LIQUIDITY IN EQUITY MARKETS: ITS SOURCES & SIGNIFICANCE IN DEVELOPING ECONOMIES

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CONTENTS

I. Executive Summary 3

II. Introduction 4

III. Low liquidity must be addressed now: frontier markets at a crossroads 6

IV. Why is liquidity important and to whom? 8

A. The investor perspective: the microeconomic benefits of liquidity 8

a. The policymaker perspective: the macroeconomic benefits of liquidity 10

V. How to ensure liquidity? 13

A. Prerequisites of a liquid capital market 13

a. Nurturing a domestic savings industry 14

b. Creating a transparent, well-regulated public trading venue 18

c. Ensuring a steady flow of viable businesses listings 18

d. Attracting foreign capital 24

i. Structures and strategies: what instruments do foreign investors use in illiquid markets? 25

ii. Minimum requirements by foreign investors: how can local regulators help? 28

B. Sequencing is crucial: order of priorities from early- to late-stage capital market development 32

a. Early-stage policy priorities 32

b. Mid-stage policy priorities 35

c. Late-stage policy priorities 39

VI. Tough trade-offs need tailor-made solutions: the devil is in the details 43

A. Foreign ownership limits: always at the expense of liquidity? 43

B. Final warning: everything is not as it seems 45

a. Short selling vs margin trading: who is the real culprit? 45

b. Careful with technology: not all liquidity is created equal 47

VII. Final remarks: conclusions and recommendations 51

EXECUTIVE SUMMARY

Liquid equity exchanges offer extensive benefits for investors and policymakers in developing markets. However, the importance of liquidity is perhaps less appreciated by those who could uniquely influence the supply side of liquidity: holders of unlisted equities, representing the state, MDBs/DFIs[1], or local firms. This report not only seeks to ease the usual IPO-related concerns, but also to stress the significant upside of a virtuous economic cycle, ignited by a liquid equity market, putting developing countries on the path of sustainable growth.

Improving liquidity in frontier markets is a matter of urgency. At present, median trading volume in frontier stock exchanges[2] is a meagre $8m a day[3]. This is only 2.6% of the global emerging markets (GEMs) and 0.6% of the developed market exchanges' median daily trading volume, respectively. The outlook is even more concerning. If Vietnam graduates into the GEM universe by 2025 as planned, the frontier universe will lose more than 40% of its trading volume.

There are no shortcuts: Building liquid capital markets requires a patient, multi-pronged, well-coordinated, long-term approach. Deep, institutionalised domestic savings industry, well-regulated public trading venue, stable and welcoming legal environment, and consistent flow of viable company listings are all important factors to create a liquid trading platform with well-balanced supply and demand.

The right sequencing is also crucial. Policy priorities should be different at the early-stage of capital market development as opposed to policy emphases at the mid- or late-stage. Effective prioritisation and sequencing could mean the difference between success and failure for firms, the market, and the economy.

Controversial issues need to be confronted head-on, based on meticulous learnings from other markets. For example, despite their questionable reputation, short-selling and foreign ownership limits could play a positive role, if carefully implemented reflecting historical experience. However, in the pursuit of liquidity, margin trading and technological progress may need to be handled with more care than conventional wisdom suggests.

In addition to offering an action plan for policymakers, this report highlights how MDBs/DFIs can help to realise the full benefits of a liquid equity market. Our analysis shows quality companies can command favourable valuations in even relatively illiquid public equity markets, demonstrating that full or partial domestic listing could be considered by default when holders of private equity look to exit. These holders include official development finance actors, for whom equity exit strategies through IPOs and growth in their equity portfolios more generally could enhance their contribution to sustainable development.

1 Multilateral Development Banks and Development Finance Institutions

2 In defining frontier markets we have used the MSCI Frontier Index classification.

INTRODUCTION

The MOBILIST programme seeks to harness the unparalleled potential of public markets for sustainable development in low- and middle-income countries.

Developed by the UK Government and delivered in partnership with the Government of Norway, the programme offers equity capital to facilitate the initial public offering (IPO) of pioneering products, technical assistance throughout the listing journey, and policy and research support to enhance the environment for issuers, investors, and intermediaries.

MOBILIST is coordinating a series of roundtables to disseminate its research and to discuss current market conditions, opportunities, and challenges with key participants. These roundtables aim to identify realisable solutions to barriers stemming the flow of capital into developing countries.

The first roundtable took place in London on 6 December 2022 and explored opportunities to enhance market indices to increase capital flows to developing countries. It also identified numerous other constraints to capital flows, such as illiquidity and (relatedly) domestic savings and domestic capital markets.

Building on feedback from market participants and a review of experience in emerging and frontier markets, this follow-on research report focuses on the importance of liquidity and practical considerations in building liquid public equity markets in a developing country for the benefit of not only investors but also the broader economy. Key questions addressed by the report include:

- What are the benefits of liquidity in developing countries, not only to investors but also to policymakers and the broader economy?
- How can both the demand and supply side of liquidity be bolstered in developing economies?
- What should be the key focus at the early-stage of capital market planning, as opposed to the policy emphasis at the mid- or late-stage of equity market development?

This research report aims to address a variety of market actors – asset managers (including representatives of MDBs/DFIs), emerging and developed market policymakers and regulators, issuers, intermediaries, and researchers – to consider:

- The key hurdles to creating genuinely liquid (equity) capital markets in developing economies; not only to investors but also to policymakers and the broader economy.
- How a well-orchestrated and multipronged approach, addressing both the supply (domestic savings industry, foreign capital flows) and the demand (ensuring a vibrant, well-regulated equity market with a steady flow of quality listings) side of liquidity, could overcome such hurdles.

We realise that many or even most policymakers, senior MDB/DFI officials, owners of SOEs and private (family) businesses operating in countries with illiquid equity markets, in theory could already be convinced about the importance of liquid equity markets. The fact that these countries are unable to reap the full benefits of liquid equity markets, hence, to reach a higher sustainable growth path, suggests that serious obstacles persist.

This could be for a number of reasons and our report intends to help policymakers, regulators, and market participants to overcome these hurdles:

- They have yet to convince others, in a position of power and influence, of the benefits of a liquid (equity) capital market. This report aims to provide arguments and statistics to help make the case.
- Even liquid (equity) capital markets can have well-publicised disadvantages. This report attempts to honestly address concerns related to stock market listings, analyses controversial practices such as margin trading, shorting, and foreign ownership limits; and highlights relevant case studies to pass on the learnings of more developed exchanges.
- Even if public and private sector decisionmakers accept in theory the importance of liquid (equity) capital markets, they may not be confident about all the necessary practical steps. This report aims to highlight the key building blocks and the most workable sequencing in the process of creating a viable, liquid equity market.

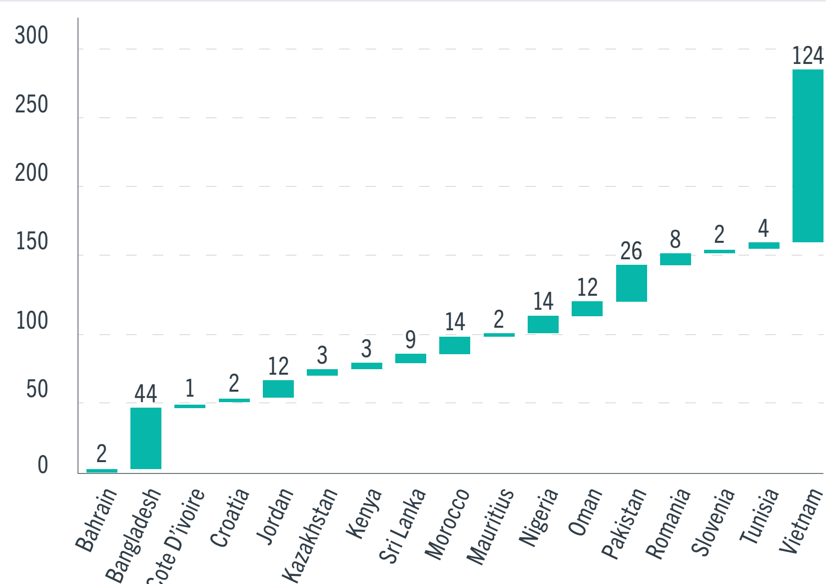
LOW LIQUIDITY MUST BE ADDRESSED NOW: FRONTIER MARKETS AT A CROSSROADS

Frontier-market listed equities are difficult to access. The most obvious – though by no means the only – reason is low liquidity. Median[4] trading volume on frontier stock exchanges[5] is a meagre $8m a day[6]. This is only 2.6% of the median daily trading volume of global emerging markets (GEMs) and 0.6% of the median daily trading volume of developed exchanges, $313m and $3.3bn, respectively[7].

Enhancing frontier market liquidity is a matter of utmost urgency. Vietnam provides almost half of the daily trading volume of the entire frontier investment universe (see Figure 1). If – as planned – Vietnam is upgraded to GEM status in 2025[8], this could create a serious investability issue for the entire frontier asset class.

Given the huge variation in liquidity, we divided the GEM universe into two groups: The top five exchanges, which already boast developed market-level liquidity: China, Taiwan, Korea, India and Brazil (Figure 2) and the rest (Figure 3).

Figure 1: Average daily trading volume of Frontier stock exchanges ($m)



4 We have used median rather than mean when calculating average volumes as frontier, emerging and developed market averages are distorted by massive outliers.
5 In defining frontier markets we have used the MSCI Frontier Index classification.
6 Source: https://data.worldbank.org/indicator/CM.MKT.TRAD.CD
7 Source: https://data.worldbank.org/indicator/CM.MKT.TRAD.CD
8 Source: https://www.cnbc.com/2023/01/19/vietnams-market-risks-missing-upgrade-to-emerging-economy-status-2025.html

Even including Vietnam, the total daily trading volume of all frontier markets is less than $300m (see Figure 1), which is lower than the daily trading volume of the median exchange in the GEMs universe (ca. halfway between Poland and Indonesia, see Figure 3). As the charts below make clear, even Vietnam, by far the most liquid frontier market, would only rank 17th in terms of liquidity among GEM markets.

As these statistics underline, over the next two years, prior to Vietnam's potential upgrade, frontier market policymakers must address the issue of liquidity in order to protect, let alone raise, the foreign capital invested through their exchanges. We hope that this report supports them in this endeavour.

Figure 2: Average daily trading volume of the largest GEM exchanges ($m)

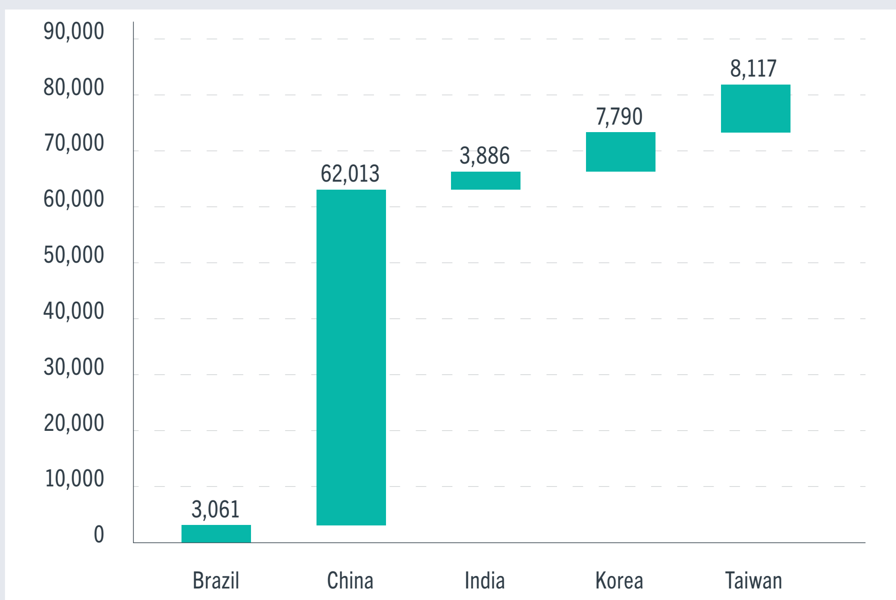
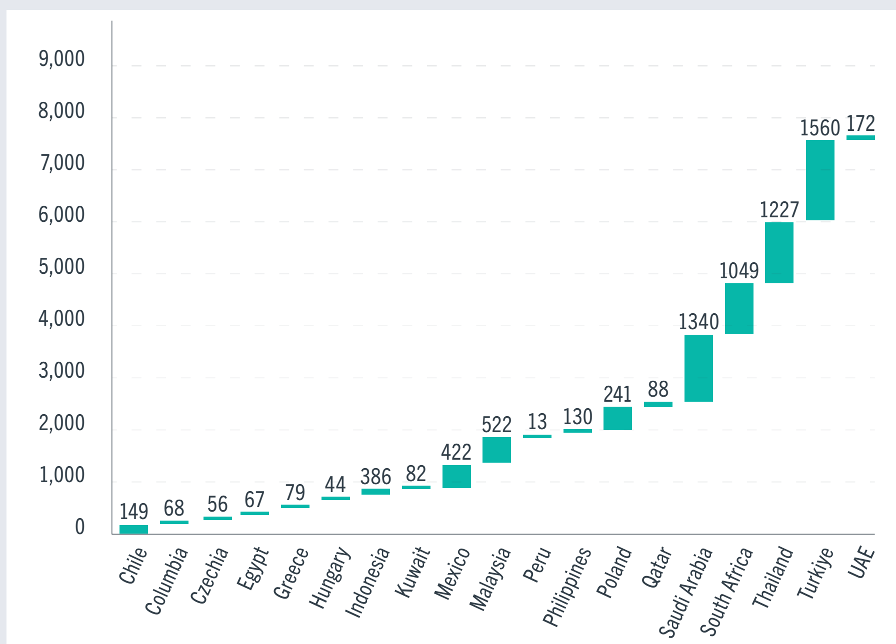


Figure 3: Average daily trading volume of the other GEM exchanges ($m)



Sources: https://data.worldbank.org/indicator/CM.MKT.TRAD.CD

WHY IS LIQUIDITY IMPORTANT AND TO WHOM?

An asset is considered liquid if it could be readily converted into cash with minimal transaction costs without materially affecting its market price. Therefore, the higher the market liquidity is, the more accurate the price signal of any given trade is. In other words, the more precisely the price reflects the true intrinsic value of the asset in question.

We believe that the importance of liquidity is generally well understood among market participants who represent the demand side of liquidity, i.e., investors, whether local or international, and intermediaries who are catering to their needs. However, the importance of liquid equity markets is potentially far less appreciated by decision-makers who could influence the supply side of liquidity, including policy-makers and owners of unlisted equities, whether they represent the state, international developmental organisations (e.g., MDBs/DFIs[9]) or local (family) businesses.

The reasons for this could be wide-ranging and the objective of this paper is to highlight to decision-makers controlling the supply side of liquidity that a liquid and well-regulated equity market has on balance significant benefits not only as a viable exit strategy for holders of major unlisted equity stakes, but more importantly for the entire economy, supporting investments, growth, job creation and tax collection.

THE INVESTOR PERSPECTIVE: THE MICROECONOMIC BENEFITS OF LIQUIDITY

Liquidity is crucial for investors – whether they are institutional or retail – as they need to be prepared for a potentially sudden demand to convert their investments into cash and vice versa. Higher liquidity can ensure that investors can trade closer to a fair price even in a more difficult economic environment and can significantly lower investment risk and improve returns for the following reasons:

More stable prices, less volatility, lower risk: Risk is often defined and measured as asset price volatility. As higher liquidity reduces volatility, by definition it also reduces investment risk.

Lower risk, lower cost of capital, higher valuation: As a consequence of lowering risk and the cost of raising capital, better liquidity also allows assets to be traded at higher valuations. Conversely, lower liquidity often means assets trading at a discount to their intrinsic value. Higher valuation also encourages more companies to list creating a virtuous cycle of more liquidity, lower cost of capital and higher valuations.

Easier entry/exit, lower cost of trade: Transaction costs in equity markets could be measured in a number of different ways depending on how many layers of the total cost of trade are actually included: Only the bid-ask spread and the market impact of the trade execution, or all the extra commissions including fees and taxes not only directly imposed on trading, but maintaining a custody account in the country and the cost of F/X conversions necessary to implement the trade.

