FINANCING SUSTAINABLE DEVELOPMENT AND INTERNATIONAL CLIMATE COMMITMENTS THROUGH PUBLIC MARKETS

MOBILIST

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I. EXECUTIVE SUMMARY

Urgent action is needed to accelerate sustainable development and combat climate change in emerging market and developing economies (EMDEs). Climate change, pollution and biodiversity loss may be the greatest challenges humankind has ever faced. But they are also history's biggest investment opportunity to create a more resilient, just future. Brazil has the potential to become a major sustainability powerhouse, playing a crucial role in helping the world decarbonise at a much faster pace.

Private investors will only fill the sustainable development and climate financing gaps if EMDEs can offer attractive risk-adjusted returns. The fundamentals are promising, with EMDEs posting faster growth and outperforming AEs on listed equity markets over the long term. In 2024, investors are again turning to EMDEs for growth and diversification. Despite interest rates in many markets staying 'higher for longer', the IMF forecasts that economic growth in EMDEs will remain robust at 4.1% in 2024, compared to 1.5% in advanced economies (AEs).

This paper - prepared by the MOBILIST programme, in collaboration with B3 and the Global Infrastructure (GI) Hub - considers the potential contribution of public markets to closing the sustainable development and climate finance gap in Brazil and in EMDEs globally. It analyses why public markets have a unique role to play in financing sustainable development and climate transition, due to their scale, transparency, and liquidity. Liquid capital markets supported by deep domestic savings can reduce the cost of capital, enhance the transmission of economic policy, and so contribute to growth, job creation, and taxation. More fundamentally, public markets offer the potential to democratise the gains from growth through retail participation and the participation of pension funds representing public interests.

Next, the paper considers how the mobilisation of private capital for sustainable development can be achieved through the public markets by presenting pioneering listed structures and strategies aligned with this objective. These structures and strategies have emerged from MOBILIST's pipeline and portfolio and in the Brazilian public capital markets and include:

1. **Infrastructure and green asset-backed securitisation**

2. **Guarantees for listed hard currency green instruments**

3. **Listed investment companies and funds tailored to underlying assets most prevalent in EMDEs**

4. **Corporate initial public offerings (IPOs) and special purpose acquisition companies (SPACs)**

5. **Listed products offering exposure to carbon credits and nature-based solutions**

Finally, the paper considers requisite policy and regulatory enablers to scale financing for sustainable development through public markets. This includes ensuring that global regulatory frameworks accurately and fairly represent EMDE risk, building deep domestic savings industries to ensure foreign investment can be attracted without raising risks of 'sudden stops' and capital reversals, and developing quality exchanges with efficient regulation. The paper concludes by considering the potential roles that official sector development finance actors can play, emphasising the opportunity to harness public markets' unparalleled transparency to demonstrate the viability and attractiveness of EMDE assets and markets. This 'originate-to-demonstrate' public markets strategy may be the most scalable route to the mobilisation of private capital in support of the Sustainable Development Goals (SDGs) and international climate commitments.

II. INTRODUCTION

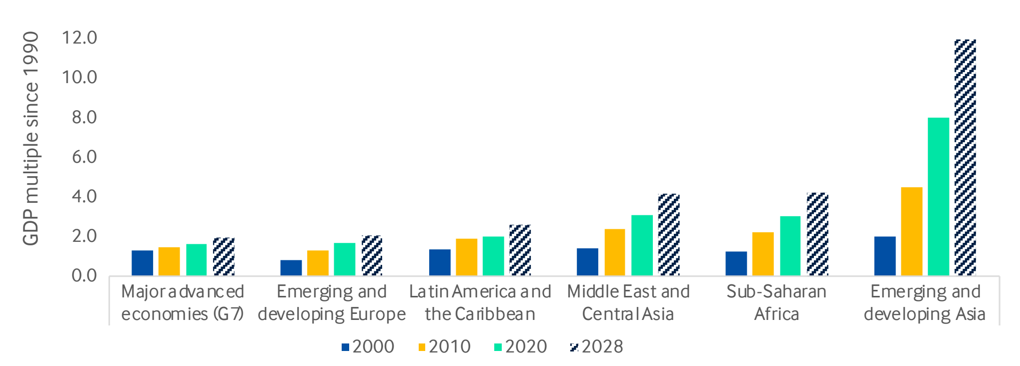
Urgent action is needed to accelerate sustainable development and combat climate change in emerging markets and developing economies (EMDEs). According to the Intergovernmental Panel on Climate Change (IPCC), roughly 2.4 trillion tonnes of CO_2 have been emitted since the beginning of the industrial revolution. New emissions mean this figure continues to grow by nearly 50 billion tonnes every year. Current policies and commitments put the world on track for an average temperature rise of roughly 3°C above pre-industrial levels by the end of the century.

Climate change, pollution and biodiversity loss may be the greatest challenges humankind has ever faced. But they are also history's biggest investment opportunity to create a more resilient, just future. Brazil has the potential to become a major sustainability powerhouse, playing a crucial role in helping the world decarbonise at a much faster pace. By curbing deforestation and investing in carbon offset projects and other sustainable business models, Brazil could become one of the world's largest suppliers of carbon credits. The country has significant renewable energy sources, including among the world's highest solar and wind power potential. Consequently, Brazil can be a leader in green hydrogen production due to lower costs and a cleaner power grid. There are also massive opportunities related to biomass, biomethane, biofuels, SAF, green metals and the circular economy. These opportunities would represent an additional economy of hundreds of billions of dollars and in line with the Global Goals, can create jobs to raise the quality of life in many communities.

Financing requisite investments requires the mobilisation of private capital at scale for Brazil and EMDEs globally. Scenario analyses indicate hundreds of trillions of dollars in investment would be needed between 2021 and 2050 across several sectors. According to the UNFCCC, developing countries require nearly US $6 trillion by 2030 to meet their Nationally Determined Contributions (NDCs). The United Nations Environment Programme estimates that adaptation costs alone could reach US $330 billion per year by 2030. These financing gaps cannot be met through public resources alone, with the UN recently renewing calls to deliver on the Addis Ababa Action Agenda to maximise public and private financing for development.

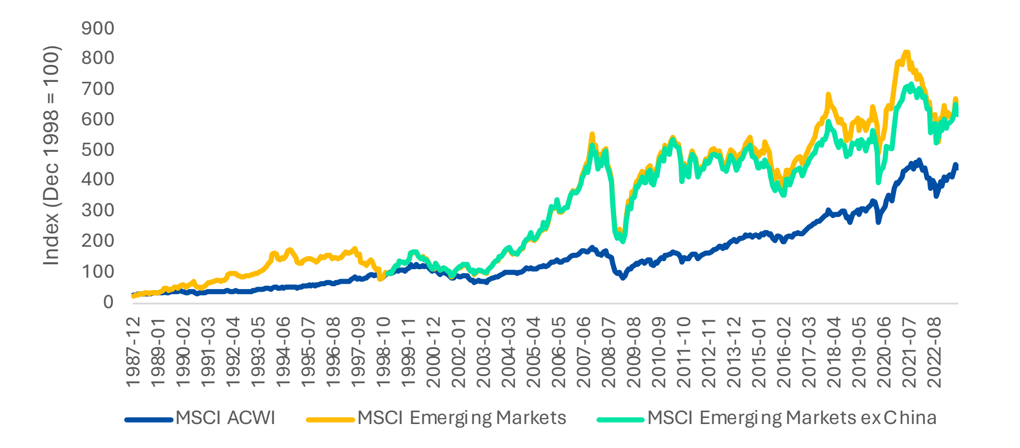
Private investors will only fill these financing gaps if EMDEs offer attractive risk-adjusted returns. The fundamentals are promising. At a macro level, historic data demonstrate a compelling structural growth story across EMDE regions. Real GDP growth in EMDEs outstripped advanced economies across every decade since 1990. Using IMF data, Figure 1 shows the cumulative gains in real GDP over this period, expressed in terms of end-decade GDP as a multiple of 1990 GDP. Aggregate economic output grew 2.8x in Advanced Economies (AEs) between 1990 and 2020, compared to 5.0x in EMDEs. All EMDE regions outside Europe outperformed AEs, with 2020 vs 1990 GDP growth multiples ranging from 3.0x in Latin America and the Caribbean to 9.1x in Emerging and Developing Asia.

