



April 19, 2012  
Bank of Japan

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**Japan-U.S. Economic Relations:  
What We Can Learn from Each Other**

*Speech at the Japan Information and Culture Center (JICC)  
of the Embassy of Japan in Washington D.C.*

**Masaaki Shirakawa**

*Governor of the Bank of Japan*

## **Introduction**

It is my great honor to have this opportunity to speak at the Japan Information and Culture Center (JICC) to celebrate the centenary of the city of Tokyo's gift of cherry trees to Washington D.C. as an expression of friendship. Regrettably, I missed the chance to appreciate the cherry blossoms on the banks of the Tidal Basin this year, but I can still find consolation in viewing my favorite dogwoods instead. As you may know, dogwoods were sent from the United States to the city of Tokyo as a gift in return, and we can still enjoy the beautiful flowers of these original trees at Tokyo Metropolitan Engei High School (Chart 1).

The exchange of cherry and dogwood trees is just one small example of the deep ties that exist between Japan and the United States. From my perspective as a central banker, the economic relationship between our two countries is definitely the cornerstone of a prosperous global economy. This relationship has had its ups and downs, as all inevitably do. As we gradually emerge from the global financial crisis and renew our resolve in maintaining and strengthening the global economic system -- thereby ensuring prosperity for all -- I believe it is worthwhile to offer my observations on Japan's economy with special emphasis on Japan-U.S. economic relations.

## **I. Some Facts about Japan's Economy**

Before delving into the main subject, although you may already be familiar with facts about the economic interdependence of the two nations, as well as the state of Japan's economy, let me share some fundamental ones with you.

### ***The Economic Interdependence of the Two Nations in Recent Years***

First, I would like to highlight a few such facts specific to the economic interdependence of the United States and Japan in recent years. In terms of GDP, the U.S. economy has the largest and Japan's economy has the third largest within the global economy. The two economies combined enjoy just over a 30 percent share of the global economy (Chart 2). A glance at some economic data easily confirms that the two nations still have close ties and are important partners (Chart 3). For example, looking at trade figures, the United States' share of 15 percent marks it as the second largest destination for Japan's exports, after China's 19 percent. Moreover, it appears that a large portion of the exports to China is

eventually sent on to the United States after going through the assembly process in China. As a destination for U.S. exports, Japan has a share of 5 percent, which is the second largest after China when excluding the NAFTA countries. As you can see by the example of Apple's iPhone, for which Japanese manufacturers produce more than 30 percent of the components, the industries of Japan and the United States are indeed closely connected (Chart 4).

In terms of international investment, the share of the United States as a destination for outstanding foreign direct investment from Japan is the largest, at 30 percent (Chart 5). The share of the United States with respect to outstanding inward foreign direct investment to Japan is also the largest, at 34 percent. From the other side of the picture, the share of Japan in terms of outstanding inward direct investment to the United States is the second largest, at 11 percent, after the U.K.'s 20 percent. Looking at securities investment, Japan's U.S. Treasury holdings of 0.9 trillion U.S. dollars represent a share of 20 percent, second to China's holdings of 1.2 trillion U.S. dollars, which give it a share of 26 percent.

### ***Japan's Economy after the Bursting of a Bubble***

Second, I would like to highlight some facts about the current state of Japan's economy. With regard to growth rates, to our regret, it is hard to claim that our performance has been remarkable, and our experience has often been referred to in a negative context in recent years as "a lost decade" (Chart 6). Having said this, although our GDP growth rates have been on a declining trend, the average growth rate of GDP per capita in the past decade is almost the same as the average for the G-7 countries. Moreover, it is surprisingly not well known even among Japanese people that Japan recorded the highest growth rate among the G-7 countries in terms of GDP per working-age population -- that is, the population aged between 15 and 64 years. Needless to say, Japan has confronted a number of difficult challenges, just like other countries. In fact, there has been a series of problems in the past quarter century, including the forming and bursting of a bubble, the subsequent financial crisis, mild deflation, the aging of and decline in the population, and the Great East Japan Earthquake. At the same time, other advanced countries have also ultimately experienced at least some of the same problems as Japan, and this can be seen in developments since the mid-2000s. One clear difference between Japan and other advanced countries is the fact

that Japan was the first to experience such problems and, in the absence of a textbook that might address them, had to tackle them through its own efforts. In this sense, Japan suffered from these difficulties in the unique position as a forerunner. Such experiences provided some lessons that helped us recently in dealing with the global financial crisis, as evidenced by the relative soundness of Japanese financial institutions.

### ***The Long-Term Developments in Japan's Economy***

Third, I would like to take a look at how Japan's economy has developed over a longer time span (Chart 7). Japan opened its doors to the world 160 years ago when a U.S. fleet led by Commodore Perry, who held an official letter from President Fillmore, anchored off the coast near the capital city. After experiencing rapid economic development, Japan became the first industrial nation among non-Western countries. Japan's real GDP and GDP per capita back in 1870 -- for which relevant statistics are available -- were 26 percent and 30 percent, respectively, of the relative figures for the United States (Chart 8). The ratios had not changed much by the time the cherry trees were sent to Washington D.C. as a gift of friendship 100 years ago. They gradually rose thereafter, but the ratio in terms of GDP per capita was still a mere 44 percent at the peak before World War II. The war caused disruptive economic damage, but Japan, after making strenuous efforts toward reconstruction, entered a period of rapid and high economic growth. The country's high growth period started in the mid-1950s and ended in the early 1970s. The average annual growth rate in this 15-year period was high, at 9.7 percent (Chart 9).

There have been various discussions about the factors that enabled Japan's high growth after the war, but given the time constraint, I would like to highlight just three of them. The first factor is favorable demographics. Japan benefited from the so-called "population bonus" that occurred when the total population increased together with the ratio of the working-age population. The second factor is the adoption of a market economy as a development model. Although there were other countries with growth potential, emerging economies including China only started to adopt a market economy model from the 1990s. In such a situation, Japan benefited from the free trade system that was led by the United States after World War II. The third factor is that the Japanese firms and society developed a unique business model that placed importance on long-term relationships, and this model

had excellent compatibility with the relatively stable global economic conditions during the period of the Cold War.

Even after the high growth period, Japan continued to enjoy a relatively high rate of economic growth compared to other advanced countries. As a result, the economic gap between the United States and Japan narrowed and, at the height of the Japanese bubble economy around 1990, the ratio of Japanese real GDP to U.S. real GDP exceeded 40 percent while the ratio in terms of real GDP per capita exceeded 80 percent (Chart 8). Against the background of the narrowing gap, the two nations experienced rising economic frictions, especially on the trade front, including over textiles in the 1970s and over autos and semiconductors in the 1980s. In such an environment, Japan initiated so-called "self-restraint" with regard to exports. Over the past half century, the U.S. dollar registered its highest level in nominal terms in 1985. I should note that there is a universal phenomenon that trade frictions take place following the appreciation of currencies (Chart 10).

## **II. The Prospects for the U.S. Economy: Implications from Japan's Experience**

There is a reason why I have spent a relatively long time on explaining some facts about Japan's economy. This is because, judging from frequently asked questions from my American friends, I believe that such historical facts might be of some help in considering the prospects for the U.S. economy. One such frequently asked question is related to the policy conduct for the time being -- that is, will the United States suffer the Japanese experience of "a lost decade?" The second question is based on a longer-run perspective -- namely, how long can China continue to enjoy its current period of high economic growth? This question is seemingly intended to draw implications from Japan's past experience with regard to the current state of the Chinese economy, which has great importance for the U.S. economy.

### ***Will the United States Suffer the Japanese Experience of "A Lost Decade?"***

Let me start with the first question. Before the global financial crisis, a prevailing view among economists in the United States was that, even if a bubble existed and burst, the economy could avoid a big downturn similar to that experienced by Japan if aggressive

macroeconomic policies were pursued promptly. Since 2009 -- probably in reflection of this view -- we have witnessed repeated episodes of rising optimism triggered by some signs of economic recovery, which are then followed by the resurgence of pessimism.

Let's look at some data. During the six years since 2006, when housing prices started to drop in the United States, the average real GDP growth rate was low, at 0.9 percent, and real GDP stayed at a level equivalent to 103 percent of the level seen in 2006 before the decline in real estate prices. In the case of the large bubble experienced by Japan in the latter half of the 1980s, the average growth rate for the six years following the record peak year of real estate prices was 2.1 percent and GDP stayed at a level equivalent to 107 percent of that seen in 1990. As is evident from these figures, the negative legacy of the bursting of the bubble is enormous, both in the United States and Japan. A similarity is also observed in terms of real estate price developments in the two countries (Chart 11). Once a bubble bursts, economic entities that have expanded expenditures and debts need to go through a process of reducing debt to a normal level. During that process, downward pressure from balance-sheet repair continues to weigh on economic activity.

At the same time, there are many important differences between the two economies.

