About the Paper
Takatoshi Ito addresses challenges of monetary policy when asset prices are rising fast, asking whether flexible inflation targeting needs any modification. The paper argues that flexible inflation targeting is necessary, but possibly not sufficient, for optimal monetary policy in an environment of volatile asset prices. Prudential policy is recommended to counter the risk of financial instability from an asset price bubble.

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Monetary Policy and Financial Stability: Is Inflation Targeting Passé?

Takatoshi Ito
July 2010
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Abstract

It would be easy to say that central banks should consider asset prices as one of the objectives to avoid boom and bust cycles, as happened in the 2007–2009 crisis; the dotcom bubble of 2001; and the Japanese boom and bust of the 1980s and 1990s. However, its implementation would be theoretically and empirically difficult since the monetary policy instrument, narrowly defined, is just the interest rate. Flexible inflation targeting (FIT) is basically a sound monetary policy framework even after experiencing a severe financial crisis, as what originated in the United States. Assigning too much weight to asset prices as a monetary policy objective would cause a serious tradeoff problem. Consumer price index deflation may have to be tolerated to avoid an asset bubble, which would be a serious problem, since once a bubble is formed, a slight increase in the interest rate would not stop it. The first-best policy is to enhance supervision and regulation of financial institutions to avoid moral hazard and concentration of risk.
I. Introduction

A. Introduction and Summary

In this global crisis, Asian countries have escaped an acute currency crisis, except the Republic of Korea, which has suffered a sharp depreciation. This is in contrast to the 1997–1998 experience of the region. However, the real economy—exports, output, consumption—suffered from external shocks. Is there any monetary and exchange rate regime that would be more robust? What is an appropriate monetary framework for emerging Asian countries?

It would be easy to say that central banks should consider asset prices as one of the objectives to avoid boom and bust cycles, as happened in the 2007–2009 crisis; the dotcom bubble of 2001; and the Japanese boom and bust of the 1980s and 1990s. However, its implementation would be theoretically and empirically difficult since the monetary policy instrument, narrowly defined, is just the interest rate. The objectives of traditional central banking include price stability (namely, low and stable consumer price index [CPI] inflation rate) and zero gross domestic product (GDP) gap. Could asset prices be added without causing a serious tradeoff among the objectives?

Flexible inflation targeting (FIT) is basically a sound monetary policy framework even after experiencing a severe financial crisis, as what originated in the United States (US). Assigning too much weight to asset prices as a monetary policy objective would cause a serious tradeoff problem. CPI deflation may have to be tolerated to avoid an asset bubble, which would be a serious problem, since once a bubble is formed, a slight increase in the interest rate would not stop it. The first-best policy is to enhance supervision and regulation of financial institutions to avoid moral hazard and concentration of risk. For example, the following measures may be most effective to break to housing booms. First, the loan-to-value ratio can be regulated in such a way that they rise when housing prices are rising fast. Second, imposing countercyclical capital requirements on real estate lenders would reduce risk of financial instability. Third, direct or indirect measures to limit credits (loans) to the housing sector may help avert housing booms. However, these measures should be employed only when there is reasonable conviction that housing price increases are out of sync with economic fundamentals, i.e., a bubble. Monetary tightening to curb lending to housing markets is only justified when supervisory and regulatory agencies fail to do their jobs. Interest rates are a blunt instrument and “leaning against the wind” as regards the housing market, and as such are only a second-best policy.
B. Global Financial Crisis

A huge asset housing bubble in the US and its collapse pushed the world economy near the brink of depression in the fourth quarter of 2008 and the first quarter of 2009. Low-quality (subprime) mortgages were created, securitized, and distributed to the world. When the default rate became higher, the prices of those securities plummeted, and panic in the financial markets spread worldwide. In many financial markets, buyers simply vanished, and institutions that held subprime-related securities with leverage were squeezed for liquidity and suffered large capital losses. In the early stage of the crisis, the damage was limited to those who held subprime-related mortgages. However, as the financial crisis deepened and became more serious, global financial and capital markets were universally affected. Stock prices declined worldwide.

After the failure of Lehman Brothers in September 2008, both financial and real activities were drastically curtailed. Many financial institutions in the US and Europe failed or were bailed out by the government. Consumption, investment, and output activities in Europe and the US shrank rapidly. The Japanese and Asian economies were also affected severely through financial spillovers and export collapse.

