Masaaki Shirakawa: Globalization and population aging – challenges facing Japan

Speech by Mr Masaaki Shirakawa, Governor of the Bank of Japan, to the Board of Councillors of Nippon Keidanren (Japan Business Federation), Tokyo, 22 December 2011.

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Introduction

I am honored to have this opportunity to address the representatives of Japan's economy gathered here today.

We have just over a week left in a year in which the most notable event for our nation was definitely the Great East Japan Earthquake of March 11. Speaking only about the economic impact of this terrible event, Japan's economy suddenly faced enormous downward pressures arising from damage to production facilities, disruptions in supply chains, and shortages in electricity supply. Thanks to tremendous efforts by company managers and by employees in the field, these supply-side problems were resolved by the summer, which was faster than expected. However, just as the prospects gradually began to look good for Japan's economy to overcome the problems caused by the disaster, the sovereign debt crisis in Europe triggered new problems – a slowdown in overseas economies and the appreciation of the yen. As a result, after a sharp rebound, the pick-up in Japan's economic activity has gradually slowed and is currently at a pause.

According to the *Tankan* (Short-Term Economic Survey of Enterprises in Japan) released last week, business conditions deteriorated for large manufacturing enterprises, as has been extensively reported in the newspapers, but improved for large nonmanufacturing enterprises (Chart 1). As for SMEs, business conditions improved both for manufacturing and nonmanufacturing enterprises. As such, although overall business conditions have improved, the pace of improvement has slowed. As can be seen from the results of the *Tankan*, there are currently two opposing forces in operation: on one hand, exports and production remain more or less flat due to a slowdown in overseas economies and the appreciation of the yen; on the other, in terms of domestic demand, private consumption remains firm and post-earthquake rebuilding and reconstruction demand is expected to materialize. The Bank of Japan judges that Japan's economy will be more or less flat for the time being as the former force prevails. Beyond that phase, it is our judgment that the economy will gradually return to a moderate recovery path, reflecting a pick-up in growth of overseas economies, especially emerging economies. Having said that, we are fully aware that this outlook is attended by various uncertainties. The most significant risk is, of course, the impact of the European sovereign debt crisis on our economy through its effects on international financial markets and the global economy.

Although the economic outlook is important, I have already discussed it on various occasions. Today, instead, I would like to give my thoughts on the challenges facing Japan's economy and its central bank from a medium- to long-term perspective, as I believe the end of the year is good timing for doing so.

I. Japan's economy during the past 15 years

Progress in globalization

In order to understand the medium- to long-term challenges that lie ahead for Japan's economy, I will first compare how it is today to how it was back in 1995. I have chosen that particular year as a comparison point because of its similarities with this year, as in 1995

Japan experienced the Great Hanshin-Awaji Earthquake (or Kobe Earthquake as it is also known) and an appreciation of the yen, which peaked that year at under 80 yen against the U.S. dollar.

There have been many changes over the past 15 years. First, we saw further globalization of goods, capital, and people (Chart 2). For goods, global trade volume in real terms after excluding the effects of price fluctuations is expected to rise from an index level of 100 in 1995 to 253 by 2011. This implies that global trade volume continued to expand at an annualized rate of 6.0 percent, a pace much faster than the real GDP growth rate of 3.7 percent during the period. This increase was essentially caused by the end of the Cold War and subsequent transition of regions worldwide to market economies. This increased opportunities for an international division of labor, which led to more optimal production by combining the technology and capital of advanced economies with the ample labor forces of emerging economies. Emerging economies, particularly China, India, and Brazil, grew rapidly in this process (Chart 3).

For capital, the average amount of daily transactions in foreign exchange markets worldwide was 1.5 trillion dollars as of 1998 – which is as far back as we can go in making such a comparison – and grew to 4 trillion dollars, corresponding to almost 20 times world GDP per day, in 2010 (Chart 2).

For people, tourists traveling abroad have increased substantially from 530 million in 1995 to 940 million in 2011. The number of first-generation immigrants has also increased from 170 million in 1995 to 210 million in 2010 (Chart 2).

Rapid population aging

Second, Japan's population has continued to age rapidly (Chart 4). The working-age population, or in other words the population aged from 15 to 64, has been declining after peaking in 1995. The working-age population in 2010 declined by 7 percent compared to 15 years previously in 1995, or by 0.5 percent on a yearly basis. Meanwhile, the percentage of people 65 or older accounted for about 15 percent of the total population in 1995, but rose to about 25 percent in 2010.

This globally unprecedented rapid population aging has had far-reaching and various effects on Japan's economy. The first of these effects is on the economy's potential growth rate. The working-age population plays a central role in economic activity. Its decline has reduced labor supply and thus has pushed down economic growth. The second effect is on the fiscal balance. At a time when it has become difficult to increase tax revenues through labor income, pressure has been increasing to expand the fiscal deficit, given that social security expenses – including pension costs and medical and nursing care expenses – increase as the population ages as long as the current level of benefits are maintained. The third effect is the diversification of consumer needs and services. Given the diverse lives and lifestyles of the elderly population, individuals have a wide range of unique needs, not only in terms of medical and nursing care but also in wider contexts such as living fulfilling lives after retirement, which encompasses hobbies and continued learning. To put it another way, the continued population aging is, in a sense, a market expansion that cannot be considered in mass terms.

Japan's delayed response to change

We can see that the environment has changed significantly over the past 15 years, with globalization and rapid population aging. Change at any point in time always provides a country with both difficulties and opportunities, and the capability of a society as a whole to adapt to this change largely affects its economic performance. On this point, both Japan's government and its firms have responded in various ways. Unfortunately, however, the economic growth rate has continued to decline and prices have continued to fall moderately as a result. Furthermore, government debt has increased substantially during this period. Faced with these facts, we cannot deny that Japan's economic system has not managed to respond swiftly and sufficiently to the big changes in the environment.

One reason for the decline in the growth rate is the aftereffects of the unprecedented economic bubble in the late 1980s. The effects of that bubble were considerable. Prior to the Lehman shock, an optimistic view prevailed among economists and policy authorities in the United States – that a significant economic downturn following a bubble period could be avoided through implementation of powerful monetary and fiscal policies once the bubble burst. That optimistic view is no longer prevalent today. Economic activity remains stagnant until excesses in production capacity and debt that have been built up during a bubble period are resolved (Chart 5). Such balance-sheet adjustments, however, no longer acted as constraints on Japan's economy at least by sometime between 2003 and 2004. The more essential reason for the subsequent downturn in Japan's economy was Japan's delayed response to the significant changes in the environment, namely, globalization and population aging. Going back to my earlier reference to 1995, Japan around that time was desperately looking for ways to recover from the collapse of the bubble economy. At that stage, I recall that not many of us understood the significance of globalization and population aging for Japan's economy as well as we later came to realize. In other words, it is better to attribute the delay in responding to *an inability to fully recognize the seriousness of the problem itself* than to *difficulties implementing solutions despite knowing what they were*. I believe the same could happen in the next 15 years (Chart 6). For instance, how will Japan's rapid population aging alter the course of Japan's future economic growth and fiscal conditions? Will Japan's economy be able to maintain its longstanding current account surplus?

II. Setting the agenda for Japan's economy

Serious consequences of leaving situation unchanged

Regarding the first question, even if we focus on demographics, which are relatively easy to predict going forward, we can confirm that the conditions that the underlying factors affecting Japan's growth are going to change dramatically. The average growth rate has declined from 4.3 percent in the 1980s to 1.5 percent in the 1990s and further to less than 1 percent in the 2000s (Chart 7).