The first difference is that the scale of the bubbles, which determines the significance of damage, appears to be smaller in the case of the United States. Looking at the size of capital gains arising from real estate and financial assets during the bubble period, this was larger in Japan, at 4.6 times nominal GDP compared to 3.1 times in the United States (Chart 12). The same conclusion can be drawn when we compare the size of capital losses. As the scale of this bubble was relatively small, the burden associated with balance-sheet repair should be smaller in the United States.

The second difference is with regard to the speed of dealing with non-performing assets, which, importantly, reflects differences in the two economies' financing structures (Chart 13). The problem in the United States started with an increase in subprime mortgage loans to households, which were financed by banks directly and indirectly in financial markets using securitized products. In this way, relying on market financing tools, banks faced

pressure from market participants who recognized valuation losses, and the authorities had no choice but to inject capital into banks at an early stage using public funds. On the other hand, in the case of Japan, the funding of non-performing assets was mainly carried out by banks, which did not rely so much on capital markets. This funding structure failed to exert strong pressure on concerned parties to deal with non-performing assets promptly.

The third difference is the relatively small burden shouldered by domestic investors. In the case of the United States, capital losses -- that is, the costs associated with balance-sheet repair -- were imposed not only on domestic investors but also shared by investors abroad to a significant extent. This corresponds to the fact that investors abroad increased their exposure to the complicated securitized products that originated from subprime loans (Chart 14). On the other hand, in Japan, an increase in debt was mainly reflective of borrowing from domestic financial institutions, which basically shouldered the burden of subsequent balance-sheet repair.

The fourth difference is with regard to demographics. Japan faced a rapid aging of the population and its working-age population started to decline after reaching its peak in 1995 (Chart 15). On the other hand, although its pace of increase has been on a declining trend, the U.S. working-age population is still growing, at 0.8 percent. At the same time, however, we need to pay attention to the fact that the pace of increase in the number of net immigrants has been diminishing, reflecting a recent decline in U.S. growth rates.

The fifth difference is in terms of the flexibility of the economy. The U.S. economy has more flexibility, as witnessed by vigorous entrepreneurship, efficient and smooth functioning of labor and capital markets, and the country's leading role in research and development. Nevertheless, we should bear in mind that the entry rate and labor mobility have remained at low levels after the bursting of a bubble.

The sixth difference is with respect to the global economic environment surrounding the two nations. Balance-sheet repair in Japan was completed in the early 2000s, supported by global economic upturns such as strong growth in the United States and in emerging economies. However, global economic conditions are not favorable this time around.

Japan's bubble was a domestic one, whereas the recent financial crisis was a global credit bubble. In the current conjuncture, the European debt problem is exerting an impact on the global economy, including the U.S. economy. As is evident from the fact that European financial institutions increased their exposure to U.S. financial products, the U.S. housing bubble and excess debts in Europe are not independent from each other. Thus, the balance-sheet repair in the United States might take some more time.

It is sometimes pointed out that one of the differences between the two bubbles is the sector in which excess debt accumulated: the corporate sector in the case of Japan and the household sector in the case of the United States. What matters in shaping the impact of balance-sheet repair on economic activity, however, is whether such an adjustment is taking place in a sector driving economic recovery. In this sense, there is no significant difference between the two cases because, while economic recovery in the past has been led by the corporate sector in Japan, it has been driven by the household sector in the United States.

An overall assessment of the differences seemingly indicates that the balance-sheet repair in the United States will likely end earlier than in the case of Japan, and I do hope that is the case. In the end, I think that the most important factor determining economic developments following the bursting of a bubble is the economy's capacity to develop a new growth model that best suits a changing economic environment. In the case of Japan, its stagnant economic performance largely owed to its failure to adjust to economic globalization associated with the collapse of planned economies, especially the breaking up of the Soviet Union, as well as to the IT revolution, both of which took place almost at the same time that Japan's bubble burst. In the current conjuncture, the most significant changes taking place on a global scale are the swift rise of emerging economies and the rapid aging of the population. Respective corollaries to these changes are a rise in international commodity prices and a deterioration in the fiscal balance. While Japan has had a tough time trying to develop a new growth model in response to these changes, we do have some strengths in this regard. First, Japan is located in Asia, the engine of global economic growth. Second, it has a high level of technological prowess, which is necessary when adjusting to a rise in energy prices. Third, as they have faced the problem of an



aging population ahead of the rest of the world, Japanese firms have been making serious efforts and progress toward developing new business models that focus on markets for the elderly. As the governor of Japan's central bank, I do sincerely hope that a new growth model for Japan will be developed that takes advantage of these strengths.

### ***The Prospects for the Chinese Economy in Light of Japan's Experience of High Growth***

Now I would like to move on to the question of the sustainability of high growth in China.<sup>1</sup> Economic history tells us that a convergence of the sizes of two economies is likely to cause some sort of friction. A typical example is the aforementioned economic friction between the United States and Japan that reached its height in the latter half of the 1980s. As I referred to a short while ago, the average annual growth rate in Japan during the 15-year period of high growth that started in the mid-1950s was 9.7 percent. China's high growth started in the early 1990s, and its average growth rate over the last twenty years is 10.2 percent, almost the same as Japan's growth rate (Chart 16). What is different is the time span of the high growth period, which has been longer in the case of China. However, no country can maintain high growth forever. Therefore, looking at a slightly longer time horizon, a meaningful question is not whether China's high growth will continue but whether China can make a smooth transition from a high growth phase to a stable growth phase. This is a challenging task, and I have often been asked by Chinese friends to provide advice in light of Japan's experience. I always note the following three points.

First, do not fall into a mode of complacency. When high growth continues, especially coupled with low inflation, such favorable economic performance tends to engender overconfidence. Although the formation of bubbles involves a complex mechanism, one crucial factor is excessive risk-taking caused by complacency and overconfidence.

Second, be prepared for demographic changes. The inverse dependency ratio, which represents workers per non-working population, appears to have a positive correlation with

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<sup>1</sup> For more details on high economic growth in China, please see Masaaki Shirakawa, "The Transition from High Growth to Stable Growth: Japan's Experience and Implications for Emerging Economies" (Remarks at the Bank of Finland 200<sup>th</sup> Anniversary Conference in Helsinki), May 5, 2011.

[http://www.boj.or.jp/en/announcements/press/koen\\_2011/ko110506a.htm](http://www.boj.or.jp/en/announcements/press/koen_2011/ko110506a.htm)

real estate market development (Chart 17). This implies that attention should be paid to demographics as a factor contributing to the formation of financial bubbles.

Third, pay attention to changes in financial institutions' behavior following financial liberalization. Although active lending by financial institutions has been the direct cause of the formation of bubbles in advanced economies, these institutions' lending attitudes became aggressive as a result of fierce competition and an associated decline in profitability triggered by financial liberalization. While financial liberalization itself is necessary, it should be pursued under a combination of appropriate regulations and supervision.

I understand that these three pieces of advice do not directly answer the question from my American friends, which is "How long can China continue to enjoy its current period of high economic growth?" I hope that China will successfully make a smooth transition from a high growth phase to a stable growth phase, which will arrive at some point in the future.

### **III. The Current State of and Prospects for Japan's Economy**

Lastly, I would like to talk about the prospects for Japan's economy after summarizing its current state.

#### ***Reconstruction after the Great East Japan Earthquake***

As for the current state of Japan's economy, this cannot be described without referring to the effects of the tragic event known as the Great East Japan Earthquake, which occurred on March 11 last year. The economy significantly suffered from the multiple shocks of the earthquake, tsunami, and nuclear power plant accidents.<sup>2</sup> During this time of hardship, we received much support and encouragement from the government and people of the United States. Soon after the quake, the United States Armed Forces' Operation *Tomodachi*, or "Friends" in English, provided assistance to Sendai Airport and restored its functionality

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<sup>2</sup> For more details on the state of Japan's economy after the disaster and efforts toward rebuilding and reconstruction, please see Masaaki Shirakawa, "Great East Japan Earthquake: Resilience of Society and Determination to Rebuild" (Remarks at the Council on Foreign Relations in New York), April 14, 2011.

[http://www.boj.or.jp/en/announcements/press/koen\\_2011/ko110415a.htm](http://www.boj.or.jp/en/announcements/press/koen_2011/ko110415a.htm)

about a month after the disaster (Chart 18). People in Japan really appreciate such support from the United States, from the bottom of their hearts. Looking back at all those efforts over the past year or so to overcome the difficulties caused by the disaster, I would like to make the following four observations.

First, I am very impressed by Japanese firms' competitiveness at worksites. Although the earthquake caused serious damage to factories and business facilities, as well as disruptions in supply chains, such problems were overcome much earlier than initially anticipated thanks to the efforts and new creative ideas of concerned parties.

Second, there are differences among areas in terms of the pace of reconstruction. Those areas that suffered serious damage have not yet entered the full-scale reconstruction phase, although they have started to resume some economic activities. In the rest of the disaster areas, however, there are some signs of steady recovery in economic activity, including an increase in reconstruction-related capital investment and a recovery in private consumption, which had plummeted soon after the tragic event.

