

## **Yutaka Yamaguchi: Challenges raised by recent changes in the financial system**

Remarks by Mr Yutaka Yamaguchi, Deputy Governor of the Bank of Japan, at the Joint Bundesbank/BIS conference on “Recent developments in financial systems and the challenges for economic policy”, held in Frankfurt, 28-29 September 2000.

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It is indeed an honor to be invited today to address such distinguished guests at this conference.

The duty of a central bank is to contribute to sound and sustainable economic growth through price stability, though the legal description of its objectives may differ from country to country. Furthermore, a central bank has a substantial responsibility in maintaining financial system stability as a whole, regardless of whether or not it has supervisory authority over individual financial institutions. Thus, a central bank is unique in that it conducts its business while always paying close attention to the interfacing of the macro-economy and the financial system. Bearing these in mind, I will discuss some challenges which recent changes in the financial system raise.

Let me begin with the background and characteristics of changes in the financial system.

First of all, I should confirm the profound impact of innovations in information technology on the financial system. These innovations and the development of concurrent financial technology such as derivatives and securitization, which enable the unbundling and repackaging of risks, have greatly expanded the range of tradable risks. As a result, market transactions have become deeper and more liquid, fairer and more competitive prices have been realized, and transaction costs have declined substantially. This has led to the significant expansion of cross-border capital flows and financial transactions. And, with intensifying competition and interdependence, financial and capital markets in various countries have become similar “in certain respects”.

The reason I said “in certain respects” is because middle and retail banking, which meets the financial needs of individuals as well as small- and medium-sized firms, continues to be supported by financial intermediaries indigenous to each country. Of course, in the future, such localized banking might be affected by globalization as the advance of telecommunications technology, particularly the Internet, further erodes regional barriers, even for the household sector. Right now, however, it is difficult to envisage globalization, which has been progressing in wholesale banking, to also be observed in middle and retail banking in the immediate future. Thus, a phenomenon, which can be labeled “home bias” in middle and retail banking, is likely to coexist with the globalization of wholesale banking.

As globalization has progressed in wholesale banking, the institutional distinction among banks, securities companies, and insurance companies has become increasingly blurred. This is largely attributable to the fact that technological innovation has promoted the unbundling and flexible repackaging of such financial functions as settlement, financial intermediation, and risk allocation. At present, major financial institutions in many countries are gearing for the expansion of size and business area by way of consolidation. Such moves should be understood not only as the pursuit of economies of scale and scope by providing a variety of financial services in a comprehensive manner, but also as a process searching for a new combination of financial functions tailored for individual needs. With these moves gaining momentum, regulations based on the current fixed combination of financial functions have become increasingly outmoded when compared with reality. Under such circumstances, even in the United States and Japan where the financial systems used to be based on the strict separation of business areas, financial system reform which grants mutual entry of business areas among different types of financial institutions, has been implemented.

These changes in the financial service industry will exert various influences on the financial system. In this regard, let me mention the enhanced role of capital base as an important example. Under a financial supervisory paradigm that aimed at ensuring the soundness of financial institutions by regulating their activities, capital base only played a limited role. However, as the effectiveness of

such a regulation-oriented paradigm has greatly diminished, capital base has come to play an important role as a buffer against risks, and an accurate risk control method, which dictates as a core principle capital base being in line with risk profile, has become an established practice among advanced financial institutions. Bearing this practice in mind, the Basel Committee on Banking Supervision has been drafting a new guideline on capital requirements that redefines the amount of capital base corresponding to various risks. It will be interesting to see how the total amount of required capital for financial institutions will change as a result of the new guideline. For example, when many countries are said to be overbanked, it seems to indicate that capital and other resources are excessively allocated to the financial service industry, particularly the banking sector. With the new guideline that more accurately calculates the required capital corresponding to the risk profile of banks, will a similar conclusion hold? And, if examined from the viewpoint of economic capital, will there be any change in the conclusion? If the economy is considered overbanked even according to the new guideline, we will see the reallocation of resources, including capital, both in and out of the financial system. Through what kind of process will such reallocation of resources be realized? This question could have considerable bearing not only on the financial system per se but also on the conduct of monetary policy.

As such, the fact that financial transactions are conducted globally and financial markets have become significantly deeper and more liquid should work to enhance financial system efficiency as well as stability by making it possible to absorb various external shocks through market functions.

