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Some Thoughts on Incentives at Micro- and Macro-level for Crisis Prevention

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Masaaki Shirakawa
Governor of the Bank of Japan

Introduction

The current financial and economic crisis has posed wide-ranging challenges to policymakers and academics. Already, various proposals have been made for the reform of financial supervision and regulation. The traditional approach in this area is based on a microprudential perspective. From that perspective, financial system stability will be achieved by assembling sound financial institutions with adequate capital and liquidity positions as well as proper risk management.

That approach certainly plays an important role, but I am still uncertain whether the cumulative efforts in that approach will eventually ensure the financial system being shielded from a future crisis. In fact, the financial regulatory and supervisory framework was reformulated from the microprudential viewpoints every time a financial crisis occurred.

In that respect, I will raise two questions. The first question is: "Has legally effective netting contributed to reducing the overall degree of risk in the financial system?" It is true that netting is effective in reducing counterparty risk. However, once the risk is reduced to a certain degree, a financial institution tends to take further risk. As a result, it is still not certain whether netting contributes to reducing aggregate risk.

The second question is: "Will a financial institution take a different business strategy not to expand its leverage when facing again a benign economic condition, comprised of low inflation, high growth, and low interest rates?" Some financial institutions will surely take a conservative strategy, considering the lessons from the current crisis. But, most financial institutions will find it hard to resist pressures from equity holders to raise the returns on equity under severe competition.

Those examples seem to show the need for analyzing the incentives of financial institutions from the viewpoints of the macro- as well as micro-level. Incentives for a financial institution are underpinned not only by the framework for financial regulation and supervision at a micro level but also importantly by the financial and economic environment at a macro level. At a micro level, "too big to fail" is

the single most important issue. At a macro level, monetary policy is important. Today, I will mainly focus on monetary policy responses to a bubble. Then, I will briefly touch upon some issues on supervision and regulation.

Importance of Risk-taking Channel

Before the current global financial crisis, the majority view about the monetary policy responses to a bubble can be summarized into two points. First, before the burst of a bubble, monetary policy should respond to asset price movements, whether driven by the fundamentals or not, only to the degree that those movements have implications for future inflation and economic growth. Monetary policy should not go beyond that or should not step into “extra operations,” by which I mean a policy decision to intentionally deviate from a monetary policy rule, like the Taylor rule. Second, in contrast to the bubble period, central banks should be proactive after the burst of a bubble. Monetary policy should carry out “mop-up operations” aggressively responding to the adverse effects stemming from the burst of a bubble. This line of argument is generally premised on the assumption that a bubble is very difficult to be identified on a real time basis, and that a preemptive action by monetary policy alone is likely to require a large hike in interest rates, thus exerting a devastating adverse impact on economic activity.

To discuss the monetary policy responses to a bubble, it matters a great deal how to understand the transmission mechanism of monetary policy. The recent monetary policy analysis, based on new Keynesian macroeconomics, explores optimal monetary policy to stabilize inflation and output. The declines in volatility of inflation and economic growth themselves certainly improve the economic welfare, but dynamics in the economy do not stop there. Once macroeconomic stability is achieved, another transmission channel outside the standard New Keynesian macroeconomics gets crucial. That is often referred to as the “risk-taking channel” of monetary policy.

More precisely, risk perception and risk tolerance of economic agents change gradually but steadily under benign economic and financial conditions, thereby affecting their risk-taking behavior. That induces an expansion of credit and leverage at financial institutions, and results in the accumulation of financial

imbalances behind the scenes. Such imbalances abruptly manifest themselves by some shock when the imbalances exceed the critical point. As a result, the financial system becomes unstable, and economic activity deteriorates significantly.

We see various forms of risk-taking channel. First, it appears as maturity mismatches. When the interest rates are reduced, financial institutions expand maturity mismatches by short-term funding and long-term lending. That eases liquidity constraints in the non-financial private sector, thereby stimulating economic activity. Financial institutions also create maturity mismatches on their off-the-balance-sheet, for example, by investing in structured credit products through structured investment vehicles (SIVs). In addition, financial institutions generate maturity mismatches beyond the national border, as witnessed in the surge in cross-border lending during the credit boom preceding the current crisis.

Second, the risk-taking channel appears as an increase in asset prices. The availability of funds directly influences asset prices, and, more importantly, it also influences asset prices in an indirect way by influencing market liquidity of particular assets. As the availability of funds improves and more investors participate into the markets, the market transactions become easier in both sale and purchase, thus expanding market liquidity at an accelerated pace. The increases in asset prices and the expansion in market liquidity enhance the risk tolerance capacity of investors, thereby pushing asset prices further upward. Economic activity is consequentially stimulated.

In addition, the two forms of risk-taking channel just I mentioned interact with each other. The expansion of maturity mismatches, generally associated with the expansion of leverage, stimulates asset prices, and higher asset prices, in turn, facilitate the expansion of maturity mismatches and leverage.

Considering the risk-taking channel, it is crucially important to realize two points in formulating monetary policy. First, banks play an important role as a mediator of transmitting the effects of monetary policy. In this context, the behavior of banks influences the economy significantly, regardless of the share of the banking sector in financial intermediation. During a period of interest rate

reduction, for example, expansions in maturity mismatches and increases in asset prices are observed on a bank's balance sheet. When the cycle is moving upward under benign economic and financial conditions, the amplification process between maturity mismatches and asset prices takes place very gradually but steadily, and, in any case, the risks in the financial system are unlikely to manifest themselves. Once the cycle is reversed, however, the situation deteriorates suddenly. Maturity mismatches exaggerate the shortage in funding liquidity. In addition, the sharp declines in asset prices result in losses, possibly inducing a shortage in capital, and the deterioration in market liquidity, thereby provoking a further shortage in funding liquidity due to margin calls and lowered collateral values. Those developments eventually hit banks' balance sheets.

