Bandid Nijathaworn: Addressing potential interactions and feedback loops within the financial system – lessons learned and what can regulators do

Speech by Dr Bandid Nijathaworn, Deputy Governor of the Bank of Thailand, at the Financial Stability Institute and Monetary Authority of Singapore Policy Forum "Banking and Banking Regulation: A New Era", Singapore, 12-13 October 2009.

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First, let me thank the Financial Stability Institute and the Monetary Authority of Singapore for the invitation. All the issues we are discussing here today are both timely and important.

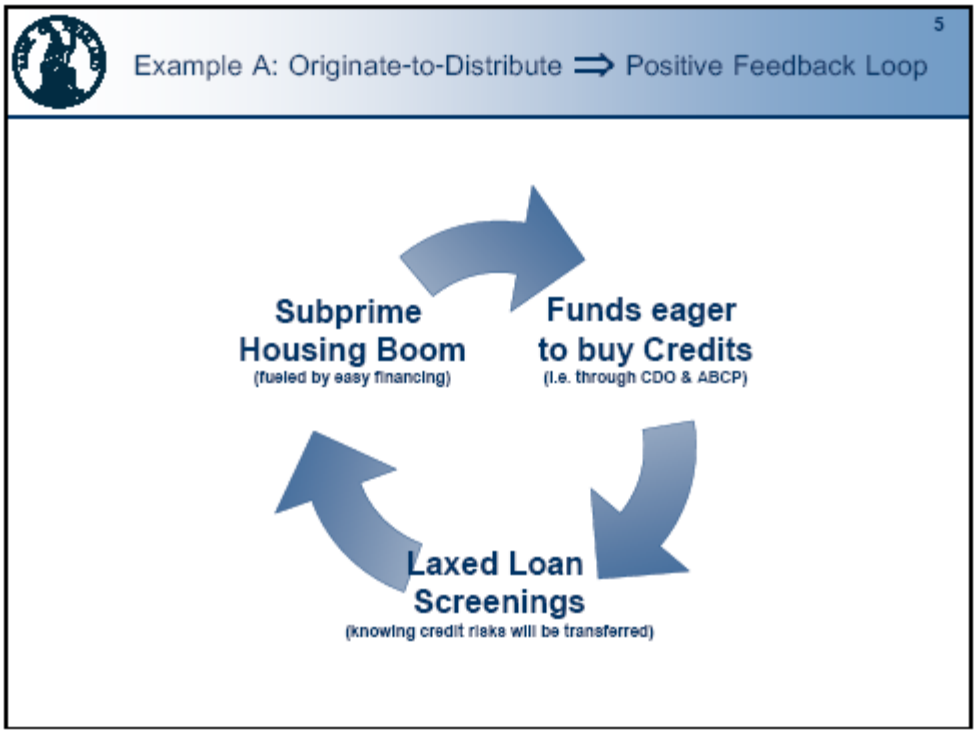
My presentation this afternoon will focus exclusively on the interactions and the feedbacks within the financial system as a key aspect of macroprudential framework. But before I do that let me say at the outset that I am not surprised by the resurgence of interest on macroprudential surveillance, which is now seen as an important supervisory tool. We, in Asia, have learned this well during the Asian financial crisis in the late 1990's. Then, the crisis demonstrated clearly the importance of the feedbacks between the financial sector and the real economy, especially the impact that fragility in the banking sector can have on the real economy. And in the context of macroprudential analysis, the Asian experience highlighted the importance of the time-dimension of systemic risk i.e, procyclicality linked to the credit and business cycles.

The current global crisis, however, exposes another important dimension of systemic risk where interactions within the financial system, as opposed to interactions between the financial system and the macroeconomy, have played a critical role in amplifying the losses.

As we know, back in 2007, losses associated with the subprime mortgage market were initially estimated to be in the order of US$ 50 billion. Thereafter, the dynamic of the interactions within the financial system, driven by risk management practices of banks, the response to the funding liquidity constraint by market participants, and heightened concern about counterparty risk, resulted in a protracted period of market distress, the drying up of liquidity, and set the stage for a spiral of losses. As it turns out, writedowns and losses worldwide have grown enormously. And to an appreciable extent, this amplification of losses is related partly to the interactions and the feedbacks within the financial system.

Therefore, compared to the "time-dimension" of risk associated with procyclicality through which credit risk is a major propagation channel, the current crisis shows that the dynamic of the interactions within the financial system can also be very damaging, particularly in the financial system that is large and complex. In the current crisis, the forces at work were the positive feedback loops and the interactions amongst them. The interactions operated through the propagation channels of joint exposures to common risk drivers and network linkages between the financial institutions.

