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STAFF GUIDANCE NOTE ON MACROPRUDENTIAL POLICY—CONSIDERATIONS FOR LOW INCOME COUNTRIES

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STAFF GUIDANCE NOTE ON MACROPRUDENTIAL POLICY— CONSIDERATIONS FOR LOW INCOME COUNTRIES

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CONTENTS

GLOSSARY	2
INTRODUCTION	3
FINANCIAL SYSTEMS IN LOW INCOME COUNTRIES AND THE CONDUCT OF MACROPRUDENTIAL POLICY	4
A. Weak Supervisory Capacity and Limited Data Availability	4
B. Need for Financial Deepening	4
C. Vulnerability to External Shocks	9
D. Foreign Exchange Risks and Financial Dollarization	11
E. Shallow Domestic Funding Market and Restricted Capital Mobility	13
F. Concentrated Banking System with Increasing Foreign Bank Presence	14
BOX	
1. Analysis of Credit Growth: Sound Financial Deepening or Risky Expansion?	6
TABLE	
1. Recent Examples of Policy Tools to Address Foreign Exchange Risks	12
REFERENCES	17

Glossary

BCBS	Basel Committee on Banking Supervision
FSB	Financial Stability Board
FX	Foreign exchange
LICs	Low income countries
NBFIs	Nonbank financial institutions
SMEs	Small- and medium-sized enterprises

INTRODUCTION

1. **This note explores how characteristics of financial systems in low income countries (LICs) may shape the approach to the staff’s advice on macroprudential policy.**¹ LICs are a diverse group of countries, characterized by a wide range of heterogeneity in terms of economic size, level of economic development, and underlying legal and institutional frameworks. Notwithstanding, LICs are in general in a process of financial and institutional development with implications both for the nature of financial stability risks and the conduct of macroprudential policies. The experience of other countries, in particular of emerging markets which have gone through similar transitions, can be instructive.
2. **A range of characteristics commonly observed in LICs calls for consideration of the implications for the conduct of macroprudential policy.** These include (i) weak supervisory capacity and limited data availability; (ii) a need for financial deepening; (iii) vulnerability to external shocks; (iv) a shallow domestic funding market and restricted capital mobility; (v) financial dollarization; and (vi) a concentrated banking system with increasing foreign bank presence.
3. **Not all of these characteristics will present themselves in any given country, nor are they confined to LICs.** However, staff is likely to encounter at least some of these characteristics in the surveillance of LICs, and will often have to consider their implications for the conduct of macroprudential policy. Moreover, any one of these characteristics can also be observed outside of the group of LICs, in emerging or even advanced countries, and the experience of these other countries can then also help shape the advice.
4. **Staff should take full account of country characteristics in advising on the appropriate approach to the development of macroprudential policy and frameworks.** In particular, the combination of limited data availability, volatile economic conditions, and weak supervisory capacity can mean that simple approaches can be preferred that emphasize increasing the resilience of the system to shocks, rather than an active recalibration of macroprudential policy settings in response to changes in financial conditions. Measures that may be considered in this regard include relatively simple dynamic provisioning requirements, the imposition of relatively high capital and liquidity buffers where needed, and structural tools that help increase loss absorbency of the largest institutions. Some of the same policy considerations discussed below will also apply to non-LIC countries.

¹ This note is intended as a companion to the Staff Guidance Note on Macroprudential Policy and the Detailed Guidance Note on Instruments.

FINANCIAL SYSTEMS IN LOW INCOME COUNTRIES AND THE CONDUCT OF MACROPRUDENTIAL POLICY

A. Weak Supervisory Capacity and Limited Data Availability

5. Effective macroprudential policy needs to build on a sound and strong microprudential framework. While progress in strengthening banking supervision has helped LICs to withstand the effects of global financial crisis ([Financial Stability Board \(FSB\), IMF, and World Bank, 2011](#)), supervisory capacity remains relatively weak in many LICs. Improvements in supervisory capacity and data availability will often need to be given priority, so as to lay the foundations for effective macroprudential policy and enable the authorities to implement a tailored approach to the monitoring and mitigation of systemic risks.

6. Staff should therefore draw up a road map for building up macroprudential policy capacity. In this context, staff should consider advising on institutional reforms, including: strengthening the supervisory and monitoring capacity of the supervisory agencies, filling supervisory information gaps and gaps that impede the analysis of macrofinancial linkages, and building statistical and analytical capacity at the central bank.

7. Without timely statistical and supervisory information and sufficient supervisory capacity, an active and time-varying use of macroprudential policy is inadvisable. As will be discussed further below, the specific circumstances of many LICs can mean that simple and rules-based approaches to the conduct of macroprudential policy which take due account of the ongoing process of financial deepening are preferred.