One thing is clear, however, that transaction costs, including the spread between bid and ask prices, tend to be significantly smaller in more liquid markets, reducing the cost of trade[10]. Higher liquidity also creates a larger profit pool for intermediaries, facilitating the entry of more market makers, leading to more competition and further reducing trading commissions.

More accurate price signal: Better liquidity enables asset managers to trust that the price more accurately reflects the asset's intrinsic value and allowins them to focus their efforts on researching the underlying, fundamental value of the asset and not to be distracted by market efficiency concerns.

9 Multilateral Development Banks and Development Finance Institutions

10 See a number of research papers below for an in-depth equity market trading cost analysis. They all suggest that emerging market transaction costs: a, show a large variation depending on their individual size and liquidity, b, less liquid emerging markets with smaller cap stocks tend to have roughly twice the transaction cost compared to more liquid developed/emerging markets, c, depending on their definitions total transaction costs could vary from 15-60bps (if only bid-ask spread is considered) to 200-400bps (if full cost of trading considered, including market impact and full commission including fees on trading and F/X conversion). Sources:
David A. Lesmond: Liquidity of emerging markets (Journal of Financial Economics, Jan 2004)
Parrick J. Kelly: Do market efficiency measures yield correct inferences? A comparison of developed and emerging markets
Eric Blake: Emerging Markets: An Increasingly Crowded – And Costly – Trade (source: https://www.thetradenews.com/thought-leadership/emerging-markets-an-increasingly-crowded-and-costly-trade/)

More sophisticated financial instruments, improved risk management: Higher liquidity also allows the introduction of more refined financial strategies and instruments (e.g., derivatives, hedging, shorting), thereby servicing the more complex needs of investors' risk management policies.

Higher quality issuers, investors and intermediaries: Better liquidity enables the entry of more institutional investors and intermediaries, creating stronger competition. This leads to lower fees and improves the quality of service, including research.

We acknowledge that an argument could be made regarding certain trade-offs regarding (il)liquidity, when the dualities of liquidity vs opportunity and risk vs return are considered. Emerging market investors sometimes argue that illiquid markets can offer greater mispricing opportunities[11], i.e., greater potential upsides for investors with a longer time horizon.

However, we believe that these advantages of illiquidity are at best transitory, as investors also agree that illiquidity also carries significantly higher exit risks. Therefore, emerging/frontier market specialists, with a sufficiently long-term investment horizon, do not mind being early entrants, as long as their implicit assumption holds that a continuous improvement in trading conditions and liquidity ensures that other, more risk-averse investors, will ultimately follow in their footsteps, providing an exit strategy for early risk takers.

Some investors also argue that illiquid markets perhaps tend to correlate less with global markets[12], potentially offering greater diversification opportunities. We would contend what ensures lower correlation is not so much the lack of liquidity but rather a deeper local savings industry, with a long-term, homegrown investor base, which is less focused on global market trends and more dedicated to following local investment prospects.

THE POLICYMAKER PERSPECTIVE: THE MACROECONOMIC BENEFITS OF LIQUIDITY

A liquid equity market is also beneficial for the entire economy, as it enables companies to raise capital at a far lower cost to fund their growth, which in turn creates jobs and improves the government's fiscal position through higher tax collection.

As a PWC report[13] states: "Studies show that liquidity in stock markets has a statistically significant relationship with present and future rates of economic growth, capital accumulation and an increase in productivity growth"[14] and as a result "financial markets are a key source for financing business growth and government spending."[15] This happens as liquid financial markets create a transmission mechanism that "facilitates the efficient allocation of economic resources"[16] This generates a number of benefits to the economy as a whole as PwC explains[17]:

- Liquid capital markets improve "the effectiveness of monetary policy.[18]
- "Liquid financial markets are important to financial stability"[19] as they "enable corporates to manage business risks, such as currency, interest rates or commodity price risks"[20] especially "during times of stress".[21]
- Better liquidity also attracts foreign and retains local capital within the economy, supporting the country's exchange rate mechanism and helping to preserve hard currency reserves.

The positive macroeconomic impact of liquid capital markets could become self-reinforcing. Liquid capital markets tend to reduce the cost of capital not only directly by allowing companies to raise equity and issue bonds, but also indirectly as banks and other lenders will be forced to take into account the existence of a low-cost capital market alternative when setting their credit conditions and interest rate policies.

Lower cost of capital in turn leads to more investment by corporates, creating greater growth, more jobs and higher tax collection in the process, ultimately generating better returns for the savers and so more capital to be reinvested. In this way, a liquid equity market can ultimately ignite a virtuous circle of

11 As Standard Life Aberdeen (ABRDN) states in their research: "By nature, these markets are relatively small and less liquid than mainstream emerging markets and, at times, can be affected by periods of elevated volatility. Information is often sparse when it comes to companies, public-sector expenditures and revenues, and political risk. However, this "information risk" can provide opportunities for active investors who are willing to take a long-term view." Source: https://www.abrdn.com/en-ca/institutional/insights-thinking-aloud/article-page/the-evolution-of-frontier-markets

12 As T. Rowe Price explains: "Importantly for global capital allocators, frontier market performance tends to have a low correlation with the returns from developed and even emerging markets. For example, in 2021, the MSCI Frontier Markets Index returned 20% for the year, compared with a -2% return from the MSCI Emerging Markets Index. This is partly due to lower levels of foreign investment as well as minimal allocations of passive investment. This means that frontier markets are one step removed from the powerful forces of global investment flows and, therefore, should be less impacted by large risk-on/risk-off allocation moves. Consequently, an allocation to frontier markets as part of a broader global portfolio can help lower overall portfolio risk and volatility since these markets tend to perform more independently." Source: Johannes Loefstrand: Are Frontier Markets Still the Great Untapped Opportunity? (Aug. 2022)

13 PricewaterhouseCoopers: Global financial markets liquidity study (Aug 2015)

14 Ibid. p. 20

15 Ibid. p. 19

16 Ibid. p. 20

17 Ibid. p. 19-20

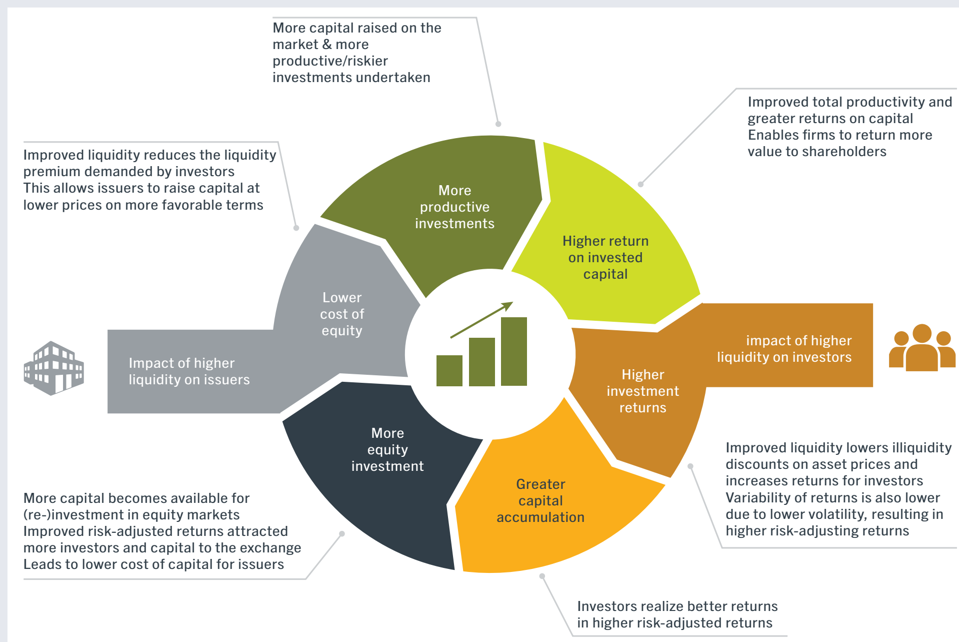
18 Ibid. p. 20

19 Ibid. p. 20

20 Ibid. p. 20

21 Ibid. p. 20

Figure 4: The virtuous circle of a liquid equity market



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

Statistical evidence also suggests a strong relationship between liquid capital markets and economic growth. As Ross Levine states: "The empirical evidence ... strongly supports the belief that greater stock market liquidity boosts... economic growth."[22] This is backed up by extensive statistical evidence[23] which is summarized in the two charts below[24].In the first chart, initial liquidity is calculated as the ratio of the value of shares traded to GDP (in 1976) and based on this measure countries are grouped into four liquidity categories. Then the average subsequent GDP growth of the four groups is calculated and compared over the period from 1976 to 1993. In the second chart initial liquidity is defined differently (as the ratio of the value of shares traded to market capitalization in 1976) while the rest is the same. Based on both measures of initial liquidity the average GDP growth for the next 16 years is materially higher in countries with more liquid equity markets (see Figures 5 and 6 on the following page).

It is also important to emphasise that a liquid (equity) capital market should not be at the expense of governmental efforts to finance budget deficits through treasury bond issues. Rather, equity markets should be seen as an equally important and complementary tool to improve government finances through direct and indirect mechanisms.

For example, equity markets offer an attractive route for privatisation of government assets. By lowering the cost of capital for both private and state-owned corporates, equity markets also enable greater investment, growth, and more jobs, ultimately improving tax collection.

A further benefit of privatisation through IPO is the potential to reduce government debt liabilities. SOEs' state-guaranteed debt is usually counted as public debt by the IMF. However, if post-IPO government ownership and control falls below 50%, the company ceases to be an SOE and its debt is no longer part of the government's debt service obligation, which could be crucial to help public debt sustainability as well as to improve borrowing capacity, especially in developing economies.

Therefore, rather than crowding out funding for government bond issues, such diversification of the budgetary financing methods involving equity markets, could ensure that policymakers have more funding options at their disposal[25] even during times in the

22 Ross Levine: Stock Markets: A Spur to Economic Growth (Finance & Development, March 1996)
23 Levine and Zervos (1998) examined a sample of 47 countries, where they have found that stock market liquidity exerted a statistically significant positive influence on GDP growth between 1976-93. Source: Levine, Ross and Zervos, Sara (1998) "Stock Markets, Banks, and Growth," American Economic Review, Vol. 88(3), pp. 537-558.
24 Ross Levine: Stock Markets: A Spur to Economic Growth (Finance & Development, March 1996
25 As the IMF's report states: "Whatever the ultimate aims of privatisation, the larger privatisation programs have generated substantial proceeds for the governments that have launched them. The privatisation programs of Chile and Mexico, for example, generated proceeds that averaged about 1% of GDP in their peak years and Brazil's program has generated similar amounts over the last five years. Thus, apart from their impact on the productivity of a nation's capital stock, and on the long-term growth rate or output level of the economy, privatisation programs can have important macroeconomic and financial consequences in the short run." Source: G. A. Mackenzie: The Macroeconomic Impact of Privatisation (IMF Staff Papers, June 1998))

economic cycle when government bonds (like other fixed income instruments) are less popular due to rising inflation and interest rates. That way governments (like companies) can also benefit from the fact that paying investors returns on their equity investments, in the form of dividends, offers a lot more flexibility compared to the strict time schedule of paying back interest and principal on treasury bonds and bills. To put it simply, postponing dividend payments in hard times does not lead to downgrades in credit ratings, while missing interest payments on government bonds do.

It is also important to emphasize that instead of viewing bond and equity markets as a zero-sum game, created for the purposes of funding fiscal deficits, the key concern for policymakers should be underlying economic stability.

While in the next section we discuss the immediate pre-conditions for a liquid capital market, feedback from asset managers made clear that without a fundamental macro-economic stability, supported by prudent macro-economic measures, including a sustainable fiscal policy, liquid capital markets cannot survive long.

Figure 5: Value traded as a % of GDP (1976) vs subsequent economic growth (1976-1993)

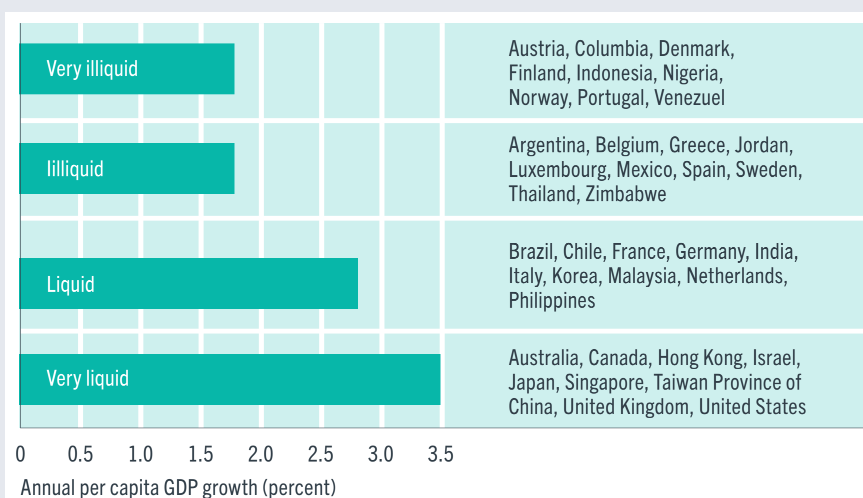
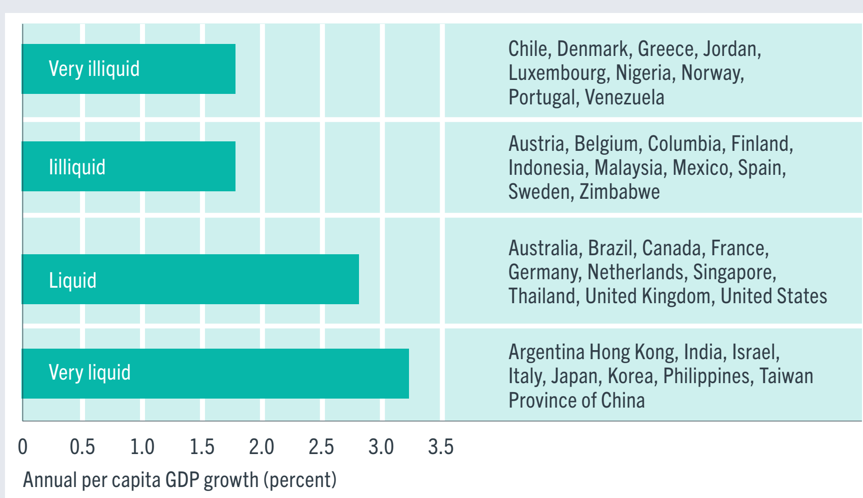


Figure 6: Value traded as a % of market cap (1976) vs subsequent economic growth (1976-1993)



Sources: Ross Levine: Stock Markets: A Spur to Economic Growth (Finance & Development, March 1996)

HOW TO ENSURE LIQUIDITY?

PREREQUISITES OF A LIQUID CAPITAL MARKET

Stock markets do not exist in splendid isolation. To succeed they need to be part of a broad economic and regulatory package that is supported by a strong political will. The first consideration for policymakers is to identify the necessary building blocks or preconditions of a liquid, public equity market. In other words, they need to enable both the supply (a viable savings industry looking for acceptable return) and demand (sustainable businesses who need capital to grow) side of a liquid capital market as well as a transparent, well-regulated, public, trading venue where the two sides can interact.

There are two ways to create the supply side of liquidity in capital (equity) markets: To create and develop a meaningful domestic savings industry (the longer, but ultimately far more beneficial route) or to mobilise foreign capital inflows (potentially quicker, but on its own inherently less stable). In our view, these two options are not mutually exclusive but rather mutually reinforcing[26].

Naturally, there is a certain overlap in the necessary pre-conditions for either of these: Well-regulated capital markets, exchanges (a place where supply of and demand for capital can meet) providing liquidity, information, and protection of minority investor interest.

The sequence of the necessary prerequisites of a liquid capital market, as we ranked them below, is not accidental, as we argue that on the demand side of liquidity, a viable domestic savings industry is what is first and foremost needed to underpin the long-term success of any liquid and stable capital market, enabling it to better withstand a potential global economic turmoil. Foreign participation should only be encouraged if a certain level of domestic involvement is already ensured.