Figure 1 — Economic growth across country groups



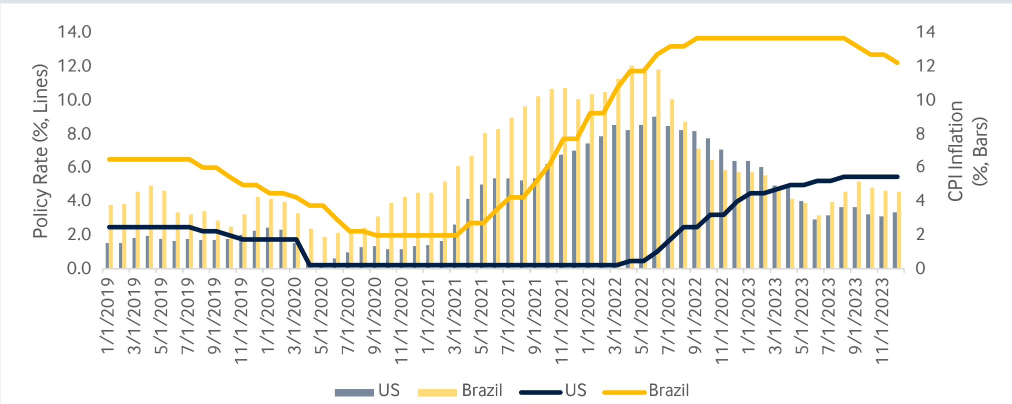
Despite poor performance relative to AEs since mid-2021, emerging market-listed equities have similarly outperformed global equities over the long term. Figure 2 shows the performance of the MSCI All Country World Index (ACWI) and MSCI Emerging Market (EM) Index from December 1987 to August 2023. Even accounting for the challenging post-COVID-19 period, the EM index posted a compound annual growth rate of 9.46%, compared to 7.99% across all countries in the ACWI. This performance has been enabled by deepening public capital markets across EMDE regions. At the end of 2022, 45 exchanges in EMDEs boasted a combined market capitalisation of ~US $22 trillion. They were home to 40% of all companies listed in member countries of the World Federation of Exchange. Listed equity data also miss most investment opportunities in developing economies, which typically have a greater share of activity in the private markets.

Figure 2 - Long-term equity market performance



In 2024, investors are again turning to EMDEs for growth and diversification. Despite interest rates in many markets staying 'higher for longer', economic growth in EMDEs is forecast to remain robust at 4.1% in 2024, compared to 1.5% in AEs. Figure 3 also shows that while the US has maintained its policy rate (lines) through January 2024, Brazil began loosening as early as summer 2023, capitalising on early, aggressive tightening and success in containing inflationary pressures (bars). Economists surveyed by Brazil's Central Bank now forecast rates as low as 9% by year-end. In this context, emerging market equities are increasingly seen as underpriced, with Lazard estimating a 30-40% discount relative to developed market and US equities in January 2024. Eurobond markets also reopened for frontier Sovereigns in January 2024, including Cote d'Ivoire's double-tranche US $2.6 billion issuance, while demand for local currency emerging market bonds had begun to rebound in December 2023.

Figure 3 – Monetary policy response since COVID-19



BOX 1 – INTRODUCING MOBILIST

MOBILIST seeks to harness the unparalleled potential of public markets for sustainable development in low- and middle-income countries by accessing institutional investors' deep pools of capital through public stock exchanges. Developed by the UK Government and delivered in partnership with the Government of Norway, MOBILIST offers equity capital to facilitate the IPO of pioneering products, technical assistance throughout the listing journey, and policy and research support to enhance the environment for issuers, investors, and intermediaries. The common thread of MOBILIST-supported products is that they mobilise capital through public markets, which are best placed to address information asymmetries commercial investors face.

Yet, economic growth may not always translate into strong stock market performance. China's relative underperformance[1] can only be fully understood by considering a recent survey, in which over 40% of foreign investors assessed China as 'uninvestable'[2]. Foreign investors increasingly worry about a possible repeat of the Russia scenario, triggered by a potential US-China conflict in the Taiwan Strait and ending with foreign assets being confiscated by local authorities. On the other hand, capital markets supported by the right policies are going from strength to strength. India most likely delivered the highest growth rate among major economies in 2023, driven by a favourable combination of domestic factors (tax and labour reforms driven by political stability, a young and growing labour force, and a rising middle class) and geopolitical realignment as foreign manufacturers relocate supply chains from China.

In the context of these macro-dynamics, this paper considers the potential contribution of public markets to closing the sustainable development and climate finance gap in Brazil and in EMDEs globally. The paper was prepared by MOBILIST (see Box 1) in collaboration with B3 and the Global Infrastructure (GI) Hub. Section 2 analyses the unique attributes of listed stocks, bonds, funds, and other products that make them well-suited to meeting financing needs in EMDEs before discussing associated risks and mitigants. Section 3 considers the specific listed structures and strategies that can make otherwise illiquid or sub-scale assets accessible to larger institutional asset allocators, with a particular focus on innovations in Brazil and the Latin American markets. Section 4 discusses the policy and regulatory enablers and constraints to increasing the contribution of public markets to financing sustainable development and climate commitments in EMDEs. The paper concludes in Section 5 with recommendations for the development finance community.

1 Since early 2021 ca. US$2tn was wiped from China's market capitalisation, as its equity index fell by 60%.

2 'Uninvestable': China's $2tn stock rout leaves investors scarred (Financial Times, Feb 3, 2024)

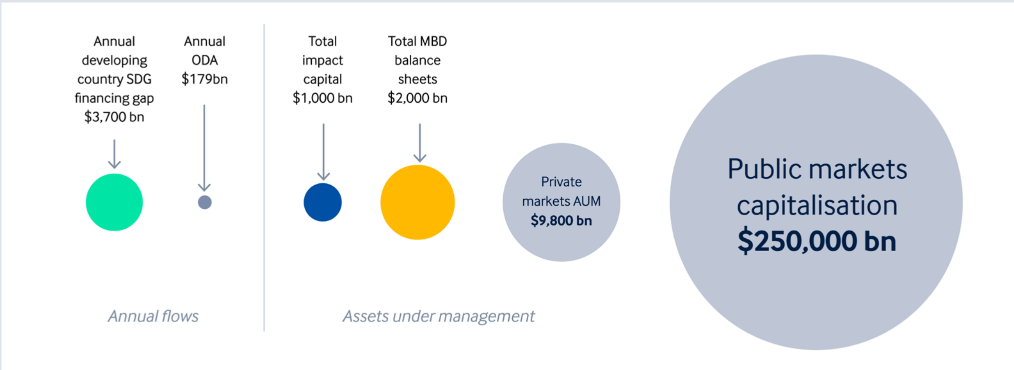
III. WHY PUBLIC MARKETS?

PROVIDING SCALE, DEEPENING LIQUIDITY, AND ENHANCING TRANSPARENCY

1. Scale

Public markets offer unparalleled scale for capital mobilisation. Most of global wealth is held by institutional investors mandated to invest primarily through listed debt and equity instruments. Figure 4 shows that stock exchanges and public debt capital markets jointly intermediate more than 20 times the amount of capital managed in private markets, 100 times the combined balance sheets of the MDBs, and 200 times impact investors' assets under management. This capital is allocated and reallocated daily, predominantly within developed markets. This means that to attract institutional investors, EMDE issuers must offer more attractive risk-adjusted portfolio returns than developed markets.

Figure 4 - Public markets' scale in context



Despite their scale, public markets can still facilitate the flow of capital into smaller and less liquid underlying assets that are more common in EMDE markets. Some stock exchanges have developed market segments and structures specifically for this purpose. For example, B3's Bovespa Mais, the London Stock Exchange Group's AIM segment and the Johannesburg Stock Exchange's AltX Board offer regulatory approaches tailored to smaller, high-growth companies. Listed collective investment vehicles and structured products, including closed-ended listed investment companies and securitisation, also facilitate the flow of capital from large allocators in public markets into smaller or less liquid projects and companies, including in private markets. These structures and strategies are discussed further in Section 3.

2. Transparency

Perhaps as important as large-scale capital flows, public markets also generate large-scale information flows. Public trading venues require extensive financial and non-financial disclosures from issuers, not only at initial listing but also regularly thereafter. Every time a listed security is traded, the transaction informs future buyers and sellers, reflecting and generating critical information related to the true value of the security. Within a context of effective regulation, perpetual price discovery accelerates the reallocation of capital from less to more productive investments, incentivising issuers to continuously learn and enhance their productivity. This transparency and information flow contrast the private market transactions that dominate official sector development finance portfolios.