Although the worst outcome was avoided by unconventional monetary policy as well as de facto global zero interest rate policy, policy discussions as well as academic debates continue regarding the causes, cures, and prevention of a financial crisis. (See Bernanke 2010 for a summary of the view from the Federal Reserve.) The lender-of-last-resort measures like massive liquidity provision and asset purchase by the Federal Reserve, Bank of England, and European Central Bank prevented the meltdown of the world economy.

Crisis management, that is, policy reactions to a crisis is less controversial. But how to prevent such a crisis is less clear, and the role of central banks in prevention is unclear.

C. Causes

There is a consensus that the geographical and financial origin of the global crisis is the boom and bust of the US housing market. The root cause lies in the housing market, but the propagation to the rest of the world is also an important aspect of this crisis.

Several possible causes have been identified, but economists are still debating on which cause was more important than others. There are three suspected causes of the US subprime crisis and global financial crisis: failure of financial supervision, global imbalances, and failure of monetary policy. Although this paper mainly concerns the third possibility, it is important to review the relative importance of all these causes in order to assess the degree of necessity of monetary policy to prevent future housing bubbles in other countries.
1. **Lack of Supervision and Regulation on Securitization and Resecuritization of Mortgage Loans**

Mortgage banks knew that mortgages they originated would be securitized, so that they carelessly lent to financially weak (subprime) borrowers. This is moral hazard. Investment banks pooled hundreds of securitized mortgages and created senior, mezzanine, and equities out of the pooled securities. The resecuritization created AAA securities out of subprime loan securities, which turned out to be an unrealistic assumption of uncorrelated housing prices over different regions. Moreover, the AAA rating was obtained in consultation with credit rating agencies over what assets (safe assets, if necessary) need to be included in the pool. In this regards, the credit rating agencies were guilty of conflict of interest. Investment banks sold those AAA securities to final investors, such as pension funds, hedge funds, and commercial banks. The sale subsidiaries, known as conduits or special investment vehicles (SIVs) were not consolidated in parent banks’ balance sheets. This accounting irregularity made the accounting opaque and made the risk assessment very difficult. The Securities and Exchange Commission (SEC) was supposed to be a main supervisory agency for investment banks and their financial products. However, there is a consensus that the SEC was not effective on this front. Major investment banks and an insurance company, AIG, were underregulated. Some of the problems described above—moral hazard, conflict of interest, opaque accounting—would be preventable if the supervision and regulatory framework regime is completely revamped.1

2. **Global Imbalances**

The large US current account deficit and large current account surpluses in the People’s Republic of China and oil-producing countries that maintained the dollar peg resulted in large amounts of intervention. Intervention in turn resulted in purchases of US Treasuries. Thus, the dollar peg and current account surpluses made it possible to depress interest rates in the US, in particular long rates, and contributed to fueling the housing bubble. When the US current account deficits were rising from 2001 to 2006, the US dollar was expected to depreciate, which may have resulted in higher inflation and higher nominal interest rates. However, global imbalances and the saving glut in the form of money pouring into the US market concealed the risk in the US asset markets, particularly the housing market. According to this view, surplus saving in emerging markets recycled into the US markets caused the housing bubble.2

During the long process of interest hikes by the Federal Reserve from 2004 to 2006, the long-term interest rate remained low, and did not rise with the short-term rate. Chairman

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1 See Ito (2009) and Svensson (2009) for this view.
2 See Portes (2009) for this view, and Obstfeld and Rogoff (2009) for a view that both global imbalances and housing boom were created by a common cause. In that sense, the two issues are intimately related.
Greenspan called the phenomenon a “conundrum.” Global imbalances and global saving glut seem to explain the conundrum.

3 Low Interest Rates

Taylor (2007 and 2009) argues that the interest rate from 2002 to 2006 had been too low (compared to the Taylor rule), so that the housing price increases became excessive. The interest rate was reduced sharply in 2001 to help the economy soft land from the collapse of the dotcom bubble in 1999–2000. The decisions that kept the interest rate low from 2001 to 2003 and that raised the interest rate only very gradually from 2004 to 2006 were based on the fear that the US economy might tumble into a Japan-like deflation and stagnation. The skillful soft landing was generally praised at the time. However, in retrospect, some experts like Taylor argued that the low interest rate (to mitigate the pain of the burst of a bubble) spawned another bubble.

II. Flexible Inflation Targeting

A. What is FIT?

Flexible inflation targeting is the monetary policy framework that aims at price stability, defined as low but positive inflation rate (typically 1–3%, or narrower in that range). Since there is the long and variable lag in the monetary policy transmission channel, the target is only possible as a medium-term objective (i.e., an achievement of the target level/range in 2 years). Hence, it is sometimes called inflation forecast targeting (see Svensson 1997).

