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**FINANCIAL STABILITY: OBJECTIVES AND CHALLENGES FOR
CENTRAL BANKING**

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**BANKING AND ASSET MARKETS: DEVELOPMENTS, RISKS AND
POLICY ISSUES**

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I am honored and very pleased to be able to participate in this distinguished conference hosted by the Banque de France and CEPR. Allow me to thank Governor Noyer and his colleagues for their hospitality. My objectives today are to discuss why central banks are interested in financial stability and address some of the challenges that central banks face during the ongoing market turbulence. Unfortunately, the market turbulence is not behind us. It is therefore difficult to draw conclusive lessons. As a result, much of what I have to say is tentative by nature. Naturally, I would be pleased if some of my remarks ultimately spark some interest for future research amongst the many academics here.

Financial stability is not a new topic for central banks. In many ways, central banks were created to strengthen the stability of the financial system. Lender of last resort facilities and banking supervision essentially constitute a tandem response to the fact that banks - which are by design leveraged institutions - have periodically proven to be prone to crises. Such crises can lead to sharp contraction of credit and thus cause or augment costly economic downturns.

Monetary policy and financial stability are therefore deeply and historically linked. Nonetheless, it is evident that most central banks devote far greater resources to financial stability related issues than they did twenty years ago. One indicator of this heightened interest in financial stability is the number of Financial Stability Reports that are now routinely published. Currently, more than 40 central banks publish a Financial Stability Report on a regular basis. Interestingly, most central banks have intensified their work on financial stability issues during a period in which the global financial system can be said to have been robust. During the past few years, the overall conditions in the global financial system have been described by many observers as "as good as it gets". The financial system was apparently very resilient and able to absorb a series of significant shocks. Meanwhile, recent research suggests that in the past two decades systemic risk in banking has increased in both the US and the euro area.¹

¹ See for example P. Hartmann, S. Straetmans and C.G. de Vries, 2006, "Banking system stability: A cross-atlantic perspective," in M. Carey and R.M. Stulz (eds), *The Risks of Financial Institutions*, The University of Chicago Press, Chicago.

Indeed, systemic risk seems to have re-emerged quite suddenly when, after August 9, many of the world's money markets dried up and a wide range of risk indicators leaped to higher levels. It should be noted here that many central banks, market participants and other market observers saw the re-pricing of risk as an inevitable and necessary adjustment after a prolonged period of excessive risk taking. As it turns out, the re-pricing of risk did not occur in a benign manner. For almost four months now, important segments of the global credit market have been subject to severe stress. In many ways, the situation is deteriorating. As we meet, it is unclear when and how we will be able to return to calmer financial waters.

Today I want to begin by discussing why central banks care about financial stability. In a second part, I will try to draw some preliminary lessons for central banks from the current market dislocation. As I said at the outset, the credit crisis is unfortunately still unfolding and its future course is uncertain. Naturally, therefore, we face a lot of questions to which there are no clear answers. For the purpose of today's discussion, I will confine my remarks to the following two issues: The first one addresses the question of the optimal degree of transparency with regard to central bank liquidity operations; the second one investigates the implications of unusually high risk premia in short-term interest rates for the conduct of monetary policy.

1. Why Do We Care About Financial Stability?

Why does a central bank like the Swiss National Bank care about financial stability? After all, as is the case in a number of other countries, the Swiss central bank does not have a legal mandate to supervise and regulate banks. In Switzerland, the supervision and regulation of banks has traditionally been the responsibility of a separate independent authority, the Swiss Federal Banking Commission (SFBC).² So, where does the attention to financial stability come from? Let me offer you two straightforward reasons, followed by one that is perhaps slightly more subtle.

² The SFBC was founded in 1934. This was at least in part a response to the banking problems experienced during the Great Depression, which affected Switzerland particularly hard.

