Javier Guzmán Calafell: Challenges for macroprudential policy and the Mexican case

Remarks by Mr Javier Guzmán Calafell, Deputy Governor of the Bank of Mexico, at the panel on "Macroprudential policies for securing financial stability in a volatile external liquidity environment", Fifth Summit Meeting of Central Banks on Inflation Targeting, Santiago de Chile, 15–16 November 2013.

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The views expressed in this document are strictly personal and do not necessarily coincide with those of Banco de México.

I wish to start by thanking governor Vergara for his kind invitation to participate in this interesting conference. I will focus my remarks on some of the challenges faced by macroprudential policies at this stage, and on the Mexican experience with these instruments, and more generally with policies aimed at preserving financial stability.

1. Challenges for macroprudential policy

Financial stability has been at the center of policy makers' attention during the last five years. This is explained not only by the nature of the global financial crisis itself, but also by the side effects of the measures that have been put in place to overcome it.

Indeed, the unconventional monetary policies that were set in motion to face the crisis have allowed us to prevent a collapse of the world financial system and have rendered other beneficial effects. Nevertheless, they have also given rise to a number of financial stability risks for the world economy, deriving to a large extent from the potential consequences of a prolonged period of extremely low interest rates in the advanced countries, and subsequently from the return to more normal monetary policies and interest rates in these nations.

Initially, one of the main concerns in emerging markets were related to the strong capital inflows to their economies fostered by these policies. More recently, with the expectation that the Federal Reserve of the United States may begin to reduce its monetary stimulus, anxiety has shifted to the implications of an increase in long-term interest rates in that country for emerging economies' exchange rates, domestic financial markets, and access to external financing. In any event, it is clear that the need to look for adequate instruments to preserve financial stability has become imperative after the crisis.

One of the important lessons of the crisis is that price stability is a necessary but not a sufficient condition for maintaining financial stability. Given the limitations that monetary policy faces in this respect, there is overall agreement that it is indispensable to complement available instruments with others which are more direct, and with a systemic perspective on the financial system. Thus, macroprudential policy has gained growing importance at a global level.

In very general terms, this policy has been identified with the use of prudential tools to confront financial weaknesses of a systemic nature. Although no consensus exists with respect to the precise meaning of the term macroprudential, a definition frequently used considers the key elements of macroprudential policy to be: its objective of containing systemic risk, its focus on the financial system as a whole, and the use of prudential tools (and non-prudential tools as long as they are focused on systemic risk).[1]

[1] Financial Stability Board, International Monetary Fund, and Bank for International Settlements, "Macroprudential Policy Tools and Frameworks," Progress Report to the G20, October 27, 2011.

The benefits of seeking financial stability through an approach that places greater emphasis on the use of macroprudential tools are clear. However, until recently, the supporting analytical work underpinning macroprudential policy was very limited. Over the last few years, with the importance given to the subject as a result of the crisis, research on the subject has grown rapidly.[2]

Recent literature has identified multiple challenges for the design and implementation of macroprudential policy. Among them, I would like to emphasize the following:

First, it is necessary to have adequate measures of systemic risk. This concept has various dimensions: 1) the time dimension, i.e., the amplification of risk over time through interactions between the financial system and the real economy, or through pro-cyclical factors of microprudential regulation; and 2) the transversal dimension, a result of common risk exposures undertaken by financial institutions, or the contagion of problems in one of them to the rest of the sector.[3]

In this context, part of the research has focused on the measurement of systemic risk on the basis of estimates based on bank balances and other market indicators, early warning indicators, vector autoregressive (VAR) models, and stress tests, among others.[4] At the same time, another line of research has focused on those institutions with systemic importance due to their size or interconnectivity.[5]

Despite these efforts, currently there are no reliable and generally accepted measures of systemic risk. The absence of precise and complete indicators to evaluate risk is not exclusive to the macroprudential arena. However, for the aforementioned reasons, the problem is particularly acute in this case. In other words, the margin for error is high.

