

Uniqueness or Similarity?

--- Japan's Post-Bubble Experience in Monetary Policy Studies ---

September 16, 2010

Second IJCB Fall Conference

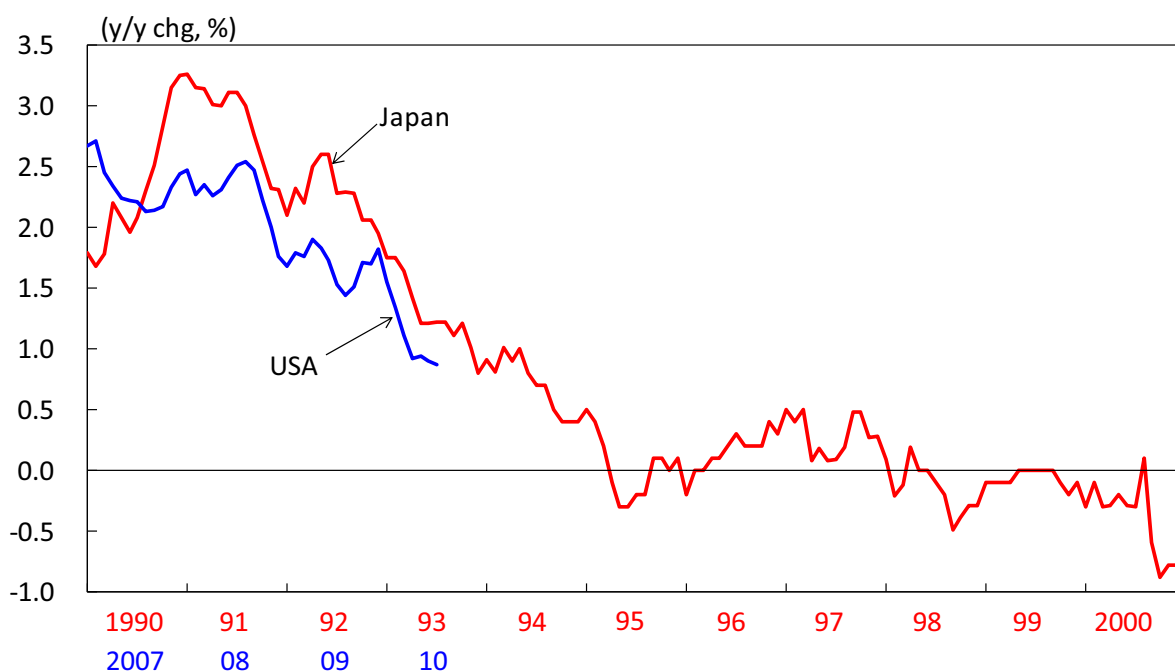
Masaaki Shirakawa

Governor of the Bank of Japan

Chart 1

Core CPI Inflation

Inflation developments after the bubble burst look similar so far.