However, even in the 1990s, we repeatedly observed financial crises that went far beyond the collapse of individual financial institutions and affected entire financial systems, such as the asset bubbles in Japan and the Nordic countries, the currency crises in Asian countries and Russia, and the failure of the Long Term Capital Management. The increased frequency of crises along with changes in financial systems seem to suggest that while financial system efficiency has been considerably enhanced, vulnerability has also increased. Why should this be? Granted that the adoption of fixed exchange rate regimes and the impetuous liberalization of capital flows on the part of emerging economies were behind the recent turbulence, it is possible to conclude that technological innovation and globalization might have had a tendency to amplify such crises.

Indeed, financial globalization, ignited by innovations in information technology, has dramatically increased cross-border financial transactions, and occasioned intensified competition and interdependence among financial markets in various countries. However, exactly because of such strengthened interdependence, stress will not only affect the country in which it emerges initially, for example, Thailand in the case of the Asian crisis, but also be transmitted immediately to markets in other countries. In the transmission process, stress will not only be transmitted to those countries perceived to have similar economic structures, but also could significantly affect markets, which are not directly related to the stress, through the global adjustment of highly leveraged positions. Indeed, during the Asian crisis, "flight to quality" and liquidity evaporation took place, foreign exchange stability which enables smooth market transactions extending over many countries was lost, and markets segmented. Thus, once a financial crisis occurs, the depth and liquidity of globalized financial transactions that should absorb the shock immediately disappear, and the wholesale banking market becomes segmented by each country just as in the case of middle and retail banking.

In addition, where there are prospects for profit opportunities, in order to obtain maximum benefits, sophisticated financial techniques backed by financial innovation have to be highly leveraged. While it is true that such high leverage contributes to improving efficiency as long as forecasts turn out to be accurate and the financial system is smoothly operating, once an unexpected shock hits the market and profit opportunities are lost, a sudden reversal of prices could occur through position rebalancing and leverage rewinding. In such a situation, the very activity of individual financial institutions based on sophisticated risk management techniques aggravates market price instability. For example, market wisdom created the use of collateral in OTC derivative transactions as a self-defense measure to deal with counterparty risk. At the same time, as experienced during the Russian crisis, such collateral potentially has the negative aspect of triggering a vicious circle in times of stress where a decline in collateral value could, by converting counterparty risk to spread risk, induce margin calls and the unwinding of positions, thus leading to further declines in collateral value. Of course, from the

managerial viewpoint, each market participant would naturally try to contain risk and losses within a certain limit. However, in a stress situation, this kind of individual activity could change prices in a non-linear and discontinuous manner and cause the evaporation of market liquidity at a macro level.

Thus, we may be able to conclude that the depth and ample liquidity of markets created by technological innovation and globalization in normal times could be immediately lost in times of a financial crisis accompanied by enormous stress, and there is an inherent risk that it would further amplify the crisis.

Let me now discuss the financial crisis caused by the asset bubble that Japan experienced in the 1990s in relation to financial innovation. A bubble in the form of rapidly rising asset prices is a phenomenon that has repeatedly been observed in history. In a period of euphoria, asset prices become inflated along with the credit expansion of financial institutions. And, in the subsequent period of adjustment, a decline in asset prices impairs the balance sheets of financial institutions and has a substantial adverse impact on the economy as the credit provision function of such financial institutions weakens. With the benefit of hindsight, such a process is nothing new.

Having said this, however, in Japan we cannot deny the possibility that because the regulatory framework in the late 1980s did not keep up with rapid changes in the financial system, the activities of financial institutions became more risky than otherwise, thereby amplifying the extent of problems. Technological innovation in the capital market made the services offered by banks less attractive, and pressure from abroad for financial deregulation intensified. As a result, banks became strongly aware of the decline in their franchise value, which gave them a strong incentive to pursue risk-taking activities to maintain and improve their earnings. Furthermore, deregulation of the traditional segmentation of business areas and banking organization proceeded only gradually, thus making it difficult for banks to develop businesses that might open up new opportunities for profits. The result was excessive risk taking in lending which was their traditional business. Furthermore, financial institutions can temporarily prevent a fundamental deterioration in profitability from surfacing through aggressive lending. This kind of behavior and a rapid rise in asset prices during the emergence of the bubble that accelerated credit expansion, worked together to amplify the excess in the business cycle.

