

## **Masaaki Shirakawa: Toward stronger growth – challenges facing Japan’s economy**

Speech by Mr Masaaki Shirakawa, Governor of the Bank of Japan, at a meeting held by the Yomiuri International Economic Society, Tokyo, 6 September 2012.

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### **Introduction**

It is a great honor to be invited to this meeting hosted by the Yomiuri International Economic Society today.

Both the global economy and Japan’s economy currently face mounting challenges. Looking back, it has already been six years since U.S. housing prices peaked, five years since the subprime mortgage problem surfaced in the form of what has come to be known as the Paribas shock, and about four years since the Lehman shock. Thanks to aggressive policy implementation by authorities and other measures following the Lehman shock, the global economy succeeded in avoiding a downturn as significant as the Great Depression in the 1930s. Nevertheless, the pace of recovery in advanced economies thereafter has remained very sluggish, unlike anything they have experienced since World War II.

Taking the year 2007 – that is, prior to the Lehman shock – and setting the level of GDP at 100, the current level stands at 113 for the global economy as a whole and 102 for advanced economies (Chart 1). While these latest figures correspond to those seen in the mid-1990s, in terms of timing when compared with Japan’s post-bubble period, the pace of recovery in real GDP for the United States and Europe is either comparable to or even worse than that for Japan in the period leading up to the mid-1990s (Chart 2). Moreover, the emergence of such a situation, regardless of the advanced economies’ highly aggressive policy conduct, suggests the severity of the situation we face today.

As for fiscal policy in advanced economies, the amount outstanding of government debt has been increasing substantially against the background of massive fiscal deficit. Turning to monetary policy, central banks continue to implement extraordinary measures, including the zero interest rate policy, a commitment to maintaining low interest rates, the significant expansion of central bank balance sheets, and purchases of risk assets. The long-term interest rates of advanced economies are at historically low levels. Meanwhile, the coexistence of the sovereign and financial crises continues in the euro area. These types of crises used to be widely regarded as phenomena unique to developing or emerging economies during the post-war period. Such a conventional view, however, has been overturned.

In retrospect, considering that the period leading up to the mid-2000s had been referred to as the age of “Great Moderation” for its continued high growth, low inflation, and low interest rates, times have certainly changed. And now, reflecting on the past quarter-century with a fresh eye, bubbles and financial crises have been emerging more frequently worldwide over time, with Japan’s economic bubble in the late 1980s, the Asian financial crisis in the late 1990s, and the global financial crisis in the 2000s, to name a few.

Against these backgrounds, historical precedents have been drawing increasing attention as topics for economic debate in recent years. This trend appears to reflect the growing sense of awareness that the global economy and financial conditions are in the midst of drastic changes. If this really were the case for the era we live in, it might be a sign that adopting historical as well as medium- to long-term perspectives is key to taking appropriate action in response to problems facing the economy. Time has revealed that the decline in Japan’s economic growth rate over the past two decades is the result of the delay in the post-bubble disposal of nonperforming loans as well as the delayed responses to rapid globalization and

the aging and declining population. If the gravity of such problems had been recognized at an earlier stage, allowing for swifter responses, the developments that followed might have turned out differently from what we find today. The most powerful lesson Japan has learnt in the past 20 years is that we must act on the basis of medium- to long-term perspectives in order for the economy to grow at a sustainable pace. In view of this, my address to you today is entitled “Toward Stronger Growth: Challenges facing Japan’s Economy”, and this will take into account medium- to long-term perspectives.

## **I. Recent developments in Japan’s economy**

As the starting point of my talk, let me kick off with the recent developments and the outlook for Japan’s economy. In its Monetary Policy Meeting held last month, the Bank of Japan judged that Japan’s economic activity had started picking up moderately as domestic demand remained firm, mainly supported by reconstruction-related demand, while overseas economies had not yet emerged from a deceleration phase and overseas demand had been somewhat weak. The real GDP growth rate was 5.5 percent and 1.4 percent year on year in the first and second quarter of 2012. Among the G7 economies, Japan registered much faster growth in the first half of this year. Looking ahead, the economy is expected to return to a moderate recovery path as domestic demand remains firm and overseas economies emerge from the deceleration phase. This outlook rests on whether domestic demand remains firm while overseas economies emerge from the deceleration phase.

As for domestic demand, there are factors on the one hand that will eventually subside, such as effects stemming from subsidies for purchasing environmentally-friendly cars. On the other hand, there are factors that are more fundamental to maintaining firmness in domestic demand, such as creating new business to meet demand associated with the aging of the population. In terms of reconstruction-related demand, this is not just a matter of repairing facilities and housing damaged by the earthquake or tsunami, together with the pent-up demand following the disaster. It is more broad-based and includes the demand associated with consumers’ conscious will to prevent disaster, as well as firms’ increased needs for building disaster prevention centers or business continuity centers and shifting their resources to renewable sources of power. As such, we would expect firmness in domestic demand to continue for some time to come, although there is evidence of certain factors that require attention, such as weak bonuses this summer.

In overseas economies, deceleration has continued for somewhat longer than expected and, reflecting such developments overseas, exports and industrial production both appear to be somewhat weak. Against this background, we downgraded our assessment in the Monetary Policy Meeting last month by saying that “the pick-up in exports has moderated, and the recent reading on production has been relatively weak”. Subsequent readings showed that real exports and industrial production in July were somewhat weak. On the whole, there is a wide range of uncertainties about the outlook for the economy. As I recently talked about the short-term outlook for economic developments, I wish to pick up today on some underlying factors that are essential to assessing the outlook for economic activity and prices, and to conducting policy, while taking into account the medium- to long-term perspectives.

There are six topics on which I wish to elaborate: the first is the mechanism of Japan’s economic growth before the Lehman shock; the second is the recent development and outlook for overseas economies; the third is the growth potential of Japan’s economy; the fourth is deflation; the fifth is a stronger yen; and, the sixth is the fiscal situation in Japan. After covering all these topics, I will explain the recent conduct of the Bank’s monetary policy.

## **II. Mechanism for economic recovery in Japan before the Lehman shock**

Let me start with the first topic – namely, the background explanation of economic recovery in Japan before the Lehman shock. The reason I chose to open with this topic is that there are several clues to draw from when formulating a process for generating economic recovery

after the Lehman shock. Looking at the turning points of economic expansion and recession, as announced by the Cabinet Office, the previous economic recovery started in January 2002 and ended in February 2008. While the average growth rate during these years was not high, compared with those in the past, the duration of economic expansion lasted six years and a month, the longest period of economic expansion in the post-war era, longer than the “Izanagi Boom” (Chart 3). There are three reasons behind this.

The first is that the balance-sheet adjustment, which had weighed on Japan’s economy after the bursting of the bubble, ended. In particular, the completion of resolving excess debts at the beginning of the 2000s had a non-negligible impact.

The second reason is the long-lasting high economic growth in the global economy (Chart 4). The average growth rate of the global economy from 2004 to 2007 was 5.0 percent, which was much higher than the average rate of 3.0 percent in the 1990s. These periods were often referred to as the “Great Moderation”, where inflation remained low. Under such circumstances, optimism about the economic outlook prevailed around the globe, and a boom in the real estate market and a rise in durable goods consumption took place in the United States and Europe. On the financial front, financial institutions increasingly favored taking risk, and a rapid expansion of leverage – i.e., the accelerated expansion of credit – occurred. In retrospect, the high economic growth in the global economy during those periods was largely sustained by the creation of credit bubbles.

The third reason is the increase in exports under a depreciating yen. The yen appreciated somewhat in the first half of the periods under quantitative easing, but subsequently depreciated after 2005 – in particular, from 2006, when the quantitative easing was lifted, to 2007 (Chart 5). This reflects active carry trades against the background of continued extremely low interest rates in Japan, while interest rates started to rise in overseas economies due to high growth rates. Supported by the continued weaker yen, exports increased markedly, particularly in the automobile-related area and in capital goods and equipment (Chart 6).

After the Lehman shock, two out of three factors – namely, high growth in overseas economies and the yen’s depreciation – no longer hold. Setting the level of real GDP in 2007 (i.e., a year before the Lehman shock) at 100 and looking at its development since then, the present level of Japan’s economy is 99. This falls short of the pre-Lehman level. In an international context, the present level is 97 for Great Britain, 99 for the euro area, and 102 for the United States; hence, Japan stands somewhere in the middle of the advanced economies (Chart 7). In terms of per capita GDP, the picture is somewhat different. The level of economic activity falls short of those before the Lehman shock in any country or region. Amongst all, Japan has registered the smallest decline. Furthermore, in terms of real GDP per working-age person, only Japan exceeds the level seen before the Lehman shock. This reflects the effect of the rapid aging of the population, but I will come back to this topic later on.

### **III. Overseas economies**

Let me now move on to the second topic, i.e., the recent development and outlook for overseas economies. This is the major factor that could change the course of Japan’s economy. Overseas economies started decelerating since the second half of last year, mainly due to the European debt problem, and still have not emerged from a deceleration phase. Accommodative financial conditions are an important factor for sustaining economic recovery, but there is a wide range of uncertainties, including when those economies might emerge from the deceleration phase.

#### ***Current situation and outlook for the overseas economies***

As for the U.S. economy, borrowing the terminology from Chairman Bernanke’s recent speech, there are three “headwinds” that are restraining economic activity. Specifically, these

are the headwinds coming from the housing market, the fiscal situation, and the European debt problem. Among the three, it is heartening that the adjustment in the housing market is making progress at a gradual pace, though it still weighs on the economy. Concerning the fiscal situation, the “fiscal cliff” is a problem; hence, the pace of economic recovery entails a wide range of uncertainties.

The European economy continued to be stagnant in the midst of the sovereign debt crisis. After 2010, not only did Greece, Ireland, and Portugal receive support from the EU and the IMF, but the fiscal problems are now spreading to the larger southern European economies of Spain and Italy. Yields on government bonds in those countries rose, or, in other words, bond prices fell. The assets of financial institutions deteriorated, generating instability in their respective financial systems. As a result, firms’ and households’ confidence and financial conditions deteriorated substantially, exerting downward pressure on the real economy. The slowdown in the real economy and the instability in financial systems created an adverse feedback loop on the fiscal problem by reducing revenues and increasing the burden of bailing out financial institutions. As such, Europe currently faces a difficult situation as a result of the adverse feedback loop among the fiscal situation, the financial system, and economic activity.

Lastly, as for China, its economy has gone through a somewhat longer deceleration phase. While there are signs of improvement in domestic demand, such as investment in infrastructure and real estate sales, we should maintain a vigilant watch on whether it can make a smooth transition towards a sustainable growth path. In terms of the future for the Chinese economy, its exports to Europe, which have a large weight, require attention. Another important issue is the evaluation of rising real income as a result of a number of policy measures – such as monetary easing, the advanced execution of building infrastructure, and the stimulus consumption package – as well as declining inflation rates. From a somewhat long-term perspective, the most important point is whether China would succeed in making a smooth transition from high economic growth to moderate growth. The high-growth period in Japan started in the middle of the 1950s and ended at the beginning of the 1970s. The average growth rate between these periods was 9.7 percent, nearly identical to the 10.1 percent registered by the Chinese economy since the 1990s (Chart 8). As was the case in Japan, the transition from high economic growth to stable growth will not be an easy path.

From such a perspective, in comparing recent indicators between Japan and China, per capita GDP in China is approximately 5,500 U.S. dollars, almost the same as that in Japan in the middle of the 1970s. The share of business fixed investment relative to GDP in China is significantly higher than that of Japan during the high-growth era. As for labor or demographic changes, the “Lewisian Turning Point” – that is, when the excess labor surplus in rural areas eventually disappears – and demographic changes in the working-age population are important issues (Chart 9). Once the “Lewisian Turning Point” occurs, it will increase upward pressure on wages, and the pick-up in labor productivity is likely to decelerate. While the jury is still out on whether the Chinese economy has passed this point, the working-age population will start to decrease around 2015 and the aging of the population will proceed at a rapid pace. In Japan, there was a time lag of about 30 years from the “Lewisian Turning Point” to a decrease in the working-age population; it might be that China will experience such changes in relatively short periods of time (Chart 10).