Ideally, the supply side of liquidity, through accelerated listings and issuance of domestic equity, and a well-regulated, technologically, operationally, and procedurally well-equipped public exchange should only be prioritised once the size of a domestic savings industry has reached a certain level. Beyond that point, the two could develop simultaneously in a mutually reinforcing manner, creating a self-reinforcing virtuous circle, where available savings ensure the level of liquidity, which is enough to financially sustain a quality exchange supported by high-class intermediaries, ensuring the right level of investor education and research, and persuade quality companies that the necessary liquidity is there to realise their full valuation potential. This could lead to quality IPOs, leading to high returns to investors, attracting more savings, leading to higher liquidity and so on.

On the other hand, if some of these building blocks are missing or weak or their sequencing is inappropriate, fledgling stock markets can fall into a vicious circle of low liquidity, leading to familiar complaints by interviewees in a revealing FSDA (Financial Sector Deepening Africa) report[27]. Such a vicious circle of low liquidity often starts as an underdeveloped savings industry leads to low liquidity resulting in "underdeveloped research, advisory and reporting ecosystem"[28] leading to suboptimal valuations, preventing interest from quality companies to opt for IPOs, translating to "limited investible universe of securities and a lack of sectoral diversification"[29], further alienating potential (institutional) investors looking to diversify, reinforcing low liquidity and so on and so forth.

Nurturing a domestic savings industry

Policymakers should promote a diverse investor base, both local and international, retail and institutional, to ensure a healthy diversification of views and time horizons, which tends to lead to more active trading. However, we firmly believe that the initial focus of policymakers should be to support a viable domestic savings industry, both retail and institutional.

The support of a domestic savings industry should involve both push and pull factors. **Push factors** could include:

Reform of the pension industry: E.g. regulating mandatory contributions to private pension schemes and exempting them from personal income tax[30] to break the dominance of the 'pay as you go' pension system.

26 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. All of these points will be analysed in more detail.
27 Riscura: Market Failure Analysis: IPO's in selected African stock exchanges (2014 – 2019) highlights the example of Kenya where "the telecom and banking sectors account for over 80% of the Nairobi Stock Exchange's market cap, with Safaricom alone accounting for over 50% of the NSE's market cap and more than half of all trades in 2019 were in Safaricom shares." p. 2-3
28 Riscura: Market Failure Analysis: IPO's in selected African stock exchanges (2014 – 2019) p. 3
29 Riscura: Market Failure Analysis: IPO's in selected African stock exchanges (2014 – 2019) p. 2
30 For example, Brazil has introduced such a tax break.

Relaxing regulatory constraints of equity investing: Such as 'no annual loss rules' for pension funds[31] which would push them towards low risk/low return investments. As an FSDA-commissioned report explains[32]: "Current laws in Ghana do not allow private pension funds to invest in IPOs but only in publicly listed entities that have paid dividends in at least one of the last three years." This means that private pension funds in Ghana cannot invest in a company's early, high-growth phase, when profits are retained to invest, missing out on potentially significant upside. Such rules need to be relaxed and pension fund managers trusted and supported to make their own investment decisions.

Changing asset allocation rules[33]: E.g., setting a floor of minimum investment allocation into domestic equities if appropriate. Otherwise, as the FSDA report points out: "Local financial institutions across Africa tend to prefer short-dated treasuries due to the perceived lower cost, time/effort and risk associated with them versus locally listed stocks."[34] Tax rules can make equity investing even less attractive. For example, in the Central African Economic and Monetary Community[35] (CEMAC) a company's capital gains and dividends are taxed at 33% and individuals are taxed 12.5% on share returns, while interest on government bonds is tax-free[36]. This leaves little incentive for companies or individuals to invest in or issue equities.

That is the main reason why **pull factors** typically involve tax benefits attached to equity investing:

- Eliminating stamp duties on equity trading[37]
- Lowering withholding tax on dividend payments
- Cutting capital gains tax on profits from equity trading[38]

However, the right level and right kind of support for the domestic savings industry is crucial for the stability of the equity market. For example, overwhelming support for retail as opposed to institutional investors, or limiting the foreign asset allocation of local market participants to artificially inflate demand for domestic assets, could lead to volatility and asset price bubbles.[39] Similarly, establishing tax incentives for equity investors would affect the flow of capital into other investments, and may in aggregate affect domestic revenue mobilisation for public sector expenditures.

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 the protection of retail investors. For example, this could include requiring financial intermediaries to explain the risks involved in equity investing vis-à-vis risks associated with other investment options[40] when opening equity trading accounts for or dealing with retail investors.

Once retail investor education and protection are ensured and KYC (Know Your Client) rules are embedded, policymakers could consider additional digital solutions (e.g. Robinhood) which could reduce or outright eliminate trading commissions, further encouraging retail investors' direct participation in equity investing.

Another viable strategy is to provide certain safety nets for retail investors while they are in the initial phase of their learning curve. SOE (state-owned enterprise) IPOs can be useful tools in this regard. Policymakers can ensure that when state assets are privatised through an IPO process, retail investors get a special discount compared to the institutional issue price determined by the book-building process.

This is a widely accepted practice not only used in post-communist countries in the 1990s, where that was one of the ways to compensate the wider population for their nationalised (confiscated) properties, by the communist regimes. In fact, as Vicente Pons-Sanz explains in his paper[41], analysing 175 Spanish equity offerings from 1985 to 2002: "Retail investors normally pay the price determined in the book-building tranche, although in many offerings the retail price is lower than the institutional price, to stimulate retail demand." It is also an accepted practice that the retail tranche of the IPOs is ringfenced from a potentially overwhelming demand by institutional investors, ensuring that retail subscriptions are not diluted by the pro-rata allocation process applied in the institutional tranche.

In addition, personal income tax benefits attached to private pension contributions and mutual fund investing, lowering entry and management costs of mutual funds via online distribution,[42] can all incentivise retail investors to consider institutional equity products, diversify their risk exposure and improve their risk/return profile.

Overall, we cannot emphasize enough how crucial the pre-existence of a viable domestic savings industry is for the healthy development of a liquid public equity market. This is often simply a matter of channelling rather than generating savings into the accepted institutional framework, as our case studies reveal in the box below.

31 This used to be a regulatory requirement in Russia until 2013.
32 Riscura: Market Failure Analysis: IPOs in selected African Stock Exchanges (Jan 2021)
33 Indian regulators have now allowed the Employees Provident Fund Organization (one of the World's largest Social Security Organisations with 250m members) to invest up to 15% of its assets in equities.
34 Riscura: Market Failure Analysis: IPOs in selected African stock exchanges (2014 – 2019) p. 2
35 Cameroon, Chad, the Central African Republic, Equatorial Guinea, Gabon, Republic of Congo
36 Source: Riscura: Market Failure Analysis: IPO's in selected African Stock Exchanges (Jan 2021)
37 Philippine regulators abolished the stamp duty on stock market trading in 2009.
38 In Thailand and Egypt retail investors are exempted from capital gains taxes on share trading
39 A good example of how limiting the foreign asset allocation of local investors combined with a relatively small local stock exchange could lead to overheated valuations at the local exchange is Morocco, where the price earnings ratio of the Casablanca Stock Exchange has been trading at a premium compared to most global exchanges even the US over the last 10 years.
40 As Oliver Wyman explains: "For example, in Singapore, the Money Authority (MAS) introduced facilitated prospectuses to attract retail investors, conveying the main risks and product information in everyday language." Source: Oliver Wyman: Enhancing Liquidity in Emerging Market Exchanges (p. 12)
41 Vicente Pons-Sanz: Who Benefits from IPO Underpricing? Evidence from Hybrid Bookbuilding Offerings (ECB Working Paper, Jan 2005)
42 For example, Indian regulators are now allowing the direct on-line sale of mutual funds combined with greater transparency of fees and commissions to encourage retail investors accessing diversified pools of investments in an affordable manner.

THE IMPORTANCE OF A FORMAL, INSTITUTIONALISED SAVINGS CONCEPT: THE CASE STUDIES OF ANGOLA, NIGERIA VS SOUTH AFRICA

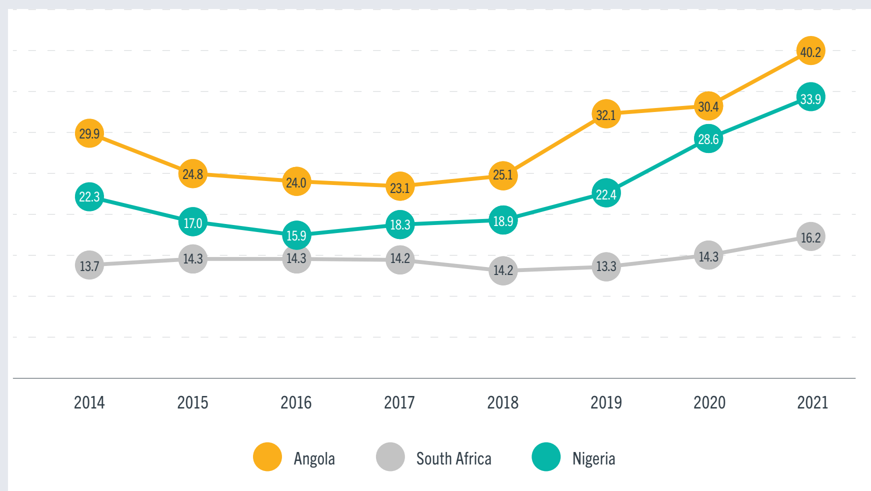
South Africa's stock market (the JSE) is a successful, liquid, well-regulated stock market, ranked among the top 20 largest stock exchanges globally, with a market capitalization of USD 1.12 trillion[43]. In emerging markets, only China, India, Saudi Arabia, South Korea, and Taiwan have larger equity markets. Relative to the size of its economy, South Africa has the 4th largest stock exchange in the world.[44]

The JSE clearly benefitted from a combination of factors, including strong regulation and oversight (helping to provide reliable information and protecting investor interest), investment in technology, investor education, and a wide range of investment products and services; leading to greater participation in the equity market both from investors, intermediaries and listed companies. However, in all likelihood such market size and liquidity would not have been possible without a deep domestic savings industry.

However, South Africa's success is not driven by some embedded economic advantage creating supernormal annual savings[45]. Its advantage is in its robust institutional framework efficiently channelling whatever savings are generated towards formal savings concepts. In the charts below we compared the chain of savings generated in the economies of Angola, Nigeria, and South Africa from their source all the way to their transparent, institutionalised forms of saving destinations (e.g., financial sector deposits and pensions).

What seems perhaps surprising is that both Angola and Nigeria generate more savings (defined as gross national income minus national consumption plus net transfers) as a percentage of their respective GDPs than South Africa (see Figure 7).

Figure 7. Annual Savings Generation (as a % of GDP)



Source: https://www.theglobaleconomy.com/rankings

43 Statista 2023: Largest stock exchange operators worldwide as of October 2022, by market capitalization at https://www.statista.com/statistics/270126/largest-stock-exchange-operators-by-market-capitalization-of-listed-companies/. Accessed 08/02/2023.

44 Source: https://www.theglobaleconomy.com/rankings

45 Here we used the World Bank's definition of gross national savings, calculated as gross national income less total consumption, plus net transfers.

Yet, when we compare the final, institutionalised forms of savings as a percentage of GDP (whether financial system deposits or pensions), South Africa is significantly ahead of both Angola and Nigeria (Figures 8 and 9 below).

This suggests that Nigeria, and especially Angola, while ahead of South Africa in having a foundation for a potentially thriving savings industry, are lacking the necessary institutional framework (trustworthy, well-regulated banking, insurance, and pension systems) to create transparent, institutional forms of savings, which could be the sources of liquidity for equity and debt markets.

Figure 8. Financial System Deposits (as a % of GDP)[46]

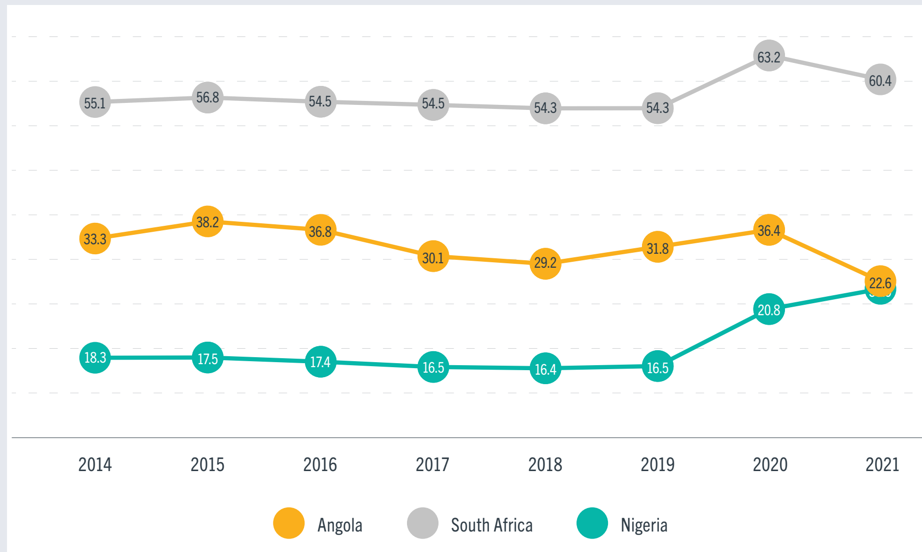
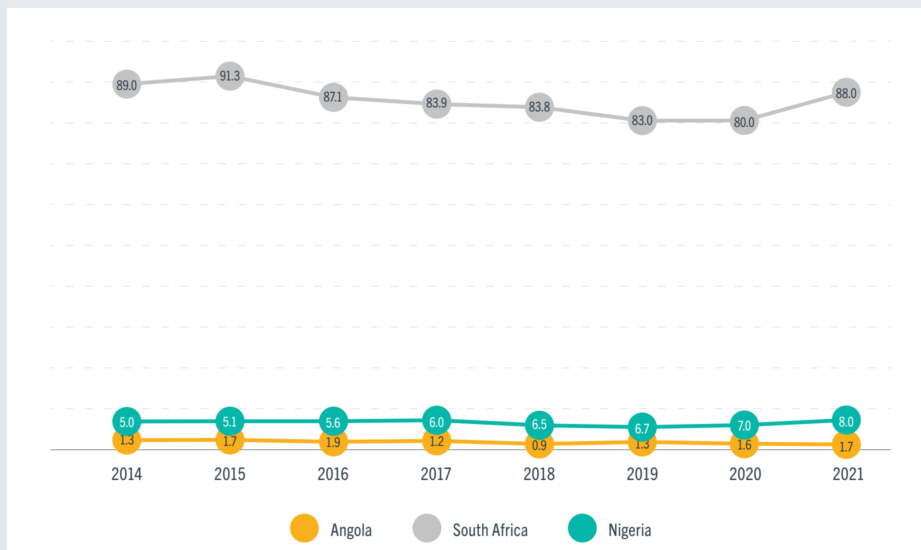


Figure 9. Pension Fund Assets as a % of GDP



Sources: https://www.theglobaleconomy.com/rankings

46 Defined as demand, time and saving deposits in banks and other financial institutions as a share of GDP

Creating a transparent, well-regulated public trading venue

From a policymaker's perspective, the creation of a well-regulated, transparent trading platform is not only crucial to safeguard the interests of domestic institutional and retail investors, but it could also ensure that state-owned enterprises receive higher valuations under the government privatisation programmes to lead to significantly higher revenues for the central budget.

In addition, politically it is far more defensible when the electorally sensitive sale of government assets is conducted in a transparent manner, using independent, third-party agents through a public exchange, where comparable valuations from the same industries are often available, lending greater credibility to the government's privatisation programme. That way, if the opposition takes over, there is much less room to challenge and reverse the actions of the previous administration, which creates a far more stable political and economic environment, further reducing the cost of doing business in the country.[47]

Stock exchanges need to continuously invest in a supportive market environment improving investor protection and education, trade efficiencies, and cutting transaction and settlement times and cost, amongst other things. We will come back to the practical steps of creating an efficient market and liquid trading environment when we discuss in some detail the sequential development of exchanges from the early to the more mature stages.