Third, there are new initiatives motivated by experiences accumulated since the earthquake disaster. Firms have been reviewing their approach to risk management as well as relevant business operations, for example, by reexamining business continuity plans and reestablishing supply chains. With lingering uncertainty about the supply of electricity, firms have pursued various technological innovations and established new business models under the slogans of "creating energy," "saving energy," and "storing energy." Such positive initiatives are expected to create new demand and consequently raise Japan's growth potential in the medium to long term.

Fourth, financial system stability was maintained. Despite the tremendous shock caused by the earthquake, we have managed to maintain the working of the financial system and secure the smooth operation of payment and settlement systems. The Bank of Japan Financial Network System, or BOJ-NET, which plays a core role in the payment and settlement of funds and Japanese government securities, has maintained stable operations after the quake without any disruptions. The Bank's Fukushima branch, which is located

about 40 miles from the Fukushima Daiichi Nuclear Power Plant, also continued with business as usual. Despite the shocks arising from the European debt problem, financial markets have also remained stable, except for a brief period soon after the quake. As can be judged from the level of risk spreads in funding markets, financial markets in Japan have been the most stable among those in advanced countries.

### ***The Prospects for Japan's Economy***

Now I would like to move on to the current state of Japan's economy and its prospects.

After experiencing a sharp rebound from a plunge caused by the earthquake toward summer last year, economic activity has been more or less flat, reflecting downward forces deriving from the effects of a slowdown in overseas economies and the appreciation of the yen. More recently, there have been some signs of a pick-up. The Bank of Japan believes that the economy will gradually emerge from the current phase of flat growth and return to a moderate recovery path as the pace of recovery in overseas economies picks up, led by emerging and commodity-exporting economies, and as reconstruction-related demand after the earthquake disaster gradually strengthens. The plausibility of such an outlook depends on the following two factors.

The first factor is global economic developments. In this regard, the good news is that the stagnant European economy has recently stopped deteriorating amid receding tail risks arising from the European debt problem. Although some more time is needed to complete balance-sheet repair, U.S. economic conditions have also been gradually improving, mainly in the areas of consumption and employment. Business conditions in emerging economies are also gaining support from somewhat more stable inflation rates in the recent period, which increases real purchasing power and creates more room for monetary easing.

The second factor is reconstruction-related demand. The portion of the government budget earmarked for reconstruction amounts to about 19 trillion yen. This represents about 4 percent of Japan's nominal GDP and 60 percent of the total nominal GDP of the disaster-stricken areas. This sizable budget will be disbursed over the next five years. Labor market conditions in the disaster areas have already tightened, especially in

construction-related sectors. The implementation of the budget is expected to become full-fledged in the coming period, and this will further contribute to raising domestic demand.

At this juncture, let me explain the Bank of Japan's conduct of monetary policy. For the time being, the Bank will aim to achieve the goal of 1 percent inflation in terms of the year-on-year rate of increase in the CPI and continue to pursue powerful monetary easing until the goal is in sight, mainly through a virtually zero interest rate policy and the purchase of financial assets (Chart 19). Monetary policy measures currently pursued by central banks in advanced economies, including the U.S. Federal Reserve and us, are called "unconventional monetary policy measures." Looking at the type of assets purchased and the gigantic scale of purchases, they are indeed "unconventional." However, the transmission mechanism of such unconventional measures is not unconventional but actually quite conventional. As Chairman Bernanke notes, the large-scale purchase of financial assets aims at lowering long-term interest rates. In terms of assessing monetary policy in Japan in light of such an aim, the financial conditions in Japan are extremely accommodative (Chart 20). For example, the interest rate for corporate bonds with a maturity of 5 years is 0.5 percent in Japan and 1.4 percent in the United States. The mortgage loan rate is 2.2 percent in Japan and 3.9 percent in the United States. Long-term interest rates applied for firms and households in Japan have been as low as those in the United States in real terms, based on real interest rates derived from long-run inflation expectations, on which economists place importance.

One of the most significant challenges for Japan is to stem a declining trend in the potential growth rate. Although several factors contribute to a drop in this rate, a significant one is responses to a change in demographics -- namely, an aging of the population that has been progressing at a pace unprecedented in advanced countries. Although the aging of the population lowers the potential growth rate through various channels, what is causing a profound impact on the economy is not the aging itself but a delay in responding to such a demographic change. This delay is one of the major causes of a deterioration in the fiscal balance in Japan, which is coming into the spotlight these days. Uncertainty regarding future fiscal burden has also led to restrained spending by the working generations. In any

case, a gradual decline in the potential growth rate has been significantly contributing to mild deflation by bringing down expected future income and restraining expenditures. In addition to powerful monetary easing pursued by the Bank of Japan, in order to overcome deflation, it is crucial to make strenuous efforts to strengthen the growth potential of Japan's economy.

#### **IV. Concluding Words**

As I have almost used up my time, let me conclude my remarks. Japan-U.S. relations are quite often described as one of the most important relationships in the world. That importance, I believe, is not measured just in terms of the amount of trade between the two countries or their overlapping interests in the sphere of national security. The fact that both can learn a lot from each other is also a valuable asset that forms the cornerstone of the relationship. This is especially true with respect to stewardship of the economy, as it is not possible to conduct controlled experiments as regards economic policy. Of course, as I have noted today on current developments, while the best lessons we might learn from each other remain uncertain, our insights will be much, much better.

Thank you very much for your attention.

# Japan-U.S. Economic Relations: What We Can Learn from Each Other

*Speech at the Japan Information and Culture Center (JICC)  
of the Embassy of Japan in Washington D.C.*

April 19, 2012

Masaaki Shirakawa  
Governor of the Bank of Japan

Chart 1

## Cherry Blossoms and Dogwoods

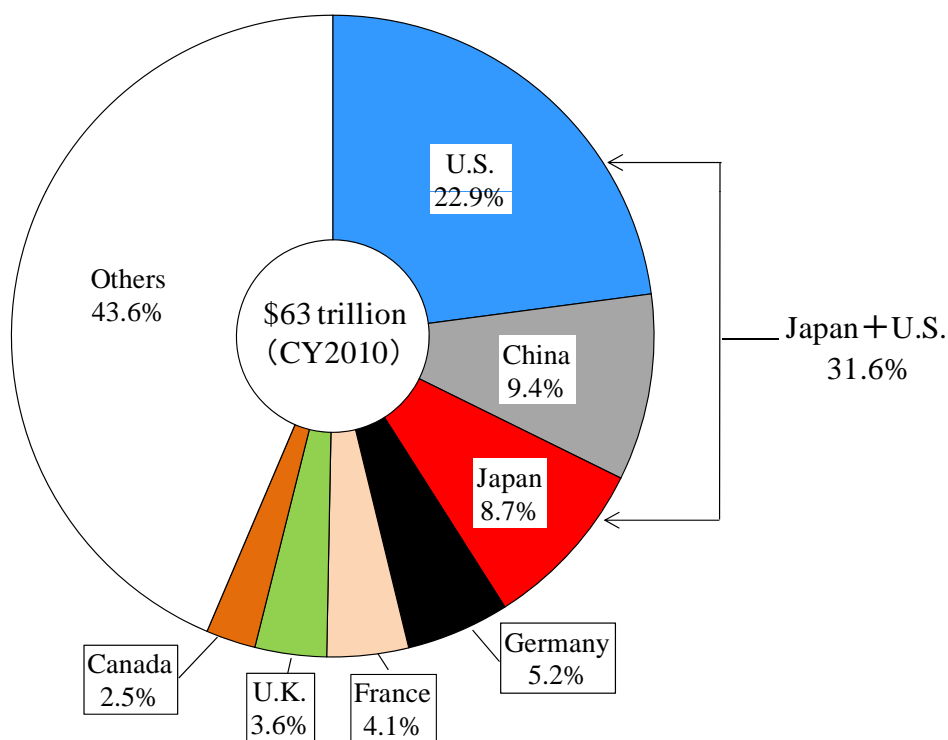
*Dogwoods Sent from the U.S. to Japan  
as a Gift in Return (Original Trees)*

*Cherry Blossoms Sent as a Gift from Japan to the U.S.*



Source: Tokyo Metropolitan Engei High School.

