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Unconventional Policies of Central Banks:
Restoring Market Function and Confidence

Remarks at the Panel Session "Monetary Policy Boundaries: Alternative Instruments and Policy Coordination" at the Money and Banking Conference sponsored by the Central Bank of Argentina

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Thank you, Chairman. It is an honor to be invited to this prestigious conference, and I am very grateful to Governor Redrado and the colleagues of the Central Bank of Argentina. I am particularly delighted, literally thrilled, to come to Argentina, the land of silver and warm-hearted people, for the first time in my life.

The topic of this panel, "Monetary Policy Boundaries: Alternative Instruments and Policy Coordination" is particularly timely, since many central banks including the Bank of Japan have already crossed conventional boundaries. They have been conducting unconventional policies since the current crisis erupted a couple of years ago. Some call them credit easing, and others describe them as quantitative easing. This kind of nomenclature is eye-catching, but it is sometimes a distraction, hiding the real picture of what the central banks have done. In fact, if we look at these unconventional policies from a functional viewpoint, they all have this in common: the desire to counteract market dysfunction and confidence erosion.

In this short presentation, I will first explain what we, the major central banks have done to prevent market meltdown. Then, from this experience, I will extract four practical principles of unconventional policies that should be borne in mind. Finally, based on these principles, I will point out possible fallacies in assessing these unconventional policies, especially at the time economic conditions improve and seem to offer a glimmer of light at the end of the tunnel. Specifically, I will present five Don'ts for your consideration in contemplating a way out from the emergency measures.

1. One Prerequisite of Conventional Monetary Policy: Smoothly Functioning Financial Markets

To start the discussion of unconventional policies, it is worth taking a few moments to consider what conventional monetary policies are.

Two Pillars of Smooth-Functioning Financial Markets

In a stylized framework of conventional monetary policies in developed countries, we take well-functioning financial markets for granted. There are two pillars supporting their smooth function. First, the various segments of the financial markets are integrated well through smooth inter-market arbitrage, and thus we have relatively stable inter-market

relationships of interest rates called yield curves. Second, market participants have confidence in the markets and thus counterparty risks are contained well.

Assuming these well-functioning financial markets, the central bank sets the policy rate at a level consistent with its stated goal of price stability (and possibly other goals which vary with countries). The bank manages its liquidity provision to ensure that short-term market interest rates are in line with the policy rate. The change in the policy rate affects the yield curve structure with term and risk premiums. In this way, the central bank affects financial markets and financial intermediation, and ultimately exerts influence on prices and economic activity.

Thus, well-functioning financial markets are prerequisites of conventional monetary policy. In fact, the functional breakdown of financial markets is the major culprit leading central banks to take unconventional measures. We learned this fact from Japan's so-called Lost Decade more than a decade ago and more strikingly, more painfully, from the current global financial turmoil.¹

Three Phases of Financial Markets' Functional Breakdown in the Current Crisis

Let me briefly explain how markets stopped functioning in many countries in the current crisis. Roughly speaking, there were three phases, though their timing and severity were different from country to country. In the first phase, confidence in the markets was lost. The failure and the fear of failure of large international financial institutions made market participants fearful of the possibility of the failure of their counterparties. Counterparty risks were heightened and spread rapidly from market to market. In the second phase, we saw a severe dearth of arbitrage activities and consequent dislocations in many markets. Financial markets became severely segmented and some specific markets, such as the US asset-backed securities markets, collapsed. Prices no longer provided sufficient information about market conditions. In the third phase, severe strains on financial markets and banking systems hampered financial intermediation as the losses on non-performing, legacy or toxic

¹ For concise comparison of the two crises, see Nishimura, K. G., “ ‘The Past Does Not Repeat Itself, But It Rhymes’: Four Lessons Learned from the Financial Crises,” Remarks at the Panel Session “Responding to the Financial Crises: Lessons Learned” at the 45th Annual Conference on Bank Structure and Competition sponsored by the Federal Reserve Bank of Chicago on May 8, 2009, available on line at <http://www.boj.or.jp/en/type/press/koen07/ko0905a.htm>.

assets mounted, and thus a negative feedback loop kicked in between financial strains and real economic slumps. In short, the conventional monetary transmission mechanism broke down.

