Summary Presentation

“Borders of Macroprudential Policy”

By William White

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Introduction

In recent years we have become painfully aware of the many gaps in our knowledge of how the macro economy works, and how government policies might help it work better. A number of comments were made at the conference about revealed deficiencies in the macro models we typically use (both DSGE and large structural models) and the role played by both monetary and fiscal policies. It was noted that these knowledge gaps remain in spite of our having the benefit of many decades of both observation and experimentation. Given that the emphasis on macroprudential policies (MP) has been so recent, the participants seemed to agree that our understanding of how they might work – as well as the unintended consequences – must be substantially greater. The likelihood that introducing new policy measures might induce changes in behavior on the part of economic agents was seen as yet another source of uncertainty. Finally, it seemed generally agreed that the "borders of macroprudential policy" with microprudential and monetary policies were, in fact, highly blurred. In short, there were a lot of issues to talk about during this one day conference.

In my summary remarks, I will first say a few things about the discussion surrounding the use of MP as a means for **crisis prevention**. Issues raised here were the precise objective of MP, the character of the macroeconomic problem being addressed, the character of the solution, and domestic and international governance issues. While receiving less emphasis, a number of comments were directed to **crisis management**. How does the crisis unfold and propagate itself, and what measures (both ex post and ex ante) might foster a faster and more sustainable recovery?

Crisis prevention

a. The objectives of MP

Markus Brunermeir's presentation made it very clear that the approaches taken by microprudential and macroprudential regulators, in the pursuit of "financial stability", are very different. The bottom up approach of the former contrasts sharply with the top down approach of the latter. MP regulators focus in particular on risks to the functioning of the financial system as a whole rather than the health of individual institutions. Participants generally agreed with these distinctions, as well as the idea that macroprudential policies potentially had an important role to play in preventing crises leading to financial instability.

What received less attention was whether "financial stability" ought to be the ultimate objective of MP. Financial stability might be a necessary condition for macroeconomic

instability but it is certainly not sufficient. Recall, for example, that the Great Depression began in the United States in 1929, whereas widespread banking distress began only in 1931. Moreover, Reinhart and Rogoff ("This time is different", p145) note that "Severe financial crises rarely occur in isolation. Rather than being the trigger of recession, they are more often an amplification mechanism". This implies that the broader objective of macroprudential policies should be to help minimize the costs of economic crises, whether measured in terms of lost output and jobs or the more indirect costs of higher inflation. To focus only on the health of the financial sector risks giving inadequate attention to the financial health of other sectors of the economy. Consider, for example that excessive corporate debt was at the heart of the Great Recession in Japan, and excessive household debt was the legacy of the crisis which began in many countries in 2007. Taking this broader view of the objective of MP has important implications for the choice of "indicators" (when to tighten) and also for "governance" issues as discussed below.

b. The character of the problem

What causes deep and lingering downturns of the sort the world (and especially the Advanced Market Economies) is currently experiencing? It now seems generally accepted in the official community that the underlying problem is one of excessive credit created in a fiat money system. There is an endogenous risk cycle in which some justified good news (say a positive productivity shock) leads to more lending, higher asset prices and more spending, more collateral and more optimism, and eventually an unjustified boom followed by a bust. Moreover, the historical record (Reinhart and Reinhart, Taylor and Schularik) indicates that the severity of the bust closely maps the exuberance of the boom. Further, each of the real and financial sides of the economy can become overextended, and if both are affected, the bust phase is likely to be particularly severe.

Marcus Brunermeier's paper deals with the financial side of this process, consistent with a focus on financial stability. I think participants found his description of the processes at work very convincing. A shock somewhere within the financial system has direct effects elsewhere through counterparty losses. In turn, this leads to secondary effects through liquidity shortages and fire sales. Then, the shock is further amplified by some financial agents ("amplifiers") reacting similarly to the processes underway in an attempt to protect themselves. In contrast, the shock could be moderated by some institutions ("absorbers") having the capacity to "take the hit" and actually doing so.

In the discussion, two points stood out for me. First, the discussion of financial processes ought to recognize more clearly the international dimension. Min Zhu at lunch, and various others, pointed out the importance of international capital flows, not least via banks and particularly the interbank market that can cause severe problems both on the way in and on the way back out. Second, it was suggested that regulatory models that force similar behavior on different financial agents might make systemic crises worse rather than better. In all complex systems, heterogeneity seems to introduce stabilizing properties.