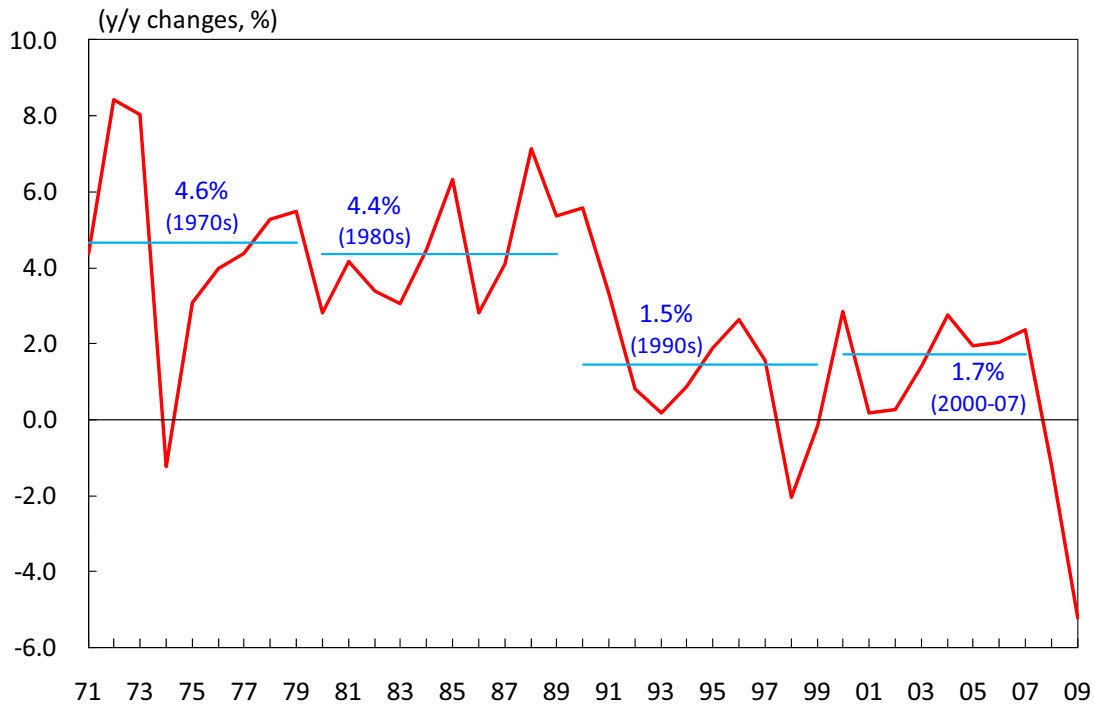


Notes: Core CPI in Japan is computed by excluding perishables from headline CPI. Figures for Japan are adjusted for the changes in the consumption tax rate from 3 to 5 percent in April 1997. US data start from January 2007.

Sources: Ministry of Internal Affairs and Communications, *Consumer Price Index*; Bureau of Labor Statistics, *Consumer Price Index*.

Japan's Economic Growth

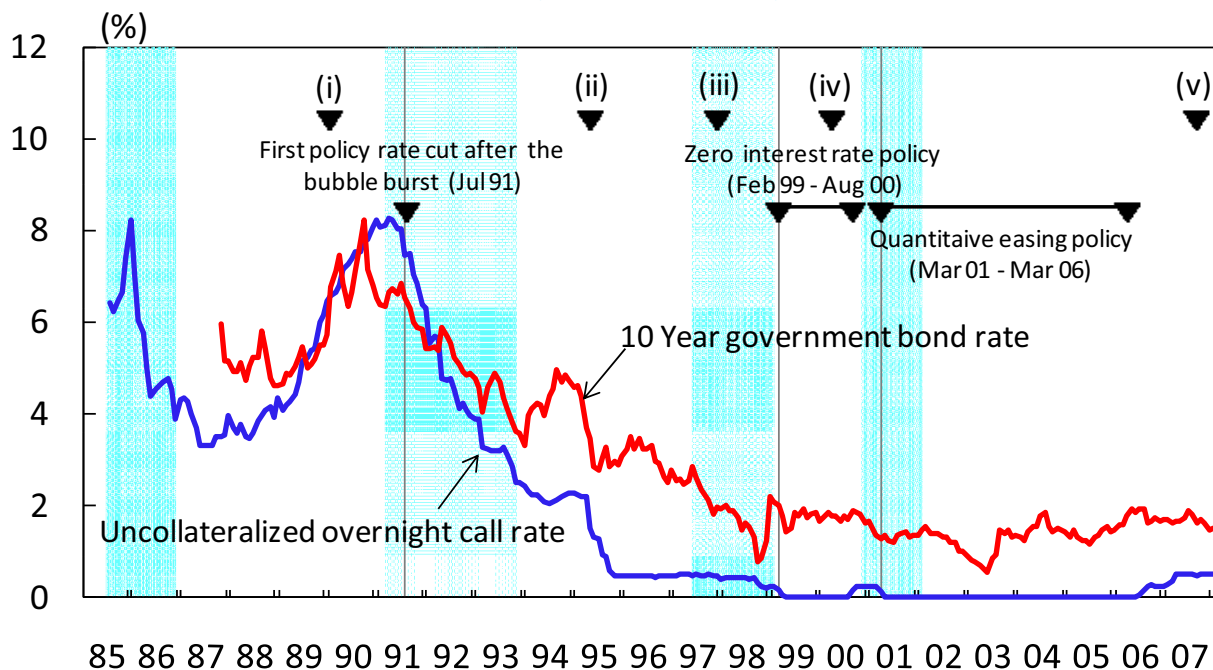
Economic growth decelerated significantly in the 1990s, called "Lost Decade."



