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Macroprudential Regulation and Economic Growth in Low-Income Countries: Lessons from ESRC-DFID Project ES/L012022/1

Integrated Policy Brief No 1¹

This policy brief draws together the main lessons that can be drawn from the contributions to the ESRC-DFID project ES/L012022/1, **Financial Volatility, Macroprudential Regulation and Economic Growth in Low-Income Countries**, for understanding the links between **Macroprudential Regulation and Economic Growth in Low-Income Countries**. These contributions include theoretical and empirical academic papers, policy briefs dwelling on each of these papers, and two case studies.²

I. Broad Aims and Objectives of the Project

The global financial crisis of 2007-09 highlighted how weaknesses in macroeconomic and regulatory policies, and institutional and market failures, can contribute to a buildup of systemic risks.³ In this context, a substantial number of proposals aimed at strengthening the financial system and at encouraging more prudent lending behavior in upturns. At the international level, these proposals led to the adoption in November 2010 of the Basel III banking standards, which have been adopted, or are being implemented, in a number of countries around the world (see Basel Committee on Banking Supervision (2011, 2013)).

However, much of the debate focused initially on the implications of financial volatility for *short-term* economic stability, rather than its long-run effects. Yet, financial volatility and

¹This brief was prepared by Pierre-Richard Agénor, Hallsworth Professor of International Macroeconomics and Development Economics, University of Manchester, and Principal Investigator of the Project.

²These contributions can be accessed at <http://www.socialsciences.manchester.ac.uk/cgbcr/research/esrc-dfid-project/>. Policy briefs are available in both English and French.

³The global crisis has also led to a debate about whether there may be “too much finance,” and more generally whether beyond a certain threshold financial development may have either a negligible effect, or even a negative impact, on growth. See Arcand et al. (2012), Law and Singh (2014), Ductor and Grechyna (2015), Cecchetti and Kharroubi (2015), and Samargandi et al. (2015). One reason for that is the possibility that financial development may divert capital and labor inputs (especially highly-skilled labor, with a potential to contribute significantly to innovation) from productive activity to speculation, or because it increases the risk of financial crises.

financial crises often have large adverse, long-term effects on financial development and economic growth. A key issue therefore is whether macroprudential rules designed to reduce the procyclicality of financial systems and financial instability can be detrimental to long-run growth, due to their effect on the supply of credit or the degree of risk taking by financial intermediaries. This issue is particularly important for the poorest countries, given the need for them to maintain high growth rates to reduce poverty and promote human development.

Accordingly, the purpose of the project was to study, both theoretically and empirically, interactions between financial volatility, prudential regulation, and economic growth, in the context of low-income developing countries and to draw broad policy lessons for the design of macroprudential rules in these countries. The project focused on francophone Sub-Saharan Africa—a region where formal financial systems remain insufficiently developed and the lack of access to credit (as documented in a number of studies) is one of the key constraints on firm performance. Promoting the development of the financial system in the countries of the region is thus important. At the same time, maintaining its stability is essential. Indeed, because inadequate access to credit often translates into a limited ability to borrow and smooth shocks, the real effects of financial volatility on firms and individuals can be not only large but also very persistent—thereby translating into adverse growth effects.

Specifically, the project had three main objectives:

1. Contribute to the existing analytical literature in areas related to the links between financial volatility (possibly induced by international capital flows, including foreign aid and remittances) and economic growth, and how the macroprudential regulatory rules embedded in Basel III (especially those deemed appropriate for the institutional context of developing countries, such as reserve or liquidity requirements) can help to mitigate the adverse effects of that volatility on growth.

2. Provide new evidence on the impact of financial volatility and its determinants (both domestic and external) on economic growth, with particular attention to the case of the low-income countries in Sub-Saharan Africa, while controlling for factors such as macroeconomic stability, the quality of the regulatory environment, the degree of trade and financial openness, and the degree of financial development.

3. Develop case studies for Francophone Sub-Saharan African countries focusing on the links between financial volatility (broadly defined to include volatility of foreign aid, remittances, and other types of capital flows), macroprudential regulation, and growth, to account for their specific monetary and financial regime.

This brief dwells on all the relevant contributions of the project (including case studies and paper-specific policy briefs) to summarize the broad policy lessons regarding how macroprudential regulation can promote financial stability, while at the same time promoting growth in low-income countries.