The economic growth rate consists of two components: the rate of growth in the number of workers and the rate of growth in labor productivity, which represents an increase in the value added by each worker. We can project future growth rates by forecasting these two components. Of the two, the rate of growth in the number of workers started to decline in the 2000s, and decreased at an annual rate of 0.3 percent on average during that decade. Based on long-term projections of demographic trends and assuming that current labor participation rates by gender and by age group will not change, the rate of decline in the number of workers will increase further to 0.6 percent in the 2010s, 0.7 percent in the 2020s and 1.3 percent in the 2030s. The impact of such population decline is serious, especially in regional economies (Chart 8). As for the other component, labor productivity, the average growth rate over the past 20 years has been around 1.0 percent. Excluding the 1990s, during which the economy was significantly affected by the legacy of the bursting of the bubble, and choosing a period characterized by relatively favorable economic conditions, the labor productivity growth rate was 1.5 percent from 2000 to 2008. Given that there are no significant differences in productivity growth rates among advanced economies, we may be able to assume that the average productivity growth rate in Japan will stay between 1.0 percent and 1.5 percent. Assuming this and that the rate of decline in the number of workers will be as just described, the annual rate of economic growth in the 2010s will remain somewhere between 0.5 percent and 1.0 percent and become around zero percent in the 2030s. Medium- to long-term growth rates will have a significant impact on the fiscal situation. The sovereign debt crisis in Europe provides us with an important lesson – that fiscal credibility can change in a discontinuous manner (Chart 9). We must work seriously with strong determination to strengthen our growth potential.

Need to work and create value added

How can we strengthen our growth potential? I have just explained that the rate of growth in the number of workers and the rate of growth in labor productivity together constitute the economic growth rate. As for the number of workers, it is difficult to expect a dramatic improvement unless demographic trends change. However, it is still possible to slow the pace of the decline in the number of workers by making it easier for elderly people and women to participate in the workforce. As for the second variable, raising labor productivity growth means increasing the value added per worker. The key, therefore, is to continuously capture potential needs and to provide more goods and services that people will find worth purchasing.

More specifically, there are three important aspects to be considered. First, it is important to make the best use of the major trend towards globalization. It goes without saying that it is important to aggressively capture demand overseas, especially in fast-growing emerging economies. At the same time, it is important to take active steps to open up markets and society. With more inflows and outflows of people, goods, and capital, there are more chances of coming up with new ideas and business opportunities.

Second, efforts to cultivate new domestic demand are also critically important. Senses of values and lifestyles have been diversifying not only for the elderly, as explained earlier, but also for all generations. It is important that businesses expand domestic markets by working to capture such potential demand and measures such as deregulation are taken to prepare the environment for firms to take on these challenges.

Third, in order to dynamically implement a dual strategy of expanding business globally and exploring domestic demand, it is necessary to shift labor and capital smoothly to businesses with high growth potential. This means more effective use of human resources and capital within firms and improvement in economic metabolism on a macroeconomic basis. To mobilize resources in such a way without causing social stresses, it will be necessary to strengthen outplacement support schemes, make it easier to start new businesses, and improve safety nets. More than anything, it will be important to share a sense of values within Japanese society, which should include acceptance of the need to improve the economic metabolism and support for people taking on new challenges.

"Hollowing out of domestic industries"?

I would like to briefly touch upon recent concerns about a hollowing out of domestic industries, which are also related to the economic metabolism.

To start with, expansion of production overseas is not unique to the current phase but rather a trend that has played out over the past twenty years (Chart 10). Until the middle of the 1980s, Japan increased its global market share by expanding exports. Since the second half of the 1980s, Japanese firms have increased their overseas production partly as a response to intensifying trade friction. Thereafter, they have continuously reviewed their global production networks to optimize the division of work between home and abroad while taking into consideration changes in demand structure and cost structure as a consequence of globalization. As a result of such management decisions by firms, the pace of expanding production overseas increased and this trend continues today.

This shift of production sites overseas has decreased domestic employment in the manufacturing sector. We need to create more employment opportunities in the economy as a whole by enhancing growth in domestic demand-related sectors, such as service sectors that create more employment than other sectors, by making use of the resultant idle labor force (Chart 11). Within the manufacturing sector, given the significant gap in labor costs between home and abroad, it is necessary to promote a division of labor, with production and assembly sites for mass production expanded overseas and domestic operations focusing on more profitable businesses as well as cutting-edge technologies and business ideas.

We must, of course, pay due attention to the risk that the expansion of production overseas will adversely affect the domestic economy. For example, the shift could suddenly accelerate for certain reasons, including the appreciation of the yen, such that its pace surpasses a rate consistent with a trend increase in overseas demand. Another risk is that core firms and factories abandon domestic production sites.

It is true that the appreciation of the yen creates a need for serious adjustments to export industries. At the same time, there are also benefits from the yen's appreciation. For example, the appreciation has clearly caused a reduction in the cost of imports, which have increased significantly due to increased imports of crude oil and LNG after Japan's nuclear plants stopped operations. We have also seen more Japanese firms availing of the yen's appreciation to make strategic moves to expand business globally, as evidenced by an increase in outbound M&A activity (Chart 12). Credits of foreign direct investment income currently total 3.4 trillion yen per year, 0.7 percent of nominal GDP. Although such income has somewhat increased compared to the past, the amount of overseas investment and the rate of return are still small compared to other countries (Chart 13). When domestic investment opportunities are limited, it is vitally important to improve returns from overseas investment, particularly foreign direct investment. In any case, the negative impact of the yen's appreciation tends to be noticed more than positive effects in Japan because domestic-demand related firms, which are natural beneficiaries of the yen's appreciation, have failed to develop successful business plans to reap such benefits. In other words, in order to overcome concerns about a hollowing out of domestic industries, ultimately we must work to strengthen our medium- to long-term growth potential.

Making accommodative financial environment lead to growth

As is clear from what I have said so far, strengthening of growth potential will be achieved by substantive efforts to work and increase value added. In this regard, some argue that "stopping deflation comes first and that can be achieved easily through monetary easing." However, a rise in inflation without a pick-up in real growth rates will not improve living standards or fiscal balances. The real issue is how to raise the real growth rate. Past experiences show that prices rise later, after economic growth picks up in real terms. To use the analogy of the human body, prices are like its temperature, while growth potential is its fundamental strength. Raising the temperature without improving the fundamental strength is not possible. Even if it were successfully done temporarily, there would be side-effects. In fact, in Japan, a strong correlation has been observed between the potential growth rate and the expected rate of inflation (Chart 14).

In the past even some prominent academic economists in the United States have argued that "stagnant growth and deflation in Japan can be solved easily by implementing significant monetary easing." After experiencing difficulty restoring U.S. economic growth after the Lehman shock, however, they revised their understanding on the issue considerably and even apologized and withdrew their past criticisms of Japan.

In any case, Japan's financial conditions are extremely accommodative. Nominal interest rates and even actual funding rates of firms, such as real interest rates on corporate bonds adjusted using inflation expectations, are lower in Japan compared to those in the United States and Europe (Chart 15). In a related context, some argue that "insufficient provision of money by the Bank of Japan is the cause of deflation and the yen's appreciation," citing the size of the monetary base, which is the total amount of currency provided by a central bank. As Chairman Bernanke of the U.S. Federal Reserve has also pointed out, I, too, do not consider the monetary base to be an appropriate indicator for monetary easing. Still, even the size of the monetary base as a proportion of nominal GDP is larger in Japan than in the United States and Europe (Chart 15). As all of you present today must sense through your business activities, we are not in a situation where business fixed-investment and purchases of foreign currency-denominated assets are constrained by the amount of cash and deposits or the level of interest rates. The bottom line when it comes to our problem is how to make use of the current extremely accommodative financial conditions in order to strengthen growth potential.