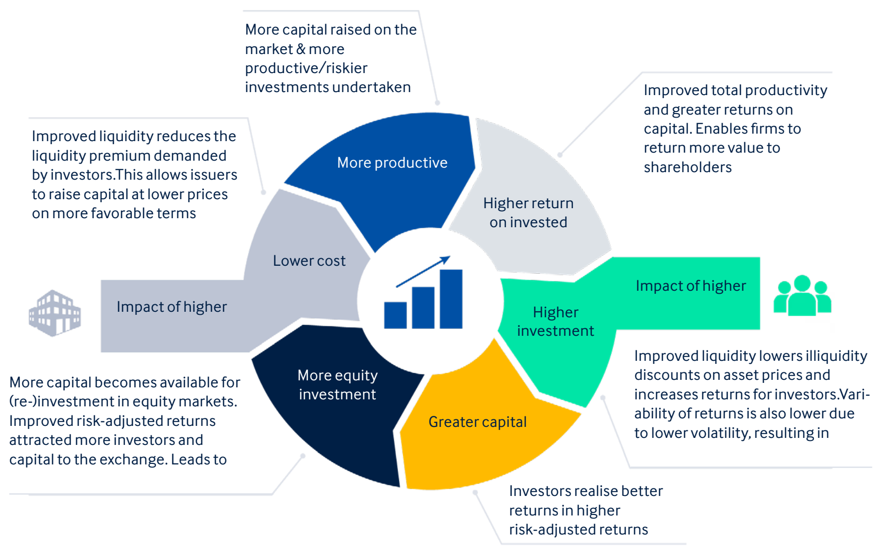
The listing process and subsequent scrutiny can act as a commitment device to ensure companies retain their focus on sustainable development impact and environmental, social & governance (ESG) risk management. Impact and ESG risk considerations are increasingly codified into regulations and standards that tend to apply more stringently to publicly listed companies and asset managers investing in listed securities. Importantly, the listing process can act as a commitment device, locking issuers into reporting standards and expectations that persist long after early investors have exited. In contrast, early investors in private markets may feel the need to 'stay the course' until their ESG and impact objectives are fully delivered, potentially delaying capital recycling.

3. Liquidity

Market liquidity is a crucial determinant of the potential of public markets to contribute to firm-level productivity and growth. Liquidity can enhance price stability and reduce volatility, which lowers risk. Lower risk reduces capital and transaction costs and enhances valuations, attracting more buyers and triggering a virtuous cycle of mutually reinforcing movements in liquidity and valuation. Liquid markets provide more accurate price signals, ensuring that capital is allocated to the most productive companies, countries, and projects, contributing to economic progress and social outcomes. Liquidity also enables the development of more sophisticated financial instruments, which enhances risk management and attracts more sophisticated and higher-quality issuers, investors, and intermediaries.

More liquid public markets can also contribute to macroeconomic stability and sustainable economic development across an entire country or region. Liquid capital markets improve the effective transmission of monetary policy and enhance systemic risk management, thereby promoting financial stability. Liquidity can enhance exchange rate stability and hard currency reserves by attracting capital inflows. Liquid capital markets tend to indirectly reduce the cost of capital as banks and other lenders are forced to consider the existence of a low-cost capital market alternative when setting credit conditions and interest rates. In turn, the lower cost of capital leads to more corporate investment. This creates greater growth, more jobs and higher tax collection, ultimately generating better returns for savers and more capital to be reinvested (see Figure 5).

Figure 5 - The virtuous circle of a liquid equity market



Source: Oliver Wyman: Enhancing Liquidity in Emerging Market Exchanges (World Federation of Exchanges)

4. Public market mobilisation in Latin America

In many ways Latin American capital markets provide the perfect illustration of the interplay between a liquid (equity) capital market, capital inflows, and the country's development and growth path. The positive correlation[3] between capital market liquidity and growth in GDP per capita (Figure 6), and between foreign direct investments and GDP per capita growth (Figure 7), illustrate that despite concerns over excessive reliance on foreign capital flows, over time countries with liquid capital markets, sound macroeconomic policies and stable regulatory environment are more likely to experience superior economic growth.

Figure 6 – Liquidity vs GDP per capita growth (2009-2020 annual average)

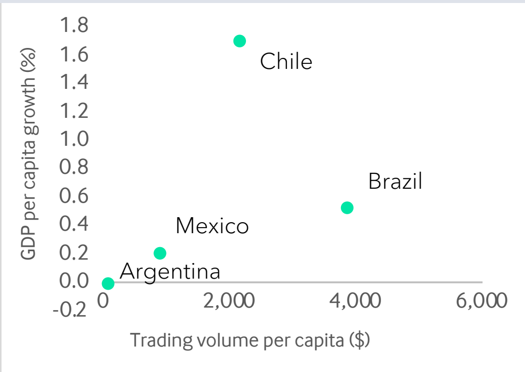
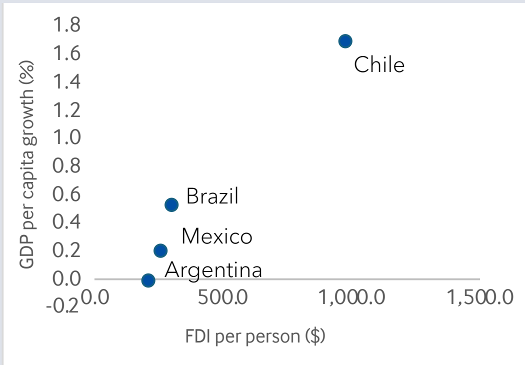


Figure 7 – FDI per capita vs GDP per capita growth (2009-2021 annual average)



Source: https://data.worldbank.org/indicator

5. 'Sudden stops' and strategies of currency risk mitigation

Despite these unique advantages, public markets also pose distinct risks. 'Sudden stops'[4] and reversals in foreign capital flows can have significant market and macroeconomic impacts. The frequency of sudden stops has not declined over the last 30-35 years. Their underlying causes have, however, become far more global in nature and are more often beyond domestic policymakers' control.[5] Where most EMDE crises before 2003[6] were homegrown, more recent 'sudden stops' have typically been triggered by global events[7]. Moreover, the observed duration and severity of sudden stops appear to have declined so much that some of recent 'sudden stops' were renamed 'sudden pauses[8]. Both trends seem to suggest that EMDE countries in general, and Latin American countries in particular, have learned from pre-2003 crises and were better prepared to weather the more recent drops in global risk appetite.

So, what are the remedies to the risks of sudden stops? Policymakers have experimented with several strategies to minimise the duration and economic impact of sudden stops. Some measures, such as floating exchange rate regimes[9] and countercyclical fiscal policies,[10] have delivered notable results. The impact of capital controls[11] was far more mixed. Measures to maintain repatriation and liquidity during crisis periods could go a long way to mitigate the risks of sudden capital withdrawal, preventing a more widespread economic malaise.

Maintaining currency convertibility is a major priority for investors and should not be confused with managing exchange rate risk, which is an accepted part of overall investment risk. Strategies such as offshore listing through global depository receipts (GDRs) may remove repatriation risk (though often at the price of lower liquidity). However, it does not provide protection against exchange rate volatility. Figure 8 shows the performance of an offshore listed

3 44% and over 90%, respectively.

4 "Sudden stops are extreme dry-ups in foreign finance that lead to a sharp tightening of credit constraints with potentially substantial economic costs" (Cavallo and Powell, 2019).

