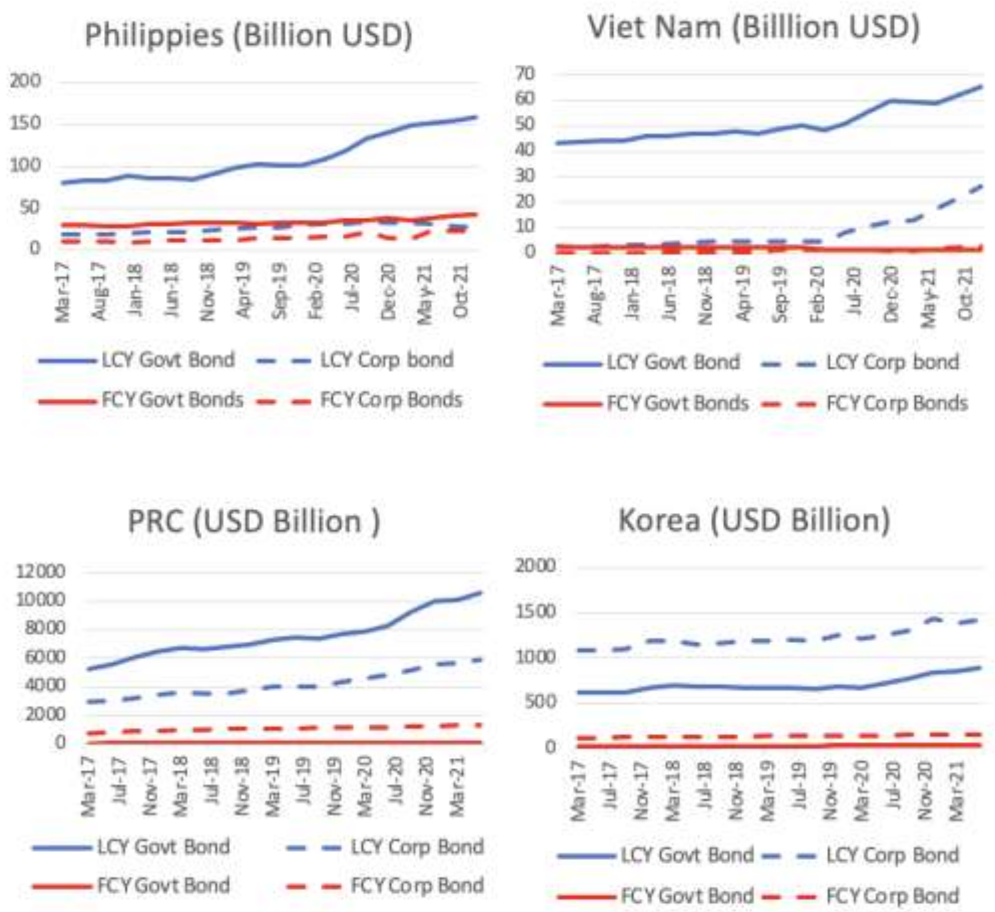
[5] A. Valendia-Rubiano, A. C. Silva, and P. R. D. Anderson. 2010. *Public Debt Management in Emerging Market Economies.* World Bank Policy Research Working Paper. No. 5399. Washington, DC.

ASEAN+3 region which were supported by domestic government bond finance (Figure 4).

12. The original sin hypothesis predicted that the domestic currency cannot be used to borrow abroad or to borrow long-term, even domestically; thus, financial fragility would remain because the double mismatch would continue. However, most ASEAN+3 governments no longer need to rely on foreign currency finance. They can finance by themselves with their local currencies. As a result, the share of foreign currency government bonds against the LCY government bonds outstanding declined continuously.