First, in an advanced sophisticated economy, monetary policy would be severely challenged without a stable financial system and in particular without a stable banking system. Central banks depend on a functioning network of banks to conduct monetary policy operations. In theory monetary policy could be conducted without banks. For instance, we could increase liquidity by dropping currency from the proverbial helicopter.³ Surely, doubts are justified as to whether this would be as effective as conducting auction-based repo transactions with robust banks.

Second, a stable financial system with solid banks is of great importance for the development and growth of the economy. In Switzerland, for instance, the financial sector contributes nearly 15% to GDP and is therefore the most important industry in the economy.⁴ Moreover, according to a recent study, the financial sector in Switzerland has in recent years contributed as much as 50% to economic growth.⁵ The financial sector also provides essential inputs and services to all other industries. Here, I am thinking primarily of the banks that provide credit and liquidity to private households and firms. The devastating consequences of an unstable banking system have been demonstrated, for instance, by Federal Reserve Chairman Ben Bernanke in a series of seminal papers about the Great Depression.⁶

A third and perhaps more subtle reason why we as central bankers care about financial stability relates to the role of central banks as lenders of last resort. Due to their monopoly as issuers of money, only central banks can provide a virtually unlimited amount of liquidity in times of distress. This fact inevitably confronts central banks with potentially large liabilities. In order to limit the risks to ourselves and ultimately to the economy as a whole,

³ See Milton Friedman, 1969, *The Optimum Quantity of Money and Other Essays*.

⁴ Comparative GDP figures are difficult to obtain. Nevertheless, comparing the banking sector's total assets with total GDP provides some clue about the banks' importance. In Switzerland, the ratio of total banking assets to GDP is 9.7, in the US 0.8, in the UK 3.1, in Germany 2.7, and in Japan 1.7.

⁵ SECO, 2006, "Konjunkturtendenzen Winter 2006/07", page 48.

⁶ See Ben Bernanke, 1981, "Bankruptcy, Liquidity, and Recession", *American Economic Review* 71, 155-159, or Ben Bernanke, 1983, "Nonmonetary Effects of the Financial Crisis in the Propagation of the Great Depression", *American Economic Review* 73, 257-276.

we have strong incentives to limit the size of these potential liabilities. Moreover, we want to limit the probability that these potential liabilities materialize in the first place. Simply put, through our lending of last resort function, we provide disaster insurance to banks. In return, we want to make sure that banks take appropriate precautions to prevent the occurrence of disasters. It is well known that those protected by insurance policies can have lower incentives to prevent damages than those who remain unprotected. One of our goals, therefore, is to counter this so-called “moral hazard” risk.

More generally speaking, central banks are concerned with a broad range of market failures, of which moral hazard is just one prominent example. Other market failures include coordination problems between market participants. The classic examples of such coordination problems are bank runs, where the mere belief that a bank faces insolvency problems will render the bank insolvent – even though it may be fundamentally sound. Another important source of market failures are externalities. For instance, in case of a banking crisis, a large part of the costs of the crisis are borne by households and firms. These costs are not fully taken into account by banks when they determine their risk profile. To banks, it is: “Tails I win, heads you lose.” As a result, banks’ profit-maximizing risk choices are typically not socially efficient. There can therefore be an inbuilt tendency for “excessive risk taking”.⁷

These reasons as to why financial stability is important have always been on the minds of central bankers. As I said at the outset, the focus on maintaining the stability of the financial system is certainly not new. What is new, however, is the fact that we now call it “financial stability”. Moreover, a few central banks have received more explicit legal mandates with regard to financial stability. In the case of the Swiss National Bank, the new Central Bank Act of 2004 gives us an explicit mandate to “contribute to the stability of the financial system”⁸

⁷ See, for instance, Kose John, Teresa A. John, and Lemma W. Senbet, 1991, “Risk-Shifting Incentives of Depository Institutions”, *Journal of Banking and Finance* 15, 895-915.

