Chapter 2 Financial Crisis and Japanese Economy

Section 1 Global Financial Crisis and Domestic Finance

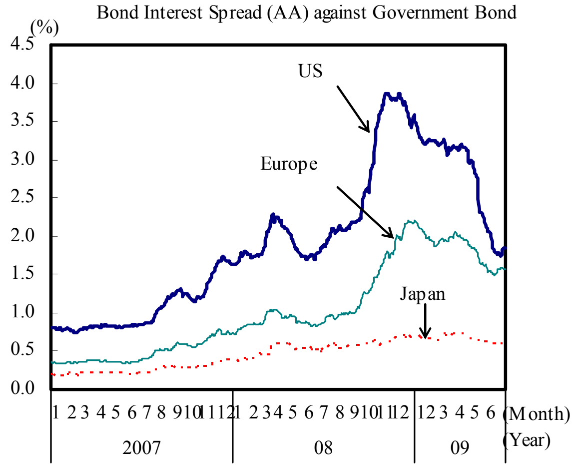
1 Impact on Domestic Financial Market

- Global financial crisis had a great impact on domestic stock market and government bond market. The bond market and commercial paper market were confused due to lowered investors' tolerance for risk as well as decline in share prices. The interbank market shrank due to decrease in foreign banks' financing.
- On the other hand, Bank of Japan slashed the policy interest rate and improved response capabilities for monetary control amid the rising tension in the international financial market.

Figure 2-1-3 Bond/Commercial Paper Market Trend

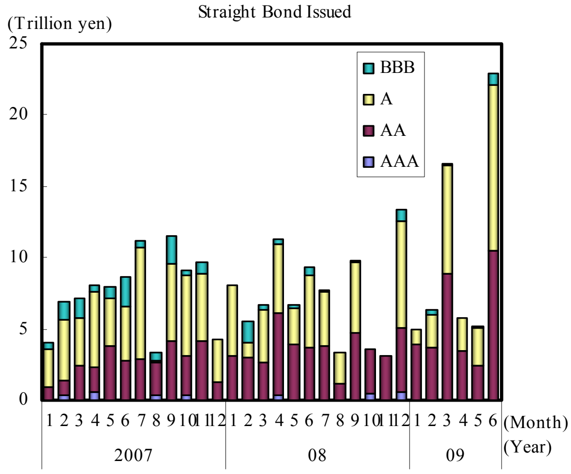
Spread of bond/commercial market has increased since the late 2007 and further rapidly expanded after the Lehman Shock.

Bond Interest Spread (AA) against Government Bond



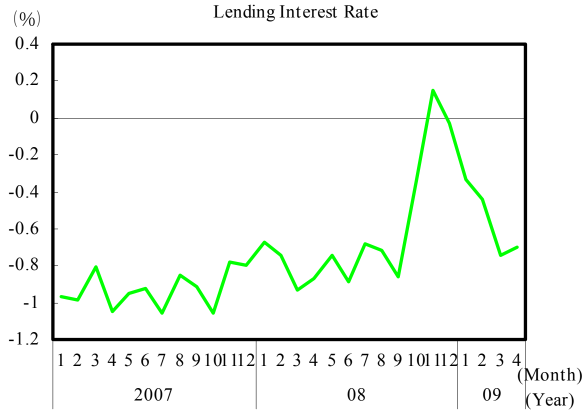
Source: Bloomberg's composite AA (Mixed ratings of Moody's, Standard & Poor's, Fitch and Dominion)

Straight Bond Issued



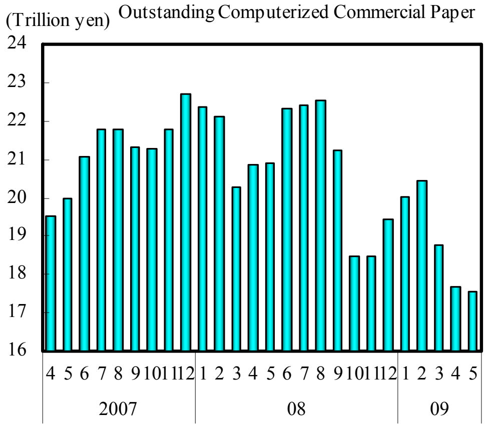
Notes: 1. Source: Japan Securities Dealers Association
2. Periods are counted on the basis of bond payment date
3. When there are more than one rating obtained, lower one is counted.

Spread of Issued Commercial Paper's Interest Rate against Lending Interest Rate



Notes: 1. Source: "Average Interest Rate of Issued Domestic Commercial Paper" and "Average Contractual Interest Rate on Bank Loan", Bank of Japan
2. Spread = Average interest rate of issued domestic commercial paper (3 months) - Average contractual interest rate on bank loan (new/short-term)

Outstanding Computerized Commercial Paper



Source: "Short-term Bond Transfer System: Outstanding by Classification of Issuers", Japan Securities Depository Center, Inc.