Source: Cabinet Office, Annual Report on National Accounts.

Monetary Policy Developments

O/N call rate has continued to stay at an extremely low level since the late-1995.



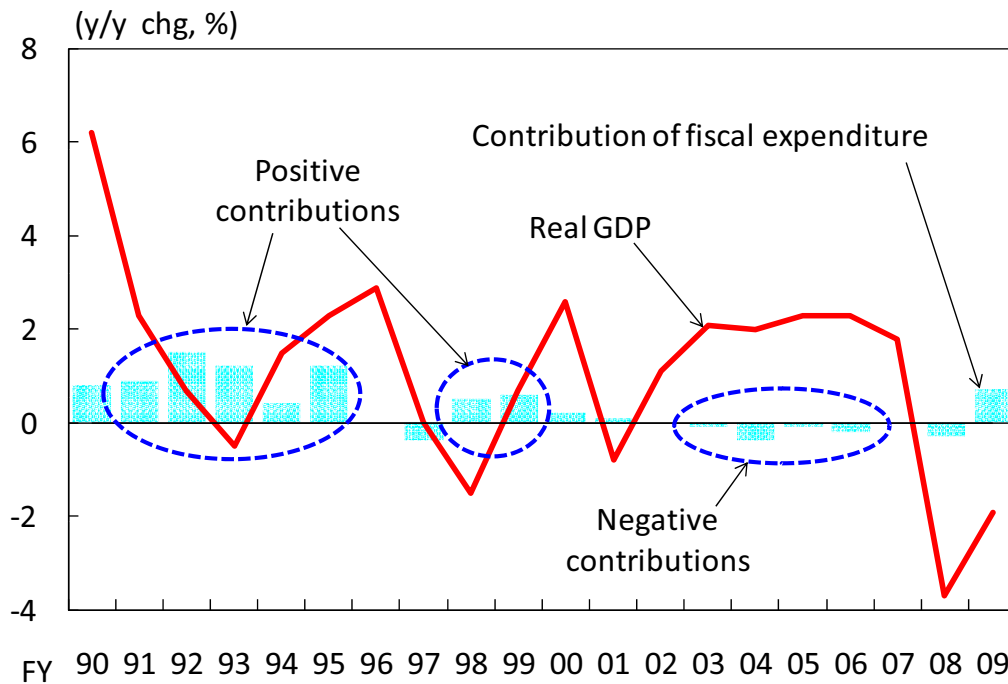
Notes: 1. (i) Peak of Nikkei 225 (Dec.89), (ii) Peak of Yen/Dollar rate (Apr.95), (iii) Collapse of Yamaichi Securities (Nov.97), (iv) Peak of NASDAQ (Mar.00), (v) BNP Paribas shock (Aug.07).

2. Shaded areas indicate business cycle contraction periods.

Sources: Bloomberg; Bank of Japan, Financial and Economic Statistics Monthly.

