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May 26, 2011  
Bank of Japan

**The Importance of Financial Infrastructure in Seeking  
a More Resilient Financial System  
-- From an Asian Regional Perspective --**

*Keynote Speech at the Bank of Korea International  
Conference 2011*

**Kiyohiko G. Nishimura**

*Deputy Governor of the Bank of Japan*

## **1. Introduction: Resiliency of the Financial System**

Governor Kim, distinguished guests, ladies and gentlemen, I am delighted and honored to have the opportunity to deliver this keynote speech at the Bank of Korea International Conference.

The theme of this 2011 conference, “Future of the International Financial Architecture,” is timely and very important, because it points us directly to the lessons we should draw from the recent crises, including the collapse of Lehman Brothers, the sovereign debt problems in some European nations, and even the Great East Japan Earthquake and its massive tsunami in March this year. I am delighted to be able to participate in this conference, and hope to contribute to it, representing the Bank of Japan.

Before proceeding with my speech, let me first express my sincere gratitude, on behalf of the Bank of Japan and the Japanese people, to all the people around the world who have given their generous support to the severely damaged area of East Japan. We are deeply grateful for all the prompt and compassionate physical assistance and financial donations we received from so many overseas jurisdictions.

The disaster reminded me once again of the utmost importance of a resilient financial market and system, in which a central bank plays an essential part. In spite of the magnitude 9 earthquake, the Japanese financial system maintained its soundness, although some regional financial institutions were severely affected. Our payment and settlement systems have functioned effectively and without serious disruption in delivering necessary cash across the entire nation, including the disaster-hit areas. Although significant volatility was temporarily observed in the week following the disaster on March 11, the Japanese stock market has recovered its value since then, and the foreign exchange market has regained its stability.

We must bear in mind, however, that such financial stability was not necessarily achieved in the case of past disasters. The San Francisco earthquake of 1906 is a case in point. That earthquake destroyed San

Francisco, which was then the financial center of the West of the United States. Huge demand for cash was generated in the West for its reconstruction and insurance payments, at a time when the United States had no central bank system.<sup>1</sup> Market participants then tried to address this urgent situation by transmitting money to the West from New York City, but ironically, their action resulted in a significant shortage of liquidity in the nation's financial center. In consequence, short-term interest rates increased rapidly, and the New York money market lost its functionality. The contagious impact was also observed in overseas financial markets such as London.<sup>2</sup>

In this speech, I will focus on the determinants of the resiliency of a financial system, and the role of regional cooperation in seeking a more stable and resilient system. Here, I argue that it is of utmost importance to build a liberalized, transparent, and deep financial market and system, without arbitrary intervention, whether formal or informal. In particular, from an Asian regional perspective, I would like to emphasize the need to improve the region's financial infrastructure, including its payment and settlement systems, so that financial markets can maintain their functionality even during a crisis.

In the following, I will first review a variety of policy efforts introduced in the region since the Asian currency crisis to address the risks related mainly to massive capital outflows. This is followed by my views on how to cope with harmful volatility in the financial market and system. Finally, I will conclude by emphasizing the importance of improving payment and settlements systems in the region.

## **2. Successful Efforts since the Asian Currency Crisis: But Don't Be Too Complacent**

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<sup>1</sup> The Federal Reserve System, which serves as the U.S. central bank, was created by an act of Congress on December 23, 1913.

<sup>2</sup> For details see Robert F. Bruner and Sean D. Carr (2007), "The Panic of 1907: Lessons Learned from the Market's Perfect Storm," Wiley, John Wiley & Sons, Inc., Hoboken, New Jersey.

The more than ten years since the Asian currency crisis has literally been a period of reform for Asian financial markets. Bearing the important lessons in mind, Asian authorities have made a variety of policy efforts to strengthen the resilience of their economies and financial markets, including the self-insurance of accumulating foreign reserves, multilateral swap agreements under the “Chiang Mai Initiative”,<sup>3</sup> and reduction of their dependency on off-shore short-term funding. They have also endeavored to and succeeded in improving their fiscal positions. Coupled with the high growth potential of Asian economies, these policy efforts have proved effective in helping Asia steer through the global financial crisis, often called the “financial tsunami”, which followed the collapse of Lehman Brothers in September 2008.