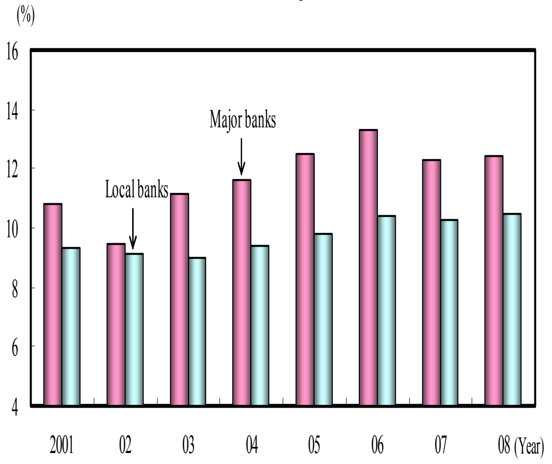
2. Impact on Business Finance through Financial Institutions

- Decline in share prices and downturn in economy have affected banks' capital-to-asset ratios and nonperforming loans ratios. However, the capital-to-asset ratios stay flat on an average.
- Small-to-medium enterprises' cash management has worsened since the early period of the recession and banks have taken a severe attitude toward lending afterward.
- Although enterprises' cash management has not worsened due to credit crunch like the recession from 1997 to 1998, attention is necessary as long as such severe recession persists.

Figure 2-1-8 Financial Institutions' Capital-to-Asset Ratios and Nonperforming Loans Ratios

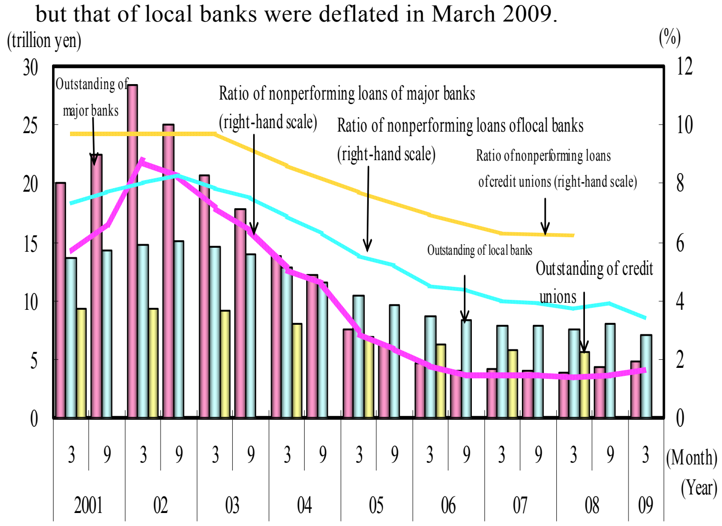
(1) Capital-to-Asset Ratios

The capital-to-asset ratios of major banks were deflated in FY2007, but stayed flat in FY2008.



(2) Nonperforming Loans Ratios

The nonperforming loans ratios of major banks were inflated but that of local banks were deflated in March 2009.



Source: "Major Banks' Account Settlement" and "Summary of Local Banks' Account Settlement", Financial Services Agency, etc.

Figure 2-1-9 (1) Distribution of Capital-to-Asset Ratios

Capital-to-asset ratios have been inflated and level variance has rather expanded.

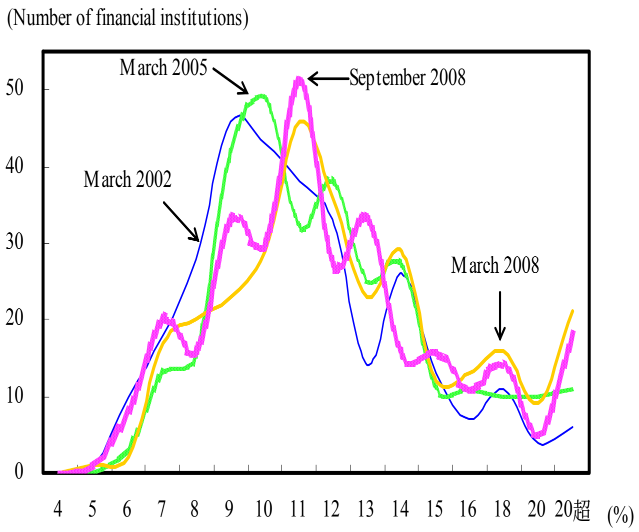
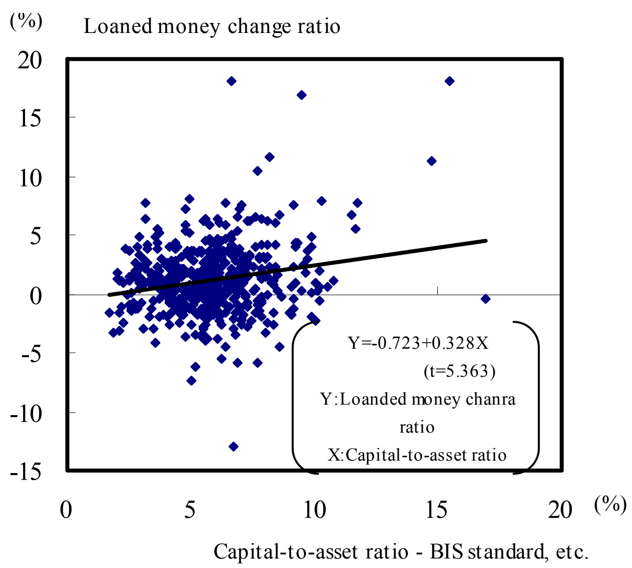


Figure 2-1-10 (1) Relationship between Capital-to-Asset Ratios and Loaned Money Change Ratios

Banks with high capital-to-asset ratios tend to increase loaned money.