2. Unconventional Policies: Coping with Market Dysfunction and Confidence Erosion

Given the severe adverse effects of market dysfunctions, the utmost policy priority of central banks was to find a way to alleviate market dysfunctions and thus to enhance financial intermediation, thereby restoring the monetary transmission mechanism. This is what unconventional policies are all about. This means unconventional policies are not exotic but extensions of conventional policies. However, central banks had to go beyond their traditional role as a liquidity provider, and to engage themselves in complementing and enhancing market functions.²

Central Banks' Response to Market Dysfunction

This was in fact what four major central banks (Fed, ECB, BOE, BOJ) and others did during the last two years in addition to a series of policy rate cuts down to the proximity to zero. Market dysfunctions and severe strains on a banking system significantly reduced the effectiveness of an ultra-low policy rate, which was evident in our experience of Japan's lost decade. Thus, unconventional policies were devised and implemented essentially as measures to support and enhance the effects of ultra-low policy rates on prices and economic activities.

First, in order to ease confidence erosion and tension in money markets, the central banks conducted ample and enhanced liquidity provision by offering more frequent operations, to more counter parties, at longer maturities, and against broader collateral. This was more applicable to the period of August 2007 to August 2008.

Then, as the erosion of confidence intensified after the failure of Lehman Brothers and market dysfunctions and financial distress became more pronounced, the central banks

² In other words, central banks had to act as a “plumber” to fix broken and clogged pipes to facilitate liquidity going through the system. See Shirakawa, M., “Financial System and Monetary Policy Implementation: Long and Winding Evolution in the Way of Thinking,” Opening Speech at 2009 International Conference hosted by the Institute for Monetary and Economic Studies, available on line at <http://www.boj.or.jp/en/type/press/koen07/ko0905e.htm>

began intervening in specific market segments to support market functioning by measures including the introduction and expansion of asset purchase programs for commercial papers, corporate bonds and government debts. Also, the Fed expanded swap lines with other central banks to enable other central banks to provide further dollar liquidity. This was what largely took place in the period from September 2008 to March 2009.

Currently conditions in money markets have improved and investors' appetite for risk has recovered to some extent and accordingly usage of some market-supporting facilities such as the Fed's and BOJ's commercial paper programs has declined markedly.

As an example of central bank policy actions in this financial crisis, I summarize what the BOJ did in the last two years in Chart 1. You can find a similar and sometimes longer list of policy actions at other central banks.

Four Practical Principles to Cope with Market Dysfunctions

Unconventional policies entail microeconomic intervention and explicit risk-taking by central banks. Thus, these policies should satisfy two basic criteria. First, the benefits of market intervention should outweigh the costs of distorting resource allocation. Second, central banks should have a sufficient capital buffer of their own and appropriate burden-sharing agreements or understandings with the government to guard against possible credit losses. The latter is of the utmost importance to maintain central banks' credibility in pursuing price stability.

Besides these considerations, there were four practical principles in considering unconventional policies, which produced both differences and similarities among countries.

Principle 1. Select and Concentrate

Although dysfunction was widespread, it was clear that no central bank had the operational capacity and capital buffer to intervene in all markets showing dysfunction. It was also evident that some markets were more important than others for the purpose of restoring the monetary transmission mechanism. Thus, the first practical principle is to select the most important markets and most cost-effective interventions, and to concentrate on them.

In practice, this required cross-checking of bottom-up and top-down considerations. Bottom up, we started by examining the degree of dysfunction of particular financial markets, and then determined specific target segments of the markets for intervention. We worked out our specific intervention conditions and possible exit mechanisms. At the same time, top down, we carefully examined the pros and cons of allocative distortion, resource constraints and operational capabilities of the central bank, and capital constraint of the central bank if the intended measures exposed it to market and credit risks. The cross-checking of these two was particularly effective.

