



STAFF NOTE FOR THE G20 IFAWG
DEVELOPMENT OF LOCAL CURRENCY BOND MARKETS
OVERVIEW OF RECENT DEVELOPMENTS AND KEY THEMES
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EXECUTIVE SUMMARY

At the Cannes Summit in 2011, the G20 launched an initiative to develop local currency bond markets (LCBMs) through an action plan. Deepening the financial market in a given country provides several benefits, which are particularly relevant in the current macroeconomic and financial context: (1) it increases a country's ability to withstand volatile capital flows, (2) it reduces the reliance on foreign borrowing and the risks linked to currency mismatch, (3) it contributes to the reduction of current account imbalances, (4) it mitigates the need for large precautionary reserve holdings, and (5) it allows balance sheets to adjust more smoothly, therefore improving the capacity of macroeconomic policies to respond to shocks. The action plan targeted three key areas for progress: (1) scaling up technical assistance, (2) improving the database, and (3) monitoring the progress made on an annual basis.

In support of the G20 Action Plan for LCBM, international organizations (IOs) have sustained their enhanced collaboration and information sharing to improve resource allocation and the effectiveness of technical assistance (TA). Given the potential benefits of LCBMs, and the general recognition that LCBMs—particularly nongovernment bond markets—remain underdeveloped as a vehicle for mobilizing domestic and international financing for EMEs (inclusive of middle-income countries), the work program of the G20 Study Group on Long-Term Investment Financing also includes analytical work on LCBMs as part of a broader, more holistic approach to domestic capital market development. In this context, the G20 commissioned a report from the World Bank, working with the IMF, to take stock of the previous initiative, to review costs and benefits, and to outline further steps to encourage the development of local currency bond markets and local currency borrowing.

The report is organized as follows: Section I examines trends in key dimensions of government and nongovernment LCBMs, including size, the investor base, secondary market liquidity, and key drivers. Section II presents key themes for developing LCBMs, and the roles that policymakers and multilateral development banks (MDBs) could play in the current policy environment.

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Abbreviations and Acronyms

ADB	Asian Development Bank
AE	Advanced Economy
ANI	Agencia Nacional de Infraestructura, Colombia
AUM	Assets under Management
BIS	Bank for International Settlements
CAGR	Compound Annual Growth Rate
CFO	Chief Financial Officer
CMU	Country Management Unit
DCA	Development Credit Authority
DD	Colombia Deep Dive
EBRD	European Bank for Reconstruction and Development
EM	Emerging Market
EME	Emerging Market Economy
EMTA	Trade Association for the Emerging Markets
ESMID	Efficient Securities Markets Institutional Development
ETF	Exchange Traded Funds
EU	European Union
EUR	Euro
F&M	World Bank Group Finance and Markets Practice
FDN	Financiera de Desarrollo Nacional, Colombia
FIG	Financial Infrastructure Group
FSB	Financial Services Board
FX	Foreign Exchange
GDP	Gross Domestic Product
GFC	Global Financial Crisis
IADB	Inter-American Development Bank
IFAWG	International Financial Architecture Working Group
IBRD	International Bank for Reconstruction and Development
ICSD	International Central Securities Depository
IFC	International Finance Corporation
IFFIm	International Finance Facility for Immunisation
IMF	International Monetary Fund
IO	International Organization
LBM	Local Bond Market
LCBM	Local Currency Bond Market
Libor	London Interbank Offered Rate
LMO	Liability Management Operation
MAD	Moroccan Dirham
MDB	Multilateral Development Bank
MIGA	Multilateral Investment Guarantee Agency

MTN	Mobile Telephone Network
OECD	Organisation for Economic Co-operation and Development
PD	Primary Dealer
PPIAF	Public–Private Infrastructure Advisory Facility
PPP	Public–Private Partnership
SECO	Swiss Economic Cooperation and Development
SEK	Swedish Krona
SIDA	Swedish International Development Agency
SME	Small and Medium Enterprises
TA	Technical Assistance
TF	Trust Fund
UGX	Ugandan Shilling
U.K.	United Kingdom
USAID	U.S. Agency for International Development
USD	United States Dollar
VP	Vice President
WBG	World Bank Group

INTRODUCTION¹

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The report is organized as follows: Section I examines trends in key dimensions of government and nongovernment LCBMs, including size, the investor base, secondary market liquidity, and key drivers. Section II presents key themes for developing LCBMS, and the roles that policymakers and multilateral development banks (MDBs) could play in the current policy environment.

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OVERVIEW OF CURRENT DEVELOPMENT IN LCBMS²

A. LCBM Trends and Developments

The Size of LCBMs in Emerging Markets (EMs)³

- 1. EMs' total debt grew steadily over the past five years to \$17.2 trillion in 2015 (Table 1).**⁴ Total local currency debt rose by \$2.2 trillion in 2015, with its share in total debt comprising 87 percent. Over the 2010 to 2015 period, EMs' general government debt decreased by 1.2 percent of GDP, while its share in total debt declined by 7 percentage points. EM's sovereign debt risk exposures fell, amid a broad weakening in EM exchange rates and an increase in local currency market borrowing (relative to total debt).
- 2. In contrast, EMs' non-government debt increased sharply, by \$2 trillion in 2015.** Over the 2010 to 2015 period, non-government debt grew by 6.8 percent of GDP, particularly in the Asia Pacific region, where the share to total non-government debt rose by 10 percentage points over the same period. In countries where the rise was strong in the international markets, this came at the cost of increasing foreign exchange (FX) exposures and rollover risks.

B. The Investor Base for LCBMs in EMs

- 3. EM pension funds and insurance companies are gradually becoming a more important source of funding.** By 2013 total EM insurance and pension assets comprised approximately \$6 trillion, notwithstanding some recent policy reversals, where some private pension funds, particularly in Europe and Central Asia, were collapsed back into the state pension system.⁵ Of this amount, EM insurance companies had \$3.6 trillion of assets under management (AUM), while local pension funds held \$2.4 trillion of AUM.⁶ However, local banks continue to dominate holdings of local market debt in many EMs, particularly at the shorter end of the maturity spectrum.

² The note focuses on LCBM products issued in domestic markets. There are several examples of offshore instruments issued in EM currencies by governments and non-government issuers (e.g., issuers from Brazil, Colombia, and Uruguay). While these instruments may help issuers tap a larger base of international investors more immediately, robust local currency bond markets are predominantly developed in domestic markets.

³ Analysis of size focuses on absolute levels of outstanding debt rather than as a percentage of GDP. This allows for direct comparison with other indicators presented in absolute levels, such as new issuances, trading volumes, size of institutional investors, and investor flow data.

⁴ For the purposes of this note, the term "total debt" refers to the total of debt securities issued by government and non-government entities in local and international markets. "Local currency debt" refers to debt issued in local markets with its currency denomination being predominantly in local currency (the share of local currency debt denominated in foreign currency may not be negligible in all country cases).

⁵ *Reversal and Reduction, Resolution and Reform—Lessons from the Financial Crisis in Europe and Central Asia to Improve Outcomes from Mandatory Private Pensions*, WBG, May 2013.

⁶ J.P. Morgan.

Table 1. Emerging Markets Debt Overview 2010–15
(USD trillion)

	2010	2011	2012	2013	2014	2015
Total Debt	11.8	12.7	14.0	14.6	14.9	17.2
Local Currency	10.5	11.2	12.2	12.6	12.8	15.0
International Market	1.3	1.5	1.8	2.0	2.1	2.2
Local as Share of Total (%)	89.0	88.2	87.1	86.3	85.9	87.2
Local as Share of GDP (%)	46.0	42.0	44.0	42.0	42.0	50.0
General Government	6.2	6.5	7.1	7.4	7.5	7.8
Non-government	5.6	6.1	6.8	7.1	7.4	9.4
Government as Share of Total (%)	52.5	51.6	51.1	51.0	50.3	45.3
Government as Share of GDP (%)	27.2	24.4	25.6	24.7	24.6	26.0
Non-government as Share of GDP (%)	24.5	22.9	24.5	23.7	24.3	31.3
Local Currency Debt by Type of Issuer	10.5	11.2	12.2	12.5	12.8	15.0
General Government	5.6	5.9	6.4	6.6	6.7	7.0
Non-government	4.9	5.3	5.8	5.9	6.1	8.0
Government as Share of Total (%)	53.3	52.7	52.5	52.8	52.3	46.7
International Debt by Type of Issuer	1.3	1.4	1.7	2.0	2.1	2.2
General Government	0.6	0.6	0.7	0.8	0.8	0.8
Non-government	0.7	0.8	1.0	1.2	1.3	1.4
Government as Share of Total (%)	46.2	42.9	41.2	40.0	38.1	36.4
Local Non-government Debt by Region (%)	100	100	100	100	100	100
Asia Pacific	73	73	73	74	76	83
Latin America and Caribbean	20	20	19	19	18	12
Emerging Europe	4	4	4	4	3	3
Africa and Middle East	3	3	4	3	3	2
Local General Government Debt by Region (%)	100	100	100	100	100	100
Asia Pacific	49	50	51	53	57	61
Latin America and Caribbean	33	33	31	30	28	25
Emerging Europe	11	11	11	10	9	8
Africa and Middle East	7	7	7	7	6	6

Sources: J.P. Morgan, IMF staff calculations, BIS.