III. The roles and challenges of central banks

The Bank of Japan is not alone: other central banks of advanced economies are in a similar situation. Europe is dealing with the sovereign debt problem and the United States is in the process of balance sheet repair. In such circumstances, both Chairman Bernanke of the U.S. Federal Reserve and President Draghi of the European Central Bank have repeatedly pointed out that central bank measures are not a panacea. Having said that, I am not denying the importance of the role played by central banks. On the contrary, there are many things that only central banks can do. What is important is that the government, the private sector, and the central bank play their respective roles properly. What, then, are the roles of a central bank?

Financial globalization and central banks

In recent years, it is becoming increasingly important for a central bank to have a global perspective when seeking to conduct monetary policy appropriately to achieve price stability. Coming back to the basics of how monetary easing stimulates demand, one channel is to bring future demand forward by urging firms to make investments now while interest rates are low. Another channel, if lower interest rates result in the depreciation of the currency, is to capture overseas demand.

Once interest rates fall to almost zero, however, it becomes difficult to increase the benefit of making investments now. Moreover, when interest rates in other advanced economies are also close to zero as in the current situation, there is limited room left to make use of overseas demand, at least among the advanced economies. In sum, the two channels of monetary policy both become less effective. Given that emerging economies have high growth rates and interest rates, monetary easing in advanced economies is expected to have stimulative effects through an increase in exports to emerging economies if the currencies of advanced economies depreciate against those of emerging economies on the whole. At the present time, however, many emerging countries adopt fixed foreign exchange rates with currencies pegged to the U.S. dollar and the United States faces balance-sheet repair problems. What actually happened was that monetary easing in the United States, instead of stimulating domestic economic activity, contributed to overheating in emerging economies and a rise in international commodity prices, which resulted in more inflationary pressures and adverse effects on private consumption in the U.S. economy.

In this way, in an increasingly globalizing world, there is a possibility that a central bank will find that unintended effects of its monetary policy eventually come back on itself through their effects on overseas economies and financial markets. In the end central banks should conduct monetary policy based on their assessment of economic and price developments in their respective countries and regions. At the same time, it is also becoming more important than ever to make decisions after considering the complex interdependence of the different parts of the global economy.

Against a backdrop of increasing globalization, the task of maintaining financial system stability is equally important as monetary policy for a central bank. As can be seen in foreign exchange trading volumes, massive capital flows are moving around the globe beyond national borders. Even without actual movements of capital, derivatives transactions transfer risks across borders. Although some see such financial transactions negatively, given the progress in globalization in terms of the real economy and associated needs to hedge various risks associated with economic transactions, such as interest rate risk, foreign exchange risk and credit risk, simply dismissing financial transactions will not help to improve the situation. In addition, as evidenced by the sovereign debt crisis in Europe, the very credibility of sovereign states is being questioned this year. In such circumstances, maintaining stability in the global financial system is becoming the most important prerequisite for global economic growth. On the topic of global financial system stability, while strong commitment by national governments is necessary, central banks have also been doing their utmost in this regard. One example is the coordinated actions by six central banks, including the Bank of Japan, regarding U.S. dollar liquidity, which were announced at the end of November. As a contingency measure, the central banks also agreed to establish bilateral swap arrangements so that liquidity in non-domestic currencies other than the U.S. dollar could also be provided in each jurisdiction. I should also add that central banks are contributing to the ongoing efforts to revise financial regulation and supervision frameworks to prevent recurrence of financial crises like the one in 2008, by preventing the accumulation of financial imbalances.

The bank's policy conduct

Finally, I will explain the Bank's recent conduct of monetary policy (Chart 16).

First, the Bank has been pursuing powerful monetary easing under the comprehensive monetary easing framework implemented in the fall of last year. The Bank has also repeatedly expanded the size of the Asset Purchase Program and intends to proceed with additional purchases of approximately 13 trillion yen over the next year.

Second, the Bank has been doing its utmost to ensure financial market stability. Its provision of ample funds immediately following the earthquake as well as the U.S. dollar funds-supplying operations I have just mentioned are good examples of such efforts.

Third, in an extraordinary measure for a central bank, the Bank is proceeding with fund provision to provide support for strengthening the foundations for economic growth. This is aimed at encouraging firms to make use of the accommodative financial environment, by providing financial institutions with long-term funds at a low interest rate and taking advantage of their expertise in identifying business opportunities.

Concluding remarks – importance of adapting to changes and strengthening growth potential

I have almost used up my time. My message today can be summarized into the following five points. First, we need to recognize that Japan currently faces major changes – globalization and rapid population aging – which have a significant impact on its economy. Second, in order to maintain existing living standards in Japan for the next generations, our economy must strengthen its capacity to adapt to these major changes and strengthen its growth potential. Third, deflation will be overcome by strengthening growth potential. Fourth, in order to strengthen growth potential, firms' willingness to take on challenges is vital and there is a need to prepare the environment to encourage firms to do so. Fifth, the Bank of Japan will also continue to consistently make contributions from the monetary side with the aim of achieving sustainable growth with price stability.

Incidentally, in October next year, Japan will host the Annual Meetings of the World Bank Group and International Monetary Fund. This is a big event with more than ten thousand participants from the existing 187 member countries. Japan hosted these meetings in 1964 when the country was still an emerging economy filled with the energy associated with high growth. In that year there were a series of historic events in Japan which enhanced people's confidence: becoming a member of the OECD on April 28; hosting the Annual Meetings of the World Bank Group and International Monetary Fund from September 7 to 11; launching the Tokaido Shinkansen on October 1; and holding the opening ceremony of the Tokyo Olympic Games on October 10. Almost half a century has passed since then and, in the fall of next year, Japan will again provide the venue for discussion among global leaders tackling various problems, this time as a mature advanced economy. Japan experienced the bursting of a bubble twenty years ago and currently faces rapid population aging ahead of other countries. In that sense, Japan is well positioned to present a new growth model to the rest of the world as a mature economy and the global frontrunner in terms of population aging. I sincerely hope that, in 2012, Japan will show the rest of the world its vision and determination to continue to shine as a mature economy and, more than anything else, the people of Japan will regain hope and courage. In this regard, the Bank of Japan will do its utmost in close cooperation with you. Thank you for your attention.

Chart 1

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Improvement in business conditions has slowed on the whole. Despite steady improvement in domestic demand-oriented sectors, business conditions deteriorated for large manufacturing enterprises mainly due to effects of the slowdown in overseas economies.

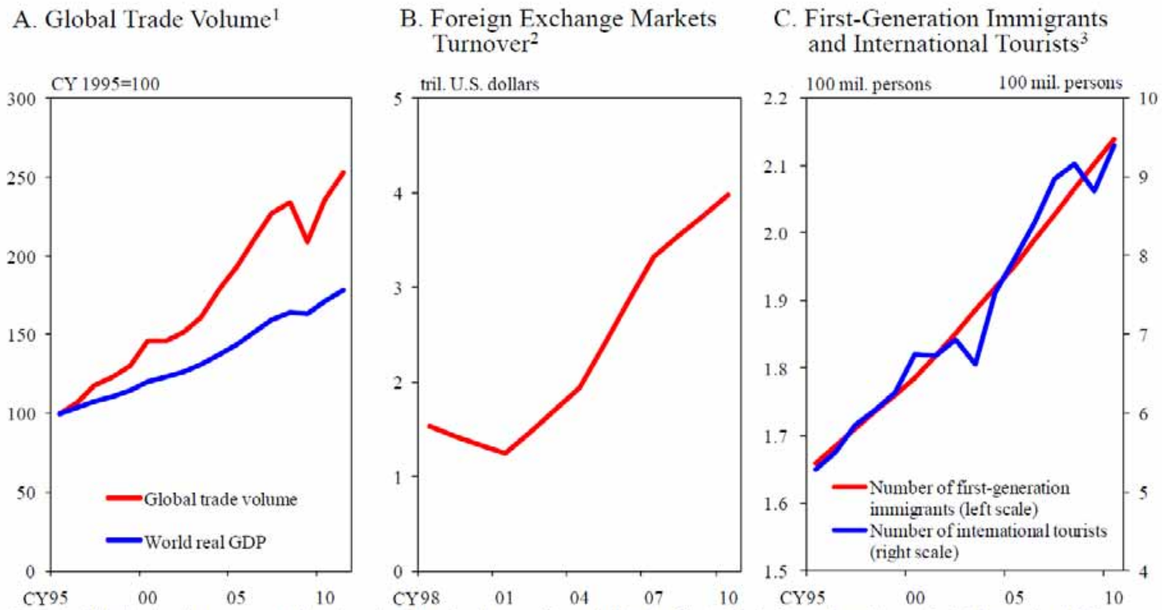
Business Conditions DI ("favorable" - "unfavorable"), % points

