

# Structural Changes and Key Issues in the Globalization of Financial Markets

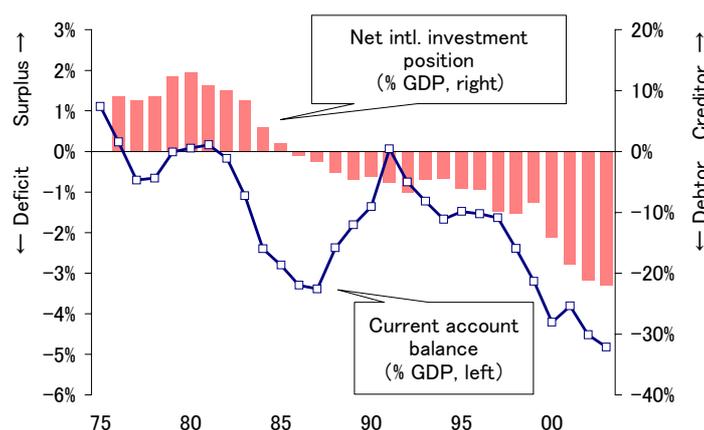
by Junichi Kumagai  
Economic Research Group  
kumagai@nli-research.co.jp

## Introduction

In November 2004, speaking at the European Banking Congress in Frankfurt, Federal Reserve Chairman Alan Greenspan discussed the globalization of financial markets in light of the significant decline in home bias of investment over the past decade, and the simultaneous growth of America's external imbalance.<sup>1</sup> Even if policy initiatives fail to reduce the cumulative current account deficits, he said, the risk of triggering crises is small, since the U.S. and other advanced economies have grown flexible enough for market forces to eventually restore a sustainable U.S. balance of payments. On the other hand, he warned, if the present trend continues unchecked, foreign investors may at some point start to lose their appetite for dollar assets.

In this paper, we examine the expanding U.S. external imbalance and other structural changes that characterize the globalization of financial markets, identify key issues confronting markets, and consider implications for the future investment environment.

Figure 1 External Imbalance of the U.S.



Source: U.S. Commerce Dept.

<sup>1</sup> Home bias refers to the propensity of many investors to invest disproportionately in domestic assets, contrary to the rational approach to global investment of diversifying portfolios to achieve higher returns at lower risk.

## 1. Globalization of Financial Markets

The definition of globalization of financial markets is vague at best. According to Mr. Greenspan, globalization of the economy and financial markets is characterized by: (1) the rise in volume of trade relative to world gross domestic product, (2) the rapid growth in foreign exchange trading volumes, and (3) the impressive rate of increase in cross-border claims.

Mr. Greenspan's definition accounts for how financial markets developed after the second world war amid dollar outflows from the U.S. and the dollar's role as key currency, and the significant growth of international capital transactions since the 1990s.

However, the globalization of financial markets has been characterized not only by growth of international capital transactions, but also by major qualitative and structural changes such as the growing integration and interdependence of domestic markets.

In the next section, we examine the globalization of financial markets in terms of the scale of international transactions. In part 3, we discuss the growing integration and interdependence of financial markets as key structural changes of globalization. In doing so, we hope to clarify the issues confronting financial markets from the perspective of globalization.

## 2. Growth of International Capital Transactions

Historically, international capital transactions in financial markets expanded gradually against the backdrop of the development of the Eurodollar market,<sup>2</sup> which began to grow in the 1950s and 1960s as dollars flowed out of the U.S. The transactions in the Eurodollar market surged when dollar holdings of oil producers in the 1970s (oil money) grew sharply.

As domestic financial markets were deregulated in the 1980s, international capital transactions grew increasingly active from the 1990s (Figure 2).<sup>3</sup> This growth was supported by the growth of emerging markets such as the NIES and ASEAN economies in Asia, and transition economies such as China.