### ***Effect of the bursting of the credit bubble on the overseas economies***

As I explained so far, the U.S., European, and Chinese economies fluctuate by their intrinsic factors. On the other hand, they are also driven by a common factor. In this regard, it is useful to examine the global economy from a broad perspective. On this point, the impact felt around the globe from the bursting of the credit bubble in the mid-2000s is an important point to consider. As for the headwinds against the U.S. economy, the collapse of the housing

market was caused by the bursting of the bubble, and the problem associated with the “fiscal cliff” is largely regarded as an aftereffect caused by the bursting of the bubble.

European financial institutions suffered massive losses from the U.S. subprime loan problem. At the same time, the bubbles in the real estate markets of some peripheral countries burst, creating grave damage to the balance sheets of the respective governments and financial institutions. Let me come back to the European debt problem later, when I will talk about monetary unions, which are unique elements in Europe that have made it more difficult and complex to address the bursting of bubbles. Emerging economies have grown at the potential rate, in large part due to their intrinsic factors. However, they are not immune from the aftereffects of the bursting of the bubbles in advanced economies (Chart 11).

As we have seen, problems emerge in different ways between advanced economies and emerging economies. From the perspective of the effect of the bursting of the bubble, which is the common factor surrounding the global economy, what should we expect in terms of policy-making and business management? The research done by Professors Reinhart and Rogoff, who analyzed the financial crisis, is worth noting.<sup>1</sup> These two professors looked back at the episodes of serious financial crises in 14 countries after World War II, including the experience of the Japanese bubble, the Nordic banking crisis, and the Asian currency crisis. They showed that per capita real GDP had declined from its peak to the bottom in almost two years. Furthermore, they showed that it had taken 4.4 years on average to recover the pre-crisis level of economic activity.

Taking into account these past episodes and ongoing events – namely, the large bubbles burst in the United States and Europe – and given that it takes time to establish a new growth model in economies including Japan and emerging countries, it is important to realize that the situation of subdued growth in the global economy is going to last for some time. Under such circumstances where the subdued growth is less than satisfactory according to the previous criteria, excessive policy measures intended to engender higher growth may end up failing to achieve such policy goals, and we may be left with a number of distortions.

The common challenge facing each country after the Lehman shock is to make the utmost efforts to achieve sustainable growth by conducting macro-policies subject to the structure of each economy at the time, and to proceed with economic and fiscal reforms in each country and region in order to raise economic growth in the medium to long term. On this front, the challenge differs from one country to the next. Emerging economies should aim to achieve balanced growth by cultivating domestic demand, which has the potential to grow while relying less on overseas demand. Moreover, while the speed of aging may differ, Japan, advanced economies, and some emerging countries in Asia face the challenge of addressing their aging populations. Lastly, innovation in the area of natural resources and energy is a challenge that needs to be tackled through the collective wisdom of all human beings in order for the global economy to achieve sustainable growth.

### ***European debt problem and its challenges***

The key to understanding the current state of the global economy is the adjustment after the bursting of bubbles. Let me now describe the European debt problem, which goes well beyond the post-bubble adjustment.

Since the introduction of a single currency – the euro – in 1999, some countries were able to raise funds at lower rates than those justified by their economic strength, and this led to rapid accumulation of external debts. In those countries, wages have risen at a faster pace than productivity growth, and consequently the competitiveness of industries has declined. Nonetheless, as a result of the euro area having adopted a single currency, there is no

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<sup>1</sup> Reinhart, Carmen M., Kenneth S. Rogoff. 2009. *This Time Is Different: Eight Centuries of Financial Folly*. Princeton, NJ: Princeton University Press.

option to recover balances or mitigate severe adjustment pressure by depreciating its own currency. This makes it even more difficult to resolve the problem in the area.

Against such a background, the European Central Bank (ECB) undertook two longer-term refinancing operations (LTROs) with a maturity of 36 months, which provided virtually unlimited liquidity in the euro area. In addition, central banks including the Bank of Japan arranged the coordinated U.S. dollar fund-supplying action. Owing to these policy measures, financial chaos – as we saw at the time of the Lehman shock – has been avoided so far.

The liquidity provision by central banks can only provide a temporary reprieve – in other words, it is a measure to “mitigate the pain” or “buy time”, so to speak. Central banks’ actions themselves will not solve the problem. Thus, two things are necessary to stop the adverse feedback loop among the fiscal situation, the financial system, and the real economy.

First, economies with fiscal problems must proceed with drastic fiscal reforms as well as economic structural reforms, such as reforming the labor market and maintaining and strengthening the soundness of financial systems.

Second, Europe as a whole must set out clearly the future of economic integration and reconstruct a sustainable single currency zone. Europe, as part of its process of creating a European banking union, is considering the establishment of a single supervisory mechanism. Conditional on the establishment of such a mechanism, a principle is currently being discussed that allows the European Stability Mechanism (ESM) to inject capital directly into financial institutions. In addition, in order to strengthen the fiscal consolidation of the respective countries in the region, the European authorities are in the process of drafting a road map that sets out the deadline for achieving such a target.

These are the challenges – that have been recognized by the public – beyond a “monetary union”, and European authorities share a broad sense of the necessary direction to follow. At the same time, these are essential and difficult tasks that will define the future of Europe’s economy, society, and politics. For that reason, there are a number of issues that ought to be resolved, and it will be difficult to form consensus in such a short time.

While a difficult task, the European monetary union has progressed over the years under the grand vision to realize peace, prosperity, and stability in the region through political and economic integration. In order to realize this vision, a strong political will is imperative. I sincerely hope that the European authorities – by taking advantage of the responsiveness that has been nurtured and the mutual trust that has been established through the course of history in Europe – will take bold measures to address the fundamental problem.

#### **IV. Growth potential**

##### ***Japan’s growth potential***

So far, I have addressed the issue of overseas economies. I would now like to change the subject to the domestic economy and present the third topic: Japan’s growth potential, or potential growth rate.

To have some idea of where the potential growth rate lies is vital both in terms of making policies and managing firms. This is because the output gap of Japan’s economy has tightened to about –2 percent at present, and the economic growth rate over the next 10 or 20 years is largely underpinned by the potential growth rate. Both monetary policy and fiscal policy are aimed at stimulating demand by closing the output gap, and neither is quite able to raise potential growth.

To understand potential growth, let us look back at the long time-series of real GDP growth rates in Japan. While it was around 4.4 percent in the 1980s, real GDP declined gradually, reaching around 1.5 percent in the 1990s and around 0.6 percent in the 2000s (Chart 12). The real GDP growth rate can be decomposed into the growth rate of the workforce and the

growth rate of real per capita GDP, i.e., the growth rate of value-added productivity. The decline in real GDP from the 1980s to the 1990s owes much to the declining growth rate of value-added productivity (Chart 13). This is mainly due to the remnants of the bubble; in other words, economic activity stagnated during the course of removing excesses in terms of business equipment and debts that had accumulated during the bubble period. However, its decline from the 1990s to the 2000s owes much to the fact that the working-age population started to decrease, rather than increase, while the growth rate of value-added productivity stopped declining. The decline in the workforce reflects the rapid aging of the population that is in progress.

What is going to happen in the next 10 years? Assuming that the labor participation of male/female workers and that of different age groups remain constant, the future course of the working-age population can be calculated with great accuracy. In the 2010s and 2020s, it is expected to decline by 0.6 percent and 0.8 percent, respectively. Meanwhile, value-added productivity for the last 20 years is 0.9 percent on average. Taking the average between 2000 and 2008 – excluding the 1990s when the aftereffects of the bursting of the bubble still remained – value-added productivity becomes 1.4 percent. Assuming that it will grow at 1.0–1.5 percent, the economic growth rate will be 0.4–0.9 percent and 0.2–0.7 percent in the 2010s and 2020s, respectively.

This computation is mechanical, and I do not place absolute significance on these numbers. Nevertheless, I still believe that they are useful in terms of being able to grasp future economic growth in a situation where no efforts were made to change the status quo.

### ***Measures to raise Japan's growth potential***

Between the two components that constitute economic growth, the way in which value-added productivity is assumed warrants further discussion. Value-added productivity per working-age person in Japan is at a level comparable to other major economies. In fact, it is even higher than some other countries. While it is lower than emerging economies, this reflects the difference in economic structure between the economies that are in the process of catching up and those that have matured. It is rather unrealistic to expect that value-added productivity in Japan will pick up at a rate similar to those in the high-growth era. It may sound as though I am trying to emphasize that we should accept low growth as fate. This is not my intention.

Changing the demographic trend itself, were it possible, would take a long time. Thus, we must face the reality that aging will proceed anyway, and make efforts to carry out structural reforms in view of the aging society. This is the only way to reinvigorate Japan. It is not only the declining population or aging itself that lies behind the low growth rate. The lack of advancing structural reforms to create higher value-added in response to demographic changes is at its core. When thinking in such a way, it becomes clear where we should be headed in order to raise economic growth.

The first move would be to increase labor participation, or to increase the share of those who actually work relative to the working-age population. In order to do so, it is necessary to make serious efforts to lay the foundation for allowing more females and the elderly to participate in the labor market. Leaving the current labor participation as it is, the working-age population would decline by 0.6 percent in the next 10 years. If the labor participation of female workers became as high as that in Sweden, for instance, the working-age population would rise, rather than decline.<sup>2</sup>

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<sup>2</sup> Please see Masaaki Shirakawa, "Japan's Economy and Monetary Policy" (Speech at a Meeting Held by the Naigai Josei Chousa Kai <Research Institute of Japan> in Tokyo), June 4, 2012. [http://www.boj.or.jp/en/announcements/press/koen\\_2012/data/ko120604a1.pdf](http://www.boj.or.jp/en/announcements/press/koen_2012/data/ko120604a1.pdf)

The second is to exert efforts to raise or at least stop a further decline in value-added productivity. The emphasis here is on productivity that requires efforts to raise it. If firms raise their profitability by cutting wages and suppressing input prices, this will only end up suppressing household income and the profit base of suppliers; hence, the value-added in the economy as a whole will not increase. Therefore, in order to raise value-added productivity, one has to develop new goods and services that meet the potential needs at home and abroad, initiate successful business models, and raise value-added productivity. Here, the spirit of challenge on the part of firms plays an important role. There are two ways in which firms can make a maximum contribution: the first is to generate highly value-added goods and services by capturing overseas demand and cultivating domestic demand; and the second is to shift their human, commodity, and financial resources to areas that have the potential to increase demand. In order to encourage firms to demonstrate their spirit of challenge, it is necessary to lay the foundation through initiatives such as deregulation. Turning areas where potential demand has not been cultivated due to existing regulation into growing markets may well be a big opportunity for Japan's economy. At the same time, the society's willingness to accept such challenges is also important.

## V. Deflation

When I talk about the importance of raising the growth potential, the likely response might be that overcoming deflation is also important. Indeed, this is an important issue, but we need to think carefully about what it means to overcome deflation. Next, I would like to present the results of the *Opinion Survey on the General Public's Views and Behavior*. The Bank conducts this survey on a quarterly basis, based on the responses collected from individuals who are chosen through a stratified two-stage random sampling method. This survey is an opinion poll designed to gain insight into the general public's perceptions on their household circumstances, including questions with regard to the perception of price levels (Chart 14).

According to recent survey results, among the respondents who felt that prices have gone up, more than 80 percent viewed the price rise as "rather unfavorable". In contrast, among the respondents who felt that prices have gone down, about one third of them deemed the price decline as "rather favorable". While the exact number changes from one survey to the next, the responses have tended to be rather stable.

Reading the newspaper, in contrast, one often comes across an article stressing the necessity to overcome deflation and representing this as the voice of the general public in Japan. Given that deflation is a state in which prices keep declining, these two outcomes are inconsistent with each other. How can we reconcile these outcomes? In my view, the answer lies in the fact that "deflation" means different things to different people. Some use this terminology in the context of consecutive declines in prices, while others believe it means deteriorating economic activity and the rest view it as declining wages. There are even those who use deflation in the context of falling asset prices.

According to the opinion survey that I have just mentioned, most Japanese people are not hoping that prices would simply rise. If prices rise while real GDP remains stagnant, this will lead to higher nominal GDP, which represents a situation where costs rise in a number of items and cost-push inflation prevails. This does not lead to a higher living standard. In the minds of most people, overcoming deflation is not simply a state in which prices rise in general, but rather one where better economic conditions are realized by increasing corporate profits, employment, and income. In economists' jargon, it represents a rise in the real GDP growth rate. When the real GDP growth rate rises, the demand and supply balance improves, generating upward pressure on prices and wiping out deflation. The question is how to raise the real GDP growth rate. There is a combination of forces that needs to be addressed: first, strengthening the economy's growth potential; and second, providing support from the financial side.