Ensuring a steady flow of viable businesses listings

The supply side of liquidity is equally crucial to ensure that a vibrant public exchange can bring all the material macro-economic benefits described in our introduction. Initially, this may require a more supportive and less restrictive legal environment as well as economic incentives (e.g., tax benefits, cutting entry costs) as it often takes time for companies (especially smaller ones) to overcome the initial listing costs.

While public listings have obvious long-term benefits, it must be acknowledged that they can also raise potential concerns from a corporate point of view, all of which need to be honestly addressed upfront as part of an education process.

In developing economies, private companies are often controlled by families[48], who by nature are often reluctant to expose their businesses to outside scrutiny, want to minimise the cost of auditing and reporting, and are keen to maintain control over the business both as owners and holders of key management and board positions. We are addressing each of these concerns in turn, as follows:

Listing costs money: Such expenses include not just the direct costs of an IPO, including legal, auditing and investment banking fees, but also the dedicated investor relations team the company must hire and pay on an ongoing basis. Top management are also often required to allocate their time to meet investors and arrange regular investor/analyst events (quarterly calls, factory visits, etc.) all of which carry additional costs. This is a fair point, and companies need to carefully consider whether given their size, and growth plans, the benefits of listing, such as significantly lowering their cost of capital, outweigh the one-off and ongoing listing costs. Stock market regulators may also want initially to ease the cost burden by allowing smaller companies to list with less demanding listing and reporting requirements[49] by creating a separate listing platform (like the LSE's AIM[50] or the JSE's AltX) a kind of anteroom for small-cap companies, which are not yet mature enough to satisfy the more demanding regulatory, listing and reporting requirements.

Listing demands information disclosure: managers of listed companies often complain that they need to disclose detailed operational information about their business and strategy, which their unlisted competitors do not have to do. This, they claim, puts them at a major competitive disadvantage. We have always argued that this reasoning is somewhat flawed. While no one expects a pharma company to disclose the molecular make-up behind their latest drug discovery, the vast majority of the information disclosed by companies at the time of release already represents historical facts rather than future strategy. In addition, any company who really wants information from their competitors, can simply hire their relevant senior personnel rather than wait for them to be listed. However, ultimately the best proof that listing does not harm competitiveness is the endless list of blue-chip companies that thrived after their IPOs despite being listed in some of the most developed exchanges with the most stringent reporting requirements.

Listing dilutes control and can create conflict between the long-term interests of strategic (family/founding) shareholders and the short-term

47 For example, as The National News reported in Dec 2020: "Qatar's purchase of a 10th of the Istanbul stock exchange sparked an outcry from Turkey's opposition, which claimed President Erdogan is selling off the country's prized assets to save the struggling economy. The sale … was completed for an undisclosed fee." This is in sharp contrast with earlier privatisation practices in Turkey when Türk Telekom was privatised through the stock exchange in a transparent manner without political controversy. As the OECD reported: "The fundamental rationale of an offering by the Turkish government in Türk Telekom was not only to increase transparency, accountability, disclosure standards in Türk Telekom, but also broaden the ownership base, enhance development in capital markets and raise governance standards."
Sources: https://www.thenationalnews.com/world/erdogan-accused-of-selling-out-turkey-s-most-prized-assets-to-qatar
OECD: Privatisation and the Broadening of Ownership of State-Owned Enterprises: Stocktaking of National Practices (2018)

48 As the IFC reported: "Family-owned businesses are particularly thriving in low- and middle-income nations and some experts predict they will make up nearly 40% of these markets' largest companies by 2025." Source: https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/family+businesses+fuel+growth+in+emerging+market+economies

49 These typically include minimum requirements concerning listing size and free float, accounting standards (IAS or local), depth and length of historical information published, frequency and depth of ongoing reporting.

50 "AIM (Alternative Investment Market) is a sub-market of the London Stock Exchange (LSE) that was launched in June 1995. It allows companies that are smaller, less-developed, or want/need a more flexible approach to governance to float shares with a more flexible regulatory system compared to the main market."
Source: https://en.wikipedia.org/wiki/Alternative_Investment_Market

objectives of financial investors. Long-term strategic investors often argue that listed companies (as opposed to family-owned enterprises) are under a lot more pressure to deliver strong quarterly numbers, as managers (under pressure from financial investors) often become disproportionately focused on short-term share-price performance. As a result, during a cyclical downturn, they would be far more tempted to cut labour force and investments drastically, even if sometimes this could be against the company's long-term interest.

Conversely, during good times, listed companies may be more tempted to distribute all excess cash, as financial investors may put them under pressure to maintain a 'lean' balance sheet in the hope of getting more dividends.

This could mean that if and when an unexpected shock hits, these companies could be far more exposed to market share loss and even bankruptcy. However, we believe that shareholders, together with a responsible Board of Directors can ensure that managers are properly incentivised to take into account the company's long-term interests (e.g., management compensation could be linked to the company's long-term financial/operational performance across the economic cycle with a possibility of clawback if something goes wrong later). This is easier to achieve if the strategic investors (or founders) preserve either an absolute (over 50%) or relative majority (when their holdings, though below 50%, still are by some distance the largest) ensuring that they control important Board positions and by extension management appointments and remuneration.

This could also be achieved through allocating special (golden) shares to strategic (founding) investors which come with super-majority voting rights. However, it needs to be pointed out that such a voting system (as the recent shareholder dispute at Meta/Facebook shows) also could have drawbacks. Therefore, finding the right balance in this regard is crucial, but the existence of such mechanisms should give comfort to founders/family that they need not necessarily relinquish operational control upon public listing.

What is the upside of stock market listing for founders & family? Apart from the usual advantages of listing, such as significantly lowering the cost of capital and diversifying the company's funding structure,[51] listing also creates other options which are especially beneficial in a family context. For example, intergenerational transfer of control often requires a significant cash release from the existing business, which is hard to finance through regular dividend payments. IPOs can easily facilitate a larger cash release as the family reduces its stake from 100% upon listing. Listings can also help to optimise the family's tax burden.

While dividend payments often attract withholding tax for the corporate, and income tax for the recipients, a listing can help to establish the exact value of the company's shares, thereby allowing the family to borrow against part of their shareholding as collateral. This could raise cash for the family without attracting additional tax. An IPO can also substantially increase the attractiveness of ESOPs (Employee Shareholding Ownership Programs) as it could provide a liquid and quantifiable incentive system for senior personnel.

We believe that to ensure a steady flow of private companies to become listed, these concerns and upsides need to be addressed upfront. Due to the economic and political reasons we have highlighted in previous sections we believe that it is substantially less controversial for policymakers to support privatisation through IPOs on a public exchange as state-owned companies, due to their larger size and more regulated nature, face fewer and lower obstacles than private companies.

Attractive **mass privatisation programmes** are also a great tool to create a retail equity culture hence ensure liquidity in public equity markets. For example, in the UK, following the mass privatisation program of the 1980s, "in the general population, the proportion of share owners increased from 7 percent in 1979 to 25 per cent ten years later."[52]. Once these accounts are open, and following a positive, profitable experience of stock market investing, a few successful state privatisations via the stock exchange, maybe combined with special discounts for retail investors, could lay the necessary foundations for a retail equity culture.

Quantitative analysis has also found that IPOs of SOEs were typically under-priced compared to private equity offerings not only in the UK but also in emerging markets such as Hungary. As the researchers concluded[53]: "Besides the goal of credible privatization, under-pricing may result from other political objectives of the government. The most important of these considerations are buying political support, targeting dispersed ownership, giving ownership to employees, and promoting capital market development."

In other words, privatisations through listings could be a great tool for the government not only to improve government finances, reduce SOE operational costs, eliminate state monopolies, incentivise SOE managers, but also to create political goodwill ahead of tough reforms. As a result, privatisation through IPOs has been quite common in many countries over the years,[54] the key principle being that "most countries have relied on

51 Issuing more equity could also materially cut the company's interest cost as raising equity lowers leverage, hence default risk.
52 Institute of Government: The Privatisation of British Telecom (1984) Source: https://www.instituteforgovernment.org.uk/sites/default/files/british_telecom_privatisation.pdf

53 Ibolya Schindele and Enrico C. Perotti: Pricing Initial Public Offerings in Premature Capital Markets: The Case of Hungary (Dec 2002)
54 OECD: Privatisation and the Broadening of Ownership of State-Owned Enterprises: Stocktaking of National Practices (2018)

share offerings to privatise large companies and trade sales to privatise smaller firms"[55]. The OECD estimates that "public offerings on average accounted for close to two-thirds of all privatisation proceeds".[56]

Similarly, the **exit-mobilisation of MDB/DFI holdings** could ensure a flow of attractively priced assets to the public equity market. The credibility of these assets is naturally higher since these companies have been through a rigorous due diligence process conducted by well-respected organisations either directly, or indirectly through their private equity managers, ensuring that the quality of management, operations, and corporate governance are all up to a high standard.

The listing of MDB/DFI holdings also takes the companies to the next natural stage of becoming a fully privately held organisation, opening a potential new growth phase by lowering their cost of capital. It also gives an opportunity to the MDBs/DFIs to recycle their capital into companies which are at an earlier stage of their transformative growth and could benefit more from MDB/DFI support and guidance.

While equity allocation of MDBs/DFIs is limited, the recycling of their equity holdings through IPOs could still make a difference in less liquid markets. Although the proportion of direct equity holdings in the Sub-Saharan Africa portfolios of the nine sampled MDBs/DFIs was only 8%[57], given their sizeable overall commitment of $45bn at the end of 2019, this still amounted to $3.6bn. In addition, including $6.1bn held through their Private Equity (PE) funds, total equity exposure among these institutions amounted to almost $10bn. Based on the country breakdown of these equity investments[58], in some Sub-Saharan countries, like Ghana, Uganda, Tanzania and Zambia, the exit-mobilisation just by these nine MDBs/DFIs through local stock exchanges could increase the capitalisation of these equity markets by a meaningful 13-17%.

However, in our view, **the low equity exposure of MDBs/DFIS represents a missed opportunity.** At present "lending (still) accounts for over 77% of commitments made by the sample of institutions. This includes term loans and credit facilities, many of the latter extended to financial institutions." [59] While such lending can come with conditions, it rarely offers the same operational oversight typically offered by a meaningful equity stake, translating to board seats, and with that a more direct positive influence over know-how transfer, corporate governance, management quality, strategy of how to invest, create jobs and growth in a sustainable way (in line with the UN's sustainability goals), broader corporate culture and other potentially transformational issues private equity-style investments can characteristically influence.

A two-pronged strategy – exit equity holdings through IPOs and increase equity exposure within MDB/DFI portfolios – holds the most promise. On top of the considerable positive influence MDBs/DFIs can already exert through implementing an IPO-driven exit strategy, they should also consider materially increasing their direct and indirect equity allocation within their portfolios. This should improve not only the quantity but also the quality of equity listings. In preparation for exit mobilisation through IPOs, MDBs/DFIs should use their corporate governance and capital market expertise to transform the companies they hold equity stakes in and also be in a position as key drivers of future IPOs to advise local policymakers on how to further improve capital market legislation and regulatory practices. This way MDB/DFI exit mobilisation would not only help liquidity directly by adding to the local equity opportunity set, but also indirectly by improving the broader corporate governance and investment climate.

We have already addressed some of the key concerns founders might have when they consider stock market IPOs as a potential exit strategy. However, MDB/DFIs, PE investors or family owners would have another key **issue to ponder: can an IPO, especially in a frontier market, deliver a fair price?**

Shareholders often look at average stock market valuation metrics, such as PERs, and decide against an IPO as a viable exit strategy. However, a deeper analysis of frontier market valuation metrics reveals that average market valuations often hide a significant dispersion in valuation between lower and higher-quality names. In other words, quality investments can command a significant premium even in frontier markets (see the example of Nigeria in the box below).

55 Ibid. p. 50
56 Ladan Mahboobi: Recent Privatisation Trends in OECD Countries (OECD 2002)
57 Eighteen East/Mobilist/FCDO: The exit-mobilisation opportunity in Africa (March 2021)
58 Ibid. p. 11
59 Ibid. p. 9

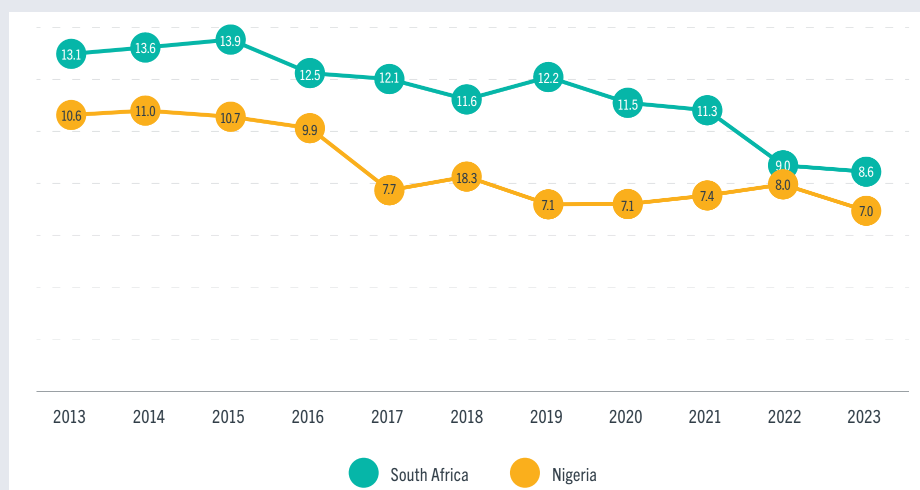
QUALITY CAN OVERRIDE THE COUNTRY DISCOUNT – THE VALUATION CASE STUDY OF NIGERIA VS SOUTH AFRICA

A quick market average PER (Price Earnings Ratio) comparison (see Figure 10) between Nigeria (yellow line) and South Africa (green line) seems to confirm that it is much harder to get an acceptable IPO valuation in a frontier market, such as Nigeria. Indeed, the average PER discount of Nigeria compared to South Africa was a significant 27% over the last 10 years.

However, if one investigates what companies in which sectors could be driving such a significant valuation discount, it emerges that Nigeria's poor showing is largely driven by its banking sector, which went through a major and to a large extent self-inflicted crisis driven by excessive margin lending and outright fraud exposed by the 2009 financial crisis.

As Oludara Akanmidu[60] explains[61]: "Nearly ten years ago the Central Bank conducted a deep assessment of the country's banks. The 2009 exercise exposed large-scale fraud committed by a number of CEOs. To save the banking system from collapse, the Central Bank took over a number of institutions and spent billions saving others. Criminal charges were laid against five CEOs for offences which included fraud, market manipulation, concealment, and grant of credit facilities without adequate security." This behaviour, which was largely confined to the banking sector in Nigeria, caused a massive credibility loss, resulting in a whopping average discount of 55% in Nigerian banking PERs over the same period (see Figure 11.)

Figure 10. Average Stock Market PER of Nigeria vs South Africa



Source: Simply Wall St (https://simplywall.st/markets)

This behaviour, which was largely confined to the banking sector in Nigeria, caused a massive credibility loss resulting in a whopping average discount of 55% in Nigerian banking PERs over the same period (see Figure 11 below).

However, investors appear to be sophisticated enough to understand the quality difference between banking and other sectors in Nigeria. If one compares the valuation of Nigerian consumer staples against their South African counterparts, the valuation discount almost entirely disappears (see Figure 12 below).

While Nigerian staples (green line) cannot entirely escape the country impact of higher volatility vs South Africa, on average they are traded at only 3% discount over the same period. This is because this sector largely comprises of high-quality food and beverage firms benefiting from blue chip brands and strong managements.