B. Need for Financial Deepening²

8. Financial deepening is desirable, but can also lead to an unintended build-up of systemic risks. A well-managed process of financial deepening should aim to foster economic development while maintaining and enhancing the system's resilience and capacity to cope with shocks. Such deepening can also help improve monetary policy transmission and support solid and durable inclusive growth.³ However, the process can create systemic risks that need to be managed well.⁴ For instance, a financial liberalization intended to promote financial deepening can increase

² Financial deepening refers to a multidimensional process of increasing the efficiency, depth (for example, credit intermediation and market turnover), breadth (for example, range of markets and instruments), and reach (for example, access) of financial systems ([Goyal and others, 2011](#)).

³ [Arcand and others \(2012\)](#) and [Dabla-Norris and Srivisal \(2013\)](#) discuss that after certain threshold, financial deepening have negative effect on growth or amplifying effect on consumption and investment volatility. [Beck and others \(2013\)](#) find that intermediation activities increase growth and reduce volatility in the long-run, while an expansion of the financial sectors along other dimensions has no long-run effect on real sector outcomes.

⁴ For case studies on the role of public policies in facilitating financial deepening while addressing potential sources of instability, see [IMF \(2012c\)](#).

financial interconnectedness and lead to excessive financial risk-taking unless these risks are managed through appropriate supervisory and macroprudential policies. In this regard, challenges facing LICs will likely differ from other countries. For example, [Cubillas and González \(2014\)](#) show that financial liberalization increases banks' risks through different channels in developed and developing countries. In the latter, financial liberalization increases risk taking by expanding opportunities to take risk.⁵

9. Financial deepening should be accompanied by steady progress in improving supervisory and monitoring capacity. Staff should emphasize that factors such as macroeconomic stability, sound and credible policies, and institutional quality are prerequisites for successful financial deepening through liberalization.⁶ A well-considered and sequenced process and pace of liberalization should be consistent with the country's institutional and financial developments ([IMF, 2012d](#)). It should also be supported by continuous monitoring and mitigation of systemic risk. The process should be accompanied by the filling of information and regulatory gaps which can arise from rapid changes in financial structure.

10. Staff should also encourage the authorities to assemble effective policy tools to mitigate a build-up of systemic risks. This can include, for example, tools to address increased risk-taking behavior by banks, intensified interconnectedness between financial institutions or higher foreign exchange (FX) risks from currency mismatches. Where credit growth is strong and the number of intermediaries is expanding rapidly, stretching the capacity of the supervisor to effectively manage risks and leading to the buildup of vulnerabilities, there can also be merit in slowing entry into the system. For instance, Cambodia is currently facing risks from a crowded banking system, rapid credit growth, and stretched supervisory capacity. Thus, imposing a moratorium on new bank licensing was recommended in the 2010 FSAP, and is considered to remain appropriate ([IMF, 2014a](#)).

11. In evaluating systemic risks in the time dimension, analysis of credit growth should take account of country-specific characteristics. The ratio of credit to GDP or the rate of growth of credit is often a useful starting point for the staff's advice, but staff should exercise judgment based on further in-depth analysis of related indicators and other information on financial conditions (see Box 1). In particular, while an increase in access to credit is desirable, care needs to be taken that banks have the capacity to manage the associated risks and that increased access does not undermine sound lending standards. Supervisory information on such standards is likely to

⁵ The results obtained by Cubillas and González (2014) indicate that financial liberalization increases bank risk-taking in both developed and developing countries, but that the channels differ across these groups. Increased bank competition is the main channel in developed countries, but they do not find increases in bank risk associated with increased bank competition in developing countries. In those countries it is the expansion of bank opportunities for taking risks, such as in foreign markets or non-traditional activities, that explains the positive relationship between financial liberalization and bank risk.

⁶ See [Dell'Arrica and others \(2008\)](#), [Prasad and Rajan \(2008\)](#), and [Kose and others \(2009\)](#).

be needed for the assessment. Information from a credit register, where available, can also help the authorities and staff in coming to a judgment.

Box 1. Analysis of Credit Growth: Sound Financial Deepening or Risky Expansion?

Experience from advanced and emerging markets countries indicates that strong credit growth is often followed by financial crises. However, not all credit booms end in crisis. The key issue is therefore how to tell whether credit growth is excessive, and therefore increases the likelihood of a crisis. This can be assessed by comparing credit growth to a benchmark. This box presents three potential approaches, namely, the credit-to-GDP gap, the credit-to-GDP ratio, and benchmarks derived from structural characteristics. However, each approach comes with caveats when applied to LICs.