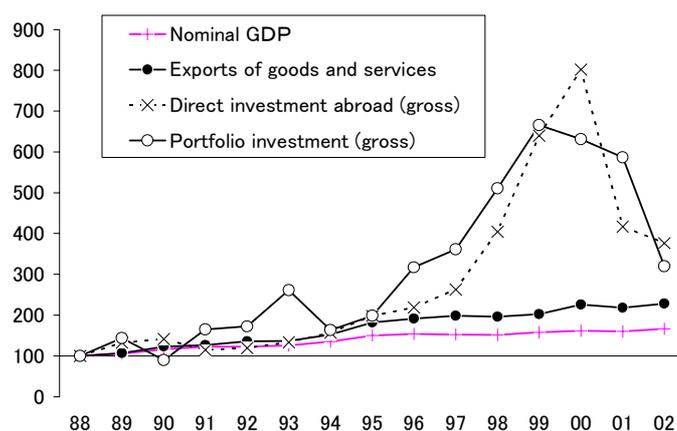
Also spurring the growth of financial markets was the rapid advance in information processing and communications technology (IT). This allowed market information to be transmitted instantaneously around the world, greatly enhancing the scope and speed of capital movements.

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<sup>2</sup> Refers to U.S. dollar-denominated deposits at banks outside the U.S. The Eurodollar market emerged in the late 1950s in Europe as an international market for transacting dollars offshore, thereby circumventing U.S. regulations and regulatory costs. The inflow of oil money in the 1970s gave the market a big boost.

<sup>3</sup> For example, in Japan, foreign portfolio investment was liberalized in principle by the 1980 amendment to the Foreign Exchange and Foreign Trade Control Law, and the 1984 abolition of the principle of real demand related to forward foreign exchange transactions. In the U.K., the "Big Bang" was implemented in 1986.

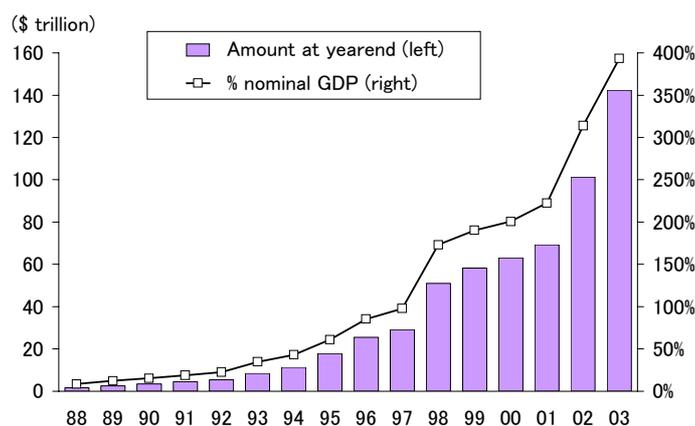
**Figure 2 Global Capital Transactions**



Source: IMF

In addition, financial markets also grew in the 1990s with the expansion of off-balance-sheet and derivatives transactions including forwards and swaps. The notional principal outstanding of global off-balance transactions grew at an accelerating pace in the late 1990s (Figure 3).

**Figure 3 Global Off-Balance Transactions (notional amount outstanding)**



Note: Shows total for interest rate swap, currency swap and interest rate option.  
Source: ISDA, IMF.

