

Understanding macroprudential instruments and their impact

Remarks by

Manuel Sánchez

Deputy Governor

The Bank of Mexico

at the seminar

Financial Stability: Designing and Implementing Macroprudential Policy

Central Banking Publications

Windsor, United Kingdom

April 21, 2015

It is a pleasure to be with you in this prestigious forum devoted to the discussion of central banking issues. I would like to thank the organizers for their invitation to share my thoughts with you on one of today's most stimulating topics in economics, the design and use of macroprudential instruments.

I will start by discussing what is involved in defining and measuring macroprudential policies. Then, I will briefly review the empirical evidence on the effectiveness of their implementation and pinpoint some possible unintended consequences and long-term risks. I will end by touching on Mexico's experience with prudential financial measures. As always, my remarks are entirely my own and do not necessarily reflect the views of the Bank of Mexico or its Governing Board.

The measurement challenge

Macroprudential policies are at the forefront of current economic discussions. They encompass tools aimed at containing systemic risk and pursuing financial stability. In general, systemic risk refers to the possibility that the financial system experiences significant disruptions which may impair the functioning of the economy. The scope is the system as a whole, as opposed to microprudential tools which are directed at fortifying individual financial institutions.

Macroprudential instruments can be classified according to various criteria. A useful set is that presented by international financial organizations on the basis of what these mechanisms are meant to tackle. Specifically, they can seek to curb

excessive credit expansion, such as through time-varying capital requirements; offset amplification of systemic risk, as in the case of limits on maturity mismatches; and counteract structural vulnerabilities and spillovers of stress, such as with additional loss absorbency related to systemic importance.¹

An objective evaluation of effectiveness is essential for coherently implementing economic policies. In the case of macroprudential measures, this exercise should provide an assessment of how well the goals are being achieved, as well as an identification of possible unintended consequences and long-term risks. Here the analyst faces several challenges, among which, three stand out.

The first is conceptual, involving the absence of widely accepted, precise, and quantifiable definitions of systemic risk and financial stability. The obvious implication is that without measurable concepts, diagnostics may end up requiring the tracking of too many variables and, more importantly, unambiguous evaluation becomes cumbersome.

Furthermore, there is a lack of consensus on what leads to financial crises, including prominently, the most recent global turmoil. One view is that financial systems tend to be inherently unstable due to either information asymmetries, agency problems

¹ See Financial Stability Board, et al. (2011), *Macroprudential Policy Tools and Frameworks, Progress Report to G20*, October.

and externalities, or weaknesses in the decision making of market participants, as exemplified by herd behavior.

One way of looking at this is to identify long financial cycles, which manifest themselves as sequences of booms and busts in credit and asset prices. Hence, macroprudential tools are proposed as a way to smooth the system's intrinsic instability.²

This view contrasts with an alternative approach, according to which crises arise largely as a result of ill-designed economic frameworks, including monetary, credit, and bank protection policies. Under this perspective, macroprudential instruments carry less weight, as the focus is on preventing policies from being the causes of the problems in the first place.

A second evaluation challenge has to do with the limited knowledge we have on the transmission mechanisms through which macroprudential tools operate. No commonly shared model is at hand to assess these instruments comprehensively.

A third difficulty stems from scarce available data to test the tools consistently, especially those recently implemented. This panorama makes clear that further progress is needed to arrive at quantifiable definitions and operational frameworks

² See, for example, Borio, C. (2014), "Macroprudential Policy and the Financial Cycle: Some Stylized Facts and Policy Suggestions," in Akerlof, G.A., et al. (eds.), *What Have We Learned? Macroeconomic Policy after the Crisis*, IMF and MIT.

in order to appraise macroprudential policies. For the time being, given the importance of these factors, it is essential to take into account the limitations of any evaluation exercise.³

What we know about effectiveness

The prescription for macroprudential measures has given rise to empirical research. While it is impossible to summarize all of it, I would like to highlight some recent results.⁴

Work on cross-sections of countries supports effectiveness from particular macroprudential tools on credit expansion. For example, one study concludes that a wide range of instruments are capable of reducing the procyclicality associated with loan growth. Another demonstrates that tighter loan-to-value and debt-to-income have greater impact when credit increases rapidly and housing prices are high relative to income. Looser measures, in turn, have smaller effects, but the difference is negligible in downturns.⁵

³ For a thorough discussion of measurement issues, see Hansen, L.P. (2013), “Challenges in Identifying and Measuring Systemic Risk,” in Brunnermeier, M. and A. Krishnamurthy (eds.), *Risk Topography: Systemic Risk and Macro Modeling*, NBER.

⁴ For a survey of recent empirical research, see Galati, G. and R. Moessner (2014), “What do we Know about the Effects of Macroprudential Policy,” *DNB Working Paper* No. 440, September, Section 4.