- The credit-to-GDP gap (at or above ten percent) has been found to provide a strong early warning signal of an impending crisis for advanced and emerging market economies (Drehmann and others, [2010](#), [2011](#), and [2014](#)). The gap is calculated as the difference between the credit-to-GDP ratio and the long run trend of this ratio, which is derived by a Hodrick-Prescott filter on quarterly data. This measure accounts for differences in trend growth in credit-to-GDP, and accommodates, in principle, the need for financial deepening.
- Annual growth of credit-to GDP ratio (at or above three percent) can also serve as an early warning signal one to two years before a financial crisis for advanced or emerging market economies ([IMF, 2011](#)). Use of this indicator is another way of judging the sustainability of a trend increase, especially where economies are not subject to large supply shocks.
- A large change in the “structural private credit gap” (actual private credit exceeding a structural benchmark level) may indicate the boom will be sub-par or end in crisis ([Barajas and others, 2013](#)). The structural credit gap is calculated as the difference between the benchmark and the actual level of private credit to GDP. The benchmark for private credit to GDP is constructed by using the predicted value of a regression of private credit to GDP on structural country characteristics (for example, income, size of market, population density and demographic structure) from a cross-section or panel data of countries.

Each approach has its own caveats when applied to LICs. The standard credit-to-GDP gap may fail to capture the effects of frequent structural changes which may shift the long-term trend up or down. The growth of credit to GDP can be misleading in the presence of volatile economic growth from frequent supply shocks including volatile commodity prices. And the structural credit gap is less able to help assess whether a rapid catch-up relative to the structural benchmark may pose systemic risk. Data availability also may constrain the calculation of these gaps, as the credit gap requires quarterly data over a long period, while the structural approach requires a large cross-country panel dataset.

Further analyses of other indicators and qualitative information are therefore essential. This assessment could include analyzing other indicators, such as the evolution of credit growth itself (inflation adjusted), rapid growth in credit to particular sector, deviations of assets prices from long-term trends, increases in leverage taken by borrowers, and changes in lending standards (See further [IMF, 2013c](#) and Detailed Guidance: Broad-based tools). Assessing whether credit growth is accompanied by an expansion of access to credit (loans to new customers), rather than a deterioration of lending standards for existing borrowers, and the capacity of lenders to monitor and manage the associated risks is also important.

12. Staff should take account of country-specific institutional factors that contribute to healthy financial deepening as well as those pointing to increased systemic risks.

Factors supporting healthy credit growth

- **Improvements in the legal framework**, such as measures to enhance (i) effective creation, mobilization and realization of collateral; (ii) effective insolvency procedures; and (iii) effective corporate governance structures, can achieve sound increases in credit. [McDonald and Schumacher \(2007\)](#) found that, among 37 sub-Saharan African countries, those with stronger creditor rights have deeper financial development. In Ghana, the Borrowers and Lenders Act was enacted in 2008, followed by the establishment of an online collateral registry in 2012, to encourage small-and medium-sized enterprises' (SMEs) financing against movable assets. Honduras also enacted a new secured transactions law and launched a collateral registry that became operational in 2011. While unlocking the ability to effectively mobilize collateral is very positive, when this is done in the context of limited progress in other areas, staff may need to monitor the overall evolution of risk.⁷
- **Improvement in information infrastructure** supporting transparency in borrowers' creditworthiness (for example, credit registry, standardized accounting, and audit practices) can lead to sound increases in credit growth. [Djankov and others \(2007\)](#) find that credit-to-GDP ratios increased after improvements in information sharing (for example, through a credit registry) for countries with low income per capita within 129 countries.⁸ [Singh and others \(2009\)](#) show that countries which encourage information sharing tend to have a higher credit-to-GDP ratio based on an analysis on sub-Saharan African countries. Uganda (2011) and Tanzania (2012) introduced credit reference bureaus, which collect and distribute information about existing borrowers and help to limit over-borrowing ([IMF, 2012a](#)). As weak information infrastructure is likely to be a more acute problem for SMEs and firms in the informal sector, this can also enhance financial inclusion (Dabla-Norris and others, 2014). [Galindo and Micco \(2010\)](#) find that the development of information sharing mechanisms reduces significantly the financing gap between small and large firms. In Tajikistan, a private credit bureau supported by banks and microfinance institutions started operation in 2013 to promote financial inclusion.
- **Improvement in market and transaction infrastructure** can be associated with a sound trend increase in credit. For instance, the payment system reforms in Eastern European countries in 1995–2005 are found empirically to have been an important precondition for strong credit growth over the period ([Merrouche and Nier, 2012](#)). Mobile payment and banking services are

⁷ In emerging and low income countries, the amount of collateral as a percent of loan value is generally higher than what is observed in advanced countries (World Bank Enterprise Surveys, 2014). [Schmitz \(2013\)](#) suggests the presence of more severe asymmetric information problems due to less reliable accounting frameworks and standards in developing countries leads to more collateralized lending at relatively short maturities, which limits financial deepening and strongly increases the pro-cyclicality of lending.