Second, there exists an asymmetry between the upward and downward phases. Although the upward phase proceeds gradually, the downward phase proceeds in an asymmetrically quick manner, since banks are forced to take immediate action to counter the shortage in funding liquidity. In addition, once confidence is lost, it takes a long time to restore the eroded confidence. As market participants explain, the credit line can be cut off at once, but the reestablishment of the credit line takes a much longer time.

Issues Related to Monetary Policy

Mop-up Operations

Given the understanding on the risk-taking channel I have discussed so far, what consequences will follow from the asymmetric monetary policy responses before and after the burst of a bubble? Suppose a central bank is considered to make a commitment to refrain from taking any monetary policy responses until the burst of a bubble, the private agents will surely take action based on such unfounded expectations. That will accelerate maturity mismatches and asset price increases, thus further accelerating the bubble and the adverse consequences of its burst.

One of the basic messages from standard New Keynesian macroeconomics is that "the policy commitment is effective in stabilizing the economy, given the

forward-looking behavior in the private sector.” Standard New Keynesian macroeconomics does not incorporate the risk-taking channel, but its basic message suggests the importance of the symmetric monetary policy responses to a bubble.

Extra Operations

Then, what is an idea about extra operations against a bubble? I agree with the principle that monetary policy should respond to asset price movements, whether driven by the fundamentals or not, only to the degree that those movements have implications for future inflation and economic growth. I should also say that the real issue here is how to understand the expression of “only to the degree that asset price movements have implications for future inflation and economic growth” in implementing monetary policy.

The transmission dynamics of the risk-taking channel, I have just mentioned, differs significantly from those of the standard interest rate channel through housing investment and capital investment. The risk-taking channel produces asymmetric effects between the initial positive impact and the later negative impact. And, more importantly, it also accompanies considerable uncertainty about the timing when negative impacts occur. Given such nature of the risk-taking channel, conventional macroeconomic models in a central bank’s toolkit do not sufficiently incorporate the effects stemming from maturity mismatches and asset prices in the short term as well as in the longer term.

Policy Challenges for Central Banks

In light of the previous discussion, I will raise some issues for discussion regarding the actions by central banks.

Monetary Policy Responses to a Bubble

The first is monetary policy responses to a bubble. That issue is often debated simply as whether monetary policy should lean against the wind or excessive asset price increases. However, I believe that such a way of addressing the issue just confuses the discussion. No central banker believes that a bubble

can or should be prevented by monetary policy alone.

A more proper way of addressing the issue would be “how should monetary policy be conducted in an environment in which all the symptoms of the economy except for inflation signal a need for policy tightening: asset prices are rising, credit and leverage are increasing, maturity mismatch is widening, and the economy is being overheated, while only inflation remains low and stable?” My answer is that monetary policy responses are needed anyway, and it is just semantic whether to call them extra operations. I should hasten to add that the build-up of excesses, of course, cannot be contained by monetary policy alone, and needs to be addressed by a combination of policy measures. That leads me to the second issue of the role of policy measures other than monetary policy.

Two Objectives and Two Instruments?

It is often argued that achieving the two objectives, price stability and financial system stability, requires two policy instruments. Active discussions are continuing regarding the need for developing prudential policy measures, including the countercyclical implementation of minimum capital adequacy requirements. I completely agree with the necessity of developing prudential policy measures. Having said that, I am wondering whether it is valid to employ the Tinbergen principle in this context.

The two objectives are not independent but closely connected with each other. It does appear that an intra-temporal trade-off exists between current price stability and current financial system stability. However, a real trade-off does exist in an inter-temporal direction between the current economic stability and the future economic stability. If that is the case, financial system stability and price stability are not independent objectives, but just differ in the time-horizon. I should say that central banks need one large toolkit to achieve one large policy objective, rather than need two policy instruments for the two objectives.

Versatility of Regulation

The third is regulatory and supervisory issues at a micro level. Among various

issues for discussion, I will focus on the versatility of the regulation to fit a variety of financial institutions. On the one hand, heterogeneity in financial institutions is quite important in enhancing the robustness of the financial system against shocks. On the other hand, one-size-fits-all treatments of heterogeneous financial institutions in designing prudential regulation, such as capital adequacy regulation and liquidity regulation, entail a risk of deteriorating the robustness of the financial system.

If regulatory capital is set at the level above economic capital, pressures on financial institutions from equity holders to earn sufficient profits become all the more intense. As financial history tells, too much as well as too little capital has caused problems. That is, excess capital is likely to induce a pile-up of financial imbalances. If a risk measurement framework is inappropriate, and minimum capital requirements based on such a risk measurement framework are excessively high, that will produce perverse incentives for individual financial institutions, resulting in a trigger for macroeconomic instability.

Capital and liquidity positions for financial institutions depend crucially on the business model. A business model for financial institutions varies according to countries, or times, institutions. The issue here is the ability of regulatory authorities to assess the business model. Given differences in business model, redesigning capital adequacy regulations is an important challenge, along with the conduct of monetary policy.

Closing Remarks

In closing, I ask myself what are the determinants of the amount of economy-wide risk-taking after all. There is no simple answer. Yet, I believe both micro and macro approaches are needed for preventing a future crisis.