### Share of Countries in World Nominal GDP

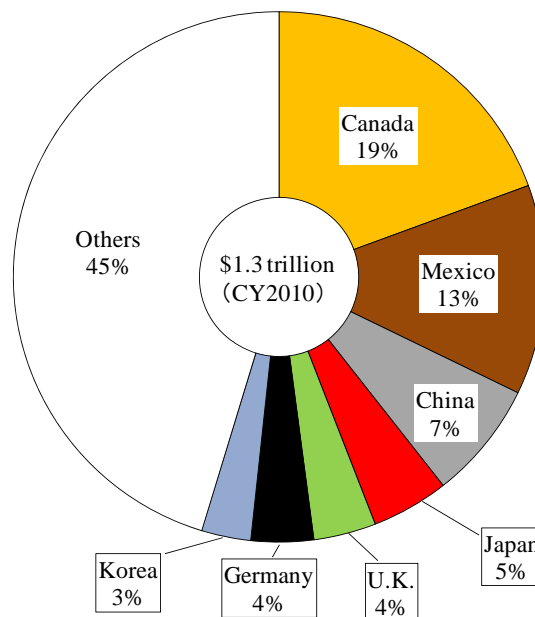
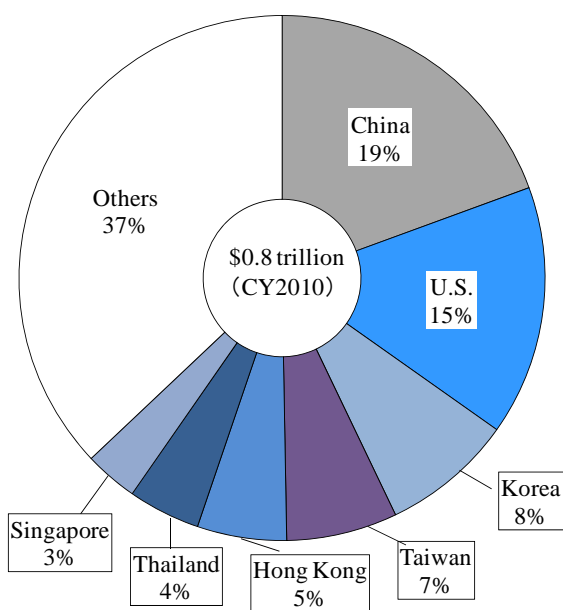


Source: Cabinet Office.

### Japan and U.S. Trade Relations

*Shares in Japan's Exports by Country*

*Shares in U.S. Exports by Country*



Sources: Ministry of Finance; U.S. Department of Commerce.



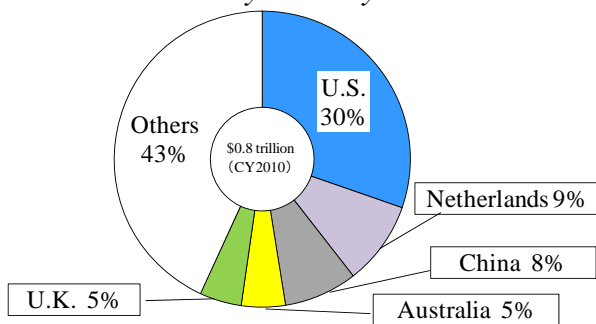
### iPhone Production Costs

Components	Major suppliers		Amount of money per unit (U.S. dollars)
	Japanese firms	Non-Japanese firms	
NAND Flash Memory	Toshiba	Samsung (Korea), Hynix (Korea)	19.2
DRAM	Elpida	Samsung (Korea)	9.1
Display	Toshiba, Sharp	LG (Korea), Chimei (Taiwan)	23.0
Application Processor		Samsung (Korea)	15.0
Camera Module	Sony		17.6
Bluetooth/WLAN and other communication equipment	Murata	Qualcomm (U.S.), Avago (U.S.), Broadcom (U.S.), TriQuint (U.S.)	30.0
Battery	Sony, TDK	Samsung (Korea), LG (Korea)	5.9
Mechanical/Electro-Mechanical	Ibiden		33.0
Cost of other components			35.1
Total cost of all components			187.9
Manufacturing cost			8.0
Gross profit margin			453.1
Retail price			649.0

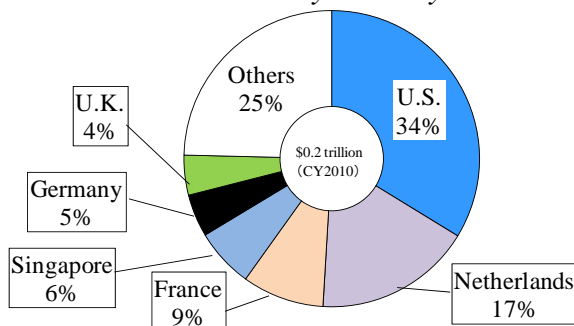
Note: The costs and prices are for the iPhone4S (16GB) in 2011. The retail price is SIM-free and without contracts.  
Sources: iSuppli; Nikkei Electronics.

### Japan and U.S. Investment Relations

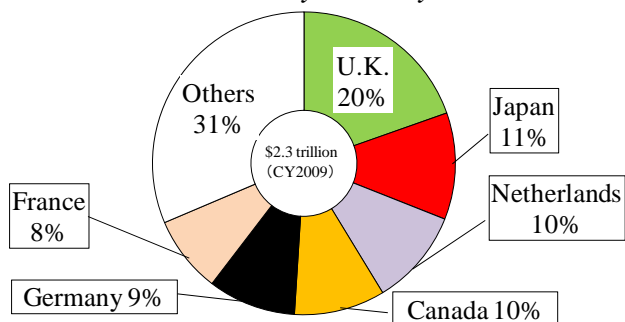
*Japan's Outward Direct Investment Position by Country*



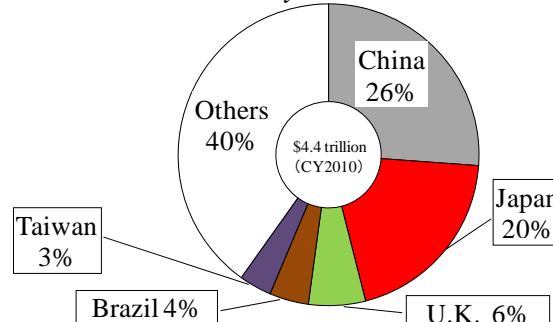
*Japan's Inward Direct Investment Position by Country*



*U.S. Inward Direct Investment Position by Country*



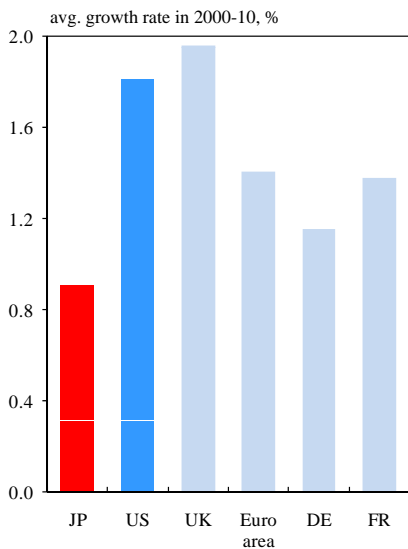
*Share of Foreign Holdings of U.S. Treasury Securities*



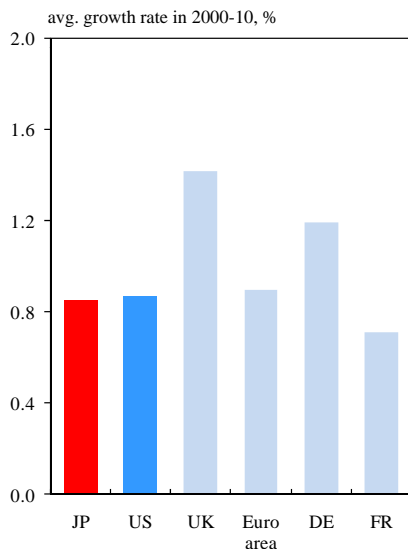
Sources: Bank of Japan; U.S. Department of Commerce; U.S. Department of the Treasury.

## Effects of Rapid Population Aging in Japan

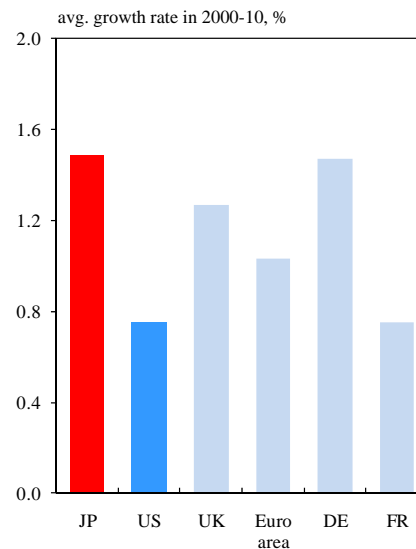
*Real GDP Growth Rate*



*Real GDP Growth Rate per Capita*



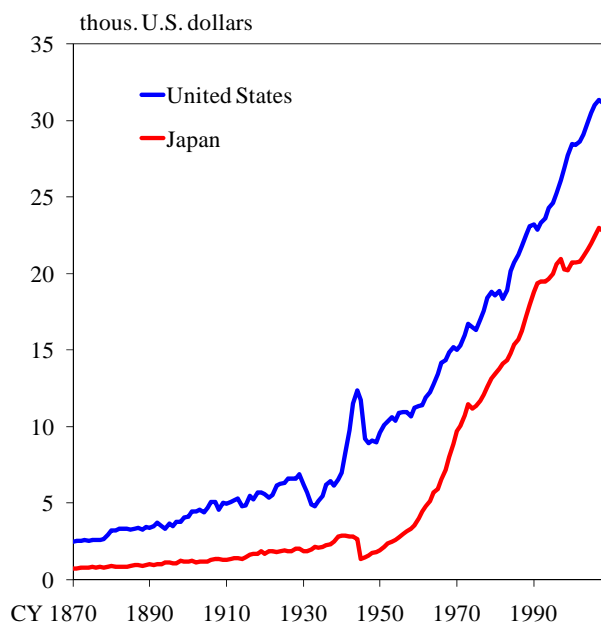
*Real GDP Growth Rate per Working-Age Person*