### 3. Structural Changes Since the 1990s

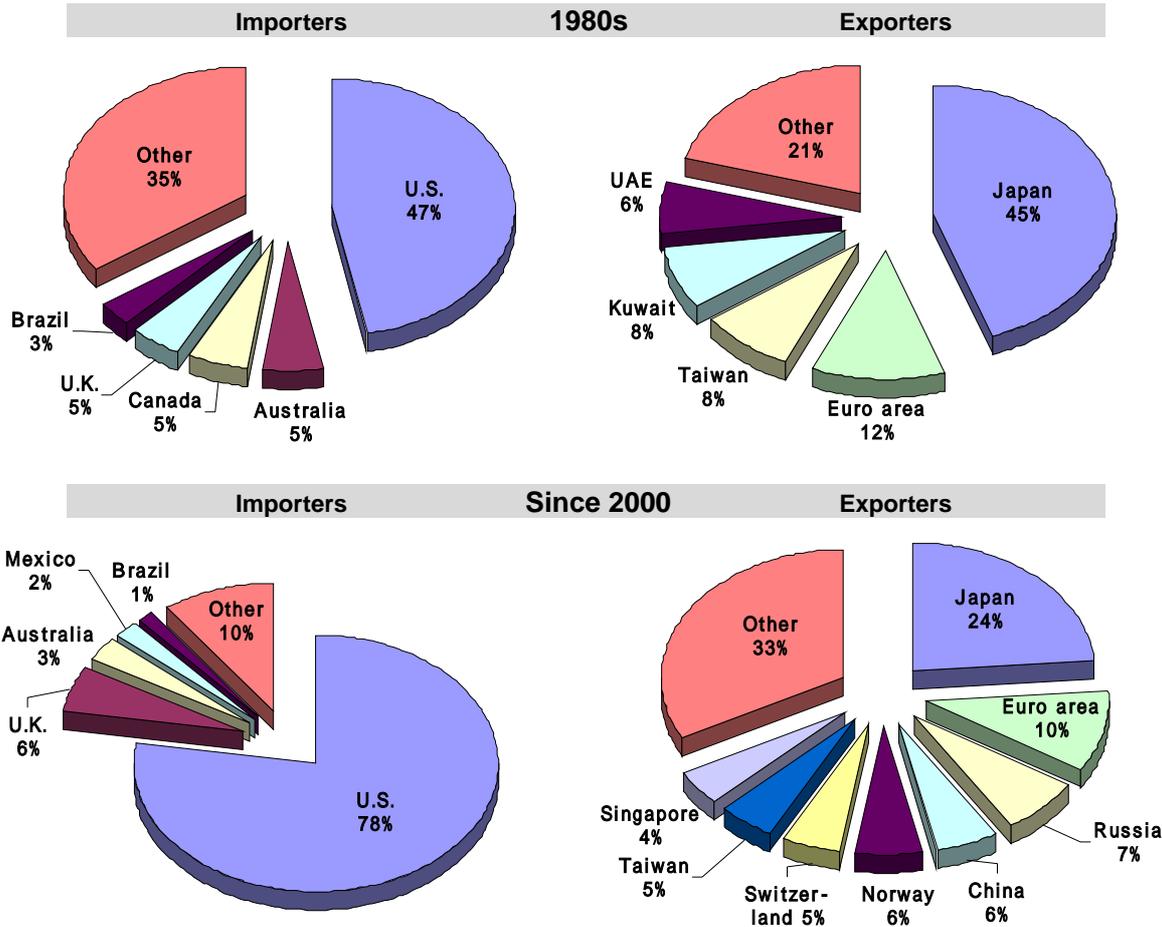
#### 1. Lopsided External Imbalance of the U.S.

Without international capital transactions, investment in any particular country would be determined by the amount of domestic savings. But as markets became integrated and the home bias of investment shrank, more capital moved across borders, which meant that investment was no longer limited by domestic savings. On the other hand, as the 1997 East Asian financial crisis

showed, excessive imbalances can cause major disruptions in market mechanisms (exchange rate and interest rate fluctuations) accompanying capital movements.

Even so, the U.S. current account deficit and net foreign investment position have deteriorated unchecked. While Japan was the major capital exporter in the 1980s, this role has gradually diversified to several countries. Today, international capital movements are heavily lopsided, flowing from the rest of the world to the U.S. (Figure 4).