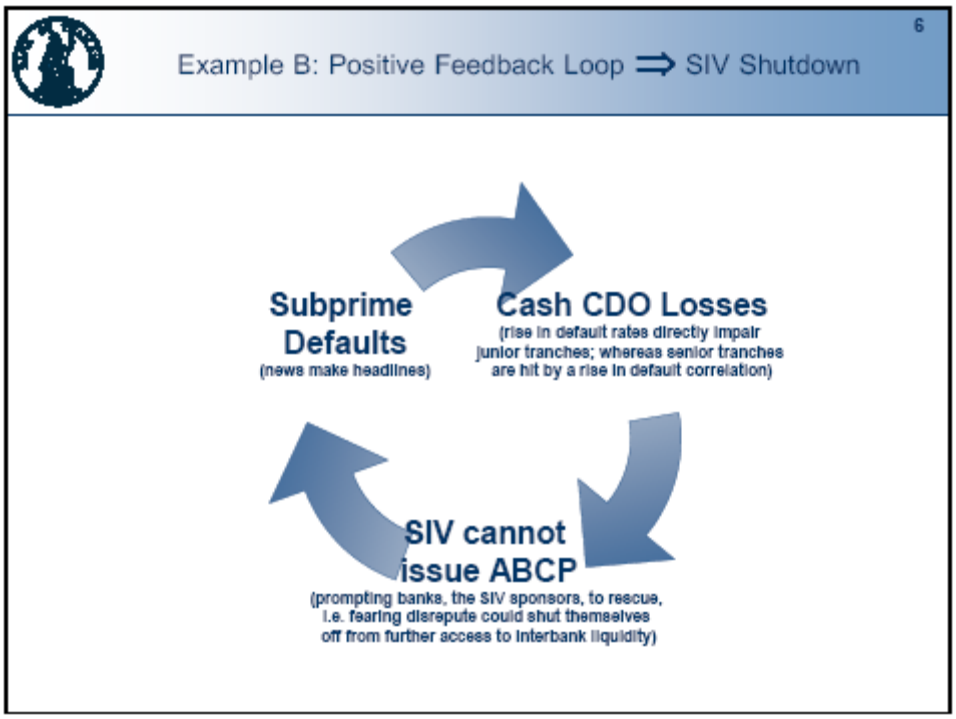
In general, the feedbacks within the financial system can be both positive (i.e. self-reinforcing) or negative (i.e. dampening). Typically, what we would like to have is a balance between the two so that the system will have its own stabilizing mechanism when the shocks hit. But in this crisis, apparently the positive feedbacks had been overwhelming. Let me cite a few examples of the positive feedback loops that were in play.

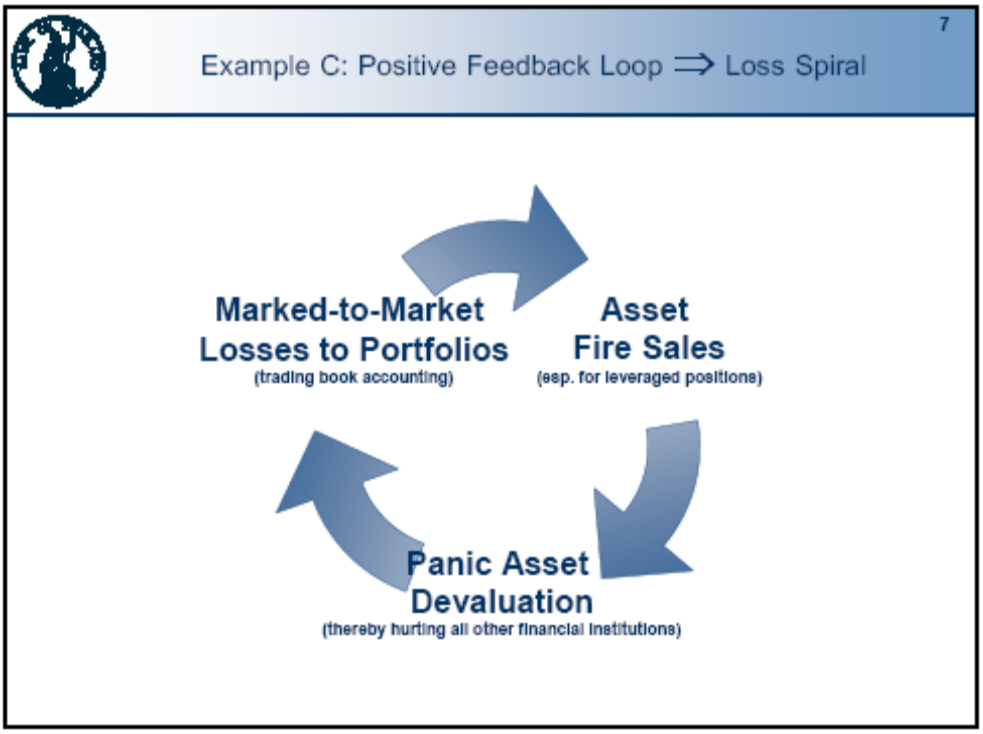


The first, example A, is the originate-to-distribute model, which was prominent at the formative period of the crisis. Here, we see that with the housing sector booming, investment funds were eager to seek entries into the credit business, despite the fact that they had no expertise in evaluating credit risks of mortgage loans, or the complex risk exposures when mortgage loans were packaged, first into CDO, then into commercial papers backed by CDO, and so on. So, with a ready market for securitsation or structured products, banks, who were assured that credit risks would be transferred off their balance sheets, enlarged their lending activities. This is a classic moral hazard problem that helped fuel the already booming housing market.

