Macroprudential policy framework

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I'd like to thank the conference organisers and our hosts at the Bank of Korea for the opportunity to participate in this excellent conference. As Governor Kim discussed at the conference start, the recent financial crisis presents an opportunity for us to deepen our understanding of the financial system's dynamics and to reshape our thinking about financial stability policy. I am especially pleased that so many economists invited here are scholars early in their careers. The recent financial crisis and great recession, with the hardships they created, will undoubtedly shape the thinking of the economics profession for many decades to come, much as the Great Depression did. The contributions over the last two days are an important stimulus for advancing our thinking.

Let me begin with the usual disclaimer: these are my own views, not those of the Federal Reserve Bank of New York or the Federal Reserve System.[2]

I would like to make four points. My first is to offer a proposition: that financial instability is always and everywhere a credit phenomenon. It's an analogy to the observation invaluable in central banking: that inflation is always and everywhere a monetary phenomenon. That observation clarified that monetary authorities have the power to influence inflation expectations and must exercise it, whatever the underlying source of inflation pressure. If financial instability is always a credit phenomenon (a proposition open to challenge, of course), it clarifies why central banks have a crucial role in ensuring financial stability and might help us focus on how we shape our role.

A related proposition is that a "big" expansion of credit cannot occur without lowering credit standards. There may be some exceptions in economic history, such as the creation of the consumer credit market in the 1920s in the United States, a Pareto-improving financial innovation that created lending standards where none had existed before. Those instances are uncommon, however.

To be systemic, the expansion of credit needs to be "big" relative to the size of the economy. The expansion often occurs as a sectoral phenomenon, one with a substantial direct or indirect impact on the real economy. That means that such expansions should be noticeable well in advance of the credit collapse we associate with financial instability.

Finally, credit expansions need augmented sources of funding. I posit that such augmented funding must, like credit standards, go "downmarket". That is, the augmented sources of funding are less stable through the financial cycle than traditional sources and more like the "hot money" that is traditionally of concern to bank supervisors.

Are there exceptions to the proposition that financial instability is a credit phenomenon? The tech bubble of the late 1990s and early 2000s was ostensibly an equity-driven cycle. A deeper look suggests that, in many ways, it too could be characterised as a credit bubble.

Expansion in the tech sector was fuelled not by bank lending or bond issuance, but by equity issuance and trade credit, that is, lending by companies to their suppliers and customers. The recent movie "The Social Network" reminds us how in the 1990s equity investors were

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willing to place money in companies that had negative income and no revenue. Trade credit from the largest tech companies funded corporate purchases of their products, the inventories of their distributors, and some producers of related products. The abrupt reduction of equity and trade credit funding when the tech bubble burst reinforces Professor Shin's point in his opening remarks that categorising the liabilities of financial institutions into core and non-core is a key judgment in monitoring financial stability.

My second point is that fostering good underwriting and preventing the erosion of underwriting standards is integral to preventing financial instability. Central banks and financial supervisors, with their knowledge and historical experience, can confidently make judgments about good underwriting, and therefore can and should promptly take action when they see underwriting standards weakening. In many ways, stemming the erosion of underwriting standards offers a concrete and solid foundation for action, relative to overcoming the well known analytical difficulty of identifying asset bubbles or the political difficulty of taking actions to moderate financial crises already in train. If we have lacked sufficient evidence about the cost of poor underwriting, we now have the bitter experience of the United States to illustrate the risk of severe recession that arises in such circumstances.

Central bankers can similarly identify the dangers embedded in the structure of funding at financial institutions and here too can act with confidence when unstable sources of funding or non-core liabilities become too dominant in the overall liabilities of a financial institution.

My third point is to endorse the need for a framework to think about managing systemic risk. As Governor Kim pointed out yesterday, a major challenge is to bring microprudential and macroprudential policy actions together in a common framework, with a clear understanding of how the policies interact. At this conference we've heard some exciting work that brings us closer to a framework, such as the paper by Domanski and Ng, and will hear David Longworth's remarks on this panel. We may soon coalesce around some key elements of a framework.

I would like to offer two concepts that might be useful in developing the framework. The first is a concept familiar in information security, defence in depth. Defence in depth rests on the belief that no single measure can protect an information technology network from intrusion; rather, a combination of measures is required. The multiple layers of protection trip up an intruder, slow it down, and increase the probability of detection.