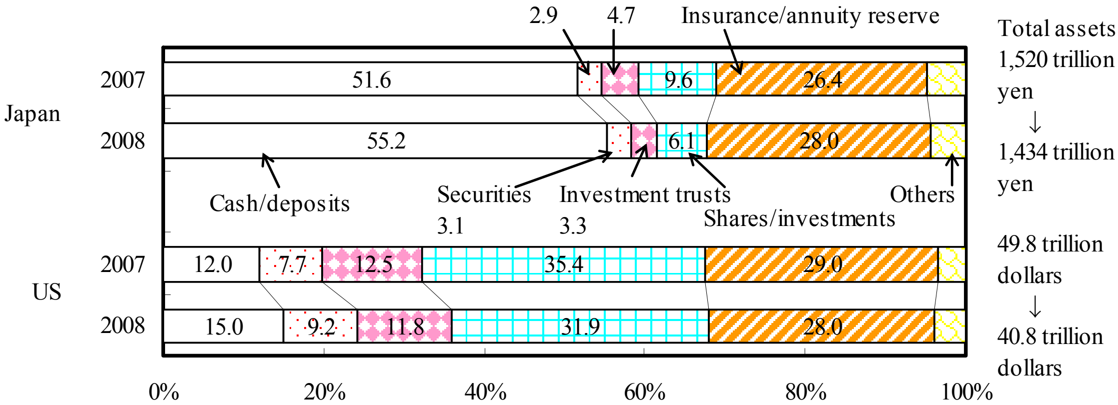
Source: "Japanese Bankers' Financial Statement Analysis", Japanese Bankers Association and each financial institution's accounting data
The left-hand figure contains credit unions. The right-hand figure uses accounting values from September 2005 to March 2008.

3. Impact on Households' Balance Sheet

- The impact of financial crisis on households' balance sheet was small compared with US households due to small number of shareholders. However, many Japanese elderly persons have risk assets such as shares and the impact of decline in share prices may be concentrated on those people.
- The negative wealth effect of individual consumption is also relatively small, but the consumption of expensive goods has drastically decreased.

Figure 2-1-19 Households' Holding of Shares, Investment Trusts, Etc.

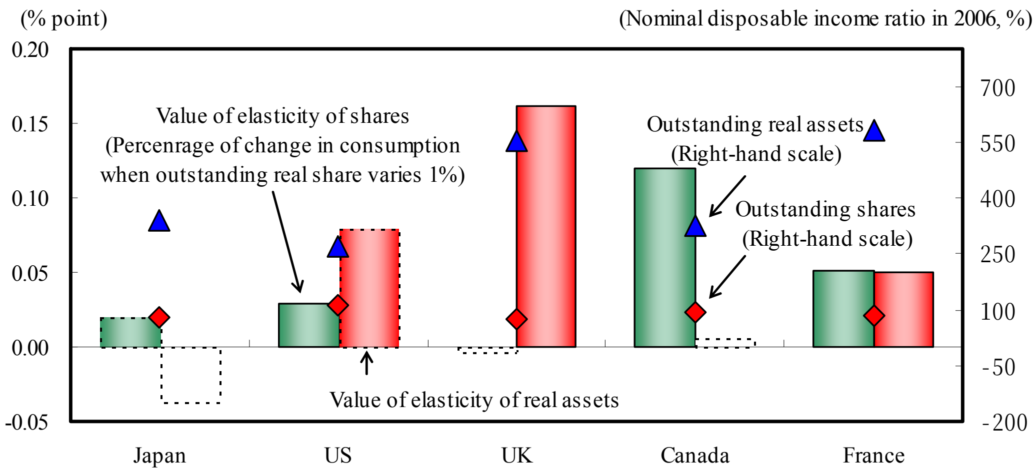
The percentage of risk assets owned by households in Japan is lower than that in the US and the impact of fluctuations in share prices on households is small compared with the US, etc.



Source: "Funds Flow Statistics", Bank of Japan and "Flow of Funds Accounts", FRB

Figure 2-1-22 Comparison of countries' Assets Effect for Consumption

Comparison of assets effect for shares and real assets



Notes: 1. Source: "National Accounting", Cabinet Office and "OECD Economic Outlook", OECD

2. Estimated period: 1980 to 2007 (Japan: 1980 to 2006)

3. Estimated formula:

$$\ln(\text{household consumption expenditure}) = (\text{constant term}) + \alpha\times\ln(\text{disposable income}) + \beta\times\ln(\text{outstanding shares}) + \gamma\times\ln(\text{other outstanding net financial assets}) + \delta\times\ln(\text{outstanding real assets})$$

4. Dotted transparent bars indicate insignificant, dotted colored bars indicate 10% significance level and solid colored bars indicate1 to 5% significance level.

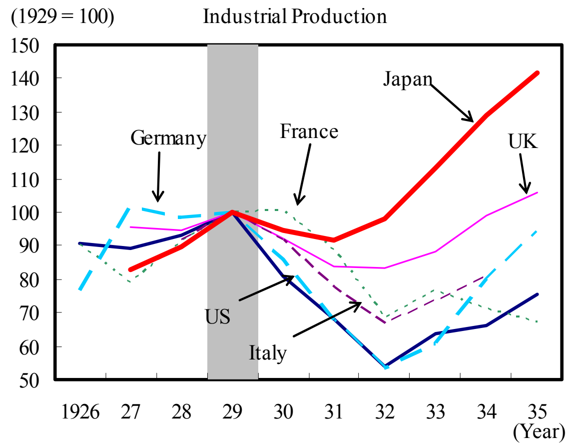
Section 2 International Repercussion of Financial Crisis: Historical Experience and Its Mechanism