Chart 4

Fiscal Policy Developments

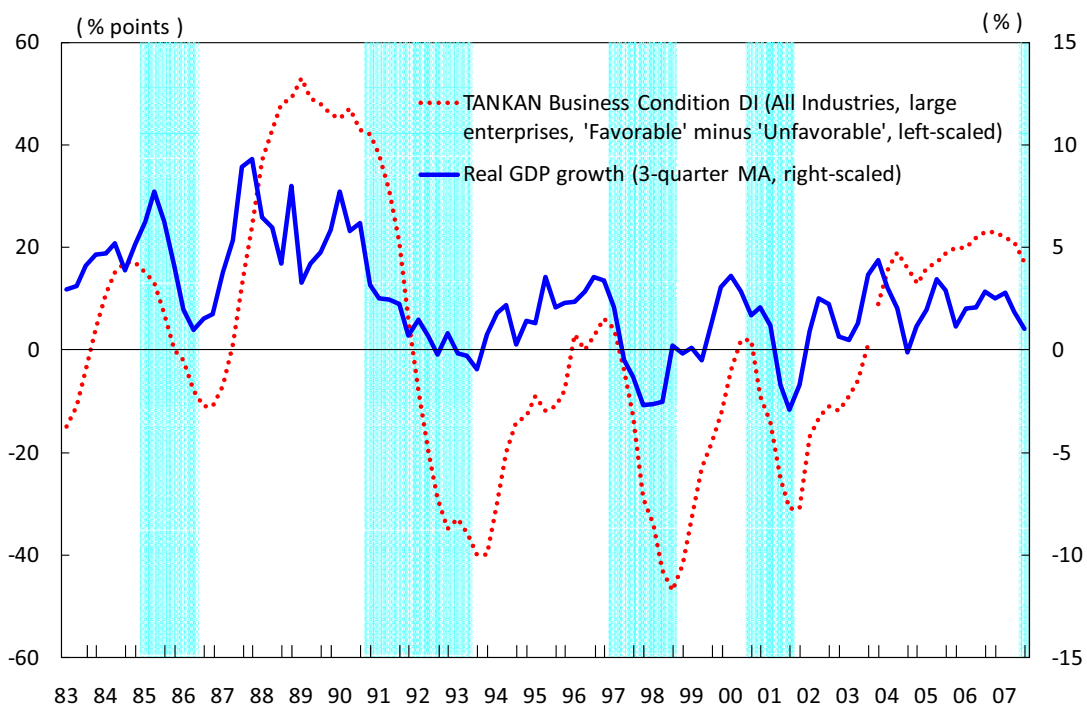


Source: Cabinet Office, *Annual Report on National Accounts*.

Chart 5

Business Cycles in Japan

Some business cycles before entering the full-fledged recovery.

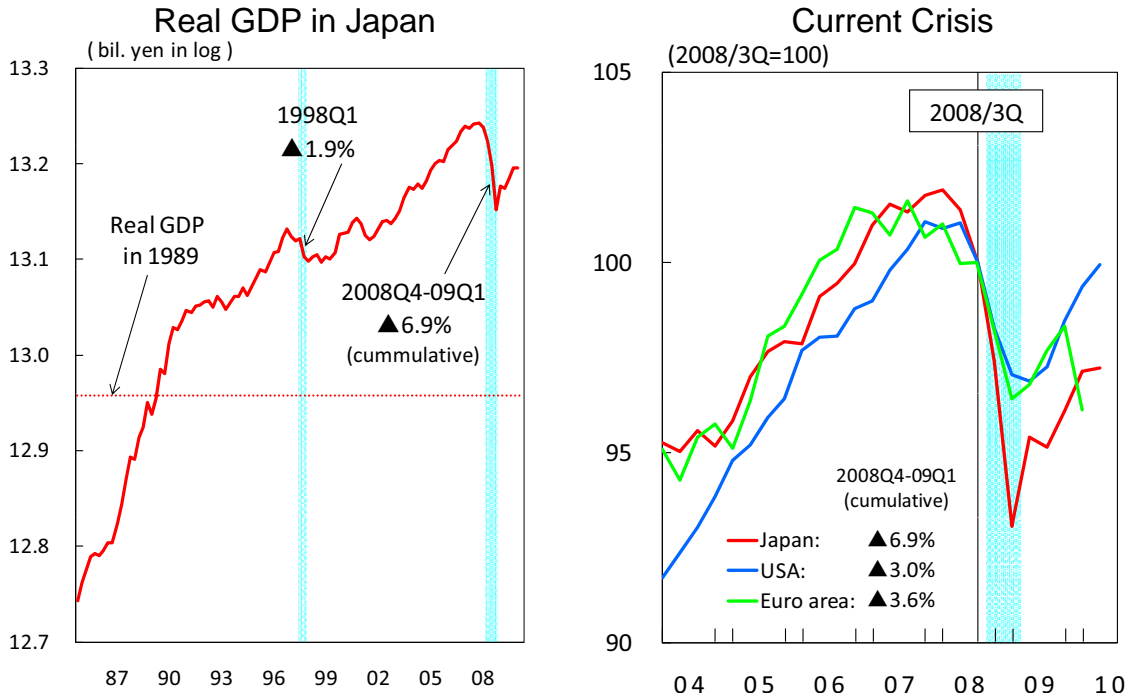


Note: Shaded areas indicate business cycle contraction periods.

Sources: Cabinet Office, *Annual Report on National Accounts*; Bank of Japan, *TANKAN (Short-Term Economic Survey of Enterprises in Japan)*.