5 Barry Eichengreen and Poonam Gupta: Managing Sudden Stops (World Bank, April 2016); Carlos Gonçalves, Antonio David, and Samuel Pienknagura: Capital Flows to Latin America in the Aftermath of the Commodities Super-Cycle (IMF, Oct 2019); Antonio C. David and Carlos Eduardo Gonçalves: In Search of Lost Time: Examining the Duration of Sudden Stops in Capital Flows (IMF, Nov 2019)

6 See the Tequila (1994), the Asia (1997), the Russia (1998), the Argentine and the Turkey (2001) crises.

7 See the Global Financial Crisis (2008-2009), the Taper Tantrum (2013) and the COVID epidemic (2020).

8 Barry Eichengreen and Poonam Gupta: Managing Sudden Stops (World Bank, April 2016)

9 Floating exchange rate regimes shorten the period of economic slowdown by 30%. See for detailed analysis: Antonio C. David and Carlos Eduardo Gonçalves: In Search of Lost Time: Examining the Duration of Sudden Stops in Capital Flows (IMF, Nov 2019)

10 See for in-depth analysis: Enrique Alberola, Iván Kataryniuk, Ángel Melguizo and René Orozco: Fiscal policy and the cycle in Latin America: the role of financing conditions and fiscal rules (BIS, Jan 2016)

11 As the IMF's in-depth analysis concludes: "Changes in capital account restrictions do not seem to matter." Antonio C. David and Carlos Eduardo Gonçalves: In Search of Lost Time: Examining the Duration of Sudden Stops in Capital Flows (IMF, Nov 2019) Other cross-country data analysis also reached the same conclusion. See Sebastian Edwards: Capital Controls and Capital Flows in Emerging Economies: Policies, Practices, and Consequences (2007)

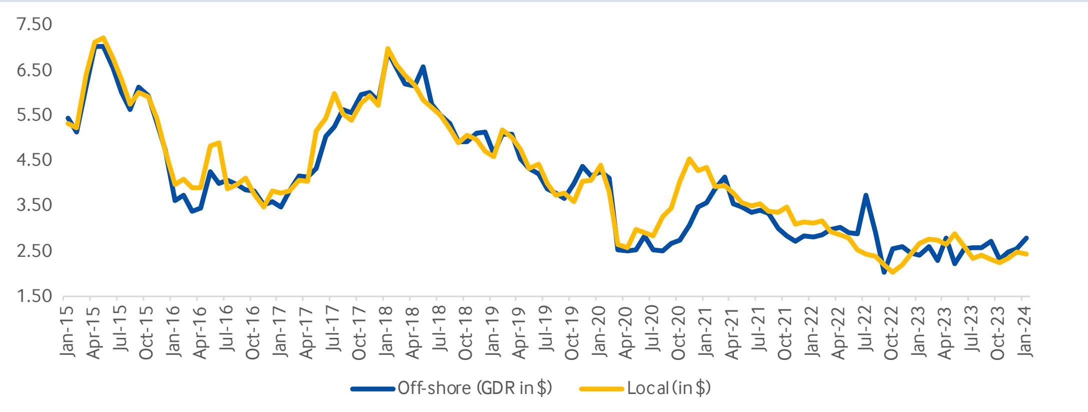
instrument against a local one in the same underlying asset over an 8-year period. Interestingly, the local line traded at an average share price premium of 2.5%.[12]

The market did not reward the USD-traded GDR despite the assumption of its lower foreign exchange risk. In our view, this was for two reasons:

a. The offshore line could not provide any protection against exchange rate volatility, since the share price was driven by the fundamental value of the underlying asset, which was 100% exposed to local currency risk.

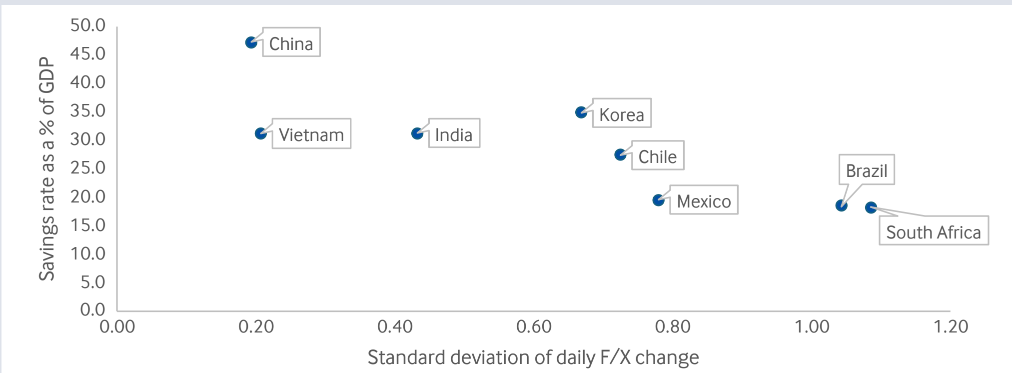
b. Although selling the GDR line always guaranteed a USD receipt, when repatriation was suspended, offshore liquidity disappeared as valuation of the underlying asset became near impossible. In this case, the liquidity risk of the offshore line overrode the repatriation risk of the local line.

Figure 8 – Guaranty Bank Nigeria offshore GDR and local price comparison in USD [13]



The initial focus of policymakers should, therefore, be to support a viable domestic savings industry to withstand capital outflows in times of global economic turmoil. Large scale foreign participation should only be encouraged if a certain level of domestic involvement is already ensured[14]. Historically, Latin American economies' relatively large gap between investments and savings made them more reliant on foreign capital and hence more exposed to 'sudden stops'[15] and so exchange rate volatility (see Figure 9). While daily currency volatility is driven by many factors, the argument that a strong, domestic savings industry reduces currency risk is evidenced by the significant negative correlation coefficient of over 80% in Figure 9.

Figure 9 – Domestic savings vs F/X risk (2005-2024)[16]



12 Periodically the gap is larger as we used the official exchange rate, but in times of economic distress, currencies cannot be converted at the official rate which impacts the arbitrage between the local and the offshore line.

13 Sources: https://www.marketwatch.com/investing/stock/gtco?countrycode=uk and https://www.cbn.gov.ng/rates/ExchRateByCurrency.asp?CurrencyType=$USD

14 Foreign investors prefer to invest in exchanges which are supported by a sizeable domestic savings industry, as it gives them confidence that they can find an exit strategy even during times of global economic turmoil. Local investors also welcome foreign participation as it typically brings better reporting and regulatory standards, including minority shareholder protection.

15 This gap averaged 4% of GDP during 2000–17 in the region, compared to an average of 1.5% of GDP in other EMDEs. Source: Carlos Gonçalves, Antonio David, and Samuel Pienknagura: Capital Flows to Latin America in the Aftermath of the Commodities Super-Cycle (IMF, Oct 2019)

IV. FROM THEORY TO INVESTMENT AND IMPACT

The growth of investment products aligned more specifically with sustainable development and climate commitments continues to accelerate in EMDEs. According to Bloomberg, global ESG assets are on track to exceed US $53 trillion, and the ESG debt market could swell to US $11 trillion by 2025. The voluntary carbon market is now worth approximately US $2 billion and the compliance carbon market over US $850 billion across 30 markets worldwide. Both these markets are growing rapidly. Analysis from S&P Global Ratings suggests that despite stagnating global bond issuance; green, social, sustainable, and sustainability-linked bond issuance in 2023 was on course to (i) outpace traditional bond issuance, (ii) return close to 2021 levels in USD terms, and (iii) claim the highest ever percentage of global bond issuance (14-16%, up from 13% in 2022 and just 5% in 2019).[17]

Yet, new product structures and listed investment strategies are needed to reach EMDEs and finance assets central to their sustainable development and a just climate transition. Important precedents in this regard are emerging across MOBILIST's global pipeline and portfolio, as well as Brazil and the Latin American markets. This section considers each in turn.

1. Structures and strategies from MOBILIST's portfolio/pipeline

MOBILIST's investments aim to demonstrate the viability of new asset classes and investment strategies, triggering replication by market participants across different regions and sectors. The following focuses on those listed structures that are perhaps less well-understood but hold significant promise by eliminating information asymmetries while delivering acceptable risk-adjusted return, impact, and liquidity in a public market setting. These structures include infrastructure securitisation, closed-end investment companies, innovative guarantee platforms, corporate IPOs, and special purpose acquisition companies (SPACs). Each has unique advantages and potential drawbacks in the context of financing sustainable development and climate commitments in EMDEs.

a. Infrastructure securitisation

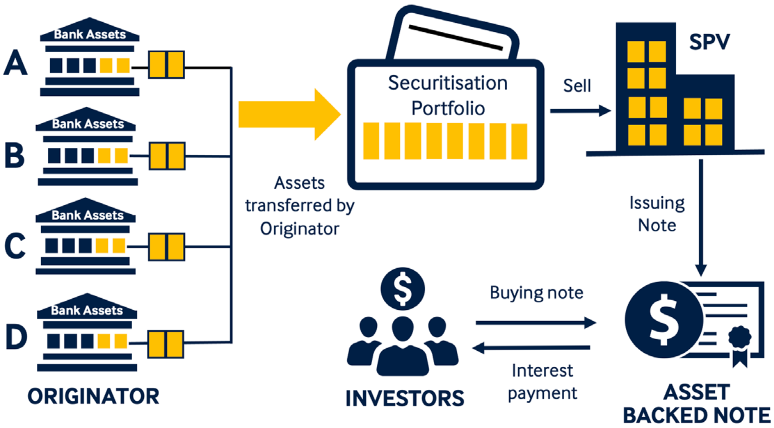
Securitisation – the process of repackaging illiquid assets into tradeable, liquid, interest-bearing securities – has a significant role to play in private capital mobilisation. The proposals on long-term investment advanced by the G20 Infrastructure Working Group and the joint G20/OECD Taskforce highlight the potential of securitisation to increase institutional investors' exposure to well-defined brownfield infrastructure assets. This potential is strengthened by securitisation's scope for scalability and replicability. These proposals also include a specific opportunity to recycle MDB and Export Credit Agency capital by securitising infrastructure loans originated by official development finance institutions (DFIs) once these assets have been de-risked and reached operational status.

