Imperial College Business School | Centre for Climate Finance & Investment

Marathon or Sprint?
The Race for Green Capital in Emerging Markets

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Executive Summary

Emerging markets (EM) are highly vulnerable to climate change and require significant amounts of foreign capital to fund transition, mitigation, and adaptation measures. Although the green bond market is growing rapidly, EM is not capturing its share of the potential. Our paper describes structural reasons why, without intervention, this will persist.

Unlike developed markets (DM), where there has been a surge in green-dedicated funds, very few such vehicles exist in EM. As such, there is little natural demand for green bonds at present. Moreover, most of the EM fixed income asset class is too volatile, illiquid and risky to attract capital from dedicated DM green managers.

Interviews conducted for this research reveal that EM fund managers are beginning to integrate more holistic environmental, social , and governance (ESG) considerations into their investment process. However, there is a wide range of views on exactly what ESG means in the context of developing countries and to what extent such measures complement credit risk considerations.

Historically, environmental considerations have had very low impact on credit scores. As such, EM managers are most concerned with governance issues as this has immediate, tangible impact on credit risk. Climate risks are more opaque and much further away from day-to-day consideration.

EM fixed income is a highly indexed product. Investors are drawn to the high yields and managers are incentivized to stay close to the benchmark. The rise of passive investing has depleted some of the rigorous credit analysis needed to differentiate long-term transition risks in EM.

The vast majority of EM fixed income assets are in local markets, yet very little issuance has occurred outside of China. Most EM countries do not have a local green framework for issuance and many do not have credible plans outlined to meet their Paris Agreement pledges. Without a concerted effort to educate and incentivize local investors, and to support governments in building out the proper infrastructure and protocols, local green issuance will continue to lag.

Our report highlights the need for deeper and more flexible sources of EM capital. In particular, we note the green bonds framework is unsuited for many EM issuers, and propose transition bonds as an effective way to bridge the gap. We see an expanded role for International Financial Institutions and Sovereign Wealth Funds to provide long-term, patient capital and risk-sharing. And we believe it is vital local markets are given the support and incentives needed to build out a vibrant green market.

Most importantly, EM end investors must move on from the short-termist mindset which often views the asset class as a macro-driven carry trade that falls in or out of favour based on global trends. To facilitate the sustainability transition needed in EM economies, more strategic and long-term thinking is required to support EM managers as they attempt to actively engage issuers.

Contents

1. Introduction

After years of delay, the quest to avert catastrophic global climate change may finally be gathering pace. There remain, however, intractable hurdles to reducing carbon emissions in the developing world. Many emerging markets still depend on natural resource extraction and export for a significant part of their economic activity. At the same time, these countries are often dangerously susceptible to environmental instability. Their vulnerability can readily be seen in the news headlines warning of rising sea levels, drought, melting glaciers, and refugees fleeing increasingly volatile weather conditions and the social chaos this unleashes.

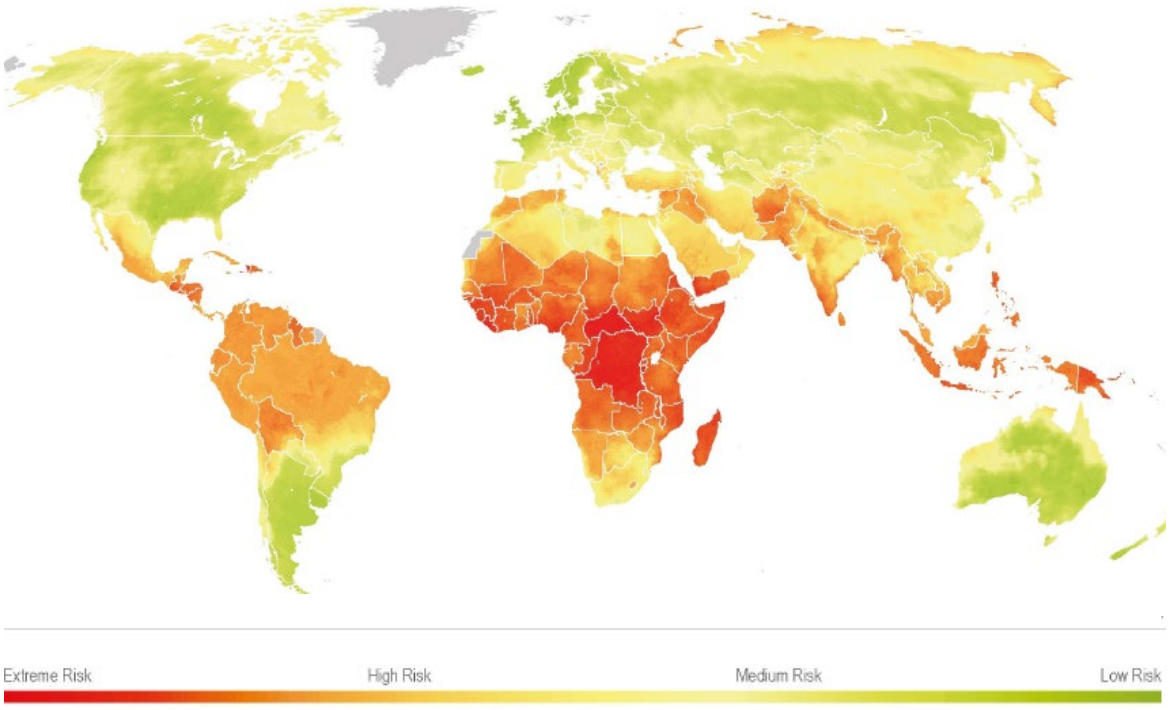

Figure 1: A geographic overview of climate change vulnerability
Source: *Climate Change Risk Map by Verisk Maplecroft*, 2016

Climate impacts can also be seen in financial markets. Our previous research[1] and more recent work by the IMF[2] highlight how countries with elevated environmental vulnerability bear higher credit risk premiums. Well before the worst effects of climate change have even begun to unfold, the most exposed countries already pay higher costs for adaptation and mitigation. This leaves less money for schools, health care, social security and infrastructure investments which would promote economic growth and alleviate poverty. And the needs are vast. The United Nations Sustainable Development Goals (SDGs) require $5-$7 trillion annually. The investment gap in developing countries is estimated at $2.5 trillion per year.[3]

The tension between adapting to a carbon-neutral global economy, while simultaneously maintaining economic growth and creating jobs, constitutes today's principal challenge for countries around the world.[4] In emerging markets, the issues are even more acute and immediate. Developed economies are more diverse than developing ones, usually have better educated and more flexible workforces, and benefit from deeper capital markets eager to finance and implement new innovations. By contrast, with a few notable exceptions (such as fast-growing technology sectors in Asia), a large share of emerging market activity still involves fossil fuel production or rests upon carbon- and water-intensive

1 Imperial College & SOAS. (2018). *Climate Change and the Cost of Capital in Developing Countries*.
2 *Feeling the Heat: Climate Shocks and Credit Ratings*, IMF Working Paper, December 18, 2020
3 Niculescu, M. (2017). *Impact investment to close the SDG funding gap*. UNDP Perspectives
4 Ritchie, H., & Roser, M. (2019). *CO_2 emissions*. Our World in Data.
For measures of resilience see: HSBC Global Research. (2020, February 18). *Fragile Planet 2020*.

industries, such as mining, agriculture and heavy industry. Developing nations are also more reliant upon cheap, often subsidized, energy for both their producers and consumers;[5] in most instances that means fossil fuels.

The vast majority of coal-burning plants under construction are still in developing nations,[6] even while renewable energy use scales up in parallel. This apparent contradiction reflects the developing world's faster-growing economies and low per-capita energy use.[7] An Oxford University study shows African power generation doubling by 2030; yet, fossil fuels will still account for two-thirds of the total, locking in carbon emissions for decades to come.[8] Today, the United Kingdom – not known for a temperate clime – has more solar capacity than the entire continent of Africa.

This economic model of reliance on cheap fossil fuels now carries enormous risk in a world undergoing a fundamental energy transition, which is predicted to cost nearly $3tr annually thru 2050.[9] A recent analysis by Carbon Tracker estimates that under the International Energy Agency's "low carbon" assumption (oil prices average $40/bl), the 40 countries that are most economically reliant on hydrocarbon exports would lose $9tr in revenue by 2040. All but one (Norway) are an emerging market. For many, this loss of revenue would have devastating economic and social consequences. 400 million people live in the 19 most petrol-dependent nations, and 10 of these rank "low" in the UN Human Development Index.[10]

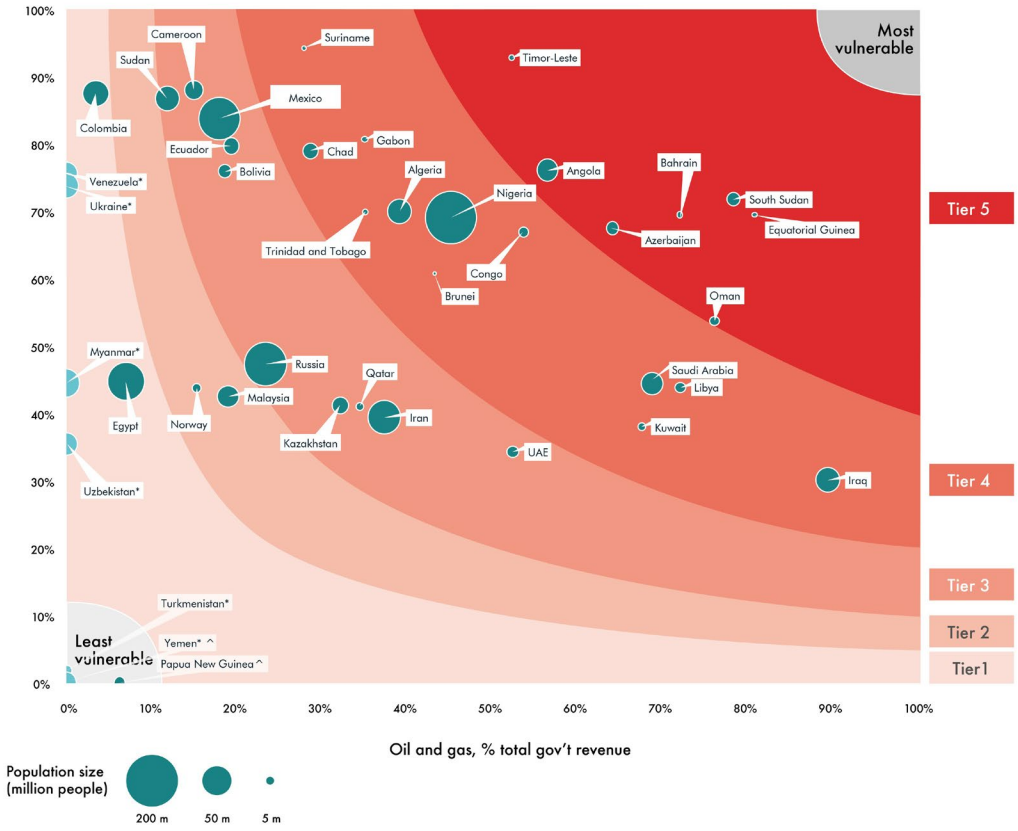

Figure 2: Economic vulnerability to lower petrol prices

Source: Carbon Tracker, *Beyond Petrostates*, February 2021

5 IMF. (2019, May). *Global Fossil Fuel Subsidies Remain Large*
See also: Mallard, Peter (2021, March 26) *Addicted to Cheap Fuel, Emerging Markets Face a Climate Dilemma.* Bloomberg

6 *Global Coal Plant Tracker*. (n.d.). https://endcoal.org/global-coal-plant-tracker/

7 IEA. (2014). *Energy use (kg of oil equivalent per capita.)* The World Bank Group. https://data.worldbank.org/indicator/EG.USE.PCAP.KG.OE

8 Alova, G., Trotter, P.A. & Money, *A. A machine-learning approach to predicting Africa's electricity mix based on planned power plants and their chances of success*. Nat Energy 6, 158–166 (2021).

9 Intergovernmental Panel on Climate Change (2018). *Global Warming of 1.5 ºC. Special report.*
Other estimates are even higher and predict a need for $4.4tr per year: IRENA (2021), *World Energy Transitions Outlook: 1.5°C Pathway*, International Renewable Energy Agency, Abu Dhabi.

10 Carbon Tracker. (2021, February 11). *Beyond Petrostates: The burning need to cut oil dependence in the energy transition.* Carbon Tracker Initiative.

Using the same $40/bl assumption, a study by Natural Resource Governance Institute found that $400b of the projected $1.9tr invested in oil and gas projects by national oil companies over the next decade will lose money; a large share of this will be in emerging markets.[11] Meanwhile, rating agencies are warning of downgrades for fossil fuel-reliant sovereigns[12] and raising concerns about climate change impacts on developing nations' bank loan books.[13]

The starting point for many developing economies[14] – with much lower incomes per capita, young and rapidly growing populations, archaic and dilapidated infrastructure – often implies trade-offs between short-term growth and stability versus long-term environmental protection. It is a difficult balance to strike, and the devastation on emerging economies from COVID has in many ways exacerbated these strains. Developed economies can fund their recovery by massive fiscal stimulus – including green infrastructure – underwritten by central bank bond purchases. This is not an option for most emerging economies. Without foreign capital, there is a limit on what investment is possible beyond the immediate needs for economic recovery.

So how can international investors provide the financing needed to help emerging markets tackle their carbon emissions problems and reliance on cheap fossil fuel; while at the same time being sensitive to the expectations of civil society and real, pressing needs for growth?

11 Natural Resource Governance Institute. (2021, February). *Risky Bet: National Oil Companies in the Energy Transition*.

12 Reuters Editorial. (2021, February 15). *Climate change 'stranded assets' could slash countries' credit ratings: Fitch*. Reuters.

13 Ryan, Jennifer. (2021, March 22). *African Banks Face $218 Billion of Climate Change Risk*. Bloomberg.

14 For an analysis on sovereign impacts: Bennett Institute Working Paper, *Rising Temperatures, Falling Ratings: The Effect of Climate Change on Sovereign Creditworthiness*, March 18, 2021
See also: Volz, U., J. Beirne, N. Ambrosio Preudhomme, A. Fenton, E. Mazzacurati, N. Renzhi and J. Stampe. 2020. *Climate Change and Sovereign Risk*. London, Tokyo, Singapore, and Berkeley, CA: SOAS University of London, Asian Development Bank Institute, and Four Twenty Seven

2. The Rise of Labeled Bond Markets

In addition to targeted assistance via international financial institutions (IFIs) and the usual funding channels available through the banking system and foreign direct investment (FDI), an innovative new piece of this financial puzzle is the "**labeled bonds**" category. This segment of fixed income has been growing at breakneck speed globally and was one of the star performers of 2020 for attracting new capital (and media attention).[15] Issuance thus far in 2021 is running at almost twice that of last year, with strong momentum in developed markets.

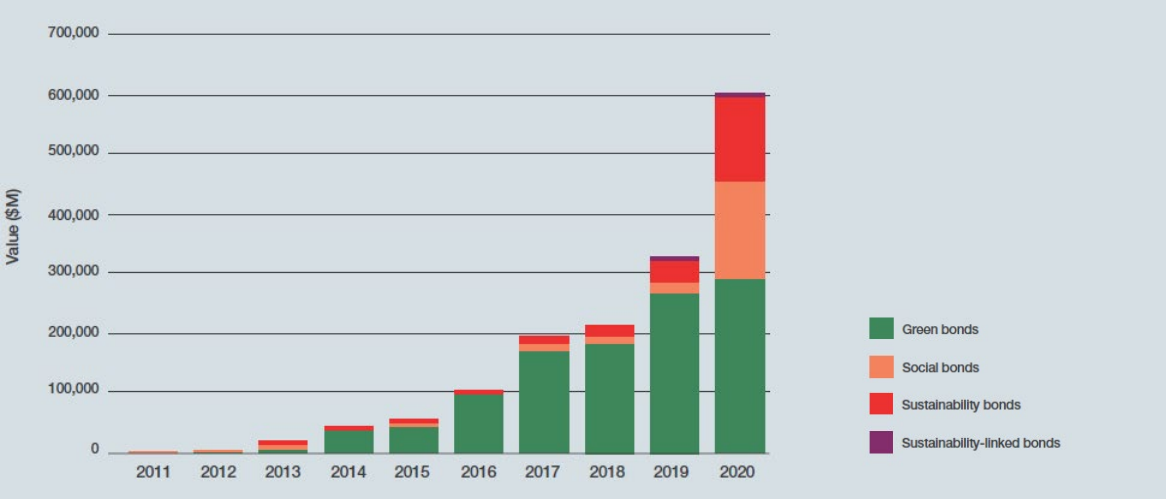

Figure 3: Labeled bond issuance

Source: Environmental Finance, *Sustainable Bonds Insight*, February 2021

Labeled bonds are instruments specifically targeted at advancing the UN Sustainable Development Goals. [16] [17] The generally accepted structures and uses for such bonds have been outlined by the International Capital Markets Association (**ICMA**).[18] A number of non-profits such as the Climate Bonds Initiative (**CBI**),[19] and financial institutions such as banks and asset managers, have also been active in advancing labeled bond taxonomies.[20]

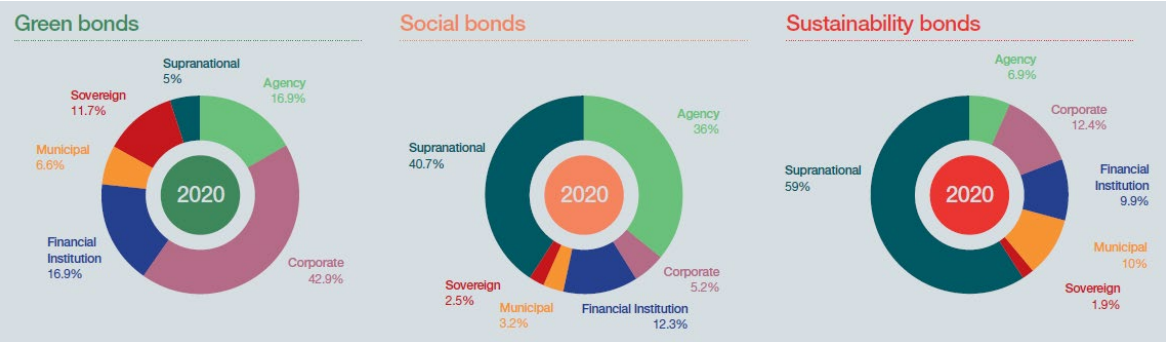

Figure 4: Breakdown of issuers of green, social and sustainability bonds in 2020

Source: Environmental Finance, *Sustainable Bonds Insight*, February 2021

15 Wilkins, Rebecca Choong, Ritchie, Greg (2021, March 25). *Bond Investors Face Baffling $2 Trillion Rainbow of Ethical Debt*. Bloomberg