Such a success story would, however, be short-lived, if Asian economies were too complacent to address the challenges that capital flows and domestic inflation bring. Owing to their high growth potential, Asian economies have again experienced large capital inflows, creating an environment that is likely to increase volatility, particularly in asset prices (Slide 1). In addition, the recent surge and increasing volatility in commodity prices, which is in part explained by financial factors, may accelerate existing domestic inflation risks in emerging Asia (Slide 2).

The challenge now is how to cope with the short-term, harmful volatility that disruptive capital flows may cause, while at the same time maintaining and enhancing the long-term welfare-improving efficiency that steady capital flows bring about. Capital flows are beneficial for the Asian region, where there is large potential demand for public and private infrastructure. Thus, they are absolutely necessary for the further development of Asian financial markets, as well as for further growth in Asian economies.

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<sup>3</sup> There are ongoing debates on, among other issues, the appropriateness of the current scale of 120 billion U.S. dollars relative to the total size of economy, and the manner of collaboration with the International Monetary Fund. These issues were addressed in the Joint Ministerial Statement of the 14<sup>th</sup> ASEAN+3 Finance Ministers’ Meeting on May 4, 2011 in Hanoi, Vietnam, coupled with the important issue of the participation of member central bank governors from its 15<sup>th</sup> meeting. The gathering will then become the “ASEAN+3 Finance Ministers’ and Central Bank Governors’ Meeting” from 2012.

Volatile capital flows are often said to be beyond the control of regional authorities. I believe this is true to a great extent because Asian financial markets are still lacking in depth and liberalization. Their ability to cope with large-scale external shocks through, for example, the modulation of capital flows, therefore remains far from sufficient.

### **3. Short-Term Measures to Cope with Financial Instability: Don't Forget Their Long-Term Consequences**

Recently, many Asian economies have again experienced a surge in capital inflows. Large-scale capital inflows are said to have brought three major problems. First, they have caused rapid currency appreciation in a short period of time, which is undermining the competitiveness of export industries and dampening corporate confidence. This is especially detrimental to Asian emerging economies with their relatively high dependence on exports. Second, these massive capital inflows, together with their favorable economic expansion, have pushed stock prices to historical peaks and brought about a rapid increase in property prices. Such developments, if continued for an extended period without appropriate policy actions, would increase the unwelcome risk of asset price bubbles. Third, increases in asset prices and bank lending are stimulating excessive consumer spending and business investment through wealth effects, leading to the risk of an overheating economy and accelerating inflation. Indeed, inflationary pressures and inflation expectations have been rising in many Asian emerging economies, fueled also by the recent surge in commodity prices.

In response to these challenges, many Asian economies have adopted short-term policy responses, such as restrictions on capital inflows and macro-prudential policy measures, as well as foreign exchange market intervention. Since last year, they have introduced a variety of quantitative regulations and tax measures to mitigate the risks that excessive capital inflows may cause. Moreover, in an effort to curb overheated property investment, they have strengthened regulations and taxation on property transactions, lowered the required loan-to-value ratio

for financial institutions, and imposed tighter limitations on bank loan volumes. These specifically targeted policy actions have indeed begun to take effect. For example, the upward pressure on property prices seems to have eased somewhat in several economies.

However, such favorable effects may be the exception, and these policies may have unintended adverse effects on the economy if they are in place for longer than necessary, such as distorting optimal credit allocation and impeding necessary structural reforms. Moreover, temporary success in these short-term measures may tempt policy makers into postponing measures necessary to cope with real and fundamental problems.

In particular, monetary and other macroeconomic policy actions must not fall behind the curve. Although the increase in interest rates may attract further capital inflows, we should not rely too much on the above-mentioned short-term regulatory and macro-prudential measures. As was evident from Japan's experience of the past bubble, delayed monetary and macroeconomic policy responses may bring about an accumulation of "excesses" in employment, business capacity, and debt under an inflexible labor market or high investment irreversibility. Such accumulated excesses may persist for an extended period, and may hamper economic growth in the years following. After all, regulatory and macro-prudential measures are supplementary to, but not substitutive for traditional or conventional policy measures.

Let me move on to the longer-term issues associated with vulnerability to unanticipated external shocks. As I mentioned earlier, steady capital inflows are beneficial in bringing about welfare-improving efficiency in the long run. In order to ensure their benefits, I would like to emphasize the importance, here in Asia, of long-term policy efforts to develop more liberalized, deep, and well-balanced financial markets, or I may say, a better financial infrastructure or architecture. Deep and well-balanced financial markets, side-by-side with free and stable capital flows, enhance the effectiveness of resource allocation. It should be emphasized that liberalized and deep financial markets also strengthen the effectiveness of macroeconomic policies, through improvements in the monetary

transmission mechanism.