60 Lecturer in Law, De Montfort University
61 Oludara Akanmidu: Collapsed bank CEO cases point to weaknesses in Nigeria's justice system (The Conversation, July 5, 2018), Source: https://theconversation.com/collapsed-bank-ceo-cases-point-to-weaknesses-in-nigerias-justice-system-99236

Figure 11. Average Banking PER of Nigeria vs South Africa

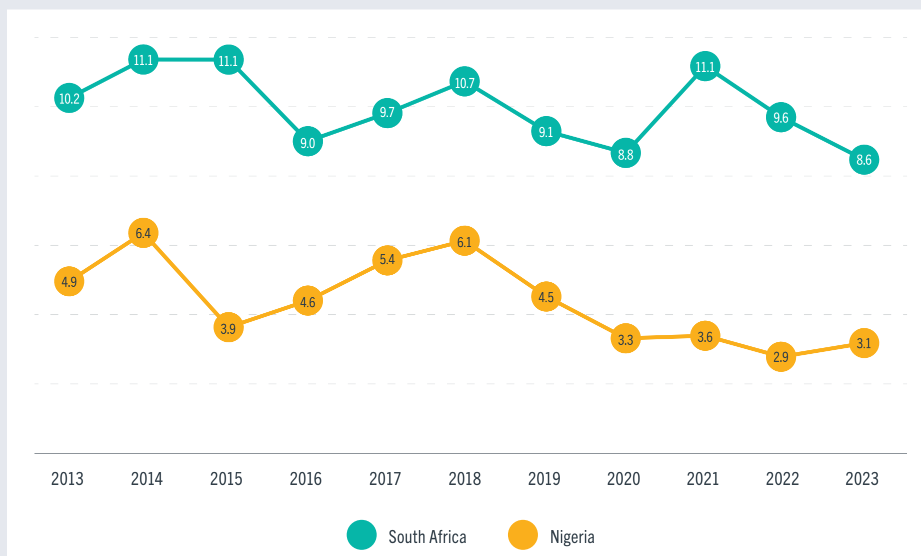
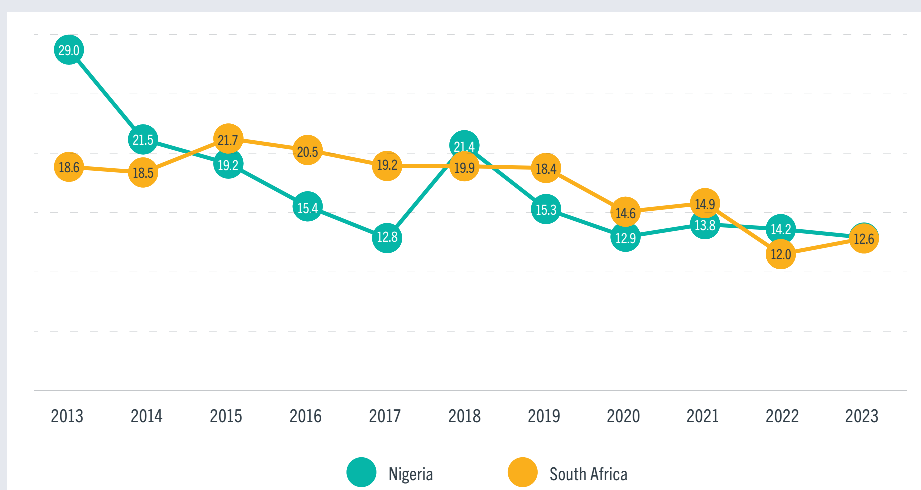


Figure 12. Average Staples PER of Nigeria vs South Africa



Sources: Simply Wall St (https://simplywall.st/markets)

This should alleviate the concerns of MDBs/DFIs and indeed their PE managers that frontier markets cannot provide an acceptable valuation. This example supports the notion that quality companies and managements can command a sufficient valuation premium to significantly narrow the usual valuation discounts between frontier and core emerging markets.

In addition, there are a number of potential methods and tactics which could further mitigate such valuation concerns. First of all, potential demand could be gauged by pre-IPO pilot fishing, when companies and their PE/MDB/DFI owners can visit prospective institutional investors and get valuable feedback concerning the likely valuation of the company in question. Secondly a listing does not require a full exit: very often PE investors, or families only sell 25-49% of the company and see how valuation settles on the exchange. If they are not satisfied with valuation and/or liquidity, they can always pursue the option of trade sale to a strategic partner at a premium (since they can still offer a controlling stake which demands a premium). Then the

the new strategic owner can decide whether to keep the company listed following the trade sale or buy out minorities (ideally at the same price if corporate governance rules guarantee tag-along rights) and delist. This method offers the safety net of successive testing of both exit routes (IPO and trade sale), allowing PE investors/MDBs/DFIs/families to benefit from a competing set of buyers (portfolio investors and strategic partners). Whereas if the owners opt for a strategic buyer straight away, not only do they give up control immediately, but they also lose an important valuation reference point.

Attracting foreign capital

Attracting foreign capital is crucially important not only because a more diversified investor base with differing opportunity costs, investment objectives and time horizons brings more stability to the exchange (since their differing views enable them to provide liquidity to each other when one group of investors is under pressure to trade). Domestic investors also benefit from increased transparency, better reporting standards, improved corporate governance standards and better liquidity, all of which foreign investor participation typically helps to improve.

However, we have deliberately put this objective last, not because we do not think that attracting foreign capital is important, but because experience has taught us, that without meaningful domestic participation, foreign capital in- and outflows can easily overwhelm a fledgling equity market, causing unnecessary price volatility.

Structures and strategies: what instruments do foreign investors use in illiquid markets?

Yet foreign investors may want to access relatively illiquid markets at an early stage to take advantage of the typically low valuations which often more than compensate for the lack of liquidity. If liquidity is scarce, for actively managed portfolios, with a bottom-up, stock-picking approach, P-Notes[62], grey structures, block trades (dark pools[63]), or off-shore ADR/GDR[64] listings can provide entry and exit strategies for individual securities. In addition, passive investors or top-down asset allocators can also use ETFs, closed-end funds[65], or even derivatives (e.g. index futures/options) to gain access to illiquid markets with an otherwise attractive long-term economic outlook.

In illiquid frontier markets block trades through the exchange rather than dark pools tend to be the preferred strategy employed by investment banks, as it could be prohibitively expensive to sponsor a dark pool given the limited trading volume. Block trades only require the investment bank – in response to explicit client interest – to investigate the shareholder register of a company and approach potential sellers directly with an offer to offload shares. However, such solutions tend to be inferior: in case of block trades or dark pools the pricing signal is either lost or becomes hard to replicate for other investors. In addition, even for the successful buyer these solutions do not address the ultimate exit risk unless the liquidity problem is resolved in the meantime.

Some foreign exchanges provide well-regulated exit options for otherwise illiquid assets in other locations. An example of such innovation is the LSEG's Turquoise[66] trading platform to facilitate bilateral block trading between the world's largest institutional investors. Foreign exchanges could also enable offshore ADR/GDR listings, which – compared to block trades or dark pools – can far better address price signalling and exit concerns. There are plenty of examples in emerging markets when offshore ADR and GDR-listings in respectable foreign markets have helped to boost both liquidity and information access considerably for foreign investors and even eliminated some of the technical difficulties concerning currency conversions [67].

However, none of these solutions deals with some of the potential corporate governance challenges since none of them offer the protective shield provided by the meaningful involvement of the domestic savings industry. In some cases, when the local government have subsequently decided to raid the strong cash position of the offshore listed company, it has not been politically controversial, since there was no widespread domestic ownership in most of these companies to provide a protective shield against such expropriations.[68]

Though this may sound counter-intuitive, in this sense even continued, albeit limited post-IPO government ownership can be useful. Some might assume that if the government remains a sizeable shareholder this could expose investors to political interference. In our

62 As Blackrock explains: "P-Notes are Participatory notes issued by counterparty banks that are designed to offer the holder a return linked to the performance of a particular underlying security and used where direct investment in the underlying security is not possible for regulatory or other reasons."
Source: https://www.blackrock.com/uk/literature/policies/itc-disclosure-blackrock-frontiers-investment-trust-plc.pdf

63 As Investopedia explains: "A dark pool is a privately organized financial forum or exchange for trading securities. Dark pools allow institutional investors to trade without exposure until after the trade has been executed and reported. Dark pools are a type of alternative trading system (ATS) that gives certain investors the opportunity to place large orders and make trades without publicly revealing their intentions during the search for a buyer or seller."
Source: https://www.investopedia.com/terms/d/dark-pool.asp

64 American Depository Receipts and Global Depository Receipts

65 E.g., the "Vietnam Enterprise Investments Limited (VEIL) is a closed-end fund trading on the Main Market of the London Stock Exchange. Launched in 1995, VEIL is the longest running fund focused on Vietnam and one of the largest which invests primarily in listed and pre-IPO companies in Vietnam that offer attractive growth and value metrics, and strong corporate governance." Source: https://www.veil-dragoncapital.com/

66 "Turquoise is majority-owned by LSEG (London Stock Exchange Group) in partnership with the user community. It offers members access to 4,500 securities across 20 countries. With a single connection, members can trade shares, depository receipts, ETFs, and European rights issues of 20 countries with an open model approach (supporting interoperability and preferred clearing models) that allows members to choose among four CCPs to clear these trades. Members include banks, brokers, specialist trading firms and retail intermediaries." Source: https://www.londonstockexchange.com/securities-trading/turquoise/turquoise-trading-services

67 Russia was one of the most prominent examples of an equity market with large corporates but underdeveloped local equity culture. This has led to a large number of ADR/GDR issues (MTS, Yandex, Mail,ru, Novatek, Lukoil, Sberbank, Sistema, X5 and Yukos to name some of the more prominent companies).

68 Russia has provided a number of examples when the government could expropriate assets without much political controversy as companies like Yukos or Gazprom were not widely held by local investors. Possibly the most famous and controversial case was that of Yukos: "Between 1996 and 2003, Yukos became one of the biggest and most successful Russian companies, producing 20% of Russia's oil output. In October 2003, Khodorkovsky - by then the richest person in Russia and 16th richest person in the world - was arrested, and the company was forcibly broken up for alleged unpaid taxes shortly after and declared bankrupt in August 2006."Source: https://en.wikipedia.org/wiki/Yukos

view there may be a mutually beneficial balance here: if government maintains a healthy economic interest in a company but without exercising day-to-day operational control and providing the proper financial incentives for management to run the business profitably in the interest of all shareholders, then government's financial interest could actually be helpful to protect the company against undue political/regulatory pressure. The contrasting examples of MTN in Nigeria (no government ownership) and Safaricom in Kenya (35% state ownership) illustrate this point: while MTN has for years struggled with legal troubles and significant regulatory fines, Safaricom was allowed to launch the enormously successful payment system M-PESA with relatively limited regulatory interference.

In other frontier markets, where domestic savers provide reasonable liquidity, but foreign participation is legally limited, P-notes could allow foreign investors to tap into domestic liquidity. However, they tend to expose foreign investors to different kinds of risks. As Blackrock explains [69]: "P-Notes are uncollateralised, hence in the event of a default by the P-Note issuer, investors could suffer losses up to the full value of the P-Note; in addition investors are only able to trade through the P-Note issuer and this may have a negative impact on the liquidity of the P-Notes which does not correlate to the liquidity of the underlying security."

Other special investment vehicles, somewhat similar to P-Notes (popularly called grey structures), were a fashionable solution 20-25 years ago in emerging markets, where foreign ownership of local shares was severely curtailed or outright banned. Grey structures could often take a form of an offshore fund[70], which only had one holding (for example Gazprom in Russia or ENBD in UAE). In turn, units in such grey structures were sold to foreign investors who otherwise were unable to access local shares.

Once foreign ownership was allowed, the valuation of local shares started to converge to that of ADRs/GDRs and the fund was unwound, generating often significant returns for its holders. However, at the same time, the main disadvantage of grey structures compared to P-Notes was two-fold: that such offshore funds (grey structures) only made sense if the foreign ownership ban of local shares was lifted within a reasonable timeframe and equally importantly (but far less obviously) custody arrangement of these off-shore funds was only possible with local rather than global custodians, creating a massive indirect counterparty risk for foreign investors. This would have meant that if the local custodian, where the offshore fund held its underlying shares, were to default, foreign investors could potentially lose all their money. Such drawbacks meant that ultimately grey structures were by and large replaced by P-Notes, which carry significantly lower risk, but typically also materially lower upsides. This is because P-Notes allow all foreign investors to tap into local liquidity at a significantly lower transaction cost and counterparty risk, rather than giving access to a select few, who are happy to take the event- and counterparty risk inherent in the grey structures.

Often when both liquidity and corporate information are scarce (especially for foreign investors) but top-down economic analysis suggests attractive long-term returns, asset allocators, who do not have the resources to support a bottom-up, stock-picking investment process, use broad-based financial instruments which provide diversified access to the underlying market: ETFs, closed-end country funds, index futures or call options.

The obvious shortcoming of this approach is the loss of control over the investment principles investors would otherwise prefer, which could mean that through their portfolios they end up inadvertently supporting companies with unsavoury ESG standards, lack of growth opportunities or unrealistic valuations.

There are also additional risk factors that could not be sufficiently addressed by any of the above investment vehicles, which explains why we strongly believe that it is essential to the credibility of any exchange and to the protection of foreign investors' interest that domestic investors should also have a significant skin in the game.

In summary, foreign investors prefer to invest in exchanges which are supported by a sizeable domestic savings industry for the following reasons:

- A strong local savings industry could enable an exit strategy even during times of global economic turmoil.
- The balance sheets of companies, which are commonly owned by domestic pension and mutual funds or local retail investors, are far harder to be raided by the government, as hitting the value of domestic savings is far more politically controversial than treating foreign investors unfairly.

These are some of the main reasons why ultimately short-term liquidity fixes (foreign listings, GDRs, block trades, dark pools, ETFs, index futures, closed-end funds) should not replace the ideal long-term foundation a striving domestic savings industry provides to any local equity exchange.

Minimum requirements by foreign investors: how can local regulators help?

69 Source: https://www.blackrock.com/uk/literature/policies/itc-disclosure-blackrock-frontiers-investment-trust-plc.pdf
70 In November 2003 Charlemagne Capital in London was raising money for an offshore fund to buy domestic Russian shares of Gazprom, the world's largest producer of natural gas. Due to regulatory restrictions foreign investors were not allowed to buy local Gazprom shares directly. As a result, at that time Gazprom's ADRs were trading at almost 100% premium compared to Gazprom local shares. The fund was set up in expectation of lifting a ban on foreigners buying and selling Gazprom's local shares.

The impact of payment channels, custody, and settlement times are often under-appreciated by both investors and policymakers as they are perhaps considered dry and non-controversial, and rarely a subject of newspaper articles. However, in the following section we deliberately focused on the lesser-known, more technical issues, which – if not addressed – could be just as detrimental as the headline-grabbing topic of corporate governance scandals.

Local and global custody needs to work seamlessly. Most foreign funds (with perhaps the exception of some hedge funds) can only trade through their one chosen global custodian partner. To authorise any new custodian requires client approval and rewriting the investment memorandum/fund prospectus, which is costly and time-consuming, not to mention the significant additional counterparty risk the approval of every new local custodian adds. Therefore, local regulators should make it as straightforward as possible for global custodians to set up their local operations and arrangements with local custodians and incentivise local custodians to be set up with global custodians. For example, local custodians, who are unable to come to an agreement with global custodians within a certain timeframe, could lose their licence, and/or local custodians, who manage to set up with global custodians, could enjoy special privileges.

Settlement rules need to reflect the practical reality of F/X conversion in the country. It is well understood by all market participants that short settlement times have crucial advantages over long ones (e.g., if there is material newsflow while the trade has not yet settled, neither buyer nor seller can react to the news, which could cause unfair losses or gains on either side). In addition, in this day and age of technological advance, a T+2 or T+3 settlement period should not be too difficult to implement.

However, what is far less appreciated is that a too short settlement time (T+0 or T+1) can also cause serious issues, especially for foreign investors. The main reason for this is that foreign investors, especially GEM Funds, which invest in a large number of countries, cannot keep large amounts of cash in each of the currencies they potentially want to trade in, but typically keep their free cash in USD or EUR. Therefore, when foreign investors decide that they want to purchase shares in a local market, their traders are required to give trade instructions on T date and settlement instruction on T+1, by which time their custodian bank should convert the appropriate amount of USD/EUR into the local currency. In other words, settlement periods need to reflect the time F/X conversion takes, which typically adds one extra day to the transaction. This makes T+2 or even T+3 a safer stock exchange settlement period for foreign investors, if the stock trades in local currency, depending on the timeframe of F/X conversion. This is of course different for ADRs/GDRs which trade in USD, where T+1 settlement would most likely be acceptable.