**Figure 4 Global Capital Flows: 1980s and Today**



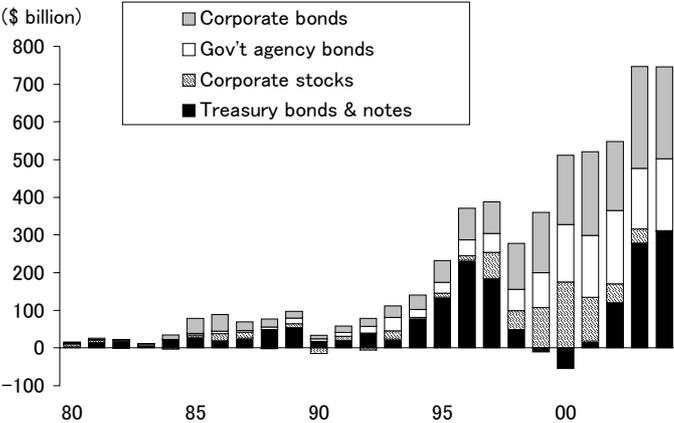
Source: IMF

Until the mid 1990s, capital inflows to the U.S. consisted mainly of private and official funds to finance the recurring federal budget deficits (Treasury securities). However, starting from the IT bubble of the late 1990s, private capital from abroad concentrated on financing private debt in the U.S., while the federal budget turned to surplus. In particular, a growing proportion of capital inflows went into the U.S. stock market.

But when the IT bubble burst in 2001, equity investment in the U.S. contracted, while the federal deficit expanded once again, causing the U.S. current account deficit to balloon. Asian monetary

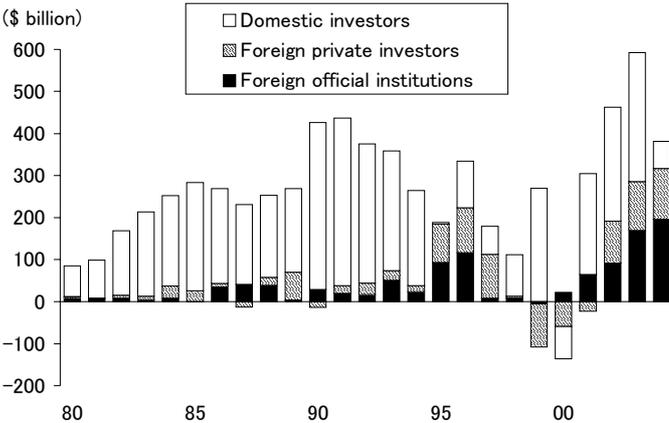
authorities in particular increased purchases of U.S. Treasury securities for their foreign currency reserves, so that official funds greatly augmented capital inflows to the U.S. (Figures 5 and 6).

**Figure 5 Foreign Portfolio Investment in the U.S.**



Note: For 2004, shows total for January to October.  
Source: FRB, U.S. Treasury

**Figure 6 Net Growth in U.S. Treasury Securities by Owner**



Note: For 2004, shows total for January to September.  
Source: FRB, U.S. Treasury

**2. Increase in Dollar Liquidity**

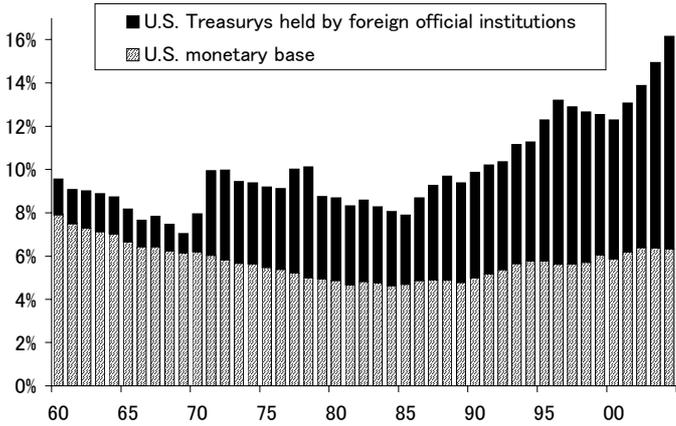
As the U.S. external imbalance expanded, liquidity was supplied globally primarily in dollar assets.<sup>4</sup> In the process of financial globalization, rising dollar liquidity thus became a hallmark of the structural changes since the 1990s.