## **VI. Stronger yen**

### ***Recent developments in foreign exchange rate and its background***

Related to the current economic developments, I would now like to talk about the problem associated with the stronger yen, the fifth topic of my speech today. This is the issue that I have been asked about most frequently.

Looking at the foreign exchange developments after the Lehman shock, the tide changed from a weaker yen up until then to a stronger yen. The effective exchange rate, weighted by trade volumes, shows that the yen and the Swiss franc appreciated sharply while the euro depreciated (Chart 15). The U.S. dollar, while it appreciated temporarily after the Lehman shock, has been depreciating moderately on the whole. Meanwhile, the Korean won depreciated sharply after the Lehman shock and has remained at that depreciated level.

In the foreign exchange market, a large volume of transactions takes place on a daily basis, and capital transactions account for 98 percent of total transactions (Chart 16). In the formation of foreign exchange rates, capital transactions play an important role. There are basically two types of capital flows behind the stronger yen following the Lehman shock. The first is the reversal of yen carry trades that had actively taken place before the Lehman shock. Prior to the Lehman shock, a very low interest rate was observed in Japan, but now interest rates around the globe have also become extremely low. Second, overseas investors have become more risk averse against the background of uncertainties about the outlook for the global economy as well as the European debt problem, and the yen has become a safe-haven currency that is more likely to be purchased under the current situation. In a case where the European debt problem raises urgent concerns, the currency of the country with abundant overseas assets – which is the outcome of the past current account surplus – is regarded as a safe-haven currency.

### ***Effects of foreign exchange rate movements and responses***

A stronger yen creates a significant impact on the economy and prices. The way in which its effect is realized depends on economic conditions and the passage of events. At present, the stronger yen causes a decline in exports and corporate profits as well as deterioration in business sentiment; hence, I recognize that the negative effect is dominant. Indeed, in domestic demand driven sectors such as retail sales, the decline in import prices has been beneficial, and the stronger yen also reduces costs associated with energy-related imports under the current circumstances. Taking into account all of the negative and positive effects together, the Bank judges it necessary to watch more carefully for negative effects on the economy and prices, given that the outlook for the global economy faces significant uncertainty. In particular, under the current circumstances where there is a wide range of uncertainties regarding the outlook of overseas economies – not to mention the outlook for the European debt problem – we need to closely monitor developments including the accelerated outward shift of Japanese firms to overseas and the decline in medium- to long-term growth expectations.

As foreign exchange rates are important variables in the management of firms, the sharp volatility in the foreign exchange market creates a problem in terms of firms' ability to respond to such changes. Towards the middle of the 2000s, when the yen depreciated sharply, production shifted back to Japan and the rising trend in the overseas production ratio came to a halt. Now that the yen is appreciating, a swing in the foreign exchange rate makes it more painful for firms to adjust to these changes.

As announced in the statement of G7 Finance Ministers and Central Bank Governors, both the Government and the Bank of Japan judge that excess volatility and disorderly movements in exchange rates have adverse implications for economic and financial stability.

In response to disorderly movements in foreign exchange rates, the government has intervened in foreign exchange markets at a time judged to be the most effective. As for

monetary policy, which will be addressed later, the Bank has been implementing monetary easing, taking account of the implication of the deceleration in overseas economies and the stronger yen on the outlook for Japan's economy and prices.

Sometimes we hear the view that the Bank should purchase foreign bonds with the objective of weakening the yen. However, this is identical to intervention in foreign exchange markets. It is clearly stipulated in the law that the Bank shall buy and sell in the foreign exchange markets as an agent handling national government affairs when the purpose of the buying and selling is to stabilize the exchange rate of the Japanese currency. As such, this should be discussed in the context of whether or not it is necessary for the government to intervene in the markets.

In terms of a response to the stronger yen, together with government initiatives, how firms react to such changes is also important. Under the floating exchange rate system, firms at home and abroad have been making efforts to minimize the effects stemming from exchange rate moves. Above all, in order to cope with foreign exchange movements, one has to develop goods and services that are highly competitive.

On this point, the Swiss experience is a good example. Over the last 10 years, the Swiss franc has appreciated more than the yen, but in terms of value, the Swiss exports, mainly of medical goods and watches, increased by much more than those of Japan (Chart 17). In evaluating the competitiveness, the international competitiveness coefficient – the net export value relative to the sum of export and import values – is calculated for Japan's merchandise representatives. Among them, there are items that continue to be highly competitive under the appreciating yen, but there are also other items that lost competitiveness even before the yen's appreciation started (Chart 18).

In the short run, the volatility associated with foreign exchange movements affects the competitiveness, and we are fully aware that it is all the more difficult for firms, particularly small firms, to respond to the rapid appreciation of the yen. Nonetheless, from a somewhat long-term perspective, the competitiveness that enables one to succeed in the globalized economy comes from having differentiated products as well as highly value-added products.

## **VII. Fiscal sustainability**

Next, I will talk about fiscal sustainability – the sixth topic of my speech today. This is a particularly important issue for Japan from a somewhat long-term perspective.

When the fiscal balance deteriorates over the long run, there are only three ways to regain fiscal sustainability in terms of logical consequences and historical experience. The first is to regain fiscal sustainability by raising economic growth and reforming revenue and expenditure. The second is simply to default. The third is to create higher inflation, wiping out the debts. If no effort is being made to restructure the fiscal system, or if improving the fiscal balance in the future rests on unrealistic assumptions about high economic growth, it will not be possible to make both ends meet and investors will be left with two remaining options: either default or suffer high inflation. Defaulting sovereign debts will jeopardize the stability of the financial system by generating large losses on financial institutions. Inflation will jeopardize price stability. In either case, the stability of the economy's own currency – the most essential prerequisite for stability of the economy and society as a whole – will be lost, causing grave damage to the possibility of achieving sustainable economic growth. In perhaps a less extreme scenario than the one described above, when there is uncertainty with regard to fiscal sustainability, firms and households will be concerned about the future and become more likely to reduce their expenditure. It is for this very reason that maintaining fiscal sustainability is vital to realizing sustainable growth of the economy.

Related to this, I am often asked why Japan finances itself smoothly and long-term yields remain low and stable, despite the fact that Japan has a large fiscal deficit and the ratio of government debt outstanding to GDP is extremely high compared to other countries. There

are two reasons. First, there is confidence in the market that Japan has the will and ability to eventually address fiscal consolidation. The second reason is that investors anticipate that yields have been stable thus far and will continue to be so. It may be hard to believe at this juncture, but in the euro area, every country issued bonds at the same level as Germany up until a few years ago.

Of these two reasons, I believe that the first one is more convincing as an explanation of why a severe fiscal situation does not lead to higher bond yields in the market. In essence, confidence is firmly embedded in the minds of market participants that Japan has the will and ability to address fiscal consolidation. Nonetheless, such strong will and ability eventually have to be proven by the track record. From a medium- to long-term perspective, it is particularly important to maintain the market's confidence by steadily making progress toward fiscal consolidation. At the same time, in the making of monetary policy, it is important to maintain the market's confidence that a central bank conducts its policy with the aim of achieving sustainable growth with price stability. In that context, let me emphasize that the Bank of Japan's purchase of government bonds will never be intended to be construed as financing government debt.

In terms of improving the fiscal balance, one often hears the view that raising the nominal growth rate is important. I find this to be rather misleading. Whether or not the fiscal balance improves rests heavily on how the rise in nominal growth rate is achieved. When the nominal rate rises as a result of higher inflation, tax revenue increases, but at the same time, expenditure also increases due to higher wages and costs. Until now, the government bonds already issued at higher rates have been refinanced by those newly issued at lower rates, and the total interest payments of government bonds have been reduced. Going forward, however, not much from such a refinancing effect can be counted on (Chart 19). Under such circumstances, higher inflation will lead to an increase in interest payments, a factor that increases government expenditure. Thus, simply raising inflation will not lead to an improvement in fiscal balances (Chart 20).

In contrast, when a rise in the nominal growth rate is accompanied by a rise in the real growth rate, government expenditure does not increase, due to rising costs, and the fiscal balance improves through an increase in tax revenue. An increase in nominal growth – the key to successful fiscal consolidation – has to be accompanied by an increase in real growth. Accordingly, when the real growth rate rises, prices will rise and the nominal growth rate will rise as well. In this sense, strengthening the growth potential is also important from the perspective of improving the fiscal balance.

## **VIII. The Bank's conduct of monetary policy**

### ***Pursuing powerful monetary easing***

Based on the current state of the global economy and Japan's economy as well as challenges they face, I would now like to talk about the Bank's conduct of monetary policy.

The Bank of Japan recognizes that Japan's economy faces the critical challenge of overcoming deflation and returning to a sustainable growth path with price stability. Based on that recognition, the Bank has been conducting powerful monetary easing. At present, its powerful monetary easing is being pursued in the context of "comprehensive monetary easing policy". Let me first elaborate on this.

Comprehensive monetary easing was introduced in October 2010, almost two years ago. Essentially, it was an ingenious means to generate further accommodative effects when the overnight call rate – the Bank's target rate – had already been at virtually zero percent. The first aspect of such ingenuity comes from the clarification of the policy time horizon; that is, to

clearly state that for the time being the Bank will proceed with powerful monetary easing with the aim of achieving the goal of 1 percent inflation – in terms of the year-on-year rate of increase in the CPI – until it judges the 1 percent goal to be in sight.<sup>3</sup> Another aspect of the ingenuity is the establishment of a program under which not only JGBs and T-Bills but also various types of risk assets can be purchased, including CP, corporate bonds, exchange-traded funds (ETFs), and Japan real estate investment trusts (J-REITs). This program is aimed at encouraging a decline in longer-term market interest rates and a reduction in risk premiums.

The total size of the Program initially started off with about 35 trillion yen, and it will reach about 70 trillion yen by cumulatively expanding the amount of the Program. At present, the Bank is in the process of increasing the size of the Program in order to reach 70 trillion yen. The size of the Program as of August 31 was about 58 trillion yen, which implies that the Bank will purchase more than 10 trillion yen worth of financial assets from now on (Chart 21). In this way, the Bank will steadily increase the size of the Program and proceed with further monetary easing in a continuous manner; thus, the effects of monetary easing will strengthen with every passing day as this process continues. The Bank will proceed with the monetary easing in a continuous manner by steadily increasing the amount outstanding of the Asset Purchase Program.

### ***Accommodative financial conditions and measures to take advantage of these conditions***

Under such powerful monetary easing, stability in financial markets and the financial system has been maintained even during the period when they faced strong headwinds – that is, when the Great East Japan Earthquake and the European debt problem hit the markets. Firms' funding costs have declined, and the sense of security regarding the availability for funds is firmly secured. In fact, the average contract interest rates on new loans and discounts – both the short- and long-term rates – have registered an unprecedented level of almost 1 percent, even lower than that registered during the first half of the 2000s, the era of quantitative easing (Chart 22). Under such circumstances, the average interest rate paid by firms declined to 1.49 percent. Given that the firms' profitability relative to total assets, i.e., the ROA, was 3.24 percent, this is at an extremely low level (Chart 22). In short, firms have been able to raise ample funds at a rate substantially lower than their profitability.

As such, financial conditions in Japan are accommodative. Thus, the first stage of the monetary transmission mechanism – namely, the effect of monetary easing permeating financial markets – is well under way. Once firms and households take advantage of such accommodative financial conditions and embark on business investment and consumer spending, the second stage of the transmission mechanism – namely, financial conditions permeating economic activity and prices – will strengthen.