Figure 4: Local and Foreign Currency Bonds Outstanding





Note: Corp=corporate, FCY=foreign currency, Govt= government, LCY=local currency, USD = United States dollar
Source: AsianBondsOnline

2.5 Local Currency Bond Market Development to Reduce Market Volatility

13. According to C. Kim, J. Park, D. Park, and S. Tian (2023), emerging economies benefit from lower exchange rate volatility during periods of market turmoil when they have a larger LCY bond market, a greater share of LCY bonds in the overall bond market, and relatively more long-term bonds.[6] There is a general negative correlation between the size of local currency bond markets and exchange rate volatility after controlling for economic fundamentals. The economies with larger local currency bond markets experienced lower exchange rate volatility during the financial crisis. According to their findings, "a 1% larger LCY bond market as a share of the total bond market reduced exchange rate volatility by 0.019 (0.895% of sample mean), and 1% more long-term bonds (tenors of 10 years or above) as a share of the total bond market is associated

[6] C. Kim, J. Park, D. Park, and S. Tian. 2023. *Local Currency Bond Market Development and Currency Stability during Market Turmoil.* ADB Working Paper Series. Forthcoming.

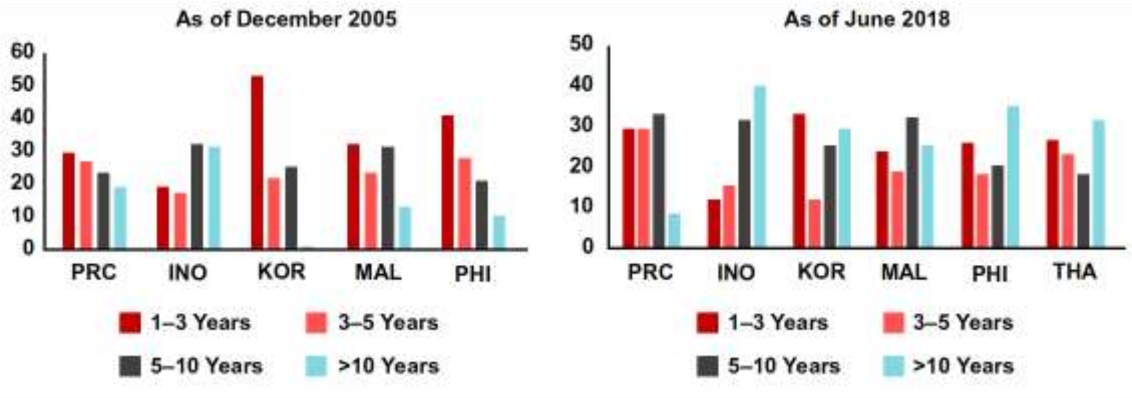
with 0.026 less exchange rate volatility (1.224% of sample mean). During financial crises, a 1% larger LCY bond market as a share of the total bond market is associated with 0.006 less exchange rate volatility".[7] Economies with larger local currency bond markets experienced lower exchange rate volatility during the COVID-19 pandemic. In addition, LCY bond market development reduces exchange rate volatility during periods of US monetary policy tightening. "On average, exchange rate volatility is 0.002 lower in economies with larger LCY bond markets during periods of US monetary tightening relative to smaller LCY bond markets. Such a currency stabilizing effect is more general for all markets and is not only relevant in Asian and emerging markets".[8]

14. This study provides empirical evidence which joins existing literature that explains LCY bond markets help stabilize the domestic currency during stress periods. A higher share of LCY bonds in the total bond market and a higher share of long-term bonds in the bond market may contribute to financial stability. As shown, ABMI successfully contributes to regional financial stability through LCY bond market developments.

15. ABMI has demonstrated the role and value of regional cooperation. It addressed the problem of coordination failure and lack of knowledge, experience, and expertise. Furthermore, it could push member economies toward achievements through peer pressure. Shared knowledge and experiences supported the identification of problems and provided appropriate policy advice. The resilient economic performance of ASEAN+3 member economies during the global financial crisis and the COVID-19 pandemic demonstrated that the region no longer suffers the original sin. The economies can finance in local currency domestically in the longer term (Figure 5). Although there is still room for improvement, 20 years of experience with ABMI established a sound basis for further regional financial cooperation. The successful experience of bond market development under the ASEAN+3 regional financial cooperation can be applied to other areas of financial sectors and relevant areas of the financial market.