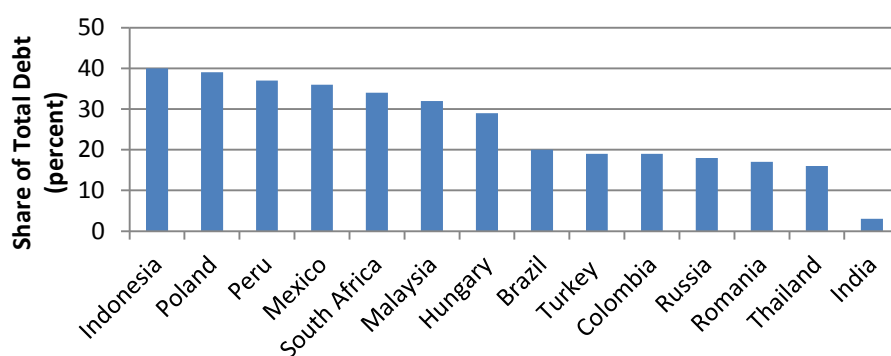
4. Several EMs are looking to channel investments from the pension and insurance industries to longer-term government and private sector instruments. In spite of growth in AUM, investments by these institutional investors, having been concentrated in government debt instruments in many markets, leaving room to grow in terms of maturity and diversity of instruments (especially private sector instruments). Policy responses have varied, with some countries introducing new debt instruments, such as inflation-linked and project bonds.

5. The trend in foreign investors' exposure to local market debt in EMs had generally been increasing consistently since 2010. This was the result of proactive policies by governments to enhance their debt profiles and regulatory/operational changes to ease access/exit for foreign investors.⁷ The overall trend also signaled nascent improvement in investor confidence post-global financial crises, especially in Asia and Latin America.

6. Foreign investor fixed income flows turned negative in 2015 and are a key risk to watch as they are more fickle and reactive to global financial conditions. Fixed income flows reached a negative \$11.7 billion in 2015, which is a concern in the context of a negative risk-return and the fact that the increased economic exposure of foreign investor to EMs is a relatively recent phenomenon that occurred during quantitative easing by central banks in major advanced economies.^{8,9}

7. The foreign investor base is particularly important for a number of EM countries issuing local currency bonds, but is concentrated in government debt instruments. Foreign participation in local currency government bonds ranged between 34 and 40 percent in Indonesia, Poland, Peru, Mexico, and South Africa. Notably, China and India, two of the largest issuers of local currency bonds, still have limited foreign participation (Figure 1). The foreign investor participation rate went down in 2015 in selected EMs, including Peru, Hungary, South Africa, Russia, and Turkey (Figure 2).

Figure 1. Foreign Ownership of EM Local Currency Debt 2015
(share of total local currency debt)



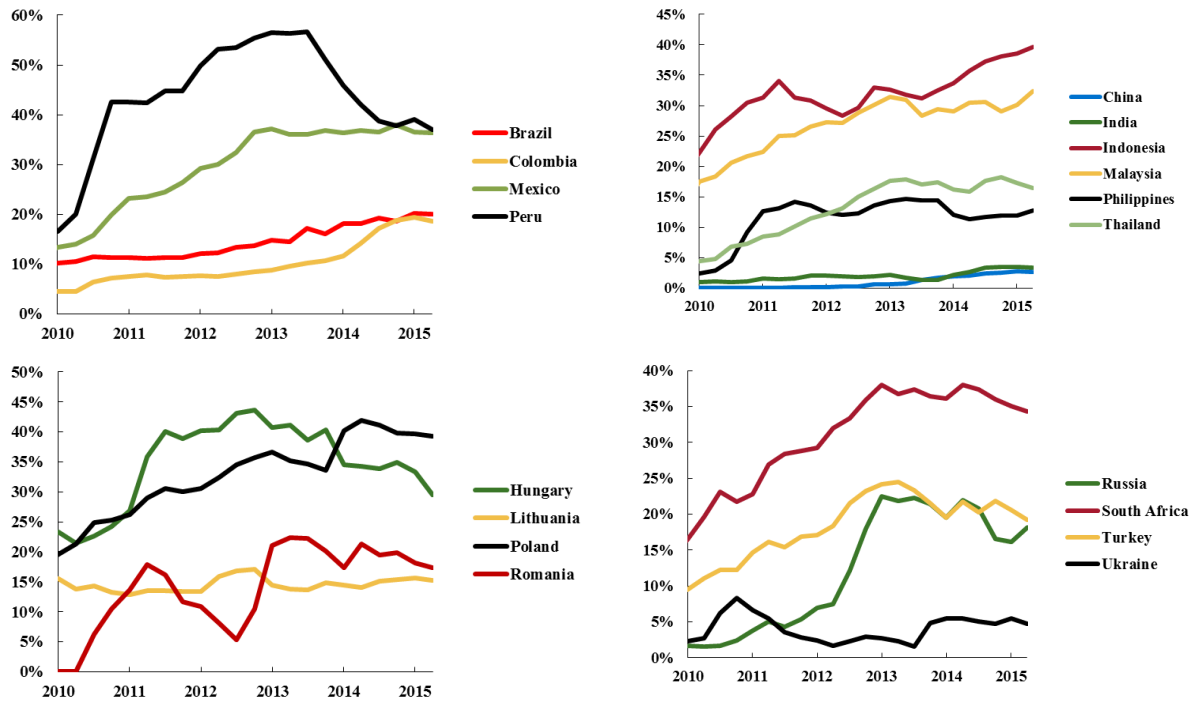
Source: Sovereign Investor Base Dataset for Emerging Markets, IMF. Data through June 2015.

⁷ The continued trend also reflects the change in the composition of the foreign investor base in government local market debt. As shorter-term retail investors have reduced their exposure to the asset class, longer-term institutional investors have increased their share.

⁸ The negative fixed income flows in 2015 can be compared to +\$11 billion in 2014 and + 6 billion in 2013. EM local currency debt have delivered negative returns for three consecutive years (expressed in US dollar unhedged terms) with losses reaching 14.9 percent in 2015, compared to negative returns of 5.7 percent in 2014 and 9 percent in 2013.

⁹ *Global Financial Stability Report*, April 2016, IMF. https://www.imf.org/external/pubs/ft/gfsr/2016/01/pdf/c2_v3.pdf

Figure 2. Foreign Holdings of Local Currency EM Government Debt Securities (percent of total)



Source: Sovereign Investor Base Dataset for Emerging Markets, IMF. Data through June 2015.

C. Secondary Market Liquidity

8. In AEs, the drop in the secondary market liquidity of sovereign debt is a theme that deserves attention. While the main drivers behind such a decline in liquidity need to be further investigated, this has been commonly attributed to a number of factors (Box 1).

Box 1. Developments and Challenges in AE Debt Markets

The fixed income landscape in AEs is evolving. It is being reshaped by a combination of central bank policy, post-crisis regulatory reforms, structural changes, and behavioral trends. Some of the drivers are changes in risk appetite of large fixed income players, shifts in business models and changes in the mix of participants involved, and increased electronification and widespread use of electronic and automated trading.

Consequences of regulating the warehousing of risk and balance sheet cost had an impact on market-makers' warehousing positions and risk preferences. Shrinking dealer balance sheets in the wake of the financial crisis have reduced returns for market-makers. Subsequently, their willingness to step in and quote prices in less liquid markets has declined equally. This has left liquidity more vulnerable, as demonstrated during the U.S. Treasury flash rally in October 2014. The decline in market liquidity has had an impact on borrowing costs—and demand—in the primary markets. There are also concerns over a wider liquidity bifurcation, whereby liquidity concentrates in the most liquid instruments.

Accordingly, the principal-driven market-maker model—based on bid-ask spreads—is gradually being replaced by a commission-based, agency broking model. A shift from a principal to an agency model could drive liquidity risk from the sell-side (dealers) to the buy-side (investors), as is evidenced by increasing buy-side to buy-side trading and all-to-all market attempts in the fixed income space.

Constraints in balance sheet availability and the increased capital costs of carrying risks have an impact on short-term funding markets. The repo market has seen reduced activity as a result of regulatory reforms (for example, Basel III capital and liquidity requirements). Such potential pullback in repo activity has the potential to affect bond- trading volumes with knock-on effects on market liquidity, collateral transformation, and derivative market liquidity, as well as on the transmission of monetary policy. Recent U.S. overnight repo rate levels reflect the difficulty in sourcing securities to cover positions, with repos trading around the fails level. Unusual repo rates have also been observed when they passed through USD Libor (London Interbank Offered Rate) or U.K. gilts markets, suggesting that it is more expensive to borrow secured than unsecured. A potential pullback in secured funding activity would also have an impact on the derivative markets. Transactions may be hard to execute without funding of positions, impacting the efficiency and liquidity of the sovereign and agency fixed income markets.

The fixed income landscape is also being reshaped by technology: electronic trading platforms and automated trading in the bond markets have the potential to reduce trading costs, enhance transparency through faster price discovery, and increasing interconnectivity between buy-side and sell-side market participants. Electronic and automated trading best serves the most liquid and standardized parts of the fixed income market, such as sovereign benchmark issuances; bilateral dealer-client transacting remains the most appropriate way to trade illiquid securities.