Japan's Output Declines after Crises

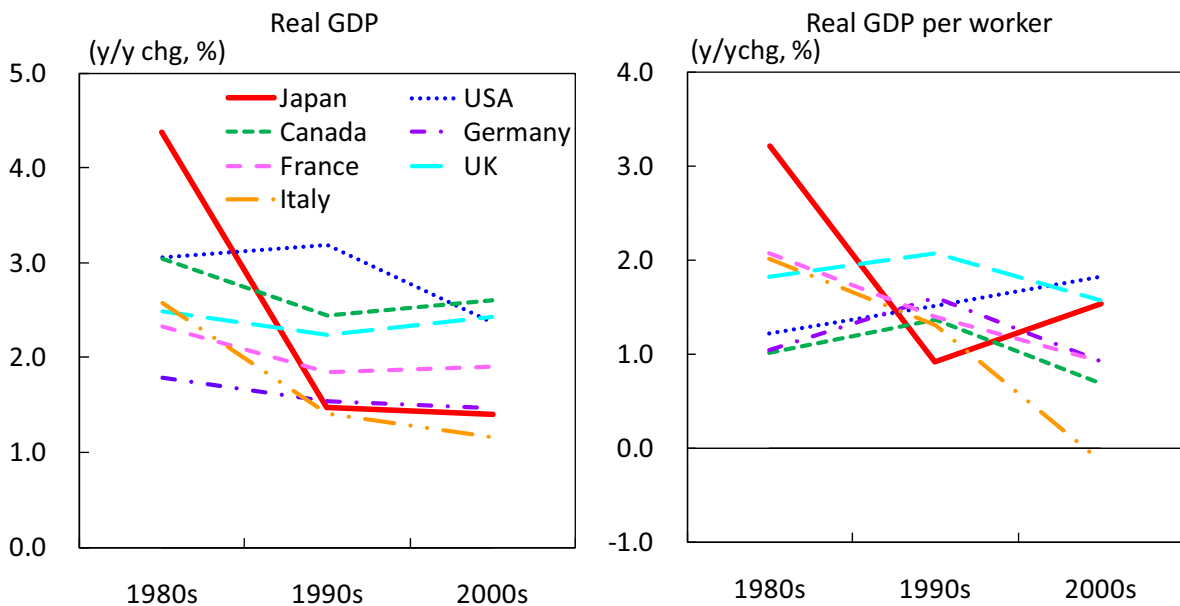
Output decline after the financial crisis in Japan (1997-98) is smaller than that after the current global financial crisis.



Sources: Cabinet Office, *Annual Report on National Accounts*; US Bureau of Economic Analysis, *National Economic Accounts*; Eurostat, *National Accounts*.

Economic Growth in G-7 Countries

In real GDP growth, Japan slipped down to a lower-class in G-7 in the 1990s. Nevertheless, in real GDP growth per worker, Japan shows comparable performance to the US, even decelerated rapidly in the 1990s.