Hyun Shin's paper was also convincing with its explicit link between the level of policy rates and the level of leverage within the financial system (the risk taking channel). Shin's paper also makes a welcome venture outside the financial system by asking how leverage eventually has negative effects on the real economy. In particular, he notes that widening credit spreads in the bust appear to have an important influence on the level of investment.

Still focused on problems, participants clearly felt that microprudential supervision has inherent shortcomings when confronted with credit driven processes of the sort described above. Brunnermeir noted at least three aspects of this. First, microprudential supervisors note that big institutions with diversified asset holdings have low VaR, but they fail to note that they also have big CoVar. Second, they welcome innovations that lower VaR but fail to notice that they might at the same time be driving a migration of these risks into the tails of the distribution (à la Rajan). Third, after the crisis, microprudential regulators want higher capital ratios and are indifferent to the economic losses caused by financial institutions cutting loans to do so.

In commenting on the Brunnermeier paper, Calomiris raised another possibility. Microprudential regulation is inadequate, not only because it fails to have a macroprudential orientation, but because its traditional microprudential framework is either badly designed or badly supervised. He cited Canada as a country that had avoided the worst of the financial crisis through having an excellent microprudential framework. A number of discussants, not least some prominent Canadians, noted that the financial crisis had yet to hit Canada. They noted that in Canada (and the Nordics and some others) household debt levels were at record highs as were house prices. The future looked gloomier.

c. Possible solutions

One possible (obvious?) solution to the problems identified above is to "lean" against the credit cycle using whatever policies seem best fitted to do so. By leaning against the

upside, one also lean against the magnitude of the downside. Further, restraining measures on the upside also build up “buffers” that can further reduce instability after the crisis has begun. However, there is also the difficulty of knowing when credit expansions might rather be explained by fundamental factors, especially in countries which rely on untapped opportunities for investment and technological innovation. In some rapidly developing countries, credit growth might not then be linked directly to speculation and bubbles.

A number of participants noted some other alternatives that might be thought logically prior to “leaning”. Walter Engert noted that more attention needed to be paid to the underlying incentives that motivated economic agents to both lend too much (on the one hand) and to borrow too much (on the other hand). A number of participants (Goodhart, Calomiris, Cumming) noted that the structure of the financial system was also material to the likelihood of boom-bust problems emerging. For example, the spread of shadow banking (perhaps also a byproduct of low policy rates and the search for yield) made the system even more procyclical than it was before. However, it was noted that the choice of a better structure was by no means obvious. For example, there were material differences between the Vickers, Volcker and Liikanen proposals for insulating retail from investment banking activities.

As to which policies should be used to “lean” against a boom, participants noted that both monetary policy and macroprudential policies had their shortcomings. As for tighter monetary policy, many participants noted the problem of attracting unwanted capital inflows. Others noted that monetary policy might lose its effectiveness as the “momentum” of the boom developed. This was a variation on the old theme that “pricking” an asset price bubble might require interest rates to rise so high as to destroy other parts of the economy. As for macroprudential measures, it was noted that they invite evasion, and thus encourage the growth of unregulated parts of the financial system. Further, there is always the risk that they prove costly (encouraging inefficiencies in the financial system) and discourage good innovations.

Against this backdrop, it seemed accepted that there might be a case for using both sets of policies as complements. Perhaps, there was a bias towards relying more on macroprudential policies, but the use of monetary policy could also be considered. Shin’s argument that leverage could be significantly constrained by relatively modest increases in policy rates seemed to carry some weight. De Gregorio referred positively to recent policy adjustments in Turkey, which were highly innovative.

The participants also seemed to accept the arguments that monetary policy affected financial stability (Annex 2 in the IMF background paper) and that macroprudential measures would also affect price stability (via spending channels). While a full understanding of these channels meant that a Tinbergen “assignment” was still possible, the reality was that our understanding was very limited. In these circumstances, both sets of instrument would have to be applied in a coordinated way to pursue various objectives.

The discussion then focused on some practical considerations in tightening macroprudential policies. Highest on the list was **when** to tighten and what “indicators” of rising risks should be relied upon. A first issue was whether market signals were of any use. Most commentators, including Shin, seemed to feel that market signals (like the Vix) systematically moved in the wrong direction. No one, however, went as far as Borio who, in various publications, has suggested using them as contrarian indicators. In contrast, Calomiris cited one market based indicator as being very useful: the ratio of banks' market value to book value, which began falling in 2007 and indicated (correctly) a growing market concern for the future profitability of banking. Cummings noted in this context that one of the future challenges faced by most banks is the sustainability of their business model..