An early criticism of FIT is that other important macroeconomic variables, such as GDP growth and full employment, are ignored from the monetary policy objective. A standard answer from FIT advocates is that output stability is as important as price stability. The central bank loss function that is used in the FIT literature typically contains two variables, the squared deviation of the inflation rate from the optimal inflation rate and the squared deviation of output from the potential output. The short-run tradeoff between inflation and output targets is well recognized in the FIT literature.

3 In his Congressional testimony, Greenspan (2005) said, “Concurrently, greater integration of financial markets has meant that a larger share of the world’s pool of savings is being deployed in cross-border financing of investment. The favorable inflation performance across a broad range of countries resulting from enlarged global goods, services and financial capacity has doubtless contributed to expectations of lower inflation in the years ahead and lower inflation risk premiums. But none of this is new and hence it is difficult to attribute the long-term interest rate declines of the last nine months to glacially increasing globalization. For the moment, the broadly unanticipated behavior of world bond markets remains a conundrum.”

4 Some Bank of Japan economists agree with Taylor’s criticism of the low interest rate for fuelling the housing bubble, since they hold the view that the low interest rate in the second half of the 1980s was the main cause of the asset price bubble that burst in the 1990s to cause widespread financial instability.
One of the most important benefits of the FIT framework is to stabilize inflation expectations, thus reducing volatility in the shocks arising from expectation variations (position of the New Keynesian supply curve). With inflation expectation anchored at around the targeted inflation rate, the room to maneuver against temporary shocks becomes larger.

Hence, the FIT as a best practice among advanced countries and emerging market economies had become well established by the mid-2000s.

In the wake of the global financial crisis of 2007–2009, a new kind of criticism of inflation targeting emerged. According to critics, the FIT disregards financial stability, as it targets inflation (monetary) stability. By allowing the bubble to be formed while CPI inflation rate is low and stable, FIT is guilty of eventually causing financial instability when the bubble bursts.

**B. To FIT or not to FIT: Two Views**

There are two opposing views to the question posed above:

(A) *The FIT should not react to asset price increases and decreases, since asset prices are not the target variable.* First, it is very difficult to differentiate a bubble from a fundamentally strong economy. Second, the prevention of banking crises should be dealt with using financial supervision policy. In order to prevent a hard landing of the banking system, the regulatory authority can introduce various prudential measures such as higher (and variable) capital standards, introducing/tightening regulation on the loan-to-value ratio and the loan-income ratio ceiling, and examining the internal risk assessment of bank portfolios.

(B) *The FIT should pay more attention not only to the (projected) CPI but also to asset prices, and react to them.* Since the bubble burst most likely causes financial instability, precautionary monetary tightening is recommended. Low interest rates are designed to encourage risk-taking activities—from the normal to the reckless—whereas financial supervision policy cannot completely prevent risk concentration in some sectors of the economy. Some authors have recommended that asset prices should be included in a set of target variables.

The first view is most famously told by then Federal Reserve Chairman Greenspan, who in the aftermath of the dotcom bubble said, “Moreover, it was far from obvious that bubbles, even if identified early, could be preempted short of the central bank inducing a

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substantial contraction in economic activity—the very outcome we would be seeking to avoid” (Greenspan 2002, 5).

It is true that the interest rate is a blunt instrument to tame asset bubbles. FIT cannot pursue too many policy goals with only one policy instrument.

The second view was recently put forward by Taylor (2007 and 2009), who criticized the low interest rates (compared to the Taylor rule) from 2002 to 2006. However, a similar argument was put forward by Cecchetti, Genberg, Lipsky, and Wadhwani (2000) and Borio and White (2003). This view is sometimes called “lean against the wind”.

Based on the hypothetical (desirable) Taylor rule interest rate path, Taylor estimated the “counterfactual housing starts” that showed a much more moderated rise and decline from 2003 to 2006.

C. Digression, the Japanese Bubble Experience

With respect to the Japanese housing bubble in the second half of the 1980s and its subsequent collapse in the first half of the 1990s, an interesting debate took place in a Jackson Hole conference in 1999. Bernanke and Gertler (1999, 77–128) presented a paper in which they heavily criticized the Bank of Japan monetary policy: “We find that easy monetary policy in Japan actively fueled the increase in stock prices during the 1987–89 period.” They showed that the optimal policy rule they estimated would have suggested an 8% interest rate as early as the summer of 1988, when the actual call rate was at around 3%. Then Deputy Governor of the Bank of Japan Yutaka Yamaguchi responded that it would have been very difficult to raise the interest rate from 4% to 8% when the CPI inflation rate was below 1%.