Dollar liquidity began growing relative to the size of the U.S. economy around 1990, when

<sup>4</sup> Generally, an economy's supply of liquidity is defined as the monetary base. However, since the dollar functions as a global reserve currency, dollar liquidity is often defined as the domestic monetary base of the U.S., together with dollar assets held by central banks in other countries. We use the latter definition.

international capital transactions increased and globalization accelerated in financial markets. This trend intensified from 2000 (Figure 7). Even before the Nixon shock of 1971, excess dollar liquidity had been a major problem from the late 1960s to early 1970s due to the accelerating outflow of dollar currency from the U.S. Still, relative to the size of the economy at that time, the magnitude of the problem was relatively minor compared to the excess dollar liquidity since the 1990s.

**Figure 7 Dollar Liquidity (monetary base and U.S. Treasury debt held by foreign official institutions; % nominal GDP)**



Note: For 2004, shows total for January to September.  
Sources: FRB, U.S. Treasury Dept., U.S. Commerce Dept.

In 1990, the U.S. and Japan were both in different stages of a bubble economy. When Japan's bubble economy burst, monetary easing (zero-interest rate and quantitative easing) policies were implemented to subdue deflationary pressures at home and from abroad. However, the policies failed to produce the intended effects in the domestic economy, and the Bank of Japan resorted to supplying funds at an unprecedented level.

Part of the liquidity was in effect supplied through nonsterilized intervention in the currency market.<sup>5</sup> Japan's monetary authorities then purchased U.S. Treasuries, in effect financing the U.S. fiscal deficit.

Similarly, the U.S. adopted expansionary fiscal and monetary policies following the collapse of the IT bubble in 2001. As a result of Japan's currency market intervention, Japan indirectly supplied the massive dollar funds needed to finance the expansionary U.S. policies.

Moreover, China also accumulated foreign reserves through its dollar peg and current account surpluses, which it used to purchase U.S. Treasury securities. As countries adopted expansionary policies globally, Asia became the primary source of capital flows to the U.S. And as dollar

<sup>5</sup> For example, if the government and BOJ intervene in currency markets by selling yen, the yen supplied to the private

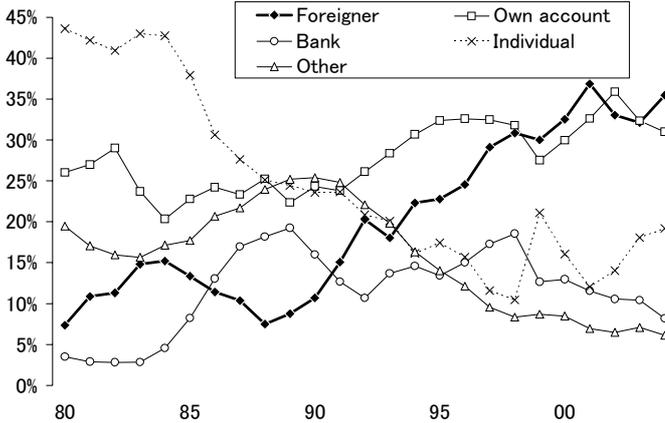
liquidity grew, capital flows from Asia helped stabilize U.S. financial markets by financing America's widening current account deficit.

**3. Integration of Market Participants**

By intervening to devalue currencies, Japanese and other Asian monetary authorities have increased their purchases of dollar assets. As a result, since 2000, foreign investors have accounted for approximately half of the net increase in the U.S. Treasury market (Figure 6). Globalization has thus integrated markets and enhanced interdependence to such an extent that domestic investors no longer necessarily dominate local financial markets.

This is seen even in countries where capital inflows are not needed such as Japan. Since 1990, foreign investors have accounted for a growing proportion of trading in the Tokyo Stock Exchange. In recent years, such transactions have exceeded those of securities dealers trading for their own account (Figure 8).

**Figure 8 Participants in the Tokyo Stock Exchange (% of monthly transaction value)**



Note: For 2004, shows total for January to November.  
Sources: Tokyo Stock Exchange

**4. Implications for Global Financial Markets**

Thus far we have discussed financial market globalization since the 1990s in terms of scale and structural changes characterized by integration and interdependence.

