I thank the organizers, and especially Marc Uzan, for the invitation to participate in this panel.

The global financial crisis has been a painful reminder of the crucial importance of macrofinancial linkages for financial stability. In particular, it has shown how interactions between the real and the financial sector can give rise to “procyclicality” and thus to systemic risk, especially through their impact on the value of assets and leverage. It has also become evident after the crisis that common risk exposures by financial institutions, or the interconnectedness among institutions or markets, can also be a source of systemic risk. Naturally, there may be a close relationship between both sources of systemic risks, and in fact they frequently arise simultaneously.

The international community has made a major effort to take on board the lessons for financial stability deriving from the global financial crisis. Thus, new bank capital, liquidity and leverage rules have been introduced under Basel III to reduce procyclicality and cross-sectional systemic risks; special measures have been designed for systemically important firms; stress tests are conducted to make sure that banks can continue to operate under very difficult conditions; accounting standards have been strengthened; reforms have been introduced to address some of the risks related to the nonbank sector; new standards for the financial infrastructure, with particular attention to the derivatives markets have been developed; and in general a macroprudential approach for regulation and supervision has been emphasized.

The measures implemented after the crisis have contributed significantly to mitigate some of the vulnerabilities that precipitated it. However, the challenges arising from macrofinancial linkages have not disappeared, and in fact a number of new risks have emerged. Let me touch briefly on some of these issues.

In the first place, notwithstanding the efforts made, some of the difficulties that surfaced during the crisis have not been fully tackled.

- Balance sheet repair of the non-financial sector in advanced economies is a case in point. A combination of higher financial assets and lower liabilities has led to a
substantial strengthening of household balance sheets in several advanced economies, the United States, the United Kingdom and Japan, among them. However, progress in several countries in the euro area has lagged behind. And a similar picture emerges if the focus shifts to corporate balance sheets. As has recently been noted, “...at the global level, total non-financial debt is at a record high and seems to be still on the rise... A key question for policymakers is how far debt can rise before it becomes a drag on growth or poses a threat to financial stability”.2

- The strengthening of bank balance sheets is another case worth noting. Today, in general, banks in the advanced economies are in a much stronger financial position than at the height of the global financial crisis. However, progress has been uneven across the different institutions. Furthermore, in the context of a new regulatory and economic environment, many of them are facing a decline in profitability. According to IMF figures, 80 percent of assets of the largest institutions have a return on equity that does not cover the cost of capital required by shareholders.3 Naturally, this raises concerns about their capacity to sustain adequate levels of capital and meet credit demand.

- As I mentioned before, an ambitious agenda has been adopted by the international community to strengthen the framework for financial sector regulation and supervision at the global level. While progress in this respect is remarkable, again, much remains to be done. Beyond issues of implementation, this includes, for instance, additional efforts to address the challenges linked to systemically important banks, the completion of some key accounting standards, the reinforcement of regulation and supervision of shadow banking, and the application of new OTC derivative rules across borders, among others. In addition, we must not forget that financial markets are constantly innovating, and that it would be naïve to expect regulation and supervision to keep up with these changes.

In the second place, the unconventional monetary policies (UMPs) implemented in several advanced economies as a response to the crisis have had thus far important beneficial effects. Nevertheless, these policies have also given rise to a number of risks. The latter include the effects of UMPs on capital flows to and outflows from emerging market economies (EMEs), and the related macroeconomic and financial stability challenges; the implications for financial stability of prolonged periods of low interest rates; the potential impact on inflation of exceptionally easy monetary policies; the challenges for central banks resulting from the fundamental change in the size and composition of their balance sheets; and of course, as evidenced by recent events, the difficulties related to exit from UMPs. While a withdrawal of monetary stimulus resulting from the prospect of a sustained economic recovery should have beneficial medium- and long-term effects, this may be accompanied by substantial volatility in financial and foreign exchange markets, as shown by events in mid-2013 and in recent weeks. I will return to this later on.

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2 Caruana, Jaime, Second BIS Network meeting on “Macroeconomics and global financial markets”, Basel, 10 March 2015.
Third, the sources of systemic risk have been changing from 2008 to date, also as a result of structural changes in international capital markets.

- Shadow banking has shown a substantial expansion in recent years. The key drivers of this trend are well known, namely, a combination of low interest rates, weak supply of credit and tighter bank regulation. Shadow banking can play a useful role by contributing to lending, allowing better risk management, and increasing liquidity. However, as the global financial crisis has shown, it can also endanger the stability of the financial system. The challenge, therefore, is to benefit adequately from its advantages while minimizing the accompanying risks, particularly in view of its rapid growth, both in advanced and emerging market economies, and its interconnectedness with the rest of the financial system. Unfortunately, despite efforts under way, major data gaps remain and a proper assessment of the implications of shadow banking for systemic risk is still missing.

- More particularly, the share of the nonbanking sector in the intermediation of international credit has risen substantially after the crisis. The case of the asset management industry deserves especial attention, given the risks for financial stability it raises. While this industry renders a number of advantages, at the same time it is highly concentrated, both in terms of the number of managers involved and the holdings of individual securities by some of them. In addition, this kind of investors may be more prone to herd behavior, and interconnectedness with the rest of the financial system is high. Given the potential for procyclical actions, the size of the asset management sector and the risk of liquidity problems, some analysts have noted that the usual indicators of vulnerability that were designed for previous crises (mostly bank-driven), will no longer be very useful.4

What is the appropriate policy response to the challenges posed by macrofinancial linkages? In view of the far reaching effects of monetary policy, the dominant view is that it is essential to use an instrument with more direct effects and with a systemic perspective of the financial system. Consequently, the standard recommendation is to use macroprudential tools as the first line of defense.