Fixed income markets in AEs are also affected by a smaller diversity of market participants and a shift from active to passive investment. The growth and increased concentration of the booming asset management industry—mutual funds and exchange traded funds (ETFs) in particular—and the increased participation of investment funds in primary and secondary fixed income markets have important implications for market conditions and behavioral trends in these markets. Mutual fund participation in U.S. Treasury auctions, for instance, has increased from 20 percent in 2009 to more than 40 percent in 2015.

Source: OECD Secretariat.

9. Reduced liquidity in AEs appears to be causing a spillover to the less liquid EMs. EM debt trading volumes, measured as share of total debt, declined to 27 percent of the total debt outstanding in 2015, compared to a ratio of 57 percent in 2010.¹⁰ This drop in turnover can be explained by a combination of factors, including the reduction in allocations to EM assets due to increased volatility and reduced growth prospects, with a “risk-off” in EMs weighing more heavily on local markets and increased issuance of less liquid non-government bonds.

D. Key Drivers and Vulnerabilities

10. Funding liquidity and rollover risks in international capital markets have intensified for EM non-government issuers and for frontier market sovereigns. Sovereign frontier market issuers that have recently gained access to the international bond markets and are susceptible to commodity pricing are facing heightened vulnerabilities.¹¹ Non-government issuers may also face problems in their continued access to international capital markets for funding or rolling over existing debt.¹² Moreover, in selected EMs, intensified fiscal pressures and exchange rate depreciation have inflated debt levels, which, in the context of lower growth and credit rating downgrades, have also increased risks. These vulnerabilities coming from hard currency denominated debt reinforces the need for fostering LCBM development to alleviate the refinancing risk and reduce FX exposures.

11. The types of risks identified will need improved oversight and deployment of prudential rules to contain excessive buildup of non-government debt (and of government debt in some EMs) and limit balance sheet risks along with development of hedging tools. Policies to continue fostering the development of LCBMs, targeted to these issuers in higher-risk markets, need more urgency as a way to reduce their exposure to FX and to provide a larger base of funding in local currency.

12. LCBMs that have a larger presence of domestic investors or reasonable macroeconomic stability have been proven to be more immune to withdrawals. Macroeconomic stability as a precondition to foster LCBMs should be reinforced in EMs. Equally relevant are policies to support the development of a domestic investor base and to attract foreign investors—while taking preemptive measures to control risks and market volatility brought up by reversals of capital flows.

¹⁰ Markets Traders Association (EMTA).

¹¹ *EM Outlook and Strategy*, January 12, 2016, J.P. Morgan.

¹² *Global Financial Stability Report, Chapter 1*. April 2014, IMF.
<http://www.imf.org/external/pubs/FT/GFSR/2014/01/index.htm>

13. Three key transitions will be important for EM LCBMs:

- The gradual slowdown in EM economic growth, amid market concerns over potential further declines in capital flows and further currency depreciations in some emerging market economies;¹³
- Lower commodity prices, including energy, as well as rebalancing in China, impacting economic activity depending on trade profiles; and
- Financial volatility caused in part by an asynchronous monetary policy stance in the U.S. and other reserve-currency countries.

THEMES FOR DEVELOPING LCBMS

14. The current policy context reinforces the need to follow a robust framework for developing LCBMs. A high level of concentration of LCBMs in a few countries; enhanced financing and roll-over vulnerabilities, especially among non-government issuers and frontier markets; and the need to foster long-term financing in local currency to support growth and reduce vulnerabilities call for an overarching agenda to continue developing EM LCBMs.

15. The design of such a framework has already deserved significant effort by policymakers and international financial institutions. For example, following a G20-endorsed action plan to support the development of LCBMs, the IMF, the World Bank Group, the EBRD, and the OECD developed a diagnostic framework to identify general preconditions, key components, and constraints for successful LCBM development. Drawing on their experience, these institutions developed and published the framework in 2013. It takes into account specific building blocks for market development, as well as interactions with macroeconomic and financial stability, and the monetary policy framework, among other factors (Appendix 2 includes a summarized discussion on key development challenges for LCBMs).¹⁴

16. While a robust agenda is needed in most markets, specific themes deserve priority as a result of current developments in LCBMs.¹⁵ The following subsections address four themes where staff believe additional effort is needed to increase the development potential for EM LCBMs and to tackle specific vulnerabilities:

- Investor Base Diversification and Greater Support for LCBM Development;
- Expanding the Set of LCBM Instruments;

¹³ *World Economic Outlook*, IMF, January 2016.

¹⁴ The Local Currency Bond Market Diagnostic Framework includes a discussion on major building blocks, sequencing considerations, and monitoring indicators. Available at <https://www.imf.org/external/np/pp/eng/2013/070913.pdf>

¹⁵ For more nascent markets, the agenda should place priority on creating the conditions to enhance the supply of instruments, develop a credit culture, and introduce risk-based pricing.

- Actions and Policies to Support Secondary Market Liquidity; and
- Interbank and Swap Markets (tools to improve liquidity management and hedging).

A. Investor Base Diversification and Greater Support for LCBM Development.

17. While progress has been made in the expansion of the investor base for LCBMs, challenges remain to enhance investor base diversification and to form a stable demand profile for non-government instruments and for longer-term products. As previously discussed, the investor base for EM LCBMs (especially for government debt) has expanded, backed by asset growth of domestic institutional investors (pension funds and insurance companies) and enhanced participation of foreign investors.¹⁶ However, domestic institutional investors in several emerging markets (for example, Indonesia and Turkey) still have significant room to grow and to diversify their investment portfolio away from a highly concentrated government debt portfolio. Conditions for greater allocation by institutional investors to long-term products also need to be improved. Similarly, foreign investors have thus far concentrated allocations to EM government LCBMs, with limited participation in non-government bond markets.

B. Expanding the Set of LCBM Instruments¹⁷

18. Non-government bond market reforms should facilitate the expansion of different types of products that could channel investments to strategic segments and support EM growth. LCBMs still play an incipient role as a source of funding for critically needed areas, such as housing and infrastructure, and for long-term financing in general. While a variety of instruments could be fostered, three products are highlighted and further discussed in this subsection: (1) covered bonds, (2) infrastructure bonds, and (3) Sukuk.

Covered Bonds

19. As one of the largest types of private LCBMs, covered bonds have now been expanding beyond their traditional EU frontiers. The outstanding covered bond debt market sizes up to EUR 2.5 trillion by the end of 2014, out of which about EUR 2 trillion is made of

¹⁶ Foreign investors have largely invested in the same countries, although the relative size of inflows has varied. *Global Financial Stability Report*. April 2014. IMF

¹⁷ A major part of the agenda of reforms to expand the set of LCBM instruments (for example, improvements in regulations, market infrastructure, tax framework, and so on) would also help strengthen the foundation for more traditional local currency instruments, such as corporate bonds. In targeting new instruments, there should also be efforts to avoid targeting a narrow investor base or to create captive sources of demand that could create price and liquidity distortions and affect the overall development of LCBMs.

mortgage covered bonds. The bonds are refinancing about 20 percent of the outstanding residential mortgage debt in the EU and make a sizeable part of several EU housing finance systems.

20. Covered bonds enjoy favorable regulatory conditions and receive a higher rating than unsecured bonds. The attractiveness and the level of confidence of institutional investors are built by common inherent features to these secured bonds.¹⁸ The level of confidence in their resilience to stressed situations remains high, as visible during the 2008 global financial crisis (GFC), when alternative funding instruments like securitization became harder to issue. Despite legislative and structural differences across countries, covered bonds have reached a level of global recognition in terms of regulations and standards.

21. Certain preconditions are necessary to support the development of covered bonds in EMEs. These preconditions relate e.g. to stable macro, quality of the mortgage lending infrastructure, sizeable portfolios, developed bond markets, domestic institutional investors, incentives for lenders to diversify long-term funding and policy decisions that can be difficult to make, for example, the depositors' subordination below covered bond investors in cases of insolvency.¹⁹

22. Several EMEs have made progress in creating or amending covered bond regulations. This progress is timely, as banks have accrued a sizeable mortgage portfolio and are confronted with long-term funding challenges (notably if subject to Basel III regulations and if extending fixed-rate loans), and as global investors want to diversify their portfolio of covered bonds (along with higher yields than in the European Union). But this evolution will require even more assistance from MDBs like the WBG.²⁰

Infrastructure Bonds²¹

23. One of the main needs for long-term financing in EMs is related to infrastructure investments. Such financing will be required for energy generation, roads, and telecommunications, and are estimated between \$21 trillion and \$24 trillion to 2030. EMs are facing twin challenges: how to organize projects into bankable structures, and how to access long-term funding. Traditional funding sources from governments and commercial banks, while still relevant, are retrenching post-GFC crisis, in the context of tighter fiscal constraints and more conservative prudential regulations

¹⁸ Earmarked cover pool of assets exempted from bankruptcy proceedings, insulation from bail-in risks, rigorous criteria about the issuance, quality and monitoring of the cover assets, and clear disposals about actions to be taken in case of insolvency.

¹⁹ Besides Chile, which pioneered this development in the 1980s, other countries are working on this development; some have already tested pilot issuances: Poland, Brazil, Morocco, Turkey, Costa Rica, Panama, India, Romania, Azerbaijan, Uruguay, Peru, and soon, South Africa.

