Recent Developments in ASEAN+3 Sustainable Bond Markets

Sustainable bonds in ASEAN+3 markets expanded at a faster pace than the global average in 2022, but they still accounted for a limited share of the region's overall bond market.[9] The sustainable bond market in ASEAN+3 reached a size of USD589.3 billion at the end of 2022 on year-on-year (y-o-y) growth of 36.7%. While growth was slower compared to the 53.8% y-o-y expansion in 2021, due to tightening financial conditions, ASEAN+3's bond market posted a faster expansion than global sustainable bond markets, which totaled USD3.3 trillion at the end of 2022 on growth of 27.2% y-o-y. Rapid growth has been partially driven by investor interest in the diversification benefits of sustainable bonds. **Box 5** delves into this aspect much more deeply. ASEAN+3 remains the second-largest regional sustainable bond market in the world, representing a 17.7% share of the global aggregate, next to the European Union 20 (EU-20) (**Figure 19**). Nevertheless, ASEAN+3's sustainable bond market accounted for only 1.7% of ASEAN+3's aggregate bonds outstanding at the end of 2022, which was below sustainable bonds' 3.0% share of total global bonds outstanding.

The ASEAN+3 sustainable bond market is dominated by green bonds (65.6%), local currency (LCY) financing (64.7%), and private sector financing (77.8%) (**Figure 20**). ASEAN markets accounted for 8.0% of the wider region's sustainable bond stock, compared with 6.2% of ASEAN+3's overall bond market. With a weighted average remaining tenor of 4.5 years, 54.2% of ASEAN+3 sustainable bonds have a remaining tenor of less than 3 years, compared to an average of 7.5 years in the overall bond market of ASEAN+3.

Growth in sustainable bond issuance moderated in 2022 on monetary tightening globally and in the region. ASEAN+3's sustainable bond issuance totaled USD231.5 billion in 2022, with growth decelerating to 5.9% y-o-y from 147.9% y-o-y in 2021 (**Figure 21**). ASEAN+3's share of global sustainable bond issuance rose to 27.2% in 2022, up from 19.2% in 2021. Sustainable bond issuance in ASEAN markets grew 25.1% y-o-y, the second-fastest growth rate in ASEAN+3 after the People's Republic of China (PRC), driven largely by increased issuance from governments in major ASEAN economies. ASEAN's share of regional sustainable bond issuance climbed to 8.0% in 2022 from 6.8% in 2021, higher than its share of 3.5% of general bond issuance in ASEAN+3.

ASEAN economies are active issuers of sustainability bonds in the region. ASEAN markets accounted for 30.1% of regional sustainability bond issuance in 2022, making the group the second-largest issuer of sustainability bonds in ASEAN+3 after the Republic of Korea, which accounted for 30.8% of regional sustainability bond issuance (**Figure 22**). The PRC remained the largest issuer of sustainable bonds in the region, accounting for a 52.0% share of the total, slightly lagging its 55.1% share of ASEAN+3's aggregate bond issuance in 2022. The PRC also led the region in the issuance of green bonds and sustainability-linked bonds in 2022, accounting for 70.8% and 62.9% of issuance, respectively. Japan, the second-largest sustainable bond issuer in 2022, dominated the issuance of transition bonds with 82.2% of the regional total. The Republic of Korea led the issuance of social bonds with a 57.0% share.

ASEAN+3's sustainable bond market is dominated by private sector issuance, suggesting there is great potential for more issuance from the public sector. In 2022, 76.8% of ASEAN+3's sustainable bond issuance originated in the private sector. This is in stark contrast to the private sector's 26.9% share of the region's overall bond issuance in 2022. This indicates there is great potential for the expansion of issuance in the public sector, including from municipals and state-owned entities. In ASEAN, the public sector accounted for 58.0% of sustainable bond issuance, driven by a few large sovereign issuances in 2022.

[9] ASEAN+3 is defined to include member states of the Association of Southeast Asian Nations (ASEAN) plus the People's Republic of China; Hong Kong, China; Japan; and the Republic of Korea.

Box 6: Link between Environmental, Social, and Governance Assets and Conventional Assets—Some Empirical Evidence

Sustainable assets are an emerging class of alternative assets.[a] For investors, these assets can potentially contribute to financial stability and portfolio diversification. Formally known as environmental, social, and governance (ESG) assets, this asset class has experienced rapid growth in recent years. Companies and industries are increasingly prioritizing sustainable practices in their business operations. The global financial crisis further catalyzed the growth of ESG investments. As a result, ESG has become an integral part of investment portfolios. Investors are turning away from investments in companies and industries that pursue environmentally harmful business practices. The growing awareness of sustainability investing among investors means that the growth of ESG assets is likely to continue. While such stylized facts are well known, what is largely lacking is a rigorous analysis of the contribution of ESG assets to systemic risk. This enables us to identify the systematic importance of such assets.