	All enterprises				Large enterprises				Small and medium-sized enterprises			
	June 2011 survey	Sept. 2011 survey	Dec. 2011 survey		June 2011 survey	Sept. 2011 survey	Dec. 2011 survey		June 2011 survey	Sept. 2011 survey	Dec. 2011 survey	
	Actual result	Actual result	Actual result	Forecast	Actual result	Actual result	Actual result	Forecast	Actual result	Actual result	Actual result	Forecast
All industries	-18	-9	-7	-13	-8	1	0	-2	-24	-16	-12	-20
Manufacturing	-15	-5	-5	-12	-9	2	-4	-5	-21	-11	-8	-17
Nonmanufacturing	-20	-12	-7	-14	-5	1	4	0	-26	-19	-14	-21

Note: Figures are based on the "Tankan." For figures for the December 2011 survey, green highlights represent improvement while red highlights represent deterioration from the September survey.
Source: Bank of Japan.

Chart 2

Globalization has been progressing significantly in terms of goods, capital, and people.

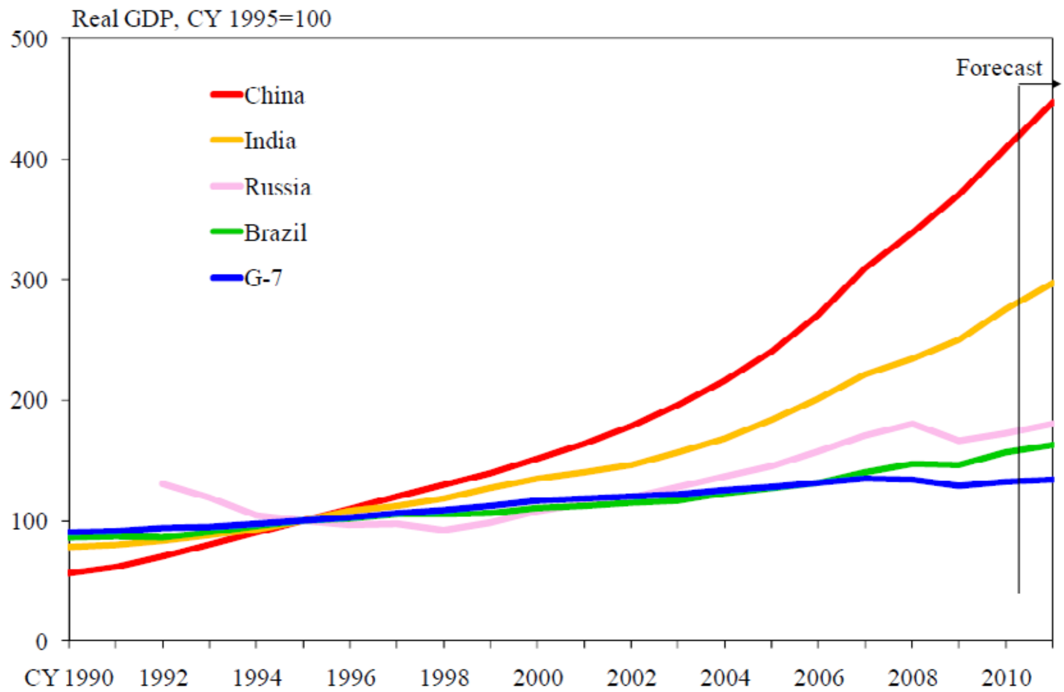


Notes: 1. Global trade volume covers total goods and services in real terms after excluding the effects of price fluctuations. Figures for 2010 onward are IMF projections.
2. Represents the amount of daily foreign exchange transactions worldwide (figures calculated every three years).
3. Shows the world total of first-generation immigrants and tourists traveling abroad every year.

Sources: IMF; BIS; United Nations; UNWTO.

Chart 3

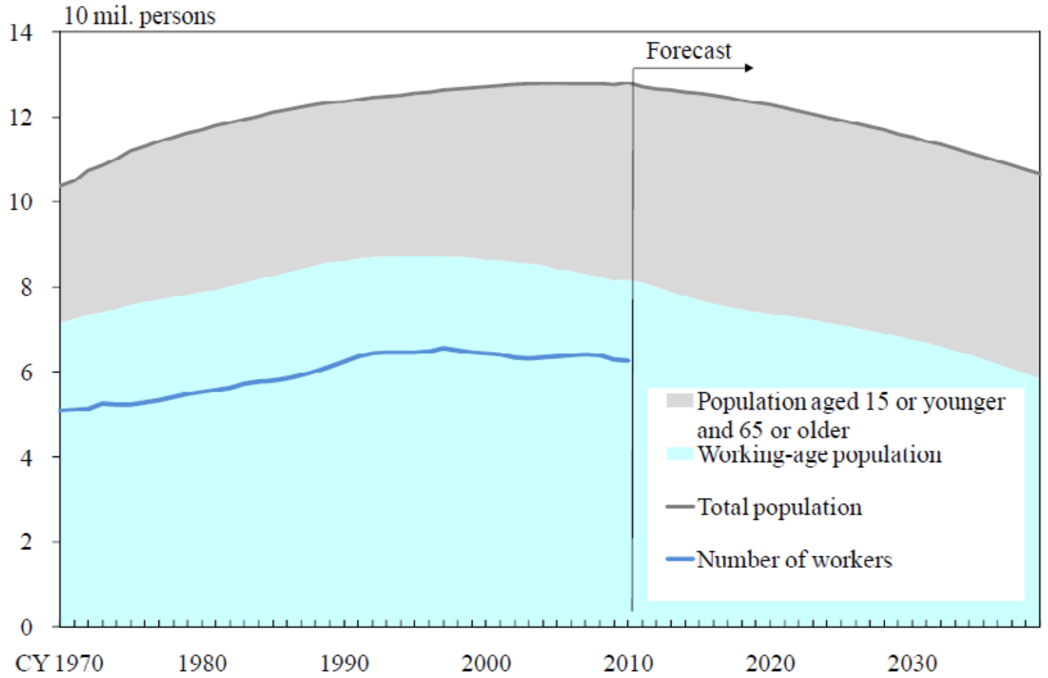
Emerging economies continue to grow rapidly.



Note: Figures for 2011 are projections by the IMF.
Source: IMF.