²⁰ The WBG already provided assistance in seven countries: Morocco, Poland, Turkey, Brazil, Peru, Azerbaijan, and South Africa.

²¹ Based on Canuto, Silva, Garcia-Kilroy foreword for *Euromoney EME Handbook*, 2014.

for banks (shorter maturities and lower risk tolerance), following Basel III. In addition, lending from foreign banks has been on a declining trend since 2007 (Canuto 2013).

24. Accordingly, EMs need to access new sources of long-term funds by tapping the growing pool of assets managed by EM institutional investors. Infrastructure assets are ideal investments for pension funds and insurance companies, as they tend to match their long-term liabilities, provide inflation-protected yields, and have lower correlation to other financial assets. An additional benefit is that a large base of domestic institutional investors could also make infrastructure investments more attractive to foreign investors, as they will be perceived as a potential stabilizer in times of capital outflows.

25. Local fixed-income markets, through infrastructure project bonds—including sub-sovereign bonds—could fill part of the infrastructure funding gap. The use and importance of project bonds in total debt financing is growing, and was analyzed in a recent report for the G20 on capital market instruments.²² While infrastructure project bonds are not new, especially in AEs, innovative thinking and guarantee structures are being developed in both AEs and EMs after the demise of monoline insurers that provided full wrap guarantees before the crisis.²³ To mobilize issuers, investors and intermediaries, policymakers should provide an appropriate framework.

26. The challenge for EMs to develop project bonds is to build a sufficiently robust fixed-income market regulatory and institutional framework and develop the appropriate credit risk enhancement instruments. The regulatory and institutional framework should allow for cost efficient structuring, issuance, and placement of infrastructure project bonds. In addition, credit risk enhancement instruments are needed to achieve a credit risk profile acceptable to institutional investors, generally domestic investment grade or above (BBB-). Furthermore, institutional investors are typically hesitant in managing infrastructure projects as active financiers. Governments, multilateral organizations, development banks, and commercial banks can play a key role in either supporting or providing these risk mitigating instruments. However, the design of credit risk instruments is complex and will vary according to the type of infrastructure projects and according to country specific characteristics. Tailored solutions are necessary, as there is no one-size-fits-all approach for these enhancements.²⁴

27. As infrastructure-financing options develop, it is becoming clearer that public policies and the direct engagement of government and multilaterals to make these long-term vehicles financially viable would be critical for their success. Furthermore, the development of an active

²² "Capital Market Instruments to Mobilize Institutional Investors to Infrastructure and SME Financing in Emerging Market Economies – Report for the G20." The World Bank, IMF, and OECD, 2015. http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2015/12/01/090224b0838dd555/1_0/Rendered/PDF/Capital0market000report0for0the0G20.pdf

²³ Post-crisis, several types of bonds and credit enhancement schemes are being tested depending on the project (for example, greenfield, brownfield).

²⁴ Project bonds also require focused efforts on the design of other features, such as amortizing structures and mechanisms to reduce the cost of carry for the issuer (that is, collecting cash only when needed for the project).

infrastructure project bond market could have a number of positive externalities in reinforcing a long-term fixed-income market for a broader range of issuers, for example, compensate for the higher volatility in foreign capital flows and support LCBMs.

Sukuk

28. Several countries are engaged in efforts to develop their domestic Sukuk markets to tap Islamic financial markets. Sovereigns and non-government institutions are issuing a variety of Sukuk structures and maturities for a broad range of purposes. These range from short-term liquidity management purposes to longer-term financing objectives, such as infrastructure financing. This shows that Sukuk can be promising vehicles for LCBM development, especially in jurisdictions with a solid base of investors focused on Islamic products. Sukuk issuances took place across 14 jurisdictions in 2015, including both dollar-denominated and local currency instruments. While the list of countries that tap Sukuk markets has grown to include Turkey, Hong Kong (China), Pakistan, the Gambia, Ivory Coast, Senegal, and South Africa, among others, the market is still concentrated. Malaysia is by far the largest issuer of Sukuk (54 percent), followed by Indonesia, which rapidly became the second largest issuer (13.2 percent). Saudi Arabia, the UAE, and Bahrain complete the group of the top five issuers in 2015.²⁵

29. MDBs and IOs have also been frequent issuers of Sukuk in a variety of currencies, accounting for 14 percent of Sukuk issuance in 2015. Institutions such as the IBRD, the IFC, and the Saudi-based IDB have regularly issued Sukuk. The WB, for example, arranged a second Sukuk for the U.K.-based International Finance Facility for Immunisation (IFFIm).

30. Despite a decline in the volume of issuances and outstanding stock of Sukuk in 2015, prospects for larger issuances are positive. The global Sukuk outstanding reached \$291 billion as of November 2015, approximately 3 percent below the record level reached by the end of 2014.²⁶ Increased budget deficits, particularly in oil-exporting countries, are increasing the need for sovereign funding. In addition, an expanding number of non-government issuers have issued Sukuk, and this pattern is expected to continue. For example, in 2015 this included an international airline in Indonesia, a children's clothing and accessories manufacturer in Malaysia, and a major retail conglomerate in the UAE, among other issuers.

31. Notwithstanding positive prospects, several factors impede the development of Sukuk markets. The lack of standardization of Sukuk structures and practices, issues surrounding insolvency and investor protection, and the lack of liquidity are key issues impeding the growth of Sukuk markets and are sources of major debates among stakeholders, policymakers, and market players alike.²⁷

²⁵ See *Islamic Financial Services Industry—Stability Report 2016*, Islamic Financial Services Board (IFSB).

²⁶ Global Sukuk outstanding recorded a double-digit CAGR of 19.6 percent between 2009 and 2014.

²⁷ For further discussion, see Staff Discussion Note: *Islamic Finance: Opportunities, Challenges, and Policy Options*, IMF, 2015. Available at <https://www.imf.org/external/pubs/ft/sdn/2015/sdn1505.pdf>

C. Supporting Market Liquidity

32. Measures to improve market liquidity and strengthen the reference role of the government yield curve should be undertaken: This requires a focus on market development strategies to keep building yield curves and promoting secondary market liquidity (building benchmarks, making deeper use of more sophisticated Liability Management Operations [LMOs] to promote liquidity and manage debt portfolio risk.

33. The debt manager is in a key position to influence the development of the government securities market such as through. Effective vehicles include (1) the choice and design of instruments, (2) issuance patterns, and (3) offering procedures.

34. Experience has shown that there is a direct relationship between fungibility of securities and market liquidity.²⁸ In other words, fragmentation of issues leads to illiquid markets, which mean higher risk and funding costs. Fragmentation increases the financing costs of market-makers because they have to hold larger inventories of securities of different issues, instead of concentrating their portfolio on fewer and more liquid issues. This also adds to the market risk of their portfolio and to their inventory costs.

35. The transition from multiple and fragmented issues to a situation with few selected and high-volume benchmarks takes time. It should be approached with a combination of strategies depending on the origin of the fragmentation, the market capacity to absorb standardized issues, and the ability of the issuer to manage the concentration of a higher volume of maturing debt on specific dates during the year.

Developing Yield Curve References

36. Typically, debt managers structure their issues around a predefined set of benchmarks ranging from short- to long-term standard maturities. The latter can be represented graphically as a plot that combines the yield and term to maturity. The result is the “benchmark yield curve,” which underpins pricing of all the relevant areas in the securities markets: primary market issues from the public and private sectors, secondary market trading of equivalent issues, derivatives markets (repo, interest-rate futures, options/swaps), and valuation of institutional investors’ portfolios.

37. As far as volume of benchmarks is concerned, there is not a standard size, but it should be enough to provide secondary market liquidity. Liquidity is directly dependent on size, but is also related to the nature of investors, the size of intermediaries, and the microstructure of the market. The more widely held among active traders, the more liquid the benchmark. Some measures to promote a wide distribution are: (1) a sufficient issue size so that no participant holds the majority of the issue and renders it illiquid; (2) a careful selection of primary market participants—wholesale

²⁸ Securities are fungible when they belong to the same issue, and are perfect substitutes because the features that identify them (maturity date, nominal, and coupon) are identical.

and active traders—which eventually can be combined with a primary dealer scheme; and (3) quantity limits in the auction to ensure good distribution among investors.

38. Box 2 provides an overview of the multiple actions that are necessary to sustain the agenda of LCBM development in practice.

Box 2. Morocco Country Case: Promoting stable government financing channels and supporting domestic debt market development

Since the late 1990s and early 2000s, the Moroccan authorities have adopted a comprehensive strategy for public debt management and domestic debt market development to support their objectives of ensuring stable and sustainable financing, and building a reliable risk-free yield curve.