Second, the theoretical foundation for macroprudential policy is at an incipient stage and still far from being able to provide the bases required to design integrated policy frameworks in this area. I am referring specifically to the need for a better understanding of the relationship of the financial system with the macro-economy, and to the importance of devising models that capture this relationship adequately.

Until recently, most macroeconomic and monetary models did not explicitly consider the financial system. Various research efforts after the crisis have been oriented toward filling this gap. Thus, for example, financial frictions have been incorporated in DSGE models, the role of bank capital has been studied in monetary policy transmission mechanisms, macroeconomic factors have been incorporated in detailed models of financial intermediation cycles, and the theoretical and empirical aspects of the so-called risk channel of monetary policy have been analyzed (i.e., the mechanisms through which monetary policy decisions can affect the perception of or tolerance to risk).

However, generally accepted theoretical models for the implementation of macroprudential policy do not exist. Therefore, the evaluation of the possible role of these instruments in the containment of systemic risk, as well as the possible costs involved, is much more complex.

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[2] See Gabriele Galati and Richhild Moessner, "Macroprudential Policy – A Literature Review", *Journal of Economic Surveys*, 2012.

[3] See Stefan Ingves et al., "Central Bank Governance and Financial Stability – A Report by a Study Group", Bank for International Settlements, May 2011.

[4] See Borio, Claudio and Mathias Drehman, "Towards an Operational Framework for Financial Stability: Fuzzy Measurement and its Consequences," Central Banking, Analysis, and Economic Policies Book Series, in: Rodrigo Alfaro (ed.), *Financial Stability, Monetary Policy, and Central Banking*, Ed. 1, Vol. 15, Ch. 4, pp. 63–123, Central Bank of Chile, 2011.

[5] See, for example, Zhou, C., "Are Banks Too Big to Fail? Measuring Systemic Importance of Financial Institutions", *International Journal of Central Banking*, Vol. 6(4):205–250, December 2010.

Thus, the basis for a deep evaluation of the effectiveness of macroprudential policy is still weak.[6]

Furthermore, in addition to the areas pointed out in the preceding paragraphs, there are numerous other factors on which greater analytical work is required. These include the interactions between distinct macroprudential policies, better indicators for the implementation of these policies, the definition of the right moment to activate or discontinue the corresponding instruments, mechanisms for preventing evasion risks, and appropriate communication policies, among others.

Third, there are interactions between macroprudential policy and other policies that should be carefully taken into account and which, to date, have not been sufficiently analyzed. This is in virtue of the fact that the use of one of these instruments can enter into conflict with, or amplify the effects of, other policy instruments. The most obvious interaction is with monetary policy.

In general, it is to be expected that monetary and macroprudential policies work in a complementary way toward the achievement of their objectives, and thus mutually strengthen one another.[7] However, the possibility of conflict exists. Thus, for example, evidence shows that loose monetary policy can fuel risk taking and excessive leverage, accentuating financial system fragility. On the other hand, the introduction of macroprudendial measures can affect domestic demand in a direction different from that sought by monetary policy.

Thus, mechanisms are needed which permit adequate coordination between monetary and macroprudential policies. In this context, there is growing acceptance of the idea that monetary policy should preserve as its primary objective the control over inflation, and macroprudential policy should adopt a role of greater importance in the alleviation of pro-cyclical and transversal risks in the financial system.[8] On the other hand, it is important to emphasize that macroprudential policy also interacts with other policies (among them, fiscal, microprudential, crisis management and resolution, and competition policies) and that the corresponding implications should be taken into account.[9]

Fourth, empirical evidence on the effectiveness of macroprudential tools is scarce. This is understandable, given the fact that recognition of the important role that macroprudential policy can play in financial stability surfaced only recently, and given the great variety of measures that have been called macroprudential, which makes it hard to compile, homogenize and evaluate the information. Furthermore, the simultaneity with which different macroprudential policies are in some cases applied makes it difficult to isolate the specific effect of a given policy.

The importance of evaluating concrete results is clear, since the effectiveness of macroprudential policies is not assured, in addition to the fact that these tools can have costs or generate distortions. For example, loan-value relationships limit credit risk, but under certain circumstances they can reduce the efficiency of the market in allocating resources, by introducing incentives in favor of, or to the detriment of, a certain sector. In a similar way, dynamic provisioning can overreact to information or premature trends and become a heavy burden for financial institutions.