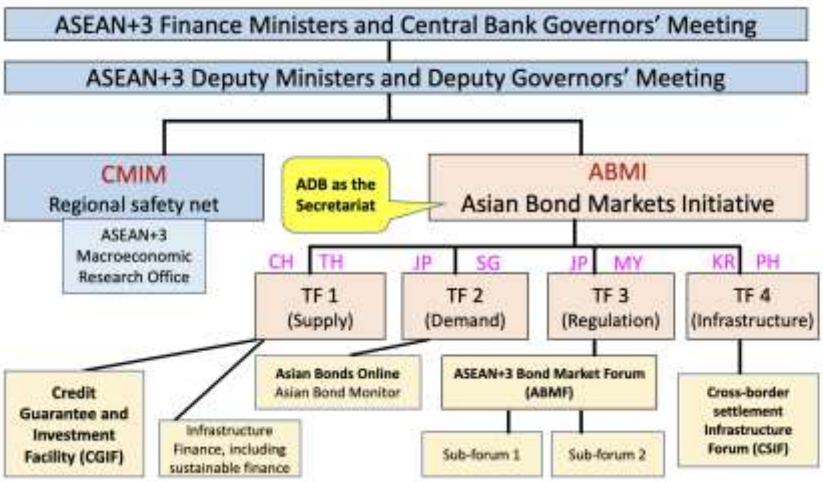
[7] ADB. 2021. *Asia Bonds Monitor November 2021. Local Currency Bond Market Development and Exchange Rate Volatility. Special Topic on Financial Markets*. P 47.
[8] ADB. 2021. *Asia Bonds Monitor November 2021. Local Currency Bond Market Development and Exchange Rate Volatility. Special Topic on Financial Markets.* P 47-48.

Figure 5: Government Securities Maturity Profile as Share of Total (Percent)



Source: AMRO. 2022. *TRAUMA TO TRIUMPH Rising from the Ashes of the Asian Financial Crisis*. Chapter 29. Singapore

Box: Institutional Framework of ABMI Activities



ABMI = Asian Bond Markets Initiative, ADB = Asian Development Bank, AMBIF = ASEAN+3 Multi-Currency Bond Issuance Framework, ASEAN = Association of Southeast Asian Nations, CH = People's Republic of China, CMIM = Chiang Mai Initiative Multilateralisation, JP = Japan, KR = Republic of Korea, LCY = local currency, MY = Malaysia, PH = the Philippines, SG = Singapore, TF = task force, TH = Thailand.
Source: Asian Development Bank.

Currently, ABMI activities are divided into four task forces.

Task Force 1 focusing on promoting the Issuance of LCY Bonds, co-chaired by People's Republic of China (PRC) and Thailand. Under TF1, the Credit Guarantee and Investment Facility (CGIF) was established to help promote the issuance of local currency (LCY) bonds in November 2010 as a trust fund of ADB. Since its inaugural guarantee to bond issuance in

April 2013 until January 2023, CGIF has guaranteed 57 bonds and sukuks issued by 39 companies from 12 economies in 9 currencies with a total cumulative notional guarantee amount of US$ 2,792 million. With the introduction of co-guarantee and partial guarantee, the total aggregate amount of bonds accessed by issuers with CGIF guarantee reaches over US$ 3,034 million. TF1 also promotes the issuance of green, social, and sustainability bonds in the region.

Task Force 2 focuses on facilitating the demand for LCY bonds, co-chaired by Japan and Singapore. To disseminate information and outputs produced under ABMI and to promote investment in LCY bonds, the AsianBondsOnline (ABO) website was launched in 2004. The ABO disseminates various data and regulatory information on ASEAN+3 bond markets as well as periodical market analyses such as Asia Bonds Monitor.