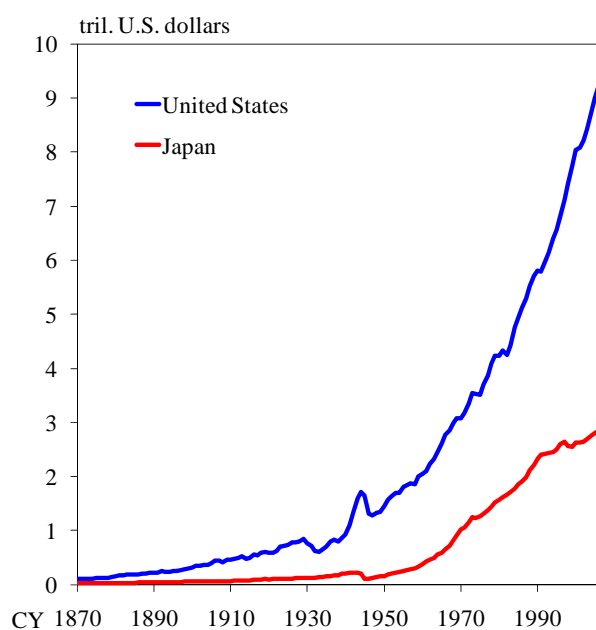
Note: A working-age person is one between the ages of 15 and 64 years.  
Sources: World Bank; Haver.

## Long-Term Developments of GDP in Japan and the United States

*Real GDP per Capita*

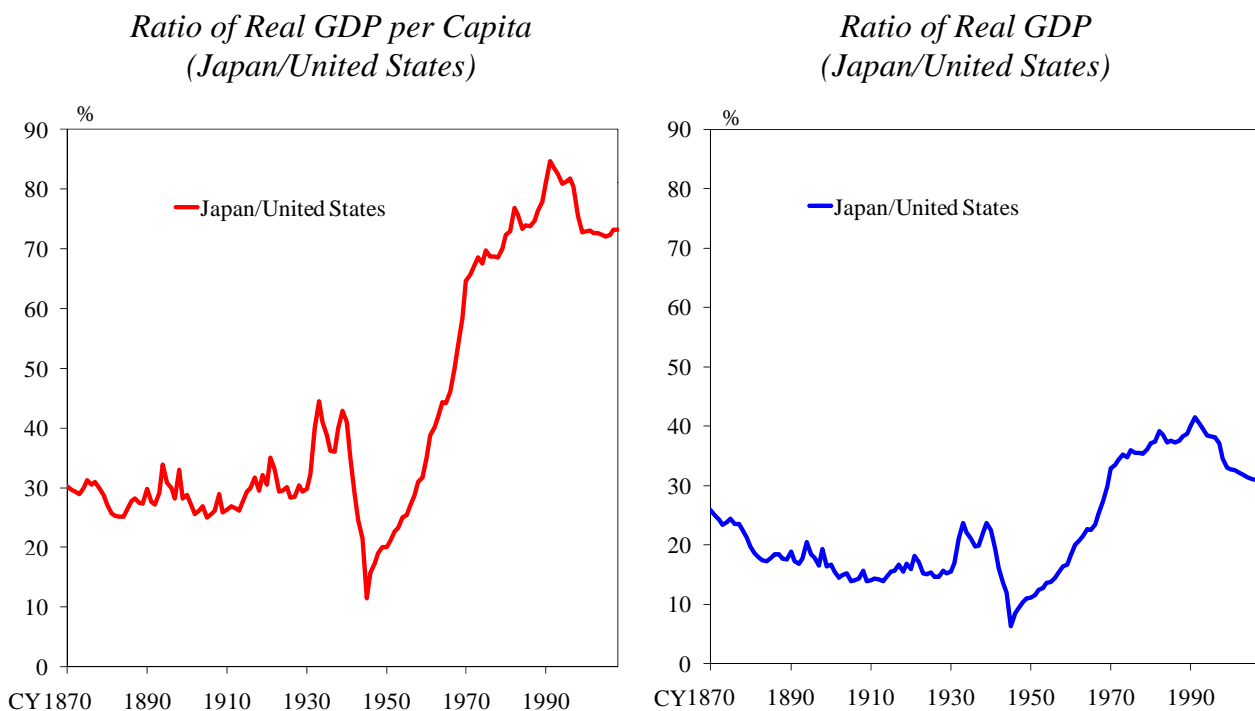


*Real GDP*



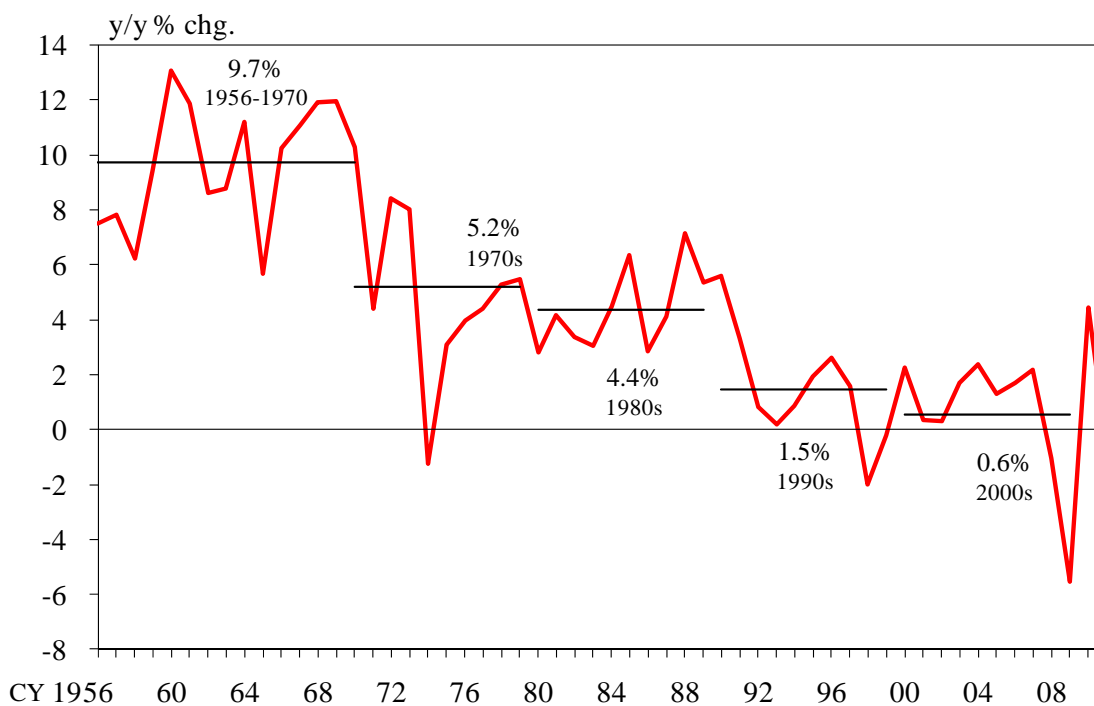
Note: Units of real GDP are in 1990 Geary-Khamis U.S. dollars.  
Source: Madison statistics.

## Comparison of Real GDP between Japan and the United States



Note: Units of real GDP are in 1990 Geary-Khamis U.S. dollars.  
Source: Madison statistics.

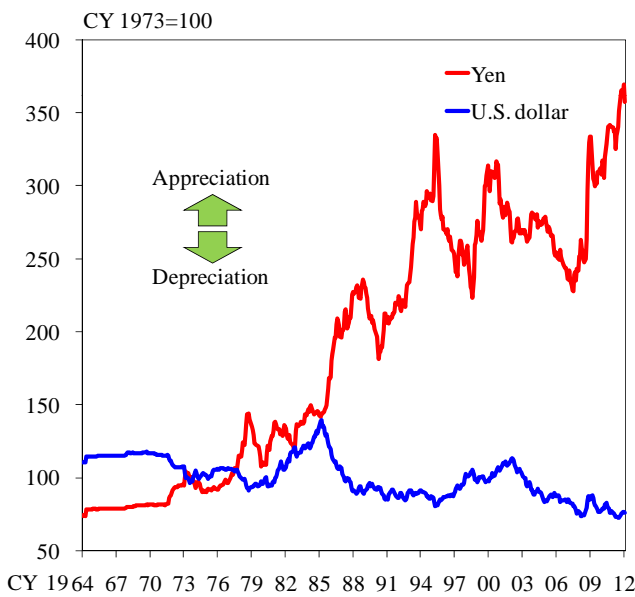
## Japan's Real GDP Growth Rate



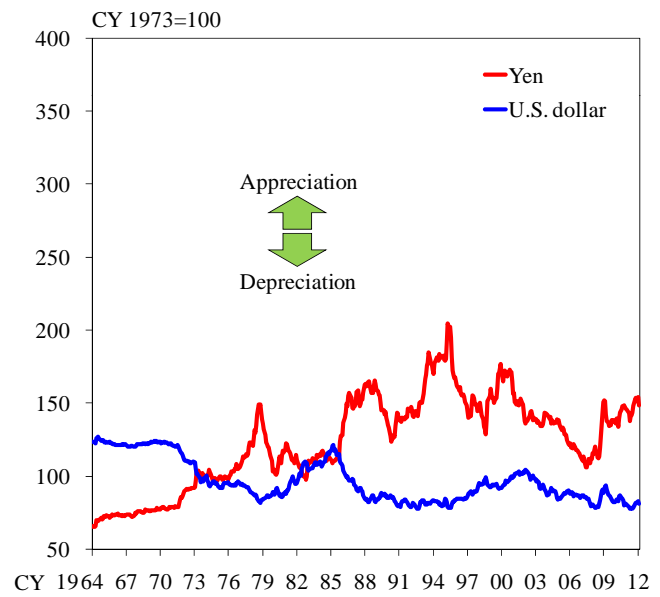
Note: Data up to 1980 are based on the 68SNA (System of National Accounts) while those from 1981 are based on the 93SNA.  
Source: Cabinet Office.