Most of the subsequent discussion had to do with indicators of potential problems building up in the financial system. This is consistent with G 20 inspired work (being pursued jointly by the IMF and FSB) in developing “risk maps” of the financial system. Brunnermeier suggested the possibility of surveying financial participants to see whether they were more likely to be shock amplifiers or shock absorbers. Regulators might then be able to warn those who expected to be able to close positions easily that everyone could not get through the door at once. Shin noted that total credit growth might be a less useful indicator than the relative size of bank loans to bond issues. He also noted that relatively stronger growth of wholesale funds, relative to core deposits, was another good indicator of future vulnerabilities.

As suggested in the Introduction to this Summary, problems in the financial sector can adversely affect the real economy. However, problems in the real economy can also feedback on the financial system. The indicators relevant to each are quite different. Calomiris made reference to the quite parsimonious models used by Borio and Dhremen (and others including Barrel and Davies) which predict macroeconomic and banking crises using such macroeconomic variables as credit growth and property prices. But apart from him, this issue received little attention. Goodhart made the broader point that different countries with different structures might warrant looking at different indicators.

The next issue was **how much** to tighten instruments used for macroprudential purposes when we had very little idea of how large the impact might be. Indeed there was some concern that we did not even know the sign of the effect. Calomiris described tighter capital requirements as a “big bazooka”, likely to have much greater effects than most people think. Goodhart also expressed his concern. In contrast, Shin suggested that higher capital levels might actually embolden lenders (the “seat belt problem”) making the system more procyclical than ever.

Finally, there was a discussion of **which prudential instruments** might be used and in **which order.** Consistent with Goodhart’s earlier comment, the general conclusion was that it all depends. A participant from Spain gave a good example, suggesting that the use of dynamic provisioning in Spain was dependent on the absence (initially at least) of opposition from accountants and the tax authorities. Once this opposition materialized, they had to think again. Sadly, there was no reference to the recent CGFS (BIS) document dealing with exactly these issues. The CGFS report proposes “transmission maps” showing how changes in individual instruments can be linked to the objectives of MP.

Still pertinent to the search for solutions to the credit cycle problem was a discussion of “**communications**” issues. Again, the limits of current knowledge were revealed. On the one hand, it was suggested that clear communication from the authorities, indicating that they would resist the upswing and punish those that doubted their resolve, would have positive results. It would lead to changes in behavior that would be less destabilizing. On the other hand, Shin noted that clearly indicating the intentions of the monetary authorities to tighten could prove destabilizing. As also noted in various BIS Annual Reports, a smaller carry (numerator) might actually lead to a significant increase in the Sharpe ratio if associated with a decline in the expected variance (the denominator). For firms focusing primarily on ROE, this combination was an absolute invitation for higher leverage. This logic also seems consistent with the description of “risk shifting” behavior in Annex 2 of the IMF Background paper.

d. Governance issues

There was some discussion of the need for better governance at the **international** level. As noted above, and emphasized in Min Zhu's presentation, domestic credit developments and policy responses increasingly have international spillover effects. There is a growing need to internalize these externalities, but the question is how best to do this. In effect, we have had for many years an international monetary and financial

“non system” in which the effects on others are completely discounted in making domestic decisions. While there have been some minor signs of progress (e.g. informal agreement between the FDIC and the Bank of England on resolving international banks) there seemed some sympathy with the more pessimistic view I expressed at the end of the day. At this juncture, we need to rethink fundamentally the International Monetary System..

Rather greater attention was paid by the participants to how **national** governance structures might be improved. What was the best institutional structure to ensure the most effective activation of the various policy tools available? Given the wide ranging and uncertain effects of all policy levers on both financial stability and price stability, some coordination of these instruments was required. This was also evident in the fact that many of the so called macroprudential tools were actually just traditional microprudential tools (e.g. capital ratios) being used for macroprudential purposes. Finally, Viñals and others noted that, while monetary and prudential policies would normally work in the same direction, there could be circumstances in which this was not the case. For example, today in Europe prudential supervisors seem to want to discourage risk taking, while the monetary authorities seem to want to encourage it. In the end, who is to call the shots?