Task Force 3 focuses on improving the regulatory framework, co-chaired by Japan and Malaysia. Under the TF3, the ASEAN+3 Bond Market Forum (ABMF) was established in 2010 as a common platform to foster standardization of market practices and harmonization of regulations relating to cross-border bond transactions in the region. ABMF produces the Bond Market Guides for the ASEAN+3 markets, officially recognized publication of bond market regulations and settlement procedures. It also promotes the ASEAN+3 Multi-Currency Bond Issuance Framework (AMBIF) to standardize bond issuance document and procedures by focusing on the professional investors-only bond markets in the region.

Task Force 4 focuses on improving related infrastructure for the bond market, co-chaired by Korea and the Philippines. The Cross-Border Settlement Infrastructure Forum (CSIF) was established in May 2013 to discuss the improvement of cross-border bond and cash settlement infrastructure in the region, including the possibility of establishing an RSI. CSIF promotes the linkages among the central securities depositories and real-time gross settlement systems of the central banks in the region. Task Force 4 also launched the Asian Prime Collateral Forum in 2017 to study the possible use of regional government bonds as collateral for cross-border transactions.

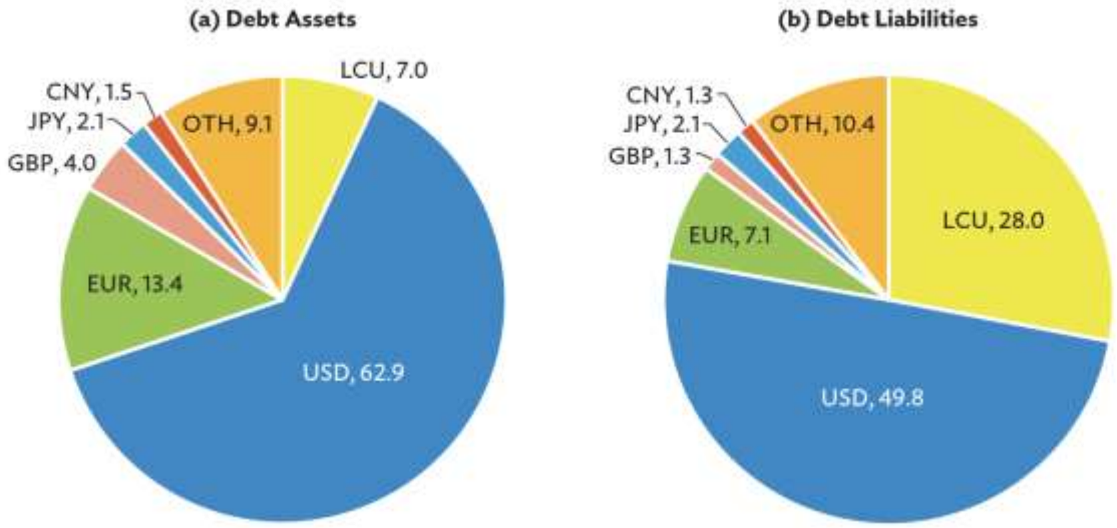
3. Remaining Challenges

16. Though the region's LCY bond markets have developed as shown in the previous section, there is still room for improvement.

3.1 Lagged Capital Market Integration

17. Based on the analysis of the *Asian Economic Integration Report 2022*, the currency mismatch of debt investments by Asia and the Pacific is not high (Figure 6); thus, the risk of currency mismatch seems limited. However, the ASEAN+3's share of intraregional portfolio debt investments is not as high as the intraregional trade share (Figure 7). ASEAN+3 needs to utilize the region's vast savings to expand business opportunities in and growth of the region.

Figure 6: Currency Composition of Asia's International Debt Investments, 2020 (%)



