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Macro-prudential policies to mitigate financial system vulnerabilities☆

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A B S T R A C T

Macro-prudential policies aimed at mitigating systemic financial risks have become part of the policy toolkit in many emerging markets and some advanced countries. Their effectiveness and efficacy are not well-known, however. Using panel data regressions, we analyze how changes in balance sheets of some 2800 banks in 48 countries over 2000–2010 respond to specific policies. Controlling for endogeneity, we find that measures aimed at borrowers – caps on debt-to-income and loan-to-value ratios, and limits on credit growth and foreign currency lending – are effective in reducing leverage, asset and noncore to core liabilities growth during boom times. While countercyclical buffers (such as reserve requirements, limits on profit distribution, and dynamic provisioning) also help mitigate increases in bank leverage and assets, few policies help stop declines in adverse times, consistent with the ex-ante nature of macro-prudential tools.

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1. Introduction

This paper analyzes the use of macro-prudential policies aimed at reducing vulnerabilities in banking systems, with a special focus on their use in and for emerging markets.[1] Recent events have highlighted the high costs of financial crises. More generally, the potential for economic costs arising from the way financial system operates – whether from excessive financial cycles or spillovers through interconnectedness – has been increasingly recognized recently. Due also to early policy and research efforts (e.g., Borio and White, 2003; White, 2006, Brunnermeier et al., 2009), this has led to greater acknowledgement for the potential value of macro-prudential policies (see Bank of England, 2009; Hanson et al., 2011; De Nicolò et al., 2012 for reviews). These policies aim to contain (the buildup of) systemic risks and achieve greater financial stability, and in that way reduce the adverse consequences of financial volatility – including through crises – for the real economy. They are meant to complement micro-prudential regulations and traditional macroeconomic management tools, notably monetary and fiscal policies (IMF, 2011, 2012b).

While some of the recognition in recent years has been motivated by the (ongoing) crises in advanced countries, emerging markets have had much greater experiences with macro-prudential policies, in part as they have had more pronounced business and financial cycles. This greater cyclicality is in part due to their greater exposures to international capital flow volatility, commodity price shocks, and other risks, and external and internal transmission channels that operate more adversely. In this context, there is much to learn for advanced countries from emerging markets, and lessons for emerging markets themselves, on the effectiveness of macro-prudential policies. More generally, there is a recognition that macro-prudential policies need to be properly designed and calibrated to country characteristics and circumstances, for which cross-country analysis can help.

To help guide the use of macro-prudential policies, this paper asks the following three questions. What macro-prudential policies are available in principle and what policies have countries actually used? What is the evidence to date on the effectiveness of these different policies? And what are the specific experiences with policies in terms of reducing banking systems' vulnerabilities? On the basis of the new analysis and other experiences, the paper concludes with thoughts on which macro-prudential policies countries can best use given their situations, and makes suggestions for further research.

We are not the first to study the use and effectiveness of macro-prudential policies. Most studies, however, take an aggregate perspective, that is, they investigate the effects of policies at the overall economic or financial sector level – e.g., credit or asset price growth, the occurrence of a financial crisis – or at the subsector level – e.g., real estate credit, house or other asset prices. We extend this work by investigating how policies may affect certain channels by which vulnerabilities and externalities can arise at the more micro-economic level. Specifically, we analyze the role of macro-prudential policies in limiting vulnerabilities in individual banks (and thereby overall banking systems). Besides being able to study specific channels and control for more variables, one advantage of individual bank data is that there is less concern for endogeneity (as policies are less likely to be adopted in response to individual bank behavior). To explore the role of differences in country circumstances and conditions, we use a large sample of countries, including both advanced countries and emerging markets, and relatively open and closed capital account economies. And we differentiate by type of policies and by phase of the country's financial cycle, i.e., whether overall credit extended to the private sector is in an upswing or downswing.

We find that macro-prudential policies aimed at the borrowers – caps on debt-to-income (DTI) and loan-to-value (LTV) ratios – are quite effective in (indirectly) reducing banking system vulnerabilities. Also limits on foreign currency lending are effective in reducing vulnerabilities during boom times. While countercyclical buffers (such as reserve requirements, profit distribution, and dynamic provisioning) also help mitigate increases in bank leverage and asset, few macro-prudential policies help stop declines in bank variables in more adverse times. We interpret the fact that demand oriented measures aimed at the real estate markets are consistently effective in addressing financial sector vulnerabilities as indicative of two facts: one, real estate cycles are important aspect of the overall financial cycles,

[1] While we use here the distinction emerging markets vs. advanced countries, in the empirical applications we also consider other country characteristics, such as being relatively open or closed on the capital account.