⁸ In a case study of the Slovak Republic, [Crowley \(2008\)](#) finds that the creation of a credit registry may have contributed to higher rates of credit growth.

enabling a widening of access to financial services to especially remote rural areas in Kenya and neighboring countries ([Mlachila and others, 2013](#)), and in Cambodia the mobile phone-based payments system (WING) permits payments processing in local currency and United States (U.S.) dollars ([IFC, 2011](#)). Expansion of mobile banking is a welcome development. As the sector continues to expand, authorities should closely monitor whether there are potential systemic risks that could arise from further rapid growth of the mobile payments services, or increases in interconnectedness with the banking sector.⁹

- **A growing role for specialized nonbank intermediaries** can be associated with a sound broadening of access to credit, especially for SMEs. With banks' business models in many cases focused on consumption, mortgage and larger enterprise lending, provision of credit to SMEs can often fall to credit unions, specialized SME lenders and microfinance providers willing to engage with such firms, which often lack formal financial statements or collateral to secure bank loans. In Bangladesh, nonbank financial institutions (NBFIs) that deal with a wide range of business, such as leasing, factoring, invoice discounting, and equity investment, are considering SMEs' financing as a potential business undertaking ([ADB, 2013](#)). In both cases, regulatory and supervisory frameworks will need to keep up with developments to monitor and manage any potential systemic risks.

Factors increasing systemic risk

- **Financial liberalization**, such as policy measures to eliminate controls on interest rates, or the opening up of competition in financial markets, can strengthen financial development and contribute to higher long-run growth, but can also involve risks of undermining financial stability if not managed carefully. There are numerous experiences from emerging market and advanced economies where rapid financial liberalization was followed by a financial crisis, with the example of the Nordic countries in the early-1990s well-known. In Paraguay, external and domestic financial liberalization was pursued under a weak prudential framework, resulting in rapid credit expansion, which eventually led to a financial crisis during 1995–98 ([Ishii and Habermeier, 2002](#)).
- **Increases in capital inflows**, often observed in the aftermath of capital account liberalization, generally lead to a significant increase in loanable funds; in emerging market countries this has in some cases driven overly rapid credit expansion by relaxing credit constraints and increasing cross-border interdependencies ([IMF, 2012d](#)). In Uruguay, a strong credit expansion was fueled by liberalization and a surge in capital inflows. The credit expansion was not met by an adequate prudential framework and contributed to the severity of the 2001–02 banking crisis ([Ötoker-Robe and Vávra, 2007](#)). Strong capital inflows have been found to increase the risk of

⁹ As an example of regulatory responses to the mobile payment services, the Reserve Bank of India issued guidelines in 2008 specifically for mobile payments, which include clarification of regulatory oversight, technology and security standards, system safeguards, interoperability requirements, and consumer protection measures.

crisis in both developing economies and LICs, especially when they go hand in hand with a surge in commodity prices ([Reinhart and Reinhart, 2008](#)).¹⁰

C. Vulnerability to External Shocks

13. Many LICs are vulnerable to external shocks, partly due to a low degree of economic diversification. LICs are often dependent on a few primary commodity exports, and prone to the adverse effects of volatile commodity prices. Financial systems can then be indirectly affected by these external shocks as economic activity weakens and loan repayment capacity declines ([Jácome and others, 2012](#)). High sectoral concentrations in banks' asset portfolios often reflect the structure of the economy and in that regard cannot effectively be diversified as would normally be desirable; this can further amplify the adverse effects of external shocks. While this issue is not confined to LICs and can also be present in other countries, such as resource-rich countries, it will often require consideration in the context of the surveillance of LIC countries. For instance, in 20 out of 24 sub-Saharan African LICs, the sectoral concentration of loans ranges between 50 and 70 percent, with the majority of loans being provided to just one or two sectors ([IMF, 2012b](#)).

- In Nigeria, rapid credit expansion was observed as banks broadened their activities and moved to the retail sector and borrowers speculated in the equity market after the 2005 bank consolidation and capitalization. With Nigerian banks heavily exposed to the oil sector and the equity market, the stock market crash in 2008 and oil price decline led to concerns over banks' liquidity and a deterioration of banks' asset quality, leading to a banking crisis. Macroprudential measures taken included a reduction of the liquidity ratio from 40 percent to 25 percent (between 2008 and 2009) to address heightened financial stress and a reduction of FX net open position limits from 20 to 1 percent (2009). After the crisis, a limit on capital market lending was set as a proportion of a bank's balance sheet (2010) ([IMF, 2013b](#); [Lim and others, 2011](#)).
- In Mongolia, the economy is highly dependent on a few commodities and vulnerable to external shocks. The sharp fall of the copper price in 2008 triggered a serious deterioration in growth, and led to fiscal and current account deficits and currency depreciation, culminating in a banking crisis. To address systemic risks stemming from such boom-bust-cycles, the authorities strengthened macroprudential measures after this crisis, raising the capital adequacy ratio (from 12 percent to 14 percent) and the liquidity coverage ratio (LCR) (from 18 percent to 25 percent) in 2011 ([Maino and Barnett, 2013, pp.16-21](#)).