Chart 4

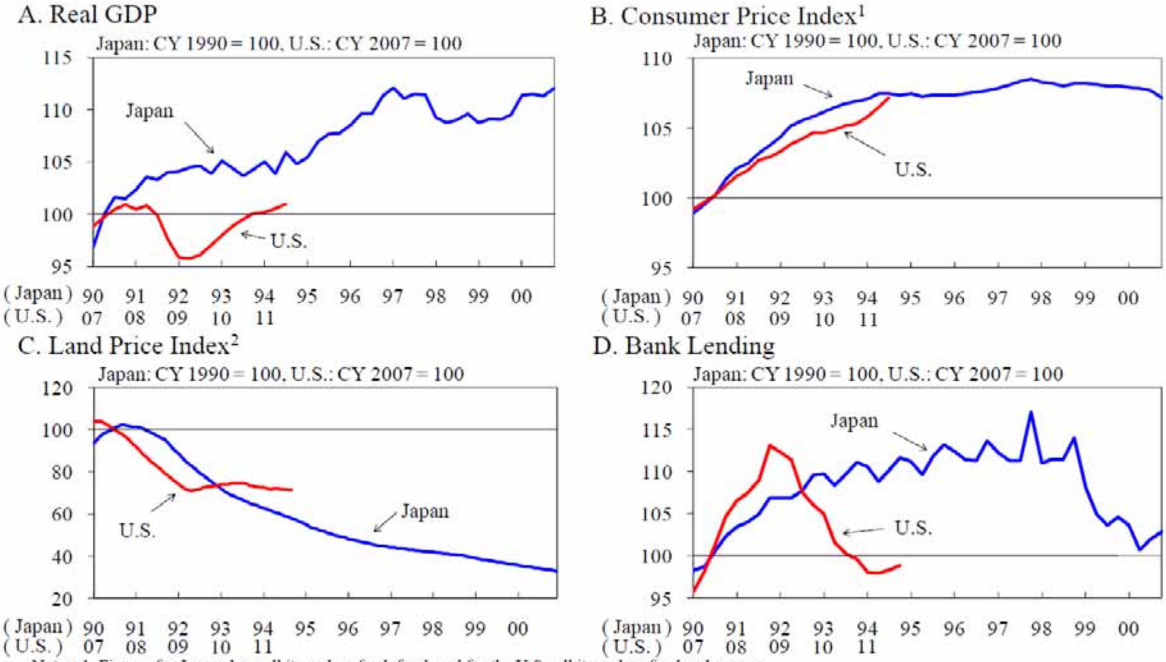
Japan is facing a rapid decline in its working-age population.



Note: Figures for 2011 onward are from "Population Projection for Japan" (December 2006) in terms of medium-variant fertility with medium-variant mortality.
Sources: National Institute of Population and Social Security Research; Ministry of Internal Affairs and Communications.

Chart 5

Economic developments in the United States following the financial crisis share some similarities with those in Japan after the collapse of the bubble economy.



Notes: 1. Figures for Japan show all items less fresh food, and for the U.S., all items less food and energy.
2. Figures for Japan show the Urban Land Price Index (six major cities, average of all categories), and those for the U.S., the Case-Shiller Home Price Index (10-city composite).
Sources: Cabinet Office; Ministry of Internal Affairs and Communications; Japan Real Estate Institute; Bank of Japan; BEA; BLS; FRB; Bloomberg.

Chart 6

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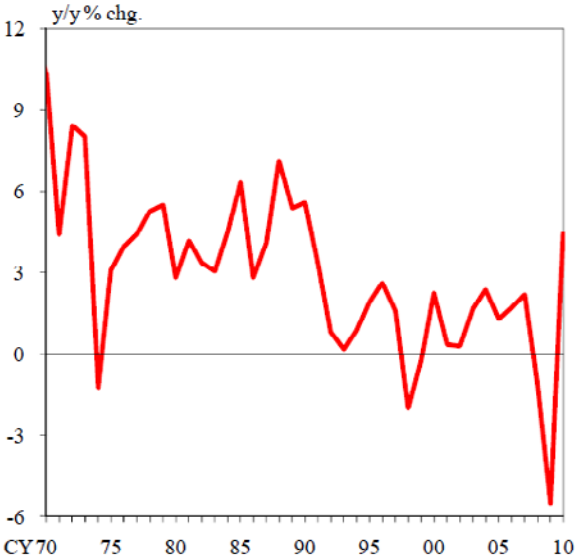
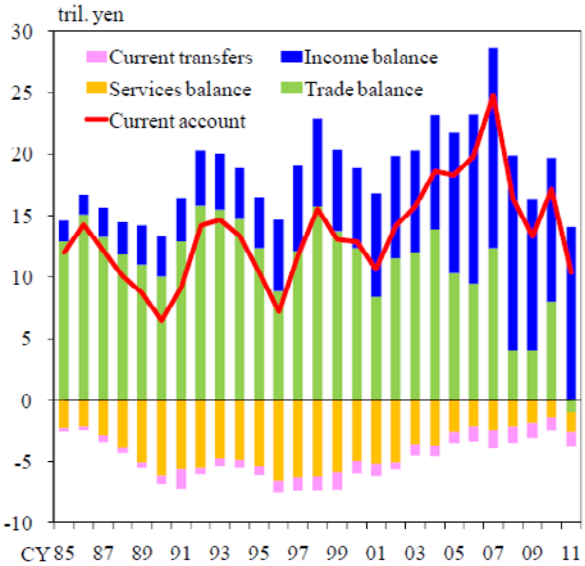
In the past 15 years, Japan's economic growth rate has declined and its surplus in the trade balance has decreased. How will the situation develop in the next 15 years?

A. Real GDP Growth Rate



B. Current Account



Note: For Current Account, figures for 2011 are calculated by using the year-on-year rate of the sum for January through October.
Sources: Cabinet Office; Ministry of Finance; Bank of Japan.

Chart 7

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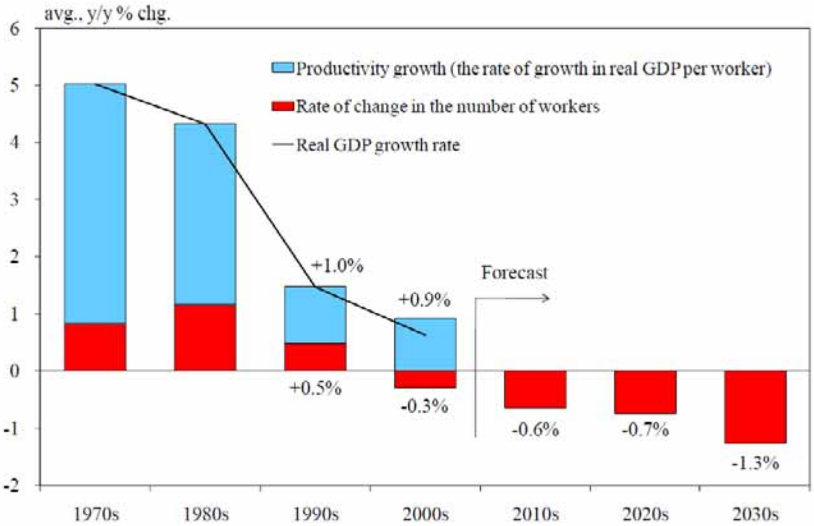
Stagnant labor productivity growth and a decline in the number of workers have affected the long-term downtrend in Japan's growth.