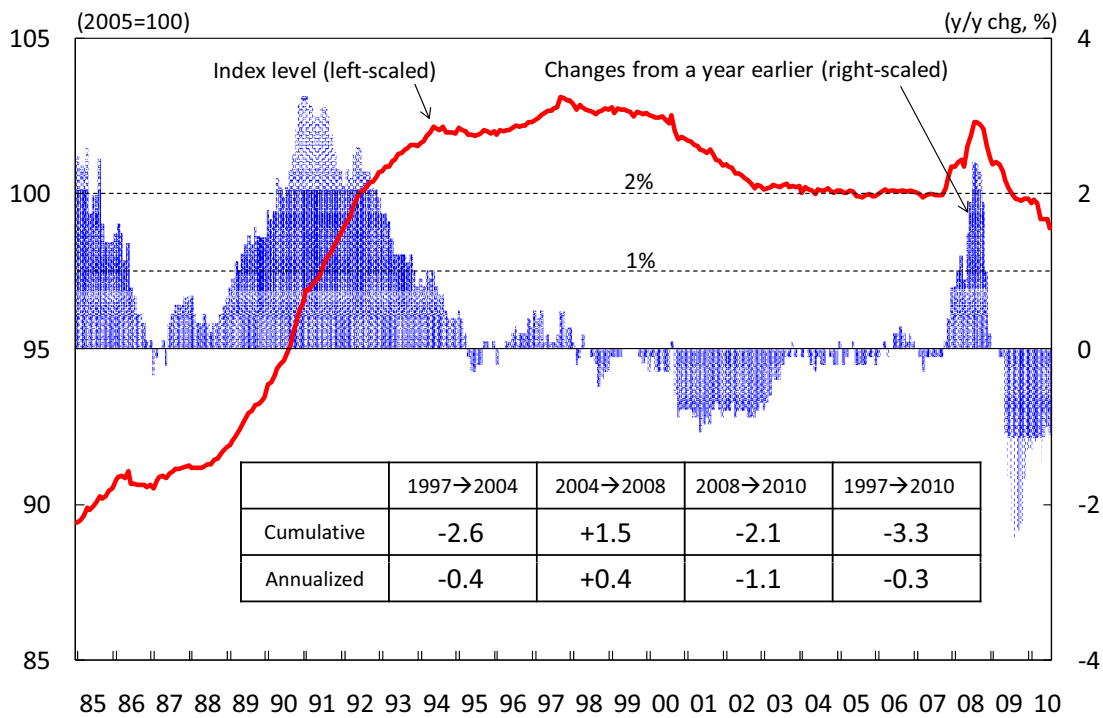


Notes: 1. The figures for Germany for the 1980s are West Germany. The figures for Germany for the 1990s are the average from 1992 to 1999.
2. The figures for the period since 2000 are from 2000 through 2008.

Sources: Organisation for Economic Co-operation and Development, *OECD.Stat* and other governmental sources.

Consumer Prices

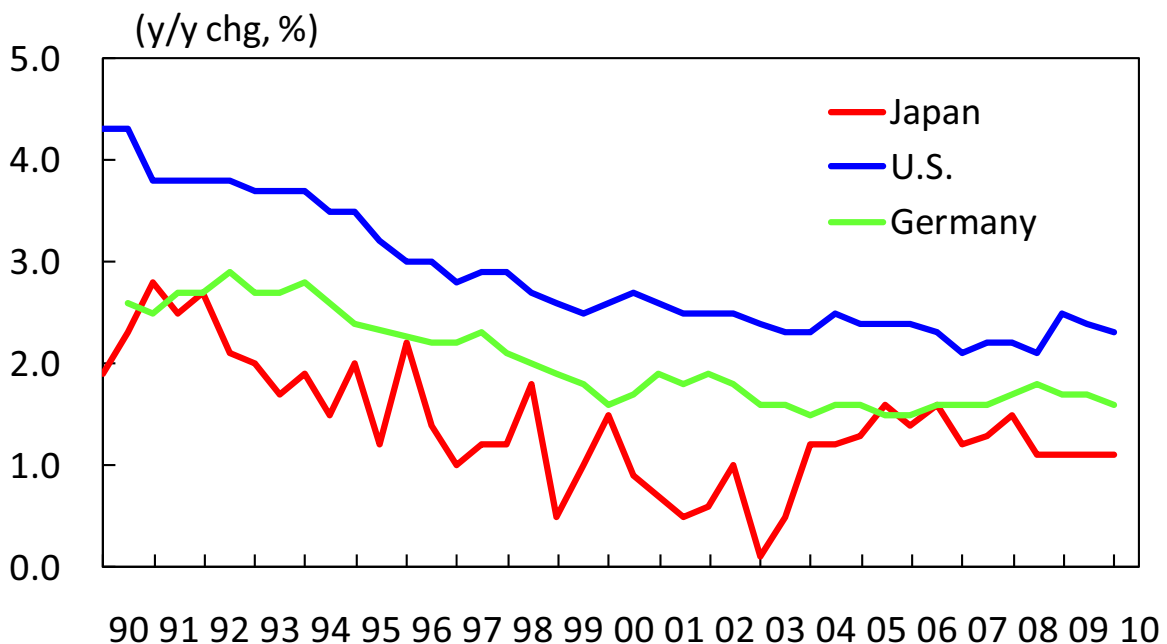
Japan experienced mild deflation from 1998.



Note: Figures are adjusted for the impact of consumption tax, which introduced at 3 percent in 1989, and raised to 5 percent in 1997.
 Source: Ministry of Internal Affairs and Communications, *Consumer Price Index*.