1. **Clear and transparent objectives in a supportive domestic context:** The government’s debt management and market development objectives were specific, with medium-term targets to be pursued, and disseminated in the annual financing law and borrowing plan. The context of a stable or rising government borrowing requirement; stable inflation, with the presence of sophisticated market intermediaries; and a relatively diversified investor base provided the government with the degrees of freedom to implement these objectives. The authorities further improved predictability in fiscal needs by requiring a parliamentary process to change the annual financing limit.
2. **Active debt management:** Based on the debt management strategy, the authorities actively increased the proportion of domestic debt and swapped most external debt (for example, the USD 2022 bond) into EUR in order to be close to the currency basket to which the Moroccan dirham (MAD) is pegged. In the domestic market, the authorities actively manage liabilities by buying back debt that is close to maturity (to reduce refinancing risk) and exchanging small, illiquid securities for recently issued benchmark securities (to improve portfolio composition). Further, they actively manage their cash position and have the facility to borrow short term from the market to cover temporary shortfalls.
3. **Upgraded debt and market infrastructure:** The authorities have implemented an electronic auction system (operated by the central bank as the government’s agent) since 2009, and adopted a new debt and cash management IT system to facilitate consolidated monitoring of flows and positions. They subsequently procured an electronic trading platform to enable market-making by government securities dealers and support price transparency and liquidity.
4. **Mechanisms to support secondary markets:** The authorities pursued several simultaneous reforms to foster secondary market activity, including a benchmark issuance policy (reducing the number of outstanding lines from over 300 bonds in 2000 to 73 bonds in 2015). They further strengthened the market-making obligations of government securities dealers, while providing them tools, such as a securities lending facility and a repo framework, to fulfill their obligations.
5. **Forging ahead with reforms:** As fiscal management and the domestic market have evolved, the authorities have continued to step up reform efforts to gain efficiencies and support broader financial sector development.
 - a. **Institutional reform** in the Ministry of Economy and Finance’s Directorate of Treasury and External Finance to streamline various debt management functions.
 - b. **Attracting foreign investors** to the domestic debt market when they have seen substantial demand for their external bond issues.

Source: World Bank Group staff.

Primary Dealers

39. Primary dealers can play an important role in development of LCBMs. At the early stage of market development, designated dealers (such as primary dealers or other official market makers) can assist in improving liquidity in the local currency government bond market. Over time, a formalized network of intermediaries plays a useful role in improving instrument liquidity and ensuring successful placement of issuance and competitive pricing at the auction. In many markets PDs play a key function in bidding in primary markets and provide two-way quotations (prices) in certain (designated) government securities in the secondary market, thereby contributing to liquid markets. These obligations can mitigate volatility and market dislocation during periods of stress. The selection of PDs is subject to specific requirements, including sound financial capacity and healthy a balance sheet, active market presence, and good risk management capacity.

40. The rights and obligations of a PD system should be adapted to the level of market development. Experience shows that there are a number of enabling conditions are needed, both related to the macroeconomic environment and market microstructure. Where enabling conditions are not met at the outset, the PD rights and obligations will need to take account of such limitations (Appendix 2).

D. Interbank Money and Swap Markets

41. Interbank money and swap markets are an integral part of developing bond market liquidity. Limited liquidity in the interbank market restricts the ability to anchor the short end of the yield curve, and impedes development of secondary market liquidity by depriving the ability of cost-effective financing of government securities inventories through repurchase agreements. In this respect, a volatile level of liquidity in the financial system can reduce the incentives for a functioning interbank market as banks maintain high levels of precautionary liquidity. The management of systemic liquidity may then be complicated by, for example, the high cost of sterilization, and the inability to project liquidity flows due to incomplete government cash flow projections. In addition, a sound contractual structure, such as a Global Master Repurchase Agreements and a supportive insolvency framework together with a well-functioning Central Securities Depository (joined with real-time connectivity to the payment system) can support the development of secured interbank lending and bank-to-customer lending.

42. The lack of market transparency may also be a factor. Disclosure of information on money market activity is essential, such as the existence of an interbank market index and daily trading volumes. The absence of a systemically quoted and presented information could contribute to a wide range of interbank rates, which would not be explained by credit factors alone, reducing the functionality of the money market.

43. Derivatives markets can help deepen LCBMs by linking price formation processes in otherwise disconnected and shallow markets, while providing risk management tools to borrowers and investors. In terms of sequencing money market and secondary market liquidity are a precondition in order to ensure adequate volumes to establish a reliable money market reference

rate and the dissemination of market prices. Interest rate swaps then link price information in the short-term money market to that in the long-term debt market by forming a market expectation of future money market rates and extending the yield curve. Similarly, notional futures contracts on government securities could improve the secondary market liquidity of deliverable government securities, also for less liquid side issues. In that way, derivatives help establish more reliable market prices across otherwise segregated markets.

44. For markets where the money and bond market liquidity has reached sufficient levels, simple derivatives based on money market rates, currencies, and government securities would adequately address LCBM development needs. This set of countries would benefit from technical assistance (TA) focused on the conditions for creating a deeper market for rate products and risk management instruments. These plain vanilla derivative products could include: interest rate swaps, cross-currency swaps, and perhaps forward rate agreements for over-the-counter derivatives; government bond and interest rate futures for listed derivatives; and security repos and foreign exchange forwards and swaps.

45. More sophisticated products should be introduced in line with the needs of market participants, and as regulatory and supervisory capacities are able to handle their complexities. However, caution is needed while developing more sophisticated products. The regulatory framework and supervisory capacity should be sufficiently developed to identify a set of more complex and opaque risks.

46. Experiences in more advanced markets provide some precedence in terms of common legal issues that need to be clarified. These include counterparty risks, and the use of a master derivatives agreement may help to reduce these; however, this risk reduction benefit can be achieved only if the relevant laws allow close-out netting of the transactions covered by such a master agreement. The use of collateral mechanics could further reduce counterparty risks, but only if the relevant laws and the judicial court system can facilitate effective and speedy enforcement of collateral upon a default event.²⁹

E. Strengthening Roles of Policymakers and MDBs

Role of Policymakers

47. The reform process requires a sustained effort by authorities at both a high level, to remove roadblocks and at a technical level. Long-term reforms should use interim markers to ensure that focus is maintained and targets are met. In addition, it would be important to have in place a macroprudential framework and to assess at regular intervals the balance across all key components of the bond market to avoid potential risks to financial stability. During the process, country authorities may need to put appropriate buffers in place to facilitate a smooth transition. For instance, to mitigate the potentially destabilizing effects of volatile capital flow, country

²⁹ Other challenges that may affect the introduction of collateral mechanics in EMs are the lack of sufficient liquidity and of a culture of collateral posting.

authorities may want to review prudential limits and reserves buffers before increasing their efforts to diversify the investor base to include foreign investors.

48. Key stakeholders in LCBM development need to coordinate a holistic reform program for development of the primary and secondary markets. Particularly important is the role of the debt manager, where the design and implementation of debt strategies have critical implications for the development of LCBMs. Debt managers need to work in close coordination with other stakeholders, such as regulators and central banks, to ensure greater alignment of policies to foster an overall LCBM development and maintain an active dialogue with market participants.

49. The regulatory and supervisory frameworks should be designed to cover all financial intermediaries. It is critical to have supervisory bodies able to develop and implement suitable regulations to facilitate market development, while safeguarding financial stability, as increased competition and financial innovation may lead to increased risk-taking and financial stability risks.

50. The sequencing of LCBM reforms should be comprehensive and implemented gradually, according to timeframes based on the stage of market development. For example, the treasury management capacity of domestic market participants, the level of economic financial development, as well as the level of national savings, need to be taken into account in LCBM reforms.

Role of MDBs

51. MDBs take on a catalytic role as issuers of bonds in EM local currencies. Several MDBs, including the IBRD, IFC, ADB, EBRD, and IADB, are frequent issuers of bonds in EM currencies, both in domestic and in international capital markets. These instruments can play a catalytic role in the development of LCBMs by establishing a benchmark for lower-rated issuers and may also serve as a “toe-in-the-water” approach for attracting investors that are unfamiliar with a particular EM currency.³⁰

52. MDBs play an important role in providing a framework, monitoring, and coordination of TA. The WB/IMF/EBRD/OECD Diagnostic Framework for LCBM development and deepening has been broadly disseminated and is being used as a reference by both IOs and bilateral TA providers, as well as policymakers in EMEs, and for regular updates. IOs will sustain their enhanced collaboration and information sharing to improve resource allocation and the effectiveness of TA support through the TA project database.

³⁰ The objectives, challenges, and limitations of MDB issuances in EM currencies will vary depending on country-specific characteristics and on whether these securities are placed in domestic or international capital markets. Issuances in domestic markets tend to have a greater benchmarking role and impact for the development of the market. However, specific features such as (potentially different) tax treatment or reporting requirements compared to other local instruments may reduce the referencing role of these MDB instruments.

53. TA on LCBM development continues to be on the work agenda of IOs, with a particular focus on EMs and middle-income and low-income countries. In terms of growth areas, there have been increasing efforts in low-income countries, either stand-alone or as part of programmatic efforts, such as the Debt Management Facility-II Multidonor Trust Fund for low-income countries.

54. Presently, MDBs alleviate liquidity risks and provide hedging tools to mitigate the impact of shocks and support the sustainable development of LCBMs. One of the most traditional types of MDB support is their lending operations, which usually grow in moments of stress or hard funding conditions in domestic and international capital markets. Several countries have been proactive in establishing contingent lines of credit with MDBs and in building cash buffers to weather stressful times. These buffers act as a market stabilizer, mitigating refinancing risk concerns and reducing funding cost and pressures during market difficulty. MDBs also provide an increasing menu of hedging tools, including cross-currency and interest rate swaps that help countries reduce exposures to FX and interest rate shocks.