The Asian authorities are together in having recognized this long-term perspective, and they have been making collaborative efforts over the past decade to develop their financial markets, particularly their bond markets. Examples of such efforts include the Asian Bond Fund (ABF) initiatives launched by the EMEAP,<sup>4</sup> in which the Bank of Japan also takes part, and the Asian Bond Markets Initiative (ABMI) of the ASEAN+3 process.<sup>5</sup>

Asian financial markets have developed remarkably in recent years thanks to these policy efforts (Slide 3). Nevertheless, they are still much smaller and less liquid than their counterparts in advanced economies, magnifying the impact of short-term volatility of capital flows on their stock and bond prices, and accordingly on their foreign exchange rates. In particular, the secondary and repo markets as well as the primary markets for corporate bonds remain relatively underdeveloped in the region, compared with the expanding primary markets for government bonds. This situation needs to be addressed through more cooperative and collaborative efforts among Asian economies, including Japan.

Moreover, in a broader sense of the infrastructure issue, there is still an excess of regulations on cross-border transactions, including those applied to foreign exchange, overseas remittances, and foreign inward investments, as well as an over-complex taxation system. The lack of transparency is often criticized, as well as the seeming arbitrariness found sometimes in the enforcement of such regulations. They remain an impediment to the promotion of transactions and to the development of liberalized and deep

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<sup>4</sup> The EMEAP was established in 1991, and consists of eleven central banks and monetary authorities in the Asia and Pacific region, namely Australia, China, Hong Kong, Indonesia, Japan, Korea, Malaysia, New Zealand, Philippines, Singapore, and Thailand.

<sup>5</sup> Under the ABF initiatives, EMEAP member central banks invest a portion of their foreign reserves in sovereign and quasi-sovereign bonds of eight EMEAP jurisdictions. The ABF initiatives have promoted the recognition of local currency-denominated bonds issued in Asia, and acted as a catalyst to accelerate and harmonize legal, regulatory, and tax reforms related to bond investments in the region. The ABMI has also made a variety of efforts and achievements, including providing technical assistances and credit guarantees, as well as enhancing information disclosure for investors, aiming at improving the issuance and investment environment on government and corporate bonds in the region.

financial markets in this region.

#### **4. Improving Payment and Settlement Systems in Asia: Respect Free Markets**

I would like to emphasize the utmost importance of improving the post-trade infrastructure of securities markets in Asia. This would enhance the resilience of the financial system as Asia's financial markets continue to develop. As I mentioned earlier, Japan's payment and settlement systems were not disrupted by the Great East Japan Earthquake, and have continued to function effectively, helping to ensure financial and social stability.

The role of payment and settlement systems is to settle claims and obligations arising from transactions. While the infrastructure making financial contracts straightforward and smooth could be compared to arteries pumping out blood into the body of the economy, the payment and settlement system would then be the veins carrying the blood back to the heart (Slide 4). Both of them are absolutely necessary for the proper functioning of the financial system, especially for cross-border transactions. The international financial system would stall if the veins, or the payment and settlement system, became choked with blood clots. In this respect, it is extremely important to ensure the safety and efficiency of the payment and settlement system, as well as its stable operation, even in times of crisis.

From the cross-border perspective, however, I recognize at least two problems in the post-trade infrastructure for cross-border securities trading in the Asian region.<sup>6</sup>

First, settlement risks associated with cross-border securities trading remain, and sufficient measures have not yet been introduced to manage them.

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<sup>6</sup> There have been relative improvements in domestic payment and settlement systems in Asia. Online securities payment and settlement systems have been constructed, and delivery-versus-payment settlement has been achieved. Many jurisdictions have also already realized settlement cycles of T+2 to T+3. Further improvements may still be needed in some jurisdictions to establish legislation on settlement finality.



For example, the U.S. dollar is usually employed as the intermediary for obtaining the investment currency. However, in many cases in Asia, the settlement between the local currency and the U.S. dollar is not made through payment-versus-payment settlement. In addition, since invested securities are held or settled through a multi-tiered system involving central securities depositories and sub- and global custodian banks, custody risks are inherent across the tiers.