Okina, Shirakawa, and Shiratsuka (2001) also reflected on the 1999 debate. While they also considered that a preemptive interest rate hike a la Bernanke and Gertler would have been impossible, there would have been merit to raising the interest rate early: “If interest rates had been raised early, expectations for the continuation of low interest rates would have receded more quickly than otherwise, and to that extent the timing of the autonomous collapse of the bubble would have been somewhat expedited.”

D. Discussion of the Two Views

Housing prices and stock prices sometimes exhibit a spectacular price increase followed by a crash. Toward the end of the boom, many investors are lured into the market just to make profits from short-term buying and selling. Traditional fundamental signals, like the

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6 Ito and Iwaisako (1996) showed that although the fundamental value of an asset price may be quite sensitive to a permanent change in the interest rate, a temporary change in the interest rate would not change the fundamental value very much.
price-rental ratio or, equivalently, the ratio of the purchase price to theoretical discounted present value of rental revenues, are totally disregarded. The phenomenon of high price levels (in relative to the fundamental, intrinsic value) supported only by expectation of further price increases is typically called a bubble.

Can we identify, with reasonable certainty in real time a housing-market bubble as opposed to fundamentals-driven price increases? Probably yes, but only at the very last stage of the bubble.

While housing price increases improve economic welfare of many households and firms since they produce wealth effects, a premature end to the price increase would be economic loss.

On the other hand, a crash brings about hardship. Foreclosure of homes, bankruptcy of firms, and unemployment soars, and when these are severe, the banking system becomes very weak. The banking crisis causes credit crunch, liquidity shortage, and, in the worst case scenario, systemic breakdown. Simply put, financial stability is threatened when the bubble bursts. Many cases in history stand as evidence. The costs to the economy from financial instability could become enormous.


How should the FIT central bank react to asset price inflation? Let me first make one point clear. The FIT targets not only the current inflation rate, but medium-term price stability, that is, the expected inflation rate. Therefore, if the asset price boom is expected to produce overheating in the near future, most likely through wealth effects, then the FIT will act to stop it. How should the FIT react to the asset price boom when the CPI inflation rate is projected to stay low and stable?

Supervision policy, conducted by supervision agencies like financial supervision agencies and central banks, should pay much more attention to the asset price bubble to ensure the robustness of financial institutions. Capital requirement should be increased during a boom (dynamic capital requirement); the loan-to-value ratio should be adjusted when asset prices are rising fast; and risk assessment, like stress tests, should be regularly conducted on the large, systemically important institutions. One more important element is to legislate a framework to take over a large, systemically important institution if their capital becomes less than a certain critical level, a resolution mechanism. This avoids moral hazard while systemic stability is maintained.

The inflation targeting framework should be coordinated with supervision policy. Coordination between the central bank and the supervision agency is critical.
III. Should the Central Bank Target Asset Prices?

A. Policy Implication

Recall the two extreme views: (A) no special attention to asset prices is needed (beyond that of being one of the variables for predicting future CPI); and (B) asset price stability should be as important as CPI price stability and output stability in the objective function of a central bank.

Advocates of (A) press the advocates of (B) whether asset prices should be in the central bank loss function along with inflation rate and output gap. If the answer is no, then advocates of (A) would say that the FIT already takes into account asset prices when they form medium-term forecasts of CPI and output.

Is there a middle ground? In my view, many central banks operate in some form of compromise between (A) and (B). Let us explore some of them.

The first compromise is to allow a tolerance band of CPI inflation targeting, and use the band to lean against asset price inflation. When asset prices are rising quickly, the FIT should be vigilant: interest hikes should be earlier, and the levels should be on a high side within the tolerance range of projected CPI inflation rates.

The second compromise is the “two pillar” approach. The first pillar is more short-term, CPI stability, while the second pillar is financial stability. As long as the second pillar is not threatened, the first pillar operates with a usual FIT central bank policy rule with CPI price stability and output stability in the objective function. When worrying signs such as credit expansion, asset price increases, and vulnerable bank balance sheets are detected, the first pillar will give way to the second pillar. This follows a more lexicographic ordering from financial stability to CPI inflation stability.