Looking ahead, we see three major issues. First, the lopsided and expanding U.S. external imbalance cannot be sustained indefinitely. This issue ties in with the sustainability of the dollar

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sector is not sterilized with open market transactions by the central bank, but instead left alone.

as a key currency.

Second, because countries pursued expansionary policies in the 1990s, as the supply of liquidity increased, the balance between the real economy and financial markets has deteriorated. In particular, having devalued the dollar twice in 1971 and 1985, the U.S. took advantage of the dollar's status as key currency while neglecting adjustments to boost domestic saving. As a result, since the early 1990s, external liabilities have grown and dollar liquidity has increased.

Third, U.S. authorities face serious fiscal and monetary policy challenges in controlling the increase in dollar liquidity.

## **1. Prospects for the Dollar as Key Currency**

In light of the U.S. external imbalance, there is concern that if demand decreases for the dollar as a reserve and transaction currency, capital inflows to the U.S. will decrease, leading to a weaker dollar and higher U.S. interest rates. Needless to say, this problem depends on two factors: (1) how much the external imbalance grows, and (2) how long the flow of funds remains stable.

Since the U.S. current account deficit is already over 5% of nominal GDP, a slight improvement (to 4%, for example) will not stabilize external liabilities (net foreign investment position) as a ratio to nominal GDP. For this to occur, the current account deficit needs to drop to approximately 2% of nominal GDP (Figure 9).

Regarding the second point, with approximately half of all foreign currency market transactions denominated in dollars,<sup>6</sup> the dollar remains the main transaction and invoicing currency for international transactions. In addition, dollar assets have consistently comprised 60% of global reserves. The U.S. dollar thus retains its supremacy as key currency (Figure 10).

Moreover, the net foreign investment position of the U.S. now exceed 20% of nominal GDP—which is not excessive by global standards—while the investment balance remains positive. In this sense, the external imbalance does not need an immediate adjustment. Still, the euro could eventually start to threaten the dollar's status as a key currency, causing global reserves to shift from dollars to euros. If that happens, even if the U.S. external balance does not deteriorate further, capital inflows to the U.S. will ebb and investors will demand a higher risk premium and interest rates from the U.S.

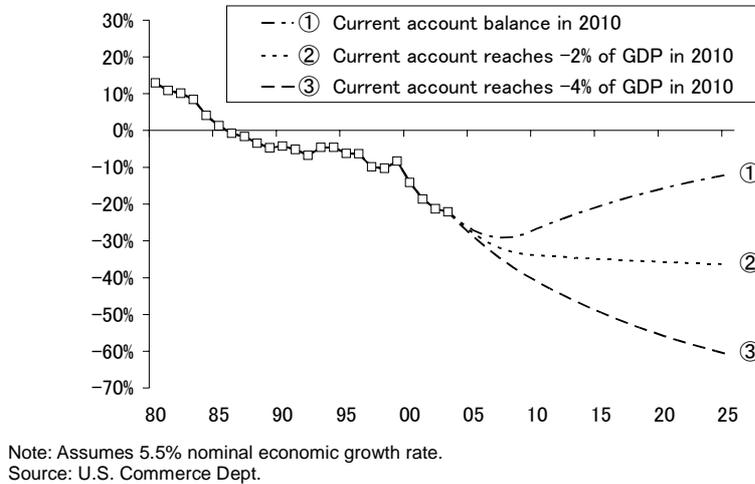
In particular, although Japan is now the largest capital exporter to the U.S., it will eventually experience a domestic saving shortage and start running current account deficits (and thus importing capital). This and other changes in the pattern of global capital flows (for example,