⁵ Lim, C., et al. (2011), “Macroprudential Policy: What Instruments and How to Use Them? Lessons from Country Experiences,” *IMF Working Paper* WP/11/238; and McDonald, C. (2015), “When is Macroprudential Policy Effective?” *BIS Working Papers* No. 496, March.

A second set of cross-country studies, while continuing to indicate material effects from specific macroprudential tools on credit growth, find that impacts from others are minor or even run in the opposite direction. One of them indicates that countercyclical capital buffers may have null or negative effect, while another demonstrates the bearing from capital surcharges on systemically important financial institutions not to be significant.⁶

A third group of research, based on individual countries, indicates immaterial or adverse influence on credit expansion from applying certain tools. In particular, one study discovers that in the United States, bank capital and liquidity ratios have a much smaller impact than many other factors, such as funding costs, loan performance and profitability. Another analysis indicates that time-varying, bank-specific minimum capital requirements in the United Kingdom have dampened credit from regulated banks but fueled lending by unregulated entities.⁷

Overall, this research points to the conclusion that macroprudential tools may have some effect on certain variables often taken as leading indicators of problems, but this does not necessarily imply control over systemic risk. Furthermore, using

⁶ Claessens, S., et al. (2014), "Macro-Prudential Policies to Mitigate Financial System Vulnerabilities," *IMF Working Paper* WP/14/155, August; and Cerutti, E., et al. (2015), "The Use and Effectiveness of Macroprudential Policies: New Evidence," *IMF Working Paper* WP/15/61, March.

⁷ Kupiec, P.H. et al. (2013), "Macroprudential Policies and the Growth of Bank Credit," *AEI Economic Policy Working Paper* 2013-08, December; and Aiyar, S., et al. (2014), "Does Macro-Prudential Regulation Leak? Evidence from a UK Policy Experiment," *Journal of Money, Credit and Banking*, 46(1), supplement.

several instruments at the same time may end up producing contradictory effects on targeted variables.

An implication of the above is that one should keep expectations realistic on what these tools can attain. This caveat should be extended to methods aimed at gauging vulnerabilities, such as macro stress tests and network analysis, which may not be useful as early warning indicators, a fact made clear by the recent global crisis.⁸

The existing evidence also suggests that well-designed macroprudential policies may strengthen the financial system. For this to be the case, regulation should generate the right incentives for financial intermediaries so that the system becomes less prone to crises.

A commendable basic principle is to use few instruments, and if possible, according to simple rules. Rules are preferable to discretion, as they lessen the risk of time inconsistency arising from the regulator's information limits, bank resistance, and other pressures.

Three examples of rules follow. One is to set capital and liquidity ratios sufficiently high and maintain them permanently without resorting to tinkering; another is to intervene only in extreme circumstances, such as when previously announced high

⁸ See Borio, (2014), *idem*.

thresholds for credit and asset price growth are breached; and a third is to impose a strong liquid reserve requirement for bank deposits to prevent runs.⁹

On the other hand, although not exempt from debate, a body of empirical evidence provides support to the alternative view that financial instability may largely stem from ill-designed policies. In particular, some research suggests that expansionary monetary policy, subsidies targeting housing and the too-big-to-fail assumption played a major role in fueling the recent U.S. financial crisis.

Additional research highlights the preventive capacity of monetary policy to lean against the wind, discouraging high levels of leverage and possibly, asset booms. An inference from these findings is that remaining faithful to a sound macroeconomic framework is a crucial way to foment financial stability.¹⁰

Unintended consequences and long-term risks

Unintended consequences from macroprudential policies bear watching. If regulators take a discretionary path, the policies may increase market and investor uncertainty on policy duration and future changes, producing errors and inhibiting

⁹ See Taylor, J.B. (2014), "Re-Normalize, Don't New-Normalize Monetary Policy," *The Hoover Institution Economics Working Paper Series*, No. 14109; Borio, C. (2011), "Implementing a Macroprudential Framework: Blending Boldness and Realism," *Capitalism and Society*, 6(1); and Cochrane, J.H. (2014), "Toward a Run-Free Financial System," April, available at SSRN.

¹⁰ See, for example, Taylor, J.B. (2009), *Getting Off Track: How Government Actions and Interventions Caused, Prolonged, and Worsened the Financial Crisis*, Hoover Institution Press Publication No. 570; and Adrian, T. and N. Liang (2014), "Monetary Policy, Financial Conditions, and Financial Stability," *Federal Reserve Bank of New York Staff Reports*, No. 690, September.

financial activity. The unknown market response to transitory measures complicates the operation of monetary and other policies.

Incentives for the diversion of investor time and resources to lobbying efforts could ensue, making implementation difficult and potentially leading to their deferral. Additionally, discretion may result in an ample range of distortions and system inefficiency.

While preferable, a rules-based approach, if too severe, potentially limits the number of trades and transactions, curtailing total financial activity and making it too standardized. Another danger is that if rules are countercyclical, in downturns, they may potentially lead to irresponsible behavior, and possibly, to instability.¹¹

These measures could also carry long-term risks to the system. For example, they can give rise to the interpretation that regulators will assume a large fraction of system risk, generating moral hazard. Such is the case of provisions for banks considered “too big to fail.”