What is important at this juncture is to carry out measures to support strengthening the foundations for economic growth, as I emphasized before. The growth rate rises when investment at home draws investors' attention by means of drastic deregulation, or when new markets or goods and services are cultivated through firms' innovative efforts. As firms' efforts bear fruit, the public's expectation for rising corporate profits and household income strengthens, and this will eventually lead to higher demand for the funds. In this way, accommodative financial conditions will be able to fulfill their original purpose of stimulating aggregate demand to the maximum extent. Once such a virtuous cycle manifests itself, the aggregate supply and demand balance improves, and it is likely that the inflation rate will start to rise. While keeping such a mechanism in mind, on a number of occasions, I have

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<sup>3</sup> Please see Masaaki Shirakawa, "The Bank of Japan's Efforts toward Overcoming Deflation" (Speech at the Japan National Press Club in Tokyo), February 17, 2012. [http://www.boj.or.jp/en/announcements/press/koen\\_2012/data/ko120217a1.pdf](http://www.boj.or.jp/en/announcements/press/koen_2012/data/ko120217a1.pdf)

been emphasizing that in order for Japan's economy to overcome deflation and return to a sustainable growth path with price stability, we need two things: first, having a wide range of economic agents exert efforts to strengthen the economy's growth potential; and second, support from the financial side.

In strengthening the growth potential, firms play a pivotal role. At the same time, it is important to provide the grounds for letting them meet the challenge to cultivate new markets. Based on such recognition, the Bank has embarked on a highly extraordinary measure for a central bank since June 2010: that is, the establishment of the "Fund-Provisioning Measure to Support Strengthening the Foundations for Economic Growth" (Chart 23). Under this measure, the Bank provides long-term funds at low rates to financial institutions carrying out lending or investment in support of strengthening the foundations for Japan's economic growth. The Bank strongly believes that such a measure plays a catalytic role in allowing financial institutions to proceed with their voluntary efforts.

In June 2011, the Bank introduced a special scheme, as part of its overall support measures, that established a new line of credit for equity investments and asset-based lending (ABL), which, unlike traditional lending, uses assets that are closely tied to firms' businesses – such as their inventories, equipment, and machines, as well as accounts receivables – as collateral. The advantage of ABL is that it creates ways for firms without conventional collateral or guarantees to gain access to loans. In addition, in March and April 2012, the Bank established and expanded special rules for small-lot investments and loans – those less than 10 million yen – as well as special rules for U.S. dollar lending arrangements. At present, the total size of the measure stands at 5.5 trillion yen. With such measures initiated by the Bank, private financial institutions have started making their voluntary moves, and I judge that our measures are serving as a catalyst by encouraging the private sector's efforts to strengthen growth potential. In sum, the Bank of Japan's message – that is, that strengthening the growth potential is all the more important and financial institutions must play their respective roles – has been well-received.

The Bank of Japan has been providing the utmost support as a central bank, including the development of unconventional policy tools in the sphere of monetary policy. While attention tends to focus on discussions on monetary policy surrounding interest rates and quantitative issues when it comes to central bank policies, central banks are capable of making a wider range of contributions. At present, the Bank of Japan pays the most attention to maintaining the stability of financial markets and the financial system even if nervousness regarding the European debt problem increases.

The Bank continues to conduct monetary policy in an appropriate manner. The Bank will also do its utmost to ensure the stability of Japan's financial system while giving particular attention to developments in global financial markets, where nervousness with respect to the European situation continues to be seen.

### **Concluding remarks**

Let me conclude. Today, I have touched on a number of issues, but the most important topic that I wanted to emphasize in my speech is that we must make serious efforts to strengthen the growth potential of Japan's economy. In order to advance efforts on this front, the most important thing is to understand that the real problem facing Japan's economy is the declining growth rate. This appears to be better understood in the public domain, but it has not reached a satisfactory level.

At the outset of my speech, I reviewed the past 20 years of Japan's economy. Be it the non-performing loan problem or the rapid aging of the population, it took some time to recognize

them, and as a result, the response had been delayed.<sup>4</sup> We must not make the same mistake again.

Another thing that we should do, and that is important in terms of strengthening the growth potential, is to assess the strength of Japan's economy dispassionately and try not to fall into excessive pessimism. During my earlier description of the situation surrounding the global economy, I referred to the challenge facing the United States, Europe, and China. Each country or region has its own difficult problems to overcome. From an objective perspective, we may be underestimating the potential strength of Japan's economy. First and foremost, Japan is at the center of Asia, the growth engine for the global economy. In finance, Japanese financial institutions ended the disposal of non-performing assets as early as the beginning of the 2000s, and they now enjoy high credit rating standards relative to their overseas competitors (Chart 24).

There are areas one can find in firmness of domestic demand where changes could be turned to advantages. Knowing that consumption by the elderly aged over 60 years constitutes more than 40 percent of total consumption, and that potential demand is being created to develop new energy and environment-related businesses in the aftermath of the earthquake, such big changes provide good opportunities for cultivating new markets.

It has been almost 20 years since the bubble burst in Japan. The next 20 years will surely be different if we accurately recognize the problem we currently face and make serious efforts to strengthen growth potential.

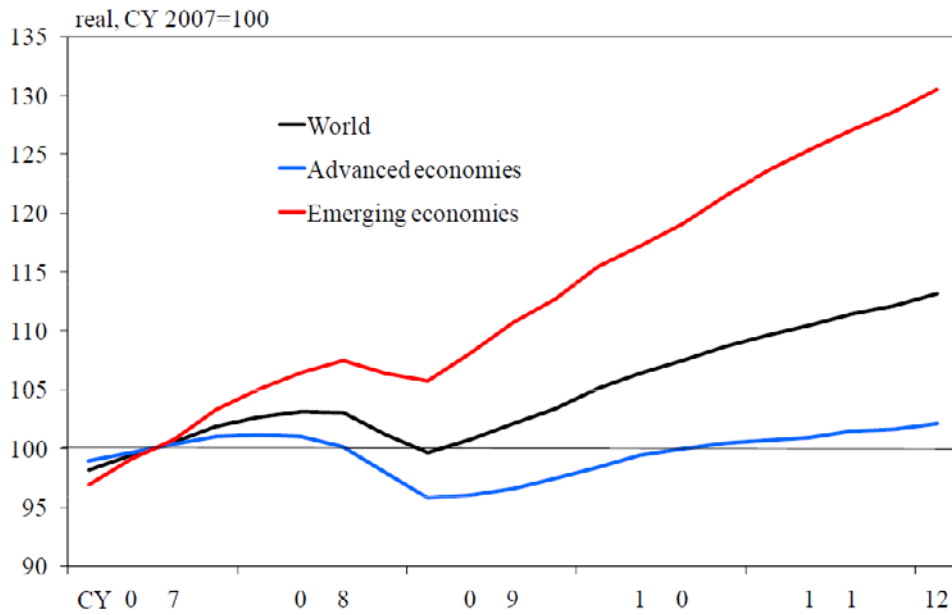
Thank you very much.

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<sup>4</sup> As for the nonperforming loan problem, it was the summer of 1992 when the possible injection of public money was first discussed in public. A large-scale injection of public money was carried out in 1998, nearly eight years after the bursting of the bubble. A similar story applies to the response to the aging and declining population. While the working-age population started to decline in 1996, this coincided with a period when people suffered from the severe effects of the bursting of the bubble. At that time, neither the general public nor economists recognized the implication of demographic changes (i.e., aging and a declining population) for Japan's economy to the much fuller extent that we do at present.

Chart 1

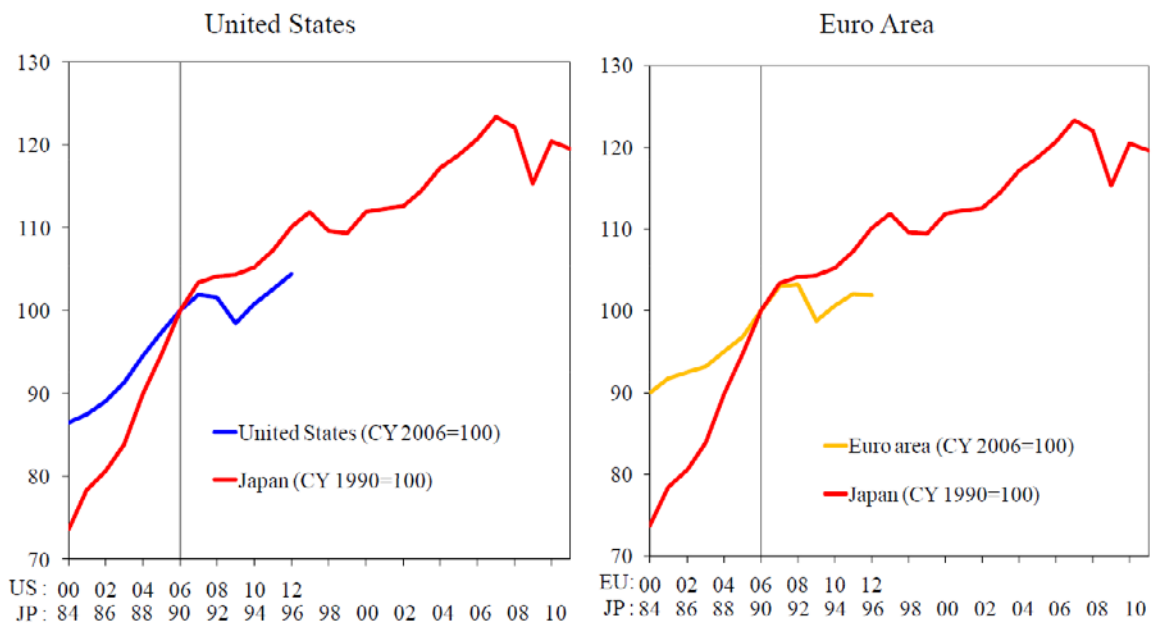
### World GDP



Source: IMF.

Chart 2

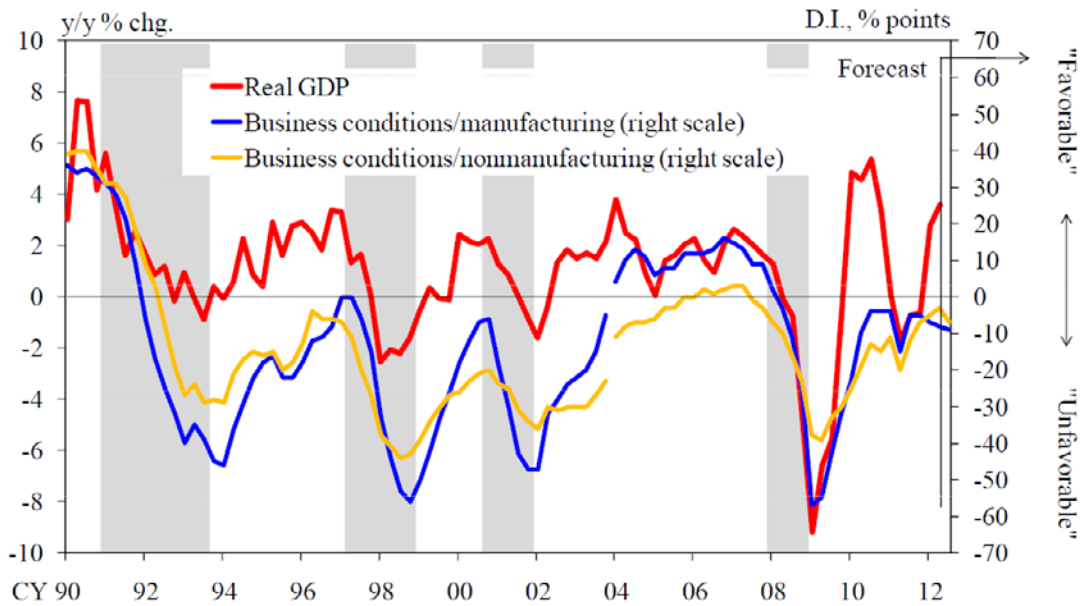
### Real GDP in the United States and Euro Area: Comparison with Japan



Sources: BEA, Eurostat, Cabinet Office.