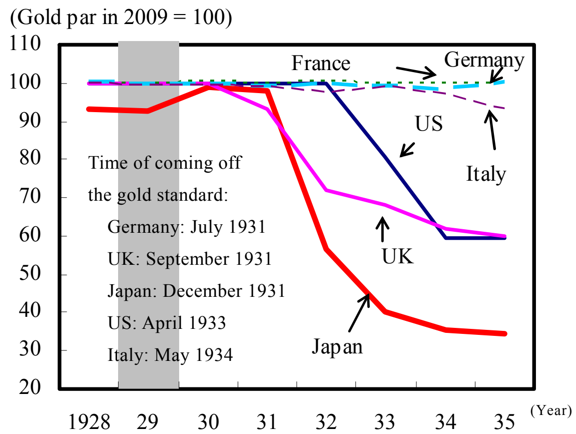
1 Overview of Past Financial Crises

- During the Great Depression, the worlds' industrial production shrank by about 30 percent from 1929 to 1932, but Japan's decline was small and its economy recovered relatively early. Behind this, there was a fiscal and monetary policy response as well as decrease in exchange rate due to coming off the gold standard.
- Factors of US S&L crisis and North European banking crisis were: 1) tough competition based on financial deregulation, 2) excess risk-taking behavior seeking high-risk-high-return products and 3) inadequate finance supervision. After those crises, GDP and the growth rate of bank lending outstanding drastically decreased.

Figure 2-2-1 Economy during the Great Depression　Figure 2-2-3 Fiscal-Monetary Policy during the Great Depression

During the Great Depression, Japanese economy recovered early due to decrease in exchange rate and policy response.

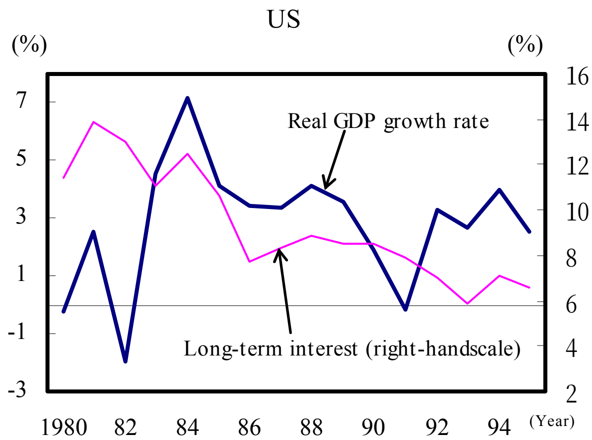


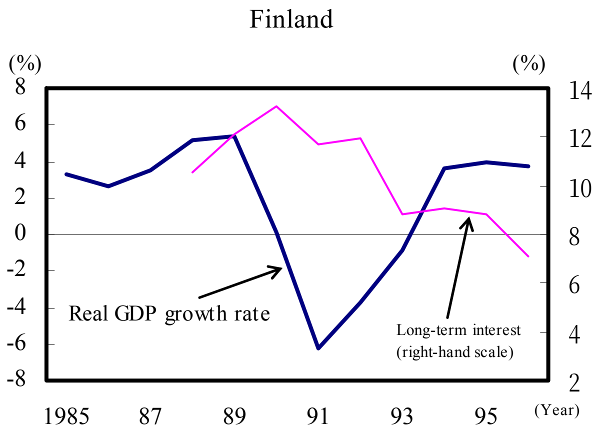


Source: "Statistical Year Book", the League of Nations and "Japanese Major Economic Statistics since Meiji Era", Statistical Office of Bank of Japan

Figure 2-2-4 US S&L Crisis　Figure 2-2-5 North European Banking Crisis

Bank lending increased before the financial crisis and drastically decreased after the crisis





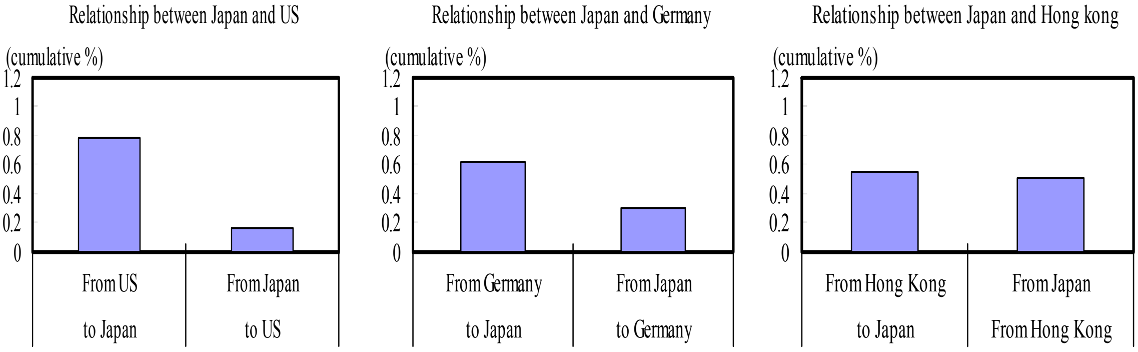
Source: "International Finance Statistics", IMF, "A New Database on Financial Development and Structure", the World Bank

2 International Interlock of Financial and Capital Markets and Spread of Crisis/ 3 International Interlock of Real Economy and Spread of Crisis

- The background of why the present financial crisis has serious consequences internationally is there is a growing interlock between foreign and domestic financial and capital markets and real economy.
- There is a growing interlock of share prices. In particular, Japan's share prices are susceptible to US and others unilaterally. There is also a remarkable impact on the real estate market through REIT market.
- In the real world, there is a deepening interdependence including emerging countries through trades as well as the impact via financial and capital markets. There was a drastic decrease in domestic demand in the US and Europe which are main source of this crisis, with the effect of credit crunch, the decrease in imports including emerging countries had an impact on Japan.