¹⁰ After 2010, frontier market LICs received growing amounts of portfolio capital flows through sovereign bond issuance and other channels. Average non-FDI inflows to frontier markets increased to 2¼ percent of GDP during 2007–12 from less than one percent during 2001–06. Increased international sovereign bond issuances can provide greater room for domestic bank lending to the private sector and pave the way, overtime, for the corporate sector to tap external markets ([IMF, 2014d](#)). But capital inflows may also pose challenges to financial stability as portfolio flows tend to be volatile and sensitive to changing conditions in global markets ([Alleyne and Mecagni, 2014](#)). This is more of an issue for the frontier debt markets as price movements can become more pronounced compared to those in emerging market economies due to the shallowness and higher transaction cost of markets ([IMF, 2014d](#)).

14. Maintaining permanently high capital requirements or buffers can be considered in some cases to mitigate adverse effects from frequent exogenous shocks. Although countercyclical capital buffers and provisions are the main tools designed to counter time-varying systemic risks in most advanced and emerging economies, large macroeconomic volatility coupled with limited availability of timely data and supervisory capacity may complicate an active use of these tools in practice in many LICs (as well as in other countries). Likewise, there is likely limited scope for tightening sectoral concentration limits in banks' portfolios in many of these countries, since the loan concentration is embedded in the country's economic structure. Thus, permanently imposing relatively high capital requirements or buffers, akin to a more rules-based approach, can be an appropriate strategy for many LICs. Policy advice here should be tailored on a case by case basis, taking careful account of country specific risks and other relevant features and policy objectives.¹¹

15. The cost of introducing such capital requirements or buffers should be assessed carefully, but can also be managed through sufficiently gradual phase-in. A sizable literature on advanced and emerging markets has considered the cost of increases in capital requirements or buffers on credit and output, and generally found that the long-run impacts are small, while adjustment costs can lead to bigger impacts in the short-run. The [Basel Committee on Banking Supervision \(BCBS\) \(2010\)](#) estimates the long-term impact on loan rates credit and output to be modest. These costs depend on the relative costs of capital and debt and the pass-through to loan rates and are estimated to lie in a range of 2 to 20 basis points. [Elliot and others \(2012\)](#) also find, through simple accounting exercises, that the long-run effects on loan rates and credit in Europe, Japan, and the U.S. is likely to be weak. The effects in the short run can be greater, when banks are not able to adjust to higher capital requirements without cutting their exposures (see also the main note and detailed guidance on capital tools). It is important therefore for higher buffers to be phased in gradually, allowing banks sufficient time to build up capital through issuance of capital, where equity markets permit this, or otherwise through retained earnings.

16. Policy should allow for a reduction of higher capital requirements to absorb losses in the event of serious financial stress (see main note and [IMF, 2012e](#)). Such high capital is meant to increase the resilience of the system to volatile economic conditions. The design of requirements can also ensure that they can be reduced if systemic risk materializes in the event of severe shocks, thereby enabling the system to absorb losses, and mitigating pro-cyclicality that is driven by regulatory requirements. Moreover, staff should stress the importance of structural policies to promote the diversification of the real economy to enhance the resilience to external shocks ([IMF, 2014b](#)), and the need for macroeconomic policy buffers that can be used in adverse economic conditions.

¹¹ In calibrating the capital requirements or buffers, staff could draw on past experiences of banking crises in the country or peer countries. With the improvement in the quality and timeliness of the data, active use of stress testing can support setting the level of the buffer. For an experiment of stress testing in LICs, see [Imam and Kolerus \(2013\)](#).

17. A number of LICs already implement relatively high capital ratios. A number of LICs already set the minimum regulatory capital ratio higher than international standards, while banks tend to hold further buffers on top of the required minimum. For example, a higher regulatory ratio is imposed in Moldova (16 percent for total capital under Basel 1 framework), Uganda (10.5 percent for Tier 1 and 14.5 percent for total capital under Basel 3 from January 2015), and Tanzania (12.5 percent for Tier 1 and 14.5 percent for total capital under Basel 1 from March 2014). As set out above, in Mongolia the capital adequacy ratio was raised after the 2008 crisis (from 12 percent to 14 percent).

D. Foreign Exchange Risks and Financial Dollarization

18. Financial systems in many countries, including LICs, feature a high level of dollarization. Financial dollarization is common in both emerging and developing countries, in particular in central and Eastern Europe, central Africa, and parts of South America and Asia. LICs at a very high level of dollarization (share of foreign deposits to total deposits over 50 percent) include Afghanistan, Cambodia, Congo D.R.C., Haiti, Lao P.D.R., Nicaragua, São Tomé and Príncipe, and Tajikistan.¹² However, staff should be aware that FX-related risks can also become a financial stability concern in countries where dollarization is considerably lower.

19. In principle, financial dollarization can accentuate the financial system’s vulnerability to FX risks. The financial system can be exposed to systemic risks through (i) currency mismatches between the banks’ assets and liabilities; and (ii) credit risk from FX lending to borrowers exposed to currency mismatches between their liabilities and income streams (unhedged borrowers). In addition, limited opportunities to hedge currency risks may also result in higher volatility in the exchange rate.¹³ These factors will increase FX risks from a high level of financial dollarization.