Engert suggested that the chosen institutional structure should be driven by the capacity to act (the “could” problem) and the will to act (the “would” problem). I suggested a third and logically prior criterion (the “should” problem). The “should” criterion asks which institution might be best placed to know what should be done by way of policy. It might be suggested that, if the concern was systemic failure of some sort, the central bank might be well placed to identify such concerns. If monetary policy were to be used along with macroprudential polices to “lean” against emerging risks, then a central role for the central bank might seem even more warranted.

The “could” problem is also important. Who has the legal powers to use the instruments available? Might there be a conflict between the current mandate for the use of those instruments and the requirements of macroprudential policy? Turf issues often seem petty, but they can profoundly shape the conduct of policy. Finally, the “would” problem has to do with the will to act. Cummings made the point that central banks might again be well placed in this regard, though the tone of the discussion was that any institution would need a lot of courage to tighten policy when the implications of not doing so were so uncertain. In this context, a number of participants raised the possibility of imposing

some sort of rule to force action. Others suggested that, given all the uncertainties, a significant degree of discretion and judgment would always be required.

Crisis Management

a. The character of the crisis

Brunnermeier suggested in his paper that a long period of excessive credit growth might end in either inflation or deflation. This conclusion is similar to that drawn by many pre War business cycle theorists, and has been suggested more recently by Leijonhufvud. He speaks of a macroeconomic "corridor of stability" from which one can depart on either side. The inflationary outcome would be familiar to those of a "monetarist" persuasion. The deflationary outcome would be more familiar to those of the Austrian school of thought and to Richard Koo who coined the phrase "balance sheet recession". It would also be familiar to those at the BIS who have emphasized a wide variety of credit driven "imbalances" in both the real and financial sectors of the economy.

Brunnermeir also suggested that people's expectations at any moment in time could play an important role in the outcome. For example, if people became worried about large fiscal deficits and the prospects for fiscal dominance, then expectations of inflation might dominate. Conversely, if this were not a problem, the combination of a negative output gap and a perceived liquidity trap (a powerless monetary policy) might lead to expectations of deflation. He noted as well that "very small policy mistakes" could easily "tip" the outcome one way or another. In current circumstances this possibility would be very worrisome since, presumably, changes in expectations could occur suddenly and quickly become self fulfilling. It is also worrisome in that such a possibility is totally consistent with one of the basic tenets of complexity theory, which is now receiving more attention from economists.

b. Crisis management

Crisis management could be improved by having put in place, **ex ante**, certain measures. These would include bank resolution procedures, deposit insurance schemes, MOU's among relevant agencies to determine "who does what", extensive practice at "war games" and agreements on burden sharing. This last measure was mentioned by a number of participants, perhaps reflecting current and pressing concerns about the need for fiscal transfers in the Euro zone. Some suggested that holders of bank equity and bonds should take significant losses. This would alleviate

the burden likely to be assumed by tax payers. Calomiris also stressed the important role that safety nets had played since the 1970's in generating moral hazard and bad behavior. An ex ante agreement that allowed for significant private sector losses would help curb such tendencies.

Participants commented unfavorably on a number of **ex post** measures taken in response to the onset of the current crisis. First, certain provisions in the Dodd Frank Act would make it harder for the Fed to act to help stabilize the financial system. Second, there had been a general tendency to confuse a bank solvency problem with a liquidity problem, thus generating forbearance. Third, a wide variety of ultra easy monetary policies (ECB vs. the Fed vs. the Bank of England) have all failed to stimulate "sustainable" growth. Moreover, we do not know why. Brunermeier added that a sharp easing of monetary policy after a crisis also generated moral hazard, and affected a much wider range of economic agents than did direct support to those who had suffered losses. Fourth, the Fed's "Operation Twist" reduces bank's profits and could help curb lending. Fifth, a number of participants mentioned their concerns about "unexpected consequences" of experimental policies. Sixth, whereas Borio had earlier called for asymmetrically aggressive reductions in capital requirements during a crisis, Goodhart worried this would hurt market confidence in banks. In the end, it could lead to less lending, not more. This danger could only be avoided by having a big increase in capital before the crisis broke. In short, crisis prevention was better than crisis management.

Conclusion

In sum, the discussions at the Forum suggested that micro and macroprudential policies, as well as monetary policy, can be complementary but that much still needs to be learned about their use in practice. Participants, policy makers and leading academics, clearly welcomed the opportunity to discuss these issues in a frank and stimulating way. The success of this first IMF Financial Stability and Systemic Risk Forum indicates that it should be repeated in future years.