Defence in depth is feasible for central banks and supervisors, since our collective policy toolbox has many tools, as Governor Ingves said earlier today. I would view one key line of defence to be strong incentives for financial institutions to manage themselves well, such as a robust resolution regime for failing financial firms and public disclosure of financial statements and comprehensive, forward-looking risk accounting by financial firms. Microprudential activities include robust capital and liquidity regulation, with an emphasis on loss absorbency within the capital structure; and proactive examination activity at financial firms that assesses the underwriting quality, funding strategy, risk management processes, and the incentive structure of compensation. Further measures include macroprudential policies applied at a financial system-wide level, such as loan-to-value limits, targeted higher capital requirements, countercyclical loan loss reserves and the incorporation of stress testing into underwriting requirements (such as testing the robustness of foreign currency mortgage loans to foreign exchange rate changes at loan inception, as is required in Poland). Macroeconomic policy actions likely also have a role.

Defence in depth may also involve an element of progressive escalation in the use of policy tools, for example, if concerns develop despite a sound first line of defence. The escalation could include targeted examinations of the activity with follow-up corrective supervisory programmes if needed, such as new supervisory standards, additional capital requirements or higher market margins or haircuts, among others. Additional escalation could involve compulsory corrective measures at firms, increased penalties and other restrictions, including prohibitions on activity.

The recent macroprudential policy actions taken by the Korean authorities to address the risks in certain large inflows of capital from abroad – through new limits on foreign exchange derivatives and a subsequent proposed levy on non-deposit foreign currency liabilities – can be seen as an example of escalation. Large capital inflows from abroad, especially short-term borrowing by Korean institutions, created concerns about rapidly growing exposures to foreign exchange and maturity transformation in banking institutions. At the same time, the Bank of Korea escalated its macroeconomic response by tightening monetary policy.

The second concept for consideration is an explicit incorporation of the life cycle that past credit overexpansion has tended to exhibit. The papers in the conference's first session sought to detect the emergence of systemic risk. The authors were clearly disappointed that the measures of systemic risk that they had developed worked well in identifying the risk in 2007 and in tracing its growth in 2008 and early 2009, but didn't really signal the build-up of risk that occurred before 2007, when forestalling actions by supervisors may have been most powerful.

More research illuminating the stages of the life cycle of a credit overexpansion would clearly contribute to developing good diagnostics of early-stage potential for systemic risk. Understanding those stages and the effectiveness of tools in the policy toolkit at each stage of the cycle are essential elements of a fully articulated financial stability policy framework.

Taken together, the concepts of defence in depth and the life cycle of credit overexpansion can help more fully articulate a framework for financial stability policy. The goal, of course, is to forestall the development of the excessive credit expansion and reliance on unstable funding that characterise the run-up to a financial crisis. I believe this helps explain why the tools most frequently identified as "macroprudential" often are aimed at discouraging the erosion of underwriting standards or over-reliance on unstable funding.

As Governor Kim stated, research on the combined impact of microprudential and macroprudential measures is essential to developing the financial stability framework. Understanding the interaction of micro- and macroprudential measures and their calibration would represent an important breakthrough in the analysis of policies to manage system risk. The interesting empirical studies presented yesterday afternoon examined in a streamlined context the impact of combinations of microprudential and macroprudential measures both in the short run and in the medium term. This work has the potential to help policymakers address very practical policy questions. What measures work most effectively at different stages of credit overexpansion? How do we estimate Type 1 and Type 2 errors in the assessment of systemic risk and thereby understand the price of action in the application of micro- and macroprudential measures and the price of inaction?

My fourth and final point is to highlight three key features of the recent US financial reform legislation, the Dodd-Frank Wall Street Reform and Consumer Protection Act enacted in July 2010. It is a large, complex law, but the three features I will highlight are important innovations in the management of systemic risk in the United States.

The first is the creation of the Financial Stability Oversight Council, or FSOC. It is chaired by the Secretary of the Treasury and its members include essentially all the principal US regulatory bodies. A large part of the FSOC's work is to share knowledge across the regulatory bodies, identify emerging systemic risks and coordinate their efforts with respect to controlling major risks in the financial system. The regulatory powers of the constituent members of the FSOC are undiminished. The difference from the past is that the agencies have a forum to discuss emerging risks in the financial system and how best to address them.

Domanski and Ng pointed out that the FSOC is large and the power decentralised among more agencies than the design of financial stability authority in many countries. A strength of the FSOC relative to the structure of the US financial system is that it provides broad coverage of the financial sector through its member agencies, with an ability to drill down in each sector in detail, and it makes available the combined toolkit of micro- and

macroprudential tools across the agencies, enabling the design of a defence in depth if one is deemed desirable.