Chart 3

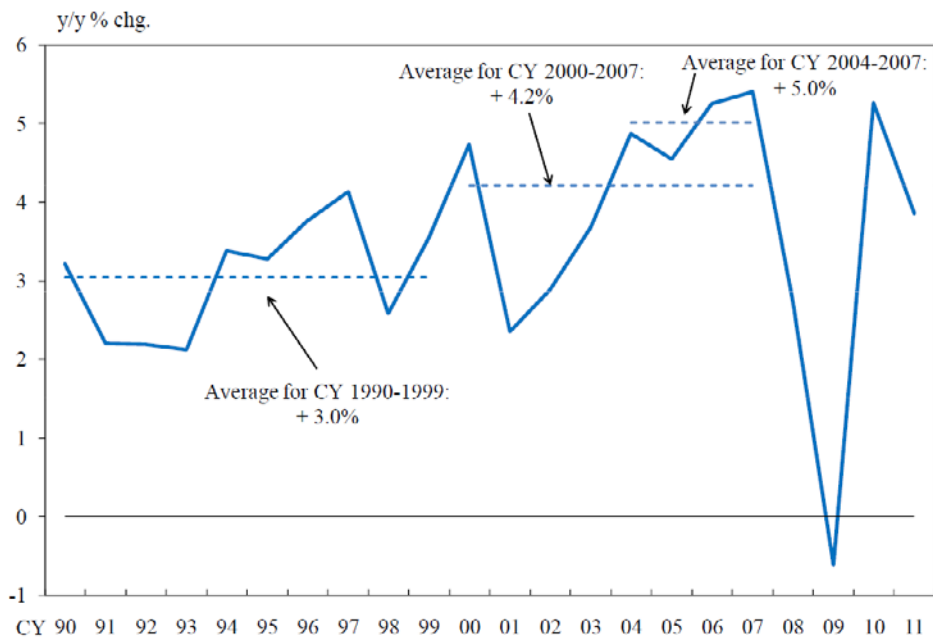
### Japan's GDP Growth Rate and Business Conditions



Notes: 1. Shaded areas indicate periods of recession (according to the Cabinet Office).  
2. Figures for business conditions are based on the *Tankan*, aggregates of all business sizes.  
Sources: Cabinet Office; Bank of Japan.

Chart 4

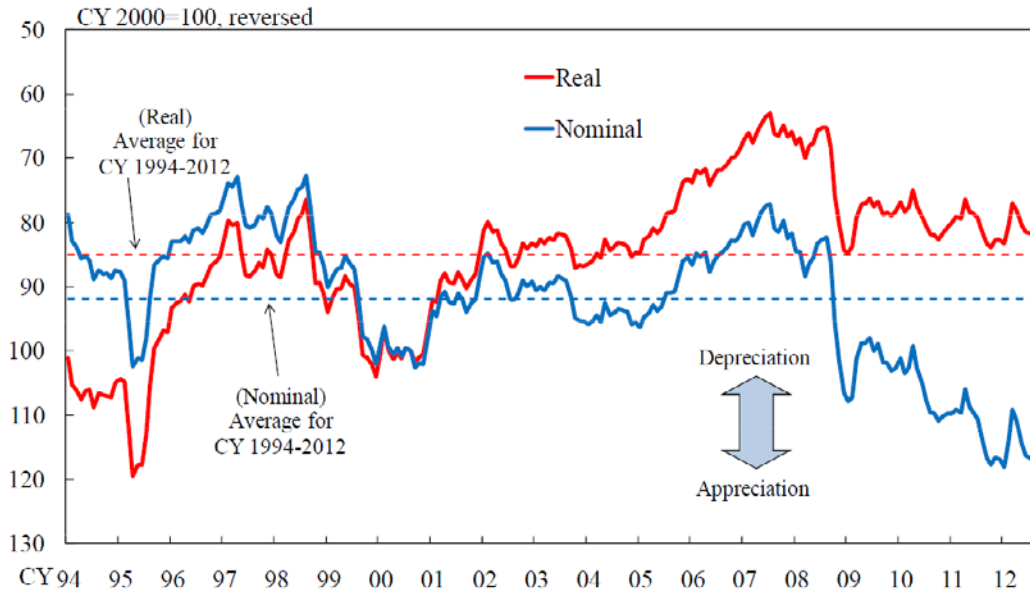
### Real GDP Growth Rate of the Global Economy



Note: Figures are calculated using GDP based on purchasing power parity (PPP) shares of the world total from the IMF.  
Source: IMF.



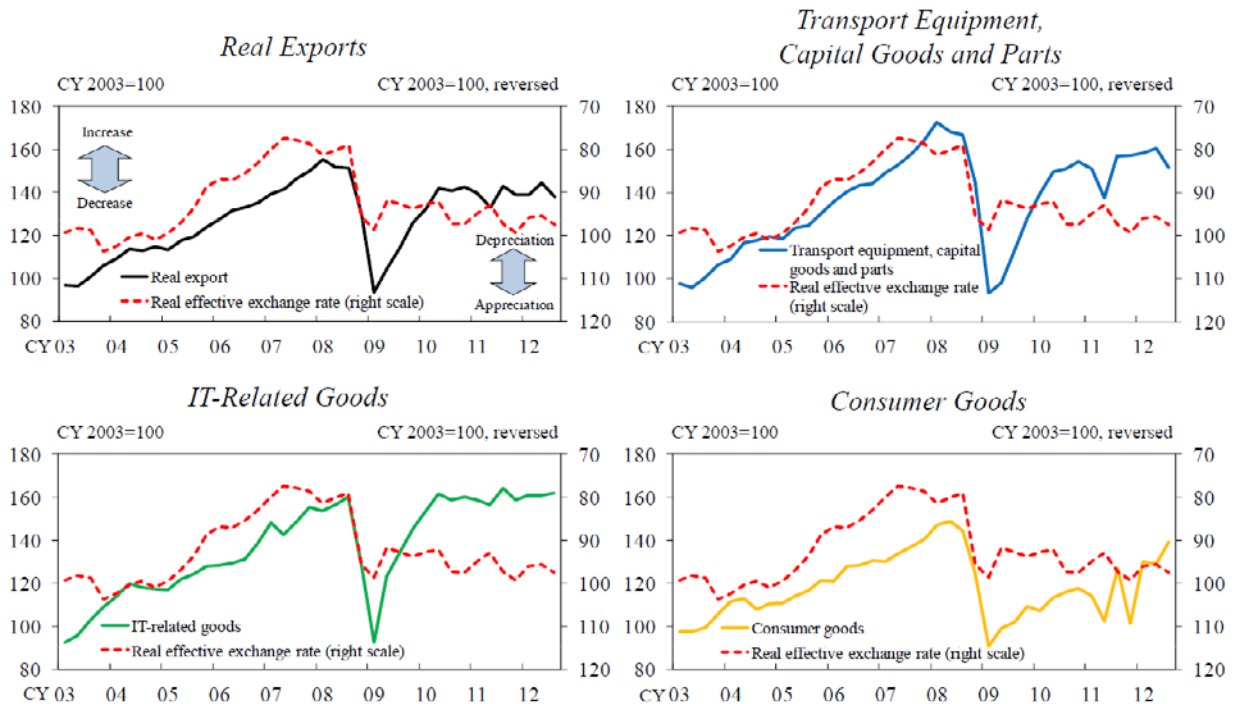
### Effective Exchange Rates of the Yen



Notes: 1. The nominal effective exchange rate is an indicator that measures the overall value of individual currencies. It is derived by calculating the weighted average of each currency's exchange rate against other currencies using the annual value of each country's trade with its counterparties as its weights.  
 2. The real effective exchange rate is an indicator of a country's overall international competitiveness, calculated as follows. First, each of the exchange rates of the country's currency against other currencies (i.e., nominal exchange rates) is deflated by the price indices of those countries to calculate the real exchange rate. Then, the weighted average of the real exchange rates is calculated using the annual value of the country's trade with its counterparties as its weights.

Source: BIS.

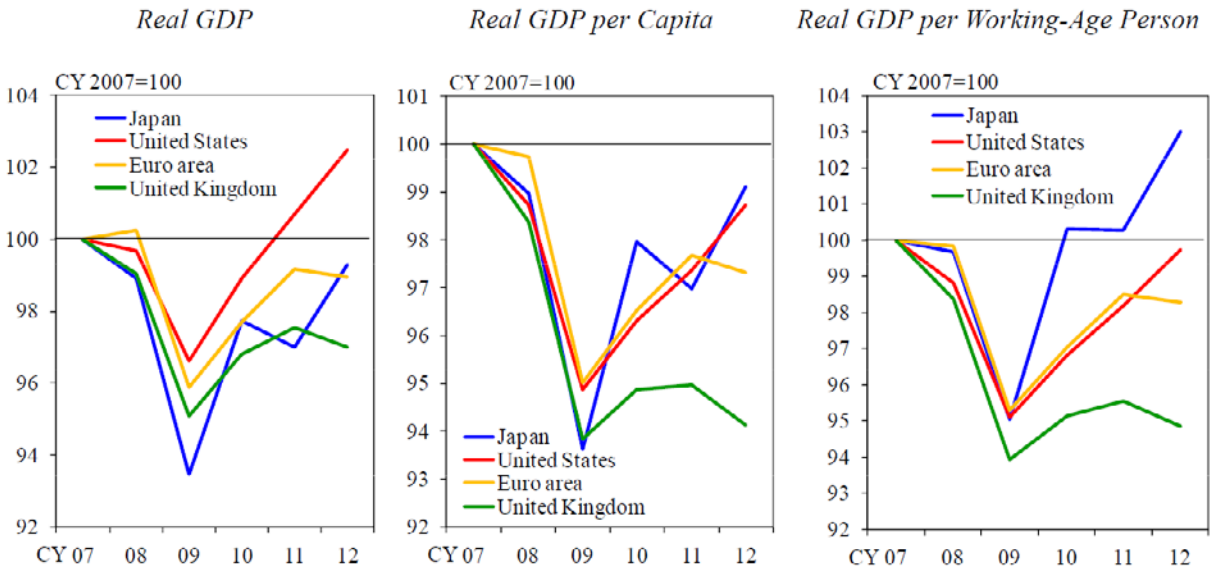
### Exchange Rate and Real Exports



Sources: BIS; Ministry of Finance; Bank of Japan.

Chart 7

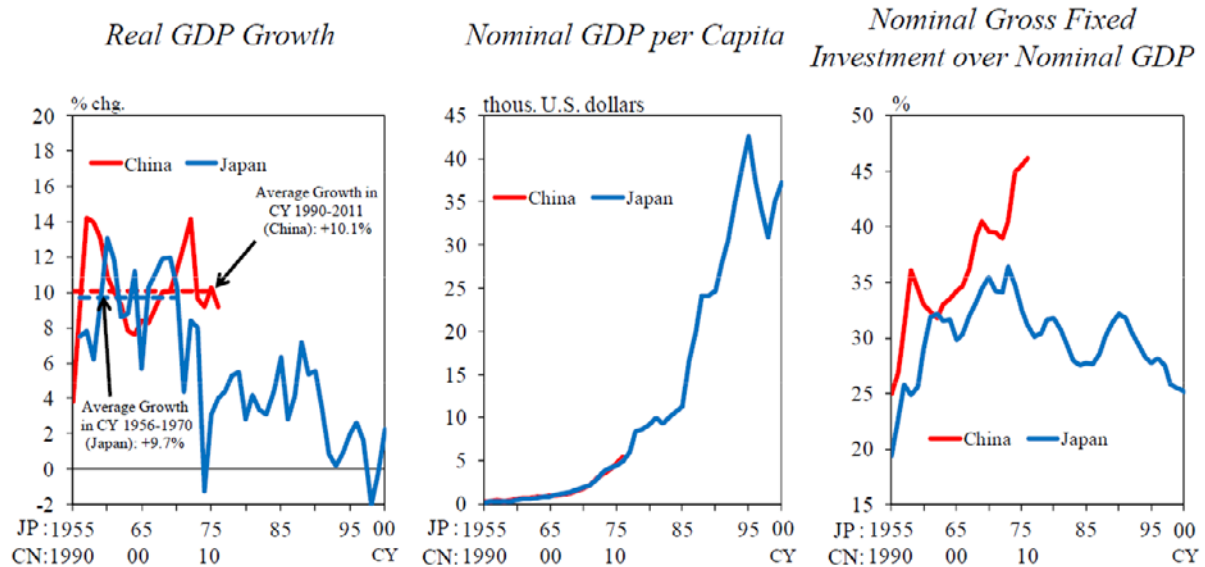
### GDP of Advanced Economies



Notes: 1. A working-age person refers to those between 15 and 64 years old.  
 2. Figures for 2012 are January-June averages. Figures for the population for 2012 are calculated using the growth rate for 2011.  
 Sources: World Bank; BEA; Eurostat; ONS; Cabinet Office.

