

Luncheon Address

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It is a great pleasure as well as a great honor to host the Second Joint Central Bank Research Conference on Risk Measurement and Systemic Risk. The preparations for this Conference started about five years ago when central banks of the U.S., U.K. and Japan commonly recognized a strong necessity to better understand the mechanism behind the emergence of systemic risk in order for them to achieve financial stability. At that time, it was agreed that this Conference should also aim to support the activities of the BIS Euro-Currency Standing Committee,¹ which monitors risks in international financial markets. That is why this Conference is held in collaboration with the Committee, of which I happen to be the chairman. I therefore have an additional reason to appreciate your participation here today and tomorrow.

The First Conference was held in Washington D.C. on this same day three years ago. Three years later, we are meeting on such an ironically “timely” occasion, when we cannot help but use and hear the term “systemic risk” in a real world context. The issues that will be raised and discussed at this Second Conference have therefore acquired an enhanced sense of urgency.

They include: how does systemic risk emerge; how does the payment system, the market microstructure or the behavior of market participants alter this mechanism; or how should central banks deal with this mechanism as the lender of last resort or as the designer of the system? We typically come across these questions in our day-to-day operations. However, we are often preoccupied with seeking immediate solutions to problems that confront us every day and tend to fall in a pitfall of failing to grasp a comprehensive picture of the whole issue.

The purpose of this Conference is not to present a package of conclusive answers to these questions. Nor is it necessarily appropriate, in my view, to infer direct solutions for current problems from the Conference discussions. Instead, the ultimate goal of this Conference should be for the participants to reach a common understanding of the intrinsic issues. To that end, we have prepared an opportunity for participants with such diverse backgrounds to breathe the same air and challenge the same task in the same room. Integration of academic theory,

¹ Euro-Currency Standing Committee was renamed Committee on the Global Financial System on February 8, 1999.

practice and policy is the key to this Conference's success. Thus, we would like to take advantage of this rare opportunity where scholars, market participants armed with state-of-the-art technology and central bank researchers have assembled in a forum for an interactive exchange of views. And, on behalf of all those hosting this Conference, I strongly hope that the discussions, while somewhat distanced from immediate problems and solutions, nonetheless offer effective clues as we approach the issues in systemic risk and contribute in the mid-to-long term to the reforms of institutional setting.

For two days, we will tackle this formidable task of understanding systemic risk. I would like to present, as a guidepost for the discussions, two basic concepts that have attracted the attention of myself and my colleagues through some work in which I was engaged at the Euro-Currency Standing Committee and on other occasions. These concepts---which are "market liquidity" and "market expectations"--- can serve as a useful key when we explore how to achieve stability in the globalized financial system, and how market participants, including central banks, should cope with systemic risk.

A systemic risk by definition includes "contagion" as an element. For example, the so-called Promisel report, published in 1992 by the BIS Euro-Currency Standing Committee, defined systemic risk as the risk that a disruption at a firm, in a market segment, or to a settlement system, etc. will cause widespread difficulties at other firms, in other market segments or in the financial system as a whole. In reviewing the financial turmoil that took place in international markets during the six years after this Promisel report, particularly in the last 18 months, we clearly observe that contagious disruption in market function spreading from one market to another beyond the national boundaries has intensified thanks partly to innovations in information technology. When one focuses on this aspect of systemic risk, one needs to analyze more specifically the contagion of "market liquidity" and "market participants' expectations."

Global proliferation of financial uncertainty led to the so-called "flight-to-quality" where money flowed into risk-free assets such as U.S. Treasuries. Fueled by growing fears, market participants have been forced to take additional liquidity protection measures, causing the so-called "flight-to-liquidity" phenomenon. We are seeing a shift of money towards risk-free assets with higher levels of liquidity. However, we must bear in mind that market liquidity itself is elusive and subject to dynamic changes. This is because the distinction between liquid markets and illiquid markets is in itself very ambiguous and unstable.

In a joint study of the Euro-Currency Standing Committee, central bank researchers from the U.K., the U.S., Canada, Italy, Japan and the BIS found that liquidity tends to be concentrated in a specific instrument or in a specific market depending on market structure, the nature of each financial instrument, or the behavior of market participants. In the Japanese Government Bond market for instance, under normal conditions, we observe the phenomenon of liquidity concentration, which is measured, for example, by the gap between the trading volume and the bid-ask spread of the benchmark issues and those of other issues.

In times of stress, this tendency becomes even more pronounced. Market liquidity tends to move into markets that are immune or that are perceived to be immune to financial stress. For example, since last fall, the highly rated corporate bond issuance in Japan enjoyed a record volume, whereas the secondary market of corporate bonds virtually stopped functioning. This development can be attributed to various macroeconomic factors. However, proponents of market function and liquidity dynamics argue that this phenomenon is evidence of market participants' preference for markets--in this case, the primary market--with structures that can safely maintain price discovery functions even under stress which in turn was generated by increased uncertainty regarding credit quality.

One must take into consideration the dynamics of market liquidity in weighing the potential system-wide impact caused by failure of a financial institution or, for that matter, a hedge fund. Liquidity travels instantaneously from one financial market to another if the markets are closely and globally linked as they are today. If we define systemic risk as a contagious implosion of market functions triggered by some event of shock, it is necessary to consider how the impact of an event is channeled and proliferated globally through changes in market liquidity. In the context of market liquidity, the issue of so-called "too-big-to-fail" can be paraphrased as "too-big-to-liquidate." If the size of the position that is to be liquidated or closed-out is dominant when compared with total market liquidity, the liquidation procedure will dry up the liquidity of the relevant markets and trigger cascading disruptions of market function, eventually culminating in materialization of systemic risk.