During the bursting of the bubble in the 1990s, Japanese banks simultaneously faced two problems: the non-performing asset problem and a further rise in pressure stemming from global competition. The interaction of these two problems further delayed improvements in financial system functions, and was a significant factor behind the stagnation of Japan's economy in the following years. Major Japanese banks found it difficult to make sufficient high-tech related investments due to capital constraints, and had to divest themselves of profitable overseas subsidiaries. This had a significant adverse impact on the competitiveness of investment banking, which has tended to yield the highest returns, and perhaps further delayed reconstruction of the medium-term profitability of banks. Furthermore, economic globalization promoted the convergence of factor prices, including property prices, and made reconstruction of the financial system more difficult by amplifying pressure stemming from asset deflation.

What lessons can the central bank learn from recent changes in the financial system and the experience of financial crises?

First of all, innovations in information technology and globalization are ongoing phenomena and will likely continue to change each country's economy as well as its financial system at a rapid pace. For a central bank, this leads to increased uncertainty in the environment surrounding the conduct of monetary policy.

A case in point is the argument that I made earlier on "overbanked" market. Such an argument is often made regarding the financial system in countries like Japan and Germany. If this argument is correct, it is envisaged that these countries would witness the rapid reduction of both deposits and loans, and the increase in such instruments as MMFs. In Japan, we hear conflicting views on the issue: while some advocate the need to expeditiously solve overbanking, others criticize the slow growth of money supply, which of course is the balance sheet of banks.

Some may say that the increased uncertainty for a central bank stemming from such factors as, for example, overbanking would not pose qualitatively different problems compared with the introduction of new financial instruments like NOWs and MMFs in the past. However, I think technological innovation has the potential power to more profoundly alter the financial and economic structure over the medium- to long-run.

For example, e-commerce, which develops as it interacts with innovation in financial techniques, has been rapidly expanding at an exponential double-digit annual rate in Japan and the United States, and may fundamentally change the price formation of goods and services. The spread of e-commerce could put downward pressure on prices due to the decline in distribution costs, dramatically reduce menu costs because, for example, price tags can easily be changed, and lead to price destruction as prices can be set differently from customer to customer. In fact, we see examples in such merchandise as CDs (compact discs) and books where e-commerce transactions are 10 to 20% cheaper than those in traditional commercial transactions, and merchandise sold with a unit price change of one dollar in traditional commerce is now sold with a unit price change of one cent in e-commerce.

A decline in the price level and the rapid progress of price differentiation vis-à-vis customers would make it more difficult for the central bank to set a targeted inflation rate and substantially impair the reliability of price indices. Since economic theory teaches us that price rigidity is a big factor supporting the short-term effectiveness of monetary policy, lower menu costs might have a large impact on the effectiveness of monetary policy.

The spread of e-commerce is only one aspect of the various influences of technological innovation, and as such innovation proceeds there will be many other new aspects to contend with. The intrinsic difficulty regarding the conduct of monetary policy lies in our limited knowledge of economic prospects and mechanisms, and innovation in information technology and advances in globalization may further aggravate such difficulty.

Under such circumstances, we should not suppress, by regulation, the development of technology and innovation in the market. Rather, we should strive to provide a supportive market infrastructure, including regulation and supervision, market practices, disclosure, and accounting methods, in a broad context and to make it more robust. The systematic improvement of market infrastructure will contribute to reducing the risk of financial crises, which is the most serious uncertainty. In fact, to this end, vigorous and systematic efforts have been made in the international community, resulting in a plethora of fora, reports and proposals. It is indeed an encouraging development that many international committees are striving to discover and improve weaknesses inherent in the global financial system, and experts of the Financial Stability Forum have been double-checking such efforts. We must thus ensure that the results obtained from these precious efforts are implemented by the authorities of each country and market participants, and in this context I agree to the point made by many that appropriate incentives are needed.

Of the various efforts to improve market infrastructure, let me mention the study called the "Fisher II" project, being undertaken by the Multi-disciplinary Working Group on Enhanced Disclosure, chaired by Mr Peter Fisher of the Federal Reserve Bank of New York. This developed from the study by the central bank group at the BIS, and it is currently examining ways to improve disclosure necessary for evaluating counterparty risk in collaboration with the supervisory authorities of banks, securities companies, and insurance companies, as well as with the support of major market participants. This study is important, not only because cooperation between the private financial sector and the supervisory authorities in charge of the financial service industry overall is realized, but also because it may reveal the new boundary of disclosure needed for such public goods as market stability in the context of recent crises. Moreover, we need to check whether or not market pressure, which is regarded as a main incentive, would result in establishing advanced disclosure as a market practice. At present, it is only a hypothesis that more advanced disclosure would lead to more appropriate risk management by market participants, let alone to further enhancing financial system stability through the better grasp of macro risk profile. In this regard, one lesson we have learned from the bubble period in Japan is that although individual financial institutions conducted risk management, which eventually turned out to be insufficient, enormous concentration of risk could arise at a macro level.