## Effective Exchange Rates

*Nominal Effective Exchange Rates*



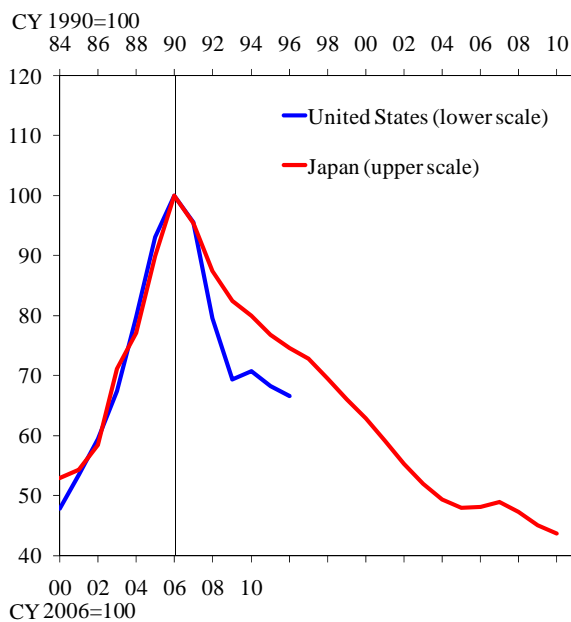
*Real Effective Exchange Rates*



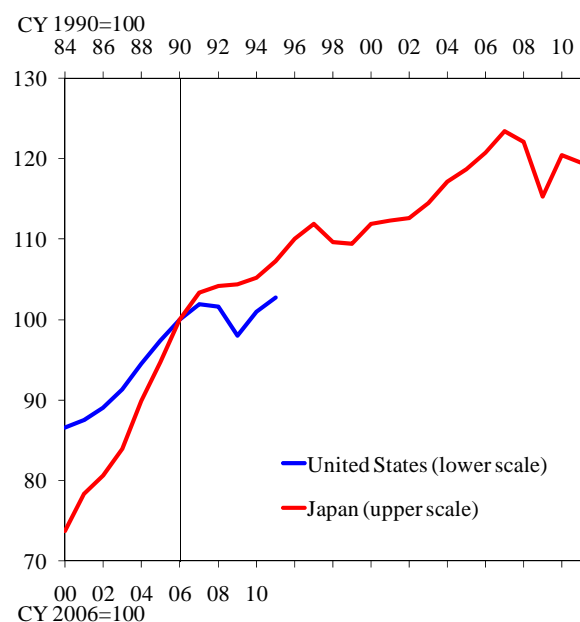
Note: Rates are based on the narrow indices.  
Source: BIS.

## Real Estate Prices and Real GDP after the Bursting of a Bubble (Japan: 1990=100, United States: 2006=100)

*Real Estate Prices*

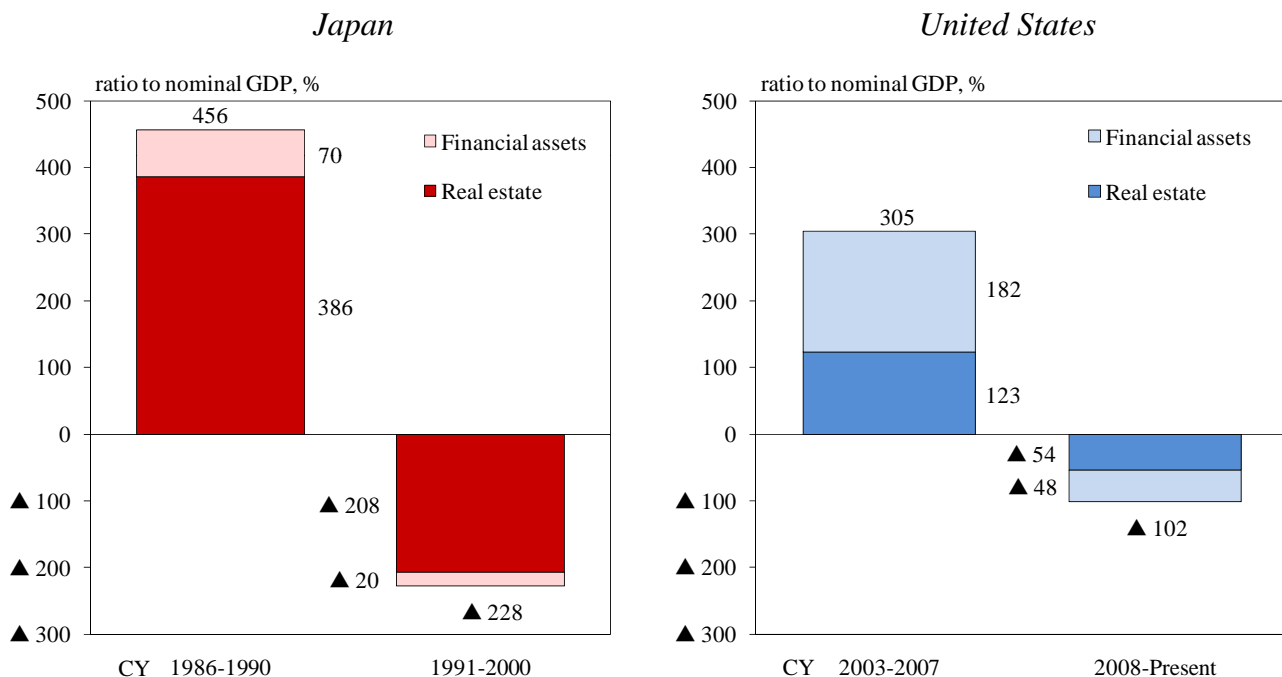


*Real GDP*



Note: Figures for real estate prices in Japan are treated as those in the previous year (e.g. Jan 1, 2011⇒2010).  
Sources: Ministry of Land, Infrastructure, Transport and Tourism; Haver; Cabinet Office; BEA.

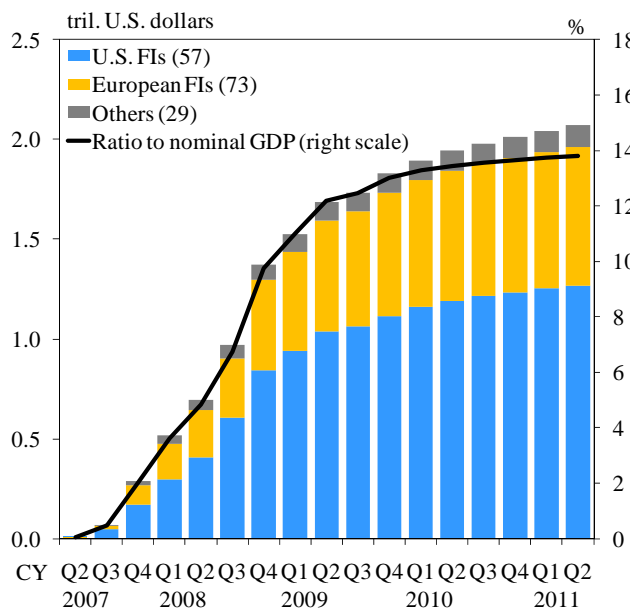
### Scale of Asset Price Bubbles



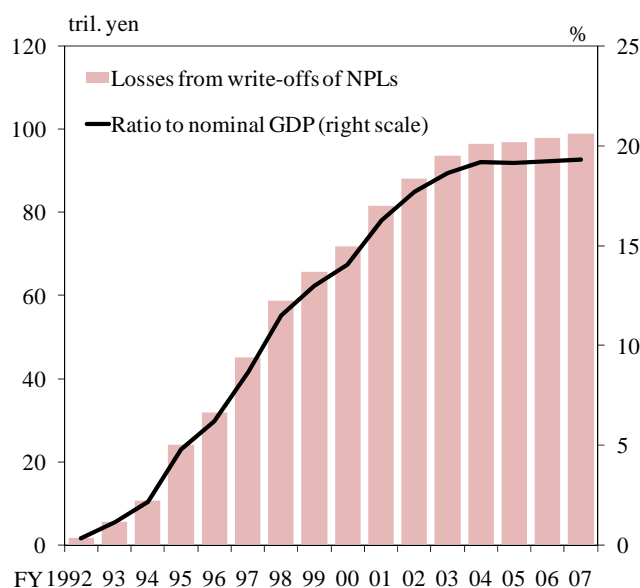
Note: Ratios are derived from the cumulative sum of capital gains and losses from each year.  
Sources: Cabinet Office; FRB; BEA.