A. Decomposition of Real GDP Growth in Japan[1,2]



B. Labor Productivity Growth of G-7 Countries (2000s)[3]

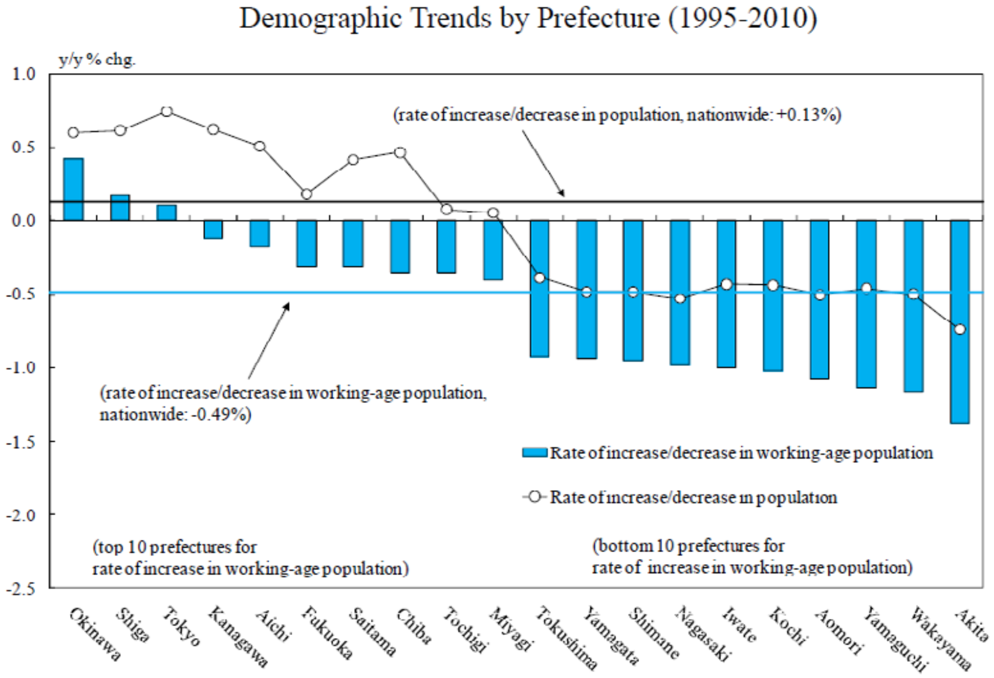
%

Japan	1.5
United States	1.7
Germany	0.9
France	0.9
United Kingdom	1.5
Italy	-0.1
Canada	0.7

Notes: 1. Data are on a fiscal-year basis.
2. The rates of change in the number of workers from the 2010s 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 2009).
3. To eliminate the effects of the financial crisis after the failure of Lehman Brothers, figures are the average growth rates from 2000-2008.
Sources: Cabinet Office; Ministry of Internal Affairs and Communications; National Institute of Population and Social Security Research; OECD.

Chart 8-1

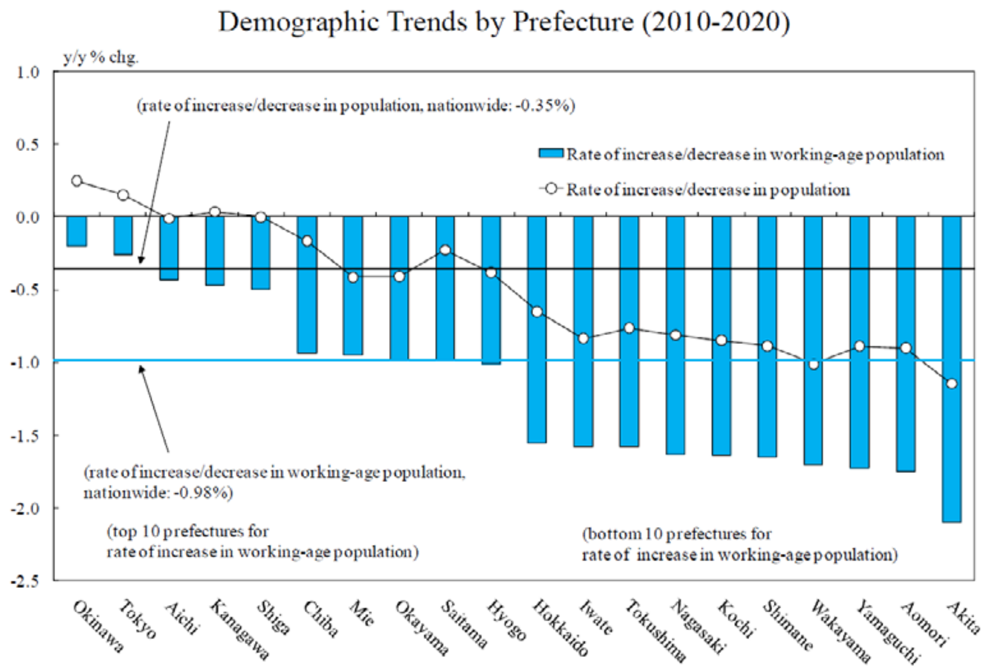
The impact of population decline has become serious, especially in regional areas.



Source: Ministry of Internal Affairs and Communications.

Chart 8-2

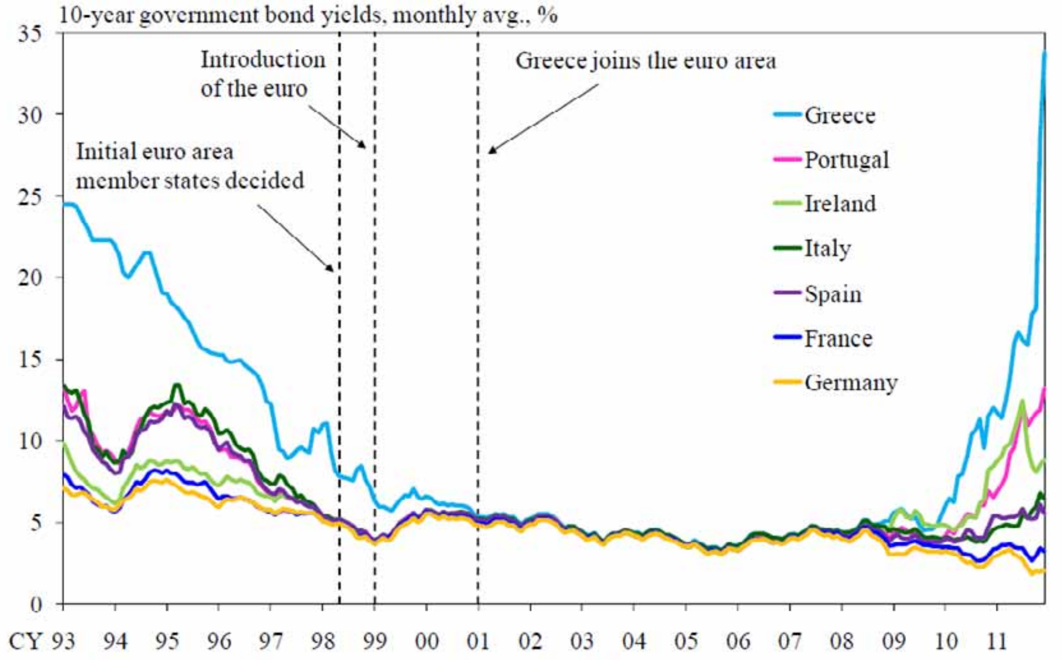
The impact of population decline is projected to be larger in regional areas than in metropolitan areas.



Source: National Institute of Population and Social Security Research.

Chart 9

The sovereign debt crisis in Europe shows that market perceptions regarding fiscal credibility can change in a discontinuous manner.