The immediate corollary of this principle is that, firstly, the nature and the magnitude of a particular central bank's market intervention depends on the nature and the magnitude of its country's financial market breakdown, and secondly, the resulting increase in the balance sheet of a central bank differs considerably from country to country. Table 1 reports cross-country differences in corporate finance. In the United States, securities markets were far more important than in Japan, and even financial institutions depend heavily on CP markets for their own finance. And the collapse of securities markets was widespread. Thus, the Fed was obliged to undertake massive and wide-ranging intervention. In contrast, the strain on the Japanese securities markets was mostly contained in CP and corporate bond markets, and we saw a relatively smooth transition from security market funding to bank borrowing. Consequently, the Bank of Japan's market intervention was limited to CP and corporate bond markets, indirectly through the banking system, which was still functioning relatively well (Item 3 of Chart 1, measures to facilitate corporate financing). Consequently, the Fed's increase in balance sheets is far greater than the Bank of Japan's, which is depicted in Chart 2. Europe's structure of corporate finance is closer to Japan's, so the ECB's increase in balance sheets was similar to the BOJ's.

Principle 2. Avoid Further Dysfunction

When we are coping with market dysfunction in some markets, it is counterproductive to take action that undermines the functioning of other markets. That is, no policy measure should damage the incentive to trade actively in financial markets, especially if these markets' full functioning is prerequisite for normalcy. The decision taken by many central banks to have a policy rate close to, but sufficiently above, zero is based on this

consideration.³

Principle 3. Provide Safety Nets

The current financial crisis has shown how devastating the erosion of market confidence can be. When confidence is eroded, investors are “excessively” averse to uncertainty (or the so-called unknown unknowns), and become sensitive to any news having some bearing on the worst possible case scenario.⁴ Actions that may be rational at the level of individual market participants can lead to a “fallacy of composition,” which prevents the markets from restoring their functions. Even worse, functional breakdown and confidence erosion aggravate each other. In this respect, a safety-net facility, which works like a put option to mitigate damages that would be incurred in the worst possible case, is likely to reduce the degree of this “excessive uncertainty aversion.”

The measures to secure stability of the financial system (Item 4 of Chart 1) were intended to be the safety-net measures we are discussing here. Japanese banks held sizable amounts of corporate stocks, which turned out to impose serious risks when stock prices went down sharply. The Bank of Japan resumed purchases of stock held by financial institutions and began to provide subordinated loans to banks. These were measures to help banks to reduce stockholding risk by selling their cross holding, and to improve their capital positions when they thought it was necessary. In addition, to some extent, ample liquidity provision (Item 2 of Chart 1) could also be considered as a form of safety net. Also, outright purchases of CP and Corporate Bonds from eligible financial institutions (in Item 3) had this safety-net feature. Similar safety-net measures were also found in many countries.⁵

Principle 4. Design Measures to be Self-Fading as Conditions Improve

Unconventional policy measures entail possible side effects distorting resource allocation. They also impose financial risks and possibly reputation risks on central banks. Accordingly,

³ If short-term rates are flatly zero, few have incentive to trade in short term financial markets, and thus there is no demand for traders. In this way, zero rates destroy the trading infrastructure including the know-how of traders.

⁴ If a decision maker’s confidence is “contaminated” or eroded in the sense that she thinks, though with a small probability (say ϵ), she is ignorant about the situation she faces, her rational behavior can be described as “maximin” optimization. In the maximin optimization, she is particularly sensitive to the worst possible case scenario. See, Nishimura, K. G., and H. Ozaki (2006), “An Axiomatic Approach to ϵ -contamination,” *Economic Theory*, Vol. 27, 2006, pp. 333-340.