### Pace of Write-Offs by Financial Institutions and Distributions of Agents Incurring Losses

Subprime-Related Losses of Major Financial Institutions in the U.S. and in Europe

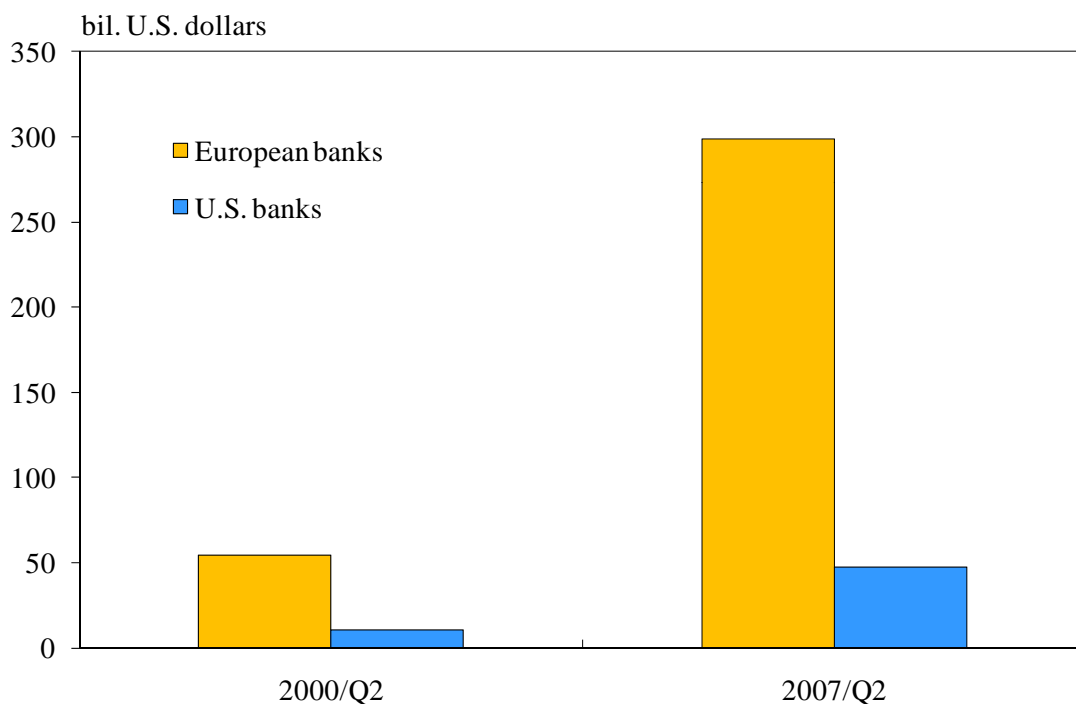


Losses of Major Financial Institutions in Japan from Write-Offs of Nonperforming Loans



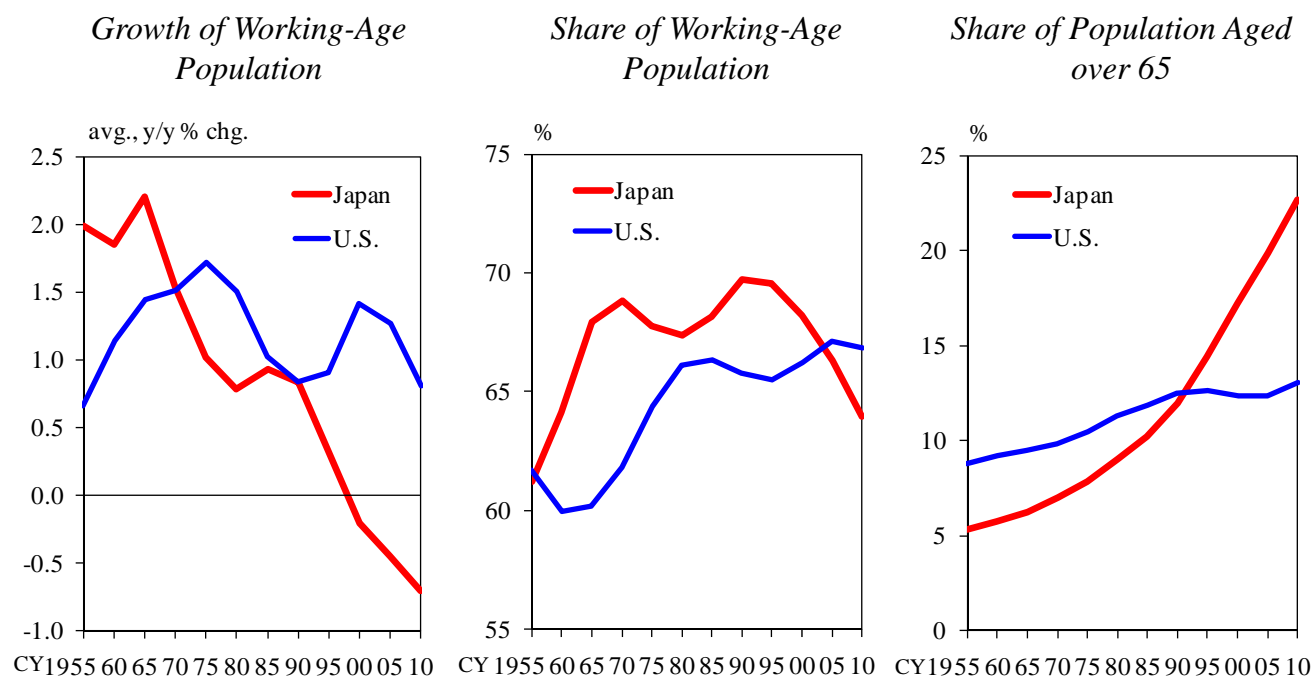
Note: Numbers in parentheses are the number of financial institutions. Losses related to subprime loans in Europe and the U.S. are the accumulated amount since 2007/Q2. Losses from write-offs of NPLs in Japan are the accumulated amount since March 1993.  
Sources: Cabinet Office; FSA; BEA; Bloomberg.

### ABCP Vehicles Sponsored by Banks



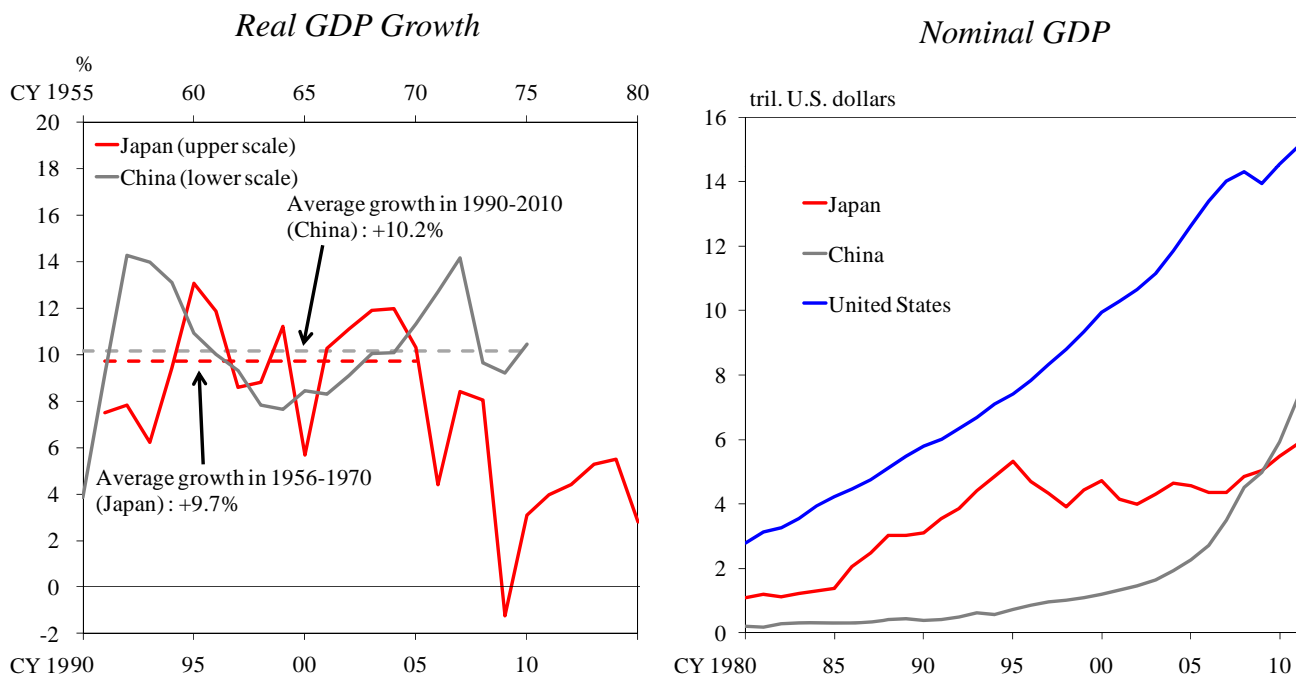
Note: These bank-sponsored vehicles are those rated by Moody's.  
 Source: C. Arteta, M. Carey, R. Correa, and J. Kotter (2010).