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[6] See Giese, J. et al., "How Could Macroprudential Policy Affect Financial System Resilience and Credit? Lessons from the Literature." The Bank of England, Financial Stability Paper No. 21, May 2013.

[7] See F.S. Mishkin et al., "Macroprudential Policies in Open Emerging Economies," NBER Working Paper Series, Working Paper 17780, January 2012.

[8] See Stijn Claessens et al., "The Interaction of Monetary and Macroprudential Policies," the International Monetary Fund, January 29, 2013.

[9] IMF, "Key Aspects of Macroprudential Policies," June 10, 2013.

Despite the difficulties faced, there have been important efforts aimed at identifying the conditions under which macroprudential policies are likely to be effective in mitigating systemic risk.[10] Most post-crisis studies in this regard have focused on the costs and benefits of these tools from a long-term perspective.[11] More recently, a conceptual framework has been developed to analyze, in addition to the expected costs and benefits, the unintended consequences of the application of these measures.[12] Logically, this is work in progress, and it is still necessary to refine the models as well as the empirical evidence used.

Fifth, it is indispensable to establish adequate institutional arrangements for the design and implementation of macroprudential policies. In general, such institutional arrangements should be effective, in the sense that they enable the corresponding authorities to take preventive action, in a timely and coordinated fashion. Nonetheless, I would like to emphasize that there is no one recipe that works in all cases. In reality, the selection of an adequate arrangement depends on the specific characteristics of each country, including its legal and political context.

Given the above, more than the details of the institutional arrangement, I would emphasize some of the principles which, from my point of view, are essential for the adequate functioning of these kinds of arrangements.

a) The agencies responsible for macroprudential policy should be given an adequate mandate for complying with this responsibility.

b) The authorities with this duty should have the information and analytical capability needed to quickly identify when systemic risks surface, and the required tools to face them.

c) The decision-making process should be transparent and isolated from political or interest groups pressures.

d) Adequate accountability mechanisms should exist, including among others strict requirements for the supply of information to the public.

It is widely accepted that central banks should play a very important role in these efforts, given their deep analytical and operational experience in macroeconomic and financial subjects, the tight relationship between monetary and macroprudential policies, and the responsibility these institutions have as lenders of last resort.[13] In addition, the empirical evidence shows that there is a negative relationship between the response time of macroprudential policy to developments challenging financial stability, and the involvement of the central bank in institutional arrangements for these policies.[14]

As can be seen, despite the considerable increase in research on macroprudential policy, an enormous effort is still needed to develop adequate foundations for the design and implementation of these policies. Overcoming these challenges is very important given the

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[10] See, for instance: Lim et al., "Macroprudential Policy: What Instruments and How to Use Them?", IMF Working Paper 11/238. October 2011.

[11] See, for example, the Basel Committee on Banking Supervision, "An Assessment of the Long Term Economic Impact of Stronger Capital and Liquidity Requirements," 2010.

[12] See Nicolas Arregui et al., "Evaluating the Net Benefits of Macroprudential Policy: A Cookbook", IMF Working Paper WP/13/167, July 2013.

[13] See Committee on the Global Financial System, "Operationalizing the Selection and Application of Macroprudential Instruments," CGFS Papers, No. 48, Bank for International Settlements, December 2012; and Erlend W. Nier et al., "Institutional Models for Macroprudential Policy," IMF Staff Discussion Note, November 1, 2011.

[14] See Cheng Hoon Lim et al., "The Macroprudential Framework: Policy Responsiveness and Institutional Arrangements." IMF Working Paper, WP/13/166, July 2013.

current circumstances, since what is under consideration is not only the possibility of a more generalized use of macroprudential policy, but also assigning it a role of much greater importance in the attainment of financial stability both at the domestic and global levels.

Mexico´s recent experience with macroprudential policies and financial stability might help to add some clarity to the issues that surround the use of these instruments.