Long-term Inflation Expectations

Long-term inflation expectations by market economists declined significantly in the late 1990s to the early 2000s in Japan, but anchored around 1% thereafter.



Notes: Long-term forecasts are figures for six to ten years ahead.
 Source: www.consensuseconomics.com <<http://www.consensuseconomics.com/>>.

Japan's Deflation in Historical Context

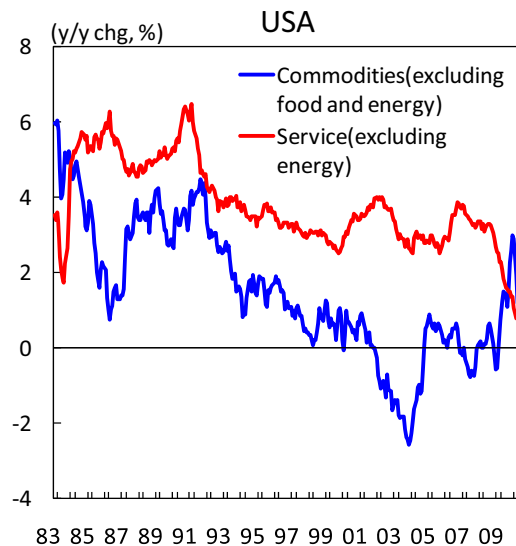
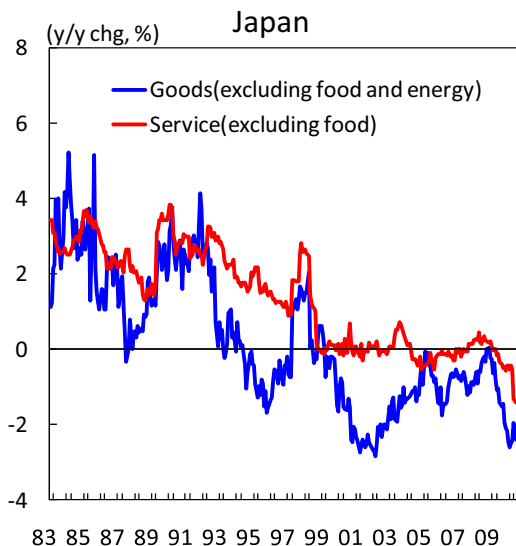
Current deflation in Japan is less severe than that in the Great Depression.

Period	Country	Cumulative (%)	Annualized (%)
1929-1933	USA	-24.4	-6.7
	UK	-15.0	-4.0
	Germany	-23.0	-6.3
	France	-15.0	-4.0
	Japan	-17.2	-4.6
1997-2010	Japan	-3.3	-0.3

CPI for Goods and Services

CPI inflation differential between Japan and USA is explained mostly by decline in service prices in Japan.

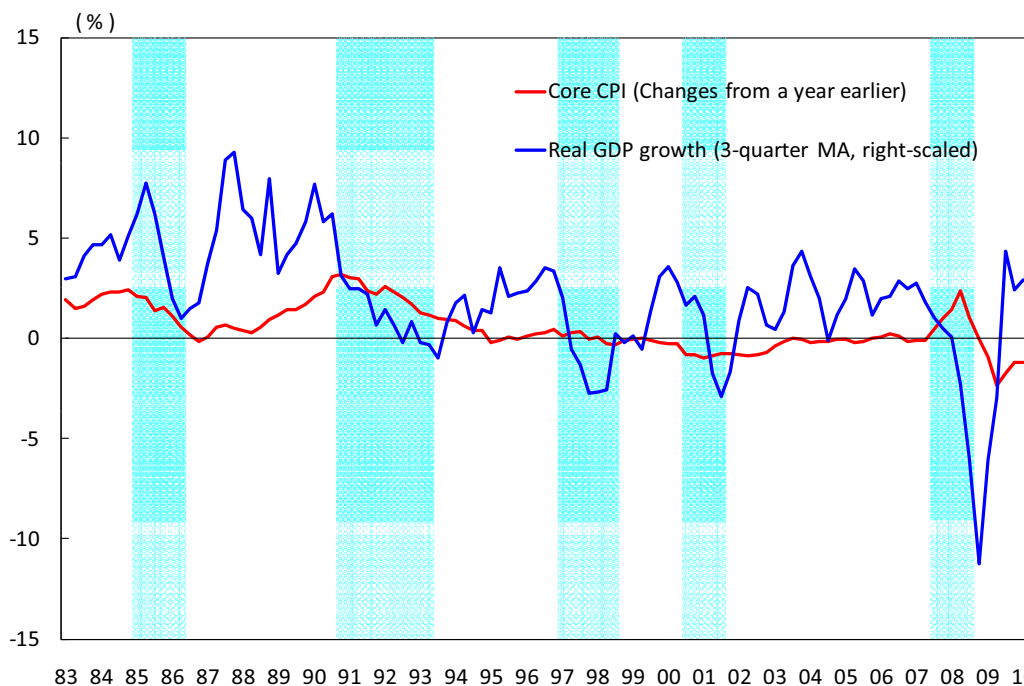
Cumulative changes from 1998 to 2007			
	Japan(a)	USA(b)	(a)-(b)
CPI	-4.2	+21.5	-25.7
Goods	-4.1	-0.7	-3.4
Services	-0.1	+22.2	-22.3