II. The Project's Contributions to the Debate on Macroprudential Regulation and Economic Growth in Low-Income Countries

As noted earlier, the global financial crisis led to a renewed debate about the nature and effectiveness of financial regulation. The consensus that emerged is that, to contain systemic risks and preserve macroeconomic and financial stability, it is essential to go beyond a *microprudential* approach, focused solely on the regulation of individual institutions, and adopt instead a *macroprudential* perspective, in the form of regulatory rules aimed at increasing the resilience of the financial system to systemic risks and limit disruptions to the provision of financial services that can cause serious negative consequences for the real economy. At the same time, the greater focus on systemic risk and financial vulnerabilities has stirred up a broad debate in academic and policy circles on how macroprudential regulation can help to mitigate the procyclicality of the financial system, by preventing unsustainable credit booms and the build-up of asset price bubbles. The focus of recent discussions on the implications of financial volatility for short-term economic stability and on the short-run benefits of financial regulation is warranted, given the cost of economic and financial crises. However, the growth effects of financial volatility, and ways to mitigate them, have been largely absent from these discussions. Yet, understanding the longer-run effects of financial regulation is essential because of the potential trade-off associated with the fact that regulatory policies, designed to reduce procyclicality and the risk of financial crises, could well be detrimental to economic growth, due to their effect on risk taking and incentives to borrow and lend. This trade-off exists despite the fact that these policies may also benefit growth indirectly, by contributing to a more stable environment in which agents can assess risks and returns associated with their investment decisions. In low-income countries, where sustaining high growth rates is essential to increase standards of living and escape poverty, understanding the terms of this trade-off is particularly important. These countries are often characterized by an underdeveloped formal financial system, and thus limited opportunities to borrow and mitigate the impact of shocks when they occur. The real effects of financial volatility on firms and individuals can therefore be not only large but also highly persistent, thereby translating into not only transitory drops in output but also adverse effects on growth.

Several contributions of the project are relevant to address the issue of the links between macroprudential regulation, financial stability, and growth in low-income countries. These contributions include Agénor (2016), Guérineau, and Léon (2016), and Neanidis (2015).

1. The focus in Agénor (2016) is on the fact that if regulatory constraints have a persistent effect on the risk-taking incentives of financial intermediaries, or more generally if they constrain their capacity to lend, they may translate into high interest rate spreads, suboptimal levels of borrowing by entrepreneurs to finance investment, and shifts of activity to less-regulated financial intermediaries, which could affect negatively growth and welfare. Changes in risk-taking incentives could occur if, for instance, regulatory constraints induce structural shifts in banks' portfolio composition, in the form of a move away from risky assets toward safe investments. A key question therefore is to set macroprudential tools in such a way that they internalize this trade-off. The key insight of his analysis is as follows. When the monitoring costs that financial intermediaries face are exogenous, an increase in the reserve requirement rate—motivated by the desire to constrain banks' capacity to lend, reduce the private sector leverage ratio, and mitigate systemic risk—has unambiguously negative effects on investment and economic growth. Making banks safer by requiring them to put away a fraction of the deposits that they receive reduces the supply of loanable funds. It also tends to reduce investment and growth because higher reserve

requirements increase the threshold level of wealth below which an entrepreneur cannot borrow. However, when monitoring intensity is endogenously determined, an increase in the reserve requirement rate has conflicting effects on investment, growth and welfare. The reason is that, when monitoring intensity is endogenous, the adverse effect on lending may be offset by the fact that a higher reserve requirement rate also mitigates banks' incentives to monitor. In turn, this is because when monitoring is determined endogenously, the fact that a higher reserve requirement rate tends to lower directly investment (as noted earlier), and thus borrowers' expected income, also calls for a *reduction* in the intensity of monitoring, in order to increase the nonverifiable private benefit that borrowers can earn when their projects succeed. This reduction in monitoring intensity translates into lower monitoring costs, which frees up resources to increase loans and mitigates the adverse direct effect of a higher reserve requirement rate on lending. Policymakers can internalize the trade-off between ensuring financial stability (high reserve requirements) and promoting economic growth (low reserve requirements) by choosing optimally the reserve requirement rate. This analysis implies that the trade-off between financial stability and economic growth that policymakers typically face when setting macroprudential instruments can, in principle at least, be addressed by setting these instruments in such a way that they balance positive and negative effects on growth and welfare. Although the discussion focused on a particular instrument—reserve requirements aimed at reducing banks' capacity to lend, private sector leverage, and mitigating systemic financial risks—it is very possible that similar results may also characterize the choice of other macroprudential tools, such as bank capital requirements and loan-loss provisions.