⁵ The Fed’s TALF is one example having this feature.

these unconventional measures should be temporary and designed to unwind themselves as market functions improve. We describe measures with this inbuilt characteristic as self-fading.

Some of the unconventional measures I have outlined have this characteristic. For example, the term of outright purchases of CP and corporate bonds is substantially higher than the “normal” one, though lower than that in distressed conditions. Therefore, as conditions improve, market participants find it unprofitable to use these facilities, as exemplified in the recent decline in the usage of these facilities.

3. Five Don'ts in Assessing Unconventional Policies

Many of these unconventional policies are emergency measures: they are implemented as measures to enhance the effects of ultra-low policy rates on prices and economic activities under the condition of severe financial market dysfunctions. Thus, when market conditions improve, many of them will eventually be terminated. However, timing and sequencing are crucial: financial markets may still be severely segmented even though inter-market arbitrage starts again. Market participants' confidence may be still fragile. In such circumstances, it is absolute necessity to avoid fallacies and misinterpretations with respect to assessing unconventional policies. I will present five Don'ts in order to avoid the fallacies which might otherwise mislead us.

(1) Don't Take the Central Bank's Balance Sheets as a Measure of Monetary Easing

First, do not assume the size of the central bank's balance sheets is indicative of the degree of monetary easing. Many unconventional policy measures are designed to be selective and are tailored to a specific market dysfunction. Thus, there is no common yardstick evaluating all market intervention. Moreover, the usage of unconventional policy facilities declines as market functions improve. Shrinkage of a central bank's balance sheet reflecting this mechanism should not be interpreted as a monetary tightening but rather as a sign of improving market conditions.

(2) Don't Look only at the Segments of Financial Markets subject to Intervention

Second, do not look at the conditions of only those segments of financial markets where

intervention has taken place. In fact, there might be spill-over effects to other segments. Given resource and capital constraints, the central banks target their market interventions quite specifically. However, in so doing, central banks expect positive spill-over effects to other segments not so targeted. A good illustration of this lies in Japanese CP markets. We see improvements, as expected and hoped for, in the A2-rated CP market even though they are not eligible for the BOJ's purchase program. The A2-rated CP market is apparently affected by our purchase of A1-rated CP.

(3) Don't Underestimate Safety Nets

Third, do not underestimate the beneficial effects of safety-net measures especially when investors' confidence is fragile. When market confidence is eroded, investors are "excessively" averse to uncertainty and tend to "wait and see" until they feel more confident about making market transactions. A "safety net" facility has some of the characteristics of insurance or put options and thus substantially reduces this sort of uncertainty. Just as insurance is an umbrella for unexpected rain, a safety net builds confidence whether or not dire events come to pass. An underutilized facility does not necessarily mean it is ineffective or useless.

(4) Don't Ignore Heterogeneity among Countries and Regions

Fourth, do not ignore heterogeneity among countries and regions. It is not the case that every country should follow a common sequence of policies to exit from unconventional policies. Economists, including me, have a tendency to ignore statutory differences and institutional subtleties among countries and regions, to get clear-cut empirical results and policy recommendations. There are always pitfalls in this tendency, which we should be very careful to avoid.

At the outset of my presentation, I described a stylized framework of conventional monetary policy that assumed well-functioning financial markets. However, in fact, the description of well-functioning financial markets there is an idealized one, not always true even for developed countries. For example, Japanese financial markets experienced temporary segmentation in some segments from time to time even before the current crisis, and the BOJ conducted painstaking market operations. An immediate corollary of this is

that an unconventional policy in one country is not necessarily unconventional in other countries. The outright purchase of government bonds is a case in point. The Fed stated the purpose of purchasing longer-term Treasury securities is “to help improve conditions in private credit markets” in March 2009; the BOE conducts its purchase of gilts as a means of “Quantitative Easing.” However, the BOJ has been conducting outright purchases of Japanese governments bonds as a traditional tool of market operation, to provide longer-term liquidity.