Hence, we may need some other way to grasp the size and profile of risk at a macro level. Still, the study of how financial institution disclosure should be pursued has the possibility of linking financial system stability at a macro level to the incentives of individual market participants, and I believe it is worthwhile to explore such a possibility to the maximum extent.

The next issue is how the central bank and the authorities should respond to increased uncertainty that cannot be directly controlled. Recently, many countries have experienced the fluctuation of asset prices, which is one example of uncertainty. Here, one issue is the difficulty of identifying whether such fluctuation reflects the arrival of a new era or the emergence of a bubble, and also how monetary policy should be conducted under such circumstances. Allow me to elucidate a little on these issues, which I think important, though they are not directly related to the problem of changes in the financial system.

A key question for a central bank is whether excessive swings in economic activity can be avoided only if price stability is maintained by appropriate monetary policy. While this question requires careful examination, by looking at the experience in Japan, my preliminary answer is, to my regret, “No”. In fact, Japan’s bubble emerged in the midst of favorable macroeconomic performance where high growth and price stability had co-existed for several years. The yen’s appreciation resulting from the outlook for higher growth potential coupled with contained inflationary expectations brought about notable price stability during the period when asset prices rose rapidly, which made it difficult for the Bank of Japan to preemptively raise interest rates citing the future risk of inflation. During periods of euphoria when overheating of the economy is not reflected in price forecasts, and the central bank tolerates continued monetary easing despite uneasiness that leads to a delay in taking preemptive measures, the result will almost inevitably be an excess in asset prices and economic activity.

In this regard, ironic as it may sound, favorable macroeconomic performance and price stability seem to be necessary conditions for the emergence of an asset price bubble. This seeming paradox poses a serious challenge to the central bank. If favorable economic performance and price stability that could be perceived as the arrival of a new era in fact turns out to be just euphoria, high asset prices will not last long, and the subsequent correction of asset prices will have a serious adverse impact on both financial and macroeconomic aspects of the economy. Such concern, however, is not convincing enough to persuade those who believe in the arrival of a new era to restrain ambitious investments. In many cases, the arrival of a new era and euphoria are both triggered by such changes in the environment as technological innovation, and it is never an easy task for anybody to judge whether the change witnessed in the middle of euphoria is simply more euphoria or if a new era is being ushered in.

Technological innovation significantly raises such uncertainty. Generally speaking, in a situation where uncertainty surrounding the economy increases, prevailing thinking is that the central bank should conduct monetary policy more carefully and cautiously. At the same time, not a few criticize that such a gradualist approach to monetary policy might well end up in “too little, too late”. Some even argue that monetary policy should be decided from the viewpoint of the “minimax theorem”, which aims at minimizing damage in the worst scenario. According to this theorem, the central bank should first compare two policy options, for example, to erroneously tighten monetary conditions despite the arrival of the new economy and thus deprive the economy of an opportunity to raise growth potential on the one hand, or to misunderstand a bubble as part of the transition process to the new economy and continue monetary easing on the other hand. And it should conduct monetary policy by judging which one of these two policy options is likely to result in a less worse scenario. I suspect many central banks will perhaps be required to make such a comparison in the conduct of monetary policy.

Today, I have discussed some problems resulting from changes in the financial system that central banks face and how they should respond. Despite the various efforts I have outlined, the probability of a financial crisis occurring can never be reduced completely to zero. With this in mind, a central bank should enhance its crisis management ability. In this context, it is necessary to conduct risk monitoring and analysis while paying close attention to the increasingly globalized financial system, and to strengthen a cooperative framework among central banks to deal with risks once they materialize. Of

the various efforts made toward this end, the BIS Committee on Global and Financial Systems that I have the honor of chairing, has been actively working, as its primary mission, to discover potential market vulnerability at an early stage and to propose remedial measures, often in collaboration with the BIS sister committees. For example, based on the analyses of the recent international financial crises, we have put forward suggestions for a method of disclosing foreign exchange reserves, a market design for enhancing liquidity, and a way to improve statistics with regard to international fund flows.

At the outset, I said: “A central bank is unique in that it conducts its business while always paying attention to the interfacing of the macro-economy and the financial system.” I think what is required of a central bank is to conduct appropriate monetary policy while giving due consideration to this unique feature, and at the same time to contribute to developing a market design in a broad context while strengthening close cooperation and dialogue with other public authorities as well as private financial institutions.