16 https://www.undp.org/content/undp/en/home/sustainable-development-goals.html

17 Barua, S. (2019, December). *Financing sustainable development goals: A review of challenges and mitigation strategies.* Bus Strat Dev. Department of International Business, University of Dhaka

18 *The Principles, Guidelines and Handbooks.* (n.d.). International Capital Market Association

19 Climate Bonds Initiative. https://www.climatebonds.net/standard/taxonomy

20 There is also a growing market for "labeled loans" which follow similar criteria as labeled bonds.

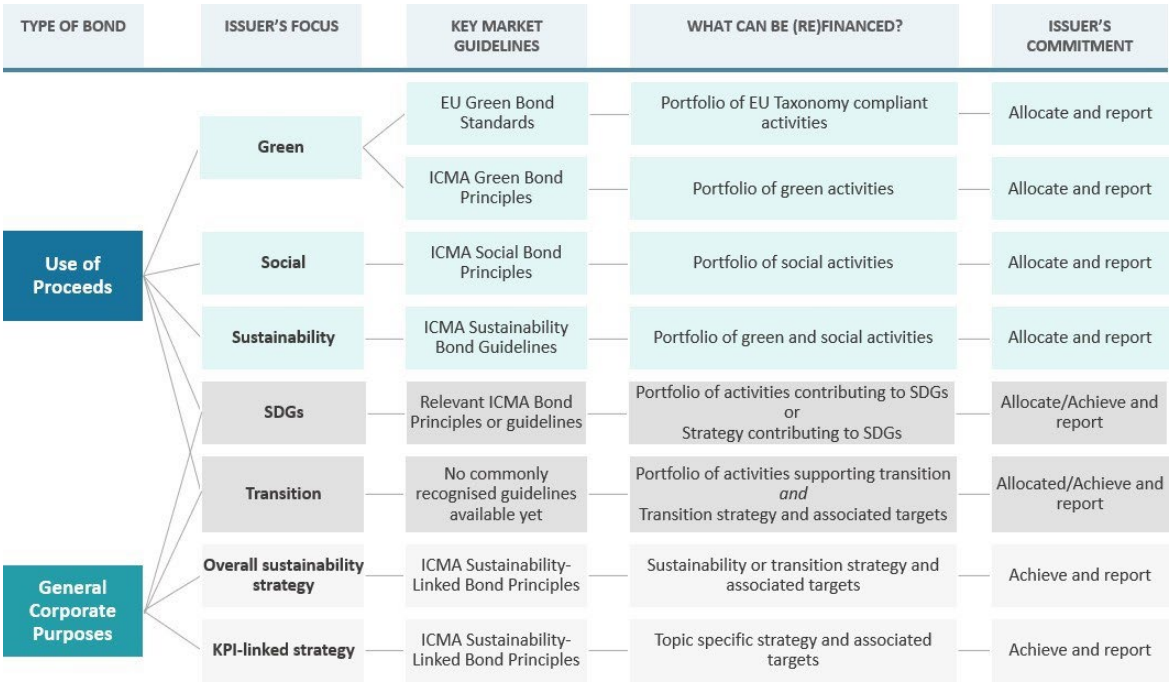

Figure 5: Labeled bond criteria

Source: *Harvard Law School Forum on Corporate Governance*, June 2020

Labeled bonds help financial markets allocate capital to environmentally sustainable projects and prioritize societal goods. Since the first "climate awareness bond" was introduced by the European Investment Bank (EIB) in 2007, and the first "green bond" was launched by the World Bank in 2008, the green bond market has emerged as a powerful vehicle to channel funding to projects that reduce greenhouse gases (GHGs) and address environmental degradation. It has quickly become a mainstay of Western funding programs well beyond narrow green project financing. Indeed, even the European Union has now embraced the green bond market as a cornerstone of its post-COVID stimulus package, as have other European countries; Italy recently issued the largest ever sovereign green bond (EUR 8.5b). Investor enthusiasm has been such that green bonds often price at a premium and many still outperform vanilla counterparts.[21] More than $1tr of green bonds have been issued globally, with academic research now touting green bonds as a case study for financial innovation.[22]

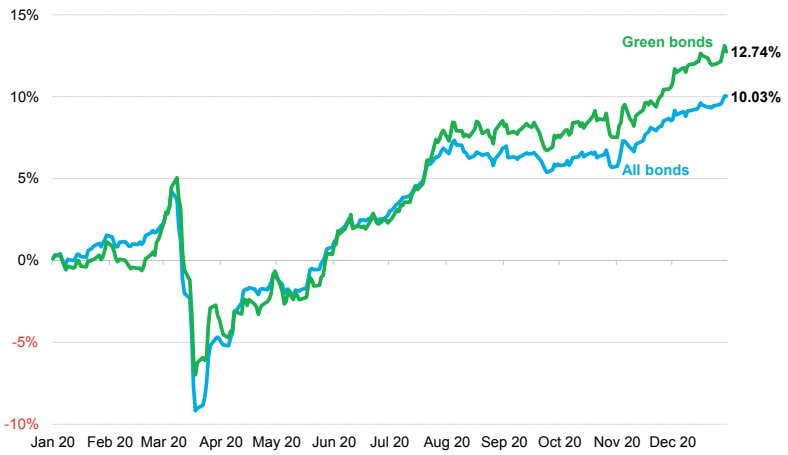

Figure 6: Enthusiastic reception – green bonds outperform conventional bonds

Source: BloombergNEF *Executive Factbook*, March 2021

21 Climate Bonds Initiative, *Green Bond Pricing in the Primary Market H2 2020*, March 11, 2021

22 Monk, A., & Perkins, R. (2020). *What explains the emergence and diffusion of green bonds?* Energy Policy, 145, 111641.

The green bond market has been expanding in developing economies as well, although in 2020 much labeled funding was added via **social bonds** to help finance COVID relief.

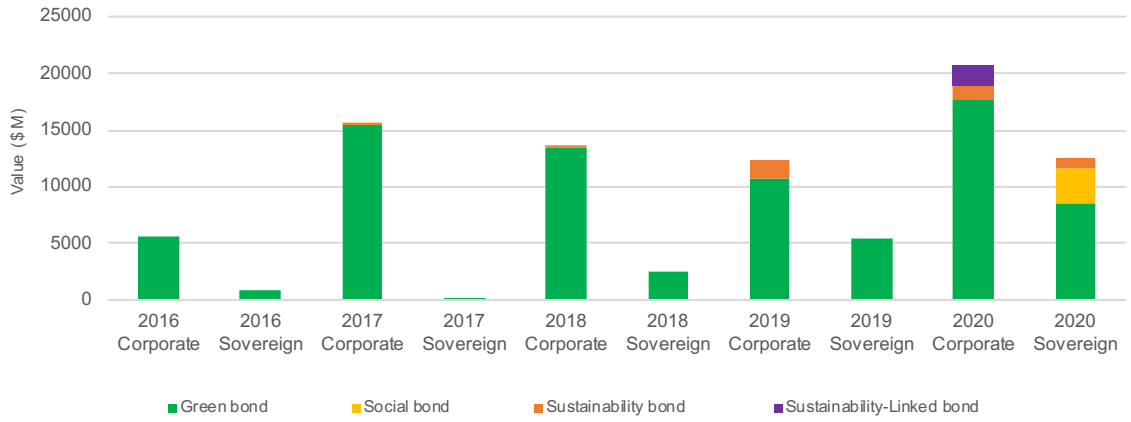

Figure 7: Emerging markets labeled bond issuance
Source: *Data provided by Environmental Finance*

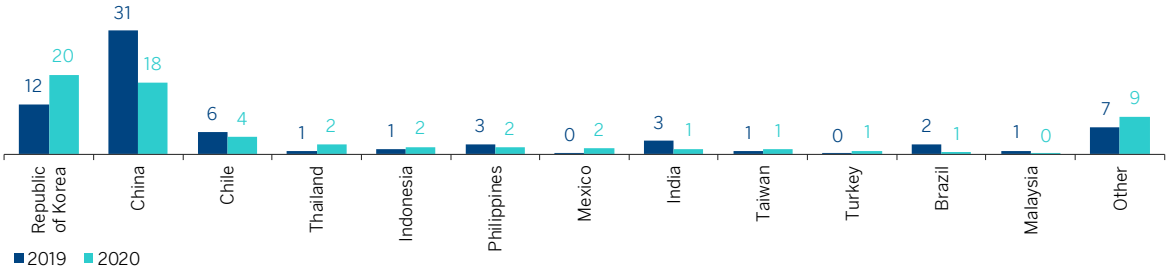

Figure 8: Emerging markets labeled bond Issuance by country, 2020
Source: BBVA, *2021 ESG Credit Market Outlook*, December 2020

Overall, however, in developing economies the take-up of green (and indeed all labeled) bonds has been noticeably slower than in developed markets. And the gap is growing. Of the $1 trillion of green bonds issued globally, less than 20% are from developing markets. Latin America and Africa combined make up less than 3% of global green bond issuance.[23] Of the emerging markets sub-total, nearly two-thirds represents issuance from China, with a large portion issued as bank or corporate CNY paper held mostly by local Chinese investors.

Given the interest of global institutional investors in emerging markets (EM) *sovereign* debt, the inertia within this asset class is particularly noticeable. In contrast to the healthy sums raised in green bonds ($68b) by developed markets (DM) sovereigns in the five years from 2016–2020, EM sovereigns have raised only $17b. While it is true many G-20 countries have not yet issued sovereign green bonds, their ready access to global funding and more diverse sources of capital means this is a function of priority rather than availability. EM sovereigns, on the other hand, are reliant on foreign capital to realize many of their strategic imperatives. EM sovereigns raised $8.5 in green bonds last year;[24] developed markets raised $26b and have an enormous pipeline of sovereign green issuance lined up for 2021. Of the top 25 country weights in the EM sovereign bond index, only four have ever issued a green bond.[25]

23 Climate Bonds Initiative, *Climate Bonds Data Intelligence Reports*, December 15, 2020

24 There is also a small but potentially expanding "Blue Bond" market developing: W, R., & Gillespie, T. (2021, March 3). *Asia primed for rare blue bond sales to fund ocean protection*. Bloomberg.

25 Indonesia, Egypt, and Chile have issued hard currency debt. Nigeria has issued small NGN bonds.

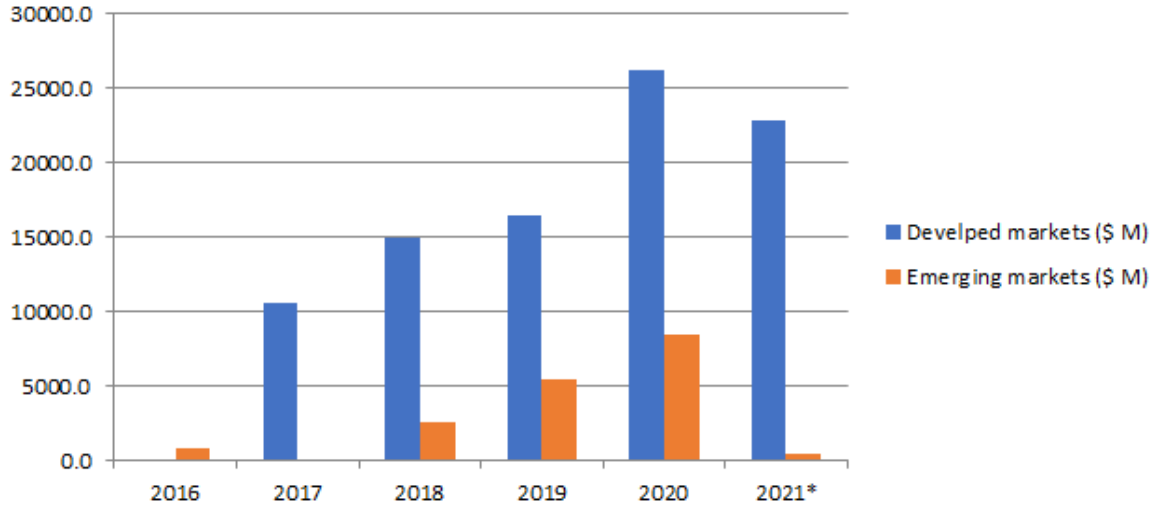

Figure 9: Green bond sovereign issuance as of March 15, 2021
Source: *Data provided by Environmental Finance*

There are certainly reasons for optimism given the growing interest from market participants. Perhaps the most significant EM green sovereign has been the $750m, 5year issue from Egypt in 2020.[26] It is the lowest-rated credit of any kind, sovereign or otherwise, to issue a green bond. This issuance was a seminal moment for EM green bonds because it showed that high-yield issuers can access green markets if the underlying process is credible. There are news reports that Pakistan, after years of building coal-fired plants financed by Chinese "Belt and Road" financing, will halt further coal construction and opt to issue a green bond to fund hydropower instead.[27] [28] These are of course highly positive and encouraging developments. But the overall numbers are still very small given the huge funding needs. A critical factor will be whether the large pools of green-dedicated capital – at this stage, mostly large European investors who are more comfortable investing in DM green projects – can be tempted to move down the credit curve in a meaningful way and buy EM debt. Otherwise, EM green bonds will be mostly held by the same EM funds who would buy vanilla bonds just as well. We would aspire to a third scenario: a new generation of *EM green funds* that will introduce *new* capital sources into the asset class to fund decarbonization efforts.

26 Zaid, M. A. (2020, September 29). *Egypt issues first green bonds in MENA*. Arab News.

27 Gillespie, T., & Ritchie, G. (2021, February 18). *Pakistan plans first green bond to fund hydropower projects*. Bloomberg

28 Pakistan may also be the first issuer of a so-called "Nature Bond": Gillespie, T., & Ritchie, G. (2021b, February 28). *Debt engineers tackle climate change with bonds to rewild land*. Bloomberg

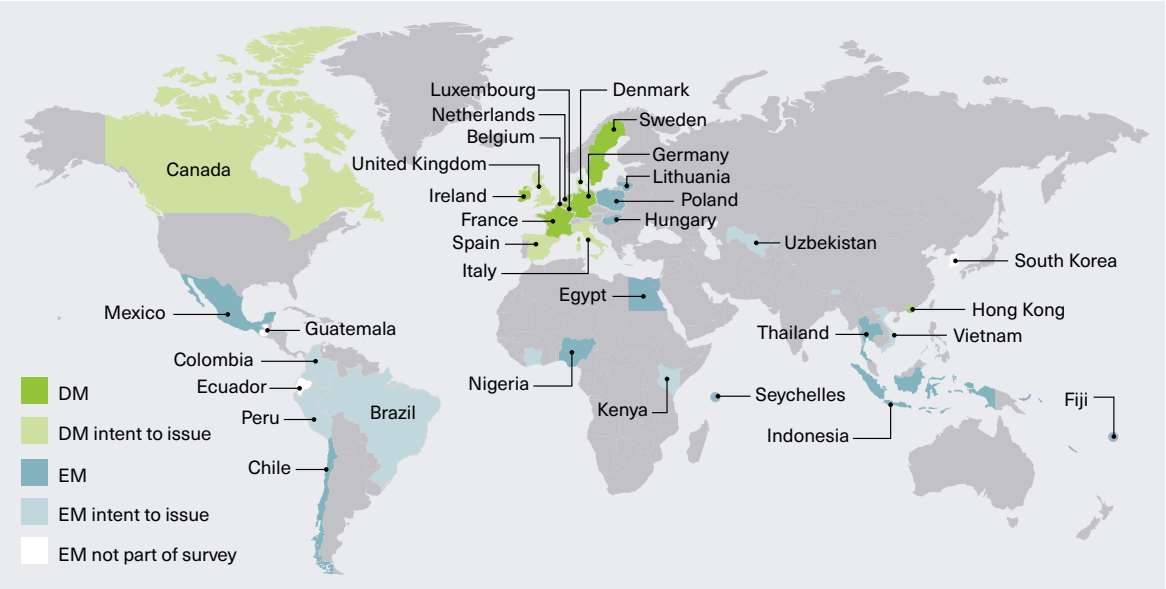

Figure 10: Sovereign labeled bond landscape (green, social, sustainable)
Climate Bonds Initiative, *Sovereign Green, Social, and Sustainability Bond Survey*, January 2021

Why do emerging markets seemingly lag in the issuance of environmentally-focused bonds, when they would be ideal users of such products? There are a number of plausible answers. Many EM countries have been distracted by emergency COVID responses. Moreover, it is quite likely developing markets are simply a few years behind developed markets and those green issuance numbers will significantly improve; green frameworks take years to develop and require a great deal of commitment and coordination. It is also likely that as global investors become more aware of EM country-specific environmental projects, some green capital will trickle over from developed market sources seeking yield and diversification.

But the lack of EM green issuance is more complex. There are significant differences in the underlying structures of developed and emerging fixed income markets. As such, efforts to enhance and expand labeled bond issuance in EM must take into account these unique and idiosyncratic factors and not presume its trajectory will just mimic that of developed markets.

3. The Role of Labeled Bonds in Emerging Markets

From August to December 2020, we conducted semi-structured interviews with 38 of the largest EM debt asset managers across regions to discuss the development of the labeled bond markets in EM fixed income. We also spoke to several bank syndicate desks actively involved in the EM sustainability space, along with several research departments and others.

As we describe in this paper, the center of gravity has now shifted decisively in the direction of sustainability as a key investment criterion. Yet, there is no clear and coherent EM market consensus on some fundamental issues about how to prioritize, elevate or even price climate concerns. Moreover, the lack of EM green issuance is a multi-layered problem with various interacting feedback loops. Importantly, it appears the current labeled bond frameworks are not sufficiently broad to encompass wider degrees of flexibility needed in emerging markets.

We organized the insights gleaned from these interviews around the following four topics:

1) the idiosyncratic challenges of EM debt capital markets; 2) the need for more flexible labeled bonds as a necessary precursor to incorporating the wide range of potential EM issuers; 3) the key role for education to promote sustainable bonds; and, 4) the imperative for more activist engagement by investors of all types with sovereign and corporate issuers.

3.1 A Brief Primer On Emerging Markets External Debt

EM fixed income as an asset class has a different investor profile from developed markets. There are diverse objectives and market views, which vary according to an investor's capital base, risk appetite, and time horizons. A common strand is that for most investors, EM fixed income predominately means sovereign debt (and key quasi-sovereigns). Corporate debt is often an afterthought aside from a few regular-issuing, liquid benchmark-size credits.[29] Although local-currency bonds make up more than 80% of the total EM bond universe,[30] most are held by local investors. EM asset managers do hold sizeable amounts of certain local market debt, but most assets are in hard currency external debt (primarily USD and EUR).