MOBILIST's investment to catalyse a recent infrastructure asset-backed securitisation (IABS) listed in Singapore demonstrates this potential. MOBILIST invested in preference shares in Bayfront Infrastructure Capital (BIC) IV Pte Ltd, the fourth IABS vehicle to be sponsored by Bayfront Infrastructure Management, a Singapore-based platform. Bayfront seeks to address the infrastructure financing gap in the Asia Pacific region and globally by establishing sustainable, listed IABS as an asset class. IABS allow originating banks to accelerate the rate at which they can recycle capital to finance new infrastructure projects while offering institutional investors exposure to smaller, illiquid underlying projects across multiple geographies through a well-understood listed structure.

MOBILIST's contribution played a catalytic role in the transaction. By investing in preferred shares MOBILIST assumed a higher risk and higher return position in the capital structure. MOBILIST committed an anchor investment of up to US $20.4 million in the vehicle and received a final allocation of US $5 million, given investors' robust demand for the notes. The overall transaction catalysed over US $410 million of institutional investment – including from investors in North America and Europe – into a diversified pool of infrastructure projects. Some 7% of projects by size

17 https://www.spglobal.com/esg/insights/featured/special-editorial/global-sustainable-bonds-2023-issuance-to-exceed-900-billion

Figure 10 – Understanding Securitisation[18]



were in Brazil. BIC IV demonstrates that investments in the equity tranche of a debt securitisation vehicle are commercially sound and can have a significant multiplier effect by accelerating capital recycling among originating banks.

b. Closed-end investment companies

Listed investment companies have been financing emerging market infrastructure since the 19th Century. The UK's investment trust structure is an example of a listed investment company that offers institutional and retail investors access to diversified portfolios of smaller and less liquid assets through tradeable shares in a listed company. Investment trusts have several advantages:

1. The closed-end nature of the structure gives trust managers long-term horizons, allowing them to invest in EMDE growth and avoid forced sales during cyclical downturns.

2. Investment trusts are run by managers who specialise in the underlying asset class, which is vital given the unique risks in certain sectors and in EMDEs.

3. Investment trusts are collective investment vehicles that can aggregate smaller, less liquid underlying assets – which are common in EMDEs – into diversified portfolios held by the larger and more liquid listed investment company.

4. An independent board offers robust governance that can be enhanced with additional safeguards to protect shareholder interests when necessary.

5. As listed companies, investment trusts are subject to additional scrutiny over ESG risks.

MOBILIST has received proposals for several investment trusts across EMDE regions, sectors, and asset classes. Underlying assets in these proposals include renewable energy in Asia, sustainable agriculture in Latin America, and pre-IPO companies across global emerging markets. Underlying assets also cover a range of classes, from project finance to loans to agriculture crop producers to listed equities in the real economy and financial institutions. Each investment trust would be managed by a specialist in the geography, sector, and asset class in question and overseen by an independent board. Each proposition includes unique features tailored to the underlying assets, including measures to mitigate risks of over-gearing and conflicts of interest. Further details on these propositions will be made public at the point of IPO.

c. Guarantee structures for listed products

Guarantee schemes can play a critical role in unlocking private capital at scale, especially when collateral is scarce[19] and risk misperceptions are acute[20]. Guarantee schemes transfer the risks[21] that investors usually face to a third party (see Figure 11). Guarantees provide a valuable, cost-efficient bridge for EMDE borrowers to reach maturity and establish a track record to enable them to graduate to borrowing without credit enhancement. Guarantee fees are relatively low

18 Source: MOBILIST: Securitisation for Sustainable Development (Aug 2023)

19 Source: Menkhoff, Neuberger, Rungruxsirivorn: Collateral and its Substitutes in Emerging Markets' Lending (Journal of Banking and Finance, Sep 2011)

20 Moody's research shows that EMDE project default rates are similar to those of developed economies. In fact, "expected loss provisions of guarantees are typically higher than actual claims by a factor between 7 and 20." Blended Finance Taskforce: Better Guarantees, Better Finance (2023) p. 18 See also Moody's (2023): Default and recovery rates for sustainable project finance bank loans, 1983-2020

21 Given the most common risks in EMDEs, there are three broad types of guarantees in development finance: credit, political risk and currency guarantees. Source: Blended Finance Taskforce: Better

Figure 11 - How do guarantee schemes work? [25]

compared to the elevated borrowing costs these companies face without credit enhancement.[22,23] By reducing risk and even transforming sub-investment grade assets into investment grade securities, guarantees can offer best-in-class mobilisation rates that outperform other financial instruments by up to 5-6 times[24].

Yet, guarantees remain underutilised in developing economies, the very markets in which they could add most value due to a lack of collateral and acute risk misperceptions. For this reason, MOBILIST invested in the Green Guarantee Company (GGC), a specialist commercial guarantor for green securities. GGC will issue guarantees and provide technical assistance to enable developing country borrowers to raise financing through listed hard currency green bonds and other green instruments. GGC is the first specialist guarantor for emerging market climate adaptation and mitigation projects[26] such as energy access and power generation, green buildings, cities, and industries, low emission transport, and forestry and land use projects. GGC seeks to enable borrowers from developing markets to access capital traditionally destined for investment-grade instruments. GGC could achieve a 10 times mobilisation ratio by targeting a BBB rating, with a US $100 million guarantee fund potentially able to unlock US $1 billion in green financing from commercial investors.

d. Corporate IPOs and SPACs

Investing in corporate IPOs with pioneering attributes may be the most readily replicated approach to mobilising capital through the public markets. For example, MOBILIST recently invested in the US $205.4 million IPO of Thai Credit Bank on the Stock Exchange of Thailand. Thai Credit is the only licensed bank in Thailand that focuses on nano-finance, microfinance, and loans to micro, small, and medium enterprises and the first financial institution serving this segment to list on the Thai stock market. Thai Credit will use proceeds from the IPO to expand lending to MSMEs, including women-owned and rural businesses. Moreover, this innovative IPO creates much-needed public information concerning the viability of microlending in South-east Asia, behind which other issuers and investors may follow.

In addition to investing in the direct IPOs of pioneering corporates, MOBILIST has received proposals for listing companies through SPACs. SPACs could offer EMDE companies lower funding and transaction costs than traditional IPOs and could accelerate the listing process for medium-sized businesses that otherwise would take years to become eligible for traditional listing. While SPACs are typically attractive to investees, asset allocators have become wary of the potential for misalignment in the incentives between the SPAC sponsor and other investors.

One innovative deal structure proposed to MOBILIST by a highly credible sponsor combined a traditional SPAC acquisition with a private investment in public equity (PIPE) that included a considerable contribution from the SPAC sponsor. This approach ensures almost complete alignment between the interests of the sponsors and co-investors. Using SPACs with the appropriate safeguards[27] could generate valuable learnings to encourage EMDE regulators and issuers to consider their advantages vis-à-vis traditional IPOs while mitigating downside risks to investors.

22 Source: https://www.managementstudyguide.com/pros-and-cons-of-bank-guarantees.htm

23 Source: Montana Department of Revenue: High Yield Study (based on corporate bond yields in 2021)

24 Blended Finance Taskforce: Better Guarantees, Better Finance (2023) p. 5

25 Source: MOBILIST: Guarantees for Sustainable Development – Achieving 10x Mobilisation (Oct 2023)

26 Ibid.

27 See for more detailed analysis: Frank Fagan & Saul Levmore: SPACs, PIPEs and Common Investors

2. Innovations and insights in Brazil's Capital Markets

B3 has been supporting a number of projects and products that can facilitate the flow of sustainable capital at scale. For example, the B3 ESG Workspace aims to provide meaningful, reliable ESG data with a focus on Brazil to help investors and other decision-makers allocate capital towards opportunities in line with their goals, improving risk perception and investment narratives. B3 is also a member of the Brazilian Initiative for Voluntary Carbon Markets and is helping develop a carbon data platform to support the development of high-integrity voluntary carbon markets.