Second, as operational procedures often need to be adjusted individually in order to meet the regulatory and system requirements of each jurisdiction, operational costs are quite high for intermediaries between issuers and investors, such as central securities depositories, sub- and global custodians, and international central securities depositories. This in turn increases the costs for investors.<sup>7</sup>

In order to support strong and sustainable economic growth in Asia, it is important to develop deep and liquid bond markets, as well as to build the infrastructures supporting such markets. In this respect, the Asian economies must endeavor to rectify these and other problems, not only individually, but also on a collaborative basis by recognizing the whole Asian region as one single market. As for the direction of the action to be taken, we should in particular build an infrastructure for ensuring efficient and safe cross-border payment and settlements, and expand measures to maintain market liquidity even in times of crisis.<sup>8</sup>

There are two conceptual issues to be considered when designing Asia's future cross-border payment and settlement system. One is to what extent the system should be integrated, while the other is to what extent the public sector should be involved in the function.

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<sup>7</sup> In addition, a variety of identification codes and message formats are used in the payment and settlement systems, and they still fall short of the international standards.

<sup>8</sup> Discussions have been held at the ABMI of the ASEAN+3 process and other forums on ideas to build a cross-border payment and securities settlement system in the region. We should continue to make progress in these discussions and take measures to put the ideas into action in each field, ranging from removing transaction impediments to developing payment and settlement systems, and to test them in practice.

As for the degree of integration desirable, the more integrated the infrastructure, the easier it becomes to adopt better functions. However, it would then be more costly and difficult to reach agreement on the location for its installation. As for public sector involvement, generally speaking, the more the public sector is involved, the safer the infrastructure becomes. However, it is then likely that the scope of the services would be limited, while raising private sector suspicion of possible state interference. Since the involvement of the public sector in payment and settlement systems is traditionally high in Asia, it might be realistic for us to consider the above-mentioned issue not as a choice between two mutually exclusive options, but as a decision on how to combine the efforts of both the public and the private sectors.

In attempting to strike a better balance in such trade-offs, we should follow three basic principles. The first is to respect the choices of market participants using the payment and settlement systems and ensure good governance. The second is to enhance the use of central bank money in payments and settlements as a means of reducing settlement risks. The third is to adopt a gradual approach that takes into account the differences in the degree of market liberalization among Asian economies.

The use of cross-border collateral arrangements by central banks could be one of the measures used to maintain market liquidity in times of crisis. If we have an infrastructure in which central banks can be flexible in providing their local currencies against highly liquid foreign assets as collateral, this would contribute to the smooth funding of locally active financial institutions, and thereby enhance the stability of domestic financial markets.

Japan has made substantial improvements in the post-trade infrastructure for Japanese government bonds, which have the largest market volume in Asia. Improvements have been made, for example, in aspects of the payment and settlement system, the legislation governing securities settlement, and the tax system for non-residents. I believe that our experience will also be helpful in promoting the development and stability

of financial markets across the Asian region. Working in close cooperation with the relevant institutions, the Bank of Japan hopes to be able to contribute to the development of financial infrastructures in both Japan and the Asian region by sharing the knowledge obtained from our experience.

Now, let me wrap up. Motivated by the lessons of the Asian currency crisis, Asia is the most active region in terms of policy cooperation and coordination aimed at building robust financial markets and systems. However, to be honest, the policy goal has not yet been fully achieved, as the markets and systems are still under-developed. We Asian policymakers need to make more cooperative and coordinated efforts to construct better systems (both in terms of hard and soft aspects) that are sufficiently resilient against large unanticipated shocks, including sudden capital outflows and natural disasters, even though, realistically speaking, there may be no perfect design.

Thank you for your kind attention.