Example B is a positive feedback loop linked to the stress on the SIV. Once subprime mortgages began to default, investors in the junior tranches of cash CDO started losing money. What happened was that not only the ex post rate of defaults increased, but the senior tranches were also hit by a rise in ex ante default correlation, causing losses in the senior cash CDO tranches. As a result, the whole class of asset backed commercial papers (ABCP) suddenly appeared risky to investors. Next, as the special investment vehicles (SIV), which essentially were virtual bank that financed mortgage/long-term lending by issuing ABCP, could no longer fund themselves as no new ABCP could be sold, the banks, who were the SIV sponsors, had to come to rescue for the fear that the reputation risk could harm their access to the interbank market. The rescue, as we know, led to large balance-sheet losses.

Example C is the loss spiral linked to mark-to-market accounting and asset fire sales. In this feedback loop, we describe what has been termed a loss spiral, whereby some financial institutions, on suffering marked-to-market losses to their asset portfolios, were forced to conduct “fire sales” of assets. Maybe the fire sales were necessiated by an increasingly difficult funding environment, or by the need to comply with internal risk management limits and/or capital ratios, or because the original positions were so highly geared that a small percentage of loss triggered large asset sales merely to keep the leverage ratio constant.

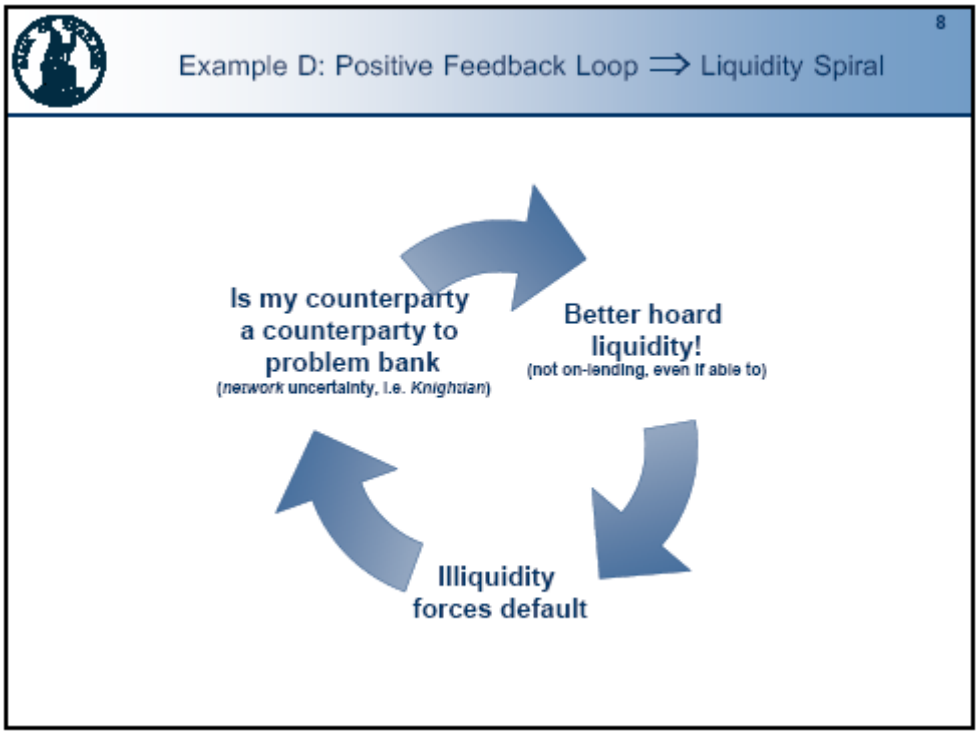




Whatever the main reason, the fire sales affected everybody. Other financial institutions with the same or highly correlated assets suddenly found themselves facing heavy losses from wholesale declines in asset values. They, in turn, for the same reasons, had to conduct their own “fire sales”, further depressing asset prices.

Lastly, example D is the case of a positive feedback loop linked to liquidity. In this loop, we describe what has been termed a liquidity spiral, where an initially liquid bank’s concern about the solvency of its counterparty (or solvencies of its counterparty’s counterparties) or perhaps concern that itself may run into funding difficulty in the future, decided to forgo interbank interests and began to hoard liquidity. When enough institutions embarked on the

same actions, a general freeze in liquidity ensued, leading to “unnecessary” defaults that further exacerbated doubts in the system.