For the sake of simplicity, when we refer to EM fixed income in this paper, we are primarily referring to those entities included in the JP Morgan Emerging Markets Bond Index (**EMBI**) suite of products for sovereign debt, and the JP Morgan Corporate EMBI (**CEMBI**) suite for corporate debt.[31]

Within those indexes, it is worth giving a high-level overview to consider EM investors' exposure to heavy carbon-emitting industries as these sectors now move front-and-center in the climate transition debate. Not only is the EM corporate index significantly weighted towards fossil fuels and heavy industry, but the much larger sovereign index also has significant direct exposure through quasi-sovereign companies, mostly in the oil and gas industry.[32] This exposure is in addition to the obvious influence these sectors exert on sovereign balance sheets, and potential shifts in national trade balances, which affect credit quality.

29 This fact may seem counter-intuitive given the corporate market is actually larger. The stock of EM sovereign debt is around $13tr, while the EM corporate debt stock is around $17tr. However these numbers are distorted because of the huge weight of China (which now accounts for more than half of all EM debt) and the explosion of corporate issuance there in recent years. Much of China's debt is held locally rather than by EM asset managers. A better barometer of interest is the EM indexes: the JPM corporate debt index suite of products has $133b AUM tracking it; the sovereign index suite has more than $400b.

30 Dehn, J. & Ashmore Group. (2020, August). *The EM fixed income universe version 9.0*

31 Some asset managers argue current EM indexes no longer accurately represent the full underlying asset class. See Ashmore, previously. EMBI is still the market standard for sovereign external debt and widely used.

32 JP Morgan data set. It is worth noting that both Venezuela and PDVSA (the state-owned oil company), traditionally important EM debt holdings, both currently have a weighting of zero due to US sanctions. Otherwise the carbon exposure of the indexes would be much higher.

Sector	CEMBI Broad (%)	Quasi-sov in EMBI (%)
Consumer	7.36	.26
Diversified	2.27	1.19
Financial	30.91	3.36
Industrial	6.70	1.06
Infrastructure	2.22	.83
Metals /Mining	5.80	1.98
Oil & Gas	12.45	10.85
Pulp & Paper	1.41	
Real Estate	11.11	.06
TMT	10.43	
Transport	0.78	1.72
Utilities	8.57	3.51

Figure 11: Sector weightings as a percentage of indexes
Source: *Data provided by JP Morgan*

To emphasize the point further, consider an EM investor's climate exposure embedded within the EM corporate index developed by another major international bank.

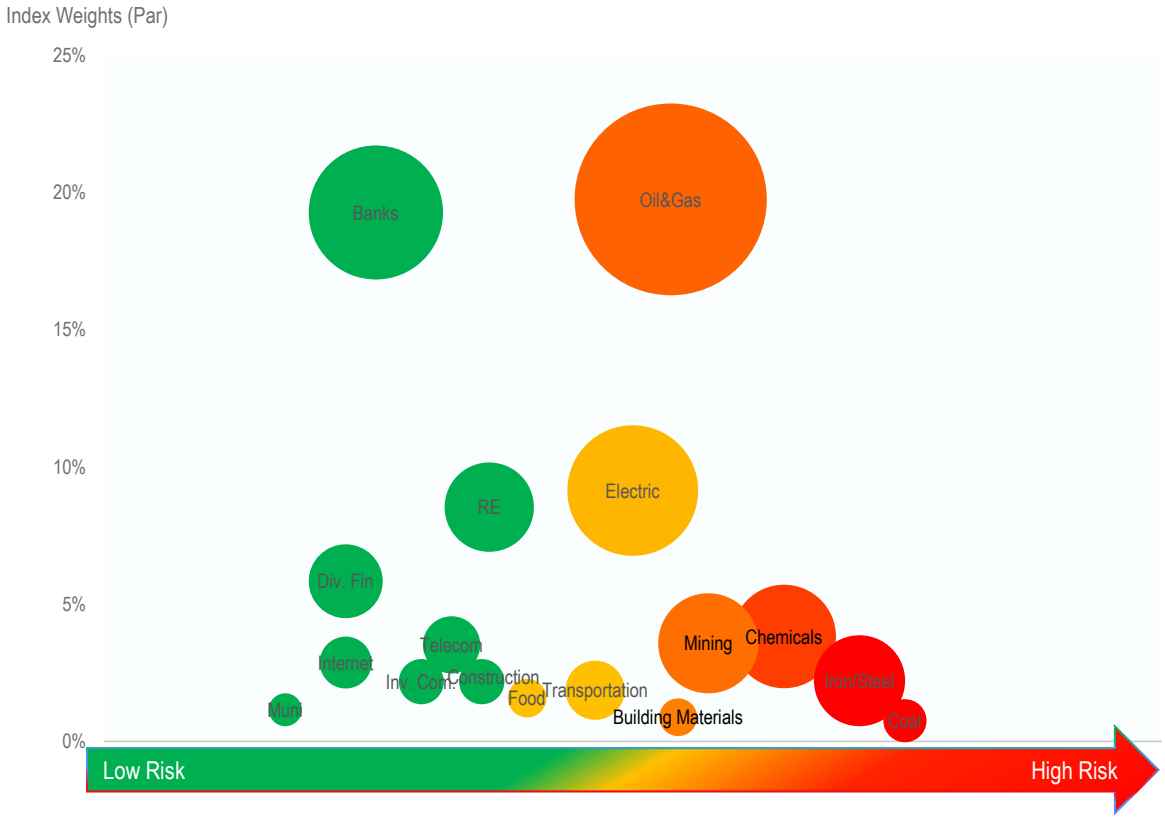

Figure 12: Climate exposure by industry – Citibank EM Corporate Index
Source: Citibank, *ESG in EM: Promise and Challenge*, November 2020

Clearly, investors who track EM bond indexes assume significant risks related to climate change and the impact of environmental degradation on entire industries – and countries.

3.2 How Passive Investing Impacts EM Investor Engagement

EM debt managers have not been immune to the enormous cost pressures which have afflicted the entire asset management industry in recent years. Increasing competition from low-cost passive funds and exchange-traded funds (ETFs) have been major drivers.[33] As a proxy for passive investing, one need only look at the growth of ETFs dedicated to EM external debt, now numbering more than 20. EMB is the largest and has expanded rapidly.

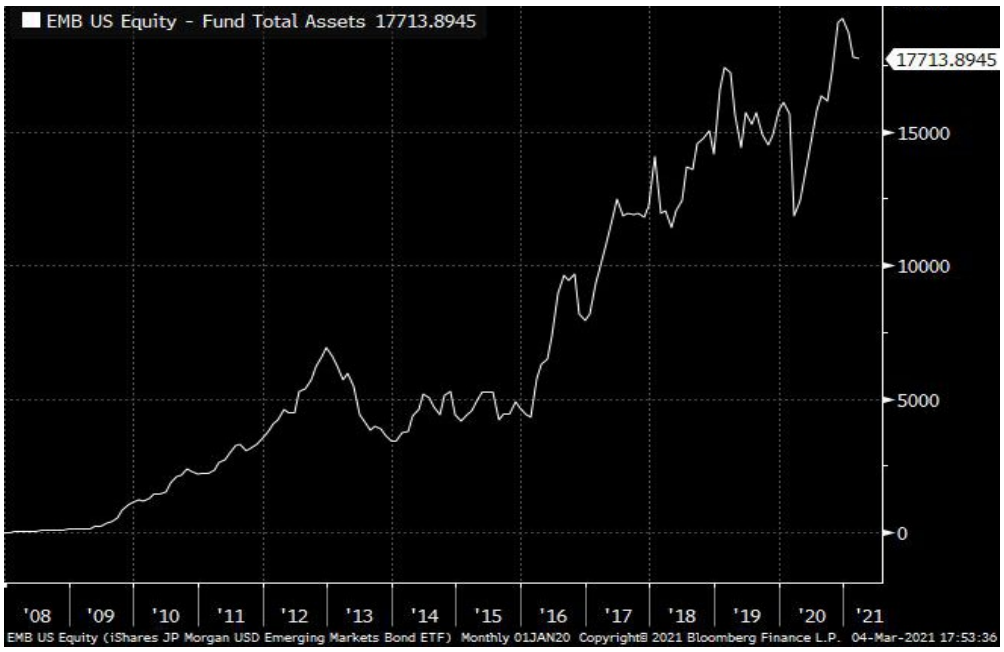

Figure 13: EMB assets under management since inception
Source: *Bloomberg data as of March 8, 2021*

EM managers have historically emphasized their expertise in actively picking idiosyncratic credit stories to generate alpha and attract more assets. Passive investing, by contrast, is a business of recycling investor inflows to track an index at the lowest possible cost. As a result of this increasing shift to passive investment, some EM portfolio managers are less engaged with individual issuers in pushing for policy changes. They win new business by competing on lower fees and are laser-focused on their cost base. This is not to say all EM managers have ceased to engage with issuers; far from it. In fact, many are more active now on the environmental front than ever before. But the current reality is that some of the largest owners of many EM external bonds are ETFs and passive funds that will hold these credits regardless of whether the issuer makes carbon reduction a priority or not.[34] This has implications for how much influence the asset management community overall can assert.

The situation is a direct function of EM managers' ultimate source of capital. End investors – often large pension funds, insurance funds, sovereign wealth funds, and other international institutions – allocate only a small percentage of their fixed income portfolios to EM debt for diversification and yield pick-up. As such, they expect to be as fully invested as possible. Consistent high cash holdings are discouraged; given high yields in EM, being underinvested is an expensive gamble for EM debt funds. An EM manager underperforming against the index and peers leads to outflows. As a result, funds have asymmetric incentives to stay as closely aligned with the index as possible, unless there is a strong reason not to do so, even for highly distressed names. This trading outlook is exacerbated by short-termism oversight where managers are evaluated quarterly and may face withdrawals if they are lagging their peers.

33 Although there is no data for how much AUM in EM debt is passive investment, several market sources who conduct their own studies put the number circa 25% for external debt and 35% for local.

34 This is a problem throughout all passive investing, perhaps even more so in equities: Flood, Chris (2021, February 25). *Vanguard tops list of world's largest coal investors*, Financial Times

The resulting "index-hugging" means much EM active capital is, in many instances, largely passive. A recent paper by the IMF explored how EM indexes shape investor thinking.[35] The authors find a herding behavior that increases correlations amongst funds as well as overall volatility. They show an 83 percent overlap between portfolios and relevant benchmarks, with nearly 70 percent of actively managed EM bond funds classified as "closet index" or "weakly active."

For those EM managers which *do* actively manage their funds, they are mostly overweight the higher-yielding assets. A look at EM dedicated mutual fund beta over the last 6 years shows funds largely stick close to the benchmark but are more inclined to be overweight risk when global market volatility is low. This aligns with the idea of EM debt being viewed as largely a macro-focused carry trade vehicle.[36]

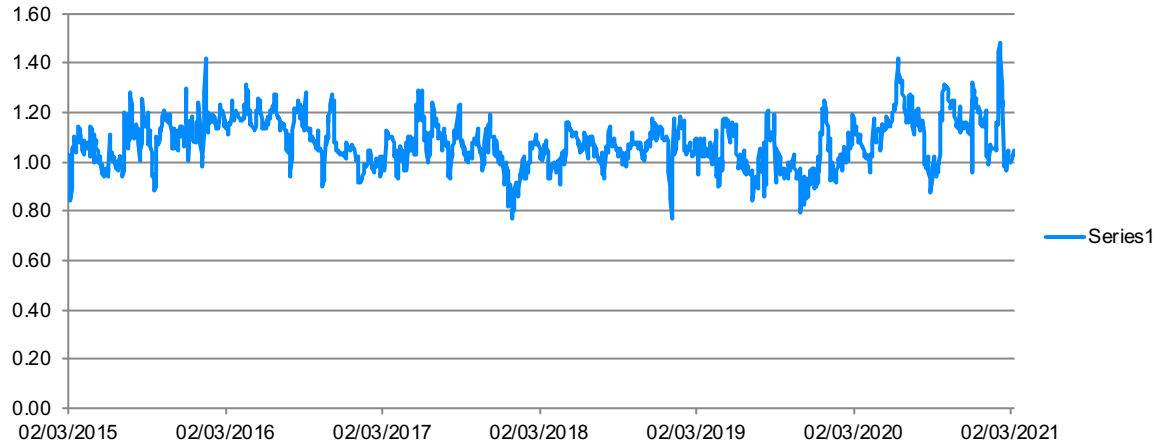

Figure 14: EM external debt mutual fund beta
Source: *Data provided by Deutsche Bank*

This structural viewpoint highlights how reluctant investors are to jettison high-yielding EM credits; beta rebounded well above average in 2020 despite COVID and a number of high profile EM defaults. In a world of very low benchmark yields, the wall of money from international investors seeking carry is drawn to EM like a magnet. But this capital is rarely focused on multi-decade and unpredictable environmental outlooks for individual credits. EM managers who can provide access to the asset class at low fees are rewarded for their cost-cutting focus.

3.3 Integrating ESG into Emerging Markets Investing

As the sustainability investment trend has migrated from developed capital markets into EM, it has taken the form of a more holistic **ESG approach** rather than following the more specific and dedicated green/environmental investing themes common among DM funds.[37] Indeed, speaking about green investing in EM is so intertwined within the larger ESG conversation, they often seem synonymous. We try to delineate within our analysis but recognize that EM "sustainability" investors are often not searching exclusively – or even primarily – for green assets in the same manner as many DM green-oriented funds. This is understandable in the light of idiosyncratic EM issues and the greater focus on SDG targets which EM issuers must consider. The downside is climate issues may get less intense focus; nevertheless, given the starting point of developing economies and the interplay of economic, societal and political factors, it is imperative to address development issues alongside climate concerns.

35 Serkan Arslanalp, Dimitris Drakopoulos, Rohit Goel, and Robin Koepke. IMF Working Paper. *Benchmark-Driven Investments in Emerging MarketBond Markets: Taking Stock*, September 2020

36 The lower-beta instances occured during China trade-related volatility as the Trump Administration levied tariffs. Each time the geopolitical temperature cooled, beta increased again. After the sharp Covid risk sell-off in early 2020, beta rebounded to a 5 year high in January before the recent global rates retreat has pushed beta back towards flat.

37 Environmental Review, *Green bond fund assets double in 2020*, March 17, 2021

EM portfolio managers have always focused on ***Governance*** as a core part of their investment process: government corruption, transparency and rule of law are simply part of the usual credit risk assessment process.[38] ***Social***, although not explicitly defined as such, has also been a key focus: without progressive policies to improve quality of life, equality, and social mobility, credit quality will deteriorate over time as social unrest creates new risks.

It is the ***Environmental*** component that must now be incorporated. Few investors – EM or DM – understand environmental science;[39] fewer still fully comprehend the risk transmission channels by which climate issues feed into financial markets. Moreover, EM countries have varying degrees of prioritizing adaptation, mitigation and resilience. And, given that many EM countries are heavily reliant on natural resource exports and utilizing their own abundant fossil fuels for cheap energy, these transition objectives may at times even appear to be in direct conflict with the country's short-term economic objectives. As such, incorporating the ***E*** pillar into a robust ***ESG*** framework may be the hardest of all. Indeed, a recent JP Morgan questionnaire noted that half of all EM asset managers viewed "G" as being the most important pillar, while less than 5% felt "E" was the most important. EM asset managers have a thorough understanding of "G" already and see the practical, real-time implications on credit risk premium; while "E" seems opaque and far in the future.

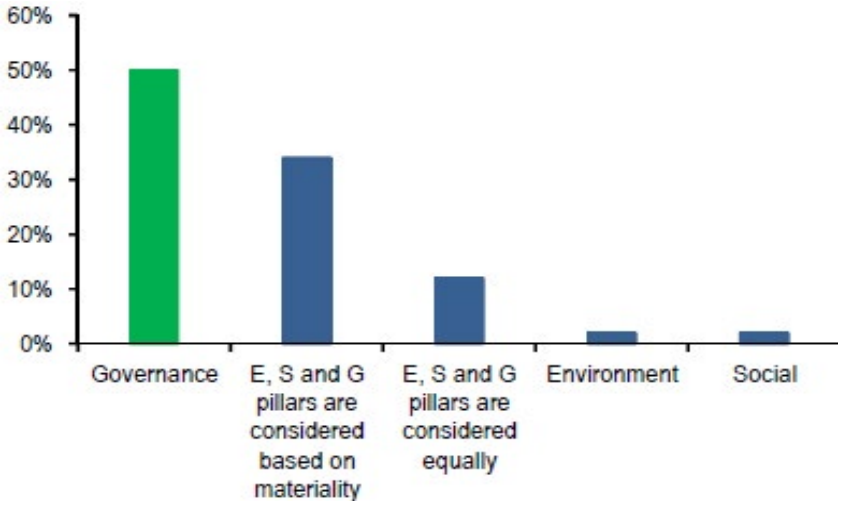

Figure 15: Most important pillar in conducting emerging markets ESG assessments
Source: JPM Morgan, *Hurdles for EM Sovereign ESG Strategies*, February 25, 2021

Indeed, over the last two decades, much of the improvement in ESG scores has been driven by improvements in governance (and secondarily by social progress), whereas very little has been a result of environmental improvements. Some of this gap may be a measurement problem, but to us it reiterates the lack of focus on this pillar and the need to emphasize building out deeper green-oriented financial instruments for developing nations.

38 Governance and strong institutions are key in assessing default probability: Rong Qian, (2012), *Why do some countries default more often than others? The role of institutions*, No 5993, Policy Research Working Paper Series, The World Bank.