Bank of Japan

# The Importance of Financial Infrastructure in Seeking a More Resilient Financial System ~From an Asian Regional Perspective~

**Kiyohiko G. Nishimura**

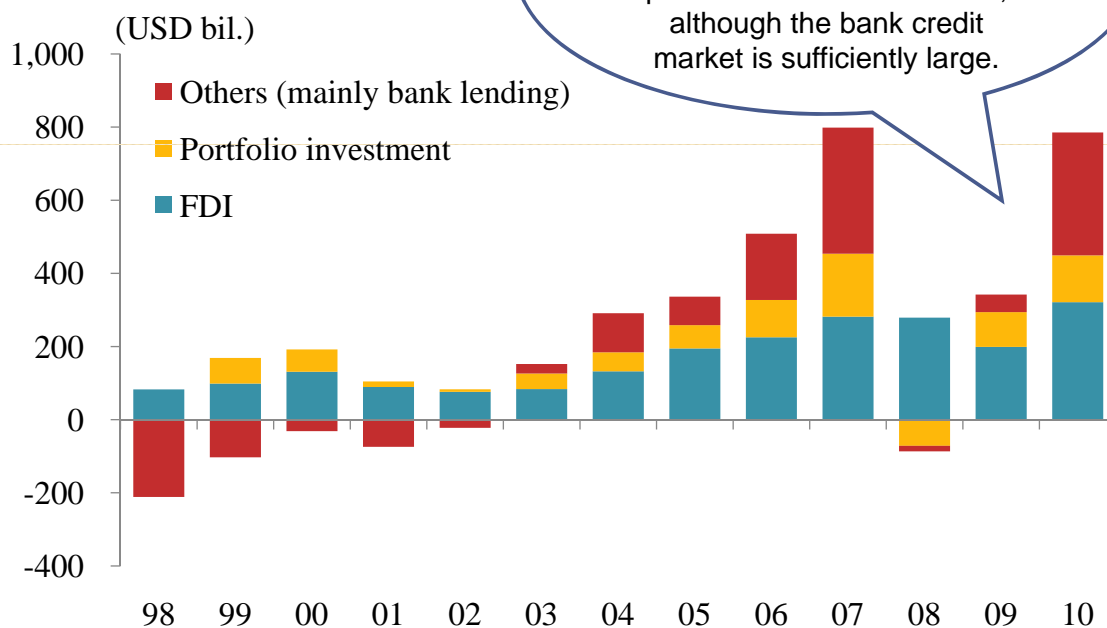
*Deputy Governor of the Bank of Japan*

## Outline

1. **Introduction: Resiliency of the Financial System**
2. **Successful Efforts since the Asian Currency Crisis: But Don't Be Too Complacent**
3. **Short-Term Measures to Cope with Financial Instability: Don't Forget Their Long-Term Consequences**
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# (Slide 1)

## Capital Inflows to Asia



(Note) The sum of China, Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore, and Thailand.  
 (Source) CEIC, IMF

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# (Slide 2)

Still accommodative: Real interest rates are significantly lower than real GDP growth rates in Asia

	Policy interest rate (May 18, 2011)	Real interest rate	Real GDP growth rate (y/y change)
China	6.31	1.01 (Apr.)	+9.7 (11/1Q)
Hong Kong	0.50	-4.10 (Mar.)	+6.2 (10/4Q)
India	7.25	-1.55 (Mar.)	+8.2 (10/4Q)
Indonesia	6.75	0.55 (Apr.)	+6.5 (11/1Q)
Korea	3.00	-1.20 (Apr.)	+4.2 (11/1Q)
Malaysia	3.00	0.00 (Mar.)	+4.8 (10/4Q)
Philippines	4.50	0.00 (Apr.)	+7.1 (10/4Q)
Singapore	0.44	-4.56 (Mar.)	+8.5 (11/1Q)
Taiwan	1.75	0.45 (Apr.)	+6.2 (11/1Q)
Thailand	2.75	-1.25 (Apr.)	+3.8 (10/4Q)

(Note) Real interest rate is defined as interest rate minus expected rate of inflation. In this slide, I take policy rate as interest rate, and assume expected inflation is equal to most recently available headline CPI inflation in each economy.