Nevertheless, at a more practical level there are two important considerations regarding the feasibility of these “optimal” solutions. The first is that in principle a model should be used to calibrate them; but while the discussion here has focused on the long run, the short-run benefits of financial regulation (in the form of lower fluctuations in credit, output and prices) should also be taken into account to obtain the full picture of the benefits and costs of using each instrument. This calls for a more detailed framework than the one discussed here. In an environment where capacity is weak (as is the case in many low-income countries), developing such models may not be feasible. However, even though precise calibrations may not be available, it is important for policymakers to keep in mind the longer-run effects of regulatory policies when setting their instruments. This is still better than simply ignoring these effects. The second relates to the possibility that by setting (optimally) instruments at levels that are either too high or too low may alter behaviour and create distortions. Indeed, in the present case, if reserve requirements are (optimally) set at prohibitive levels, they may foster disintermediation away from the formal banking system and toward less regulated channels, which in turn may distort markets, weaken financial stability, and reduce investment and growth. The risk of disintermediation (or regulatory arbitrage) means therefore that financial supervision may also need to be strengthened, and the perimeter of regulation broadened, when more aggressive macroprudential policies are implemented. This is also an important message for policymakers.

2. The analysis in Guérineau and Léon (2016) begins with the observation that the financial stability issue in low-income countries (LICs) has received less attention in recent years, insofar as they have been less impacted by the global financial crisis than emerging economies. They investigate the determinants of financial fragility in advanced and developing countries, focusing on the interaction between credit booms and credit information sharing systems (CISs). Their results showed that CIS reduces financial fragility in both groups, but transmission channels are different. For advanced and emerging countries, credit information sharing reduces the likelihood of credit booms and mitigates their detrimental impact on financial fragility. For

less developed countries, credit information sharing mainly has a direct effect by improving credit portfolio quality. Their estimation results, in a first step, confirmed findings from other papers by highlighting the stabilizing impact of CISs. The paper also documented that this result holds for both less developed countries (GNI per capita below US\$ 4,125) and other countries (advanced and emerging). In a second step, the complex relationships between CIS, credit booms and financial fragility were analyzed.

Econometric regressions uncovered several important results: (i) information sharing development had a direct effect on financial stability, even when the impact of credit booms was taken into account; (ii) the higher the scope of information collected, the lower the likelihood to observe a credit boom (but the coverage of CIS did not matter); this effect was smaller and less significant in developing countries; (iii) CIS mitigated the detrimental effect of credit boom but this result held only for advanced and emerging countries; and (iv) credit booms were strong predictors of financial vulnerability, especially in advanced and emerging countries. These results have several policy implications. First, credit growth is a key variable for macro-prudential policies in low and middle-income countries. Second, current efforts to develop CIS schemes should be strengthened, since the latter allow for credit expansion without excessive increase in the overall credit risk. Third, CIS has little impact on credit booms in developing countries, which justifies the extension of other tools—such as macroprudential policies—to prevent excessive credit growth.

3. The focus in Neanidis (2015) is on the long-term growth effects of financial regulation and whether macroprudential regulation can promote economic growth by mitigating the adverse effects of financial volatility. The results indicate that (i) the levels of total capital flows and FDI flows are not statistically significant whereas equity flows enhance growth and debt flows diminish growth; (ii) more variable capital flows, of any type, reduce economic growth; and (iii) although macroprudential regulation by itself has an unclear growth effect, ranging from positive to negative, it does mitigate the negative growth effect induced by more volatile capital flows. This means that macroprudential policies, by encouraging a greater buildup of buffers, attenuate the adverse growth effects of unstable capital flows and, by so doing, are effective in limiting financial system vulnerabilities. More formally, increasing the volatility of total capital flows by one standard deviation decreases the growth rate of GDP per capita by 3.1 percent, while increasing the interaction term by one standard deviation increases growth by 1.3 percent. This means that macroprudential regulation has the capacity to reduce substantially, by about 40 percent, the negative impact of total capital flows volatility on growth.

From a policy perspective, these results support the decisions in many countries, developed and developing alike, to put in place macroprudential policies aimed at strengthening the safeguards against financial instability and financial crises. Such regulatory frameworks, however, need to be judged for their effectiveness not only against the objective of short-term economic stability, but also with reference to their long-run growth implications. His analysis takes this consideration into account and investigates the role of macroprudential rules in the long-run growth process by focusing on the way financial regulation influences financial volatility. Moreover, his empirical results indicate that macroprudential policies succeed in mitigating the negative growth effects of unstable capital flows and, by so doing, become effective in limiting financial system vulnerabilities. Further results qualify that these outcomes are mainly restricted in the sample of middle-income countries, while countries that are relatively open, with deep financial systems and exposed to macroeconomic volatility experience lower marginal gains—although they still benefit. At the same time, Sub-Saharan Africa (and within it its Francophone

countries) gain enormously from the imposition of macro-prudential regulation, over and above the average gains in our country sample. This implies that the marginal benefits in these regions have the potential to continue with the spread of pan-African banking groups so long as financial regulation is not outpaced. In contrast, the group of WAEMU/BCEAO countries, by applying uniform bank regulations and supervisory practices, may have reached their maximum benefit from utilizing macroprudential regulatory rules given the current size of the financial sector and the inflows of capital that these countries receive.

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