39 Fiedler, T., Pitman, A.J., Mackenzie, K. et al. *Business risk and the emergence of climate analytics*. Nat. Clim. Chang. 11, 87–94 (2021)

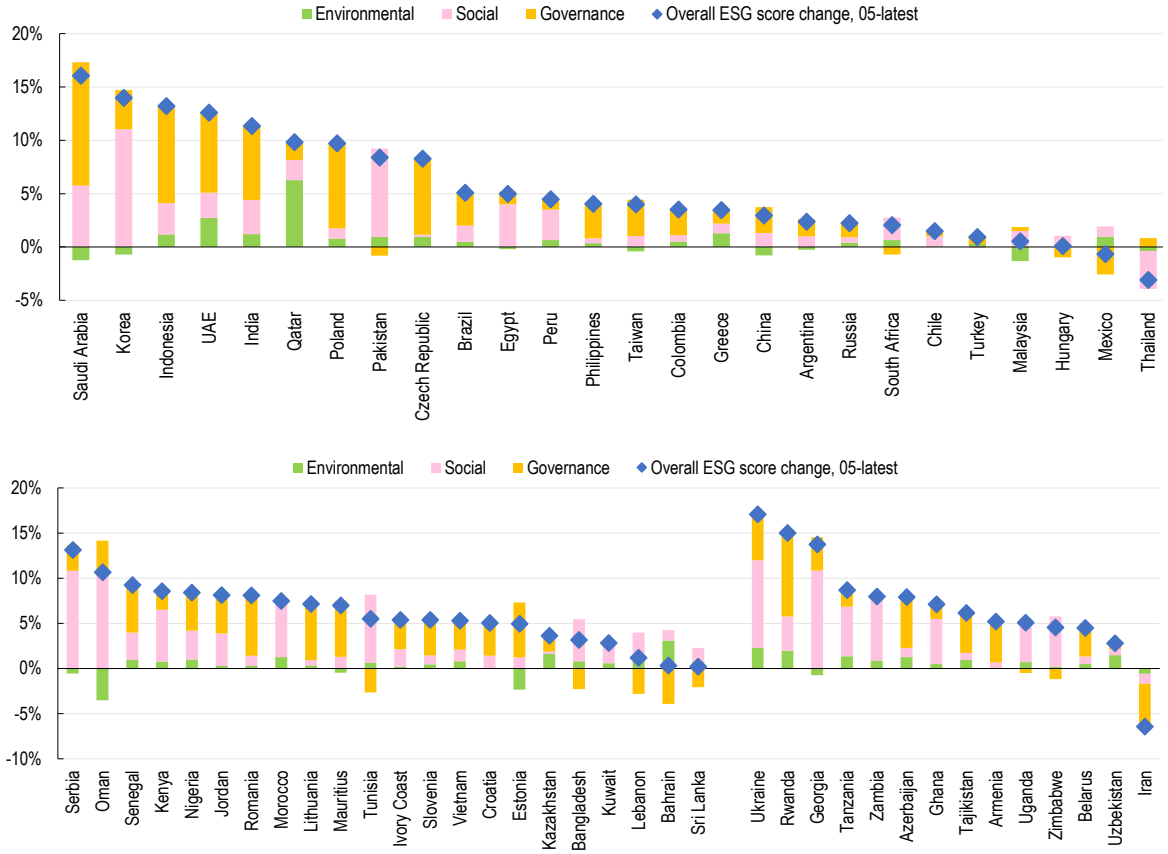

Figure 16: Drivers of ESG score improvements

Source: Renaissance Capital, *ESG in EM and FM – really?* October 17, 2018

Most EM portfolio managers we surveyed agreed that ESG (and by extension, climate change) is viewed by end investors largely as "playing defense;" that is, ensuring managers are not caught out by ESG-related issues that should have been flagged. If there is anything sustainability-focused which warrants pro-active positioning, it is often related to governance upgrades – which are often synonymous with improvements to the overall credit risk profile due to regime changes.[40] ESG has assumed a more prominent role in discussions, but end investors are actually more interested in a manager's overall framework rather than probing specific line items. If asset managers can show a clear process whereby potentially costly ESG-related risks should be avoided or mitigated, this will suffice.[41] Few managers are being asked to play offense and pro-actively seek out impact investments, especially if transitioning entities carry significant reputational risk.[42] Sustainable investing in EM is mostly trying to avoid train wrecks without sacrificing yield. This is realistically little different from what EM managers have always been paid to do.

Encouragingly, environmental issues are slowly being recognized as a distinct factor to be integrated within the larger EM investing framework. However, in our survey EM asset managers report widely different views on what this practically means and how it translates into tangible change for their portfolios and processes. Some expect a significant overhaul for their business in the near term; driven by growing ESG awareness; others see only incremental and slow evolution over time.

40 Research shows improvements in governance are the most powerful drivers of ESG upticks and risk premium compression: Capelle-Blancard, Gunther and Crifo, Patricia and Diaye, Marc-Arthur and Scholtens, Bert and OUEGHLISSI, Rim, *Environmental, Social and Governance (ESG) Performance and Sovereign Bond Spreads: An Empirical Analysis of OECD Countries* (November 22, 2016).

41 Research suggests ESG considerations have more weight for high-grade issuers, while high-yield issuers are more heavily influenced by traditional credit metrics. Michalski, Lachlan and Low, Rand Kwong Yew, *Corporate Credit Rating Feature Importance: Does ESG Matter?* (February 18, 2021).

42 When JPM asked investors to assign a weight to ESG factors, more than 60% of respondents said they gave ESG a weight of 20% or less; 75% said dedicated ESG funds make up less than a fifth of their EM sovereign strategy. *Hurdles for EM Sovereign ESG Strategies*, February 25, 2021

There was a clear regional divide; European accounts were more focused on ESG issues,[43] but all participants expressed confidence the ESG space will continue growing despite its slow start in EM. They anticipate rolling out new products for asset retention and growth. The wide array of viewpoints about how deeply ESG factors should be embedded in "vanilla" portfolios as a part of the normal credit risk assessment process, and on how to differentiate among various "shades of sustainability" for new EM product offerings, was striking. This is clearly an asset class and industry in a great deal of flux with little consensus on next steps or what their end investors actually want.

3.4 The Evolving Framework of Sustainable Investing

A key variable going forward will be the rapidly changing international regulatory regimes. Managers (particularly European firms) see the regulatory environment evolving such that all investors inevitably will be affected, either directly or via an eventual trickle-down impact. Implementation of the EU taxonomies, together with the European Green Bond Standard and other measures like the Task Force on Climate-Related Financial Disclosures,[44] are setting clear precedents and provide an indication of the regulatory direction of travel.[45] Indeed, several managers noted they will be requiring a greater amount of disclosure from their own investments going forward, even if those issuers do not classify themselves as green, due to changes in EU taxonomies that impact the funds directly. Moreover, the new European fund labeling regime will make it more transparent which funds are green (or not). Third-party agencies which provide independent ESG ratings on investment funds will bring even more focus to the asset management industry. As these ratings grow in importance there will be a need to "sterilize" at the portfolio level by pivoting to more ESG-tilted bonds.

However, for EM managers trying to improve the "green factor" (or raise the ESG scores) of their portfolios, there is often a clear and substantial trade-off with yield. The highest-yielding EM bonds usually have the worst ESG scores,[46] and often in all three categories; the issues involved are always tightly linked and necessarily addressed simultaneously. Moving capital from "brown" EM credits to green ones in many cases defeats the investment thesis for EM: yield pick-up and portfolio diversification. In developed markets, it generally does not cost much to choose environmentally-friendly bonds because yield differences between green and brown companies are rarely profound. In EM, embracing green can be very expensive. Blacklisting the worst names and opting only for better-scoring ones often means a portfolio ends up owning EM bonds with worse credit quality than comparable DM names, but with higher volatility and lower liquidity – and without enough yield to make the trade-off worthwhile. A common view is eliminating all "dirty" names gives the whole asset class a less attractive risk-return profile.

As in developed markets, there is an ongoing debate within EM about what constitutes real green investing and what is merely "greenwashing." One example is Marfrig's effort to place a sustainable bond in 2019, where widely divergent views about green definitions gave the entire EM labeled bond space a black eye.[47] Many market participants now embrace the view that use of proceeds (UOP) bonds[48] should only be considered within the context of a credible, entity-wide sustainability framework. That said, project-based green bonds are still the order of the day - as is the ongoing greenwash skepticism in various corners.

43 The tilt towards ESG-compliant funds from European accounts is largely driven by the upcoming EU taxonomy as well as more public awareness. It is not limited to EM debt (although the JPM questionnaire reaffirmed this bias towards ESG from European investors); it can been seen across equity markets and every other asset class.

44 The Task Force on Climate-related Financial Disclosures: https://www.fsb-tcfd.org/

45 For diverse case studies of how investors are adapting to new European regulations, see: PRI. (n.d.). *EU Taxonomy alignment case studies*. https://www.unpri.org/policy/eu-sustainable-finance-taxonomy/eu-taxonomy-alignment-case-studies

46 Lazard Debt Team. *Giving Credit Where It's Due: ESG Factors in EM Sovereign Debt*. Nov 2017

47 Martfrig Global Foods is the world's second-largest beef producer. For more information on Marfrig's "sustainable transition bond" controversy: Gore, G. M. B. (2019, September 6). *Rise of controversial transition bonds leads to call for industry standards*. Reuters.

48 UOP bonds ring-fence the funds raised for specific projects that have been pre-approved. Expenditures are verified by an independent third party and impact reports are issued for investors.

The asset managers we spoke with were also undecided about whether EM should somehow be treated differently from more developed green markets. Is it rational (or fair) to impose EU-level standards on developing countries already struggling to provide basic services to their populations, especially in a post-COVID recovery? What about countries scoring low on ESG measures, but making genuine efforts to improve – should these transition efforts be supported by capital markets? And how should investors treat those entities that appear not to take climate concerns seriously – to what extent should foreign investors use international protocols as leverage to force change in poor EM countries?

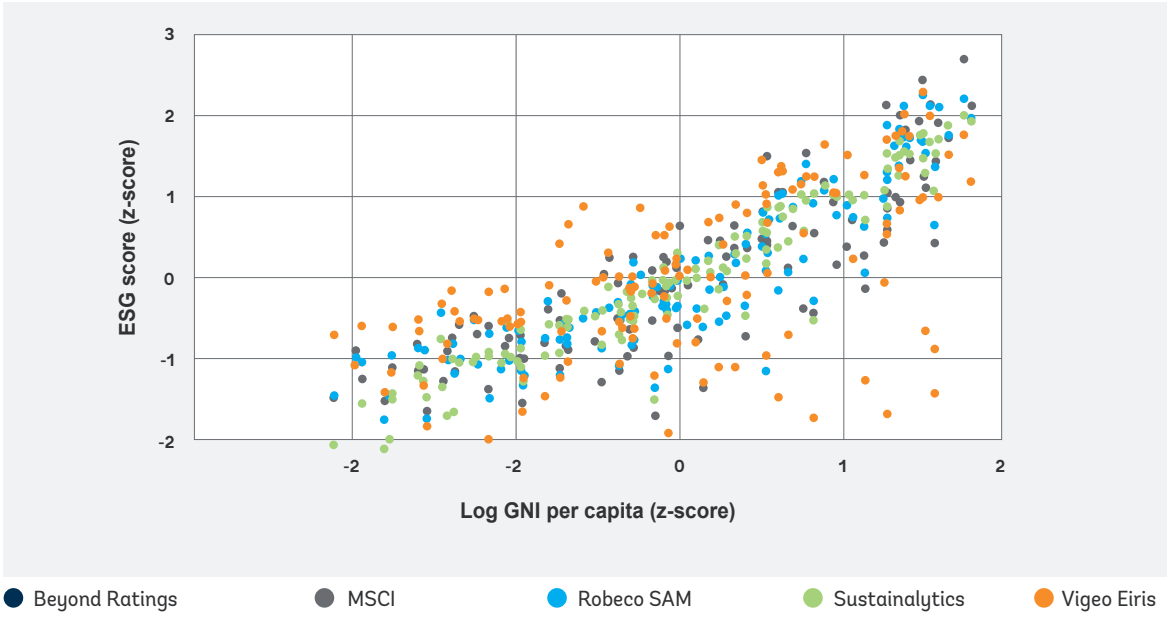

Figure 17: ESG scores versus country wealth
Source: World Bank, *Riding the Wave*, October 2020

There are no clear answers to these issues. Many EM managers told us they are frustrated so little effort has been made to build industry consensus about such fundamental concerns. They want to provide capital to countries and companies who need it, but are increasingly mindful of their funds' own ESG scores, the risk of negative headlines and evolving public perception. Some managers reported feeling torn between a fiduciary duty to maximize investor returns and larger societal agendas.[49] Moreover, EM asset managers face confusing and contradictory pressures from their investors. On one hand, managers are told to be mindful of ESG scores and re-tool their investment process to address sustainability issues. But when they explain how much re-allocating investments away from brown sovereigns and corporates may affect returns, investors usually express plenty of newfound "flexibility."

Indeed, a common concern from EM asset managers is that those DM institutional investors specifically searching for green assets want EM level yields, without accepting EM level risk. This contradiction has been the case for EM credit premium since time immemorial, but the drive from the developed world to find "cheap assets" which offer high yields with relatively little downside has only been exacerbated by years of ultra-low DM market yields. However, the new vanguard of investors searching for green assets appears somewhat unprepared for EM. They do not typically have experience of dealing with entities from developing countries, usually expecting them to behave as smaller versions of advanced economy equivalents. This dilemma is especially poignant among managers with European end-investors who have advanced green investing operations. These investors may be experienced and sophisticated with green assets, but their assumptions about

49 For a deeper analysis of the legal theories regarding ESG investing and fiduciary duty, see: Stanford Law Review (2020). **Reconciling Fiduciary Duty and Social Conscience: The Law and Economics of ESG Investing by a Trustee**. Schanzenbach, Maxin & Sitkoff, Robert H.

operational and implementation risks belie a lack of understanding of the EM space.[50] Those who do grasp it may choose to pass over EM green credits to avoid tarnishing their reputation if the entities fail to deliver. They want the higher yields, but only if they are totally certain the entity is able to meet their standards. Combining the generally higher credit risk and lower liquidity of most EM fixed income assets with greater uncertainty about green credentials creates a very high hurdle.

3.5 The Current State of the Green Bond Market in EM Debt

While there are relatively few dedicated green/ ESG funds in emerging markets debt, the situation is slowly evolving,[51] and our conversations indicate more new products are in the near-term pipeline. When considering such endeavors, it is important to understand the complex and sprawling ecosystem which has developed around the labeled bond markets.

Sovereign issuers	**Financial Intermediation**					**End investors**
	Credit rating agencies	ESG rating providers	ESG indexes providers	Asset managers	Institutional investors	
All issuers that receive an ESG rating	Firms that rate ESG issuers	Firms that provide raw ESG data and composite ESG scores	Firms that construct ESG indices	Firms that construct and market ESG funds, ETFs, etc.	Entities with fiduciary responsabilitites to manage assets	**Owners who bear the ultimate reward and risks**

Figure 18: The ecosystem of the labeled bond markets involves many participants
Source: World Bank, *Riding the Wave*, October 2020

As green bonds are fairly advanced in taxonomy and market acceptance, some EM fund managers are content to use ICMA's Green Bond Principles (GBP)[52] as a basic general framework and apply them qualitatively against individual green bond issues.[53] However, as noted earlier, most EM managers are applying a more general ESG framework in their portfolios given their source of funds.[54] A consistent – and very strident – complaint from managers is a lack of granular and timely data needed to build robust internal frameworks; this leaves them with an uneasy reliance on external third parties who provide ESG scores. The current system of ESG scoring has a number of well-documented problems;[55] those issues are exacerbated with sovereign scoring in particular, given the framework is mostly an adaptation of an originally corporate-focused system, somewhat modified for wider purpose.

50 This lack of EM understanding goes well beyond debt instruments: Milne, Richard (2021, March 10) *Troubles abroad continue to haunt Nordic companies*, Financial Times

51 Amundi and HSBC Asset Management have both recently launched EM green bond funds.

52 *Green Bond Principles*. (n.d.). International Capital Market Association (ICMA). https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/green-bond-principles-gbp/)

53 There are numerous green frameworks to pick from; a lack of standardization remains a challenge

54 For case studies on how investors integrate ESG into sovereign frameworks, see Principles for Reponsible Investing (PRI), *A Practical Guide to ESG Investing in Sovereign Debt*, November 2019

55 Berg, Florian and Kölbel, Julian and Rigobon, Roberto, *Aggregate Confusion: The Divergence of ESG Ratings* (May 17, 2020). For a regulator's persective, see also: https://www.esma.europa.eu/ press-news/esma-news/esma-calls-legislative-action-esg-ratings-and-assessment-tools

ESG rating agencies often have very different criteria, and give different weights to the three components, which thus provides inconsistent and incoherent comparisons to asset managers. Particularly confusing is the wide range of methodologies used for the environmental pillar, which leads to a very low correlation between scores.[56] Indeed, what "E" stands for is not even clearly defined; there are so many variables included across competing frameworks that "E" ratings often contain little or no information about emissions, but rather measure a wide range of different outputs.[57] Under some frameworks, entities with higher emissions may actually have higher "E" scores. As such, for those wishing to construct a low-emission or decarbonizing portfolio, the current "E" scoring is neither precise, reliable, nor transparent.

Sector	E%	S%	G%
MSCI	25	25	50
Sustainalytics	15	35	50
Beyond Ratings	30	30	40
Vigeo Eiris	33	33	33
RobecoSAM	20	30	50

Figure 19: ESG rating agencies methodology weights for sovereigns
Source: World Bank, *Riding the Wave*, October 2020

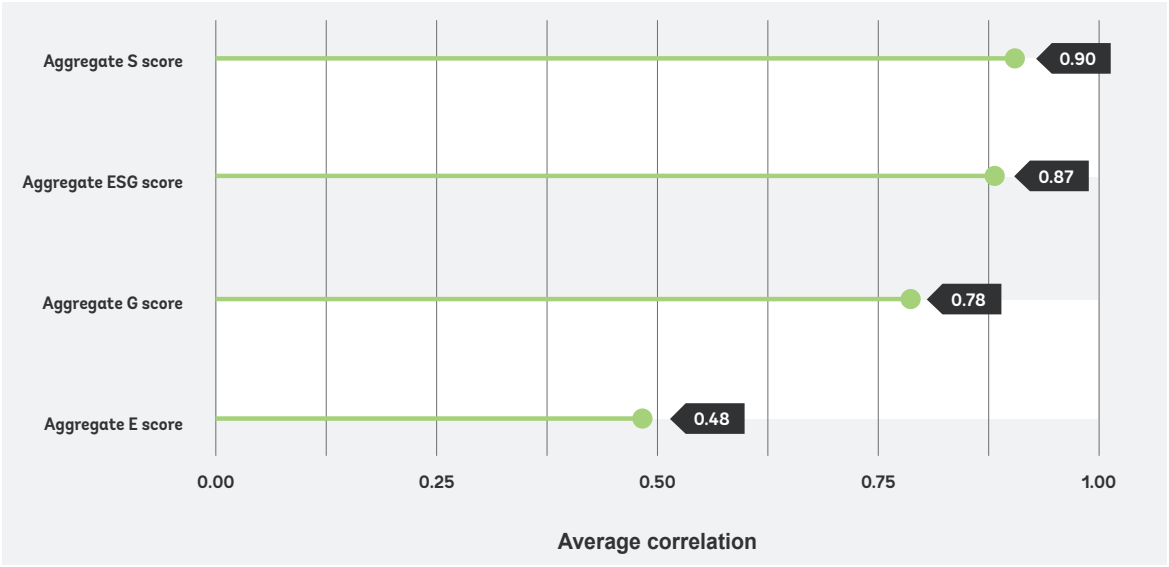

Figure 20: Correlation of ESG scores among ESG rating agencies
Source: World Bank, *Riding the Wave*, October 2020

That being said, current and meaningful environmental data is hard to come by elsewhere.[58] JPM Morgan's recent questionnaire shows the "E" pillar is vastly underrepresented in internal frameworks due to lack of data; EM managers emphasize "G" since data is easier to attain.[59]

56 Gratcheva, Emery and Wang (2021, forthcoming) "*Demystifying Sovereign ESG*" EFI Insight. World Bank Group

57 Boffo, R., C. Marshall and R. Patalano (2020), *ESG Investing: Environmental Pillar Scoring and Reporting*, OECD Paris

58 The World Bank launched a sovereign ESG data portal; it estimates 80% of data used for sovereign ESG scores by the major ESG providers is accessed here: https://datatopics.worldbank.org/esg/

59 JPM Morgan, *Hurdles for EM Sovereign ESG Strategies*, February 25, 2021

Many investors note ESG scoring is static, backward-looking, and misses marginal progress. Moreover, ESG frameworks are influenced by "ingrained income bias" which benefits more developed countries with higher income levels. As a result, ESG scores are naturally tilted towards reinforcing the status quo and handicapping countries who already score poorly.[60] All of these factors emphasize a reliance on the current state rather than future possibilities.