B3 has partnered with MOBILIST to develop new scalable and replicable listed financial products to invest in sustainibility in Latin America. A number of instruments could pave the way for inventors to reassess their decision-making process towards a more resilient capital allocation strategy. Key innovations include green securitisation, listed infrastructure bonds, and listed investment funds tailored to smaller, less liquid, and innovative underlying assets. These structures are of broad relevance to other countries in the region and may be replicated to mobilise private capital across EMDEs globally.

a. Green securitisation

Brazil's green, sustainable securitisation market stands out within the Latin America and Caribbean region, offering a unique avenue for financing environmentally conscious projects through Asset-Backed Securities (ABS). ABS, a well-established debt instrument in Brazil, play a vital role in financing smaller projects across sectors like agriculture, forestry, and bioenergy. The Climate Bonds Initiative identified five benefits to issuers of Brazil's securitisation market[28] (i) Access to deep pools of capital, (ii) lower cost of capital for the issuer and so for underlying projects, (iii) fostering market competitiveness, (iv) scalability of local GSS+ debt market, and (v) leveraging financial entities' lending capacity. Brazilian case studies across a range of underlying assets demonstrate the potential for thematic securitisation to mobilise finance at scale.

Solinftec is an agricultural technology firm that has pioneered sustainable crop production automation through a unique platform, integrating AI, algorithms, and hardware for real-time machinery coordination and agrochemical optimisation. Utilising Gaia Securitizadora's Agribusiness Credit Rights Certificates (CDCA), Solinftec secured US $27 million to enhance operations and develop smart solutions, promoting agricultural productivity and environmental preservation. These CDCAs were sourced from contracts between Solinftec and its clients, who purchased the company's smart, automated solution. This innovative financing approach not only meets Solinftec's needs but also addresses growing capital market demands, highlighting securitisation's potential role in supporting sustainable agriculture.

Across markets, the rise of green, social, and sustainable securitisation brings new regulatory considerations. For example, the EU has integrated consideration of green securitisation in the wider context of forthcoming European Green Bond Regulations. As the European market for green asset-backed securities is still immature, the regulator has not opted for a standalone treatment of green securitisation.[29] Instead, draft European regulations allow for voluntary 'green' designation provided an asset satisfies certain requirements concerning the underlying exposures, use-of-proceeds, and transparency. This approach aims to minimise the burden on the growth of Europe's green securitisation market while preventing greenwashing. Specifically, the draft regulations from which Brazil and others can learn:

- Explain that by default, the term 'issuer' will apply to the 'originator', ensuring that obligations relating to the use of proceeds cascade down to underlying assets.
- Exclude synthetic securitisations.
- Exclude securitisation of certain operations, including those related to fossil fuels.
- Specify disclosure requirements relating to the use of proceeds on a best-efforts basis and in alignment with the EU Taxonomy Regulation.[30]

b. Infrastructure bonds

Brazil's infrastructure bond market serves as a crucial mechanism for funding large-scale development projects. These bonds were first issued in 2012 and offer income tax exemptions on interest and capital gains, contingent upon funds being used to finance infrastructure expenditure.[31] Infrastructure bonds have a minimum duration of four years at issuance, are denominated in reais, and trade in local markets under national jurisdiction. The value of issued

28 Source: https://www.climatebonds.net/files/reports/cbi_bra_sec_2022.pdf

29 Source: https://www.whitecase.com/insight-alert/draft-eugb-regulation-and-implications-future-green-abs

30 Source: https://www.ashurst.com/en/insights/the-eus-new-green-bonds-regulation-and-its-newfound-approach-towards-securitisation/#:~:text=EU%20Green%20Bonds%20and%20Securitisation&text=The%20EU%20Green%20Bonds%20Regulation%2C%20effective%20as%20of%2021st%20December,participants%20in%20the%20securitisation%20market

31 Source: https://publications.iadb.org/publications/english/viewer/Infrastructure-Bonds.-The-Case-of-Brazil.pdf

bonds peaked at US $9.5 billion in 2019 and stabilised in the years after at US $4-6 billion, with the total number of bonds issued since the program's initiation surpassing 400.

This structure emerged in response to heightened capital costs associated with bank loans under Basel III regulations. Investors benefit from a reduced tax rate of 15% compared to a standard rate of 25%, which attracts high-income Brazilian savers since it applies to both locals and non-residents. Individuals currently represent 27% of total primary market operations, mutual and investment funds represent 20%, other banks and financial intermediaries 22%, and corporations and foreign investors the remaining 10%.

Iguá, one of Brazil's largest sanitation companies, issued the first certified green bond in Latin America exclusively dedicated to water sector infrastructure. Iguá achieved the Climate Bonds Standard Certification for Water Infrastructure and issued approximately BRL3.8 billion (US$ 700 million) in 2022. The funds are being used to capture, treat, and distribute water. Bureau Veritas serves as the verifier for the underlying assets. Additionally, Iguá made a public commitment to reduce its CO_2 emissions, advancing in the construction of the "Carbon Neutral" plan by 2030.

A new regulation implemented in January 2024 introduced infrastructure debentures[32] that confer tax benefits to the issuer[33] rather than only to the investor, as incentivised debentures previously did. To make these instruments more attractive to foreign investors, the new law allows these bonds to contain an exchange rate variation clause. This means that the return payable to investors is calculated at the rate of exchange actually paid by the vendor and not the exchange rate in the quotation. However, tax incentives for investors are less clear-cut compared to the previous law regulating incentivised debentures. The new law incentivises investors to hold these instruments in the long run as they will be taxed at a progressively lower rate: 22.5% up to 180 days, 20% from 181 to 360 days, 17.5% from 361 to 720 days, and 15% from 721 days. Instead of guaranteeing income tax exemptions for foreign investors, the law opted to apply a 15% tax rate in line with international efforts to avoid tax evasion.

These instruments could provide the much-needed impetus to the next stage of sustainable infrastructure investing in Brazil. It could also help to ease fears that the government – similarly to the 2010s – intends to rely primarily on BNDES to fund infrastructure spending, potentially crowding out private sector finance.[34]

c. Listed investment funds

Brazil's dynamic listed funds market offers investors exposure to a wide range of asset classes including listed equities, agriculture, SMEs, private equity, and infrastructure among others. This market includes closed-end funds, similar to the UK's investment trust structure, and open-end funds, such as exchange-traded funds (ETFs). Box 2 summarises the range of listed fund structures and collective investment vehicles available in Brazil. For example, ECOO11 (the iShares Efficient Carbon Index (ICO2) Brazil Index Fund) prioritises companies with lower greenhouse gas production by adjusting portfolio weights accordingly. Similarly, BB ETF (Índice Diversidade B3 Investimento Sustentável Fundo de Índice or BB ETF DVER) offers a diversified strategy that tracks the B3 Diversity Index, which includes companies with strong diversity and sustainability practices.

One of the biggest risks of listed funds, especially those comprising unlisted underlying assets, is a potential conflict of interest. The fund manager may hold similar assets or assets under similar mandates and, as a result, may face decisions of potential asset transfers/transactions that could put their own interest at odds with that of their investors. However, Brazilian regulations specifically address the conflict-of-interest limitation for less sophisticated retail investors while trusting institutional investors to conduct their own due diligence to uncover potential conflicts of interest.[35]

32 Source: https://www.mayerbrown.com/en/insights/publications/2024/01/infrastructure-financing-new-options-and-incentives-for-financing-in-brazil

33 "Under the framework for infrastructure debentures, the issuer can deduct an additional 30% of the interest paid to their holders from the Corporate Income Tax and Social Contribution on Net Profits."