Therefore, India's recent initiative to move "all the large-cap and blue-chip stocks to a T+1 trading system"[71] may not be greeted with universal approval from foreign investors. While from a purely technological point of view, Indian policymakers are rightly proud that India will be the first country in the world to move to a T+1 settlement system, even ahead of the US or Europe, perhaps the more pragmatic question to ask is that while T+1 may be appropriate in the US or in the Euro area, it may be less so in emerging markets which are not part of big reserve currency blocks.

While in the US or Euro area, T+1 settlement may not be an issue because most investors keep their free cash in USD or EUR, in emerging markets this could lead to more failed trades, especially among foreign investors (and even among some local retail clients) who cannot afford to keep pre-funded local currency accounts. It is for the same reason that Vietnam is being urged to give up the strict demand for pre-funded trades (even though T+2 settlement does not require pre-funding). As a CNBC article[72] explains: "Investors usually settle their trades two days after a deal in open markets, but in Vietnam they have to ensure the availability of funds prior to trade execution, which adds a significant cost for traders who execute multiple daily operations. Both the FTSE and MSCI have publicly said that Vietnam's pre-funding requirement and strict limits on foreign ownership of shares are among the main hurdles to an emerging market status upgrade."

Currency convertibility needs to be safeguarded. One of the biggest risks for foreign investors is repatriation. Therefore, ensuring currency convertibility is paramount. This requirement is not to be confused with a certain level of exchange rate volatility, which is accepted by foreign investors who are familiar with emerging market risks. The far bigger issue for foreign investors when the country's F/X reserves dry up and their investment are locked in the country for an extended period of time (see the case study of Nigeria below).

As some foreign investors suggested to us[73] one potential solution is that the country's Central Bank puts the USD/EUR reserves generated by foreign portfolio inflows into a separate account, from which repatriation could be facilitated. That way foreign portfolio investors would effectively be ringfenced not from foreign exchange volatility (a risk they are prepared to take or could be hedged against) but from repatriation risks, which are impossible to be hedged against.

71 India Times: India To Probably Become World's First Country To Shift To Shorter Trading Cycle T+1 From January 27 (Jan 17, 2023), source: https://www.indiatimes.com/worth/investment/trade-settlement-time-different-countries-590459.html

72 Source: https://www.cnbc.com/2023/01/19/vietnams-market-risks-missing-upgrade-to-emerging-economy-status-2025.html

73 Based on our interviews with frontier fund managers

NIGERIA: HOW FOREIGN PORTFOLIO INFLOWS DWINDLED AFTER RESTRICTING CURRENCY CONVERTIBILITY AND REPATRIATION

Following the collapse in the oil price in 2014 Nigeria severely restricted the convertibility of the Naira, effectively locking in foreign investors for an extended period of time or forcing them to sell their Naira in grey markets at significantly lower exchange rates.

As the US State Department report[74] explained: "In 2015, the CBN mandated that all foreign investors must obtain a Certificate of Capital Importation at the point of importing capital to enable them to remit investments. Such remittances may take several weeks depending on the size of the transfer and the availability of foreign exchange. Due to the forex shortages currently being experienced in Nigeria, remittances take longer than usual. CBN foreign exchange supplies to the market consistently fall short of demand thereby increasing the backlog of dollar demand for remittances, imports, and other international payments.

The CBN maintains a managed-float exchange rate regime where the exchange rate is fixed with little room to manoeuvre. It also maintains several "windows" through which foreign exchange is sold to different clients at different rates. While the CBN had been able to maintain convergence between its various rates in 2019, the forex shortages experienced in 2020 caused a divergence of exchange rates starting March 2020. In 2021, the CBN adopted the Investors and Exporters (I&E) foreign exchange rate, used by businesses to repatriate and trade at a market-clearing price, effectively devaluing the official exchange rate from 379 naira to the dollar to 411 naira to the dollar. Due to dwindling private investment inflows, the CBN is responsible for a large share of supply to the foreign exchange market.

Consequently, the I&E window has transformed into a tightly controlled managed-float in which the CBN frequently intervenes. The retail market rate at the Bureaus de Change continued to depreciate from 480 naira reaching 565 naira to the dollar as of December 2021 after the CBN stopped supplying foreign exchange to the market in July 2021. The divergence of the official and parallel market exchange rates has led to increased arbitrage further distorting the free-flowing parallel market price.

The share of foreign investment in equity trading declined to 22% in 2021 from 35% in 2020 and over 50% in 2018. This decline is indicative of foreign investors' diminishing appetite for Nigerian securities especially as repatriation concerns continue to mount."

Don't lose sight of the big picture – bureaucracy and taxes need to be minimised. In some markets, local rules and regulations are unnecessarily complicated. For example, in Kazakhstan, even though there is no Capital Gains Tax (CGT), local rules still stipulate that foreign investors must hire a local tax accountant or tax lawyer to look after their affairs. Similarly, when it comes to tax rules, regulators should not lose sight of the big picture. While from a budgetary point of view it may seem attractive to charge foreign investors CGT and withholding tax, often this could create such bureaucratic hurdles, that especially in the case of smaller markets (e.g., accounting for less than 3% of the GEM or Frontier Indices) foreign investors may decide that given the potentially very limited size of their investments in the country, it is too costly to higher tax experts to comply with complicated local tax rules. What regulators in smaller capital markets need to consider is that while abolishing investment-related taxes may deprive the budget from marginal tax revenue, it could encourage billions of dollars in investments, which ultimately may bring in far higher tax revenues to the government through lowering the cost of capital in the country, hence facilitating higher investment, growth, and job creation. Naturally large and liquid capital markets can afford to be significantly more prescriptive in their rules and regulations as foreign investors simply cannot afford to ignore them. In India for example, despite tight ownership regulations for FIIs (Foreign Institutional Investors), there is relatively little causal evidence that foreign portfolio inflows were restricted.[75]

74 Source: https://www.state.gov/reports/2022-investment-climate-statements/nigeria/

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

SEQUENCING IS CRUCIAL: ORDER OF PRIORITIES FROM EARLY- TO LATE-STAGE CAPITAL MARKET DEVELOPMENT

The right sequencing 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.

The section below should also give us the opportunity to discuss the most important practical aspects of a successful, liquid capital market:

- the role of key players such as policy- and market-makers,
- the necessary technical and technological requirements to enable the full chain of trade execution (electronification, dematerialisation, algorithmic execution, payment channels and settlement times, the role of OTC exchanges, etc.),
- the importance of regulation and investor education, fair and full trading and financial data dissemination, and minority shareholder protection not just at the exchange itself, but creating a broader, supportive legal environment for conducting business and investing,
- and the right sequencing of the necessary product suite introduction from plain vanilla securities all the way to more sophisticated derivative products and trading
  methods such as shorting.

Early-stage policy priorities

Supportive legal, economic and political environment: to function properly and to bring all the promised wider economic benefits, financial markets need to be surrounded by a broader, supportive legal, economic and political environment. This should provide assurances and protection for domestic and foreign investors that their holdings are protected through the entire life-cycle of investment, including currency conversions, trading, settlement and repatriation. Such a legal framework should not only protect the ownership rights of minority investors but should also safeguard their fair and equal treatment, ensuring that under the same circumstances (e.g., delisting, change of control, mergers and acquisitions) they can realise the same upside as the company's majority holders.

Viable capital markets require strong, well-funded and independent regulatory oversight from the very beginning. Most markets have an independent regulatory body modelled on the US's SEC (the Securities and Exchange Commission, though in other countries it is often called differently[76]), a kind of apex regulator of capital markets, whose main task is to protect investors from any kind of mistreatment (e.g., insider trading, frontrunning, accounting fraud, price manipulation, spreading false information about securities, etc.).

Ideally, SECs should be funded separately[77] from the stock exchange to ensure that there is no conflict of interest. Since stock exchanges are typically privately held, profit-oriented organisations[78], relying on fees paid by listed companies (a one-off listing fee and annual fees), registration, membership and various data, software- and hardware-related fees paid by market makers and brokers, and transaction fees paid by investors. Therefore, if stock markets were to self-regulate, they could face a certain conflict of interest as they would be forced to regulate and potentially fine organisations whose fees they are relying on.

Investor education, protection and incentivisation are all important to develop a viable local savings industry and attract local retail and institutional investors to invest in listed equities. To lay the supportive regulatory foundations requires a coordinated effort from a wide range of policymakers and regulators with strong government support. Protecting minority investors from an early stage of market development is especially crucial to ensure their positive experience and participation. Once a negative perception of public equity investing takes hold it is much harder to reverse.

Improving financial literacy needs to happen in tandem with incentivisation and protection. A financially literate population is essential to create a market where individuals are willing to invest in equities. Governments and other stakeholders can provide financial education programs to increase the public's understanding of the stock market.

Investor protection necessitates the establishment of both the corporates' IPO eligibility criteria and their

76 E.g., in South Africa it is the Financial Sector Conduct Authority, in Kenya it is the Capital Markets Authority, in Vietnam it is the State Securities Commission, while in Ghana and Nigeria it is the Securities and Exchange Commission.
77 For example, in the US "the SEC receives its funding from transaction fees that the U.S. Treasury requires stock exchanges and broker-dealers to pay."
Source: https://www.thestreet.com/dictionary/s/securities-exchange-commission

78 As Investopedia states: "More recently, exchanges have bought out their members and offered shares to the public instead via IPO. Today, most major exchanges are publicly traded companies." E.g., JSE in South Africa, Moscow Exchange in Russia, NYSE and Nasdaq in the US, JEG in Japan, HKEX in Hong Kong, and the LSE in the UK. There are however still few large exchanges which hark back to an old era: the Shanghai SE is still owned by the state, while the NSE and BSE in India are still owned by banks, insurance companies and brokers, respectively.

ongoing post-listing obligations. The list of such requirements is long, and there are excellent summaries available[79] concerning the comparison of various exchanges in terms of their standards. Therefore, we would only emphasize here that in the early stages of market development while tax incentives and other benefits are important to encourage local investor participation, the focus on corporate governance regulation, especially minority investor protection, is by far the most decisive.

This should include – amongst other things – board representation, clear takeover and delisting rules, tag along rights for minorities in case of takeovers, and strict rules governing reporting requirements and related-party transactions. Tightening other ESG requirements could gradually be introduced as the equity market matures.

Merit-based approach vs. disclosure-based approach: to this end in the very early stages of stock exchange development a merit-based method could be considered to control the quality of issuers. Under such regime, it is the regulator's responsibility to assure that all share issuers are of sufficient quality. The upside of such regime is that it protects investors when market sophistication is at still relatively low levels. The downside is that it could severely limit the number of accepted share issues and places a significant burden on the regulator in terms of workload and credibility. This is in contrast with a disclosure-based approach when the regulator's main job is to demand full disclosure from the issuer and investors are accountable for their decisions.

Education, incentivisation and regulation of listing candidates:

- Create a supportive market environment (legislation, etc.) to encourage listings of local companies (both private and state-owned), including the mobilisation of MDB/DFI equity holding exit strategies.
- Educate candidate companies about the advantages of listing, addressing their potential concerns (see our summary in the previous section).
- Set simple and clear listing requirements at the early stage of market development, with lower initial hurdles (number of audited years, requiring local vs international accounting standards, list of accepted auditors and investment banks, IPO documentation, corporate governance and free float requirements, etc.). These requirements could be tightened and improved as the market and its surrounding infrastructure (legal, accounting, auditing, investment banking) mature in order to improve the quality of listed companies and the protection of investors.

Modern trading facilities: at its most basic level this requires laying the technological foundations, such as electronification[80] of securities trading, establishing the role and responsibility of market makers and providing historical and real-time trade data. All of this can materially cut execution costs and transaction time and improve transparency.

Trade data accuracy and availability: from an early stage it is crucial that investors trust the data published by the exchange. Naturally as the market matures the data offering of the exchange widens. However, at every stage investors should be able to trust the accuracy of the data published by the exchange. From an early stage, real-time trading data should be available (live price and volume traded) as well as some post-trade statistics (price range, closing price, etc.) as well as basic corporate action data, which impacts the share price (ex-dividend dates, stock splits, bonus share issues, etc.) As the market matures more analytical tools, e.g. market indices should be introduced. This often happens in cooperation with international index providers.

Mid-stage policy priorities

Further improve trading facilities: Once early-stage electronification and dematerialisation is done, stock exchanges can focus on introducing execution algorithms[81], which should reduce the pricing impact of transactions, especially when executing a large number of orders for the same client (e.g., when funds face large in- or outflows). In addition, Direct Market Access (DMA) also improves trading efficiency as it eliminates layers of intermediaries, allowing investors better manage their order flow.

Introduce the concept of market makers.[82] This should typically improve the (pre)trading information flow (as market makers upon request state their bid/ask spreads) and liquidity (as market makers guarantee a certain minimum order size at their stated bid/ask spread). Market makers are an approved concept in most developed markets as there is strong evidence that they improve the trading volume of otherwise less liquid stocks.[83] Some analysts question the success of market making in terms of its impact on share price volatility[84], citing the example of the Nigerian stock exchange where, following the introduction of market makers in 2012, shares experienced high volatility.

79 Bird & Bird: Comparison of the Eligibility Criteria and Continuing Obligations for Listing Requirements (March 2021)
Dorsey & Whitney: Comparative Overview: Key Listing Requirements in New York, London, and Hong Kong (June 2019)
80 Electronification means dematerialising securities and moving to electronic trading and order processing instead of conducting trades face-to-face in an open-outcry system or directly on the phone under a manual execution system.

81 Popular execution algorithms include VWAP (Volume-Weighted Average Price), MTC (Mark To Close)
82 Market makers are nominated trading intermediaries who due to the size of their order books can guarantee to execute a certain minimum order size at their stated bid/ask spread.
83 As the NYSE study concludes: "market makers play a critical role in providing liquidity."
Source: Steven W. Poser: Market Makers in Financial Markets: Their Role, How They Function, Why They are Important, and the NYSE DMM Difference (Sep 2021)
84 Source: Oliver Wyman: Enhancing Liquidity in Emerging Market Exchanges (p. 34)

However, we would argue that market makers should be judged on whether they positively impact transaction costs and liquidity. While there is a certain causality between market makers and volatility (market makers improve liquidity and better liquidity – ceteris paribus – typically helps to reduce volatility), policymakers need to be aware that volatility could have many other causes beyond the trading system. For example, in our view, increased Nigerian volatility after 2012 was far more likely to have been influenced by heightened oil price and exchange rate volatility[85] rather than the introduction of market making.

Deepen market/trading data disclosure: Apart from live trading data, the stock exchange can also collect the five best quotes from both buyers and sellers of the same security based on the market makers' limit-order book. This extra information helps to tighten bid/ask spreads and reduces transaction costs.

Tighten listed company reporting requirements – move to a disclosure-based approach: under this system it is the responsibility of the issuers to release all necessary financial and operational corporate information and the investors' responsibility to interpret such disclosures. Reports preferably should also be published in English, eliminating the asymmetrical information disadvantage for international investors, thereby helping to attract more liquidity. This means further tightening of IPO disclosures (e.g., at least a 3-year historical audit of financial statements by reputable accounting firms in an extensive IPO memorandum with legally binding risk factor disclosures) as well as more clearly defining regular, post-listing reporting requirements.

An alternative – the tiered trading platform approach. As opposed to raising the quality of listing hurdles over time, another solution could be the introduction of a tiered approach with different trading boards (e.g. main, small-cap and OTC) with different reporting requirements to ease the entry of smaller companies (see the example of South Africa in the box below). This could allow fast-tracking the listing of companies at an earlier stage of their development when their financing needs are the greatest and also allow investors with differing risk appetites to build their portfolios on a wider scale of the risk-return spectrum. Naturally, the differentiation in risk profile between the various tiers should be clearly communicated to retail investors. As companies mature and comply with higher reporting, liquidity, and governance standards, they should have the opportunity to upgrade to a higher tier.