These examples of positive feedback loops were some of the interactions that took place in the amplification stage of the crisis, as market participants responded to specific problems and general distress. But while the feedbacks were important in themselves in setting off deleveraging and losses, it was also the interactions between these feedbacks that contributed hugely to intensifying the problem and multiplied the losses into a larger systemic problem. What we saw was the rapidly worsening crisis that spread beyond financial institutions into money and capital markets. On this aspect of loss intensification, a number of studies have pointed to joint exposures to common risk drivers and network linkages between financial institutions to be the two key propagation channels. Let me elaborate further on this point.

First, propagation channel in the form of joint exposures to common risk drivers means that different financial institutions are becoming not so different. In other words, their investment strategies and methods for minimising regulatory capital were beginning to copy one another. So it is no surprise that a risk factor which adversely affects one institution would simultaneously hurt another. With fair value accounting, everyone has to mark their positions to the same volatile market. A number of institutional investors also abide not to hold any assets below a certain credit rating, hence a hard cut-off. So when borderline assets get downgrade, all these institutional players have to liquidate their positions, all at the same time. Meanwhile, as VaR methodologies and risk management tools employed by different banks become increasingly converge, the results of the analysis also tend to converge. The main point is that when a risk factor moves adversely, these similarly exposed institutions incur the same direction of losses, whence their largely identical response actions further distress the market, thereby completing the feedback circuit.

The second propagation channel in the form of network linkages between institutions presupposes that there exists prior bilateral relationships between financial institutions. A good example is in the clearing, payment, and settlement activities where the bilateral link is simply the amount that must be cleared, paid, or settled. But with real-time gross settlement,

the vulnerability in this area featured very little in this crisis. Instead, in this crisis, the direct interbank liquidity/funding lines proved to be the most critical network of bilateral relationships. When one bank becomes illiquid, this triggers cascading illiquidity to all other banks that are direct counterparties, or counterparties to the counterparties. And also what new in this crisis is the implicit linkage through reputation risk as noted earlier, that is, banks became obligated to rescue failing SIVs even when there were no explicit contractual obligations to do so.

Against this background, what then can regulators do to address the interactions and the feedback problems. This is not going to be an easy task, but let me try to frame the discussion into a context.

First, it is clear that systemic risk is endogenous. Risk is first encouraged by procyclicality and once the tipping point is reached, the interactions within the system takes over, turning financial fragility into systemic risk. From the current crisis, it is clear that the scope and intensity of systemic risk are related closely to three factors: (1) the collective behaviour of market participants that contributes to the positive feedback loops; (2) the underlying structure of markets and market practices which dictate the manner through which the interactions of feedbacks are propagated throughout the financial system; and (3) the authorities' own responses. Therefore, to address the problem, we need to focus our efforts on all of the three areas.

First, on the collective behaviour of market participants, the key objective must be to tame or dampen the positive feedbacks through right incentives and better regulation. For example, regulation to disallow capital reduction for credit risk transfer off-balance sheet could have discouraged the originate-to-distribute model. Second, on market infrastructure and practices, establishing central counterparty especially for OTC transactions could have helped improve market infrastructure and lessen the risk of liquidity hoarding. And third, pre-approved liquidity facilities by central bank, subject to certain prudential arrangements, for example, a satisfactory stress-test result, could also have helped central bank to inject liquidity more effectively and faster without creating a stigma issue to the requesting institution.

And lastly, given all that has been said, how do we put all these together into a framework for policy. My tentative view is that, to be effective, a financial stability orientation policy has many crucial elements, with macroprudential being one of the components. To this end, an effective framework should include at least four policy pillars. The first is monetary policy, with a willingness for monetary policy to lean against the wind when the price stability objective of monetary policy is not compromised but there is a concern on financial stability. Second is a strong supervisory framework with vigilant implementation. By "strong", I mean adopting a strengthened risk-based framework for microprudential supervision with a vigilant implementation. This crisis, to me, is more a crisis of supervision than crisis of regulation.

And third is the macroprudential oversight of which the key components should include a good process of macroprudential surveillance, an effective coordination between different supervisory agencies so that timely actions can be taken, and calibration of additional macroprudential overlays as needed, which can either take the form of measures implemented at an industry-wide level aimed at taming the credit cycle, or specific capital and liquidity buffers for selected systemically important institutions.

And finally the fourth pillar is market development and central bank's response to improve market efficiency, transparency, as well as the ability of central bank to response comprehensively to the emerging situations, especially liquidity provision and the supportive legal framework. These four pillars, in my view, are the key minimums for implementing an effective financial-stability orientation policy.

Thank you.