Credit rating agencies are also working to link ESG factors into their assessments; Moody's recently became the first to launch an ESG scoring product to complement their standard sovereign credit ratings product. However, much work remains to be done in this space;[61] currently there is a significant dispersion between external ESG scores and credit ratings which only adds to the confusion.

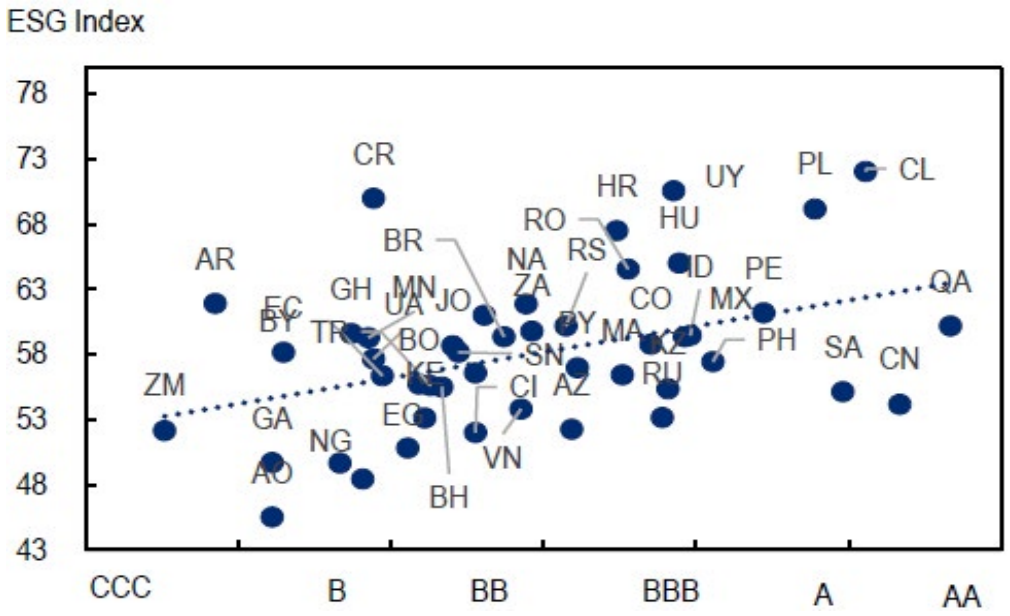

Figure 21: ESG index ratings versus credit agency ratings have significant dispersion
Source: Citibank Research, *ESG in EM: Promise and Challenge*, November 2020

EM asset managers must then default to qualitative measures out of sheer necessity; neither ESG score providers nor credit rating agencies are providing the clarity or insight needed. This places greater emphasis on open dialogue during the roadshow process and follow-up discussions with management about ESG questions. Granular, standardized and timely information from issuers – as well as independent data providers – will be a key requirement for EM managers to conduct their own comprehensive environmental policy assessments. It is important to remember the current lack of credible ESG sovereign frameworks affects all other EM capital markets, including corporates.

To summarize our survey, investors have concerns about the current green bond framework which may create impediments to rolling out green-focused products; a number of investors noted they have already turned down some EM green bond issues for the following reasons:

1. EM investors expressed some trepidation around the Use Of Proceeds mechanism:
   - The projects chosen and results expected are sometimes vaguely outlined.
   - There may be a time lag between the green bond being placed and fund allocation.
   - There may be a time mismatch between bond maturity and the project(s) duration.

60 Gratcheva, Gurhy, Emery and Wang (2021, forthcoming) "*New Dawn: Rethinking Sovereign ESG*" EFI Insight. World Bank Group

61 PRI launched a Credit Risks and Ratings Initiative to address integration of ESG with credit metrics: .https://www.unpri.org/investment-tools/fixed-income/credit-risk-and-ratings

- Bond issuance may be upsized if demand is strong without specific projects denoted.
- It is unclear if all the included projects are actually part of a company's core business.

2. Some investors noted an underlying assumption in the GBP is that a green bond will "do no significant harm" to other SDG factors, but this point is vague and ill-defined.

3. Numerous investors had reservations about the third-party UOP verification process. There is little transparency surrounding methodologies, and it is difficult for investors to compare results and ratings. Some expressed confidence this would improve since under the EU Green Bond Standard verifications will become a regulated activity and would eventually drive more transparency. Other investors noted that if a bond has been labeled green by Climate Bonds Initiative (CBI) it gives them more confidence.

4. By far the most common complaint by asset managers is impact reporting by issuers. This is especially important as managers rely on issuer reports to construct their own fund reports for investors.[62] There are many initiatives regarding reporting; the most common standard is The ICMA Harmonized Framework for Impact[63] to provide basic information on metrics such as 1) GHG emissions avoided/ reduced measured in tonnes of CO2 equivalent; 2) annual renewable energy generation in MWh/GW or GJ/TJ; and, 3) capacity of renewable energy constructed or rehabilitated in MW.
   - The GBP outline on impact reporting is too vague and leads to widely differing views on how it is to be interpreted. Detail, granularity and more specificity is needed.
   - Moreover, the lack of standardization in presentation is also a major problem.
   - Even when companies report useful and meaningful information, formats are highly divergent and require an enormous amount of manpower to interpret and convert.
   - Most GBP impact reports are issued 12–18 months after a bond is issued. Some investors felt this is too long to wait without receiving any updates.
   - Investors believe some companies cherry-pick data or present it in the most flattering light possible; raw data was often unavailable. Moreover, and quite importantly, there is no transparency about the methodology used to extrapolate data into results.
   - In addition, there are questions about who should provide independent audits of the issuer reports; in some cases, a firm's financial auditors may not have local expertise on environmental metrics and are reliant on external third-party providers.
   - Some issuers may simply not have the technical ability to collect or evaluate data expected by investors. Many EM companies have small treasury offices, outdated IT, etc; thus, reporting is even more difficult and impractical than for large multinationals.
   - Issuers are also frustrated by the inconsistent demands they receive on reporting and complain about "data creep" from certain investors who ask for increasingly granular and random information which is of actual limited relevance to their green instrument.

62 A recent review by Environmental Finance addresses some of the concerns and provides insightful analysis of best practices and trends: *Green Bond Funds – Impact Reporting Practices 2020*

63 ICMA. (2020, December). *The Green Bond Principles - Harmonized Framework for Impact Reporting Handbook*. International Capital Market Association (ICMA). https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Handbook-Harmonized-Framework-for-Impact-Reporting-December-2020-151220.pdf

Another important takeaway from our survey is that EM managers are frustrated sovereign and corporate issuers still think mostly in terms of short-term, new issue pricing differentials rather than market creation. The latter would mean: 1) incorporating long-term risks to their economies and business models; 2) building system resiliency; and 3) cultivating a new set of investors and building credibility by establishing a history of issuance in a new asset class.

Conversely, some issuers do not see any upside in all the additional work for a green bond if there is no tangible pricing advantage. Their expectations for a new issue green premium, or "greenium,"[64] are resisted by managers who believe such opportunistic pricing arbitrage is irrelevant in comparison to the structural challenges many sovereigns and corporates face. Moreover, as we have seen in recent examples (such as the divestment by some EM investors of green bonds issued by State Bank of India),[65] even if strict UOP criteria are met for a specific green bond issue, green investors may be compelled to sell if the entity-level green framework is called into question. Given this extra uncertainty, in addition to the usual credit risk considerations, many investors view paying a green premium for new issues as irrational, especially since few EM issuers have a long-term track record on climate issues.

Sustainability-focused investors want to ensure their investments are additive, not simply replacing the financing for local ventures that would still have been funded by other means; they wish to finance *otherwise neglected green projects*. This emphasis on "additionality" is somewhat undercut by the fact green bonds are often used to refinance existing projects. Given the lack of EM green assets currently available, investors are willing to accept a re-packaging of projects into a new green bond – if it meets best-practice lookback periods and is part of a company's larger sustainability framework (which is also a common approach in developed markets). But lookbacks are clearly not the preferred use of funds – emphasis among EM green investors is shifting towards entity-level frameworks and the verifiable "additionality" of green investment. Recent research already questions whether the current system of green bond issuance and lookback inclusion is having the desired effect.[66]

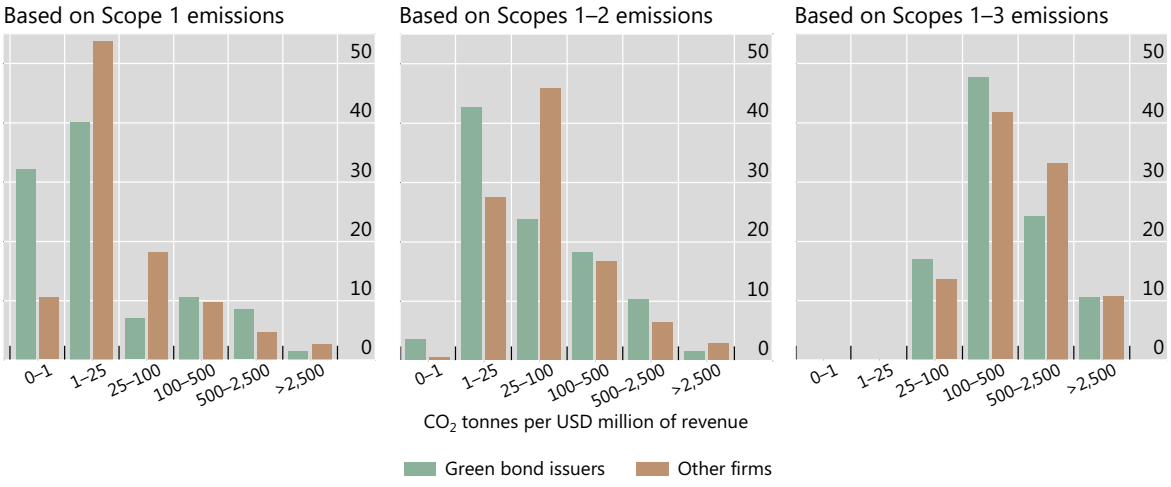

Figure 22: Analyzing emissions: little measurable progress by green bond issuers

Source: Bank of International Settlements, *Green bonds and carbon emissions*, September 2020

64 "See CBI publication on green premiums referenced earlier."

65 Raqshan, T. (2020, December 21). *After AXA, Amundi dumps Indian bank SBI's green bonds over coal financing*. Asset News.

66 Ehlers, T., Mojon, B., & Packer, F. (2020, September). *Green bonds and carbon emissions: exploring the case for a rating system at the firm level1*. BIS.org. For another (opposing) view on this subject of whether green bonds impact emissions, see Flammer, C. (2020, April). *Corporate Green Bonds*. Journal of Financial Economics (JFE).

4. Addressing Bottlenecks and Challenges

Our survey reveals idiosyncratic obstacles for EM green bond issuance beyond just process:

- A lack of eligible projects. Many EM issuers struggle to find enough eligible projects (as defined by Green Bond Principles) to finance exclusively via green bonds. A crucial point is green bonds would still need a minimum size to be (C)EMBI index eligible and to ensure enough liquidity to meet most asset managers' internal restrictions. This relegates some potential EM green deals to private placements. One solution is to roll together social projects and green projects into a labeled "sustainability bond." This enables a bond to reach benchmark size and thus be eligible for asset managers. The downside is the "green-ness" of the bond is diluted; the upside is the green projects get the financing they may have missed otherwise.

- A lack of understanding or interest in sovereign debt management offices (DMO)[67] about labeled bonds and the logistics of coordinating new programs across multiple bureaucracies. DMOs must 1) harmonize systems and processes across a wide array of government agencies, and hive off specific projects spread across various departments and across regions; 2) set up special accounts to fund line-items; 3) allocate responsibility for verification and reporting; and, 4) navigate legislative oversight. Building out such a framework requires a significant commitment of resources and political will.[68] Forging such a structure may occur within a backdrop of bureaucratic turf wars, lack of institutional expertise and experience, and of course politics: ever-changing governments with different agendas and priorities. A recent World Bank review concluded many DMOs in developing economies do not even comply with minimum requirements for a wide range of their basic performance indicators; adding new ESG or green issuance would very likely be problematic and cumbersome for them.[69]

- Political constraints. EM countries have often suffered from the mismatch between investment cycles and political timelines. For a number of sovereigns, all debt raised must be "general purpose" revenues to be allocated in the budget; UOP bonds that pre-allocate money away from the legislative process are not allowed. Can labeled bonds effectively bind a future government to specific and verifiable commitments? Some EM sovereigns are understandably sensitive and reluctant to be perceived by their electorate as having terms dictated to them by international/ Western investors with constant oversight and verification.

- Prioritizing key performance indicators (KPIs). Among a virtually limitless set of measures that need improvement, which criteria best prioritize the vast needs? Who should be tasked with constructing KPIs? Who is accountable for ensuring delivery?

- A lack of clear frameworks. Some EM sovereigns do not have well-developed frameworks to ensure sufficient progress towards Nationally Defined Contributions (NDCs) under the Paris Agreement. Trying to place green bonds raises questions and merely serves to highlight the shortcomings. In fact, academic research shows participation in green bond markets depends on a country having credible NDCs.[70] This problem is exacerbated when governments see allocations to NDC-aligned spending as a sub-par use of limited investment capital (and borrowing headroom); governments are understandably focused on generating economic growth and alleviating poverty *today*. Further, green projects such as renewable energy require greater up-front outlays, and the cost of capital in EM is often far higher than in DM; as such, in the short term it is often much cheaper to continue exploiting fossil fuels.[71]

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67 A recent report by CBI highlights how some sovereign issuers have been able to address and overcome such hurdles and reap benefits: Climate Bonds Initiative (CBI). *(2021, January). Sovereign Green, Social, and Sustainability Bond Survey The ultimate power to transform the market.*

68 The World Bank has also released an advisory report: The World Bank. (2020, November). *Engaging with Investors on Environmental, Social and Governance (ESG) Issues*.

69 Sebastien Boitreaud, Ekaterina M.Gratcheva, Bryan Gurhy, Cindy Paladines, and Andrius Skarnulis. October 2020. *Riding the Wave: Navigating the ESG Landscape for Sovereign Debt Managers.*

70 Urban Institute, Kyushu University, Department of Civil Engineering, Kyushu University & World Bank Disaster Risk Management (DRM) Hub, Tokyo, Japan. (2021, May). *Policy targets behind green bonds for renewable energy: Do climate commitments matter?* (No. 120051). Science Direct.

71 Steffen, B. (2020). *Estimating the cost of capital for renewable energy projects*. Energy Economics. For an example highlighting this is not just an issue for oil-rich Middle Eastern kingdoms, see: Gilbert,J. *Argentina Is Torn Between Its Shale Dream and Climate Goals*, Bloomberg, March 10, 2021

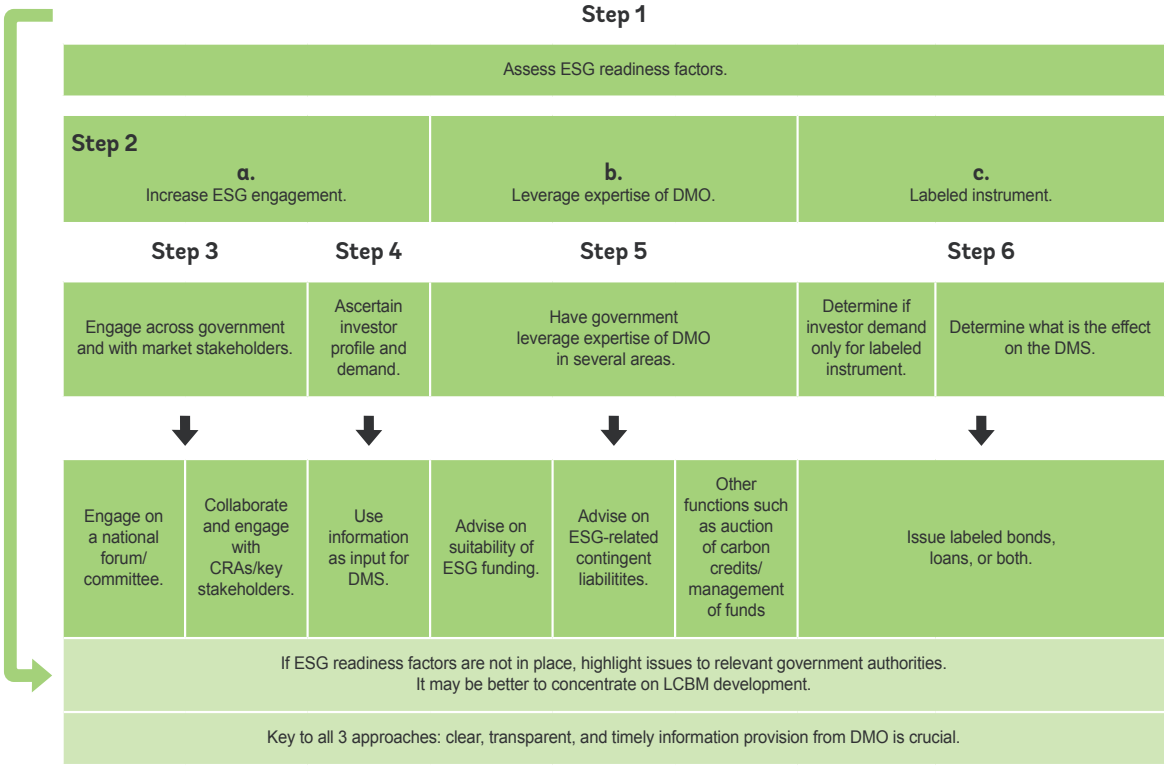


Figure 23: Overview of the process for launching a sovereign green bond
Source: World Bank, *Riding the Wave*, October 2020

The lack of sovereign green issuance has clear implications for EM corporate debt.