⁸ Other examples include the ECB, which has the task of contributing “to the smooth conduct of policies pursued by the competent authorities relating to the prudential supervision of credit institutions and the stability of the financial system.” (Article 105(5) of the Maastricht Treaty). In the UK, the Bank of England

I trust that the current growth of central bank activities in the area of financial stability is not the whimsical product of underutilized central bankers. It is plausible that the establishment of the ECB and the corresponding loss of the monetary policy function for the national central banks in the Eurosystem have contributed to an increasing focus on financial stability issues. But there are certainly other recent developments that have contributed to the increasing attention central banks are giving to financial stability. Let me highlight three such developments.

Since the 1970s, coinciding with the deregulation of financial markets and the acceleration of globalization, the frequency of banking crises has dramatically increased. During the decades before the 1970s, the financial system enjoyed a period of extraordinary stability. Since then, however, most countries have experienced severe banking problems or even widespread crises. Prominent examples include the banking crises during the early 1990s in the Scandinavian countries or in Japan.⁹ Figure 1 summarizes the worldwide occurrences of banking problems. All countries that are shaded dark gray have experienced banking crises between 1980 and 1996.¹⁰ The light-gray shaded countries have had significant banking problems. As you can see, there are only a few white spots on the world map. These are often countries which lack a meaningful banking system. Some of these white spots probably shouldn't be white. For instance, Switzerland experienced a significant banking crisis during the early 1990s.

The way in which central banks conduct monetary policy has also had an important impact on the increasing attention central banks give to financial stability. As you know, it has become best practice for central banks to conduct monetary policy with the aim to achieve

was formally charged with the responsibility for the "overall stability of the financial system as a whole" by the Chancellor in a letter to the Governor on 20 May 1997.

⁹ See, for instance, Aslı Demirgüç-Kunt, and Enrica Detragiache, 2005, "Cross-Country Empirical Studies of Systemic Bank Distress: A Survey", *World Bank Working Paper* No. 3719.

¹⁰ Taken from Charles Goodhart, Philipp Hartmann, David Llewellyn, Liliana Rojas-Suárez, and Steven Weisbrod, 1998, *Financial Regulation. Why, how and where now?* Routledge, London.

a more or less clearly defined inflation target.¹¹ In the process, monetary policy has become closely linked to price stability, defined by a given headline or core inflation measure. To prevent too narrow a focus and to avoid having to ignore relevant developments outside the immediate realm of inflation measured by CPI or core inflation measures, focusing on financial stability potentially constitutes an important additional leg for monetary policy to stand on. Obviously this is a vast and complicated subject. I have no doubt that much research will be devoted to the question of the role of financial stability in formulating monetary policy in the years to come.¹²

In the banking industry, the consolidation process of recent years has produced some very large and often highly complex financial institutions with truly global reach. They are often “systemically relevant”. In other words, problems at one of these institutions can potentially have a detrimental impact on the entire financial system which, in turn, could cause great economic dislocation. As a consequence, these institutions are deemed by many to be “too big to fail”. In essence, the market assumes that such institutions would likely be bailed out in the event of a severe crisis. This assumption can be inferred from the premium that rating agencies attribute to large banks. All else equal, large banks get a better credit rating than small banks.¹³ The emergence of very large and highly complex banking institutions therefore undoubtedly poses a new challenge for central banks. It is therefore not surprising that central banks have become more active in the area of financial stability. As a side note, let me also mention that the need for central banks and supervisors to intensify their cooperation – both nationally and internationally - is another consequence of the growing importance of large and complex internationally active financial institutions.

¹¹ Ernst Baltensperger, Philipp Hildebrand, Thomas Jordan, 2007, "The Swiss National Bank's monetary policy concept - an example of a 'principles-based' policy framework", Swiss National Bank Economic Studies No. 3.