55. MDBs also help reduce the cost and facilitate access to LCBMs for a broader set of issuers via the provision of credit enhancements and direct investments. One of the clear themes, affecting especially non-government LCBMs, is to reduce its high level of concentration and expand access to a larger number of issuers and products (for example, infrastructure bonds and covered bonds). This often requires credit enhancements to access the market or attract greater demand. Countries and MDBs could more formally integrate and coordinate on policies to foster the use of credit enhancements as part of an overall action plan to develop LCBMs, according to country-specific circumstances. The cases of the city of Dakar and the MTN Uganda Bond Guarantees provide examples credit enhancements (Appendix 1). MDBs have also acted as investors in some selected products, guaranteeing, for example, partial demand and underwriting securities in primary markets or providing seed capital to products such as investment funds. Liquidity management facilities are in some instances another useful product adopted by MDBs and could be instrumental to further support the development of LCBMs. The case of Colombia describes a combination of products used by the WBG in the Deep Dive initiative (Appendix 1).

56. Also of relevance to the work of the G20 on LCBM development is a recent initiative co-led by the World Bank Group, the IFC, and the EBRD to establish a senior forum of VPs/CFOs from leading development finance institutions. This group will give visibility and focus to key issues on LCBM development needing attention from regulators and policymakers, thereby building on the work of the G20.

57. MDBs could strengthen their role in leveraging their traditional TA programs through a wider set of tools and products, including, among others: (1) risk management tools, (2) alternatives to expand access by different issuers to LCBMs, and (3) issuance of local currency securities in domestic and international capital markets.

Appendix 1. Examples of Recent Work on Developing LCBMs

The World Bank Group (WBG) Colombia Deep Dive: Building LCBMs to Finance Infrastructure

Purpose: The Colombia Deep Dive (DD) is helping to build long-term local currency bond markets to finance infrastructure. Through WBG advisory and investment interventions, the project has helped strengthen the local bond market (LBM), strengthen the new infrastructure development bank (FDN), create new products and services, and improve the PPP framework and PPP project preparation.

Challenge: Like many emerging market countries, Colombia faces rising infrastructure financing demands that are too large to be met by the government and banks—at least 7.4 percent of GDP annually over the next 12 years. LCBMs are needed to mobilize long-term financing from institutional investors, especially Colombia’s large pension funds and foreign institutional investors. The country aims to finance a \$25 billion toll road program to create a major road network spanning the country, with 8,000 kilometers, in an aggressive timespan. Efforts are needed to strengthen the LCBM, Colombia’s new infrastructure development bank, and local investors (for example, pension funds) so together they can generate the needed financing. The new infrastructure-financing ecosystem would in turn attract international institutional investors in search of yield and a reliable investment framework.

Solution: The project leverages WBG advisory, investment, and Treasury resources from eight WBG units to help address the wide range and large scale of Colombia’s challenges, including: (1) advisory services to strengthen the LBMs; (2) a \$70 million IFC investment (FIG) in the FDN, complemented by advisory services to enhance FDN’s ability to create and deliver products and services that encourage investment in infrastructure; (3) training to build up pension fund capacity to invest in infrastructure bonds directly and through debt funds; (4) investment in a local debt fund to encourage pension financing; (5) developing project bond markets for greenfield projects; and (6) advisory services to strengthen the PPP framework and related institutional capacity and financing models for PPPs.

Results: The project has achieved significant results, and laid the foundation for more to come. Most notable are efforts that are strengthening:

- The LCBM, by enhancing pricing benchmarks and creating new regulations for issuing (May 2014) and investing in infrastructure bonds—including the introduction of debt funds (April 2014)—to facilitate pension investment.
- FDN’s ability to support the marketplace, through a \$70 million IFC equity investment plus WBG advisory to enhance FDN’s products, services, and operations to encourage domestic and foreign investment. Examples include the design of different guarantees that FDN could provide to projects (July 2014), and the establishment of a \$4 million Project Preparation Fund to help develop a project pipeline.
- Domestic pension fund capacity and interest, by supporting changes in performance benchmarks and investment regulations that encourage industry competition, and through hands-on training on investing in infrastructure deals.
- The enabling environment for infrastructure PPPs, by advising the national infrastructure agency (ANI) on standardizing documents and project structures.
- Transaction support for the 4G program, by working to create an IFC project bond guarantee and possibly investing in a local debt fund. As of August 2015, 17 out of 40 projects worth \$9 billion have been awarded.

WBG contribution: The WBG has contributed considerable staff time to the DD through the F&M Practice; IFC and WB Treasuries; IFC FIG, WB, and IFC infrastructure teams; MIGA; and the CMUs, plus financial resources through IFC FIG's \$70 million investment in FDN. IFC expects to invest in a local infrastructure debt fund and credit enhancement for a project bond that will increase financial contributions significantly, as will MIGA's possible cross-border guarantee. SECO has been a major financier, providing a total of \$1.35 million in trust funds through the ESMID and the PPIAF programs, both managed by the F&M Practice and \$139,000 through the WB Treasury-managed Government Debt and Risk Management Program.

Partners: In addition to the extensive internal partnerships noted, the Colombia DD has strong partnerships with external entities that are financing the program and others that are implementing it. As noted, SECO is the main external funder and has provided considerable financing support. The program works closely with FDN in an ongoing engagement developing financial guarantees. Other critical partners are ANI, the national infrastructure agency, the Ministry of Finance, and the Superintendency for the Financial Sector.

Moving forward: A second phase of the program started in late fiscal 2015, funded by SECO for approximately \$2.5 million, to reinforce critical components, expand their implications to a wider set of infrastructure development needs, and help ensure their overall longevity. Building on results to date, Phase II will reinforce FDN's capacity to develop financing solutions for PPP infrastructure projects at the national and subnational levels; further strengthen investor capacity and interest, with a focus on foreign investors; and deepen and expand the regulatory environment. Implementation of WBG financial contributions currently being developed, for example, an IFC bond guarantee and investment in an infrastructure debt fund, MIGA's cross-border guarantee, would strengthen Phase II's impact.

Beneficiaries: Numerous people throughout Colombia will benefit directly from the higher economic activity and employment opportunities that will be generated. The new road network is expected to cut transport costs by around 28 percent, with an estimated annual impact of 1.5 percent on GDP growth.

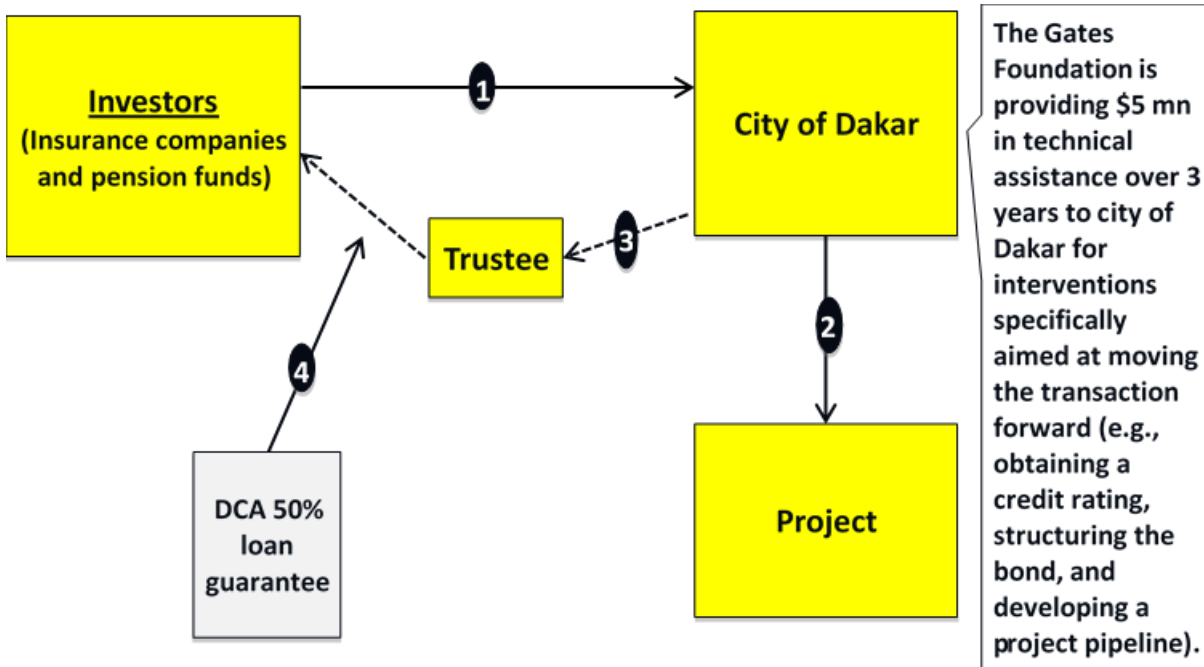
Source: World Bank Group staff.

USAID: Dakar (Senegal) Bond Guarantee

Purpose: To assist the city of Dakar, Senegal, to access the private capital market and finance the improvement and formalization of a community market of more than 3,000 merchants, USAID’s Development Credit Authority provided a 50 percent credit guarantee. The bond issuance is looking for \$41.8 million in local currency from the city of Dakar. If successful, this will be the first municipal bond issuance in Sub-Saharan Africa (other than South Africa).