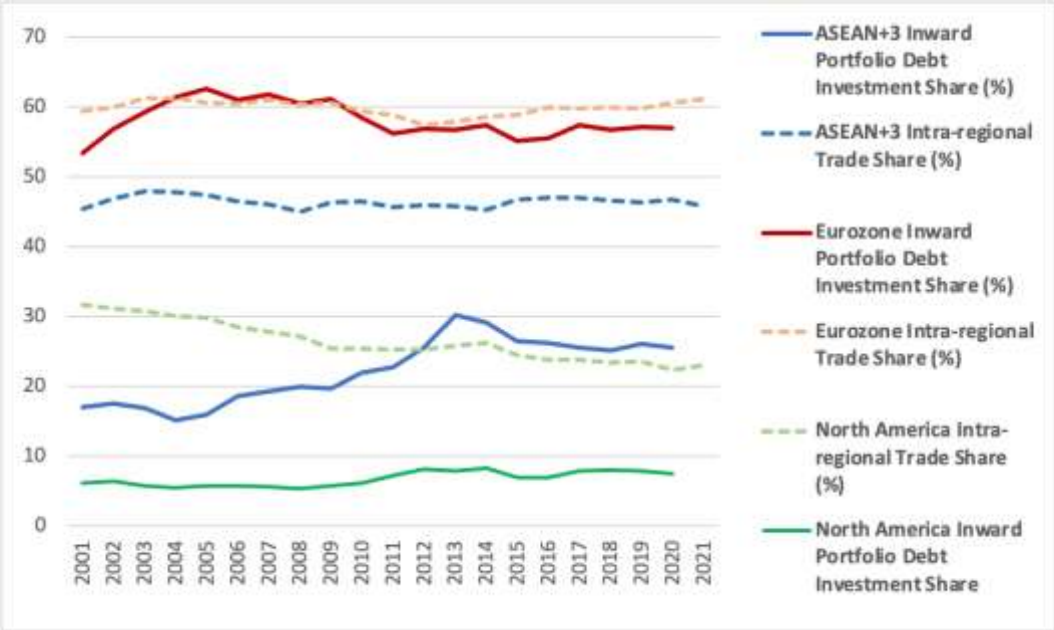
Note: CNY = Chinese yuan, EUR = euro, GBP = British pound, JPY = Japanese yen, LCU = local currency unit, OTH = other currencies, USD = United States dollar.

(i) CNY and JPY are classified as LCU for the People's Republic of China and Japan, respectively.
(ii) Values were estimated using currency weights for 2017 based on the latest available data set from Benetrix et al. (2019) and International Investment Positions for 2020. The values shown are in percentages of the total.[9]
(i) OTH shares were derived as residual values.
(ii) Asia and the Pacific includes Australia; Hong Kong, China; India; Indonesia; Japan; Malaysia; New Zealand; Pakistan; the People's Republic of China; the Philippines; the Republic of Korea; Singapore; Sri Lanka; and Thailand.

Source: ADB. 2022. *Asian Economic Integration Report.* Manila.

[9] Bénétrix, A., D. Gautam, L. Juvenal, and M. Schmitz. 2019. *Cross-Border Currency Exposures*. Washington, DC: International Monetary Fund (IMF).

Figure 7: Intraregional Trade and Portfolio Debt Investment Share



Source: ADB Asia Regional Integration Center Database

3.2 Sizable USD Use for Intraregional Financial Transactions

18. Although the use of local currencies for intraregional trade transactions seems increasing, the use of local currencies for intraregional financial transactions remains limited. According to various data and statistics, the share of USD for intraregional financial transactions is much higher.

3.3 Development of Sustainable Finance to Build Back Better from COVID-19

19. ADB estimates that ASEAN requires USD 3.1 trillion or USD 210 billion annually from 2016 to 2030 for climate change-adjusted infrastructure investment.[10] And the estimated financing gap is USD 102 billion per year, which needs to be filled by the active participation of the private sector.[11] Moreover, COVID-19 has significantly impacted the region's economy. Relative to a pre-COVID-19 baseline, ADB estimated a loss of 8.6% to 12.7% of ASEAN GDP in 2020 and a loss of 6.1% to 11.0% in 2021. These are equivalent to USD 253 billion to USD 374 billion and USD 178 billion to USD 322 billion, respectively.[12] The recovery from the COVID-19 pandemic will require faster

[10] Asian Development Bank. 2017. *Meeting Asia's Infrastructure Needs.* Manila. Table 1.
[11] Asian Development Bank. 2017. *Meeting Asia's Infrastructure Needs.* Manila. Table 3.
[12] Asian Development Bank. 2020. *The Impact of COVID-19 on Developing Asia: The Pandemic Extends into 2021.* ADB Brief No. 159. Manila.

infrastructure building to help the vulnerable. In addition to the immediate support for healthcare, it is necessary to improve social infrastructures, including sanitation, water supply, and hospitals. Also, improved logistics to support the region's value chain with more advanced information technologies is necessary to build back better.