¹² This argument is closely related to the discussion about the role of monetary policy in the presence of asset price bubbles. See, for instance, Michael Mussa, "Asset Prices and Monetary Policy", in: W. Hunter, G. Kaufman, and M. Pomerleano (eds.), 2003, *Asset price bubbles: The implications for monetary, regulatory, and international policies*. Cambridge and London: MIT Press, 41-50; Stephen. G. Cecchetti, Hans Genberg, John Lipsky, and Sushil Wadhvani, 2000, "Asset Prices and Central Bank Policy", Geneva Reports on the World Economy 2, CEPR and International Center For Monetary And Banking Studies.; or Otmar Issing, 2002, "Monetary Policy in a Changing Environment", Contribution to the Jackson Hole Symposium on *Rethinking Stabilization Policy*, Federal Reserve Bank of Kansas City.

¹³ See Bertrand Rime, 2005, "Too Big to Fail", *The Financial Regulator* 10, 47-51.

2. Observations about tentative lessons from market turmoil

2.1. Issues Regarding Transparency

Let me now turn to an attempt to draw some tentative lessons from the current market strains. The first regards transparency. A substantial body of academic research has contributed to making central banks much more transparent in recent years.¹⁴ Transparency has become a hallmark of modern central banking and rightly so. Transparency is an integral part of how an independent and potentially powerful institution like a central bank guarantees its accountability in a democratic society. Moreover, we have learned that transparency renders monetary policy more effective and helps achieve low and stable levels of inflation.¹⁵

Many central banks have augmented transparency beyond a clearly stated inflation objective, the publication of inflation reports or published minutes of board meetings. For example, central bank reporting now typically includes the publication of detailed data on monetary policy and liquidity operations.

Most academics make a good case that more transparency is always better than less. Yet there are a few critics. Fed Governor Frederic Mishkin, for instance, argues that central bank transparency has gone too far. Mishkin's verdict is related to transparency about the monetary policy strategy of a central bank. As he puts it: "Transparency is a virtue, but like

¹⁴ See Alan Blinder, 2002, "Through the Looking Glass: Central Bank Transparency", *Center for Economic Policy Studies. Working Paper* No. 86; Michael Woodford, 2005, "Central Bank Communication and Policy Effectiveness" *NBER Working Paper* No.11898; Otmar Issing, 2005, "Communication, transparency, accountability: monetary policy in the twenty-first century," *Review*, Federal Reserve Bank of St. Louis, March, 65-83; or Alan Blinder, Charles Goodhart, Philipp Hildebrand, David Lipton, and Charles Wyplosz, 2001, "How do central banks talk?", *Geneva Reports on the World Economy* 3, ICMB Geneva.

¹⁵ Georgios Chortareas, David Stasavage, and Gabriel Sterne, 2002, "Does it pay to be transparent? International Evidence from Central Bank Forecasts", *Review of the Federal Reserve Bank of St. Louis*, July/August, 99 – 117.

all virtues it can go too far".¹⁶ In light of recent experiences, I wonder whether we have gone too far in improving transparency with respect to central banks' actions as liquidity providers.

More specifically, the events of the last few months arguably raise the question of whether we should distinguish between transparency in normal times and in times of crisis. Let me illustrate this point by a recapitulation of the developments surrounding the Bank of England's liquidity support to Northern Rock. Northern Rock had apparently been facing some institutional deposit outflows for a few days in September 2007. But the run on the bank only started when the emergency liquidity assistance of the Bank of England became public, incidentally by way of a news report from the BBC.¹⁷ The outflows stopped immediately after the U.K. Treasury issued a blanket deposit guarantee. The Northern Rock case is a reminder of the importance that psychology plays in times of crises. As central banks, we need to consider carefully to what extent instant transparency with regard to liquidity operations may end up being counterproductive. Let me add here that this is a very complex issue. I am not arguing that the evolution towards greater transparency in central banking should be reversed. Indeed, perhaps we need greater *ex ante* transparency such as clearly stated conditions and eligibility criteria associated with central bank liquidity provisions. Undoubtedly, *ex post* transparency about potential liquidity support measures must also be guaranteed. But in the midst of a crisis, it may well be beneficial and desirable for central banks to have some flexibility with regard to how they communicate regarding potential liquidity operations.