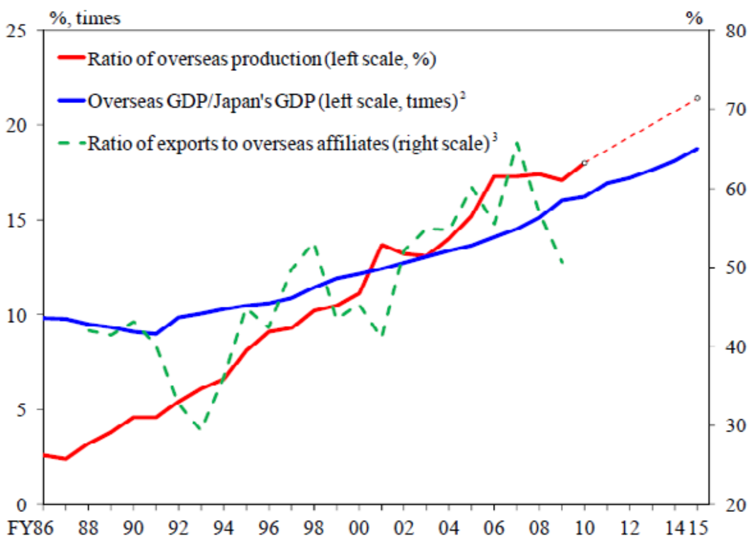


Note: Figures for Ireland are 9-year government bond yields for November 2011 onward.
Sources: IMF; Bloomberg.

Chart 10

The ratio of overseas production has been trending upward for a prolonged period in response to the expansion of overseas GDP exceeding Japan's.

A. Ratio of Overseas Production[1]



B. Ratio of overseas production by size of capital stock (FY 2010)

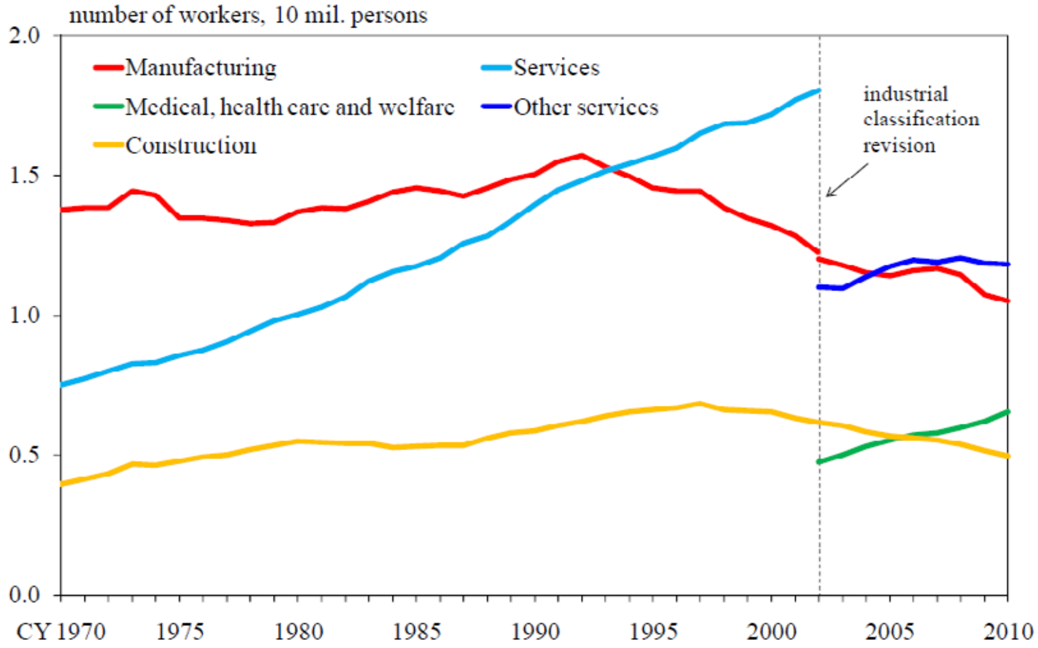
%

Capital stock	Ratio of overseas production
under 1 billion yen	6.0
1 to 5 billions yen	12.6
5 to 10 billions yen	18.0
10 billions yen and over	23.6

Notes: 1. For the ratio of overseas production ("Annual Survey of Corporate Behavior"), the figure for fiscal 2010 is the forecast and those for fiscal 2011 onward are linearly interpolated by using the projected figures for fiscal 2015.
2. The ratio of overseas GDP to Japan's GDP is taken from the "World Economic Outlook (calendar year basis)."
3. Data for 2010 onward are IMF estimates.
Sources: Cabinet Office; Ministry of Economy, Trade and Industry; IMF.

Chart 11

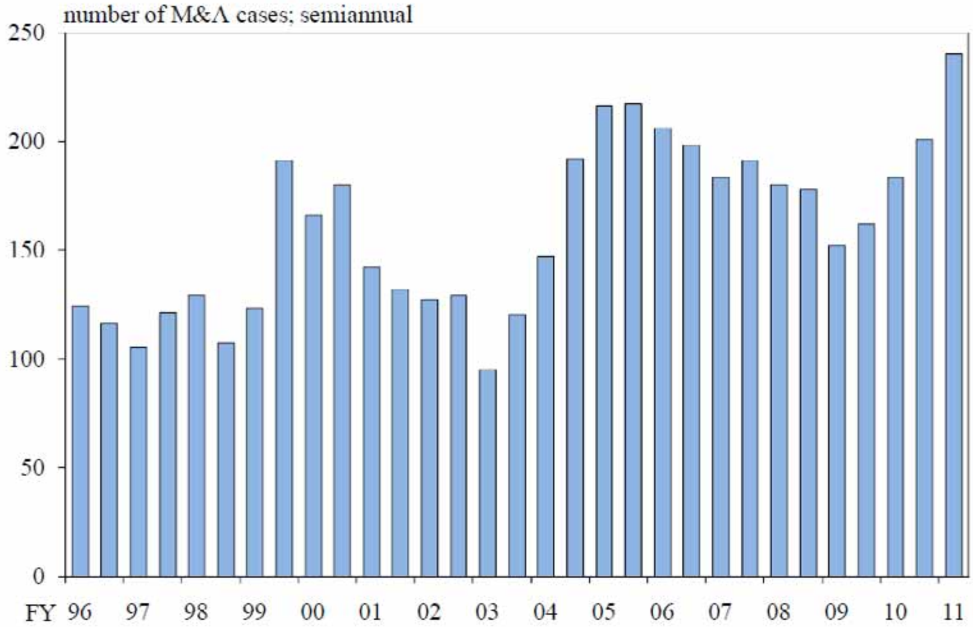
Since the beginning of 1990, employment in service-related sectors has increased while that in manufacturing has decreased.



Note: Other services consists of scientific research, professional and technical services, living-related and personal services and amusement services, education, learning support, and services, N.E.C.
Source: Ministry of Internal Affairs and Communications.

Chart 12

There has recently been increasing outbound M&A activity by Japanese firms making use of the yen's appreciation.

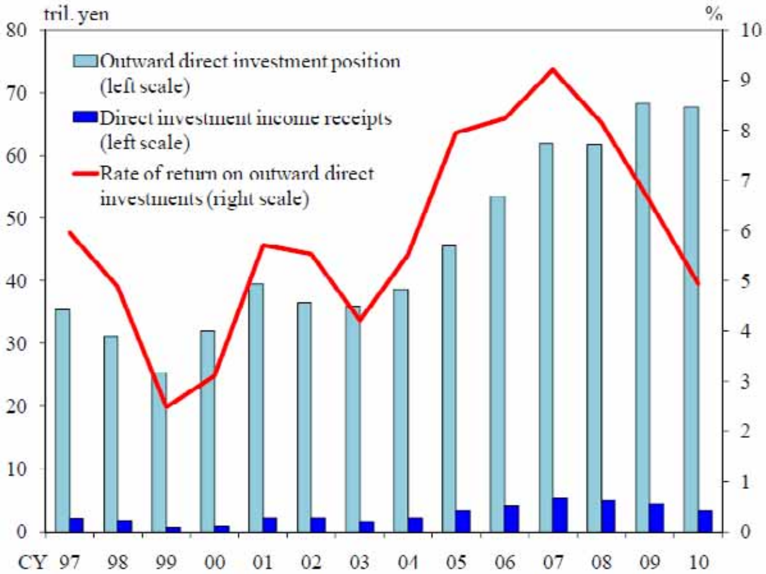


Note: Figures indicate the number of outbound M&A cases by Japanese firms.
Source: RECOF Corporation.