20. In limiting FX risk and enhancing resilience of financial systems in highly dollarized economies (LICs or otherwise), macroprudential measures can play an important role.¹⁴ Policy measures include limits on net open FX positions, higher reserve requirements for FX liabilities and FX liquidity requirements, which can be complemented by increased capital buffers and provisioning for FX credit exposures, when borrowers are unhedged. Policymakers would need to have access to timely information on FX exposures of banks, including credit risk from unhedged borrowers, to identify the build-up of systemic risks, assess the need to deploy such tools, and monitor their effectiveness. Where information is limited and the concern is from credit risk from borrowers’ exposure to FX risk, simpler tools can be considered. These could include increased capital buffers or provisioning for all FX exposures (both hedged and unhedged), which can be reinforced by a cap on the share of new FX lending in total new lending when risks are assessed to be rising and price-

¹² For further discussion, see the country cases of Nicaragua ([IMF, 2013d](#)), and Cambodia ([IMF, 2012b](#)).

¹³ Foreign exchange markets in LICs have much lower turnover compared with EMs, and fewer than 50 percent conduct forward transactions for hedging ([IMF, 2012a](#)).

¹⁴ See [Kokenyne and others \(2010\)](#), [García-Escribano and Sosa \(2011\)](#), [Lim and others \(2011\)](#), and [Terrier and others \(2011\)](#) for country experiences with prudential measures for FX risks.

based tools are insufficient. As always, formulation of policy advice should also take into account the broader macroeconomic impacts of such measures.

21. A successful de-dollarization requires maintaining macroeconomic stability and strong fundamentals, supported by credible and sustainable macroeconomic and structural policies.

Achieving de-dollarization is difficult in practice and requires a multi-pronged and well-sequenced approach. Sound macroeconomic policy frameworks, including sustainable fiscal and credible monetary policy are a key precondition for de-dollarization. As the public sector shifts from borrowing in FX to borrowing in the domestic currency, financial markets in domestic currency are built up. Macroprudential tools can then also help to de-dollarize the banking system, but should primarily be used to address risks from dollarization, and not be overburdened.¹⁵

22. The use of prudential tools to mitigate FX related risks is fairly common among LICs.

Limits on net open positions in particular are already widely used among LICs. As discussed further in the Guidance on instruments, emerging market economies are also making use of prudential tools to limit FX related risks and enhance the resilience of financial systems.¹⁶ Table 1 shows recent examples of FX related measures, taken by LICs.

Type of Tools	Policy Tools	Country and Details of Tools
Sectoral tools	<ul style="list-style-type: none"> • Sectoral capital requirement 	<ul style="list-style-type: none"> • Honduras (higher risk weights of 150 percent on FX loans to unhedged borrowers in calculating capital ratio, 2005)
Liquidity tools and other financial sector tools	<ul style="list-style-type: none"> • Limits on FX loans • Liquidity requirements • Open FX position limits as a percentage of capital 	<ul style="list-style-type: none"> • Haiti (limit on FX loans to FX liabilities of 50 percent, 2001) • Uganda (limit on FX loans to FX deposits of 80 percent, 2010) • Honduras (FX liquidity ratio based on maturity mismatch, 2010) • Bangladesh (limit of 15 percent, 2010) • Burundi (limit of 10 percent, 2006) • Gambia (limit of 25 percent for total, 15 percent for single currency, 2007) • Haiti (limit of 2 percent, 2001) • Honduras (long position of 50 percent, short position of 5 percent, 2013) • Mongolia (limit of 40 percent for total, 15 percent for single currency, 2000) • Solomon Islands (limit of 15 percent, 2009) • Uganda (limit of 25 percent, 2004)

Source: IMF Global Macroprudential Policy Instruments database.

¹⁵ See [Galac \(2012\)](#) on de-dollarization and references therein for recent examples of measures taken by the authorities in order to de-dollarize their banking systems.

¹⁶ These include (i) higher risk weights on FX loans (e.g., Poland 2008; Serbia 2006); (ii) ceilings on unhedged FX lending (e.g., Albania, 2011); (iii) caps on loan-to-value ratios or debt service-to-income ratios for FX mortgage loans (e.g., Hungary, 2010; Poland, 2010); (iv) ban of FX-linked retail loans (Turkey, 2009) or FX mortgage lending (Hungary 2010); and (v) FX assets liquidity requirements (e.g., Croatia 2003; Peru, 1998).