Figure 2-2-10 Degree of Influence of Fluctuations in Share Prices in Each country

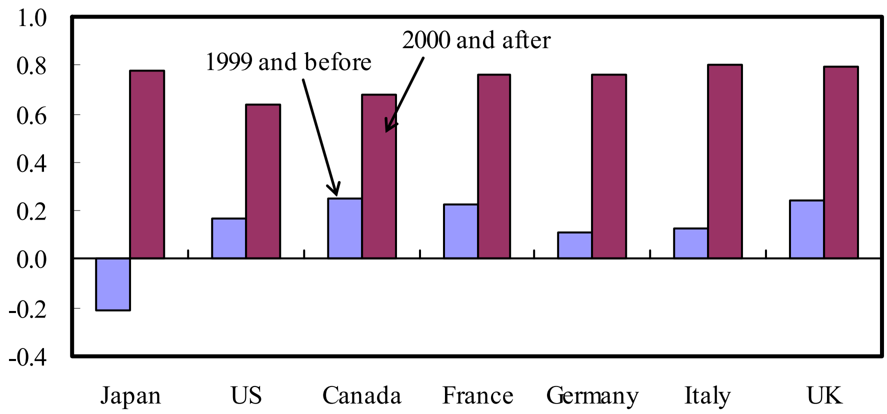
The impact of Western countries' share prices on Japanese share prices is small.



Notes: 1. Source: Bloomberg. Daily data since September 1999
2. Next day values of cumulative generalization impulse response function with a logarithm difference VAR model (lag order is eight). The model is estimated with data of Canada, France, Italy and Singapore as well as above four countries.

Figure 2-2-15 Correlation Coefficient of Each country's Growth Rate

Global economic interlock has been growing since 2000



Notes: 1. Source: OECD Database
2. Average correlation coefficient between one country and other six countries is calculated.
3. Original data are quarterly values on the basis of each country's currency and the period is after 1994.

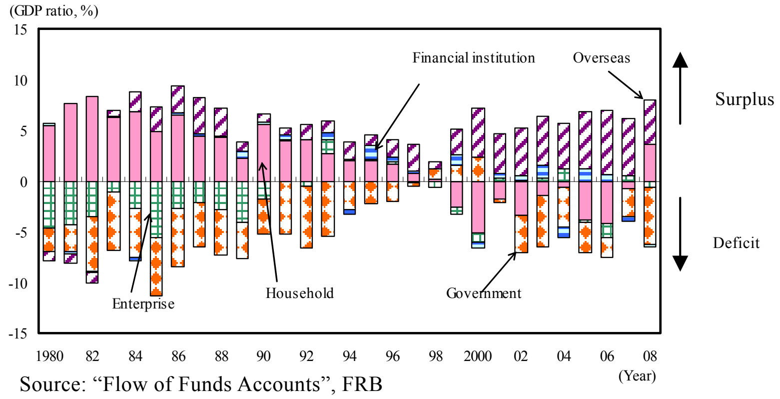
Section 3 Viewpoint of "Post-Crisis" Japanese Economy

1 International Money flow and Structural Change in Financial Sectors

- Behind the present crisis, there was a global imbalance caused by US current account deficit. However, the funds flow may change due to decrease in US household expenditure and increase in financial expenditure of surplus countries including Japan. Based on the past experience, considerable time is required for financial reconstruction after the crisis.
- US requires substantial time to adjust households' balance sheet and the current account deficit could be reduced as a result. As Japan's export markets, domestic demand of emerging countries such as China would be further expected.

Figure 2-3-1 US Financial Surplus/Deficit by Sector

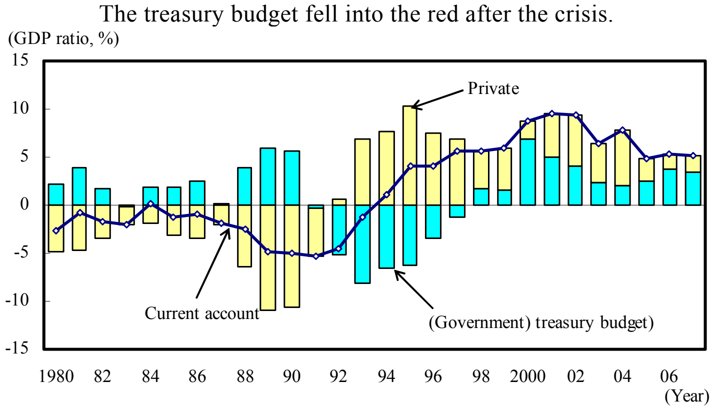
Household moves from financial deficit to surplus.



Source: "Flow of Funds Accounts", FRB

Figure 2-3-2 (3) Finland's Savings-Investment balance

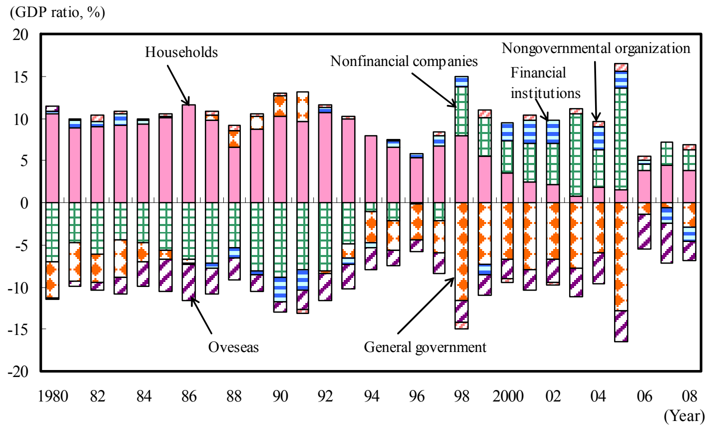
The treasury budget fell into the red after the crisis.