To facilitate investor demand for ESG investing, the stock market could also consider an upper tier for companies with the most ambitious ESG plans. This could include not only companies with the highest level of ESG compliance but also companies with the most ambitious and best-documented ESG improvement plans with clear and quantifiable milestones (see the example of Brazil below).

LAUNCHING NEW TIERS OF TRADING – THE EXAMPLES OF BRAZIL AND SOUTH AFRICA

The examples of Brazil and South Africa highlight that stock exchanges do not exist in a vacuum. In order to succeed in their mission of maximising listings while providing a safe environment for investors they need to take into account the general level of development in the country's ESG standards.

In South Africa, the broader social, political and corporate environment is more conducive to realise ambitious ESG targets given the long history of the country's stock exchange. As a result, the JSE has already implemented some of the most stringent governance standards in emerging markets. For example, its "Social Responsibility Index (SRI) was already launched in May 2004, seeking to measure companies' policies, performance and reporting in relation to the three pillars (environmental, economic and social sustainability)." [86] Therefore, in South Africa, where ESG requirements are relatively high[87], the JSE has launched a trading board with simpler reporting standards in 2003, called AltX, to ease the entry of smaller companies.

In contrast in Brazil, where most listed companies would have struggled to immediately comply with high ESG standards, the Stock Exchange has launched an aspirational trading board in 2002 called Novo Mercado, where the key differentiating factor was stricter corporate governance (i.e. only the G from ESG).

85 See Adenekan, A. T., Hilili, M. J. and Okereke, A. N.: Oil Price, Exchange Rate and Stock Market Performance in Nigeria (Dec 2020)
86 Source: https://www.jse.co.za/our-business/history
87 Key ESG milestones at the JSE: 2013: entire FTSE/JSE All Share Index assessed for inclusion in the SRI index for the first time. 2015: JSE partners with FTSE Russell and the Responsible Investment (RI) Index replaces the SRI index, based on the FTSE4Good model. 2020: Sustainability Segment introduced by adding social and sustainability bonds to the green bond segment The first ESG ETFs are listed: Emerging and Developed Markets ESG metrics exposure based off global ESG indices. 2021:

Opening an additional layer of liquidity and capital and accessing a growing pool of foreign capital intent on green and sustainable investing could provide a strong incentive for companies to embark on a rewarding ESG journey. Regulators, stock market policymakers, independent ESG analysts and index providers could supply the necessary checks and balances before a company would be approved to trade on a specific ESG board. Such a seal of approval could also help investors to create the necessary opportunity set to launch ESG-centred funds in developing economies.

Encourage foreign capital inflows: depending on the maturity of the domestic savings industry, the size of available free float and the anticipated flow of new listings, the participation of foreign investors should be encouraged at some point during the market's mid-stage development. To ensure that supply and demand of tradeable shares are not out of kilter (potentially causing significant mispricing) policymakers often apply a phased approach, a gradual introduction of foreign ownership. However, all of these phased strategies (foreign ownership limits, excluding or limiting foreign investors from IPOs, only allowing in foreign capital through ETFs) could also have significant drawbacks, the most important being that local companies/ issuers may not reach their fair valuation targets due to limited demand and liquidity. This is not to mention that P-Notes and other structures can potentially provide a way for foreign investors to circumvent foreign participation limits albeit at an extra cost and risk.

Product innovation: introduction of securities lending and borrowing (SLB) to enable market-making, short-selling, ETFs, and ultimately equity derivatives. In our view some investment strategies (e.g., short-selling and ETFs) are conceptually easier to understand, and hence require less investor education compared to more complex derivative strategies (futures, options), while they should have a positive impact on liquidity. Therefore, policymakers need to carefully orchestrate the introduction of various investment products and strategies in tandem with the necessary investor education. However, the most important prerequisite of the successful introduction of a range of more sophisticated investment strategies is securities lending and borrowing[88].

Securities lending and borrowing (SLB): the list of risks and their remedies:

Counterparty risk: the exchange should limit the participants to regulated institutions (financial intermediaries, pension funds, etc.) with minimum capital requirements.

Collateral risk: Define clearly what can serve as collateral for an SLB transaction and initially limit this to cash. Such share collaterals may in the meantime be used by the stock lender (rehypothecation[89]). However, this needs to be carefully regulated and pre-agreed by the lender and borrower.

Market risk: the exchange needs to require the reporting of shorting transactions and publish a daily update of overall short positions in any given securities. The exchange may also want to consider short position limits initially, to make sure that prices of less liquid names cannot be manipulated by large position taking.

To help with all risks: Investor education and Global Master Securities Lending Agreement (GMSLA): all the above risks need to be well communicated to investors and corporates alike. In addition, the regulator can require the use of the internationally accepted GMSLA[90] in order to mitigate the risks above.

Late-stage policy priorities

Late-stage priorities in many ways are the finalisation of previous technological and product innovations and regulatory developments:

Last stage of technological advancement: introduce further pre-order transparency (real-time order book data) which allows traders to assess the depth of the order book for individual stocks. This in turn enables investors to finetune trading strategies to minimise the trade's price impact and its execution cost. Exchanges could also consider co-location services[91] to cut latency in execution, algorithmic[92] and high frequency[93] trading, all of which could certainly boost liquidity, but could also have some undesirable effects. We cover the pros and cons of these innovations in the final section when we address some of the more controversial issues policymakers face.

Final stage of product innovation: launching the most sophisticated investment products, such as derivatives (futures and options). As before, this requires the necessary investor education.

Final alignment of regulatory standards with international best practices: attracting offshore

88 "A securities lending transaction typically involves the outright transfer of a security by one party (the 'lender') to another party (the 'borrower') in exchange for the outright transfer of collateral by the borrower to the lender, with a simultaneous agreement between the parties that the borrower will return the loaned security to the lender at a future date in exchange for the return by the lender to the borrower of the collateral." Source: https://www.lexisnexis.co.uk/legal/guidance/an-introduction-to-securities-lending-transactions-the-global-master-securities-lending-agreement-gmsla. Guidan
ce, tailored for the South African context, for public comment. Source: JSE 2021 integrated annual report89 As Investopedia explains: "Rehypothecation is a practice whereby banks and brokers use, for their own purposes, assets that have been posted as collateral by their clients. Clients who permit rehypothecation of their collateral may be compensated either through a lower cost of borrowing or a rebate on fees." Source: Investopedia.com

90 "The International Securities Lending Association (ISLA) has been supporting the securities lending industry by providing a standard legal framework for over 20 years." Source: https://www.islaemea.org/gmsla-title-transfer/

91 "Locating computers owned by high-frequency traders (HFT) where an exchange's computer servers are. This enables HFT to access stock prices a split second before the rest of the market. Co-location is a lucrative business for exchanges, which charge HFT millions for the privilege of "low latency access." Source: https://www.investopedia.com/articles/active-trading/042414/youd-better-know-your-highfrequency-trading-terminology.asp

92 "Algorithmic trading is a process for executing orders utilizing automated and pre-programmed trading instructions to account for variables such as price, timing and volume." Source: https://www.investopedia.com/terms/a/algorithmictrading.asp

93 "High-frequency trading (HFT), is a method of trading that uses powerful computer programs to transact a large number of orders in fractions of a second. It uses complex algorithms to analyse multiple markets and execute orders based on market conditions." Source: https://www.investopedia.com/terms/h/high-frequency-trading.asp

LAUNCHING NEW TIERS OF TRADING – THE EXAMPLES OF BRAZIL AND SOUTH AFRICA

As the African Development Bank (AfDB) explains[96]: "The African Exchanges Linkage Project (AELP) has launched an e-platform (The AELP Trading Link), enabling seamless cross-border securities trading among
seven African stock exchanges representing 2,000 companies with roughly $1.5 trillion market capitalization.

The first phase of the AELP will connect seven stock exchanges across 14 African countries: Morocco, Egypt, Nigeria, Kenya, Mauritius, South Africa and the West Africa Economic and Monetary Union, which comprises Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo."

REGIONAL MARKET IN AFRICA

As the AFX (African Exchanges) explains[95]: "The Bourse Régionale des Valeurs Mobilières (BRVM) is the regional stock exchange of the member states of the West African Economic and Monetary Union (WAEMU), namely, Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo. The Exchange is located in Abidjan, Côte d'Ivoire but the operations of the bourse are entirely digital.

Dealing members, therefore, need not be present on the premises of the central office in Abidjan but can engage from workstations in their offices via a dedicated satellite network. The BRVM guarantees equal access to information regardless of the operator's location."

issuers to list in the local exchange, establishing a regional stock market hub, and creating links with other exchanges.[94]

In Africa, there are efforts ranging from creating a regional exchange to simply linking trading platforms of existing exchanges to overcome some of the liquidity constraints experienced in individual countries (see case studies of regional market integration in the box below). While clearly in the case of the AELP the jury is still very much out, we believe that the relative and overall success of such efforts depends on the following factors:

Relative strength and depth of the equity markets and savings industries in the member countries: countries, where the savings industry is deeper than the stock market, may feel that they are exporting precious capital to countries with deeper stock markets but weaker savings industries.

The relative strictness of regulatory standards also matters. When stock markets merge, they need to harmonise their listing requirements and corporate governance standards, however, if they simply link their trading platforms such strict harmonisation is probably not required. However, this could mean that companies with weaker corporate governance standards may divert their listings to laxer jurisdictions, while private capital may escape to safer, better-regulated, lower-risk destinations.

Hence successful integration of exchanges requires a broader harmonisation of the member countries' legal framework. As the IMF report concludes[97]: "Preconditions for successful regional approaches include the harmonization of legislations such as bankruptcy and accounting laws and a liberalized trade regime. Robust electronic trading systems and central depository systems will be important. Further domestic financial liberalization such as steps to improve the legal and accounting framework, private sector credit evaluation capabilities, and public sector regulatory oversight would also be beneficial." In this respect, the African trading integration could consider the experience of similar Latin American efforts (see the case study of the Latin American Integrated Market (MILA) below).

Sensitive political issues need to be considered. It is politically far more controversial to merge exchanges (when smaller exchanges may feel that they are being

94 An example of that is the Shanghai-Hong Kong Stock Connect initiative. 95 https://afx.kwayisi.org/brvm/
96 https://www.afdb.org/en/news-and-events/press-releases/african-development-bank-african-securities-exchange-association-launch-aelp-e-platform-linking-seven-african-capital-markets-15-trillion-market-capitalization-57245
97 Charles Amo Yartey and Charles Komla Adjasi: Stock Market Development in Sub-Saharan Africa: Critical Issues and Challenges (IMF working paper, Augist 2007)

subdued by larger counterparts) than simply link their trading platforms which allows even smaller exchanges to hold on to their own identities and keep their own companies listed in their own markets hence prevent. capital flight to a larger, regional exchange. It is perhaps no wonder that a regional exchange was created among countries that are all part of the same currency union therefore capital flight becomes less of an issue.

Is it a zero-sum game? Ultimately whether these projects are beneficial for all members is hugely dependent on whether such cooperation mobilises more capital in aggregate (ideally also including capital from outside the member states) or simply redistributes the same capital among the participants. However, even if capital is attracted from third countries, an alliance of the most developed exchanges could divert much-needed savings from fledgling African economies, which are not part of the AELP.

KEY LEARNINGS FROM THE LATIN AMERICAN CAPITAL MARKET INTEGRATION EFFORTS

As Oliver Wyman explains98: "MILA aims to integrate the capital markets of Chile, Colombia, Mexico, and Peru. Since 2009, the market actors in these countries have worked to harmonize the national regulations to simplify trading and post-trade infrastructure. The focus was on facilitating the buying and selling of securities across its participating exchanges through a local broker.

However, removing the legal and operational barriers to investment from within and outside the region has been a gradual process. As a result, the increase in cross-border trading from this initiative has been slower than expected.

Participants are therefore focused on addressing the current impediments to further integration, namely: a lack of harmonization of tax laws; regulatory constraints on the regional and cross-border participation of institutional investors; a lack of a harmonized regulatory framework for mutual funds (i.e. a regional passport); the trading model (such as order routing through local brokers, as opposed to direct (remote) access for regional participants); and a lack of a common framework for clearing, settlement, and operational procedures (i.e. insufficient integration and interoperability of post-trade arrangements)."

98 Source: Oliver Wyman: Enhancing Liquidity in Emerging Market Exchanges (p. 27)

TOUGH TRADE-OFFS NEED TAILOR-MADE SOLUTIONS: THE DEVIL IS IN THE DETAILS

While there are some general rules, it needs to be acknowledged that there is no universal one-size-fits-all, run-of-the-mill template to create liquid capital markets. Any successful strategy needs to reflect the country's broader economic and political realities.

As a general rule, investors' interests should be protected, in turn supporting the interests of local businesses and the broader economy through raising fair values and lowering the cost of capital.

For example, whether the retail or institutional investor base requires more regulatory support (in order to create a diversified investor base) depends on whether the market in question is dominated by a strong retail investor culture (e.g. Turkey, India) or already has a strong institutionalised savings industry (e.g. South Africa) or neither.

It also needs to be recognised that behind some of the key policy strategies, there are clear trade-offs between investor/market protection and liquidity. Therefore prior to implementation, regulators should be aware of the pros and cons of certain practices in order to arrive at the right balance.

We highlighted below some of the key dilemmas of stock market regulators with a special emphasis on how the details of the actual implementation can either reinforce or mitigate both the pros and cons behind each tough decision. In this instance, the devil really is indeed in the (implementation) details.

FOREIGN OWNERSHIP LIMITS: ALWAYS AT THE EXPENSE OF LIQUIDITY?

While foreign ownership limits can admittedly curtail liquidity and prevent the full realisation of the asset's intrinsic value, this must be weighed against both strategic consideration in certain key sectors and the extent to which foreign ownership could expose the local market to global volatility. At the same time, while most of the debate concentrates on whether foreign ownership limits are necessary or ill-advised, there is much less focus on the crucial differences in its actual implementation, even though this could curtail the negative impacts of foreign ownership limits.

In this regard the contrast between Vietnam and Thailand is instructive. Both countries imposed foreign ownership limits, but the devil, as it often happens, was in the details of their differing implementation. In Vietnam, if the foreign ownership limit is reached in a stock, trading for foreign investors on the official stock exchange board ceases. After that point, foreign buyers or sellers of that stock will need to find a willing foreign counterparty directly and arrange the trade as a direct bilateral OTC transaction. This method of foreign ownership limit implementation has huge disadvantages: the price signal is lost, trading becomes opaque, and transaction costs rise significantly.

In Thailand, where on the face of it the typical 49% foreign ownership limit is similar to Vietnam, the actual implementation prevents negative side effects.

As the Stock Exchange of Thailand (SET) states in its handbook[99] for foreign investors: "SET has established a foreign trading board where foreign investors can register their investment holdings and be eligible for the same benefits as local investors. In case where there are enough rooms for foreign holding, foreign investors can buy local shares and request their brokers to facilitate conversion from local shares to foreign

99 Stock Exchange of Thailand: Handbook for Foreign Investors to Trade on SET (Oct 2019)

shares, and vice versa, foreign investors also have the option to sell their foreign shares by requesting their broker to convert their foreign shares to local shares and then sell those shares to local investors. Both local and foreign investors can trade local shares, but foreign investors are neither entitled to dividends nor voting rights."

What does this mean in practice?

- Foreign investors have an incentive to convert their shares from the local ticker to the foreign one because only then they can vote or be entitled to dividends. However, this means that those foreign investors who are only interested in share price appreciation can hold local shares even beyond the 49% limit if they are content to give up their voting and dividend rights.
- Price signals are not lost as both foreign and local shares trade on the exchange, albeit under different tickers. Therefore, transaction cost remains low for foreign investors.
- The Thai approach also achieves its purpose of limiting foreign control in listed companies (through removing the voting rights beyond the 49% ownership) but it does not create a massive price and valuation differential between foreign and local lines, allowing local investors to reap the positive

FINAL WARNING: EVERYTHING IS NOT AS IT SEEMS

Short selling vs margin trading: who is the real culprit?

Short-selling and margin trading are well-known examples of regulatory dilemmas. However, it was primarily short-selling that was banned in most countries in the wake of the 2009 stock market crash (though later reinstated in most jurisdictions) while investors buying on margin were often seen simply as victims of the crash exacerbated by short-sellers. We would argue that the opposite may be the case when one considers the issue from the point of view of market stability rather than the profit and loss account of the individual investor.