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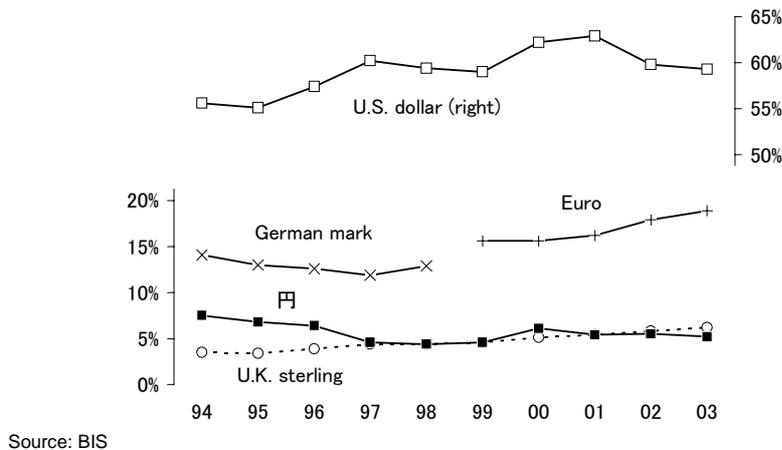
<sup>6</sup> See BIS, "Triennial Central Bank Survey of Foreign exchange and Derivatives Market Activity."

China and India someday will probably generate the largest capital outflows) could very well deprive the U.S. of its preeminent status as capital importer.

**Figure 9 Projected Net Foreign Investment Position of the U.S. (% of nominal GDP)**



**Figure 10 Composition of Global Reserves**



## 2. Destabilization of Financial Markets

Normally, developments in the real economy are reflected in financial markets through the process of price formation. However, in recent years as dollar liquidity has grown, fund flows have become more interconnected and prone to skewed concentration, and thus possibly more destabilizing for price formation in financial markets.

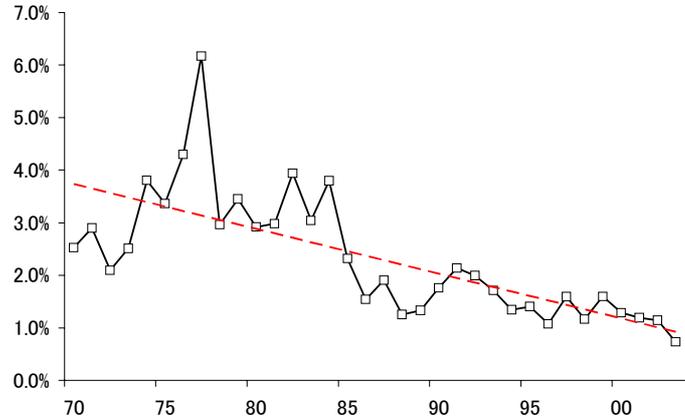
Using the definition of globalization as the integration of domestic markets, we would expect greater market efficiency and co-movement of financial markets as national barriers recede and participants interact globally. Indeed, as Figure 11 shows, real long-term interest rates of major

OECD countries have converged since the 1970s. Observers often claim that the expected real economic growth rate (which equals the expected real return) of the U.S. may be relatively high due to higher productivity growth. However, considering that expected real growth rates are reflected in real interest rates, the convergence in Figure 11 suggests that U.S. superiority in productivity is not necessarily overwhelming.

As market co-movements increase and real interest rates (expected returns) converge, we would also expect investors to concentrate their allocation of funds wherever expected returns are higher. Prominent examples of the stampede behavior of investors include the 1998 global carry trades in foreign currency markets, and 2003 carry trades in domestic bond markets to exploit long-term interest rate differentials. In addition, this behavior was seen in varying degrees in Nasdaq's rise in the late 1990s and the recent oil price surge.

Since the increase in supply of liquidity (primarily dollar liquidity) since the 1990s has yet to be withdrawn from financial markets, capital flows are likely to repeat a volatile pattern of skewed concentration and dispersion. Thus investors will need to carefully consider appropriate price levels when dealing with the investment environment, or risk the wrath of volatile markets.