The third compromise is finetuning the interest rate hike/lowering based on the asset price increases. Ingves (2007, 438) describes the Riksbank view: “The paths of asset prices and indebtedness can at times be either difficult to rationalize or unsustainable in the long term. This means that there are risks of sharp corrections in the future which, in turn, affect the real economy and inflation. … In practice, taking risks of this kind into consideration can mean that interest rate changes are made somewhat earlier or later, in relation to what would have been the most suitable according to the forecasts for inflation and the real economy.”
B. Conditional Statements

The original (A) advocates may condition their views on the existence of strong regulatory frameworks. Dynamic capital ratio, strong power to direct financial institutions avoiding risk concentration, and some sort of resolution authority in case some banks fall into trouble after the bubble has burst may be important to separate financial stability and monetary policy. In other words, if the country has an effective regulatory regime, the burden on the monetary policy is lessened. Hence, strengthening the regulatory framework to prevent the bubble and clean up the crash swiftly is always welcome.

I find it more pressing and important to debate over the issue of best practice in a supervision and regulatory framework and concrete measures of antibubble regulations, than to debate how asset prices should be used in monetary policy. I will elaborate on my position in the last section.

IV. Asian Monetary and Exchange Rate Policy Regime

A. Exchange Rate Regime

In Asia, four different monetary and exchange rate regimes coexist. I categorize the current (January 2010) regimes as follows:

(i) floating exchange rate with inflation targeting (Indonesia, Republic of Korea, Philippines, Thailand)

(ii) floating exchange rate without inflation targeting (Japan; Malaysia; Singapore; Taipei, China)

(iii) de facto fixed exchange rate (People’s Republic of China)

(iv) fixed exchange rate with currency board (Hong Kong, China)

The choice of exchange rate regime constrains the choices of monetary policy. In the extreme (currency board), there is no autonomous monetary policy for domestic purposes. Even if CPI or housing prices rise or fall, the interest rate cannot be used to control them. The interest rate has to follow the Fed interest rate, otherwise the capital inflows or outflows would threaten the currency board itself.

When the fixed exchange rate regime is chosen, autonomous monetary policy is possible only with capital controls. However, as the economy becomes open and trades become
more active, capital controls would become almost impossible. The wedge between the Fed interest rate and the domestic rate can be maintained only up to some threshold (cost of getting around regulation). In the worst case scenario, a housing bubble may occur because of adherence to the fixed exchange rate regime. One of the reasons—I stress the fact that there are many other reasons—for the Asian financial crisis was pursuit of the impossible trinity: fixed exchange rate, capital account liberalization, and autonomous monetary policy. Asian countries should not repeat this mistake in the future.

B. Inflation Targeting in Asia

Some Asian countries adopted the inflation targeting (IT) framework after the Asian currency crisis. Republic of Korea (henceforth Korea) adopted the IT framework in April 1998. Indonesia and Thailand adopted the IT framework in January and April 2000, respectively. In these countries, losing a de facto dollar peg during the crisis was the motivation for IT as a new anchor. The International Monetary Fund supported, if not encouraged, its adoption. The Philippines adopted inflation targeting in January 2002.

For an early survey of Asian inflation targeting experiences, see Ito and Hayashi (2004). Assessing the early experiences of four IT central banks, Ito and Hayashi gave high marks to Korea for keeping inflation on average within the targeted range, and for communicating its intentions well to the public, for example through the semi-annual publication Monetary Policy Reports. The target range was 3% plus/minus 1% from 2001–2003. When they achieved the target from 2001 to 2003, the Bank of Korea became more ambitious and announced (in consultation with the government) a narrowing of the band to 3% plus/minus 0.5%. However, Korean IT was violated most of the time during the period 2006–2009. First, the inflation rate was below the target in 2006–2007, and then above the ceiling in 2007–2008. For 2010–2012, Korea widened the target tolerance range to 1–3%.

Ito and Hayashi (2004) also gave a good grade to the Bank of Thailand for keeping the inflation rate within the target range, 0–3.5%, although this was rather a wide range. Bank of Thailand’s Inflation Report, designed after the Bank of England’s Inflation Report provides fan charts of output growth and inflation rate. Unlike the Bank of England’s practice, minutes of the Monetary Policy Committee is not disclosed. In 2009, the inflation target range was narrowed to 0.5–3.0%, and by 2010 is now very close to the international average of 1–3% range among FIT central banks.

7 The adoption of the IT was proposed before the crisis hit Korea, so that it was not a reaction to the crisis, neither forced by the International Monetary Fund.
8 See Lim (2008) for an assessment of the IT framework in the Philippines. Lim pointed out that its apparent success from 2002 to 2006 in taming inflation in the Philippines was more due to global moderation in inflation than enhanced management of monetary policy.
9 One of the Bank of Thailand’s executives explained to me that he considered it better to have a wide range so that the actual rate remained in the range, rather than have a narrow range that would be difficult to achieve. Once credibility is obtained, the range could be narrowed.
For Indonesia and the Philippines, a track record to keep the inflation rate in the range was not good. The range is rather narrow and the inflation rate was very volatile, missing the target, sometimes being too low and sometimes too high. The central bank of the Philippines publishes a Quarterly Inflation Report.