Assessment: Institutional investors such as insurance companies and pension funds will purchase the municipal bonds issued by Dakar through the underwriter. The city will use the funds from the issuance for the rehabilitation and expansion of the market. Dakar will subsequently pay investors on a semi-annual basis (principal and interest) through a bondholder trustee. The interest payments will be originated from the merchants’ rent, with the balance covered by general taxes.

USAID’s role is the provision of a 50 percent credit guarantee to investors, which covers half of their losses in the event the city defaults on its bond repayments. Together with other internal credit enhancement mechanisms, the credit rating of the bond is expected to be at a higher level than the institutional credit rating of the city of Dakar.



While interested private investors have already been present in the Senegal market as a result of sovereign and non-government bond issuances, the clear focus of this credit enhancement is to incentivise private investors at the municipal level. Although the bond is still to be issued, the outcome expected through the risk–return relationship from the investors’ point of view will be enhanced thanks to the guarantee covering half of the investors’ losses in the event of the municipality government’s default.

In addition, the expected outcome of the project has been facilitated by TA from the Gates Foundation. The objectives are to obtain a credit rating, structure the bond, and develop a project pipeline. This will add to the high quality of the underlying assets backing the bond issuance.

The project required a more developed financial assessment process, as well as greater transparency and accountable financial management and reporting systems. The expected result is that this intervention will allow Dakar much needed access to private capital markets. Also, thanks to improved capacities, the project should enable the municipality to return to the capital markets in the future.

Sources: USAID and OECD Secretariat.

SIDA: MTN Uganda Corporate Bond Guarantee

Purpose: The Swedish International Development Agency (SIDA) provided a guarantee for a corporate bond issued by MTN (mobile telephone network) Uganda, a telecom company, to back its expansion plan to rural areas, as well as to promote financial sector development by supporting issuance of a corporate bond (the first in the market). The guarantee, with tenure of eight years and value of SEK 80 million in local currency, was never claimed during the course of debt outstanding.

Assessment: Prior to the liberalization of the telecom market in Uganda, the existing license holders' company concentrated its operations on urban areas, as expansion to more remote rural areas was costly due to underdeveloped infrastructure. The liberalization allowed competitors to access the market and to improve coverage of essential telecom services.

To fund the expansion plan, MTN Uganda had to attract external financing. The company's revenues were predominantly in local currency, which made local currency funding necessary to minimize risk. In addition, the massive expansion plan revealed the need for longer tenure debt to align horizons. While MTN Uganda had no opportunity to increase its outstanding bank debt further, accessing the private capital market was the only option to materialize expansion plans.

SIDA's intervention enabled the company to issue local currency promissory notes of UGX 9.5 billion (SEK 60 million) with four years' tenure in private placements, whereby the single bond holder was an institutional investor. The guarantee provided by SIDA covered the commercial risk and would have paid back 100 percent of the principal to investors in case of default. SIDA charged an annual fee of 3 percent of the guarantee value. The guarantee decreased overall funding costs, enabling the company to access the capital needed. The funds raised allowed MTN Uganda to successfully implement its expansion plan. The success of MTN Uganda's subsequent growth was also reflected in the timely repayment of debt obligations.

The guarantee did not only support the company, but also the Ugandan capital market in general, as this issuance served as a pioneering example for the corporate sector to access local currency finance. Other corporates have followed and issued bonds on the capital market. However, the market development effects remain limited because of the lack of companies large enough to have a significant demand for external long-term funding. At the same time, this intervention serves as a good example to reflect the amount of efforts involved in terms of time and human resources on the bilateral donor side. SIDA decided to shift priorities toward scaling up local financial market development efforts by engaging in GuarantCo, a global guarantee provider funded by Sweden as well as the governments of Australia, the U.K., Switzerland, and the Netherlands. As a consequence of the resulting capacity constraints, the banking market was closed for this intervention due to the single client exposure for MTN Uganda.

Nevertheless, in terms of development impact on the telecom sector, the bond issuance induced a rapid expansion to rural areas as well as reduced costs, employment effects, and mobilizing further domestic and foreign investment in the sector.

Sources: SIDA and OECD Secretariat.

Appendix 2. Aspects of LCBM Development

Leadership and Commitment to Reform

Commitment and ownership of the reforms process at a high level is essential to sustain the course of reform. Similarly, buy-in and commitment at the technical level is necessary to facilitate implementation of the higher-level strategy. Mechanisms for coordination across agencies and interaction with private sector participants are important tools for implementing reform. Positioning LCBM development into broader programs, such as public sector or public financial management reforms, may also serve to ensure project sustainability.

Credibility can easily be lost if the authorities backtrack on their policy commitments, such as resorting to below-market-rate financing or failing to implement a market-based monetary policy regime. Another common pitfall is to focus attention on more technical issues, for example, whether to use single- versus multiple-price auctions instead of dealing first with more fundamental issues such as, for example, the lack of competition among bidders.

Clear communication to build and foster credibility among market participants should be maintained at all stages of the reform process and beyond. A communication strategy that lays out the authorities' reform objectives and strategy to upgrade and deepen their bond market is critical to build market confidence. As the market develops, maintaining confidence will also hinge on the clarity and predictability of policies and reform initiatives. This issue is particularly relevant to build and maintain investor relations and build the investor base for the government bond market.

Stable Economic Policies

Credibility of key policies is critical to anchor market expectations. Past policy performance would condition perceptions of market participants about inflation risks, exchange rate risk, and commitment to fiscal discipline. Developing a credible policy framework with an appropriate communication strategy would lay the foundation to encourage and sustain a market dynamic that could efficiently process and absorb changing supply and demand for financial assets in local currency. This effort may be particularly important for countries at earlier stages of market development, or for those that have experienced relatively recent episodes of crisis or high inflation. For those cases, reform efforts should prioritize establishing durable macroeconomic credibility and establishing or restoring a robust regulatory framework to ensure that local markets operate efficiently and anchor investor expectations.

Interaction for LCBM Development with Monetary, Fiscal Policy, and Financial Stability

The monetary policy framework and central bank operations strongly influence the broader fixed-income market. For instance, interest rate controls or extended periods of excessive systemic liquidity would not be conducive to money and bond market development. At the other extreme, lack of predictability and credibility of monetary policy that would lead to excessive interest rate volatility would also impede market development. In this context, it is important to distinguish

between market volatility that is endogenous to the development process (for example, due to thinness of the market) and exogenous volatility (for example, due to broader macroeconomic policies, high inflation, volatility of economic activity, or political uncertainty). In addition, depending on the operational design of monetary policy (for example, central bank instruments for sterilization of structural excess liquidity and for open market operations), it could either be supportive or detrimental to money- and debt-market development.

Fiscal policy will strongly influence market size and potential growth, especially in shallow markets. This would also drive private sector demand for capital and would influence the potential scale of any non-government bond market that could develop. In this context, the interactions between the monetary policy framework, fiscal policy, and public debt management become critical for outlining the broader parameters of domestic credit conditions and bond market size, liquidity, and yields.

Coordination of debt market development, monetary policy, and fiscal policy is required to discuss policy interaction. An independent monetary policymaker would have to consider the impact of the government's financing need on overall liquidity conditions and would have to face a trade-off between accommodating a large fiscal financing need against maintaining an appropriate level of credit to the private sector and stable inflation. For instance, fiscal dominance or financial repression could crowd out credit to the private sector. Conversely, an explicit policy to encourage the development of the local bond market may require the state to issue debt beyond its immediate financing need with associated fiscal costs.

Financial stability and a sound banking sector are important preconditions for bond market development. The banking sector (private and central banks) is a large component of the investor base in many countries, and it usually plays a critical role in the development of both the government and non-government bond markets, investing directly or on behalf of its clients. Financial stability risks can impair banks' ability to perform these functions.

Debt instruments

The development of domestic government securities markets depends on economic size and financing needs, supporting a wide range of policy objectives. It is important that senior policymakers explicitly recognize the potential benefits and costs of creating and deepening government securities markets so that sufficient high-level support can be sustained throughout the process. It should be acknowledged, however, that the degree of required and feasible government securities markets development would depend on the economy's size, level of development, and the needs of the public and non-government sectors.

Experience shows that a number of countries issue government securities to: (1) provide a benchmark yield curve for the non-government debt market, (2) support liquidity management operations of the central bank, (3) provide an investment alternative with little or no risk of default for investors, (4) maintain and develop smooth functioning and efficient financial markets, and (5)

provide market infrastructure through a robust payment and settlement system and a strong legal framework (that is, collateral and bankruptcy laws).

Some common features related to their design and volume can be identified in debt instruments that have been developed in liquid markets. In terms of their design, securities in benchmark issues are plain vanilla (discount or fixed coupon depending on the maturity); standardized in terms of maturities and denominations, according to pre-established international market conventions; and reduced in number of maturities, which are also sufficiently different so that they do not compete with each other.

Primary Market Structure and PDs

The operation of the primary market should be transparent and predictable and should strive to maximize competition among investors to derive the best possible results for the government. To the extent possible, market-based mechanisms such as auctions should be used when issuing securities, and the issuance strategy should seek to provide for government securities in key maturities. The success of auctions would be enhanced by, among other things, ensuring that relevant and timely information is communicated on the government's finances and issuance plans; sound custody and settlement arrangements; a good number of participants of a variety of types; and liquid money and secondary bond markets that, by reducing liquidity risk of holding term debt, assist investors to maximize their participation.