I share the view that macroprudential measures should have a prominent role in the pursuit of financial stability. But I am also convinced that we must be well aware of the limitations that we face in using these tools.

To start with, despite the substantial increase in research on financial stability issues in the aftermath of the crisis, the theoretical foundations for macroprudential policy are at an incipient stage and still far from being able to provide the basis required to design integrated policy frameworks in this area. In addition, the interactions between macroprudential policies and measures in other fields, particularly monetary policy, should

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be carefully considered; however, to date, they have not been sufficiently analyzed. Also, since recognition of the role that macroprudential policy can play in financial stability is relatively recent, empirical evidence on the effectiveness of these instruments is scarce. Furthermore, it is indispensable to establish adequate institutional arrangements for the design and implementation of macroprudential policies. It must also be considered that macroprudential policies do not affect activities not subject to traditional banking regulations, i.e. shadow banking is outside their reach.

Therefore, it is difficult to expect that financial stability can rely on the use of macroprudential policy alone. All the contrary, the complexity of this issue, and the uncertainties and limitations that surround the use of macroprudential instruments, imply the adoption of a comprehensive approach that includes, in addition to the latter, traditional monetary, fiscal and microprudential tools. It is also important to bear in mind that although normally this will not be the first line of defense, there will probably be instances where monetary policy will need to respond directly to financial stability risks. In view of close inter-country links, and the consequent global risks, international cooperation, be it through bilateral or multilateral means, based on either a preventive or a crisis-response approach, will frequently be an important component of the policy response.

Clearly, the financial system will have a healthier development in efficient economies with a high potential for growth. Therefore, the relevance for financial stability of structural reform measures aimed at improving resource allocation and removing barriers to growth, deserves proper attention.

From an emerging market perspective, one of the most evident challenges for macroeconomic and financial stability in the near future relates to the normalization of monetary policy in the United States. The possibility of a relatively smooth adjustment to the increase in interest rates in this country cannot be discarded, especially if this takes place in the context of a sound evolution of the US economy. However, taking into consideration previous experiences, it is very well possible that such a development will result in a reassessment of risk, capital outflows from emerging market economies, and in general a sharp increase in volatility in international financial markets.

The normalization of monetary policy in the US is surrounded by a number of uncertainties. First of all, although the first increase in the federal funds rate is widely expected to take place this year, the specific date, as well as the pace at which subsequent increases will occur, are far from clear. Second, it is not possible to anticipate to which extent this is going to be reflected in the evolution of the exchange rate, interest rates and other financial variables of the different economies. Third, there is also uncertainty as to when it will affect these variables; in particular, if markets were to adjust ahead of the interest rate increase, the most acute period of turbulence would likely happen before the measure is actually implemented.
I am convinced that the best course of action for EMEs is to assume that the increase in US interest rates is going to take place sooner rather than later, and to be ready to face wide swings in international financial markets. In other words, to prepare as fast as possible for a worst case scenario.

In this respect, it is worth to note the following: a) the possibility of contagion among different EMEs cannot be discarded; b) EMEs absorb nowadays a much larger share of outward portfolio investment from advanced economies than before the global financial crisis (according to IMF figures, fixed income allocations of advanced economies to EMEs grew from 4 percent of the total stock of their outward portfolio investment in 2002 to almost 10 percent in 2012\(^5\)); c) in many EMEs a large portion of public securities in domestic currency is in the hands of foreign investors. This may increase the sensitivity of capital flows to higher foreign interest rates; d) liabilities in US dollars of the corporate sector in many EMEs have swelled in recent years, thus increasing the possibility of unpleasant surprises in some of them; and e) several oil and commodity-exporting countries and firms have been severely affected by falling asset valuations and rising credit risks.\(^6\)

What should be the response to the potential challenges resulting from the normalization of monetary policy in the United States? On the basis of my comments above, I would underline the following: a) the need to strengthen economic fundamentals and in particular address economic vulnerabilities in EMEs as soon as possible as a preventive measure; b) a timely and flexible reaction as needed of macroeconomic and financial stability policies to episodes of volatility in the financial markets; and c) a cooperative attitude on the part of the international community to support these efforts, either through bilateral (e.g. currency swaps) or multilateral arrangements (e.g. IMF financing, precautionary or otherwise), with adequate coordination among them to avoid fragmentation. I would like to underline that the empirical evidence shows that markets do differentiate during episodes of uncertainty, and that EMEs with more solid fundamentals and availability of external financing have performed better and have been more resilient in recent episodes of volatility.

Let me close my intervention by saying a few words about the weapons Mexico has at its disposal to confront the turmoil that may accompany the normalization of monetary policy in the United States. The first element I would underline is prudent monetary and fiscal policies. Suffice to say that the inflation rate is basically on target at present and that fiscal policy has been tightened preventively in 2015, with further budget cuts announced for 2016, to ensure a sustainable path for public finances in the face of a more difficult economic environment. Second, international reserves stand at around record levels, and the availability of resources is reinforced by a 65 billion US dollar Flexible Credit Line with the IMF. Third, the flexible exchange rate regime has worked efficiently as a shock absorber, but at the same time modest interventions in the foreign exchange market have been carried out to smooth volatility of the exchange rate, on the basis of pre-announced rules

and without defending a particular level for the peso. Fourth, the banking system is well capitalized, highly liquid and profitable. Fifth, although indebtedness of the corporate sector has increased significantly, most of these liabilities have fixed interest rates and long periods of amortization, and simulations show a relatively modest impact overall of an exchange rate adjustment, partly as a result of the hedging of foreign exchange risks. Finally, the Mexican government has embarked on a thorough process of structural reform, covering a wide array of sectors, that has been considered by the OECD as the most ambitious among the Organization’s members. To sum up, every effort has been made to navigate as smoothly as possible through the turbulent waters ahead.