2.2. Implications of Volatile Risk Premia for the Conduct of Monetary Policy

My second tentative lesson directly relates to the conduct of monetary policy. The recent market strains are unusual because confidence or rather the lack of confidence plays such an important role. Clearly, there is a great deal of uncertainty regarding valuations of complex credit instruments. Moreover and arguably more importantly, banks realize that

¹⁶ Frederi S. Mishkin, 2004, "Can Central Bank Transparency Go Too Far?", NBER Working Paper No. 10829, p. 25.

¹⁷ In fact, the Bank of England would have preferred to act covertly, but the market abuses directive prevented this (<http://www.guardian.co.uk/business/2007/sep/21/14>).

they are facing or could face large contingent liabilities. They are therefore doing everything they can to protect their balance sheets.

In essence, banks are hoarding liquidity and are reluctant to lend money in the interbank market beyond the very short term. As a result, a substantial and highly unusual risk premium has emerged in the interbank market. The risk premium in the interbank market has generally driven up the 3-month LIBOR which serves as the reference rate for the pricing of credit. At the same time, interest rates on risk-free securities such as Government notes have declined. The result is a significant increase in the TED spread (the difference between an uncollateralized interbank loan and the risk free rate of the same maturity).

With the 3-month LIBOR rising, central banks faced an important monetary policy decision. In countries where the official target rate is a central bank rate, for instance, the euro zone, the 3-month LIBOR became increasingly disconnected from the official target rate (typically a repo rate of two weeks or less). As you can see from Graph 1a, the ECB held its official target rate (the two-week repo rate) constant and therefore tolerated an increase in the 3-month LIBOR. It is currently about 70 bp above the repo rate of the ECB; this spread is now more than twice as large as it was in the first week of August. The Bank of England also held the official rate constant throughout the market turbulence. As you can see from Graph 1b, the initial increase of the 3-month sterling LIBOR was slightly more pronounced than the one for the euro. Currently, the difference between the 3-month LIBOR and the official target rate is roughly equivalent for the two currencies.

In the case of Switzerland, where the official target rate is the 3-month LIBOR rate, the emerging risk premium meant that the official target rate was driven higher immediately after the turmoil began in early August. You can see this in Graph 1c. Due to a significant reduction in the short-term repo rate of the SNB, the 3-month LIBOR has since receded to about the level of the first week of August.

As you know, the Federal Reserve has lowered the Fed Funds rate in two steps by 75 basis points to a target level of 4.5%. As a result and as you can see in Graph 1d, after the first cut in the Fed Funds, the 3-month LIBOR fell somewhat below the level of August 9. After the second rate cut the 3-month LIBOR declined further. Nonetheless, the spread between the Fed Funds rate and the 3-month LIBOR remains significantly larger than in July.

These illustrations demonstrate that when there is a sudden jump in the risk premium embedded in the 3-month LIBOR, the way in which you respond to such a risk premium has important repercussions for the effective monetary policy stance. Let me illustrate this point with the example of John Taylor's acclaimed "Taylor rule"¹⁸. In generic terms, the Taylor rule is a simple monetary policy rule that prescribes how a central bank should adjust its official rate in a systematic way in response to changes in inflation and macroeconomic activity (usually the output gap).¹⁹ While no central bank is relying solely on the Taylor rule, most central banks are deriving guidance from it in their monetary policy decisions.

Assuming that the current turmoil has neither affected inflation nor the output gap the Taylor rule does not suggest a change in the official rate. In other words, the observed decoupling of the LIBOR from the official rates would have to be ignored in the conduct of monetary policy. So far, this is the approach followed by the ECB and the Bank of England. If one assumes that the level of the 3-month LIBOR plays a more important role in the transmission mechanism of monetary policy than a one or two week repo rate, monetary policy makers may want to be flexible in times of turmoil. Adhering too closely to rules might not lead to an optimal monetary policy. As John Taylor has said himself, "operating the rule requires judgment and cannot be done by computer."²⁰ Sorting out these unusual risk premia effects is crucial for conducting appropriate monetary policy and for communicating the monetary policy stance to the public and to market participants.