34 Source: https://www.euromoney.com/article/2cxku4z58isw0969yzfnk/opinion/why-is-brazil-changing-laws-that-govern-tax-free-debentures

35 "Some types of AIFs, such as FIIs, FI-Infras, and FIDCs complying with certain minimum regulatory requirements designed to protect less sophisticated investors (e.g., permitted investments only in senior quotas, existing and pre-defined distribution schedules, mandatory rating for senior quotas and restrictions on conflicts of interest), may be marketed to retail investors."
Source: https://iclg.com/practice-areas/alternative-investment-funds-laws-and-regulations/brazil

BOX 2 – LISTED FUNDS IN BRAZIL'S CAPITAL MARKETS

Fundo de Investimento Imobiliário (FII) *(Real Estate Investment Fund)*

- Can hold debt instruments, including mortgage-backed CRI and LCI
- Can finance real estate development projects only
- Closed-end structure only
- Most are permanent capital vehicles
- Funds shares traded on secondary markets

Fundo de Investimento Financeiro (FIF) *(Financial Investment Fund)*

- Can hold multiple underlying assets, including shares, government bonds, private bonds
- Can be open- or closed-end
- Fund manager devises investment strategy
- Investments through primary or secondary markets
- Up to 10% of the fund net worth can be invested in alternative assets, such as regulated carbon credits and decarbonisation credits (CBIO)

Fundo de Investimento em Direitos Creditórios (FIDC) *(Real Estate Investment Fund)*

- Can hold debt instruments, including mortgage-backed CRI and LCI
- Can finance real estate development projects only
- Closed-end structure only
- Most are permanent capital vehicles
- Funds shares traded on secondary markets

Fundo de Investimento em Participações *(Equity Participation Funds)*

- Can hold shares of limited, public and private companies
- Closed-end structure only
- Only qualified investors can invest in FIPs
- Investments on primary or secondary markets

Exchange-Traded Funds

- Holds multiple underlying assets, generally tracking an index
- The CVM must recognise the tracked benchmark index
- Open-ended structure only
- No end-date
- Open to wide range of investors
- Investments on primary and secondary markets

Fundo de Investimento nas Cadeias Produtivas Agroindustriais (FIAGRO) *(Investment Fund in Agro-industrial Productive Chains)*

- Adapted and optimised version of FII for agribusinesses
- Can hold multiple underlying assets (CRA, LCA, CPR, CPR Verde) related to agribusinesses such as real estate, credit rights, shares of companies, debt instruments
- Can be open- or closed-end
- Investments on primary or secondary markets

V. POLICY AND REGULATORY ENABLERS

Developing liquid, productive, and impactful public capital markets requires coordinated policy and regulatory action at several levels. Global policy and regulation should, at a minimum, protect investors by accurately reflecting relative risk across assets and markets. Domestic macroeconomic policy should support (and be supported by) efforts to build public capital markets, which should include action on demand, supply, trading venues, and efficient regulatory oversight. On domestic market development, MOBILIST research calls for iterative progress on each of these four foundational building blocks without advancing too far ahead with any of them.

1. Minimising global regulatory frictions

Significant changes in the global regulatory framework following the Global Financial Crisis have shaped how capital flows to EMDEs. These regulations included strengthening capital requirements, improving risk management practices, and increasing transparency in financial transactions. Examples include major regulatory standards and frameworks that have affected capital flows to EMDEs, such as Basel III, MiFID II, and Solvency II, and emerging policy, guidance, and regulations relating to the mainstreaming of environmental, social, and governance (ESG) considerations and transition planning in asset allocation. In each of these areas, MOBILIST research identifies the risk of capital diversion from EMDEs, in some cases, with questionable regard to relative risk across markets and potential unintended consequences. Increasing focus on transition and momentum in ESG and emissions scoring is a promising example of standards that emphasise the journey rather than penalising investors and issuers at earlier stages of development (see Box 3).

MOBILIST research on each of these policy and regulatory topics identifies the critical importance of amplifying EMDE voices at the policymaking stage. While the share of EMDE representatives in key forums has undoubtedly increased in recent years, the influence of EMDEs over the ultimate standards set by these bodies is less apparent. For example, the Basel Consultative Group provides a platform for EMDE views but focuses primarily on regulatory implementation rather than standard setting. Interviews with regulators and policymakers conducted for MOBILIST research underscored this observation, highlighting the dominant role of AE countries in shaping banking standards. This is partly because the current approach to regulation development relies heavily on 'soft law' formulated through consensus, wherein technical analysis and evidence preparation are integral. Generating such evidence poses challenges for smaller EMDEs due to high costs and complexity. Building alliances, both among major EMDE countries and through regional groupings, can further strengthen their influence in shaping global regulatory frameworks, particularly through platforms like the G20, where collaboration between AEs and EMDEs is vital.

2. Developing domestic demand and attracting foreign capital

In addition to ensuring the global financial architecture represents EMDE interests, the experience of a wide range of emerging markets suggests that growing domestic savings is central to local capital market development. 'Push factors' to deepen domestic savings could include: (i) Reform of the pensions system through mandatory contributions and tax incentives, as is the case in Brazil; (ii) reducing barriers to investing through mutual fund products for retail investors, for example via online distribution as in India; (ii) relaxing regulatory constraints on equity investing, for example by allowing pension funds to invest in earlier stage, higher-growth companies; (iv) offering discounts on IPOs of state-held companies, as in Spain during the 1990s; and (v) structuring tax incentives for long-term productive investment. For example, the CEEMAC region has generous tax benefits for government bonds. At the same time, the Philippines abolished stamp duty on stock market trading in 2009 and in Thailand retail investors are exempted from capital gains taxes on share trading.

BOX 3 – TRANSITION PLANNING IN EMERGING MARKETS

MOBILIST research identified the risk that the mainstreaming of ESG considerations in asset allocation could divert capital from EMDEs. One reason for this was the penalisation of polluting industries and firms and limited consideration of transition from carbon-intensive to greener activities. Momentum has been building to mainstream transition planning and transition finance in guidance, policy, and regulation globally.

One such initiative is the Transition Plan Task-force (TPT), established by the UK Government in April 2022 to develop the gold standard for private sector climate transition plans. TPT's disclosure framework was published in October 2023, setting out good practice for robust and credible transition plan disclosures. Through its work, TPT engaged with EMDE stakeholders to discuss the opportunities that transition planning may represent in addressing the risk identified among real economy and financial institutions in these markets, as well as to understand potential challenges. Key themes from this engagement will be published during 2024, emphasising the need for multilateral processes to centre EMDE perspectives.

One major opportunity is the prioritisation by the G20 Finance track of advancing credible, robust and just transition plans, intended to deliver countries' greenhouse has emissions goals with fairness, and taking into considera-tion their social development and them impact of these processes on the lives of the popula-tion, with an initial focus on cement and steel sectors.

Providing the right level and type of support for the domestic savings industry is crucial for the stability of public markets. For example, overwhelming support for retail as opposed to institutional investors or limiting the foreign asset allocation of local market participants to inflate demand for domestic assets artificially could lead to asset price bubbles.[36] Similarly, establishing tax incentives for equity investors would affect the flow of capital into other investments and may, in aggregate, affect public sector finances. While encouraging domestic retail investors to invest in equities certainly helps to create a diversified domestic savings industry, it must be combined with efforts to improve financial literacy, education, and protection of retail investors.

Attracting foreign capital is also crucial but must be pursued iteratively as domestic markets mature. A more diversified investor base, with differing opportu-nity costs, investment objectives and time horizons, brings more liquidity and, hence, stability to the local exchange. Domestic investors also benefit from increased transparency, better reporting standards, improved corporate governance standards, and higher liquidity – all of which foreign investor participation typi-cally helps to instil. Apart from the important issues of regulation, repatriation, and liquidity covered in an earlier section of this report, policymakers also need to focus on is payment channels, custody, settlement, and cost of tax compliance.

Streamlining bureaucracy and calibrating taxes are also important to attract foreign capital. While it may seem politically expedient to charge foreign investors capital gains tax (CGT) and withholding taxes, often, this can force them to avoid smaller markets with low index weights if it is too costly to comply with complicated local tax rules. While abolishing investment-related taxes may initially deprive the budget of revenues at the margin, it could ultimately bring in higher tax revenues by lowering the cost of capital and ultimately facilitating higher investment, growth, and job creation. For example, although there is CGT in Kazakhstan, local rules still stipulate that foreign investors must hire a local tax accountant or lawyer to look after their affairs. This could lead to a situation where, while the tax is not an issue, the cost of tax compliance could outstrip the potential upside of the planned investment, especially in more marginal markets where the unit size of investments tends to be relatively small. Large and liquid capital markets can afford to be more prescriptive in their rules and regulations as foreign investors cannot afford to ignore them. For example, India has tight ownership regulations for foreign institutional investors, yet there is relatively little causal evidence that foreign portfolio inflows were restricted.[37]

36 A good example of how limiting the foreign asset allocation of local investors combined with a relatively small local exchange could lead to overheated valuations is Casablanca Stock Exchange in Morocco, where the price earnings ratio has been trading at a premium compared to most global exchanges over the last 10 years.