PDs can play an important role in LCBM but need a set of enabling conditions, which may not all be met at the outset. Some of these enabling conditions are: (1) stable macroeconomic conditions, (2) existence of legal and supervisory systems, (3) adequate payment system, (4) liberalized interest rates—the government must be committed to a market-based mechanism, (5) stable, predictable and transparent issuance policy, (6) diversified investor base, (7) large enough market to support a sufficient number of PDs to ensure competitive behavior, (8) sufficiently large outstanding debt to create liquid issues and (9) the existence of a commercially viable proposition for the PDs.

Developing Debt Management Capacity and a Debt Management Strategy

Lack of a debt management strategy may lead to opportunistic debt issuance and vulnerable debt structures that are not supportive of developing a risk-free yield curve in local currencies. Fragmented debt structures complicate price discovery, whereas a well-structured debt portfolio across key maturities with sufficient issuance provides repeated price references that promote market liquidity.

Limited development of the debt management function can restrict the ability of the government to prepare a forward-looking debt management strategy and manage related risks. Maintaining a well-resourced debt management office, organized into front, middle, and back offices, allows for the necessary specialization. The middle office would provide the analytical capacity to undertake debt management strategy formulation. It would require a well-defined data

set of public debt from the back office and market intelligence on future borrowing options from the front office.

Implementation of the debt management strategy requires adequate investor relations and dealing capacity in the front office. Sovereigns wanting to ensure debt supply are aligned with demand for a market intelligence function that is able to deal with investors on an ongoing basis.

Issuance Patterns

The debt manager is in a key position to influence the development of the government securities through: (1) choice and design of instruments, (2) issuance patterns, and (3) offering procedures.

Securities are fungible when they belong to the same issue, and are perfect substitutes because the features that identify them (maturity date, nominal, and coupon) are identical.

Experience has shown that there is a direct relationship between fungibility of securities and market liquidity. In other words, fragmentation of issues leads to illiquid markets, which mean higher risk and funding costs. In this sense, the cost of market fragmentation outweighs the benefit of portfolio diversification. For example, a high degree of fragmentation increases the financing costs of market-makers because they have to hold larger inventories of securities of different issues instead of concentrating their portfolio on fewer and more liquid issues. This also adds to the market risk of their portfolio and to their inventory costs.

In the early stages of government securities markets, the trend is to have a multiplicity of issues to either accommodate different investors' preferences or to smooth the central government cash flows. The transition from multiple and fragmented issues to a situation with few selected and high-volume benchmarks takes time and should be carefully assessed. It should be approached with a combination of strategies depending on the origin of the fragmentation, the market capacity to absorb standardized issues, and the ability of the issuer to manage the concentration of a higher volume of maturing debt on specific dates during the year.

A government debt benchmark is an issue with sufficient liquidity against which the performance of other bonds can be measured. Typically, public debt developed markets structure their issues around a predefined set of benchmarks ranging from short- to long-term standard maturities. The latter can be represented graphically as a plot that combines the yield and term to maturity, which is called the "benchmark yield curve." This is a useful analytic instrument for markets and policymakers. The benchmark yield curve underpins pricing of all the relevant areas in the securities markets: primary market issues from the public and private sectors, secondary market trading of equivalent issues, derivatives markets (repo, interest-rate futures, options/swaps), and valuation of institutional investors' portfolios.

As far as volume of benchmarks is concerned, there is not a standard size, but it should be enough to provide secondary market liquidity. Liquidity is directly dependent on size, but is also related to the size of intermediaries and the microstructure of the market (secondary market and

settlement arrangements). Benchmark building implies a very active strategy in issuance policy, as well as monitoring liquidity of outstanding issues.

Liquidity of benchmarks depends on the amount outstanding, the time since issuance, and distribution among investors and dealers. The more widely held among active traders, the more liquid the benchmark. Some measures to promote a wide distribution are: (1) a sufficient issue size so that no participant holds the majority of the issue and renders it illiquid; (2) a careful selection of primary market participants so that they are wholesale and active traders, which eventually can be combined with a primary dealer scheme; and (3) quantity limits in the auction in the event of large participants that can take a too-high proportion of the issue. Finally, a gradual approach in building market benchmarks in representative maturities along the yield curve is key for the sustainability of the market. A too-high concentration in the short end exposes the government to refinancing risk, whereas concentration in the longer-term end of the yield curve transfers interest rate risk to market participants.

Money Markets

Limited liquidity in the interbank market restricts the ability to anchor the short end of the yield curve and impedes development of secondary market liquidity by depriving the ability of cost-effective financing of government securities inventories through repurchase agreements. In this respect, a volatile level of liquidity in the financial system can reduce the incentives for a functioning interbank market, as banks maintain high levels of precautionary liquidity. The management of systemic liquidity may then be complicated by, for example, the high cost of sterilization, and the inability to project liquidity flows due to incomplete government cash-flow projections.

Microstructure of money markets may also impede their functioning. The lack of sound contractual structure, such as a Global Master Repurchase Agreement and a supportive insolvency framework, together with the limited functionality of a Central Securities Depository (joined by real-time connectivity to the payment system) may impede the development of secured interbank lending and bank-to-customer lending.

Lack of market transparency may also be a factor. If prices in the money market are not systemically quoted and presented, for example, a lack of an interbank market index and daily trading volumes, it can also lead to a wide range of interbank rates that cannot be explained by credit factors alone, and reduce the functionality of the money market through a risk or an illiquidity premium.

Investor Base

An investor base for fixed-income securities, which is as large and diversified as possible, is important for ensuring high liquidity and stable demand in the market. A heterogeneous investor base with different timeframes, risk preferences, and trading motives stimulates active trading and consequent high liquidity, and enables LCBM issuers to execute their funding strategy

under a wide range of market conditions. Reaching high liquidity is particularly important for government bond markets, given their price-referencing role for broader fixed-income products. Experience shows that actions contributing to equal treatment of investors, ensuring the competition of collective investment managers (for example, by introducing market indices, performance league tables), and market valuation of assets contribute to improving liquidity conditions.

Development of contractual savings vehicles such as pension funds, life insurance, and mutual funds provide a natural market for medium- and longer-term debt. However, investment allocations to longer-term instruments depend on improved conditions that could be brought by government policies to promote liquidity of debt securities (see liquidity subsection) and a secondary market architecture that enhances price transparency and facilitates access of institutional investors to longer-term instruments. The development of liquidity management and hedging tools, as discussed in the subsection on interbank and swap markets, is equally relevant.

Broadening the investor base by attracting foreign investors is a strategic issue with possible implications for macroeconomic and -financial stability. Recent studies focus on the role of foreign investors in reducing the cost of sovereign debt issuance estimates and the impact of the entry of foreign investors on the volatility and level of emerging markets' government bond yields, concluding that the significant presence of foreign investors could reduce borrowing cost, lengthen the maturity of debt, and improve market liquidity. Notwithstanding, it is important for governments to bear in mind the cost–risk tradeoff of attracting foreign investors as a strategy for broadening the investor base. Aspects such as maturities, the point in the business cycle, and volatility of investors can contribute to risks for LCBM issuers since foreign investors tend to be relatively sensitive to risk and to manage their portfolios actively. Such risks can arise, as even small changes in global asset allocation can generate capital movements that may cause exchange rate overvaluation, asset price bubbles, or credit booms, all of which can affect macroeconomic volatility. Thus, ensuring a stable macroeconomic environment and prudent capital account liberalization is essential to maintain a stable and growing participation of foreign investors in government securities markets. Policymakers should also take preemptive measures to build capacity on crisis response tools that could help weather moments of market stress and enhance credibility and sustainability of LCBM development.

Non-government issuers face specific constraints to reach greater participation by domestic institutional investors and foreign investors. Non-government debt instruments are more diverse in terms of instrument and issuer profiles, frequency, and volume of issuance. These characteristics usually lead to fragmented markets that are typically less liquid than government debt, with rare exceptions. Domestic institutional investors and foreign investors also tend to follow strict investment policy rules, usually requiring minimal credit rating and liquidity levels. Availability of credit enhancements and guarantees may facilitate access by a wider set of issuers to LCBMs. Policies to improve market infrastructure (domestic and international custody arrangement, clearing and settlement) provide a sound regulatory framework and fair tax treatment, which are also critical to enhance access of foreign investors to LCBMs.

Clearing and Settlement Market Infrastructure

A sound and reliable clearing and settlement market infrastructure is a prerequisite for LCBM development. Well-functioning clearing and settlement infrastructures reduce the risks of settlement failures and the costs to conduct primary and secondary market transactions. While building market infrastructure should be one of the first priorities in nascent markets, clearing and settlement upgrades are also frequently required in more advanced markets, with the creation of new instruments and more complex requirements brought by a deeper bond market.

Linking domestic markets to International Central Securities Depositories (ICSDs) is frequently an important topic in the agenda for countries willing to attract a larger pool of foreign investors. Links to ICSDs may be relatively more important to medium-size and smaller markets, even though large emerging markets such as Mexico and South Africa also have links to ICSDs, which are welcomed by foreign investors. The decision to link to ICSDs is not clear-cut or a consensus across EMs. Countries such as Brazil have been able to attract a wider pool of investors focusing on building a credible domestic market infrastructure. In part, the trade-offs of building such a link are country specific and deserve a careful analysis before implementation.