Chart 8

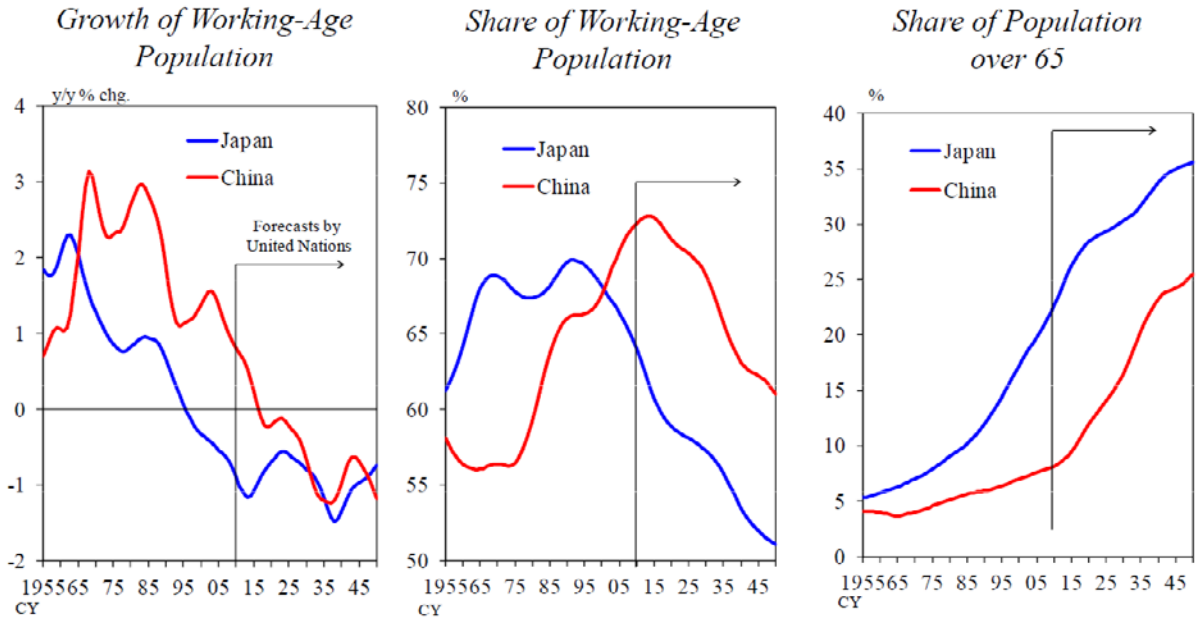
### GDP of Japan and China



Sources: Cabinet Office; National Bureau of Statistics of China.

Chart 9

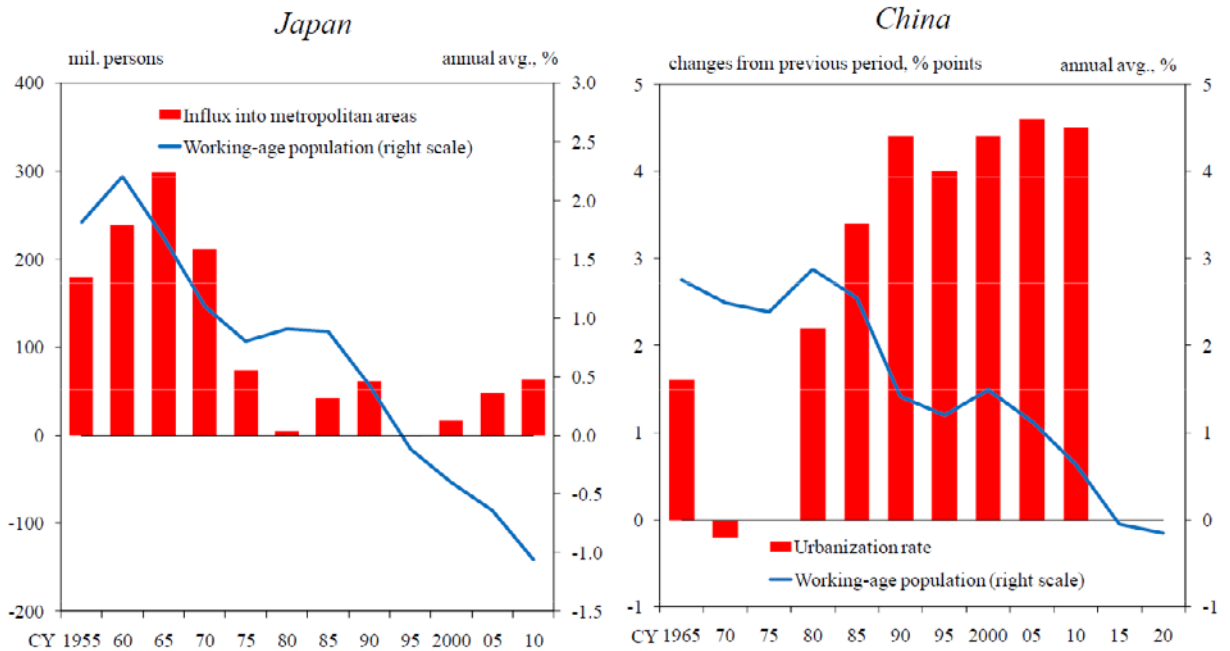
### Demographic Changes in Japan and China



Source: United Nations.

Chart 10

### Population Influx into Metropolitan Areas and Working-Age Population



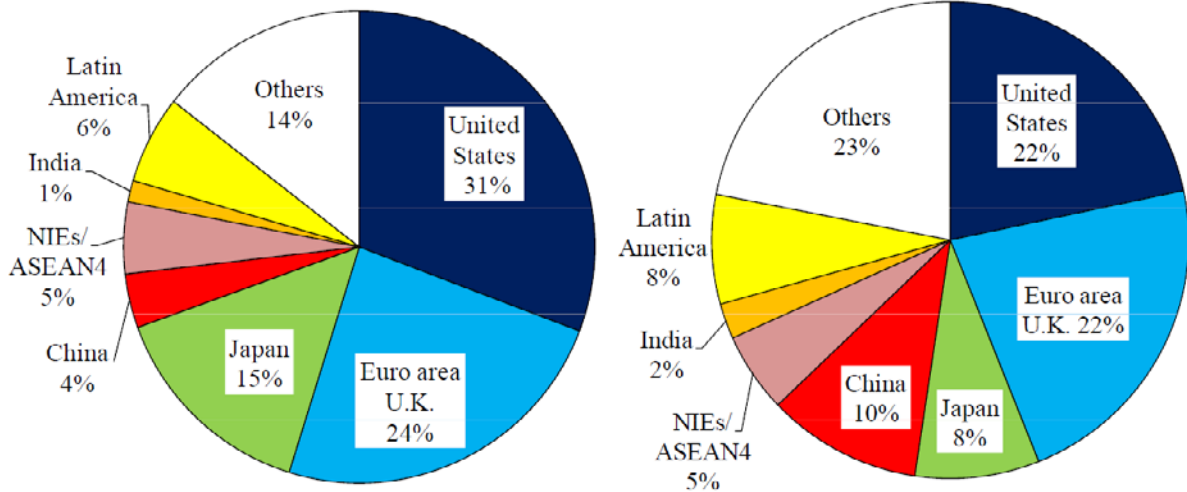
Sources: World Bank; United Nations; National Institute of Population and Social Security Research

Chart 11

### Share of Countries in World GDP

CY2000

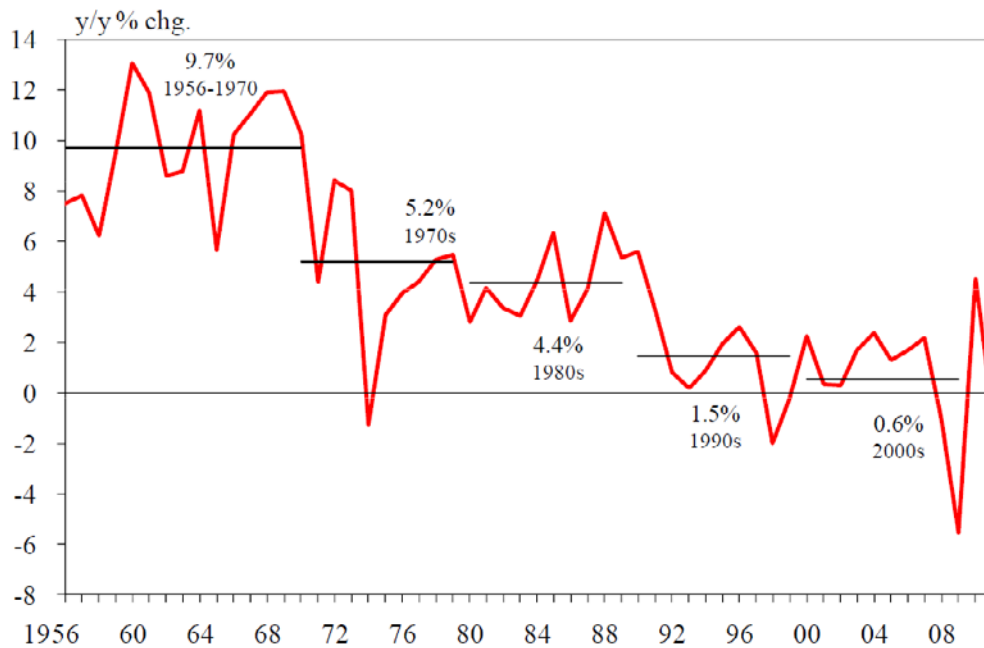
CY2011



Notes . 1. Converted by market nominal exchange rates.  
 2. Euro area is based on EU17.  
 3. The NIEs consist of South Korea, Taiwan, Hong Kong, and Singapore. ASEAN4 refers to Thailand, Indonesia, Malaysia, and the Philippines.  
 4. Latin America refers to Brazil, Mexico, Argentina, Colombia, Chile, Peru, and Venezuela.  
 Source: IMF.

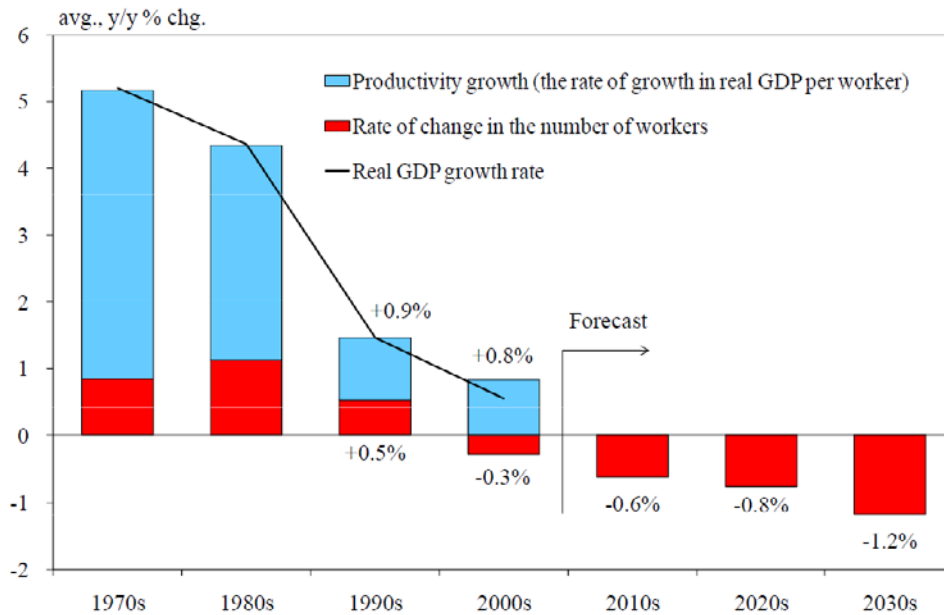
Chart 12

### Developments in Japan's Real GDP



Source: Cabinet Office.