(5) Don’t Assume a Return to the Way It Was

Now I come to the last of the five Don’ts: Do not assume we will return to “the way it was.” Although the collapse of the global financial markets took place in a surprisingly short period of time, their rebuilding and restructuring is likely to be a long and slow process. The “normalcy” to which we are returning is the one in which rebuilding and restructuring are still under way. Moreover, “the way it was,” that is, as financial markets were before the crisis, with high leverage and dubious securitized products, has been shown to be unsustainable.

We live in a world of irreversibility, a world in which we cannot undo what we have done. Both financial markets and real economies have changed in an irreversible way. Now we have to be flexible enough to adjust ourselves to this changing reality.

Thank you for your kind attention.

(Chart 1) BOJ's Policy Actions (Selected)

1. Reductions in policy interest rate

0.5% \Rightarrow 0.3% (Oct. 08) \Rightarrow 0.1% (Dec. 08)

2. Measures to ensure stability in financial markets

- Introduction and expansion of US dollar funds-supplying operations (Sep, Oct. 08)
- Increase in outright purchases of JGBs 14.4 trillion yen/year \Rightarrow 16.8 trillion yen/year (Dec. 08) \Rightarrow 21.6 trillion yen/year (Mar. 09)
- Expansion of the JGB repo (Oct. 08) and securities lending facility (Oct. 08, Feb. 09)
- Introduction of complementary deposit facility (Oct. 08)
- Broadening eligible collateral for funds supplying operations (Jan, Feb, Apr, May 09)

* Funds-supplying operations by which the Bank extends loans to its counterparties for an unlimited amount against the value of corporate debt submitted to the Bank as collateral by them at an interest rate equivalent to the target for the uncollateralized overnight call rate.

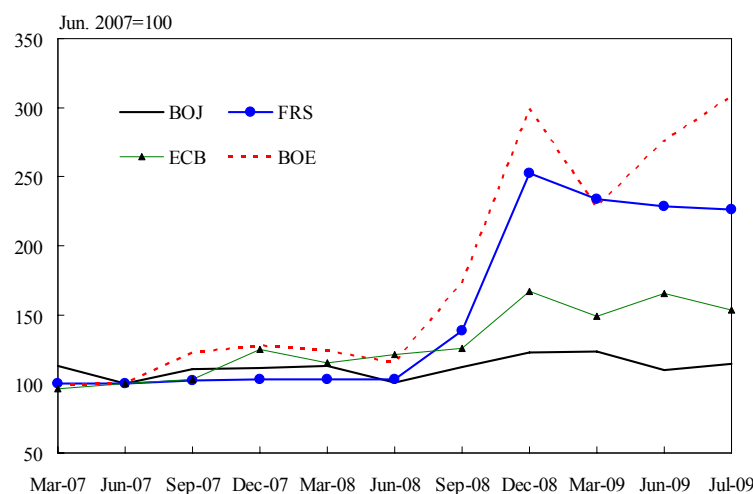
3. Measures to facilitate corporate financing

- Increase in frequency and size of CP repo operations (Oct. 08)
- Introduction and expansion of special funds-supplying operations to facilitate corporate financing* (Dec. 08, Feb. 09)
- Introduction of outright purchases of CP from eligible financial institutions (Jan. 09)
- Introduction of outright purchases of corporate bonds from eligible financial institutions (Feb. 09)
- Expansion in the range of corporate debt as eligible collateral (Dec. 08)

4. Measures to secure stability of financial system

- Resumption of stock purchases held by financial institutions (Feb. 09)
- Provision of subordinated loans to banks (Apr. 09)

(Chart 2) Central Banks' Balance Sheets



(Table 1) Funding Sources of corporate finance
(Amount outstanding, billion USD, End of 2007)

	CP, Bonds (A)	Loans (B)	Ratio (A/B)
Japan	706	2,935	24%
USA	3,872	2,937	132%
Europe	1,015	10,995	9%
UK	706	2,290	31%

Sources: BOJ, FRB, ECB and ONS.