To realise the value of the FSOC, the members have been developing comprehensive surveillance of the financial system for emerging and incipient systemic risks. In that regard, I endorse Governor Ingves' admonition to "follow the money". The erosion of credit standards often occurs because the returns to a specific activity are so much higher than returns elsewhere in the market; the temptation to generate more business at those rates of return becomes irresistible.

In addition, developing insights into emerging systemic risk requires a willingness to challenge conventional wisdom. Governor Kim noted that some of our most fundamental economic tenets about the efficiency of markets have been shaken by the financial crisis. In the economics profession, we need to take into account more fully that many models are observationally equivalent. Identifying and pursuing the alternative theoretical explanations for an observed pattern of data and drawing out the alternative implications could inject some healthy scepticism and richer analysis into policy papers.

To realise the value of the FSOC structure, the leaders of the member agencies also need to have a "bias to action". Once an emerging systemic risk has been identified, the regulatory authorities must be prepared to act – and must be willing to absorb the criticism they are likely to receive as they restrain activities with extraordinary returns. Certainly one lesson from the recent past is that the bias to inaction in the deregulatory decades before the financial crisis did not serve us well. And, within the FSOC, member agencies need to be willing to critique one another if the actions of individual agencies are insufficient.

A second important feature of the Dodd-Frank Act is that it provides a key power to the FSOC, the power to designate systemically important financial institutions, most especially non-banks. The shadow banking system, long lauded for its contributions to innovation and dynamism in the US financial system, proved to be one of its most vulnerable aspects in the financial crisis. The propensity for substantial amounts of financial activity to take place in firms outside the core banking and securities sectors, beyond official oversight, sheltered poor risk judgments and controls, and more, from adequate scrutiny.

Under Dodd-Frank, once a financial institution is designated systemically important, the financial institution is subject to the supervision of the Federal Reserve. That is, it is subject to the same supervisory regime as large banking companies. That ensures consolidated oversight of the financial institution's activities, eliminates some potential for regulatory arbitrage, and potentially subjects the firm to an FDIC-managed resolution regime. The Dodd-Frank Act also provides the FSOC some capacity to designate activities as systemically important.

A third important provision of the Dodd-Frank Act is the creation of the Office of Financial Research. The importance of that provision is easily underestimated. Its significance is threefold. First, it sponsors and conducts systemic risk analysis; eventually it will bring together analysts, academics and practitioners to provide analysis for the FSOC as well as fundamental research on systemic risk. Second, the OFR has very broad powers to collect financial data related to systemic risk, much greater than any regulatory agency in the United States. Third, the OFR has a mandate to achieve standardisation of data at the transaction level.

This last is especially important. A significant problem for risk managers, supervisors, securities analysts and counterparties is the lack of standardisation of the elements of transaction data. This often makes it impossible to compare or aggregate data across financial firms, and in not a few cases, where information systems are inadequate, even within firms. The lack of detailed information about individual financial institutions and transaction flows and the difficulty of comparison are impediments not only to market discipline and supervisory oversight, but also to firm-level risk management, whether the firm

is assessing financial counterparties or assessing how the firm is positioned relative to others in the market.

In a short contribution I made to the September 2010 Chicago Fed and IMF conference, I elaborate on this risk management point. The financial industry, and not just the financial authorities and the investing public, have a large stake in better, more comparable and more usable financial information. The excellent research on systemic risk done by Professor Shin, by my colleague Tobias Adrian, and by Princeton professor Marcus Brunnermeier, among others, provides a well-developed rationale why firms need greater information about the distribution of risk in the market in order to manage their own risk.

Good data is essential for central banks and supervisors striving to maintain financial stability. A robust method of collecting, analysing, and assessing data, as well as methods for renewing data sources and developing new ones, is important given the pace with which changes occur in the financial system and with which problems develop. Governor Ingves talked about the run-up phase of the financial cycle of three to five years; I would note that the largest part of the subprime boom and its excesses took place in that time frame.

As the OFR is established, a priority will be to reach out to the international community, especially as the OFR considers data standardisation. I believe we have a once-in-a-lifetime opportunity to do for financial market and institution data something similar to the development of the national accounts in the late 1940s and early 1950s. This is an opportunity that we should fully utilise.

Thank you for your attention.