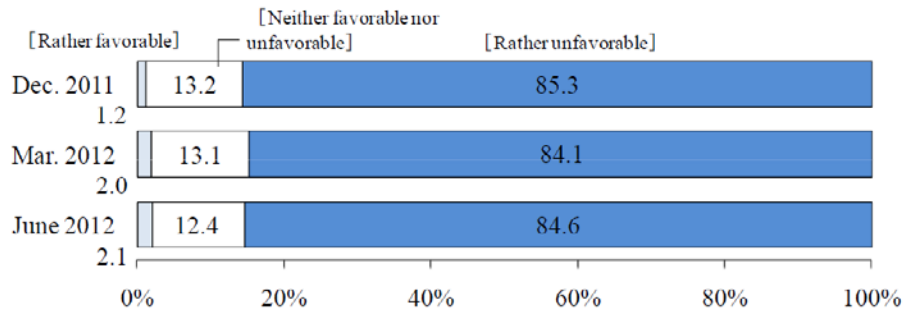
### Decomposition of Real GDP Growth in Japan



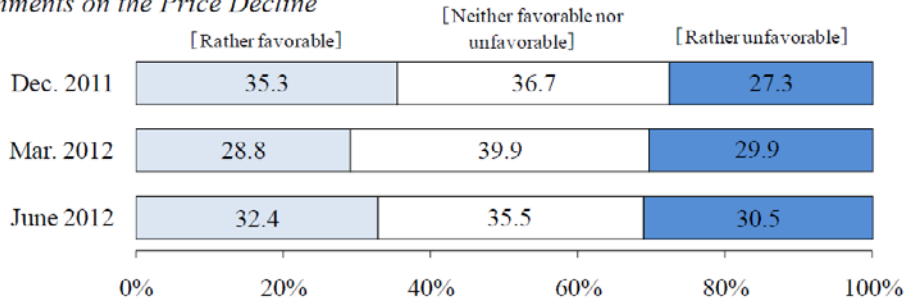
Note: The rates of change in the number of workers from fiscal 2011 onward are calculated using the projected future population (medium variant) and the projected labor force participation rates (assuming that the labor force participation rates in each age/sex group remain the same as those in 2010).  
Sources: Cabinet Office; Ministry of Internal Affairs and Communications; National Institute of Population and Social Security Research

### Comments on Prices in the *Opinion Survey on the General Public's Views and Behavior*

#### Comments on the Price Rise



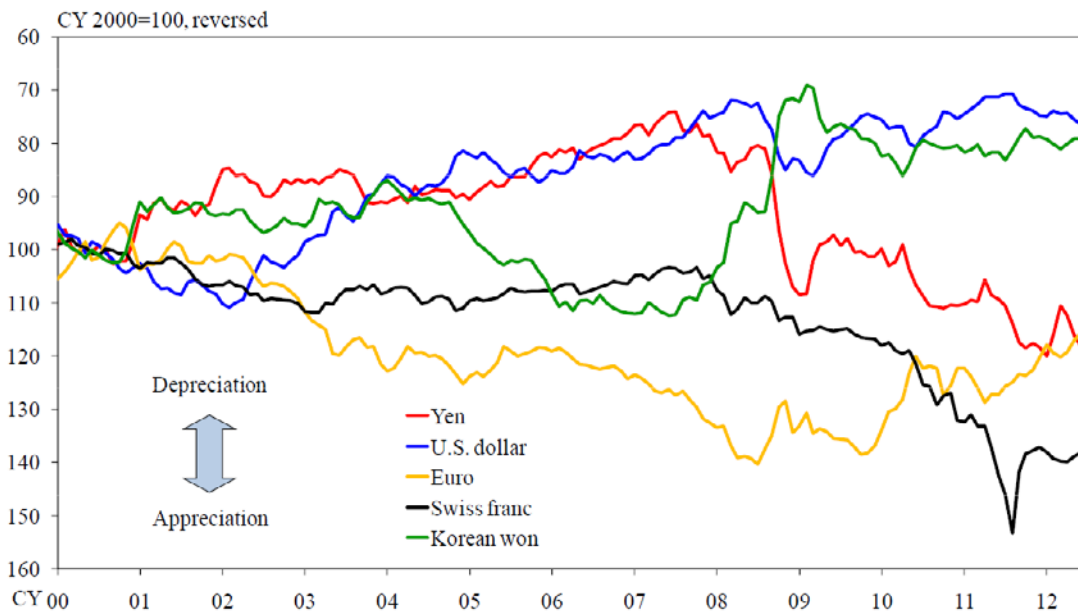
#### Comments on the Price Decline



Note: The Bank conducts its quarterly *Opinion Survey on the General Public's Views and Behavior* in order to grasp how the public's current impression of household circumstances and changes in financial and economic conditions affect their perceptions and actions.  
Source: Bank of Japan.

Chart 15

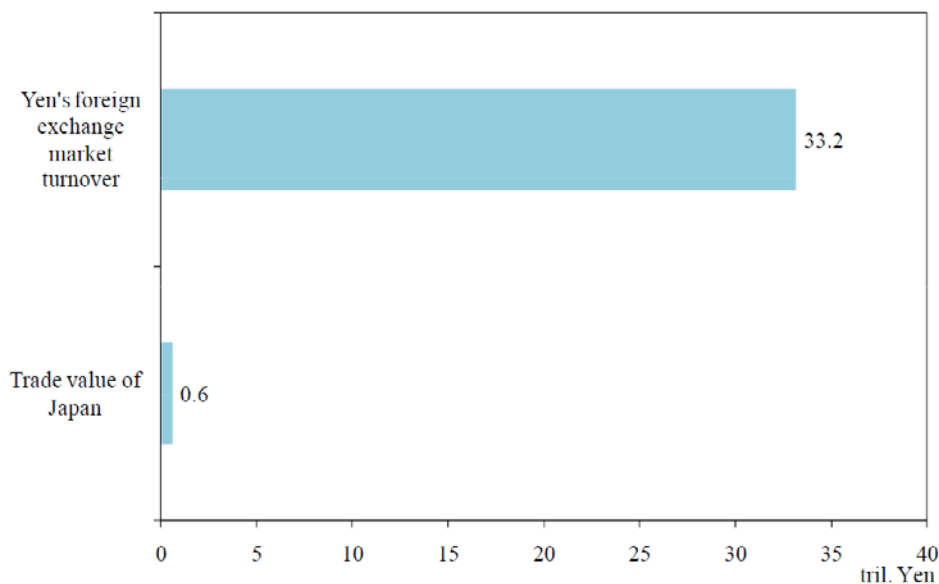
### Nominal Effective Exchange Rates



Note: The nominal effective exchange rate is an indicator that measures the overall value of individual currencies. It is derived by calculating the weighted average of each currency's exchange rate against other currencies using the annual value of each country's trade with its counterparties as its weights.  
Source: BIS.

Chart 16

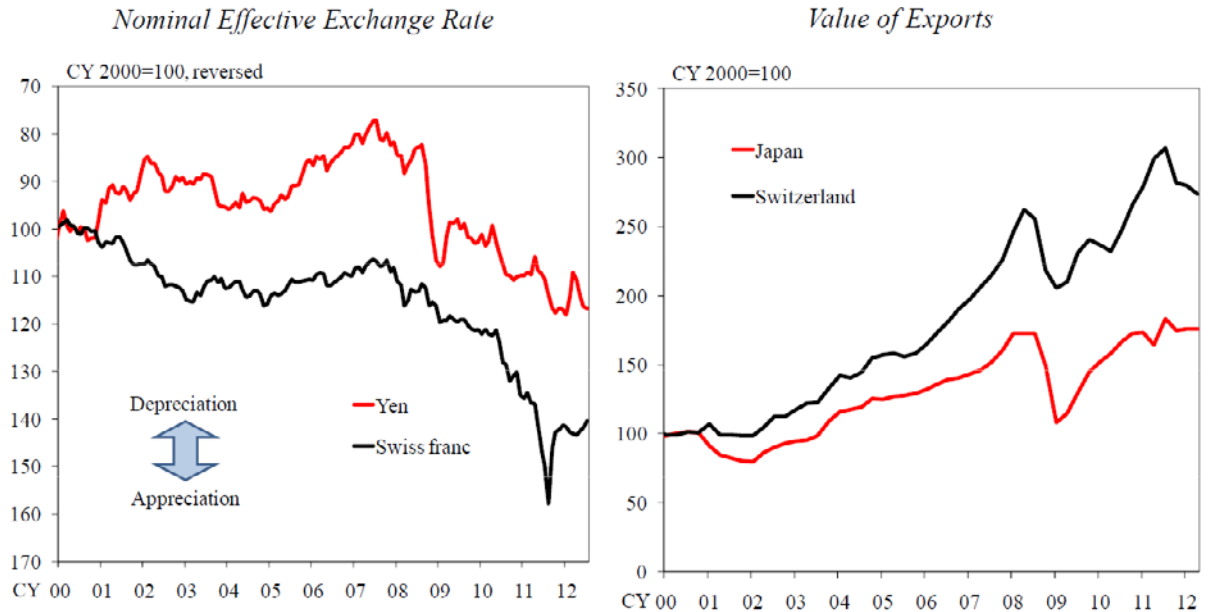
### Foreign Exchange Transactions and Trade Volume



Notes. 1. Figures are as of fiscal 2010. The foreign exchange market turnover is the transaction value of the yen. The trade value is that of Japan's exports and imports based on its nominal GDP.  
2. Daily averages. The trade value is calculated by dividing the total value for 2010 by the number of business days (20 business days times 12 months).  
Sources: BIS; Cabinet Office; Bloomberg

Chart 17

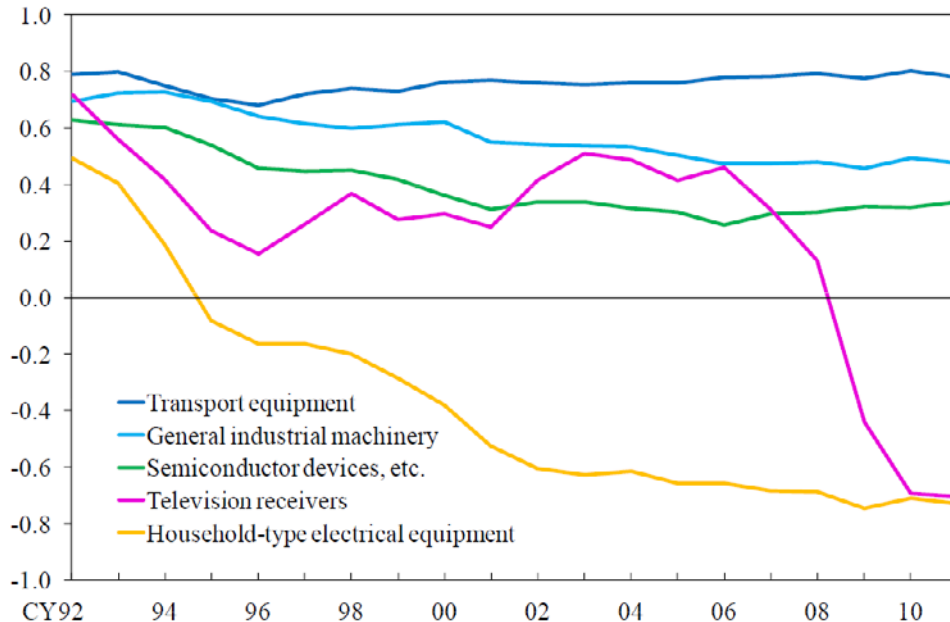
## Exchange Rates and Exports of Switzerland and Japan



Note: Value of exports is calculated on a U.S. dollar basis.  
Sources: Cabinet Office; Eurostat; Bloomberg; BIS.