In addition, the tools may inhibit healthy innovation, and, as mentioned, they can boost the unregulated sector, amplifying and creating new avenues for shadow banking, at the expense of the regulated sector. Finally, excessive regulation may

¹¹ For the problems related to relaxing macroprudential policies, see Calomiris, C.W. (2013), “Managing the risks of the new macro-prudential policy regime,” *Borsa Istanbul Review*, 13.

hinder the development of the financial system, damaging long-term economic potential, something especially harmful for countries suffering from low financial penetration.

Mexico's experience

Mexico has designed its financial policies on the basis of its experience with previous crises, which emerged from macroeconomic disequilibria and inadequate bank regulation. The focus has been on strengthening financial institutions, as well as helping to deepen markets. In general, measures have been based on a few rules that are transparent and predictable. Much use of discretion has not proved necessary.

Mexico's financial system is bank based, with high participation of foreign-owned institutions. Foreign banks can only operate in Mexico through the establishment of subsidiaries, which must comply with the same regulations on a stand-alone basis as domestic banks.

Strong capital and liquidity requirements were imposed even before Basel III rules became effective. Specifically, as of today, Mexico has been classified as compliant

with those internationally enacted regulations, and certain features are even stricter.¹²

In fact, in terms of bank prudential policies, Mexico benefits from the following five measures. The first is capitalization rules that incorporate high weights for maturity mismatches in market risks, including the banking book in addition to the trading book.

Second, for foreign currency, caps govern net liabilities and net open position, while a minimum liquidity ratio is required.

A third distinctive measure relates to loan-loss provisioning, based on expected losses rather than realized ones. Estimation of expected losses covers information from the system as a whole, such as the level of aggregate indebtedness and payment behavior of borrowers, while it also takes into account an institution's individual performance.

A fourth characteristic is ring-fencing in terms of bounds on related-party lending, made tighter in the wake of the most recent financial crisis, as well as requirements for transferring assets and liabilities to related entities.

¹² Basel Committee on Banking Supervision (2015), *Regulatory Consistency Assessment Programme – Mexico*, Bank for International Settlements, March.

Finally, initial progress has been made in addressing some of the potential risks in the nonbank sector, specifically by imposing limits on leverage undertaken by real estate investment trusts.

Regarding financial markets, the capital account is totally open, with no restrictions on portfolio capital flows. Also, Mexico uses a floating exchange rate regime. The policy emphasis has been on the creation of deep spot and forward foreign exchange (FX) markets, as well as on enhancing the liquidity of the domestic bond market. Mexico's currency market is the most liquid among those of all emerging economies.¹³

Mexico does not rely on capital flow management, especially in light of its negative experience with controls during the 1980s. Instead, in cases of extraordinary market volatility and particularly amid low liquidity, the country sometimes uses marginal rule-based FX intervention, mostly as a way to send a signal of confidence to market participants.

This framework proved itself sufficiently solid during the recent global financial crisis. In particular, throughout 2008 and 2009, banks remained resilient to external shocks, maintaining strong balance sheets.

¹³ See Bank for International Settlements (2013), *Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity in 2013*, April.

This result reflects the crucial role of a sound macroeconomic framework, including a sustainable and disciplined fiscal position, monetary policy aimed at controlling inflation, and a coherent regulatory and supervisory regime for financial institutions.

This does not mean that Mexico is free of possible dangers going forward. Thus, the need to buttress macroeconomic policy and closely monitor possible risks and vulnerabilities that might endanger financial stability.

The world faces an unprecedented situation, given years of abundant liquidity and cheap credit. The risks might not be the same as those in the wake of previous crises, and new pitfalls will certainly appear along the way.

The global search for yield in a context of lax monetary policies in advanced nations has led to substantial capital flows to emerging economies, including Mexico. In the near term, U.S. monetary normalization could be a precursor of a sudden stop or even a reversal of external funds, and induce a destabilizing drop in asset prices. In the face of this and other risks, the authorities must remain vigilant.

Conclusions

Evaluation of macroprudential policies faces significant measurement challenges which make methodological progress necessary. Thus, any assessment should be taken with caution. Evidence on their effectiveness is still cursory, but much of it

points towards the conclusion that macroprudential tools help make the system and institutions more resilient. However, their use is hardly a guarantee of precluding future financial crises.

In designing macroprudential tools, rules are preferable to discretion, as they can be more easily formulated to generate the right incentives for making the financial system more stable. It is key to remain on the alert for possible unintended consequences in the form of distortions and inefficient resource allocation, and long-term risks of factors that may inhibit the development of the system.

Until now, the prudential policies implemented in Mexico have worked well, but we need to continue strengthening financial regulation and the macroeconomic framework so that incentives lead to a deeper, more efficient, and stable financial system.