The table below summarizes the exchange rate and inflation targeting regimes in selected Asian countries.

<table>
<thead>
<tr>
<th>Economy</th>
<th>Exchange Rate Regime</th>
<th>Central Bank (monetary policy)</th>
<th>Inflation Targeting</th>
<th>Target Variable</th>
<th>Target (Range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>Floating</td>
<td>Bank of Japan</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>China, People’s Rep. of</td>
<td>Fixed (de facto)</td>
<td>People’s Bank of China</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Korea</td>
<td>Floating</td>
<td>Bank of Korea</td>
<td>Yes</td>
<td>CPI inflation rate</td>
<td>For 2001–2003, 3%±1%; For 2004–2009, 3%±0.5%; For 2010–2012, 3%±1%</td>
</tr>
<tr>
<td>Hong Kong, China</td>
<td>Fixed (currency board)</td>
<td>Hong Kong Monetary Authority</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>Floating</td>
<td>Bank Indonesia</td>
<td>Yes</td>
<td>CPI Inflation Rate (IHK)</td>
<td>For 2010, 5%±1%</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Floating</td>
<td>Bank Negara Malaysia</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>Floating</td>
<td>Banko Sentral Pilipinas</td>
<td>Yes</td>
<td>CPI Inflation rate</td>
<td>For 2009, 2.5–4.5%; For 2010, 3.5–5.5%; For 2011, 3.0–5.0%</td>
</tr>
<tr>
<td>Singapore</td>
<td>Floating</td>
<td>Monetary Authority of Singapore</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taipei, China</td>
<td>Floating</td>
<td>Central Bank of the Republic of China</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>Floating</td>
<td>Bank of Thailand</td>
<td>Yes</td>
<td>Core CPI inflation</td>
<td>For 2000–2009, 0.0%–3.5%; from 2009 onward, 0.5–3.0%</td>
</tr>
</tbody>
</table>

V. Lessons for Asia

A. Schadenfreude

It seems that Asia escaped major financial sector problems in the financial crisis of 2007–2009. No major banks failed in Asia and no major currency crisis occurred (except for a sharp depreciation in Korea). Yet, stock prices suffered large declines and growth rates became lower (and negative in 2009), with the notable exception of the PRC. There was a sense of *schadenfreude* among Asian policy makers in the early stage of the current crisis before their exports fell sharply. Then came a victim feeling, as the Lehman Brothers shock hit the world. Exports to the US fell sharply, and output fell accordingly in Asia. Western countries adopted crisis management measures including unconventional monetary policy; bailing out large institutions; suspension of mark-to-market accounting; prohibition of short-selling (of bank stocks); reluctance in foreclosing/repossessing
nonperforming properties; and reluctance in resolving large institutions. Some of the policy responses adopted in the US in 2008–2009 were similar to Asian policy measures before and during the Asian currency crisis that were heavily criticized then by the US (see Ito 2010).

The top two important differences in financial conditions of the Asian emerging market economies in 2007–2009 from 1997–1998 were fat foreign exchange reserves and strong balance sheets of Asian financial institutions. In fact, only a small portion of foreign exchange reserves were used to defend the falling currency valued in 2008–2009. No speculative attacks occurred in this episode.

B. Importance of Strengthening Supervision

Since the crisis did not happen in Asia this time, there may be some complacency in financial supervision. As world demand recovers with Asia leading the postcrisis recovery, the danger of an asset price bubble may be just around the corner, if not already happening in some countries. Governments and central banks have to come up with a theoretical and practical framework to address the asset price inflation in preparation for future risk.

First, the supervision and regulation of financial institutions should be enhanced. Whether this is done within or outside the central bank may depend on the availability of experts on these issues. Often human resources are limited in emerging market economies, so that supervision is most efficiently done within the central bank. However, in that case, a potential conflict of interest from monetary policy objectives should be controlled. In fact, in many Asian countries, macro-prudential policy has to be greatly enhanced in addition to micro-prudential policy that was revamped during the Asian crisis in 1997.

With enhanced supervision and regulation, monetary policy may be freed from the difficulty of pursuing too many targets with a limited number—often just one—of strong policy instruments.