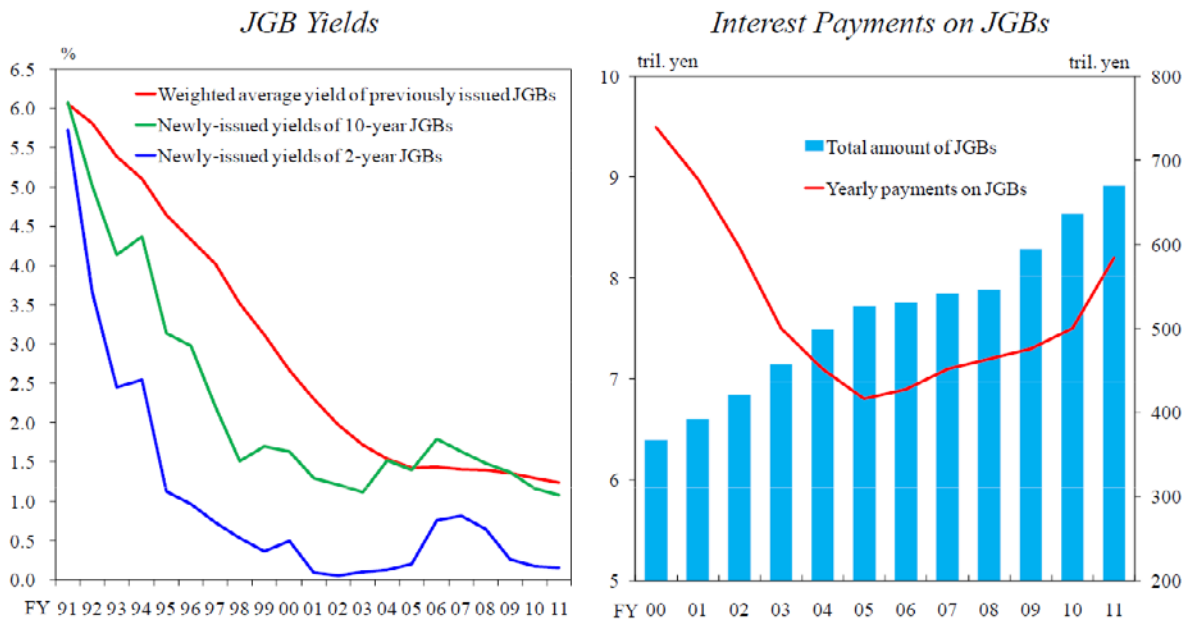
Chart 18

## International Competitiveness Coefficient



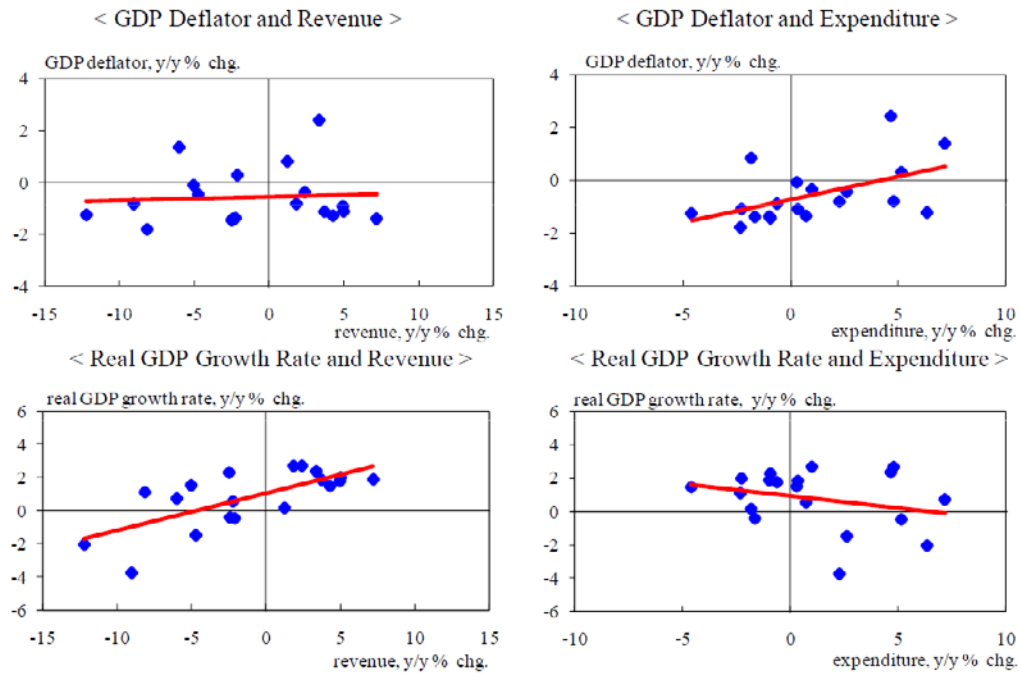
Note: International Competitiveness Coefficient (ICC) equals net export value divided by the sum of export value and import value. The closer the value of ICC is to one, the greater the competitiveness.  
Source: United Nations.

### JGB Yields and Interest Payments on JGBs



Source: Ministry of Finance.

### Japan's Fiscal Revenue/Expenditure, Inflation, and Real GDP Growth



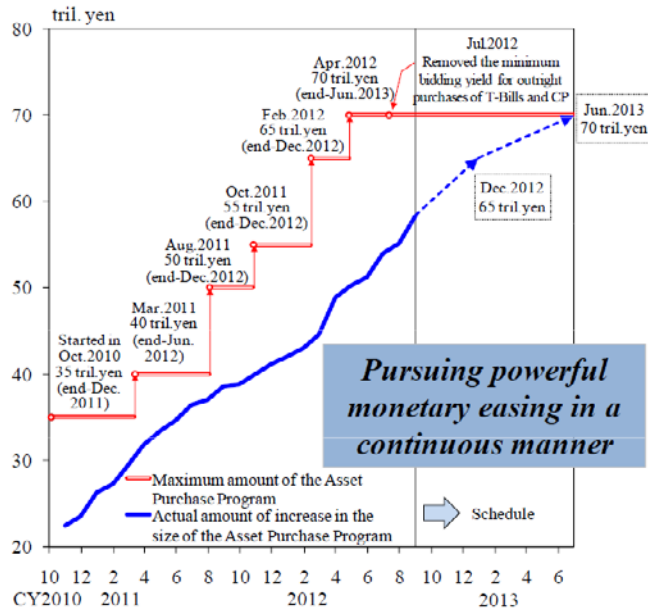
Note: The sample period is since fiscal 1991. Figures for revenues and expenditures are those of central and local governments, which include the payment/receivable of interest.  
Source: Cabinet Office.



Chart 21

## Asset Purchase Program

Maximum Amount and Actual Amount of Increase in the Size of the Asset Purchase Program



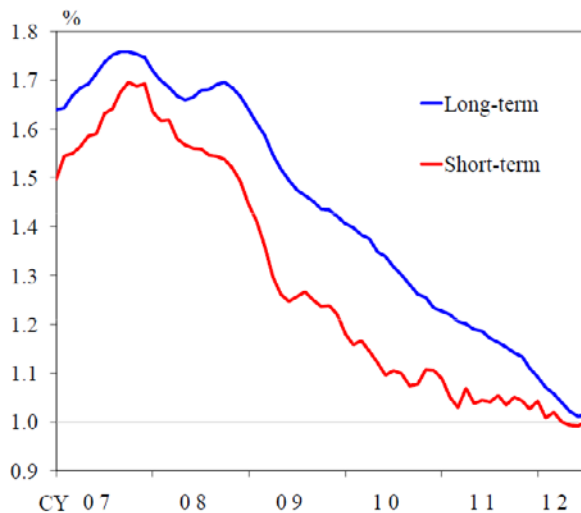
Breakdown of the Asset Purchase Program

	Started in Oct. 2010 (End-Dec 2011)	Latest Jul. 2012 (End-Jun 2013)	Cumulative change in amount (B) - (A)
Total size	About 35	About 70	About +35
Asset purchases	5.0	45.0	+40.0
JGBs	1.5	29.0	+27.5
T-Bills	2.0	9.5	+7.5
CP	0.5	2.1	+1.6
Corporate bonds	0.5	2.9	+2.4
ETFs	0.45	1.6	+1.15
J-REITs	0.05	0.12	+0.07
Fixed-rate operation	30.0	25.0	- 5.0
Three-month term	20.0	—	—
Six-month term	10.0	—	—

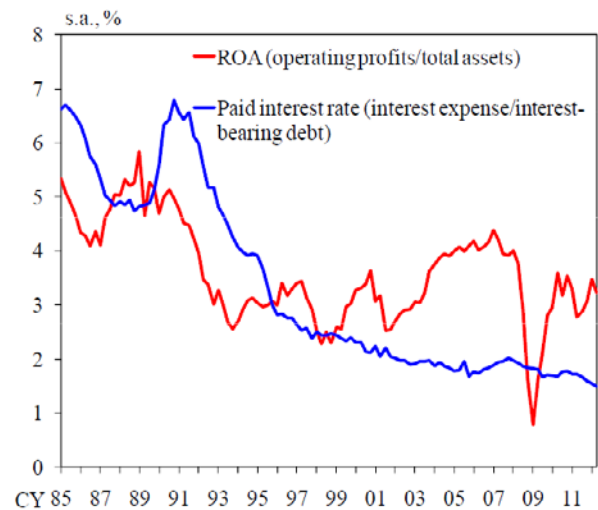
Chart 22

## Japan's Corporate Financial Conditions

Domestic Banks' Average Contracted Interest Rates



ROA and Paid Interest Rate of Japanese Firms



Note: Average contracted interest rates are the six-month backward moving averages on new loans.  
Sources: Ministry of Finance; Bank of Japan

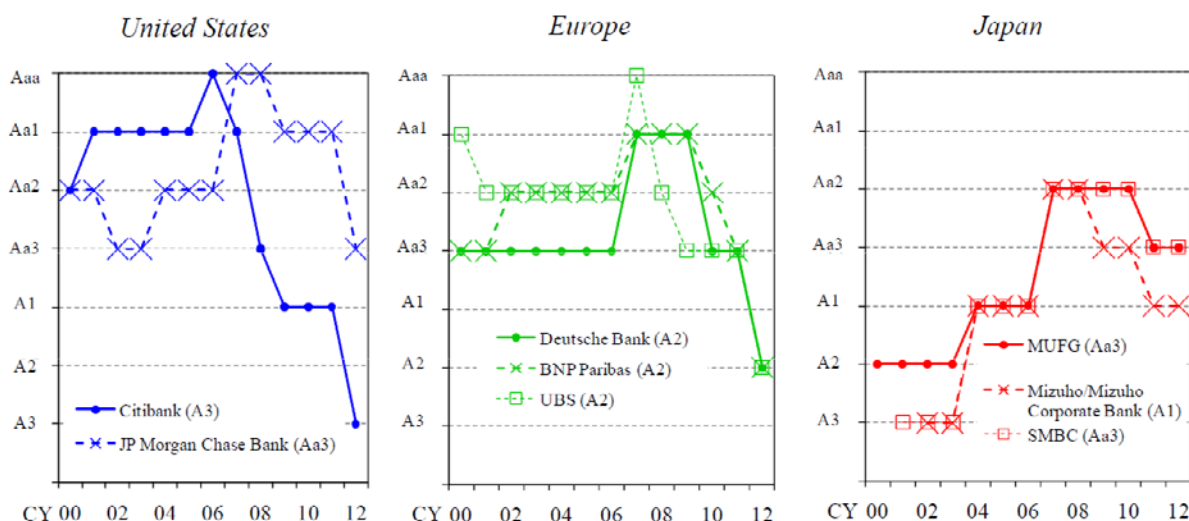
Chart 23

### Fund Provisioning to Support Strengthening the Foundations for Economic Growth (Total Size: 5.5 tril. yen)

	Main rules	Special rules for equity investments and asset-based lending	Special rules for small-lot investments and loans	Special rules for U.S. dollar lending arrangements
Time of establishment	June 2010	June 2011	March 2012	April 2012
Maximum amount outstanding	3.5 tril. yen	0.5 tril. yen	0.5 tril. yen	12 bil. U.S. dollars
Maximum amount of loans to each counterparty	150 bil. yen (when combined with small-lot investments and loans)	50 bil. yen	150 bil. yen (when combined with investments and loans made under main rules)	1 bil. U.S. dollars
Eligible investments and loans	Those with a size of 10 mil. yen or more	Equity investments and ABL with a size of 1 mil. yen or more	Those with a size of 1 mil. yen or more but less than 10 mil. yen	Those denominated in foreign currencies with a size of 100 thous. U.S. dollars or more
Duration of loans	Maximum 4 years (including rollovers)	Maximum 4 years (including rollovers)	Maximum 4 years (including rollovers)	Maximum 4 years (including rollovers)
Loan rates	The Bank's target for the policy rate (0.1 percent per annum)	The Bank's target for the policy rate (0.1 percent per annum)	The Bank's target for the policy rate (0.1 percent per annum)	6-month U.S. dollar LIBOR
Deadline for applications for new loans	March 31, 2014	March 31, 2014	March 31, 2014	March 31, 2014
Amount outstanding (as of August 31, 2012)	3,131.4 bil. yen	106.9 bil. yen	3 bil. yen	—

Chart 24

### Credit Ratings of Financial Institutions



Notes: 1. Ratings are based on long-term credit ratings issued by Moody's.  
 2. Ratings in parentheses are most recent ratings.  
 Source: Moody's.