20. Many ASEAN+3 member economies are vulnerable to climate risk. ASEAN+3's coastal populations are facing more risks of increasingly frequent and more powerful typhoons. Hence, recovery strategies from the pandemic must build back better, not build back to the previous one. The region needs to consider a new approach to mobilize and intermediate funds to create more environmentally friendly, socially impactful, natural disaster-resilient, and sustainable economies. The development of sustainable finance would enhance the recycling of funds within ASEAN+3 as investors' preference is shifting from country risk to climate risk. To develop the market, a more holistic approach, including green banking, green pricing, and social impact measurement must be considered. It requires building new institutional arrangements, guidelines, and market practices, as well as awareness and a good understanding of market participants. These efforts need to go beyond just green bond market development.

3.4 Risk Mitigation to Increase Intraregional Financial Transactions

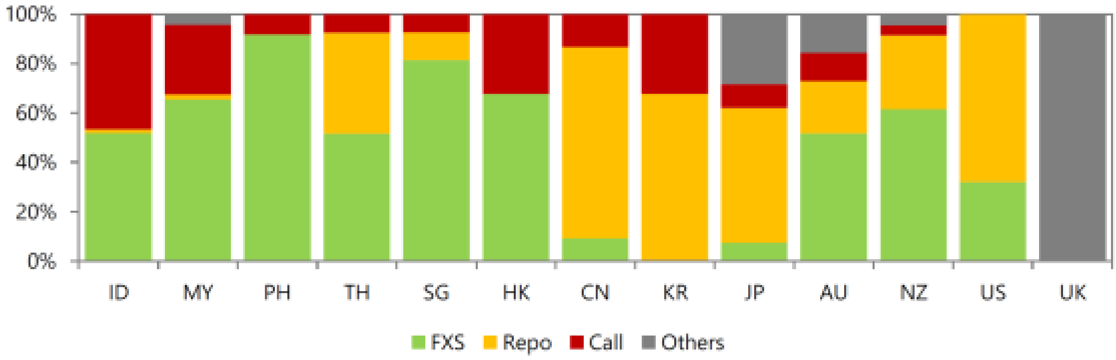
21. To support the recycling of vast savings within the region to lead sustainable infrastructure finance, measures to attract foreign investors, particularly foreign exchange risk mitigation, must be considered. A lack of and too expensive hedging tools is often pointed out as an impediment for cross-border transactions in ASEAN+3. This is a difficult problem because the root cause is not stemming from the foreign exchange market but due to the inefficiency and inactiveness of the short-term money market as well as the secondary bond market. To construct a liquid foreign exchange and cross-currency swap market, the market needs an efficient and smooth yield curve from the short to long term, enabling modeling of the term structure. Therefore, the efforts to develop efficient hedging tools require not only a liquid bond market but also the development of an active short-term money market.

22. The development of an active short-term money market will contribute to financial stability. According to the report by the Executives' Meeting of East Asia-Pacific Central Banks, or EMEAP (2018), FX swaps are increasingly an important source of local currency for foreign banks (Figure 8).[13] Foreign banks typically have a narrower local

[13] EMEAP Working Group on Financial Markets. 2018. *EMEAP Money Markets Survey Report*.

deposit base compared with local banks. Therefore, such foreign banks are more likely to have lower liquidity or be short in local currencies, thus look for wholesale market sources by FX swap, though the market may not be reliable. In other words, the development of an active short-term money market will support the development of an efficient yield curve, hence, efficient FX hedging tools. Besides, it may reduce the reliance on FX swaps for local currency funding by foreign banks.