2. The Mexican case

As in many other countries, the bankruptcy of Lehman Brothers and its repercussions at a global level represented a big challenge for financial stability in Mexico. Suffice to say that GDP fell by 4.7 percent in 2009; the exchange rate depreciated more than 50 percent from early August 2008 to early March 2009; long-term government interest rates spiked (at the moment of greatest pressure rising almost 400 basis points) and remained high with respect to the monetary policy target; rates on corporate bonds rose almost 240 basis points above the reference rate, and country risk as measured by the EMBI increased by more than 600 basis points.

Despite the magnitude of these shocks, and the fact that the crisis gave rise to substantial losses for various financial entities in advanced economies that are parent banks of Mexican banks, the financial system showed great resilience, mainly as a result of a combination of macroeconomic, microprudential and macroprudential policies.

To start with, the implementation of prudent monetary and fiscal policies, combined with a flexible exchange-rate regime and high levels of international reserves, strengthened the nation's economic fundamentals considerably.

These efforts were complemented with a number of microprudential policies undertaken in the aftermath of the 1995 crisis to improve the legal framework and the regulatory and financial supervisory processes. This allowed Mexico to have an efficient and modern payments system, with profitable and well-capitalized financial intermediaries, and deep financial markets. It is worth to point out in this respect that in August 2008, a few days before Lehman´s bankruptcy, the Mexican banking system had a capitalization ratio of 15 percent, a non-performing loan ratio of 3 percent, and a loan-loss reserve ratio of 156 percent.

Furthermore, Mexican legislation requires financial institutions offering services in Mexico to operate through subsidiaries, so that even if foreign entities have a participation in them, they are separate legal entities and have their own capital. In addition to lowering the risks of direct contagion between the parent bank and the entity established in Mexico, all banks in the country are required by law to the same rules and supervisory processes regardless of the nationality or other characteristics of shareholders. This is particularly important in Mexico, since a little more than 70 percent of assets in the banking systems are owned by foreign institutions.

The above was reinforced by modest Mexican banks direct exposure to assets linked to the U.S. mortgage market and to the euro zone, and by the fact that retail deposits in the domestic market are the main source of financing for Mexican banks. This allowed the financial system to respond more flexibly to liquidity problems in international markets.

Macroprudential policies implemented before and in response to the crisis contributed to maintaining a solid financial system in this difficult period. I would highlight in particular six measures in this connection:

a. Regulations for banks' foreign-currency operations (structural and short-term liquidity and exchange rate risk positions), which allow banks not to be exposed to a structural imbalance due to funding long-term foreign-currency assets with short-term liabilities, insufficient liquid assets to face short-term obligations, and an imbalance between assets and liabilities in the face of significant foreign-exchange

moves. Together, these rules limited structural currency gaps and kept abrupt foreign exchange movements in 2008–09 from having an effect on the banking system through this channel.

b. The establishment of a cap on exposure to related counterparties. In 2011, the rules on capital were changed with the aim of requiring banks to limit exposure to 25 percent of capital. The key aim of these measures was to prevent possible contagion of problems from related counterparties, including difficulties in foreign parent banks passed to subsidiaries, which is of great importance to Mexico given the proportion of assets held by foreign banks.

c. In October 2012, Banco de México established the requirement to seek authorization from the central bank to make transfers of assets and implement other operations among banks operating in Mexico and related counterparties, when in one year these operations exceed 25 percent of Tier-1 capital. The objective is to ensure that these operations are carried out under market conditions.

d. Caps on interbank exposures, including among other instruments net positions in derivatives and repurchase agreements. The financing cap among banks is equivalent to one time the Tier-1 capital of the lending institution. This rule has reduced the risk of interbank contagion.

e. Higher limits on value at risk (VaR) for pension fund portfolios at times of high volatility. When a pension fund reaches its risk limit according to the VaR, it is required to unwind positions to reduce risk. During 2009–2010, taking into account the magnitude of the financial crisis, the size of these funds´ positions, and the effect that a massive sale of assets would have had at a time of great turmoil, funds were allowed to surpass the VaR limits. This prevented a precipitous re-composition of portfolios which would have triggered a vicious circle.

f. The constitution of loan provisions as a function of expected rather than actual losses, for revolving consumer loans starting in 2009 and for mortgage portfolios, non-revolving consumer loans, and loans to federal and municipal entities since 2011.[15] In addition, the corresponding methodologies for commercial portfolios were published in June 2013. This allows the constitution of loan provisions in a gradual way and not at the moment losses materialize.