The question of whether the monetary policy should take into account threats to financial stability from a housing bubble cannot be answered without discussing supervision and regulation. Whether FIT can be modified to take into account asset price bubbles also depends on the effectiveness of financial supervision tools such as regulation of the loan-to-value ratio and credit growth controls. It has to be recognized that the interest rate is regarded as a blunt instrument against an asset price bubble. In the next section, lessons for Asian economies are summarized as policy recommendations.
VI. Policy Recommendations

A. Collecting and Calculating Housing Price Data

Having reliable data is key for sound policy decision. For monetary policy decision for price stability, a reliable general price index is needed. Almost all advanced countries and emerging market economies have adopted similar methods in collecting data and calculating the CPI. Although there are some differences in sampling method (how to define a basket), in statistical treatment of index (Laspeyres or chain), and in measuring quality differences (use of hedonic approach), the CPI in many countries is reliable and comparable across countries. For better policy judgment, both headline inflation (all goods and services) and core inflation (excluding energy and some fresh food items) should be used.

When we consider asset bubbles, we need asset price information. The stock prices are readily available and mostly reliable. Other financial assets are also readily available and reliable, except for some products with thin markets.

The most serious shortcoming in judging an asset bubble lies in housing price data. Housing price data in many countries are quite unreliable. In principle, all detached houses are different with unique addresses. Even in the same neighborhood, the age of the building structure and floor space (square meters) and window views may be different. High-rise condominium units have the same street address, similar floor plan, same age of the building, but exact floor space (square meters); whereas the floor number of the building and view from the window are different. The point is that we need to standardize “housing” in order to come up with reliable housing price data.

The housing price index calculated without correcting for heterogeneity of houses would be seriously flawed. For example, in many countries, “the average price of housing units sold in City X” is available. In some case, the area is more specific, such as Area Y in City X. However, other important variables, such as building age, distance to nearest train station, or floor space are not controlled. Suppose prices are rising fast in Area Y in City X, then new housing development in less desirable locations with smaller units within the same Area Y will take place so that they may be affordable to new buyers. Then the new smaller units at less desirable locations will have a higher share in the “average” trades. This causes a downward bias in the housing price data. Separating “new houses” and “resale houses” would only mitigate the problem, and serious problems would remain in both categories. New home owners may continue to migrate to less desirable sections within Area Y. Resale houses are vastly different unless the age of the building (structure)

10 There are technical issues, such as the selection of stocks, entry and exit from a selected group of stocks, simple average or weighted average, treatment of stale quotes, and adjustment for dividend payments. However, once the specification is determined, the stock price index is quite reliable since prices are traded and observed in the stock exchange.
is controlled in addition to the defined location. Narrowing down the area, such as Sub-area Z, Area Y, City X would invite another problem. Sales within a narrowly defined subsection become rare, and small sample problem or lack of transactions would become a problem. In the end, the “average price of sold houses” has an incurable problem of heterogeneity.

There are two major ways to standardize housing prices, controlling for heterogeneity. First, a hedonic approach is to correct the quality differences by identifying factors that determine values of housing and adjusting for them using hedonic regression. Commonly used factors are floor space (square meters), age of structure, distance to the train station, proxy for view and security, and proxy for better/worse school district. Ito and Hirono (1993) attempted such a hedonic regression for the Tokyo condominium market.

The second approach is to the “repeated sales” of the same housing unit. Limiting samples to the “same unit” controls for the floor space and location—two important determinants of housing prices. When a unit is sold, it is compared to its past sale prices—whenever it was sold $k$ years ago. Then the price change for $k$ years is measured. The price change from $t-k$ to $t-1$ is already calculated in $t-1$, so that the price change from $t-1$ to $t$ can be extracted. The now widely used Case-Shiller index is based on repeated sales.11

(i) **First policy recommendation:** each country develops a reliable housing price index, either by the hedonic approach or the repeated sales method. Only when reliable data on housing are available can appropriate policy judgment and policy measures be made. In many cases, housing price increases start with good fundamental reasons but they transform into a bubble after a sustained period of price increases. When fundamentals-driven housing price increases would turn into a bubble has to be carefully analyzed, if a housing bubble is to be countered by some policy measures.

Counter measures against a housing bubble should include loan-to-value ratio regulation, better screening of borrowers, and more bank capital.

(ii) **The second policy recommendation is to create a database on housing loan (mortgage) details, including the loan-to-value ratio; how the down payment is financed; and whether it is the primary home, second home, or for rental/lease.** These information would be relevant to see whether speculative purchases are increasing and posing financial risk to lenders as well as borrowers.