Then, what gives rise to the dynamics behind the concentration of market liquidity or behind its sudden shift? We have only started to work on this issue and thus we have yet to clarify the theoretical mechanism behind such dynamics. But, to show an easier example, the potential demand and supply for trade surfaced last April after the Tokyo Stock Exchange scaled down the so-called "tick size," which is its minimum price unit for trading. To show another example, an analysis suggests that, after the reform of rules regarding disclosure of pre-trade information in the Italian Treasury bond market, large traders may have been made better off, which may have led to increased market liquidity in that market.

The second key concept I would like to put forth is "expectations of market participants," which are also transmitted contagiously throughout the world markets in a very short time frame. Expectations and confidence of market participants strongly affect the robustness of market functions and volatility of market price, through the medium of market liquidity. When, for some reason, market confidence deteriorates, market liquidity may decline, which could impair effective market functions in some cases. Alternatively, an overwhelmingly drastic shift in market expectations could trigger a market crash, where the price level changes dramatically with market liquidity constantly maintaining a certain level.

How can we explain such a one-way shift in market expectations or the sudden loss of market confidence? The problems that confront us are nothing less

than the widespread and disorderly loss of market confidence for the entire financial system. It appears that we need to understand the mechanism of self-fulfilling market expectations which is a notion that is recently gaining theoretical development within the area of information economics.

As we all know, Keynes once mentioned the so-called beauty contest mechanism in capitalist societies. In the creation of market expectations, the “truth” does not necessarily matter. Rather “what is believed by many people to be suspected to be the truth” becomes the truth under this mechanism of self-fulfilling expectations. The key to market stability is not the “true” change in economic fundamentals, but whether “the ratio of people who expect that the majority will act on the presumption that something has changed” exceeds the critical mass. This expectation factor, which is called “higher order beliefs” or “a drain of doubt,” is believed to provide a convincing explanation for the expectation formation mechanism in an economic phenomenon to which many parties from all over the world are stakeholders.

This framework can be used to give reasonable explanations for the phenomenon where some Asian countries that are not necessarily burdened with serious defects in their economic fundamentals become victims of speculative attack on their currencies, simply because they are geographically located in Asia. Because psychological association tends to come into play in expectation formation, there is a higher possibility of market disruption when subjects of concern are prone to be classified in one category, such as “Asian countries.” Unless the economic fundamentals of one country are flawlessly transparent, more than one equilibrium can coexist in the foreign exchange market for the country’s currency. For example, one equilibrium may sustain the stable functioning of the system and the other equilibrium may induce speculative attack and destabilize the system. In many cases or in some cases at least, deteriorating economic fundamentals are not the direct cause of a fixed rate system meltdown in foreign exchange markets. Although the economic fundamentals are consistent with both equilibria, when a majority opinion anticipating the fall of the fixed rate system is formed in response to certain news suggesting change in the fundamentals, the fixed rate system is often destroyed. Therefore, if for some reason the products are classified in the same category, they are likely to be grouped together in the set of failing products through the chain reaction of expectation formation.

This implies that market participants must take into account whether an adequate level of information is being fully shared with other market participants, in addition to the generally supported significance of information disclosure. Of course, it is important as a first step for market participants, including the sovereign states, to disclose information about their individual financial conditions and to collect such data and prepare statistics on risk distribution. However, in order to maintain stability in international financial markets where globalized trade is increasing and information technology is continuously evolving, mere dissemination of information appears not enough. Market participants will be required to disseminate information with full projections of how and to what extent the

disseminated information will affect the expectation formation process.

Today, I have presented a couple of concepts: “market liquidity” and “market expectations.” It is important that we continue to make our best efforts to better understand market dynamics, such as summarized by these two concepts. In this respect, we can learn from academic achievements in different areas of study, such as information economics, finance, engineering and physics. There certainly is room for making progress in our approach to systemic risk, or threat thereof, through these constant endeavors.

But it is equally important for us to know that the recent exercises in central bank prudential policy including here in Japan are revealing the nature of central banking itself more straightforwardly.

For example, what steps should a central bank take when faced with widespread and deep-rooted uncertainty over credit quality in the financial markets? In such an environment, the central bank concerned would try to prevent market fear and its self-fulfilling mechanism from triggering a liquidity drain and market disruption while at the same time aiming to induce interest rates within the range consistent with monetary policy. The former requires a commitment to supply the necessary liquidity to eliminate fear of liquidity drain on the part of market participants. The latter requires control over necessary liquidity in order to induce interest rates into the target range. These two aims may or may not be compatible depending on particular situations. In addition, if the market perceives that such liquidity supply will impair the financial soundness of the central bank itself, uncertainty in the financial system would certainly persist. Policy decisions in practice have to seek an appropriate balance among these objectives and constraints.

Japan is one economy today in which these fundamental missions of, and constraints on, central banking are surfacing. It appears important and useful to take into account these core issues in central bank operations as we discuss in this Conference some key issues of systemic risk.

Obviously, financial stability cannot be achieved solely by the efforts of central banks. In that respect, I would like to conclude my remarks by emphasizing the following. All who have gathered here and all others who follow financial market activities should constantly engage in candid exchanges of views regarding market mechanisms and market design. Promoting mutual understanding among us, who are the “stake holders” in financial stability, is undoubtedly a key building block as we try to make further progress toward that end.

Thank you very much for your kind attention.