Source: "World Economic Outlook", IMF

Figure 2-3-3 Japan's Financial Surplus/Deficit by Sector

Financial surplus of enterprises/households and financial deficit of the government continue.



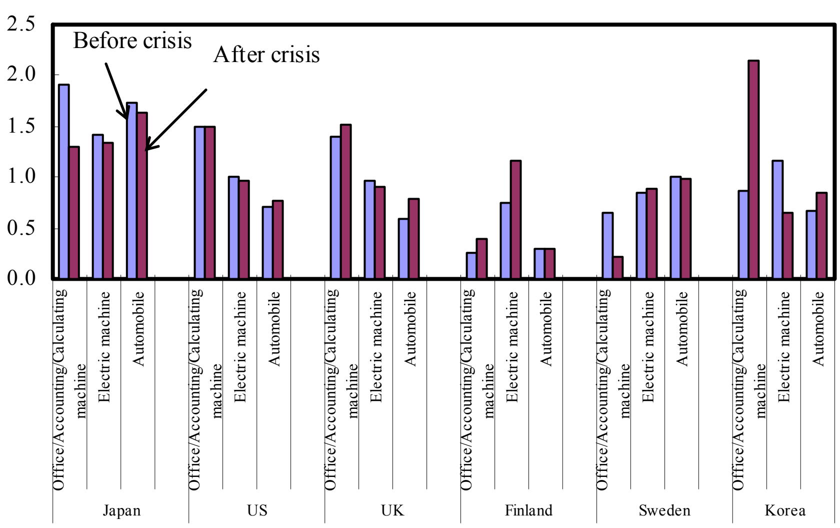
Source: "Funds Flow Statistics", Bank of Japan

2 Change in Industrial Structures and Competitiveness

- Among countries which experienced the crisis in the past, Finland, Sweden and Korea were helped by decrease in exchange rates. The comparative advantage has been shifted to IT-related products through promotions of inward direct investment and R&D investment.
- Although there is fear of Japanese products' loss of competitiveness in overseas market due to the present financial crisis, the global market share of main products such as automobiles and semi-conductors are maintaining or even increasing.

Figure 2-3-7 Index for Comparative Advantage and Change in Dependence on Manufacturing Industry

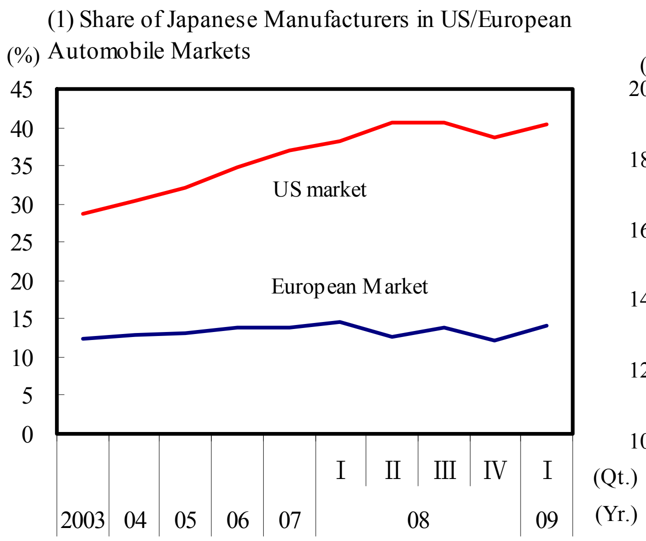
Exports of IT-related products and automobiles have progressed in Northern Europe and Korea.

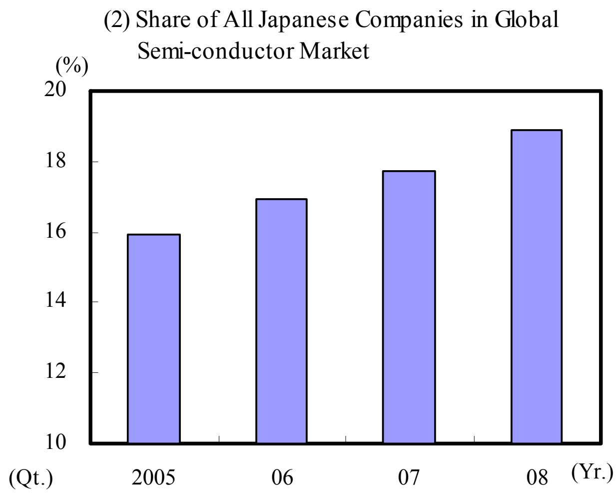


Source: OECD. Revealed comparative advantage index = Export share of the product / Global average

Figure 2-5 Shares of Japanese Products in Overseas Market

Shares of Japanese main products in oversea market are not decreasing.





Source: Auto Data and ACEA (left-hand graph), data released from iSuppli JapanK.K. (right-hand graph)

- In order to improve productivity and strengthen competitiveness even after the crisis, companies should keep investing in R&D and human capital.
- Japan has a bitter experience that it put off disposal of the bad loans and shipped a bud of growth through "zombie lending". It is also important to facilitate the factor mobility.