### Demographic Changes in Japan and the United States



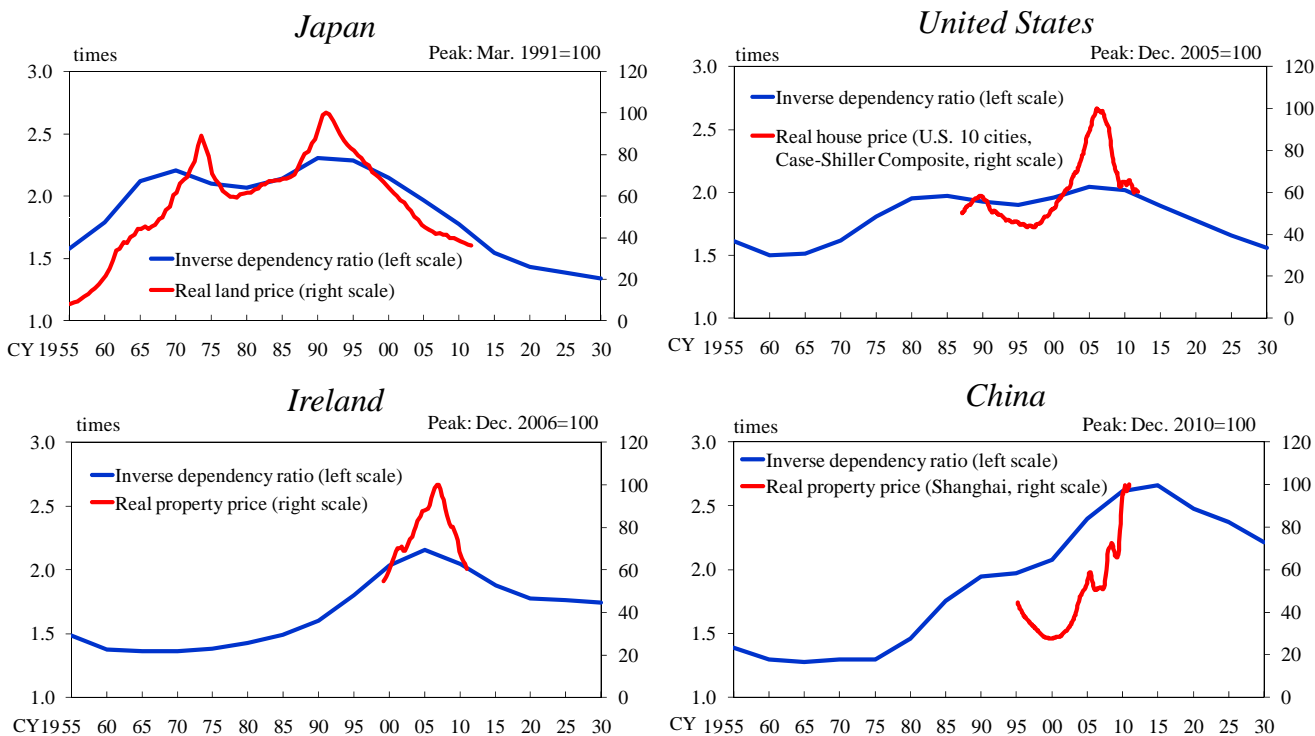
Note: Working-age population means the population aged between 15 and 64 years.  
 Source: United Nations.

## GDP of Japan, the United States, and China



Note: Nominal GDP are values by the IMF (values were converted into dollars using market exchange rates).  
Sources: Cabinet Office; IMF.

## Real Estate Price and Dependency Ratio



Note: The inverse dependency ratio is the ratio of the working-age population (people aged 15-64) to the dependent population (sum of people aged less than 15 and those aged 65 and over).

Sources: Nishimura, Kiyohiko G., "Macro-Prudential Policy Framework from an Asian Perspective," Speech at ADBI-FSA Conference in Tokyo, September 30, 2011; and other works.

## Operation *Tomodachi* by the U.S. Military Forces following the Great East Japan Earthquake



Sources: U.S. Marine Corps; U.S. Navy.

## The Bank's Conduct of Monetary Policy

### Pursuing Powerful Monetary Easing by Implementing a Comprehensive Monetary Easing Policy

#### (1) Conduct of a virtually zero interest rate policy

- ✓ The Bank adopts a virtually zero interest rate policy by maintaining the target for the uncollateralized overnight call rate at "around 0 to 0.1 percent."

#### (2) Purchases of financial assets through the Asset Purchase Program

- ✓ The Bank aims at further enhancing powerful monetary easing by encouraging a decline in longer-term market interest rates and a reduction in various risk premiums through the purchase of various types of financial assets.
- ✓ The Bank established the Asset Purchase Program with a total size of about 35 trillion yen, and the size of the Program has been repeatedly expanded thereafter (currently about 65 trillion yen).

#### (3) Clarification of the policy time horizon

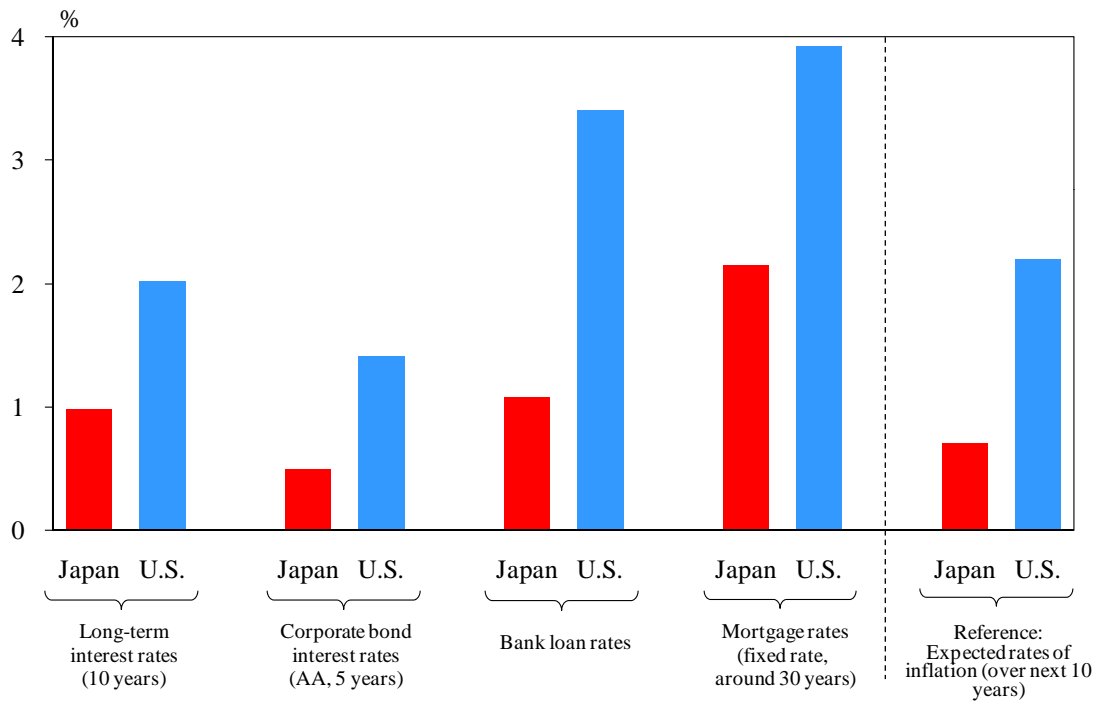
- ✓ For the time being, the Bank will aim to achieve the goal of 1 percent inflation in terms of the year-on-year rate of increase in the consumer price index (CPI) through the pursuit of powerful monetary easing, by conducting its virtually zero interest rate policy and by implementing the Asset Purchase Program mainly through the purchase of financial assets.

### Providing Support to Strengthen the Foundations for Economic Growth

- ✓ Through "the fund-provisioning measure to support strengthening the foundations for economic growth," the Bank provides long-term (maximum duration of four years) funds at low rates (currently 0.1 percent per annum) to financial institutions carrying out lending or investment in support of strengthening the foundations for Japan's economic growth.
- ✓ In addition to the basic fund-provisioning arrangement in the measure, the Bank has established special rules for a new U.S. dollar lending arrangement, those for ABL (asset-based lending), and those for small-lot investments and loans.



## Financial Conditions in Japan and the United States



Notes: 1. Long-term interest rates, corporate bond interest rates, and mortgage rates are the averages of 2012/Q1.  
 2. Loan rates and expected rates of inflation are those of 2011/Q4.  
 Sources: Japan Housing Finance Agency; Freddie Mac; Bank of Japan; FRB; Consensus Forecasts; Bloomberg.