Figure 8: Composition of money markets by daily turnover in 2016



Source: EMEAP. 2018. *EMEAP Money Markets Survey Report*

23. Another approach to reducing FX risk is the promotion of local currency collateral for cross-border transactions or cross-border collateral arrangements (CBCAs). According to EMEAP (2018), foreign financial institutions were less likely to hold local securities which could be used as repo collateral.[14] But if foreign banks are allowed to use their home country government bonds for repo or collateral to finance local currency, it will support financial stability, particularly when USD is not available, thus, FX swap is not available. ADB (2022) defines a cross-border collateral arrangement as “a monetary policy instrument in which the central banks of the two countries enter into a reciprocal arrangement to provide liquidity to domestic financial institutions accepting foreign currency bonds as collateral. In other words, CBCA is a policy tool that helps the central bank smoothly supply its liquidity to foreign financial institutions operating in its market with foreign currency bonds held in their home countries.”[15] If CBCAs become more widely available in the region, it is expected to increase liquidity in the financial markets, develop LCY bond markets further, and expand the regional financial safety net. “CBCAs could reduce adverse systemic impacts by allowing market participants to address

https://www.emeap.org/wp-content/uploads/2018/08/EMEAP-Money-Markets.pdf

[14] EMEAP Working Group on Financial Markets. 2018. *EMEAP Money Markets Survey Report.* https://www.emeap.org/wp-content/uploads/2018/08/EMEAP-Money-Markets.pdf

[15] Asian Development Bank. 2022. *Local Currency Collateral for Cross-Border Financial Transactions.* Manila. P16.

liquidity shortages and contribute to expanding the financial safety net and strengthening the financial stability in the region."[16]

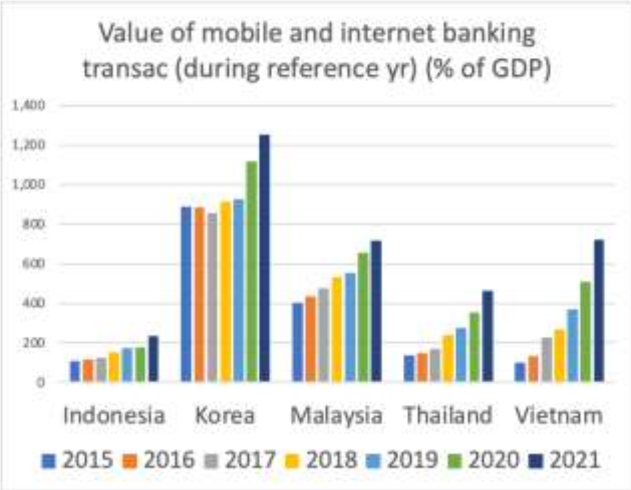
24. Further development of the short-term money market including CBCA will support the development of FX hedging tools and would reduce overreliance on USD for cross-border transactions in the ASEAN+3 region. The development of onshore FX hedging tool and CBCA may reduce reliance on non-deliverable forward (NDF); thus, it would reduce intraregional financial transactions of USD.

3.5 Rapid Changes in the Regional Financial Landscape due to Technology

25. Technology is unbundling traditional finance. Thus, it may create opportunities as well as challenges. Digitalization may change existing channels of capital flows. The COVID-19 pandemic accelerated the use of mobile payment services (Figure 9). As Bank Indonesia (BI), Bank Negara Malaysia (BNM), Bangko Sentral ng Pilipinas (BSP), Monetary Authority of Singapore (MAS), and Bank of Thailand (BOT) agreed on the Regional Payment Connectivity, it is expected the QR code payment services in these economies will be linked and further enhancement of cross-border payment services would be considered.[17]