Figure 2-3-9 Inward Direct Investment and Exchange Rate

Inward direct investment has increased due to decrease in exchange rate.

(1) Change in Ratio of Inward Direct Investment against GDP ratio

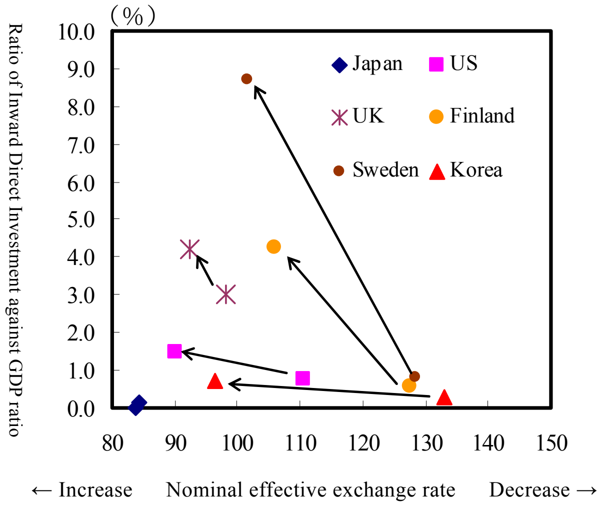
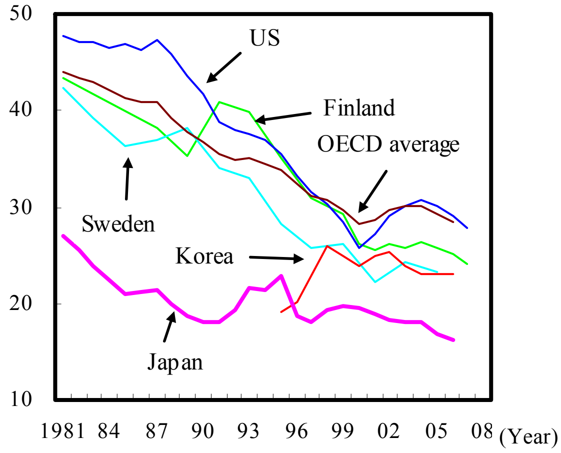


Figure 2-3-10 Funds for R&D

The ratio of government burden increases during the financial crisis. It shows a strong growth in GDP ratio right after the crisis.

(2) Government burden rate

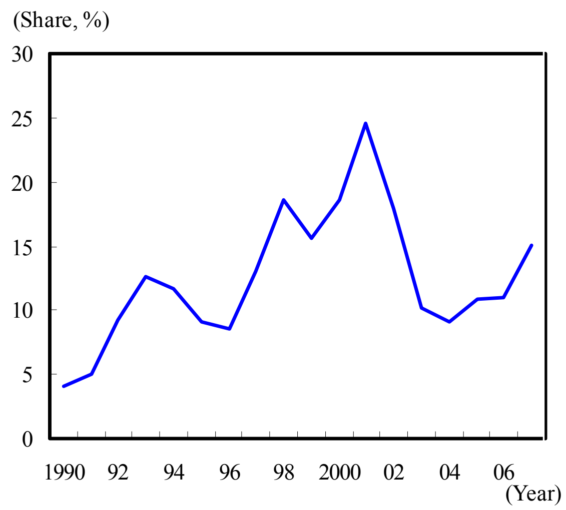


Source: OECD Database, etc. Periods of before and after the crisis are as follows:
Japan: (before): 1991 to 1996, (after): 2002 to 2007, US: (before): 1983 to 1988, (after): 1994 to 1999
UK: (before): 1985 to 1990, (after): 1995 to 2000, Korea: (before): 1991 to 1996, (after): 2001 to 2006
Finland: (before): 1984 to 1989, (after): 1996 to 2001, Sweden: (before): 1984 to 1989, (after): 1996 to 2001

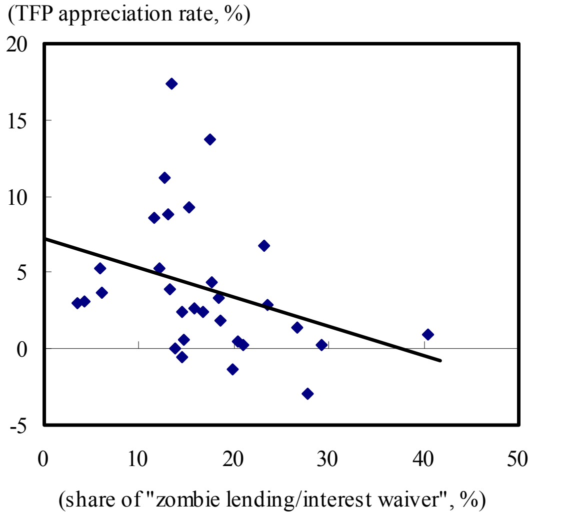
Figure 2-3-13 Share of Companies which Received "Zombie Lending/Interest Waiver"

The higher the share of receiving "zombie lending/interest waiver", the lower the TFP appreciation rate

(1) Share of receiving "zombie lending/interest waiver" (all industries)



(2) Share of receiving "zombie lending/interest waiver" by industry and TFP appreciation rate