37 See the in-depth analysis from Renu Kohli and Agnes Belaisch: Do Capital Control Matter in India? (Nationa Council of Applied Economic Research, July 2011)

3. Well-regulated public markets: the correct sequencing of priorities

When creating a well-regulated public trading venue, the correct sequencing of priorities is crucial. Policymakers' focus should be different at the early-stage of capital market development as opposed to policy emphasis at the mid- or late-stage of capital market planning. In mature EM markets like Brazil, key issues can include:

- **Technological advancement.** This could include introducing real-time order book data, allowing traders to assess the depth of demand for individual stocks and enabling investors to minimise the trade's price impact and execution cost. Co-location services could also be considered to cut latency in execution and in algorithmic and high-frequency trading.
- **Pioneering product innovations.** For example, in the case of SPACs, the Singapore Exchange has built on the US SEC's experience with additional safeguards in two areas: Setting a minimum SPAC offering size to bolster liquidity and consideration by the regulator of the resumes, track record, and reputation of the SPAC's founding shareholders and management team.
- **Alignment of regulatory standards with international best practices to enable cross-border harmonisation.** These efforts range from creating a regional exchange to simply linking the trading platforms of existing exchanges to overcome some of the liquidity constraints experienced in individual countries. The success of regional capital market integration depends on the relative depth of equity markets and savings industries in member countries, the relative strictness of regulatory standards, and macroeconomic stability across members. Ultimately, whether cross-border capital market integration benefits all members is dependent on whether third-party capital is mobilised or if existing capital is simply redistributed among the member states.

BOX 4 – INFRASTRUCTURE AS A LISTED ASSET CLASS: REGULATORY BARRIERS AND ENABLERS

Earlier sections of this paper demonstrated that institutional investors can gain exposure to infrastructure assets through a range of product structures. However, significant regulatory hurdles have slowed the scaling of infrastructure as a listed asset class.

Data and transparency: One of IOSCO's key regulatory principles is to ensure the complete, accurate and timely disclosure of financial results, risk, and other information material to investors' decisions. The lack of credible data and evidence is a significant barrier to meeting regulatory requirements and scaling listed infrastructure or infrastructure-backed instruments. Financial performance and valuation metrics are not reported, updated, comprehensive or consistent across infrastructure projects, and relevant data differ by sector, geography, and revenue model. Governments own a large share of infrastructure assets. Even when an asset is available for private participation, it is not typically traded frequently or is traded in unlisted markets with limited public financial disclosures. When delivered through public-private partnerships, a new entity specific to the project is typically established with no historic track record. Overall, limited data is available to characterise the performance of the asset class through credible benchmarks considering the material differences between projects.

Inconsistency in taxonomy: Data shortages and inconsistencies are partly due to the absence of a unifying taxonomy. Key considerations vary across sectors, regions, and stakeholders, with private sector taxonomies heavily focussed on risk and return profile and revenue and governance models (such as contracted, merchant, and regulated), while public sector taxonomies focus on impact channels (like climate, inclusion). Consensus among relevant stakeholders on key data metrics to be captured for an infrastructure asset is necessary to improve data availability and, therefore, regulatory compliance for listed infrastructure assets.

Data quality and reliability: In addition to the absence of a standard, industry-wide taxonomy, data for the infrastructure asset class is not collected in most regulators' monitoring exercises. When market-led initiatives do provide data, it is often not considered credible. For example, the Global Infrastructure Hub (GI Hub) Infrastructure Monitor 2023 shows that expected losses on infrastructure projects are a quarter of those on non-infrastructure projects, based on historical performance data collected by Moody's. Given that regulatory principles emphasise proper management of large exposures, the perceived risks for infrastructure investments are higher than those demonstrated in the data.

Shifting incentives: Recent regulatory reforms are reshaping incentives in favour of transferring infrastructure assets and risk from banks to institutional investors. Basel III has increased pressure on banks to reduce maturity mismatch, large exposure concentration, and liquidity risks. This discourages banks from holding long-term investments. At the same time, institutional investors seek long-term, diversified investment opportunities that align with their long-term liabilities. Regulatory reforms for insurance companies, like the Solvency II matching adjustment discount, encourage similar investment strategies.

Hence, regulatory pressures across the key finance providers – banks and institutional investors – are aligned to support growth in listed securitisation structures like the Bayfront Infrastructure IABS series. However, punitive regulatory rules are applicable for securitisation without sufficient evidence on the performance of the underlying assets. Addressing data challenges will be critical in developing successful listed IABS markets across regions.

Credit ratings: Listed structures for the infrastructure asset class rely on credit rating agencies to demonstrate the low-risk profile of the asset class. Given the limited historical performance data and unique profile of each infrastructure asset, obtaining credit ratings can be burdensome.

Moreover, several leading credit rating agencies rely predominantly on measures of default risk. However, the attractiveness of the infrastructure asset class is enhanced by high recovery rates because infrastructure projects have stronger and implicit recovery support from stakeholders in the case of default.[38] Thus, credit rating approaches based on expected loss, which considers both default rates and recovery rates, would be more appropriate for the infrastructure asset class.

Clearing and settlement: Regulators have established clearing and settlement rules to reduce the build-up of systemic risks. Infrastructure projects have higher notional amounts and longer tenors and are not centrally cleared by counterparties through margining and collateralisation (periodic payments by the counterparty bearing the loss). These are all features for which punitive rules are applicable in key regulatory frameworks. However, the European Union Capital Requirement Regulation does allow banks to waive Credit Valuation Adjustment capital charges for non-cleared derivative trades conducted with non-financial counterparties.

Risk mitigation: Popular credit-risk mitigation instruments, including collateral and guarantees, are unable to support investments in the infrastructure asset class fully. Despite the asset-heavy nature of infrastructure projects, collateral cannot significantly enhance financing terms due to complications in liquidation and resale or transfer of ownership rights in infrastructure to private entities. For risk-specific guarantees, like political risk insurance provided by Governments and MDBs, it is difficult to measure the extent to which risk is mitigated. This means that regulatory constraints make it difficult to translate risk-specific guarantees into lower financing costs or better ratings. Hence, market participants revert to guarantees covering all risks comprehensively, such as credit or first-loss guarantees.

Please see resources prepared by that GI Hub for further research on regulatory barriers and enablers to establishing infrastructure as an asset class.'

38 The GI Hub Infrastructure Monitor 2022 report notes that infrastructure debt securities have higher trading recovery rates - average trading prices on an issuer's bonds 30 days after an initial missed payment or bankruptcy filing - than non-financial corporates.

VI. CONCLUSION

HOW CAN OFFICIAL DEVELOPMENT FINANCE ADD VALUE IN PUBLIC MARKETS?

Urgent action is needed to accelerate sustainable development and combat climate change in EMDEs. Financing this action requires the mobilisation of private capital at scale for Brazil and EMDEs globally. This paper sought to consider the potential contribution of public markets to closing the sustainable development and climate finance gap in Brazil and in EMDEs globally. The paper emphasised public markets' unique scale, transparency, and liquidity; their distinct risks and mitigants; the listed structures and strategies that offer the greatest potential; and the policy and regulatory enablers to scaling private capital mobilisation through public markets.

MOBILIST and its partners also seek to demonstrate how official development finance can contribute to scaling private capital mobilisation through the public markets. Private sector investors, issuers, and intermediaries will determine where and how to allocate the overwhelming majority of capital on public markets, meaning development finance operations must be highly strategic. MOBILIST research has identified several key entry points, including:

- **Route 1 – Exit Mobilisation:** Development finance actors can share assets and risk with private holders through public markets, mobilising institutional capital and recycling scarce development finance for new EMDE investments.
- **Route 2 – Co-investment:** Development finance actors can co-invest before, during, and after IPO, increasing liquidity and valuations to support listing and scaling to attract sizeable institutional asset allocators.
- **Route 3 – Demonstration:** Development finance actors can trigger follow-on investments and correct allocators' misperceptions through pioneering transactions that increase the flow of information relating to new asset classes, sectors, markets, and investment strategies. Public markets are the ideal venue for a strategy based on mobilisation through demonstration effects due to their transparency and the speed at which additional information can influence pricing and so asset allocation, and replication.
- **Route 4 – Policy and Regulation:** Development finance actors can expand their technical support for capital market development, including by ensuring that EMDEs participate fully in the design of global regulatory standards that affect their access to capital.

Taken together, public market mobilisation through these four routes has the potential to trigger a positive cycle of capital market development and systemic change, with complementary action on demand, supply, intermediation, and policy and regulation. Official sector actors can enhance the flow of (i) assets through exits, (ii) the flow of capital through co-investment, (iii) and the flow of information through demonstration. By complementing technical assistance with more coordinated and concerted transactions in domestic markets, official sector investors can trigger a positive cycle of enhanced pipeline, liquidity, valuations, and capital inflows from international investors, which ultimately further enhances liquidity and valuation.

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