- If a DMO already finds it difficult to launch a sovereign green bond, coordinating all the moving parts with a quasi-sovereign arm is likely to be even more difficult.
- The lack of robust NDCs can make an EM corporate's effort less credible.
- The lack of a sovereign green curve makes pricing corporate issues less transparent.

4.1 The Role of Local Currency Markets for Green Bonds

The vast majority of EM labeled bond issuance (outside of China) has been in hard currency - despite the fact EM local currency markets are now more than 80 percent of the total EM debt stock after years of very significant expansion (even relative to hard currency markets). Aside from China, however, green bond issuance in local markets is almost negligible.[72] [73]

72 China has issued roughly 60% of all EM green bonds, and about 80% of that issuance is in CNY. One reason CNY issuance is so robust is Chinese banks receive favourable regulatory treatment for green bonds: Xiao Cao, Cheng Jin, Wenjie Ma. *Motivation of Chinese commercial banks to issue green bonds: Financing costs or regulatory arbitrage?* China Economic Review, Volume 66, 2021

73 China is currently working with the EU to formulate a common green taxonomy. Estimates for green bond issuance this year ranges from CNY 500b-800b in 2021, or roughly a quarter of the global total. China has issued nearly $5b so far in 2021, a YTD record. Wilkins, Rebecca Choong (2021, March 22). *China Urges 'Market Forces' to Fill Gap in Green Bond Program*. Bloomberg

Annual issuance of green bonds in the emerging markets by currency						
Currency	2016	2017	2018	2019	2020	Total
CNY	27,576	26,354	28,040	16,115	9,196	107,280
USD	8,000	14,631	11,458	19,972	27,872	81,933
EUR	1,348	4,945	4,774	7,198	7,946	26,211
CLP			83		2,307	2,390
HKD			714	511	1,062	2,287
MXN	155	1,089	317	366	360	2,286
PHP	225			796	676	1,697
MYR		661	366	169		1,197
INR	482	315	50	109		956
COP	116	217	181	235	161	910
JPY					892	892
CHF				102	650	752
BRL	320	14	174		178	686
RUB			14	12	430	457
PLN				130	255	385
ZAR		74	97	117		288
MAD	152		90			242
UF			68	83		151
NGN		30		106		136
MOP					125	125
TWD		33			35	68
PEN				42		42
KES				41		41
IDR			35			35
SOS			30			30
NAD			5			5

Figure 24: EM green bond issuance per currency (in millions of USD)
Source: *Data provided by Environmental Finance*

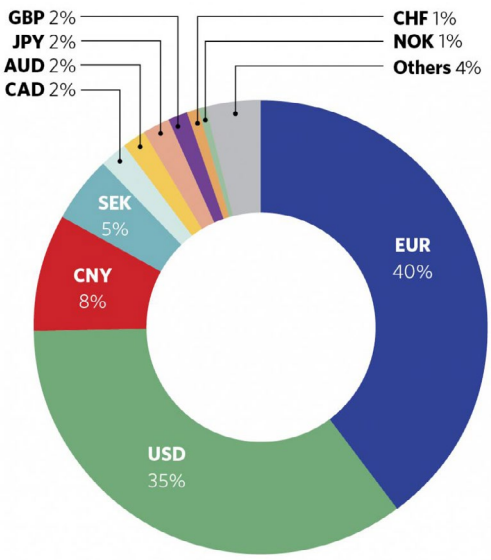


Figure 25: Percentage of the global green bond market, per currency
Source: Climate Bonds Initiative, *Climate Bonds Data Intelligence Reports*, December 15, 2020

The dearth of local issuance is in part due to the lack of national green standards; only a small minority of EM countries have produced their own taxonomies to guide local issuance. Moreover, to date there is little dedicated demand from local investors for green bonds. Often this is due to a lack of local expertise and the detailed issues surrounding UOP, verification, and reporting which are significant logistical hurdles for small local investors. But importantly, there is just not the same level of attention on ESG issues as in advanced economies. Asset managers note that local banks which typically place local currency bonds for government agencies do not have the same expertise in labeled bond issuance as international banks. As such, they do not actively pitch DMOs or corporates for local currency labeled bonds.[74]

This lack of impetus within local markets is a clear obstacle to marshaling the enormous sums needed to address environmental issues in EM. More than three-fourths of climate finance is invested in the country where it is raised, highlighting a need for robust local green markets.[75] While foreigners hold substantial amounts of some local fixed income assets, much of the local universe is not index eligible and therefore has little foreign sponsorship.[76]

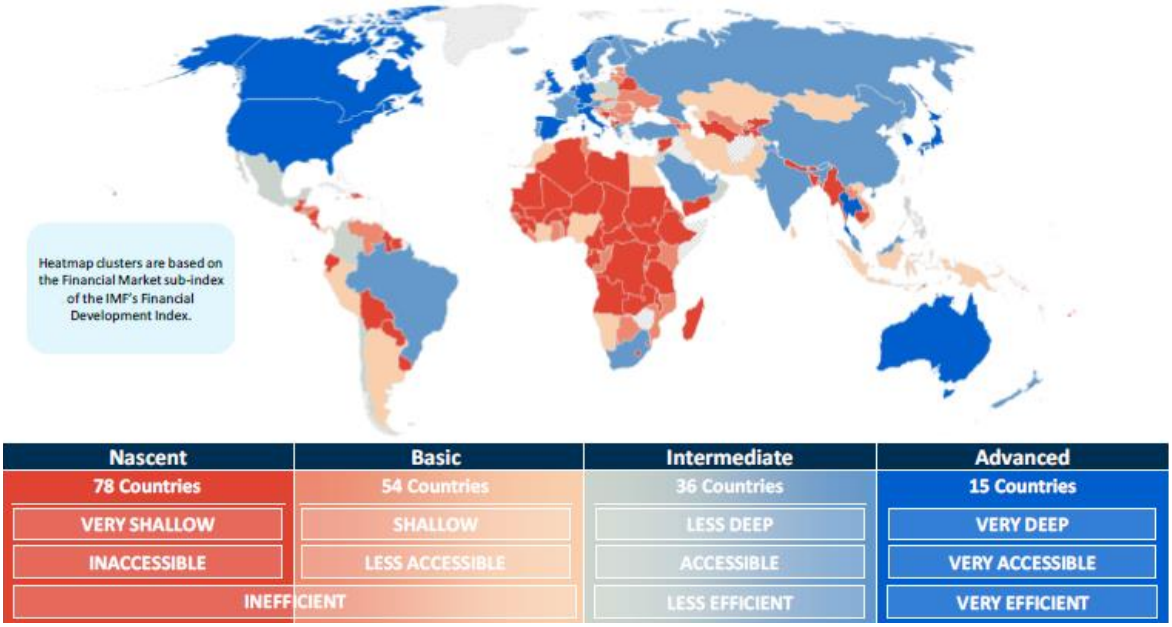


Figure 26: Overview of Capital Market Development
Source: World Bank, *A New Dawn*, March 2021

EMEA	USDbn	% market	Asia	USDbn	% market	Latam	USDbn	% market
Czech R	27	31.2%	China	444	9.7%	Brazil	80	9.0%
Hungary	16	17.1%	India	41	2.2%	Mexico	91	22.0%
Israel	19	8.7%	Indonesia	70	24.4%	Colombia	24	25.0%
Poland	36	17.4%	Korea	131	16.6%	Peru	17	52.0%
Romania	9	19.1%	Malaysia	53	24.9%	Chile	10	15.0%
Russia	43	23.3%	Philippines	4	2.9%			
S Africa	50	29.9%	Thailand	27	14.4%			
Turkey	8	4.0%						

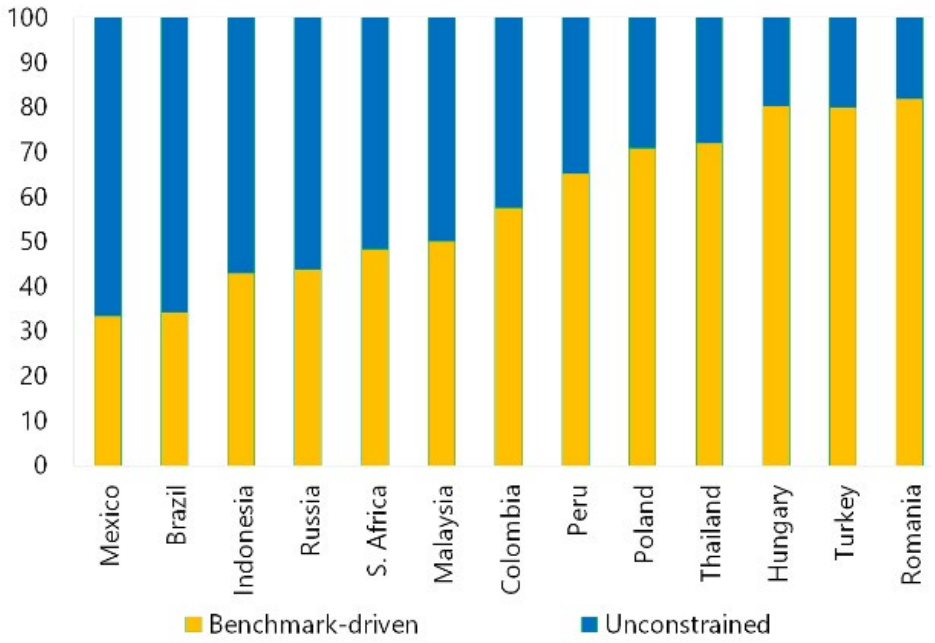
Figure 27: Foreign ownership of local currency government bonds markets
Source: *Data provided by JP Morgan*

74 For examples of issues surrounding local green issuance see: World Bank, *Riding the Wave*, 2020

75 CPI, 2019. *Global Landscape of Climate Finance 2019* [Barbara Buchner, Alex Clark, Angela Falconer, Rob Macquarie, Chavi Meattle, Rowena Tolentino] Climate Policy Initiative, London

76 See Ashmore, previously.

Moreover, a good deal of foreign capital is passive investment looking for yield rather than to make impact and is nowhere near the firepower needed to move the sustainability needle.



Figures 28: EM local market foreign participation, active and passive allocations
Source: IMF, *Benchmark-Driven Investments in Emerging Market Bond Markets*, September 25, 2020

It should be a key priority to help "green up" the local investor base and financial system to deploy funds needed for environmental projects.[77] To stimulate a local currency green bond market that provides real investment opportunity for domestic investors, progress is needed:

- Sovereigns need to release green market frameworks and begin a regular issuance schedule to build a liquid sovereign green bond curve.
- Regulators must begin requiring greater corporate disclosure on environmental risks.
- Local commercial and investment banks will need to seek out protocols for labeled bond issuance and develop internal processes to identify eligible green projects.
- Local investors (including pension funds) will have to demonstrate a stronger interest in labeled bonds, and in providing new green retail products.
- More evidence will be required demonstrating the relationship between environmental risk exposures and financial/economic outcomes.
- Local corporates require training on the process and benefits of issuing green bonds.
- Index providers should create local corporate green bond indexes when appropriate.
- Banks should provide more efficient foreign exchange (FX) hedging, as currency volatility is a major deterrent for many foreign investors into local markets.

77 The IMF and World Bank have just released a significant report on the need for further development of EM local bond markets. It highlights many practical barriers to improving access and expanding issuance, in particular the need for new benchmark instruments. IMF and World Bank Group, *Guidance Note for Developing Government Local Currency Bond Markets*, March 12, 2021.

5. EM Fixed Income Sustainability Indexes

EM asset managers face a chicken-and-egg dilemma. There are so few benchmark-sized green and labeled bonds that it is difficult to justify allocating more resources to building out their green businesses or raising money for ESG funds. Conversely, because there does not appear to be dedicated demand for labeled bonds, and plenty of financing for vanilla bonds, EM issuers see little advantage to change. To help facilitate new ESG products, JP Morgan has launched ESG-aligned indexes (JESG) for EM sovereign and corporate external debt.[78]

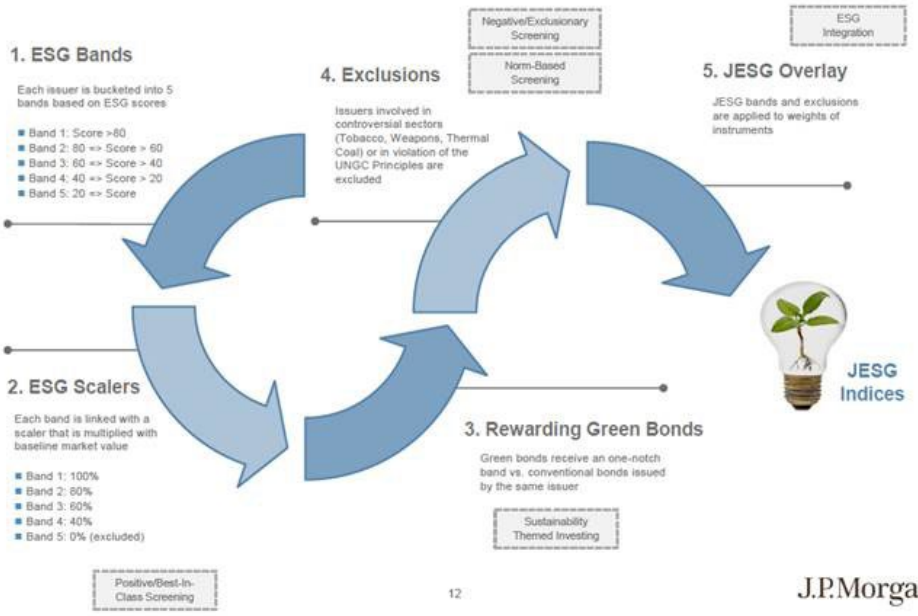


Figure 29: The JESG Indexes inclusion framework
Source: *Chart provided by JP Morgan*

The strong trend towards passive investing and the magnet-like pull of EM's substantial yields means any index will always play an outsized role in allocating capital among credits. The challenge for constructing any index is ensuring the criteria effectively encapsulate the intended investment theme. Devising an environmentally-friendly index for emerging markets has its own unique impediments, given the many difficulties EM countries face in aligning with Western standards.[79] As noted earlier, the myriad factors involved in determining environmental rankings, ESG scores currently reveal very little about practical decarbonisation efforts.

Some managers fear that over time, especially given the ongoing trend towards re-allocating EM assets towards passive or "semi-passive" investing, money flowing into ESG indexes could eventually deprive the most vulnerable countries – those with the worst ESG scores - of capital required to fund transition measures.[80] Potential future progress is ignored in passive-driven EM investing.

There is some evidence this dynamic may already have taken root in EM. A recent analysis by Citibank showed that a portfolio overweight higher ESG-scored credits outperformed its benchmark, while a portfolio tilted towards *improving* ESG scores actually underperformed.[81] In other words, it appears the market prefers to "buy the winners" and play it safe, rather than take a chance on issuers that may have the potential to improve over time. We believe this mindset is due to the fact most ESG scores are static and backward-looking, rather than dynamic and predictive. Without scores that reflect positive upside momentum, funding will continue to discount prospects for credit *improvement* and instead channel capital to higher *existing* scores. The "best in class" lens used by most EM managers integrates ESG

78 JPM also has JESG for local currency sovereign debt although assets tracking is currently small.
79 Mackintosh, J. (2019, Nov 26). *Why Your Good Governance Fund Is Full of Saudi Bonds*. WSJ.
80 JSEG index is 12 percent wealthier than EMBI: The World Bank Group, *Riding the Wave*, Oct 2020
81 Citibank Emerging Markets Research, *ESG in EM: Promise and Challenge*, November 2020

as a defensive tactic, rather than a strategic investment policy. This may, in turn, be due to the lack of forward-looking data available to EM managers to make well-informed assessments.

JESG represents only about $20b of AUM within EM at present. But if funds are re-allocated away from vanilla index products, over time the most vulnerable nations may slowly be starved of capital. Moreover, shifting funds from countries with high emissions (such as India) to those with low emissions (such as Uruguay) may reduce portfolio risk, but does little to reduce global emissions. EM clearly needs sustainability-tilted indexes for benchmarking; how those indexes – and individual country ESG scores – evolve will be key. Even more critical will be whether EM investors choose to pursue ESG strategies of exclusion – or engagement. Without capital to finance improvement, or if secured only at much higher yields, low-scoring EM countries may find themselves in a negative feedback loop with deteriorating credit metrics and fall even further behind.