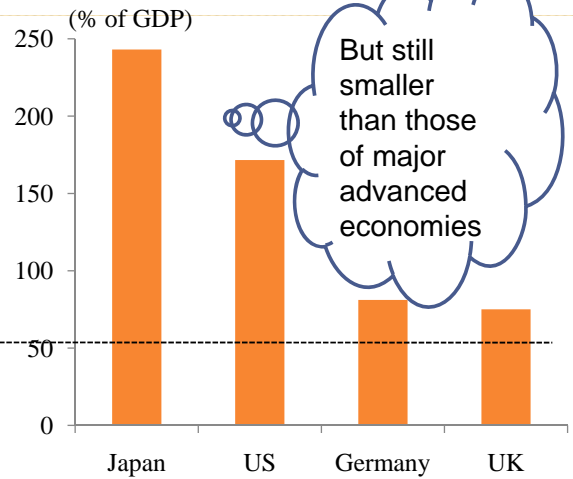
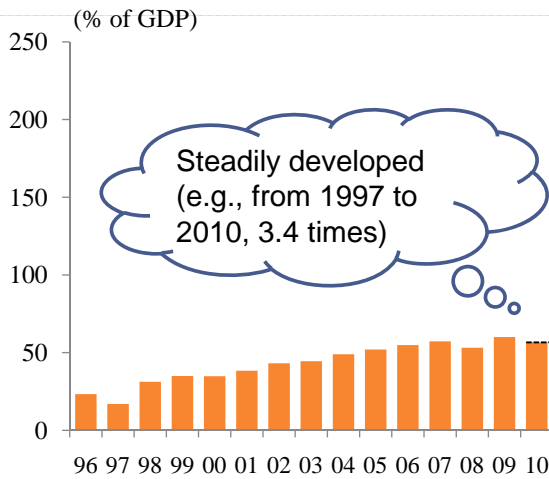
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# (Slide 3)

## Domestic Debt Securities Markets

Asia (ex JP)

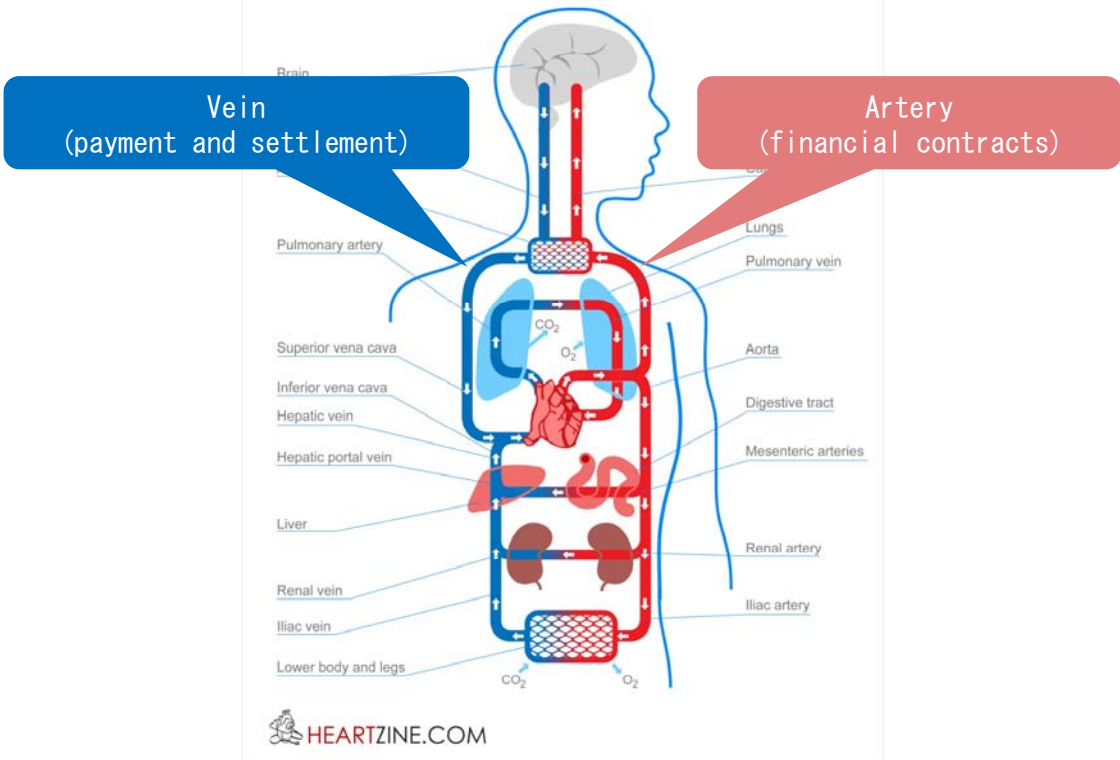
JP, US, GER, UK (2010)



(Note) Data for Asia is the sum of China, Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore, and Thailand.  
 Data for 2010 is as of end-September.  
 (Source) BIS, CEIC

# (Slide 4)

## THE CIRCULATORY SYSTEM



# End of Presentation



View of the BOJ courtyard around sunset