E. Shallow Domestic Funding Market and Restricted Capital Mobility

23. Financial institutions in LICs often rely on customer deposits for funding. This reflects shallow domestic debt markets and limited cross-border funding in most LICs. Domestic money, private-bond or equity markets are often underdeveloped or non-existent. This implies little room for domestic wholesale funding and reduces banks' refinancing risks. External capital mobility is also often limited by administrative restrictions, which reduces the scope for cross-border funding. As a result, banks in LICs are often reliant mainly on customer deposits for funding. For instance, in sub-Saharan Africa LICs, checking accounts constituted the majority of total deposits, ranging from 46 percent (Nigeria) to 83 percent (Guinea Bissau) (IMF, [2012b](#)).

24. Systemic liquidity risk stemming from short-term wholesale funding or cross-border funding are therefore of less concern for many LICs. The global financial crisis highlighted the importance of the systemic risk stemming from increases in short-term wholesale funding or foreign funding. LICs' banks are structurally less prone to such risks, potentially reducing the need for constraints on such funding. However, as capital accounts are liberalized, domestic financial markets develop and banks' funding structures evolve, the need for macroprudential policy instruments to manage funding liquidity risks will increase.¹⁷

25. Deposit insurance is still not prevalent in LICs. As of 2013, explicit deposit insurance is less widespread among LICs (32 percent) compared to high income countries (84 percent) in 2013 ([Demirgüç-Kunt and others, 2014](#)). Moreover, implicit fiscal support and guarantees may be less credible in some LICs than they can be in advanced economies; and the ability of the central bank to provide liquidity support can also be more limited where significant concerns exist about its inflationary impact. Thus, policy advice in this area should emphasize establishing effective deposit insurance schemes following international best practice ([BCBS, 2009](#)).¹⁸

26. There might still be a need for relatively high buffers of liquid assets in some LICs, depending on the circumstances prevailing in any given country. In principle, higher precautionary liquidity buffers may be needed in countries where an effective deposit insurance scheme is missing and the capacity of the government or the central bank to back-stop the system is limited. Under such circumstances, it can be prudent to hold higher precautionary liquidity buffers to help banks meet unexpected redemptions. In practice, large deposit redemptions due to confidence shocks have been observed in some LICs.

¹⁷ [Hahm and others \(2013\)](#) show empirical evidence that non-core bank liability ratio has significant predictive power for currency and credit crises in emerging and developing countries, using data for 120 countries during the period of 2000–10.

¹⁸ The Basel standard for the LCR requires that higher run-off rate of ten percent (compared to three percent) should be applied to retail deposits not backed by a prefunded and fully credible deposit insurance scheme. The design of an effective liquidity standard may in many LICs pose practical challenges given the absence of an active secondary market for government securities and the lack of a broad range of liquid domestic assets, as noted above.

- In Cambodia, large deposit withdrawals (ten percent of total deposits) were observed during the 2013 election, which highlights the fragile confidence in the banking sector ([IMF, 2014a](#)). The banking system in Zimbabwe experienced a liquidity crunch in 2013 amid political and policy uncertainty related to the election and its aftermath ([IMF, 2014c](#)).

27. In some cases voluntary liquidity buffers at financial institutions are already high. For instance, [Nketcha Nana and Samson \(2014\)](#) find that high liquidity buffers for banks in sub-Saharan Africa reflect, at least partially, a precautionary strategy to guard against the risks from deposit outflows. They indicate that this may be especially important for these countries because of (i) underdeveloped and unreliable payment systems; (ii) lack of deposit insurance; and (iii) less developed capital markets. [Deléchat and others \(2012\)](#) show that, using a sample of banks in Central America, precautionary demand for liquidity is associated with the degree of deposit dollarization, and the safety net. That is, limited safety nets (for example, lack of lender-of-last resort function and deposit insurance) will often prompt banks to hold higher liquidity buffers.

F. Concentrated Banking System with Increasing Foreign Bank Presence

28. In many LICs, the financial system is mainly bank-based. The banking sector continues to account for over 80 percent of financial system assets in the median LIC ([IMF, 2012a](#)). This generally implies less complexity and limited inter-linkages within the financial system, that is, less scope for interconnectedness with other financial sectors, such as insurance or pension funds.

29. Several large banks, often foreign-owned regional banks, can account for a large share of the system. LICs' banking systems, including in sub-Saharan Africa, Latin America, the Caribbean, the Middle East, and North Africa, tend to be concentrated, compared to emerging market economies ([IMF, 2012a](#)). Following financial reforms, many countries experienced shifts in the ownership from state-owned banks to privately-owned, and especially to foreign-owned banks.¹⁹ The presence of foreign banks is particularly high in sub-Saharan Africa, with an increasing prominence of regional cross-border banks.²⁰

- Pan-African banks showed rapid growth in recent years and have systemic importance in host countries; around 30 percent of their operations have a deposit share exceeding one quarter of total banking deposits in the respective host countries. Thus, African cross-border groups have become more important in a number of countries in the region than other international banking groups ([IMF, 2014e](#)).