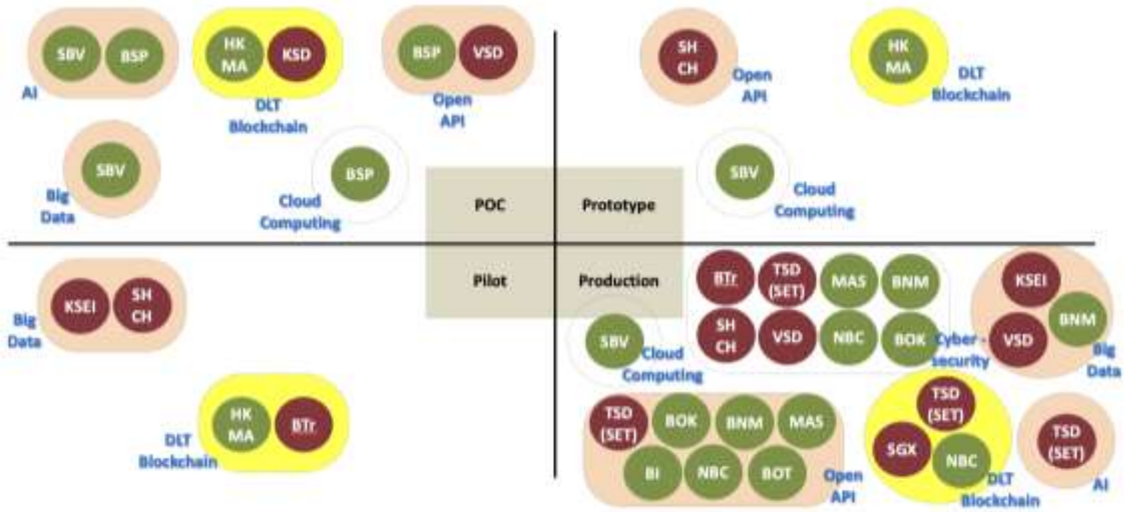
Figure 9: COVID-19 Impact on Mobile Banking

[16] Asian Development Bank. 2022. *Local Currency Collateral for Cross-Border Financial Transactions*. Manila. P16.
[17] According to the press release of the Monetary Authority of Singapore on 14 November 2022, the five ASEAN central banks agreed to strengthen and enhance cooperation on payment connectivity to support faster, cheaper, more transparent, and more inclusive cross-border payments.



Composed by ADB based on the IMF Financial Access Survey

Figure 10: New Technolgy Application Cases of CSIF members by Technology and Application Level



BI = Bank Indonesia, BNM = Bank Negara Malaysia, BOK = Bank of Korea, BOT = Bank of Thailand, BSP = Bangko Sentral ng Pilipinas, BTr = Bureau of Treasury, HKMA = Hong Kong Monetary Authority, KSEI = PT Kustodian Sentral Efek Indonesia, MAS = Monetary Authority of Singapore, KSD = Korea Securities Depository, SBV = State Bank of Vietnam, SET = Stock Exchange of Thailand, SGX = Singapore Exchange, SHCH = Shanghai Clearing House, TSD = Thailand Securities Depository, and VSD = Vietnam Securities Depository.

Legend: central bank; and central securities depository (CSD).

Source: ADB. 2022. *Recent Technological Advances in Financial Market Infrastructure in ASEAN+3: Cross-Border Settlement Infrastructure Forum*. Manila

26. According to ADB (2022), the central banks and central securities depositories (CSDs) in ASEAN+3 are considering and implementing six key technologies that are transforming fundamental financial market infrastructure.[18] It is expected that (i) distributed ledger technology (DLT) and blockchain, (ii) artificial intelligence (AI), (iii) big data analytics, (iv) cloud computing, (v) enhanced cybersecurity technologies, and (vi) (open) application programming interface (API) will change financial transactions significantly, and they may change the financial landscape in the region (Figure 10).

3.6. Country-Specific Problems for Local Currency Bond Market Development

27. It is necessary to note that there are some member economies that do not have a sufficiently established LCY bond market because they face a unique situation that prevents market development. To change the situation, it is necessary to provide technical assistance which is more tailored and customized to these markets.

[18] Asian Development Bank. 2022. *Recent Technological Advances in Financial Market Infrastructure in ASEAN+3: Cross-Border Settlement Infrastructure Forum*. Manila. https://www.adb.org/publications/technological-advances-financial-market-infrastructure-asean3