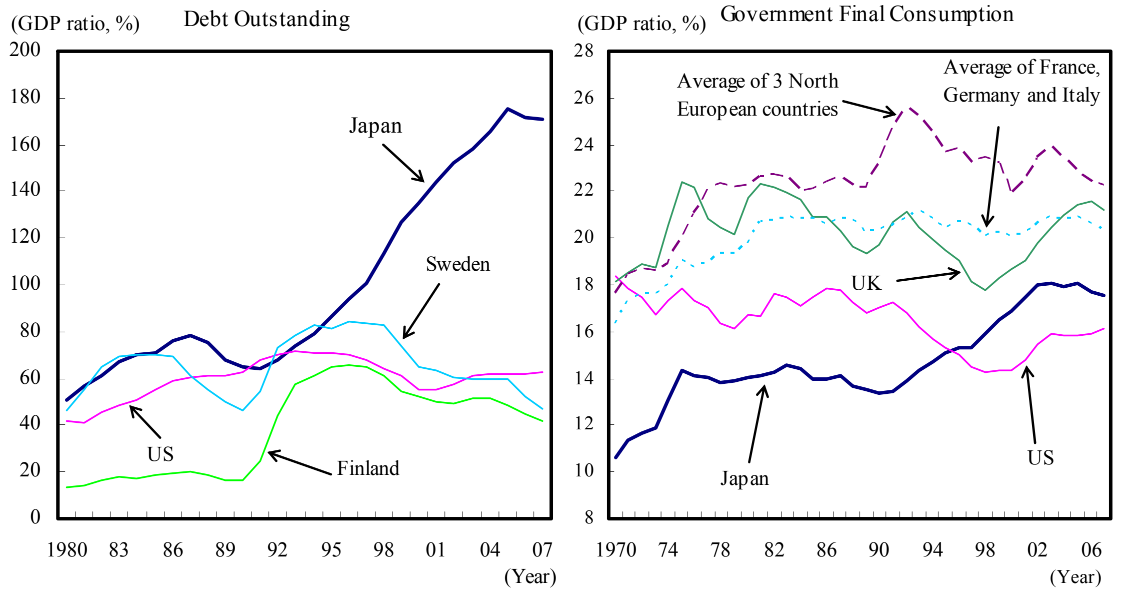
Source: "EALC Database 2007", Nikkei NEEDS, Japan Center for Economic Research, Hitotsubashi University Economic System Research Center, Nihon University China/Asia Research Center, Seoul University Business Competitiveness Research Center. (2) indicates TFP appreciation rates and average share of "zombie lending/interest waiver" by business from FY1995 to FY2001.

3 Response of the Government Looking toward the World after the Crisis

- It is necessary for the government to build a strategy for cleanup after the emergent fiscal expansion based on the past successful example of fiscal reconstruction.
- It is also essential to rebuild the regulatory framework at financial sector under international cooperation such as putting the financial system under adequate regulation/supervision.
- Each government has implemented various support measures for industries, but we have to be careful and check each other if those measures are hidden protectionism.

Figure 2-3-19 Each Country's Debt Outstanding and Government Final Consumption Expenditure

Japan's government debt has increased even after the crisis and government consumption hovers at a high level.



Source: "Economic Outlook" and "National Accounts", OECD, etc.

Figure 2-3-20 Protectionist Trade-related Measures

Since September 2008, each country has introduced protectionist trade-related measures.

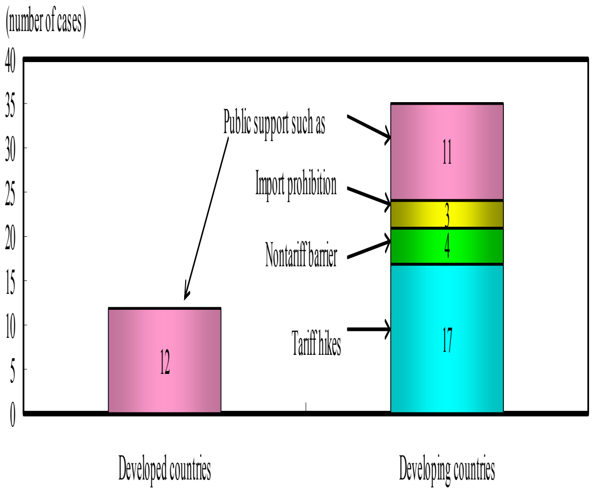
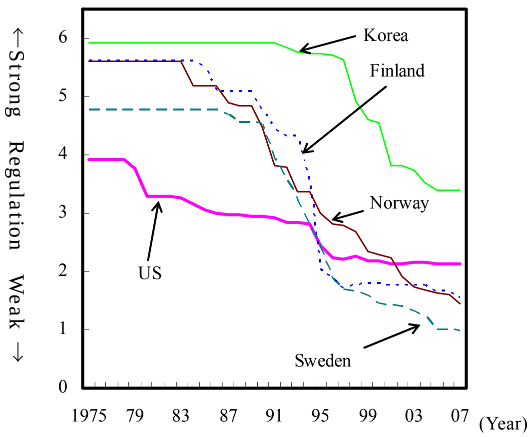


Figure 2-3-21 Relaxation of Regulations

Since the 1980s, each country has promoted relaxation of regulations. It will progress after the crisis.



Source: (Left-hand figure): "Trade Protection: Incipient but Worrisome Trends", Gamberoni and Newfarmer (2009)
(Right-hand figure): Regulation index of seven fields (aviation, communications, electricity, gas, post, railway and road) by OECD
Values are from 0 to 6. 6 indicates the least progressed relaxation of regulations.