Issues related to ESG—such as environmental sustainability, climate change, business ethics, corporate governance, and human rights—are increasingly influencing the allocation of investments. Market players are reallocating their investments toward ESG assets from conventional assets. In the real economy, in response to growing concerns about the environment, energy producers are gravitating toward renewable energy and away from coal and hydrocarbons. By the same token, in financial markets, investors are gravitating from assets linked with conventional energy toward assets linked with cleaner energy. At a broader level, in recent years there has been a noticeable shift toward ESG assets in the portfolio management decisions of investors. The change in investor attitudes reflects a more general change in societal attitudes against unsustainable economic activities. The underlying goal of investors is to influence the behavior of firms and industries to promote better ESG outcomes.

Relative to conventional assets, ESG assets are characterized by more socially responsible investing, more ethical business practices, less environmental harm, and less leverage. Due to such characteristics, ESG assets tend to be more stable and less volatile than conventional assets. Another significant consideration is that large and growing ESG-related societal pressures are creating substantial risks, as evidenced by the increasing numbers of rules and regulations. Good ESG behavior by a firm reduces such risks, which in turn increases shareholder value. Therefore, it is in the self-interest of firms to avoid ESG risks and in the self-interest of investors to invest in ESG assets.

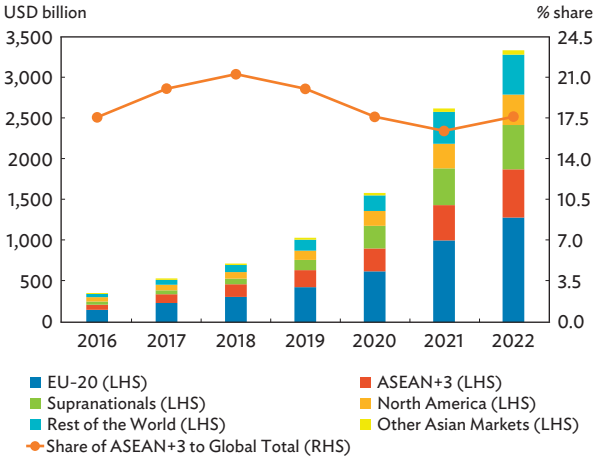
Although investment in ESG assets has grown rapidly, there are relatively few studies that rigorously analyze whether such investment actually benefits investors. In particular, there is only a thin literature on the impact of ESG investment in their main area of supposed benefit—i.e., risk mitigation and diversification of investment portfolios. Instead, existing studies mostly analyze the risk-adjusted returns of ESG assets versus conventional assets or the extent to which the two asset classes are linked with each other. A big shortcoming of the studies is that they do not examine the dynamics of how the link between ESG assets and conventional assets evolves over time.

Recent original research by Uddin et al. (2022) remedies the shortcoming in several ways. They empirically analyze the asymmetric effect of shocks to conventional assets on investments in nine major ESG assets. The analysis yields important implications on how investors can devise strategies to allocate their portfolios and manage their risks in the face of shocks. The analysis can also be useful for market regulators and policymakers. The main empirical methodology is the wavelet-based asymmetric copulas and systematic risk approach. A big advantage of this approach is that it allows for the analysis of effects at various time horizons. This matters because the investment horizon tends to differ for investors with different preferences. That is, the wavelet approach makes it possible to get a more dynamic and comprehensive understanding of the effect of shocks to conventional assets on ESG assets over time.

The analysis yields a number of interesting findings. The evidence points to a significant positive correlation between financial indices and most ESG assets. However, there is some evidence of negative connectedness between S&P green bonds and financial indices, which implies potential opportunities for portfolio diversification and risk management. The results also suggest that commodities and exchange rates present opportunities for ESG investors. Furthermore, gold is a potential safe haven for investors who purchase ESG assets. Overall, the findings generally suggest that a larger share of investments should be allocated to ESG assets relative to conventional assets to enhance portfolio diversification.

[a] This box was written by Donghyun Park (economic advisor) in the Economic Research and Regional Cooperation Department of the Asian Development Bank. This write-up is based on Uddin, Gazi Salah, Muhammad Yahya, Ali Ahmed, Donghyun Park, and Shu Tian. 2022. "In Search of Light in the Darkness: What We Learn from Ethical, Sustainable, and Green Investments." *International Journal of Finance and Economics*. 1–45. https://doi.org/10.1002/ijfe.2742.