¹⁸ John B. Taylor, 1993, "Discretion versus Policy Rules in Practice", *Carnegie Rochester Conference Series on Public Policy* 39, December, 195 – 214.

¹⁹ For a discussion of various types of the Taylor rule see Athanasios Orphanides, 2007, "Taylor Rules", *Finance and Economics Discussion Series* 18. Federal Reserve Board.

²⁰ Taylor, 1993, p. 198.

3. Conclusion

Let me conclude by reiterating that much of the central banks' motivation for their involvement in financial stability is rooted in their role as providers of liquidity in general, and of emergency liquidity in particular. At the same time, it has to be recognized that central banks have a very limited arsenal of instruments to deal with crises situations. A change in the level of official target interest rate is in many ways a crude instrument that, in my view, is best deployed with a firm focus on trying to keep the economy where our statutory mandate tells us to keep it. This does not, of course, preclude a change in interest rates in the event of a crisis, but only to the extent that the risks from the crisis to the economy justify a change in policy.

The current market turmoil is providing countless lessons to the industry as well as to the official sector. As time goes on, we will sort out what we are learning and set priorities. In my comments today, I have chosen to focus on two observations that seem to me to offer important tentative lessons with regard to our own specific experience since early August. As I said at the outset, I am very much looking forward to reading thorough and rigorous academic analyses on these and other topics once we gain some perspective on the current market turbulence.

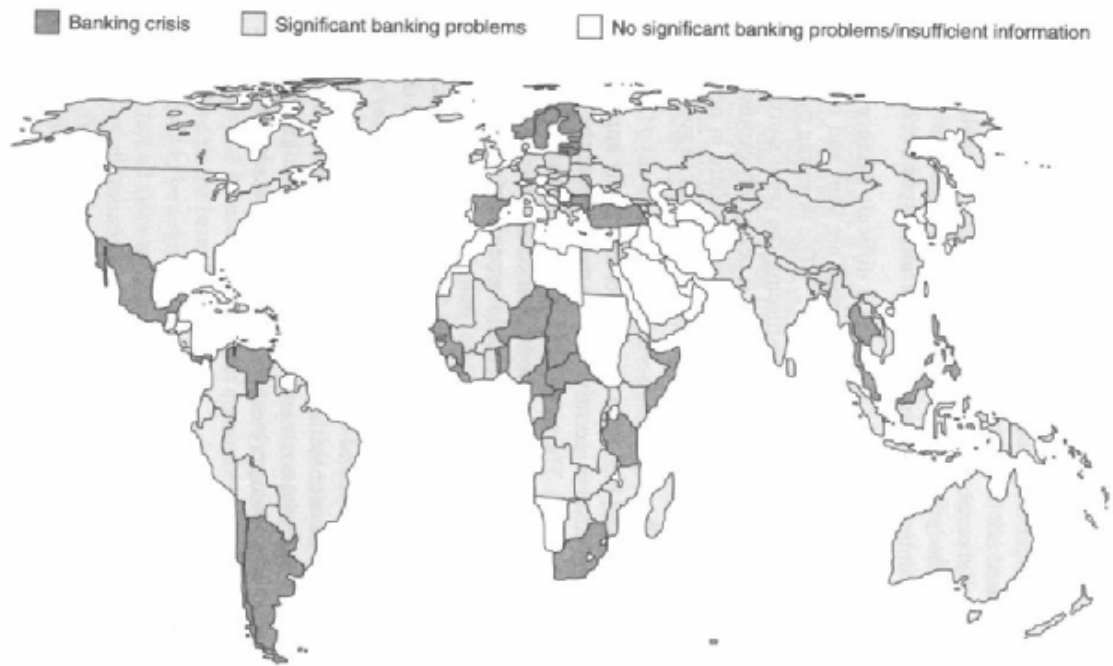


Figure 1: Banking problems worldwide, 1980-96. Source: Goodhart et al. (1998)