¹⁹ In the recent crisis, state-owned banks' lending tended to be less pro-cyclical ([Bertay and others, 2014](#); [Duprey 2013](#); [Cull and Martínez Pería 2013](#)). However, in the longer term, the predominance of state-owned banks can have costs, with agency and political economy problems leading to credit misallocation, economic inefficiency, and increased systemic risk ([World Bank, 2013](#)).

²⁰ See [Claessens and van Horen \(2012\)](#), [Mlachila and others \(2013\)](#), and [Christensen \(2014\)](#), for implications of increasing foreign banks presence.

30. Policymakers should be vigilant of the potential for systemic risks to develop from the activities of major banks. With a high share of lending and important functions in the country's financial system, major banks can be systemically important financial institutions in LICs even when interconnectedness between them is low. This means that structural macroprudential policies, including requirements for greater loss absorbency, should be considered for the largest institutions if needed to mitigate risks (see further the main note and note on structural tools).

31. Staff should carefully assess the implications for stability when foreign bank presence increases, since this can have efficiency and stability benefits, as well as costs.

- **Competition** due to foreign bank entry into an underdeveloped banking sector can benefit the host country by increasing efficiency through competition, the transfer of skills and expertise, and economies of scale (IMF, 2014e; Beck and others, 2014; [Detragiache and others, 2006](#)). However, depending on market structure, institutional framework, and other country circumstances, foreign entry can also lead to increased competition for market share, putting pressure on incumbent banks, reducing margins and increasing incentives to take risks ([IMF, 2013c](#)).²¹
- **Crisis behavior** can also differ depending on circumstances. Foreign bank participation may help improve domestic financial stability and play a stabilizing role during domestic financial crises. On the other hand, it can further transmit international shocks, depending on the funding strategy of the parent bank and the macroeconomic situation in home and host countries ([IMF, 2013a](#)).²²

32. Presence of foreign banks necessitates cross-border information sharing and regional cooperation in macroprudential policies (as discussed further in main note). The case of pan-African banks illustrates a range of potential approaches (IMF, 2014e).

- Some countries require a Memorandum of Understanding between home and host authorities before allowing a bank to begin cross-border operation (the Central Bank of Nigeria, Central Bank of West African States).
- Supervisory colleges are also being established for pan-African banks (initiated by the South African Reserve Bank, Central Bank of Nigeria, Central Bank of Kenya, and Bank Al-Maghrib).

²¹ The evidence on whether competition increases or decreases stability in LICs is mixed. Using individual bank data from 60 developing countries, [Ariss \(2010\)](#) finds that a larger degree of market power is associated with a higher level of stability, supporting the view that greater competition can reduce stability. On the other hand, [Moyo and others, \(2014\)](#) find evidence that financial liberalization in sub-Saharan Africa appears to have enhanced bank stability.

²² Foreign banks in sub-Saharan Africa mostly rely on funding from residents rather than non-residents ([Mlachila and others, 2013](#)), which implies less concern from cross-border funding flows. While, banks in Central, Eastern, and Southeastern Europe are in transition from reliance on foreign funding to more domestic sources, after the foreign-funded credit boom-bust after mid-2000s ([IMF, 2013a](#)).

- In the case of the West African Economic and Monetary Union, which is highly financially integrated and both home and host of pan-African banks, a Financial Stability Committee is responsible for macroprudential policy at the regional level.

33. NBFIs or non-regulated financial intermediaries can potentially play a significant role in LICs. Concentration in a highly regulated banking sector and high margins can provide little incentive for banks to broaden their customer base or to engage in the provision of innovative financial services. As noted above, with banks' lending models in many cases focused on core businesses (consumption lending, mortgage lending, and lending to larger enterprises), nonbanks can emerge as a primary source of credit to SMEs based on their expertise in dealing with borrowers that often operate in the informal sector and lack formal financial statements or collateral. This can in turn engender a rapid growth of NBFIs, as observed in some LICs.

- **Microfinance is particularly prevalent.** A rapid growth of microfinance services has contributed to financial deepening in emerging and developing countries, by broadening financial access to rural populations. Cambodia saw microfinance credit reach around six percent of GDP, while credit by banks stood at 38 percent in 2013. In Ghana, commercial banks are more linked with microfinance activities through, for example, provision of funding and joint ventures.

34. Regulatory and supervisory frameworks should keep up with these processes. Staff should assess whether these developments may lead to a rapid expansion of unregulated NBFIs that could pose stability risks and the potential for increased interconnectedness with the banking sector ([IMF, 2012a](#)).

35. Authorities need to be able to monitor and contain the build-up of risks to financial stability emerging in the nonbank sector. Strengthening regulatory and supervisory capacity may be necessary to enable authorities to monitor and assess whether rapid growth of nonbank lenders may adversely affect financial stability ([FSB, IMF, and World Bank, 2011](#)). The authorities should also be in a position to take mitigating actions as needed. Where NBFIs are individually small, but collectively important or increasingly linked to the banking system, consideration should be given to an expansion of macroprudential oversight to these institutions.

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