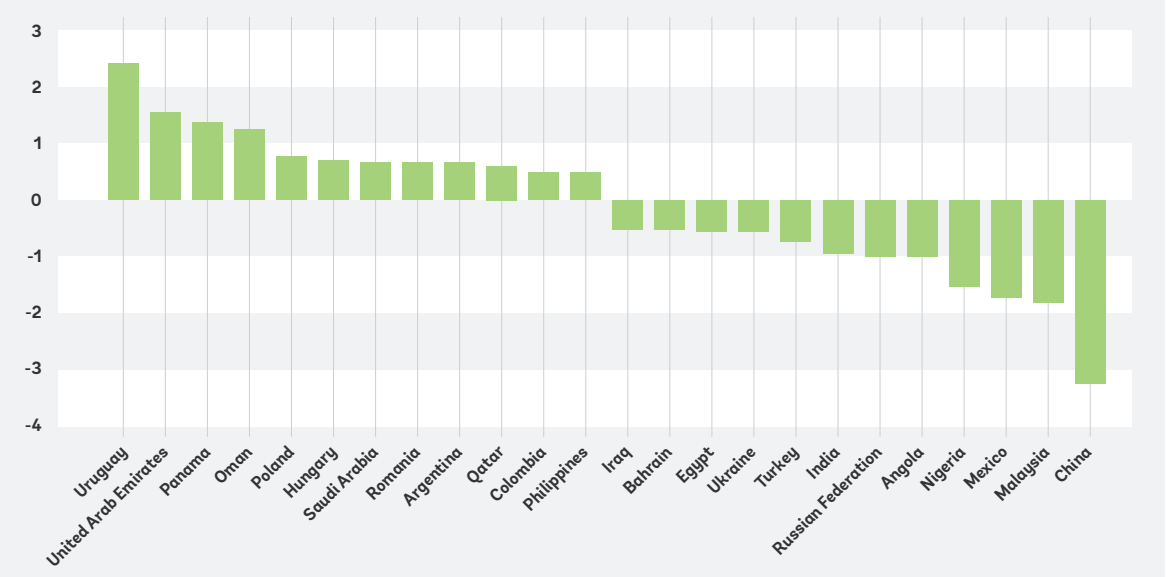


Figure 30: JP Morgan EMBI Index: ESG weightings versus standard weightings
Source: World Bank, *Riding the Wave*, October 2020

6. A Greater Role for Supranationals

Our survey reiterates the important role of international financial institutions (IFIs) in encouraging more green investment for EM. In addition to the usual project-based Initiatives which IFIs fund through direct participation,[82] investors mentioned capital markets interventions, such as Ecuador's 2020 social bond, as tools for building confidence.[83] There is strong appetite for more innovative IFI guarantees, joint issuance and risk-sharing in labeled bonds.[84] New market-driven ideas are evolving that combine multiple aspects of IFI participation.[85] [86] Despite a vastly expanded universe of EM hard currency issuers within the last decade, there are still a substantial number of countries who have been unable to tap international markets at all; they also have very little local market participation by foreigners. For these "low-income developing countries," trying to raise international capital – green or otherwise – is practically impossible without IFI assistance. These nations are often the most vulnerable to climate change, and their funding needs to address the SDGs are substantially higher than even most mainstream emerging market countries.[87]

Despite the competing forces pulling EM investors in different directions, there is currently no "center of gravity" to help marshal consensus around a way forward regarding climate issues. Both asset managers and issuers increasingly realize that leaving the market to grope in the dark for clarity on such a complex set of questions will not yield adequate results quickly enough given the sheer size of the problem. There are certainly other examples – such as a sovereign default resolution mechanism – where market-centered structures should have already emerged to address critical needs, and yet no framework exists.[88] Leaving the market to its own devices to somehow produce all the answers for increasingly urgent climate issues is unlikely to yield better results. Some form of outside "intervention" (perhaps by IFIs) would be welcome to help the market construct a durable resolution to the fundamental contradictions it now faces: how to address environmental risks and sustainable development goals while still meeting fiduciary duties and adequately rewarding risk-taking.

82 For example, the European Investment Bank (EIB) has ambitions to be a "climate bank" by supporting EUR 1tr of green finance: *EU member states approve EIB Group Climate Bank Roadmap 2021–2025*. (2020, November 23). European Investment Bank.

83 Ecuador raised $400m backed by a guarantee from the Inter-American Development Bank. It was the first Social Bond issued by a sovereign and was used to provide housing to low-income families.

84 One innovative structure has been the Emerging Green Opportunity (EGO) fund venture between Amundi and the International Financial Corporation.

85 For example: *Sustainable Finance in Focus: Financing a Sustainable Future for Emerging Markets*, Institution of International Finance, October 12, 2020

86 Another example is a "Nature Bond," possibly facilitated by the Wold Bank, outlined in a recent report: *Greening Sovereign Debt*, Finance for Biodiversity Initiative, February 2021

87 IMF Staff Discussion Note: *Fiscal Policy and Development: Human, Social, and Physical Investment for the SDGs*, January 2019

88 Eric Helleiner, *The Mystery of the Missing Sovereign Debt Restructuring Mechanism*, Contributions to Political Economy, Volume 27, Issue 1, 2008, Pages 91–113.

7. Moving Towards Solutions: An Expanding Role for Labeled Bonds in Emerging Markets Debt

To "build back better" after the COVID shock, EM countries will be reliant on even greater levels of foreign capital and expertise than ever before; this presents both opportunity and responsibility for EM investors and fund managers. Indeed, regulations such as Basel III capital adequacy requirements have raised funding costs for transition projects via the typical banking channels, placing even more reliance on funding from the capital markets.[89]

Developing economies faces a unique and difficult conundrum: countries and companies with the worst GHG footprint and environmental starting points are often the ones who most need capital to transition, along with the proper market-based incentives and frameworks that provide guidance and discipline. Yet as EM managers begin to pivot more towards green investments, these issuers will find it increasingly difficult to attract the funding required for reducing emissions and building resiliency under the current paradigm. In this scenario, economic growth and political stability will suffer, unleashing negative feedback loops that are hard to predict. EM issuers will have little choice but to seek capital wherever they can find it, such as bilateral loans from outside sources which do not have environmental strings attached but may have other types of conditionality and commitments. To address a growing expectations gap between green investors and EM issuers, new instruments are needed.

7.1 Sustainability-Linked Bonds

One developing innovation is **sustainability-linked bonds (SLBs)**, which connect an entity's overall funding rate directly to an SDG-related environmental target.[90] This link is typically structured as adjustments to the coupon rate (usually higher if stated targets are missed), rather than specifying how funds are spent. SLBs help address one of the key sources of tension inherent in green UOP bonds; the strict use of proceeds for *specific* projects versus the *overall activities* at the entity level. EM investors are increasingly keen to promote entity-wide improvements rather than green project funding; an instrument that provides incentives for significant change across the entire organization is an attractive vehicle. Further, as SLB entity-wide targets are verified by a credible third party, UOP logistical challenges are reduced for both issuers and investors.

SLBs enable sovereigns and corporates to maintain maximum flexibility to reach targets, making them more palatable to local constituencies and other stakeholders. SLBs thus avoid the problematic impression of constant line-by-line oversight by foreign investors. They have the potential to provide broad, clear goals which are easy for a broad set of stakeholders to understand.

SLBs are widely expected to be a significant new source of sustainability funding;[91] but to date, only a few SLBs have been issued in EM.[92] The paucity of SLB bond issuance thus far suggests these instruments are not a silver bullet for reaching environmental targets; and, questions remain over the structure. Some investors do not believe using step-up coupons to "punish" an issuer is the correct approach. Moreover, if an issuer has failed in reaching its environmental targets, it may also be struggling in other parts of its operations. If so, raising funding costs could exacerbate financial problems and negatively impact creditworthiness. More importantly, investors are focused on the process by which an entity sets its KPIs: how does one ensure they are ambitious enough rather than another version of greenwashing? How are penalty step-ups determined? ICMA has laid out

89 Ang, G., D. Röttgers and P. Burli (2017), *The empirics of enabling investment and innovation in renewable energy*, OECD Environment Working Papers, No. 123, OECD Publishing, Paris
Also see: Röttgers, D., Tandon, A., & Kaminker, C. (2018, November). *Progress Update on Approaches to Mobilising Institutional Investment for Sustainable Infrastructure* (No. JT03440092). Organisation for Economic Co-operation and Development (OECD).

90 ICMA. (2020a, June). *Sustainability-Linked Bond Principles Voluntary Process Guidelines. International Capital Market Association (ICMA).* https://www.icmagroup.org/assets/documents /Regulatory/Green-Bonds/June-2020/Sustainability-Linked-Bond-Principles-June-2020-171120.pdf

91 Ranasinghe, Dhara, (2021,March 22). *Sustainability-linked bond market to swell up to $150 billion: JPMorgan ESG DCM head*. Reuters

92 Suzano in 2020, and Klabin and Simpar in 2021. All are Brazilian corporates. UltraTech Cement has also recently issued a SLB. Uruguay could issue the first sovereign SLB: West, O. (2021, February 19). *Uruguay ponders sovereign SLB possibilities after LatAm ESG rush*. GlobalCapital.

guidelines to help address some of these issues,[93] but skepticism remains in some quarters.[94] SLBs seem a natural fit for EM and a flexible alternative to green bonds. But if they are to be embraced by the EM community as credible, SLBs must reflect real ambition, real verification, and real penalties.

7.2 The Arrival of Transition Finance

Transition bonds are another potential tool to bridge the sustainable finance gap in EM.[95]

In previous research, we defined transition finance as ***capital provided to economic agents to achieve a minimum rate of carbon emissions reduction.***[96] Complimentary to funding for green projects, the purpose of transition finance is to channel capital towards GHG emissions reductions in high-emitting sectors. We proposed that firm-level monitoring be a function of two observable characteristics:

– the absolute current greenhouse gas emissions; and,

– the rate at which the firm is improving its emissions performance.

In other words, it's not just the overall stock of emissions that matters – so does the flow towards the desired end state. Our aim was to strike at the very crux of the debate on reducing GHG emissions across asset classes: *how much and how fast is good enough?*

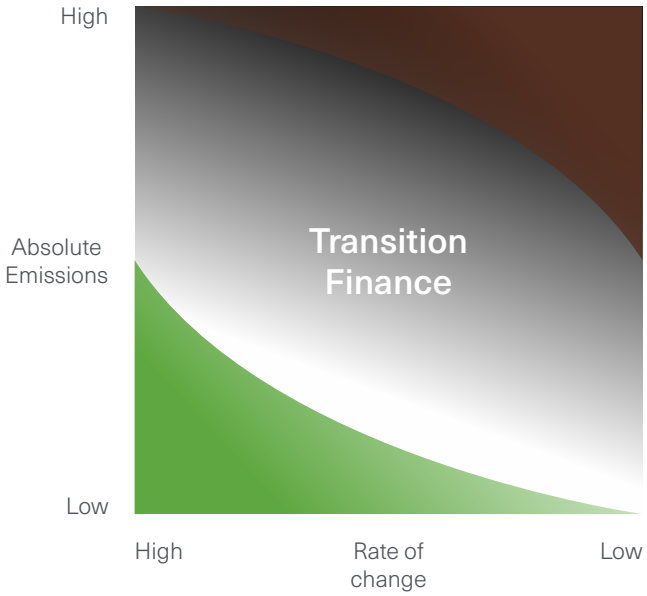


Figure 31: Defining Transition Finance

Source: Imperial College Business School, *Transition Finance*, September 2020

93 ICMA has recently released updated guidance for SLBs: ICMA. (2021, February). *Sustainability-Linked Bond Principles Related questions*. International Capital Market Association (ICMA).

94 Gledhill, A., & Azevedo Rocha, P. (2021, February 18). *ESG Debt Boom Sparks Worry Firms Get Away With Bare Minimum*. Bloomberg. Also: Asgari,Nikou (2021, March 12) *Europe's First Sustainable Junk Bond Draws Scrutiny Over Green Impact*, Financial Times

95 The current "transition" term is in some ways too vague and risks being confused with generic terms that lack specificity. We would actually prefer a more descriptive label like "Decarbonization Bonds".

96 Imperial College. (2020b, September). *Transition Finance: Managing Funding to Carbon-Intensive Firms*. https://imperialcollegelondon.app.box.com/s/d942xic0fiju5dvzjinwn0nxondub3dl

This focus on GHG is not intended to dismiss wider environmental concerns. There is a broad range of important sustainability issues to be addressed, including water, topsoil, biodiversity preservation and ecological stability. Many have been well covered in the Dasgupta report commissioned by the UK government.[97] While transition finance should *primarily* be focused on reducing carbon emissions, we recognize the complex roots of many intertwined challenges. None will be solved in a vacuum. Sustainability has many facets.

Initiatives are already underway to help define and build the market infrastructure around the notion of transition finance and lay the groundwork for a new emphasis in capital allocation. The Climate Bonds Initiative released a white paper in September 2020[98] with the aim to:

"1. Define transition as a concept by presenting a starting point for the market to see a credible brown to green transition as ambitious, inclusive and aligned with the Paris Agreement (thereby avoiding greenwash).

2. Put forward a framework for use of the transition label in practice and propose clearly demarcated roles for both a green and a transition label."

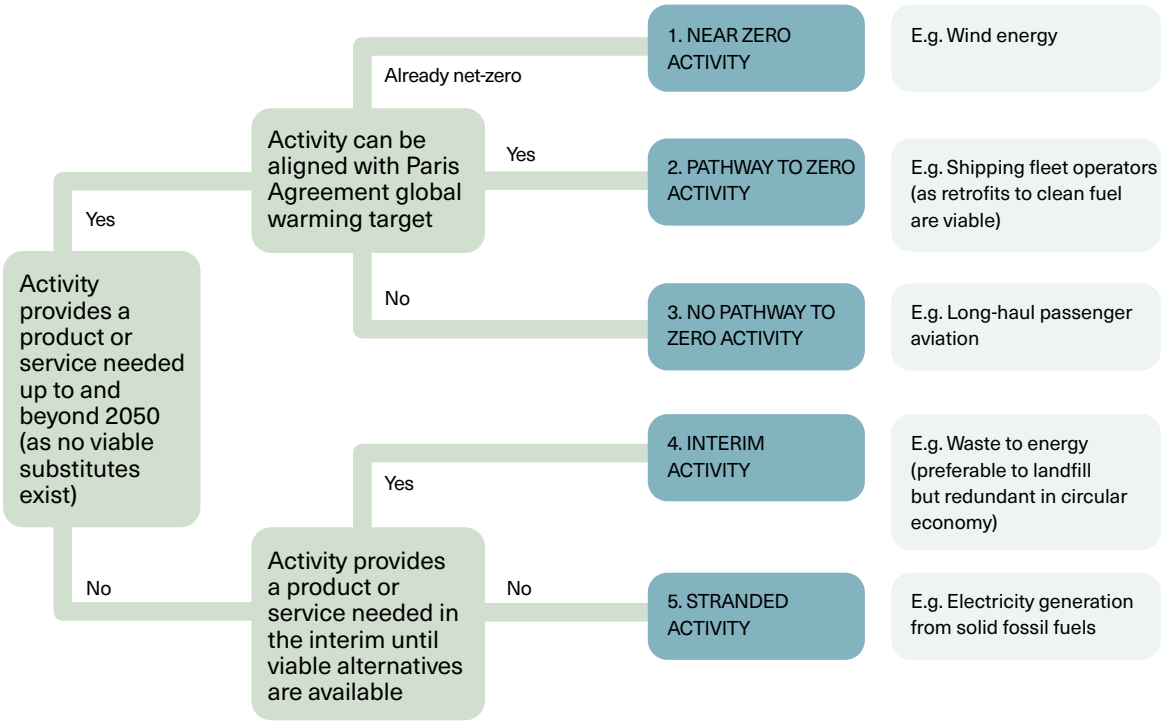


Figure 32: Transition Bond Framework

Source: Climate Bonds Initiative, *Financing Credible Transitions (White Paper)*, September 2020

97 Gov.uk. (2021, February). *Final Report – The Economics of Biodiversity: The Dasgupta Review*.

98 Climate Bonds Initiative. (2020, September). *Financing Credible Transitions (White Paper)*.

The International Capital Markets Association also released a *Transition Finance Handbook*,

"to provide clear guidance and common expectations to capital markets participants on the practices, actions and disclosures to be made available when raising funds in debt markets for climate transition-related purposes."[99]

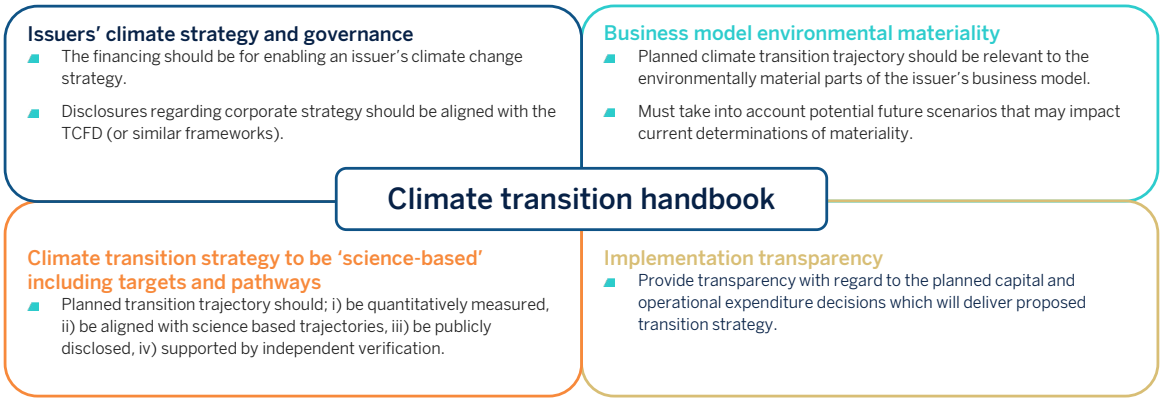


Figure 33: ICMA transition bond framework
Source: BBVA, *2021 ESG Credit Market Outlook*, December 2020

Both initiatives are important additions to building out a consensus-driven, market-accepted taxonomy for transition finance. The London Stock Exchange has recently announced it will become the first exchange to list transition bonds,[100] which will provide further momentum. Financial institutions are starting to engage more on this topic.[101] [102] And based on our own conversations with asset managers, there is clear enthusiasm for transition products suited to high carbon emitters, and a number of funds are laying out their own transition frameworks.

While an in-depth discussion of transition taxonomy is beyond the scope of this discussion paper, it is worth re-emphasizing the underlying purpose of transition finance. At one end of the spectrum, some economic activities make an unambiguous contribution towards the goal of net-zero emissions (solar power). At the other end, some activities pose an unacceptable level of reputational risk (Arctic oil) or risk of obsolescence (coal-fired power).

In between, however, there is a large slice of economic activity which, while carbon-emitting, will remain a fundamental part of economic life for decades to come and cannot be easily replaced. These sectors include steel, cement production, and aviation. Indeed, some heavy emitters – such as the mining industry – are themselves a key part of the long-term solution as these raw materials are crucial for building out green infrastructure. If the world is to comprehensively tackle carbon emissions, it is the heaviest emitters who must in fact play an out-sized role. Identifying and setting the frameworks for conditional funding to these firms will be an invaluable compliment to scaling funding to green firms. By welcoming the decarbonization efforts of heavy emitters, transition finance can help steer vital capital to those willing to embrace science-based and credible paths towards "Net Zero" industries.

99 ICMA. (2020a). Climate Transition Finance Handbook. International Capital Market Association

100 Basar, S. (2021, February 16). *LSEG Launches Transition Bond Segment*. Markets Media

101 For example: Homer, E., Gazzola, P., Chu, W., & Wallace, B. (2021, February). *Building carbon transition fixed income portfolios*. JP Morgan Asset Management.

102 For another example, see: Takatsuki, Y., & Foll, J. (2019, June 10). *Financing brown to green: Guidelines for Transition Bonds*. AXA IM Global.

7.3 A Role For Transition Bonds in Emerging Markets

There have been a number of transition bonds launched in developed markets in 2021. However, emerging markets have yet to tap this new instrument.[103] Our discussions with asset managers indicate a recognized transition bond, leading to meaningful decarbonization of heavily-emitting EM entities, would solve several problems for both investors and issuers.