Chart 13

Although Japan's rate of return from overseas investment has increased somewhat from the past, it is still small compared to the United States and major European countries.

A. Japan's Outward Direct Investment



B. Rate of Return on Outward Direct Investments in Major Countries (CY 2010)

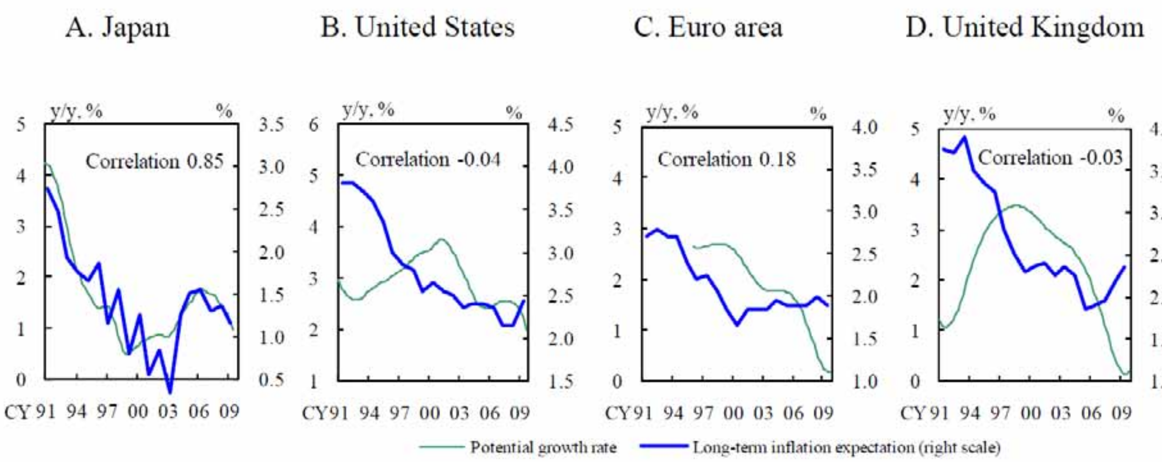
	%
Japan	4.9
United States	10.2
Germany	6.3
France	4.6
United Kingdom	7.5
China	6.9
South Korea	1.7

Note: The rate of return on outward direct investments is calculated by dividing the direct investment income receipts by the average of outward direct investment positions for the previous and current year-ends.

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

Chart 14

In Japan, a positive correlation is observed between the potential growth rate and long-term inflation expectations.

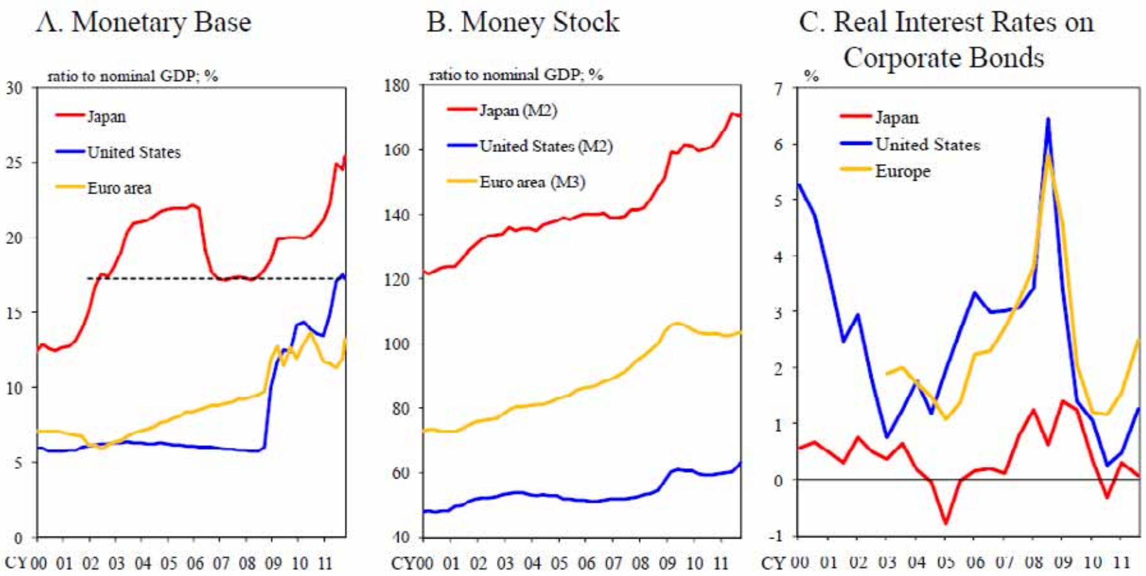


Notes: 1. Long-term inflation expectations for each year are 5-10 years ahead outlook averaged on April and October survey results of private research institutions by Consensus Economics Inc. Potential output growth data is measured by BOJ for Japan, CBO for US, and the Hodrick-Prescott filter of real GDP for the euro area and the UK, respectively.
2. German data is used for inflation expectations up to 2002 in the euro area.
3. Correlation coefficients excluding the euro area are calculated for the 1991-2009 sample period. That for the euro area is calculated for the 1996-2009 sample period.

Sources: Each country's statistics; Consensus Economics Inc.

Chart 15

Japan's money supply as a proportion of GDP is already larger than in the United States and euro area, and continues to increase. Japanese interest rates are low, even in real terms.



Note: Monetary base is the sum of banknotes in circulation, coins in circulation, and current account deposits at a central bank. Real interest rates on corporate bonds are the corporate bond yields minus inflation expectation. Corporate bond yields are 5-year for Japan and 3-5 year for the United States and Europe. Inflation expectation is that for the next five years.

Sources: Cabinet Office, Bank of Japan, FRB, BEA, ECB, Eurostat, Bloomberg, Consensus Economics Inc.

Chart 16

The Bank has continued to consistently make contributions as the central bank by pursuing powerful monetary easing through the comprehensive monetary easing framework, ensuring financial market stability, and providing support to strengthen the foundations for economic growth.

Pursuing Powerful Monetary Easing via the Comprehensive Monetary Easing

- Implementing the virtually zero interest rate policy.
- Committed to continuing the virtually zero interest rate policy until it judges that price stability is in sight on the basis of the "understanding of medium- to long-term price stability."[Note]

  [Note] On the basis of a year-on-year rate of change in the CPI, a positive range of 2% or lower, centering around 1%.
- Establishing the Asset Purchase Program

Ensuring Financial Market Stability

Providing Support to Strengthen the Foundations for Economic Growth

➢ **Increase in the Asset Purchase Program**

- The Program has had three increases, expanding to about 55 trillion yen from the initial size of about 35 trillion yen (the latest increase was decided on October 27).
  — The increased purchases are to be completed by around the end of 2012.

tril. yen

	Started in Oct. 2010	Mar. 2011	Aug. 2011	Oct. 2011	Amount outstanding as of Dec. 10
Total size	About 35	About 40	About 50	About 55	41.8
JGBs	1.5	2.0	4.0	9.0	2.7
T-Bills	2.0	3.0	4.5	4.5	2.9
CP	0.5	2.0	2.1	2.1	1.9
Corporate bonds	0.5	2.0	2.9	2.9	1.4
ETFs	0.45	0.9	1.4	1.4	0.8
J-REITs	0.05	0.1	0.11	0.11	0.06
Fixed-rate operation	30.0	30.0	35.0	35.0	32.0

Note: In addition to purchases under the Program, the Bank regularly purchases JGBs at the pace of 21.6 trillion yen per year.