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11 The Case-Shiller index can be seen at the Standard & Poor’s website. See Standard & Poor’s (2010).
B. Legal Framework to Avoid Too-Big-to-Fail

One of the reasons that the US subprime crisis developed into a full-blown financial crisis was the lack of a legal framework to take over large, systemically important financial institutions. Since there was no legal framework, the bailout of Bear Stearns in March 2008 was arranged. Critics then criticized the deal for allowing for moral hazard. When the next financial problem became serious at Lehman Brothers, the government had no plan to bail out (with subsidies to an acquirer) the troubled institution. As a result, Lehman Brothers filed for Chapter 11. This caused panic in the global financial markets, causing unprecedented turmoil in interbank markets, derivative markets, mortgage-backed securities, corporate bonds, and commercial papers. Many other financial institutions needed government help in terms of capital injection and liability guarantees. These market reactions, i.e., fear of sudden failures of financial institutions, could have been avoided if the US had introduced a legal framework to resolve systemically important institutions in time.\(^{12}\) Having a legal framework of orderly resolution is the backstop for financial stability (without moral hazard).

(iii) The third recommendation is to introduce, if not already, a legal framework to take over troubled large financial institutions when the institution is deemed insolvent.

C. Commitment to FIT with Financial Stability

Financial supervision is key to calling a bubble early (macro prudence); introducing prudential policy measures such as requiring lowering of the loan-to-value ratio; and examining the vulnerability of financial institutions to the housing sector (micro prudence).

Traditional monetary policy emphasizing general price (CPI) stability can be strengthened by flexible inflation targeting. The FIT framework has been proven effective in stabilizing inflation expectation. Modification to consider financial stability (due to a possible bubble) in the broader framework of FIT can be described as follows.

When a bubble is suspected using reliable data and scientific methods, the first measure to insure financial stability is to assess and monitor the possible damage on financial institutions.

(iv) The fourth recommendation is to establish either a financial supervision agency or a department in charge of financial supervision within the central bank. The agency/department should be staffed with experts and an independent authority to warn about any threat to financial stability. The agency/department should also be equipped with regulatory power

\(^{12}\) The importance of having a legal framework to temporarily nationalize a large financial institution is explained in Ito (2009).
to impose regulations such as loan-to-value ratios; and to examine books of financial institutions (banks, nonbanks, securities firms, and insurance companies) for potential risk.

In case all the prudential measures are employed and the bubble is still getting larger, an interest rate hike should be considered, even if this will entail lower output and risk lowering the CPI inflation rate below the floor of FIT target range. In a country where prudential authority is lacking, it may be necessary for the FIT to be sacrificed in favor of financial stability down the road, but this is second best.

(v) The fifth recommendation is that macro- and micro-prudential policy should be strengthened within a politically independent body of the central bank, so that financial stability can be maintained and measured with prudential regulation. Preventing the bubble from getting bigger with prudential measures is the first best.

When these measures are exhausted or prove ineffective, the FIT should be modified so that the interest rate is hiked to insure that the bubble would not become too large that it threatens financial stability. Interest rate hikes might cause output declines and deflationary pressure, but this sacrifice is needed to avoid even bigger sacrifices later. However, this approach is the second best as the weaker supervision regime would force the central bank (monetary policy department) to deviate from the regular FIT framework.

**D. Concluding Remarks**

This paper examined whether FIT as a best-practice monetary policy has to be modified in light of the global financial crisis of 2007–2009. Several critics argue that asset prices, in particular housing prices, should be considered in monetary policy decisions. Some have even discredited the FIT framework. The standard answer from the FIT camp would be that it is extremely difficult to control CPI inflation, output gap, and housing prices inflation in the medium term with a single policy instrument, the interest rate. The best way is to assign a different policy variable to prevent housing prices from developing into a bubble process. The supervision agency/department should have information and power to introduce prudential measures. When this fails, monetary policy may deviate from the best FIT recommendations.
References


About the Paper
Takatoshi Ito addresses challenges of monetary policy when asset prices are rising fast, asking whether flexible inflation targeting needs any modification. The paper argues that flexible inflation targeting is necessary, but possibly not sufficient, for optimal monetary policy in an environment of volatile asset prices. Prudential policy is recommended to counter the risk of financial instability from an asset price bubble.

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ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries substantially reduce poverty and improve the quality of life of their people. Despite the region’s many successes, it remains home to two-thirds of the world’s poor: 1.8 billion people who live on less than $2 a day, with 903 million struggling on less than $1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

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