EM institutional investors increasingly face a stark and difficult choice: to continue sending capital to sovereigns and corporates for whom a significant proportion of their economic activity is actively harming the planet; or to adopt a developed market-centric green approach and cut off funding because these entities fall short. The former precludes any meaningful prospect of tackling GHG emissions; the latter would entail a significant loss of portfolio yield, drive issuers to seek funding outside transparent public capital markets, and cause economic hardship for the most vulnerable. We see the potential for a third way that recognizes but does not excuse environmental hurdles, and seeks pragmatic and scalable solutions.

A reliable transition framework must make clear that funding is contingent on ambitious entity-level commitments to meaningfully reduce carbon emissions over a specific timeframe. Milestones must be credible and easily verifiable. Asset managers can provide guidance to issuers regarding their own constraints and expectations, while maintaining the opportunities for yield and helping to improve credit quality. Issuers will cultivate an expanded investor base keen on funding sustainability improvements while ensuring the capital markets remain open to them. Risk premium will decrease as targets are met. Both sides will benefit as the issuer enjoys improving ESG scores, which attracts new investors to EM fixed income.

A consistent concern of EM asset managers we spoke with is how to match green ambitions with the existing reality. Those building out green frameworks to guide their investment thesis quickly find such systems lose any credibility without jettisoning a significant number of EM names. Most of these entities are core holdings in mainstream portfolios, and by developed market standards many of these issuers could never be included in a green or ESG fund.

However, when frameworks are adapted to consider the *net improvement* in environmental standards (the delta, in financial markets parlance) rather than the current state of play, green investing in EM could then take on a whole new meaning. This notion fits our own view on transition finance: *it is not just where you are, but where you are going that matters*.

If the benefits of transition are so clear, why are there no transition bonds in emerging markets? We see several reasons. First, the entire labeled bond complex is still immature. Even green bonds have taken a while to filter down to EM, and it is still not fully appreciated that green bonds are not an appropriate vehicle for some of the heaviest EM polluters. Second, there is no settled transition taxonomy. While CBI and ICMA initiatives have laid valuable groundwork, EM market participants must take a more proactive role in helping to clarify and solidify these high-level concepts into practical guidelines. Third, too much of the financial apparatus (such as ESG and credit scoring) is static and focuses on existing conditions, rather than attempting to provide mechanisms for valuing future improvements; the lack of data for predictive analysis and the straitjacket of indexing corners fund managers into a risk-averse, best-in-class herd mentality on ESG issues. Finally, there are still simply not enough government policies to underpin a huge influx of dedicated green or transition capital into EM. Only a handful of EM countries have articulated credible pathways to meet NDCs; fewer still have built transition investment into the key state-level financial planning.

Currently, there is too much emphasis on DM taxonomies to also define EM-labeled bond protocols, as if they are interchangeable. They are not. It is more important that an EM issuer has realistic, ambitious transition goals and frameworks, rather than whether they fit into a Western-built, one-size-fits-all box. Realistic, workable frameworks take time to develop and are often an iterative process. What ultimately counts is the direction and speed of travel.

103 Bank of China issued a transition labeled bond this year, although through its Hong Kong branch: https://pic.bankofchina.com/bocappd/report/202101/P020210106328842685396.pdf

8. Conclusions

Given the very significant funding required to help developing nations with mitigation, adaptation and resilience to climate change, it is encouraging to see new thinking and innovative financial instruments being developed to more effectively channel capital. This discussion paper has focused on labeled bond markets – a small slice of a bigger evolution across the global financing landscape. The developed world must think critically about how it leverages financial resources in emerging economies – via foreign direct investment, equity funding, technology implementation, trade finance, and risk-sharing with international financial institutions. We need an all-of-the-above strategy to push capital where it is needed.

In a perfect world, green bonds would not be necessary. It would be far more effective for the entire bond universe to have environmental ratings for every debt instrument, ideally from the same agencies that give credit ratings.[104] Indeed, we see those two concepts – environmental risk and credit risk – as increasingly intertwined. Singling out individual bonds as green or not seems to us counterintuitive to the very purpose of the instrument: to underwrite activity across the entire entity. The concept of a "greenium" is thus also fundamentally challenging to the logic of bond markets. The credit risk of green and non-green bonds are exactly the same. If an entity's environmental actions are beneficial, they should be positive for the entire capital structure, not just green bonds.[105] The ultimate goal should be for every sovereign and corporate entity to have a green ranking that is applied towards all financial instruments, giving total transparency for investors, regulators and management.

That said, green bonds do serve an important and immediate purpose. They have put environmental issues on the front pages of financial newspapers, and many believe they help to drive momentum towards sustainability. While the EM green bond market has been a laggard relative to the uptake in developed markets, much is happening behind the scenes. Asset managers are educating their institutional investors and gearing up new products. Syndicate desks are engaging issuers and building relationships with green investors outside traditional EM mandates. Issuers are working to construct new green frameworks.

However, key speed bumps must be leveled out before this rapidly evolving market can reach full potential. We highlighted some issues that are endemic to green bonds as an asset class – such as the need for **better data, standardized reporting and transparency around use of proceeds**. We have also addressed other hurdles more specific to emerging markets fixed income. And we have proposed several ideas that we hope will encourage more dialogue and prompt wider debate in the market – which is ultimately where these questions must be answered.

Given the record amount of debt being raised in EM with global yields so low, this is the ideal time to "build back better" – and to build back greener. As the world focuses on COVID relief and economic recovery, long-term environmental issues must also share top billing. Asset managers historically have focused on governance issues above all else given it is something they readily grasp, and it has clear and immediate impact on credit risk premiums – they are after all judged on short-term performance. Meanwhile, research has shown that environmental improvements have little bearing on credit spreads;[106] quite likely because of poor and lagged data, and the longer-term nature of the benefits. But we believe this paradigm is shifting due to the new emphasis on climate issues, the evolving regulatory regimes, and the green capital surge. Greater issuance of green bonds will help re-balance the emphasis across the three ESG pillars.

From our investor discussions, it is clear that asset managers have a wide range of views about what is feasible (or even desirable) in tackling climate concerns over varying time frames. This lack of consensus about how assertively capital markets should be influencing sovereign policy decisions is a major hindrance to urgently needed progress. Disagreements among EM creditors after 2020 sovereign defaults about requiring environmental targets as part of restructuring offers are recent examples of missed opportunities to proactively engage issuers.

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104 The Bank for International Settlement has also explored the topic of firm-wide green ratings: Torsten Ehlers, Benoit Mojon and Frank Packer. *Green bonds and carbon emissions: exploring the case for a rating system at the firm level*. BIS Quarterly Review, September 2020

105 It has been shown green bond issuers get a stock price boost: Dragon Yongjun Tang, Yupu Zhang, *Do shareholders benefit from green bonds?* Journal of Corporate Finance, Volume 61, 2020

106 Margaretic, Paula & Pouget, Sébastien, 2018. *Sovereign bond spreads and extra-financial performance: An empirical analysis of emerging markets*, International Review of Economics & Finance, Elsevier, vol. 58(C), pages 340-355.

We believe EM investors need a forum, akin to Climate Action 100+[107] in the equities space, to thrash out fundamental questions surrounding climate strategies. The Investors Policy Dialogue on Deforestation[108] (IPDD) is an example of how EM investors can work together in common purpose on environmental issues. Presenting EM sovereigns and corporates with a clear, coherent set of investor priorities would benefit both sides.[109] Crucially, it would allow asset managers to engage with issuers rather than ending up as "price takers." Corporate bond investors already have less leverage than shareholders, and influence over sovereigns is rife with pitfalls; waiting until a new deal is announced and a roadshow commences is far too late to expect leverage on complex environmental policies.

The Achilles' Heel of green investing in EM remains the strong inclination to hug the index. There are good reasons EM portfolio managers have these constraints, including the high degree of asymmetric risk in being underweight when end investors want to be fully invested. But while it is an industry norm, index hugging will become an increasingly dangerous and untenable strategy. Climate change and environmental catastrophe will differentiate between EM issuers, even if ETF flows do not. It is imperative that managers not only become more aware of which climate-driven credit stories to avoid, but also to identify the rich opportunity set of countries and companies which will thrive when given proper incentives and capital. EM managers cannot be held hostage to an index at the peril of missing the bigger picture. Credit differentiation will become more important than ever and EM managers must invest in resources and expertise which allows them to fully insert "E" into "ESG" investing.

Institutional investors must also advance their own mindsets. EM managers should be empowered to take much longer-term views about how climate change will impact their portfolios. The issues at play are complex. Some environmental effects are already being felt, but many will materialize over a longer time frame than the typical credit-risk metrics. Expecting EM managers to balance the daily noise and myriad investment criteria alongside long-term (and uncertain) climate risks – all the while remaining wary of outflows for even a slight underperformance – locks everyone into a self-defeating, short-termist chase for yield. Today's tactical trade is rarely the same as tomorrow's strategic trade. EM investors should not only require climate criteria as a core part of the investment process, they must seek to collaboratively overcome the incentives that are driving an aversion to long-term thinking. Asset managers should be encouraged to seek out credit stories that have real potential to improve, rather than default to a best-in-class framework that just clings to the highest ESG scores in an attempt to minimize the reputational risk of supporting less-than-green credits. If EM debt is to evolve as an asset class in an era of climate change, it will be through engagement instead of exclusion.

A market-wide suite of EM products aligned to climate targets could have meaningful impact. We have argued the current ESG framework substantially discounts environmental factors and provides very little benefit for decarbonisation efforts; a more effective model would be EM green-dedicated funds, possibly with a green index, that actively engage with issuers. But to realize this potential, there must also be proactive engagement from passive managers. Recycling capital from investor to issuer through a lowest-cost, no-questions-asked model risks becoming mere dead weight in the push to influence issuers' climate policies. Given the growing influence of passive vehicles across all asset classes,[110] the paradigm shift towards sustainable investing must not devolve into a race to the bottom, focused primarily on grinding fees ever lower. Both active and passive funds have will have a meaningful role to play in engaging issuers, setting standards, and monitoring progress.

EM managers must also tap into investors outside their traditional universe. It is admittedly difficult for many DM investors to stomach the volatility, illiquidity and credit risk embedded in many EM credits. But within their mandates and tolerance levels, there are surely ways of improving EM green credit narratives along the traditional lines of value and portfolio diversification. Likewise, syndicate desks and issuers themselves have a key role in making the EM pitch to outsiders. The existence of a

107 Climate Action 100+ is an investor-led initiative to ensure the world's largest corporate greenhouse gas emitters take necessary action on climate change. https://www.climateaction100.org/;
Another possible model is the Institutional Investors Group on Climate Change: https://www.iigcc.org/

108 *Investors Policy Dialogue on Deforestation (IPDD) Initiative*. https://www.tropicalforestalliance.org /en/collective-action-agenda/investors-policy-dialogue-on-deforestation-ipdd-initiative/

109 The World Bank held a roundtable with some EM issuers and investors in April 2019 to discuss ESG issues. More such forums would help bridge the lack of communication between the two sides.

110 The well-documented avalanche of retail money into ESG equity products has now moved into the corporate credit market. It is likely emerging market debt fund flows are not far behind. Cowie, Dawn (2021, March 16) *State Street hits ESG sweet spot with US corporate bond ETF*; Financial Times

greenium in advanced economies shows there are simply too few assets (supply) to meet the green capital available (demand). The inaugural green bond by Italy in March 2021 equaled the entire green issuance of EM sovereigns in 2020 (and was ten times oversubscribed). France has issued a total of $40b of green bonds – 50 percent more than all EM sovereigns combined. This mismatch of green supply and demand offers real opportunity for emerging markets to expand its investor base; and even more so when considering global investors remain structurally underweight EM debt.[111]

We also see tremendous scope to build on the past successes of **IFI risk-sharing efforts**; for example, IFI guarantees tied to green, SLB or transition bonds. Possibilities include a basket of green corporate bonds in which the IFI takes the first-loss (equity) tranche; the same tied to a basket of green sovereigns; or the same again tied to transition bonds. The overarching goal would be to tempt the vast sums of DM capital over the threshold into EM by reducing some of the risk and volatility which currently keeps them away. Enhancing the EM green risk-return profile could unleash a large pool of yield-hungry capital into the developing countries where it is most needed – and where it could have an outsized impact.

Even more important than bringing green investors to EM, is bringing "green" to domestic EM investors. As outlined, local markets are multiple times the size of hard currency markets. Even in an age of globalization, the majority of EM funding comes via local sources. It is simply inconceivable that developing nations can raise the vast sums needed to effectively address their climate risks from foreign capital alone. **There is a critical need for greater education among this entire EM ecosystem about climate finance.** The lack of local green issuance is a concern but also an untapped opportunity. While there has been strong demand in China, this should similarly be the case in deep domestic capital markets like Brazil, India, and Mexico. Local banks and investors have critical roles to play in building the demand and pipeline for green and transition financing. Governments can likewise promote a better understanding of what labeled financial products offer, provide proper frameworks, and lead by example in issuing their own green bonds. **Unleashing the capacity of robust local capital markets will be a crucial part of addressing SDGs and climate challenges.**

Another potentially significant source of green funding is Sovereign Wealth Funds (SWF). Many are based in EM countries and charged with investing proceeds from hydrocarbon sales. Yet, a recent report by the International Forum of Sovereign Wealth Funds[112] reveals a noticeable lack of interest in climate-related investing. Roughly three-fourths of SWFs have less than 10% of their holdings in climate strategies. Only 14% had made any divestments based on factors related to the environment or climate. Twelve percent reported having an explicit climate change policy in place, while only another 24% actively considered climate as part of a larger ESG framework. It should be concerning that SWFs are not more engaged on climate issues. They have exactly the type of long-term, patient capital needed to fund technology innovation and sustainable infrastructure. Not only do they share the fiduciary duties of the private sector, but they also carry a moral and social obligation to secure and improve the lives of their citizens. At the very least, SWFs endowed by fossil fuels should diversify their exposure as a prudent, long-term hedge.[113] **International investors in EM sovereign debt should engage governments about how SWFs are investing their nations' inheritances.** There is a direct correlation between SWF returns on investment and future sovereign credit risk, and the long-term strategy must prioritize sustainability.

On the issue of labeled bonds, SWFs reported only 10% of their climate-related portfolio exposure is in fixed income. We see this as an under-utilized source of capital for the local green finance market. **There is signficant untapped capacity for joint investment programs between SWFs and local pension plans to fund long-dated green infrastructure projects**. Co-investment in strategic national infrastructure that improves climate resilience is an opportunity to improve economic growth, environmental sustainability, and quality of life. It is being given scant attention relative to the benefits it could create.

111 *Emerging Market Corporate Bonds: The New Core Fixed Income Staple*, March 2021, Pinebridge

112 International Forum of Sovereign Wealth Funds, *Mighty oaks from little acorns grow: Sovereign wealth funds' progress on climate change*. February 5, 2021.

113 Some SWFs re-invest into hydrocarbon production: Evgenia Pismennaya and Anna Andrianova, (2021, March 17). *Russia Considers Spending Wealth Fund Billions on Infrastructure*. Bloomberg

Transition-focused (and labeled) EM debt funds could empower asset managers with more flexibility in choosing high-emitting entities with a credible and committed framework for reducing GHG. This would provide an alternative to green and ESG-focused funds that will find many of these credits inappropriate for their mandates. Transition funds will need a longer time horizon while being very clear about the impact and expectations of their investments.

Transition Finance of all types will require a clear, market-accepted taxonomy to give it credibility. The salutary initiatives of organizations like CBI and ICMA to forge a consensus framework are important steps, but much more work is needed. Market participants must actively engage to help build on such efforts. Indeed, sustainability-linked bonds and transition bonds will face the same data, transparency and reporting issues as green bonds. In some ways, they may be even more problematic. That should not stop innovation towards funding instruments that will help high-emitting entities decarbonize – but it does require new governance structures and clear frameworks to accompany a proliferation of new products.

In closing, it is important to emphasize the sense of urgency regarding environmental issues and implore investors not to lose sight of the long-run horizon. With the global economy staging a significant recovery and the strong response of financial markets, it would be easy to push climate concerns to the back burner as the world focuses on repairing the social damage of COVID. The overwhelming monetary stimulus by central banks and the powerful fiscal response have tightened credit spreads sharply across DM. Yield-hungry investors once again find a tempting target in EM bonds, and even more so with the recent surge in commodity prices. It would be a tragic missed opportunity to revert to the usual macro-economic trading patterns that would see capital flood back into the asset class as if nothing has changed. This is a chance to influence EM priorities for the next generation.

Labeled bonds are a means to an end, not the end itself. The number of green bonds issued or green funds launched is not the measure of success. The urgent goal is to reduce GHG emissions; every substandard bond issued is actually a distraction and dilution of our efforts. Quality matters over quantity. While there is much to be encouraged about as the number of EM green bonds expands, it is important to remember the magnitude and duration of the task ahead. We must not confuse progress for victory. The "easy wins" may inspire hope given the momentum we see from a low base, but without substantive efforts to address the issues we have raised in this paper, EM green issuance will plateau and never reach its potential. The worst emitters – the ones who can most contribute to decarbonization – will fall through the cracks. Buying another low-risk, non-controversial bond to top up a fund's ESG score is not going to save the planet. Engaging and incentivizing carbon-emitting issuers just might.

It is encouraging to see a change in rhetoric across the financial system recognizing a new urgency to address climate change concerns. But significant challenges remain: long-delayed adaptation is only beginning, and progress towards the Paris Agreement is far behind schedule.[114] The race for green capital is both a marathon and a sprint.

Financial innovation, just as much as technological innovation, is a key part of the evolution required to pursue sustainable development and protect the environment. Given their rapidly growing populations and economies, emerging markets must be seen as key partners in the global paradigm shift now underway. We cannot address the real and immediate challenges of climate change without ensuring our effort also encompasses the most vulnerable; and, neither can we afford to ignore the practical realities of how capital markets operate today.

There is reason for optimism, and room for improvement, in the progress driving credit markets today. With the proper framework and incentives in place, labeled bonds can be a powerful tool in helping to fund the global transition towards greater prosperity and resilience.

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114 A number of recent studies show the lack of progress in achieving environmental goals:

1) United Nations (UN). (2021, February). *NDC Synthesis Report*. United Nations Climate Change.

2) Le Quéré, C., Peters, G.P., Friedlingstein, P. et al. *Fossil CO_2 emissions in the post-COVID-19 era*. Nat. Clim. Chang. 11, 197–199 (2021)

3) University of Oxford and United Nations Environment Programme (UNEP) *Are We Building Back Better? Evidence from 2020 and Pathways for Inclusive Green Recovery Spending* March 2021

4) Liu, P.R., Raftery, A.E *Country-based rate of emissions reductions should increase 80% beyond nationally determined contributions to meet the 2 °C target*. Commun Earth Environ 2, 29 (2021).

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The Centre for Climate Finance & Investment at Imperial College Business School

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