**Figure 11 Global Convergence of Real Interest Rates**



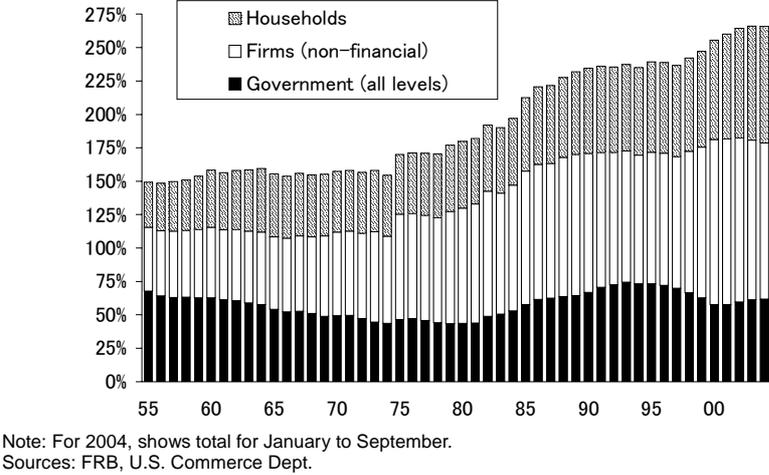
Note: Shows standard deviation of real long-term interest rates in major OECD countries.  
Sources: OECD, IMF

**3. Difficulties for U.S. Policy Management**

Backed by the dollar's key currency status, the U.S. economy has managed to run persistent current account deficits without having to make major adjustments. In the late 1990s, as current account deficits grew, external liabilities accumulated and the nation's indebtedness as a ratio to nominal GDP worsened. In the 1980s and 1990s, the debt was predominantly in the government and corporate sectors. But since 2000, the corporate sector adjusted balance sheets, while the household sector has taken on more debt in the form of mortgage loans. The government's

indebtedness fell against the backdrop of fiscal surpluses in the late 1990s, but expanded again as fiscal deficits grew (Figure 12).

**Figure 12 Outstanding Liabilities by Sector (non-financial domestic; % of nominal GDP)**



In the past, stable capital inflows from Asian monetary authorities (purchases of U.S. Treasury securities) have helped stabilize U.S. interest rates. However, there is concern that if the dollar’s role as key currency declines in the future, capital flows will dry up and cause U.S. interest rates to rise. Insofar as the U.S. economy is sustained by high levels of borrowing, monetary tightening policy will hit the economy hard, particularly personal consumption.<sup>7</sup> Moreover, a possible shift toward fiscal tightening policy may also cause a negative impact on the U.S. economy.

Thus excessive monetary tightening policy will lead to higher interest rates and debt servicing costs, possibly imposing a major adjustment on the U.S. economy. Moreover, U.S. stock and bond markets, whose stability is premised on stable domestic interest rates, may also be thrown into instability, along with global financial markets. Despite outward appearances of a firm economic recovery, U.S. authorities may need to maintain a cautious approach in tightening, as seen by the Fed’s “measured pace” of 0.25% rate hikes since the spring of 2004.

On the other hand, if domestic inflationary pressures should mount, U.S. authorities may be unable to take swift policy actions toward the real economy out of concern that withdrawing liquidity would hurt financial markets. With the end of the cold war and expansion of free market economies, the increase in worldwide production capacity has led to persistent global disinflation. However, we must consider the possibility that if a global inflationary phase arrives, the Fed could fall “behind the curve” and fail to contain inflation.

<sup>7</sup> Adjustable Rate Mortgages have grown since 2003 despite low interest rates. In addition, higher loan interest rates will affect refinancing, home equity loans, and auto loans. Thus the present structure of debt-financed consumption may become difficult to sustain should interest rates increase more rapidly.

## Conclusion

In most cases, the globalization of financial markets benefits the global economy. Capital account liberalization increases investment opportunities, and through the market mechanism, provides effective opportunities for more efficient resource allocation in the global economy.

On the other hand, serious issues confront global financial markets. The expanding external imbalance of the U.S., rising dollar liquidity, and skewed concentration of capital flows mean that price formation in financial markets will inevitably grow more out of touch with the real economy.

With advances in information technology and the expansion of the free market economy, national borders have become almost invisible. Global financial markets will unmistakably continue to grow closer together in the future. Under these conditions, investors can seek to invest efficiently and maximize returns by pursuing investment opportunities globally. But they must also heed the risk factors inherent in globalization.

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