Allowing short-selling[100] has been controversial, especially in the aftermath of the 2008 financial crisis. However, in our view, as long as it is carefully regulated (e.g. naked short-selling is now[101] banned in most markets), short-selling on balance helps liquidity, the determination of fair value (price discovery) and risk management (pure, carefully matched long-short positions can significantly reduce unwanted beta (market directional risk) and focus on the creation of alpha for their holders).

In addition, the possibility of short-selling has a positive effect as a deterrent to corporate misbehaviour. For example, even if most of the allegations by Hindenburg Research turn out to be unfounded innuendos, it is quite likely that in the wake of their recent short-seller report on Adani, many Indian companies will decide to become more transparent to avoid similar attacks.

On the other hand, margin trading,[102] or allowing shares of listed companies to be used as loan collateral, creates most of the advantages for investors (diversifying their portfolios and leveraging their bets) rather than for the market as a whole (apart from some extra liquidity). Therefore, similarly to foreign ownership limits, the issue of stock-based borrowing and the related issue of margin trading is not simply a matter of permitting or banning. Rather the emphasis needs to be on under what rules borrowers can use shares as collateral and potentially engage in margin trading.

Most importantly the policies need to consider the market environment they would be implemented in. For example, the loan-to-value ratio[103] needs to reflect the volatility of the underlying shares, while the maximum value to be used as share collateral could be defined as a certain percentage of the tradeable free float. The level of these ceilings needs to be tailor-made to the market in question.

For example, after experimenting for a long period of time US lenders typically settled on a 50% loan-to-value ceiling (i.e. for every $100 of shares a maximum of $50 can be borrowed) or in case of a margin trade in the US typically maximum 50% of the share position can be borrowed (i.e. 50% of the trade needs to be put down in advance as collateral either in cash or in liquid shares). Using the US rules as an acceptable baseline, if for example, the market in question is twice as volatile than the US exchange, then the loan-to-value ceiling could be set at 25% or in case of a margin trade 75% of the order need to be put down as initial collateral.

This is because when the share price falls, bringing down the value of the collateral such that the loan to value ratio rises above the permitted ceiling, the borrower must deposit a daily margin to prevent the

100 As Investopedia explains: "Short selling occurs when an investor borrows a security and sells it on the open market, planning to buy it back later for less money. Short sellers bet on, and profit from, a drop in a security's price." Source: https://www.investopedia.com/terms/s/shortselling.asp

101 Naked short selling refers to a practice when investors sell a stock short without the ability to borrow the shares to cover their short position. As a result, it could happen that when the short seller is required to deliver the stock, he is unable to do so, which means that the trade has to remain open until the short seller can buy the stock for delivery.

102 As Investopedia explains: "Buying on margin occurs when an investor buys an asset by borrowing the balance from a broker. Buying on margin refers to the initial payment made to the broker for the asset; the investor uses the marginable securities in their brokerage account as collateral." Source: https://www.investopedia.com/terms/m/margin.asp

103 I.e., the ratio of the loan divided by the underlying value of the stock collateral.

violation of the loan-to-value ceiling. The equivalent of the collateral in case of a margin trade is called the maintenance margin. This is the minimum collateral the buyer needs to maintain on the account, and if it falls below a certain predetermined level, the borrower has two options: either to deposit more cash on the account, or sell shares to reduce the borrowing.

This is where widespread margin trading becomes relevant for the stability of the entire exchange. If due to an external shock share prices start to fall and most buyers used leverage to purchase their shares and they lack the cash to furnish their accounts, a large number of simultaneous margin calls can put the market in a downward spiral.

Despite regulatory actions to the contrary statistical evidence also suggests that it was margin buying rather than short-selling which exacerbated stock market crashes in 2008/09. Academic research[104] concluded that if policymakers are interested in efficient pricing, they should consider banning margin trading rather than short-selling:

"Our results indicate that a ban on margin purchases fosters efficient pricing by narrowing price deviations from fundamental value accompanied by lower volatility and a smaller bid-ask spread. A ban on short sales, however, tends to distort efficient pricing by widening price deviations accompanied with higher volatility and a large spread."

Regulatory research[105] based on careful statistical analysis reached similar conclusions: "In 2008, U.S. regulators banned the short-selling of financial stocks, fearing that the practice was helping to drive the steep drop in stock prices during the crisis. However, a new look at the effects of such restrictions challenges the notion that short sales exacerbate market downturns in this way.

The 2008 ban on short sales failed to slow the decline in the price of financial stocks; in fact, prices fell markedly over the two weeks in which the ban was in effect and stabilized once it was lifted. Moreover, the research revealed harmful side effects to banning short sales: "Taken as a whole, our research challenges the notion that banning short sales during market downturns limits share price declines. If anything, the bans seem to have the unwanted effects of raising trading costs, lowering market liquidity, and preventing short-sellers from rooting out cases of fraud and earnings manipulation. Thus, while short-sellers may bear bad news about companies' prospects, they do not appear to be driving price declines in markets."[106]

On the other hand, careful academic analysis[107] of margin trading reveals that margin trading acts as an "amplification mechanism"[108]. What this means is that both on the way up and on the way down roughly a quarter of stock market rallies and crashes can be explained by the existence of margin trading. In other words, margin trading amplifies both upside and downside hence increaing volatility (i.e. risk) considerably.

So why is it that short-selling has such a bad reputation while margin trading is presumed innocent until proven guilty? We believe that it is simply due to the fact that during market crashes short-sellers tend to make tremendous profits while margin buyers lose their shirt and psychologically it is far easier to blame the one who gains than the one who loses. Even though, in this particular case, banning short-sellers is the equivalent of shooting the messenger, when it is far more likely that it was some fundamental error of judgement often made by corporates and/or policymakers which have led to the market correction.

Careful with technology: not all liquidity is created equal

There is a debate concerning certain liquidity enhancing mechanisms, which may boost trading quantity but potentially at the expense of the quality of liquidity.[109]

Co-location services, algorithmic (algo) and high frequency trading (HFT) may seem like innocent technological advances, but in reality they are potential examples where exchanges need to study the history of potential drawbacks more closely and implement such technological improvements carefully to mitigate their potential weaknesses and prevent their misuse.

Pros and cons of co-location services, algorithmic and HF trading:

Pros:

- **Improved liquidity:** HFT improves liquidity. [110]
- **Reduced latency:** Co-location enables faster trade execution. [111]
- **Lowers execution costs:** There is evidence that algo and HF trading tightens bid-ask spreads. [112]

Cons:

- **Potential market crashes:** course correction is more difficult in rule-based trading, when algorithmic orders, such as stop-loss trades, could lead to crashes (e.g. the 2010 flash crash in the US was blamed on algo traders [113]).

104 Füllbrunn, Sascha; Neugebauer, Tibor: Margin trading bans in experimental asset markets (2012 Friedrich Schiller University and Max Planck Institute of Economics, Jena)
105 Robert Battalio, Hamid Mehran, and Paul Schultz: Market Declines: What Is Accomplished by Banning Short-Selling? (New York Federal Reserve, 2012)
106 Ibid. p. 7
107 Bige Kahraman, Heather Tookes: Margin Trading and Co-movement During Crises (2019, Yale University and Oxford Said Business School)
108 Ibid. p. 3

109 Oliver Wyman: Trading Venue Liquidity – It's quality not quantity that matters http://www.oliverwyman.com/insights/publications/2016/jun/trading-venue-liquidity.html 110 A research conducted by the FCA (Financial Conduct Authority) has found that "over the full sample period HFTs, on average, provide more order-book liquidity than dealers". Source: FCA: HFTs and Dealer Banks: Liquidity and Price Discovery in FX Trading (Jan 2023)
111 As explained on page 45 of this report
112 The same research has found that "the prices HFT provide (their relative bid-ask spread) are about 34% (40%)

- **Quality of liquidity could be poor.** With certain types of algo or HF trading liquidity could dry up very rapidly. For example, when algo or HF trading involves taking advantage of short-lived momentum (a strategy sometimes called scalping) the algorithm requires very rapid buying and selling in tiny price increments. However, once the algorithm perceives that the momentum is fading it stops abruptly. Such sudden withdrawal of liquidity could cause problems if other investors have mistaken algo-generated liquidity with genuine long-term demand for a particular stock.

- **Algorithms can be used for market manipulation.** As Investopedia explains [114]: "Algorithms can be programmed to send hundreds of fake orders and cancel them in the next second. Such "spoofing" momentarily creates a false spike in demand/supply leading to price anomalies, which can be exploited by HF traders to their advantage.".

- **Co-location can potentially create an unfair information advantage** (see below the case study of the NSE in India where co-location services were used for frontrunning). An additional difficulty is that legally it is incredibly difficult to prove that other investors were disadvantaged by such practices (see in the box below the legal aftermath following the publication of Michael Lewis' 2014 novel, 'Flash Boys: Cracking the Money Code.').

What can be done to prevent the downside of such technological advances in trading, while allowing the market to reap the benefits from the greater speed, lower cost and higher liquidity they create? In our view, the key message here is that **policymakers should not allow these rapid technological advances to leapfrog the regulatory safeguards that could prevent their misuse.**

These are merely examples from a potentially longer list of often difficult decisions regulators, policymakers and stock exchange executives regularly face. However, we hope to demonstrate that even when it comes to the most controversial issues, studying the historical cases of other exchanges and talking to their seasoned representatives, who grappled with the same problems, could help to find the most suitable, pragmatic solution for a fledgling equity market. In other words, it is perhaps all about finding the right balance between appreciating the local circumstances but at the same time not trying to reinvent the wheel.

113 As Avatrade explains: "In April 2015, London-based individual trader Navinder Singh Sarao was arrested on allegations that his activities on May 6th, 2010, caused the flash crash. The US Department of Justice accused Sarao of using algorithms that placed large sell e-mini S&P contract orders in the market. He then cancelled the trades and bought contracts at lower market prices. From 2009 to 2015, Sarao and his company made about $40 million using that same market manipulation technique." Source: Avatrade: the

114 Source: https://www.investopedia.com/articles/investing/091615/world-high-frequency-algorithmic-trading.asp

NATIONAL STOCK EXCHANGE (NSE) OF INDIA: HOW CO-LOCATION FACILITIES WERE USED FOR FRONTRUNNING BY CERTAIN BROKERS WITH THE HELP OF SENIOR NSE PERSONNEL

Co-location services were offered by the NSE from January 2010. This has meant that certain members (brokers) "could place their servers in the Exchange's premises in return for a fee. This allowed them faster access to the buy and sell orders being disseminated by the exchange's trading engine."[115]

According to a whistle-blower's letter in 2015, "access to co-location facilities and HFT trading gave the select brokers differential advantage such as display of market data, viewing order book prior to order execution."[116]

Such information advantage enabled them "to front-run the rest of the market"[117].

For brokers to benefit an active cooperation was apparently required by senior NSE personnel, in the form of "multiple login IPs" and preferential "access from the secondary servers"[118]. This has meant that a broker could "log in to the NSE server before any other entity and receive data before any other broker in the market"[119] enabling front-running, i.e. placing orders for their own benefit ahead of that of others and their clients.

THE FLASH BOYS LEGAL CASE – DID HF TRADERS ACTUALLY CAUSE ANY HARM?

As Annabel Smith explains[120]: "The idea that high-frequency traders were using speed to take advantage of ordinary investors was first brought to the world's attention with the release of Michael Lewis' 2014 novel, 'Flash Boys: Cracking the Money Code.' The story follows the epiphany of former RBC traders as they come to realise that the electronification of the market had opened the door for a new 'predator' so to speak that used speed to nip in ahead of slower and larger traditional institutions."

In the book's aftermath "the legal case – dubbed the Flash Boys Case – put forward by institutional investors claimed that the exchanges (including Nasdaq and the New York Stock Exchange) had created a preferential trading environment for high-frequency traders (HFTs) that put other investors at a disadvantage. However, in March 2022, eight years later, the Federal Court concluded that the institutional investors could not prove they had suffered harm at the hands of the exchanges' actions."

As the article concludes, this verdict was most likely delivered, because even if the trading algorithms of HF traders could harness the extra information embedded in the vast amount of data and facilitate faster execution, it was very hard to prove that investors got a worse price than they otherwise would have got. In fact, HF traders counter-argued that all their clients benefitted from the better liquidity and tighter spreads HF trading afforded.

115 Source: https://en.wikipedia.org/wiki/NSE_co-location_scam
116 SEBI looking at ways to limit algo trading, co-location benefits (LiveMint, 13 April 2016)
117 Source: https://en.wikipedia.org/wiki/NSE_co-location_scam
118 Ibid.
119 Ibid.
120 Annabel Smith: Lessons learned from Flash Boys (The Trade, July 29, 2022) Source: https://www.thetradenews.com/lessons-learned-from-flash-boys/

FINAL REMARKS: CONCLUSIONS AND RECOMMENDATIONS

In summary, this report has reached **three broad conclusions** supported by statistical evidence and numerous case studies:

- A vibrant, liquid capital (equity) market has wide-ranging benefits not only for investors but also for policymakers and the broader economy, as it helps to put the country on a higher sustainable growth path, by lowering the cost of capital, facilitating investments, job creation and tax collection, which otherwise would not have taken place.
- The creation of a liquid capital (equity) market has prerequisites: deep, institutionalised domestic savings industry, well-regulated public trading venue, stable and welcoming legal environment, and consistent flow of viable company listings are all important factors to create a liquid trading platform with well-balanced supply and demand.
- Prioritising and sequencing are crucial for the successful creation of a liquid equity market: not only in terms of the aforementioned prerequisites but also in the sequence of the practical steps of creating the necessary regulatory environment to address the protection, incentivisation and education of both investors and companies, facilitating the technological conditions for a modern trading platform, rolling out the full suite of investment products, enabling intermediaries, and ensuring transparent data and reporting requirements.

Three final recommendations are drawn from these conclusions:

Recommendation 1: Developing country policymakers and regulators, and their international partners, should prioritise the development of liquid public equity markets alongside efforts to build domestic debt markets.
Equity markets can drive down costs of capital across the economy, including for the Sovereign, can be an attractive route to raise funds through privatisation, and offer domestic savers a stake in financing their country's economic development. Controversial issues need to be confronted head-on: This, however, needs to be done after carefully assessing the evidence from other markets. As we argued in Section VI, first impressions can be misleading and the small-print of implementation is often as important as the broad theoretical underpinning when differentiating between success and failure. In particular, building domestic savings is a vital prerequisite to harnessing the power of foreign capital, without which international portfolio flows are associated with far greater risk for the financial sector and for macro-economic stability.

Recommendation 2: MDBs/DFIs can be instrumental in helping developing countries to reap the full benefits of liquid equity markets. First, through existing equity holdings, DFIs and MDBs can actively enhance corporate governance, support ESG transformation, and improve transparency, management quality and profitability in preparation for onboarding additional private sector investors. Second, once investees are prepared, listing domestically should by default be considered as a route to partial or full exit for the MDB/DFI. Our analysis serves to challenge the common assumption that quality companies cannot command a fair price if listing domestically. This exit strategy would ideally be considered prior to making new equity investments. Third, MDBs/DFIs can increase the share of equity investments in their private sector portfolios as deep transformation often requires equity-style investments. As MDB/DFI business models shift from buy-and-hold to a nimbler and more systemic buy-build-exit strategy, equity is increasingly preferable to debt. Finally, MDBs/DFIs can advise domestic policymakers and regulators not only as legal experts, but as investors looking to recycle their capital. In our view, their access and in-country presence mean that MDBs/DFIs can represent international investors in this dialogue.

Recommendation 3: Direct dialogue should be facilitated between the key players shaping the process of creating a vibrant, liquid capital market.
There is a wealth of knowledge out there of which this

report can only convey a small part. We are hoping that this report initiates a much wider discussion and a sharing of experiences among developing country peers at different stages of the capital market development journey and between investors (domestic and foreign), stock exchanges, and policymakers/regulators. MOBILIST can play a direct role in facilitating this dialogue and lesson-sharing, helping to accelerate domestic market development and sustainable economic growth.

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