Despite the resilience shown by the Mexican financial system to the effects of the global crisis, the crisis highlighted the need to continuously evaluate possible sources of risk that could affect the functioning of the financial system as a whole, as well as the real sector. In this context, other macroprudential measures, among them counter-cyclical capital requirements and regulatory requirements for systemically important financial institutions, are under consideration. At the same time, the crisis demonstrated the importance of establishing mechanisms for coordination among different authorities with the aim of preventing or facing this type of crises.

Thus, in mid-2009 the authorities decided to create the Financial System Stability Council (CESF). This is an entity of evaluation, analysis, and coordination among financial authorities, oriented toward identifying risks to financial stability and proposing preventive policies or, should those risks materialize, minimize their impact. The Council is not a decision-making body, but rather a forum for cooperation and recommendation of courses of action, in which each participating authority is committed to promoting, in the context of its

[15] Dynamic provisioning, an increasingly popular macroprudential tool, comprises in addition to expected loss provisioning systems as the one used in Mexico, through-the-cycle accumulation systems and trigger-based surcharge systems. See T. Wezel et. al., “Dynamic Loan Loss Provisioning: Simulations on Effectiveness and Guide to Implementation”. IMF Working Paper, WP/12/110, May 2012.

faculties and subject to the laws that govern it, the implementation of the recommendations formulated in accordance with the applicable laws.

The Council is comprised of the Finance Ministry, the Central Bank, the National Banking and Securities Commission (CNBV), the Insurance and Surety National Commission (CNSF), the National Commission for Retirement Savings (CONSAR), and the Bank Savings Protection Institute (IPAB).

The Council complies with, or is oriented toward complying with, the four principles I mentioned that are essential for these kinds of arrangements to work: the CESF has a clear mandate for performing its duties in this area, specified in the statutes of each of the institutions that comprise it and in its own statutes; the CESF works in a transparent way and with complete respect for the responsibilities and, if applicable, autonomy of the institutions involved; and the CESF operates on the basis of a mechanism of accountability, based mainly on periodic reports to the general public. Finally, the composition of the Council has served as a basis for underpinning the availability of information and the analytical foundation for evaluating the risks that could affect the financial system as a whole, as well as the instruments needed for facing them, although much remains to be done in this respect. Given the importance of this entity, the Executive has requested Congress to approve its incorporation into law.

4. Conclusion

One of the main lessons from the global economic crisis is that financial stability requires a new policy approach in which two features are particularly noteworthy: 1. macroprudential policy is likely to adopt a more important role than before; and 2. the achievement of financial stability requires simultaneous and coordinated efforts at the macroeconomic, microprudential and macroprudential levels.

Although macroprudential policy is not a new concept, the issue at this stage is radically different from the experience of previous years, both in reach and relevance. In particular, the focus today is on the potential for a generalized use of these instruments at a global level and for a greater responsibility in the achievement of financial stability. The problem is that despite an explosion of research in this area, we still find ourselves with many gaps from theoretical and empirical standpoints.

A number of measures need to be implemented at the domestic and international levels if these challenges are to be overcome. This comprises research, more and better statistics, building the appropriate analytical capacity, and adjusting national institutional frameworks as needed, among other measures. Furthermore, in view of the implications of financial globalization for contagion and regulatory arbitrage, cooperation from the international community is of the essence.

It is also important to emphasize that expectations on the role of macroprudential policies in financial stability must be kept within realistic boundaries. While it is true that these instruments may have many possible advantages, we should not lose sight of the limitations that we still face. With more experience, additional empirical evidence and a better analytical foundation, we will be in a better position to evaluate their real potential.