Figure 19: Sustainable Bonds Outstanding in Global Markets

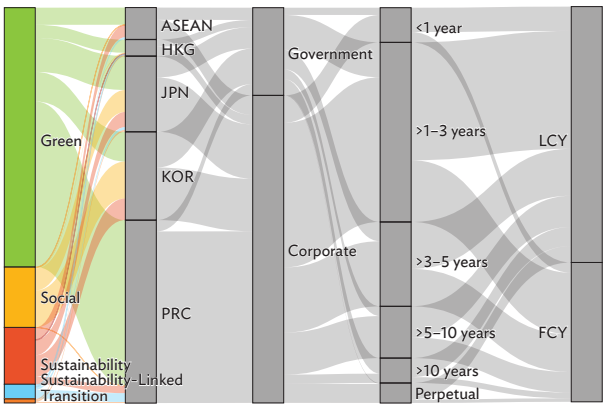


ASEAN+3 = Association of Southeast Asian Nations plus the People's Republic of China; Hong Kong, China; Japan; and the Republic of Korea, EU = European Union, LHS = left-hand side, RHS = right-hand side, USD = United States dollar.

Notes:
1. EU-20 includes EU member markets Austria, Belgium, Croatia, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain.
2. Data include both local currency and foreign currency issues.

Source: *AsianBondsOnline* computations based on Bloomberg LP data.

Figure 20: Market Profile of Outstanding ASEAN+3 Sustainable Bonds at the End of 2022



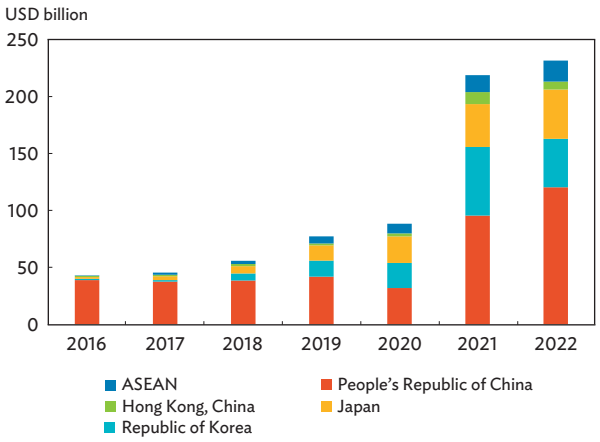
ASEAN = Association of Southeast Asian Nations; FCY = foreign currency; HKG = Hong Kong, China; JPN = Japan; KOR = Republic of Korea; LCY = local currency; PRC = People's Republic of China.

Note: ASEAN+3 is defined to include member states of the Association of Southeast Asian Nations (ASEAN) plus the People's Republic of China; Hong Kong, China; Japan; and the Republic of Korea.

Source: *AsianBondsOnline* computations based on Bloomberg LP data.

Sustainable bond issuance in the ASEAN+3 bond market remained concentrated in short- to medium-term tenors. The average size-weighted tenor of the region's sustainable bond issuances was 5.5 years in 2022, similar to the average of 5.6 years in 2021. Still, 78.9% of total issuances had maturities of less than 5 years, compared to 31.6% in the EU-20. LCY issuance accounted for 72.6% of ASEAN+3 sustainable bond issuance in 2022, which was lower than the LCY issuance share of 96.3% in ASEAN+3's overall bond market and the 88.0% share of LCY issuance in the EU-20's sustainable bond market in 2022. Among all bond types, sustainability bonds had the highest share of foreign-currency-denominated issuance in 2022.

Figure 21: ASEAN+3 Sustainable Bond Issuance in 2022 by Economy

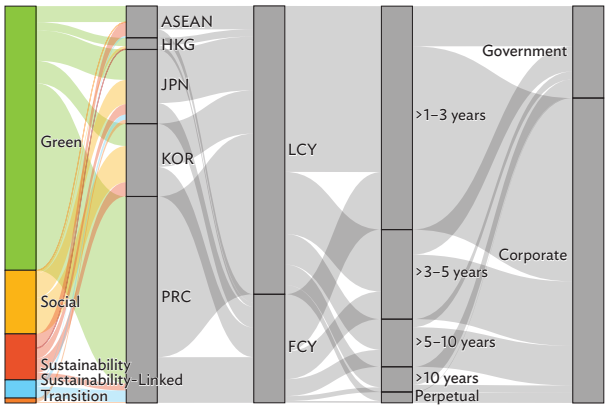


ASEAN = Association of Southeast Asian Nations; USD = United States dollar.

Note: ASEAN+3 is defined to include member states of the Association of Southeast Asian Nations (ASEAN) plus the People's Republic of China; Hong Kong, China; Japan; and the Republic of Korea.

Source: *AsianBondsOnline* computations based on Bloomberg LP data.

Figure 22: Market Profile of ASEAN+3 Sustainable Bond Issuance in 2022



ASEAN = Association of Southeast Asian Nations; FCY = foreign currency; HKG = Hong Kong, China; JPN = Japan; KOR = Republic of Korea; LCY = local currency; PRC = People's Republic of China.

Note: ASEAN+3 is defined to include member states of the Association of Southeast Asian Nations (ASEAN) plus the People's Republic of China; Hong Kong, China; Japan; and the Republic of Korea.

Source: *AsianBondsOnline* computations based on Bloomberg LP data.