Sources: Ministry of Internal Affairs and Communications, *Consumer Price Index*; Bureau of Labor Statistics, *Consumer Price Index*.

Economic Growth and Consumer Prices

In spite of mild deflation, Japan registered a mild recovery with the longest duration from 2002 to 2007.



Note: Figures for CPI are adjusted for the impact of consumption tax, which introduced at 3 percent in 1989, and raised to 5 percent in 1997. : Shaded areas indicate business cycle contraction periods.

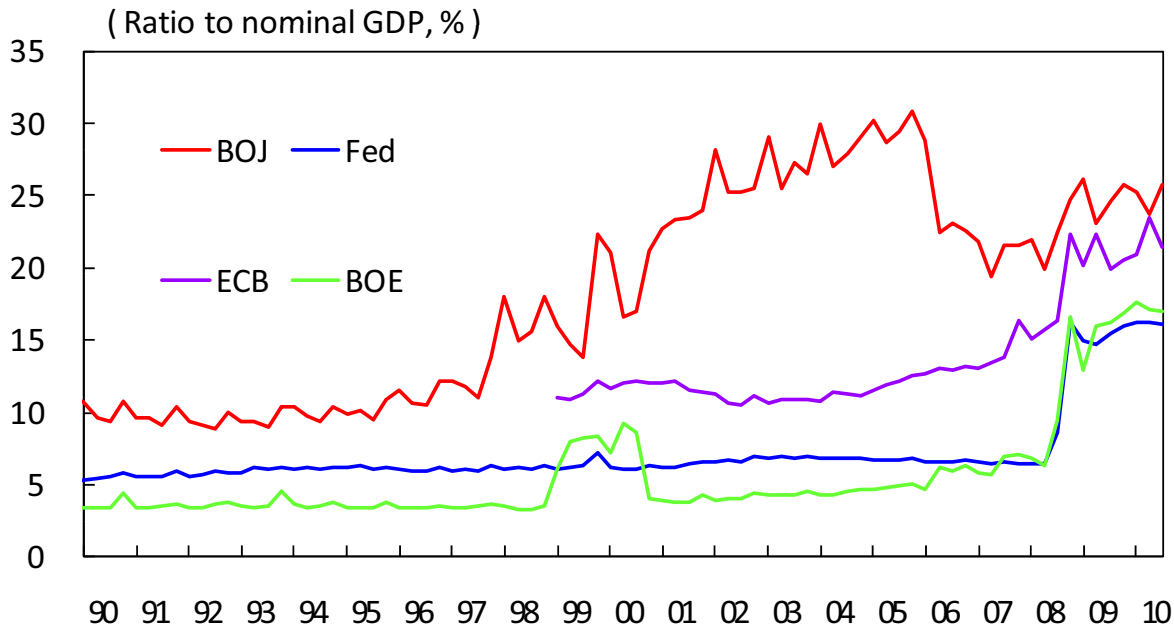
Sources: Cabinet Office, *Annual Report on National Accounts*; Ministry of Internal Affairs and Communications, *Consumer Price Index*. 12

Policy Measures Taken by the BOJ

- **Monetary Policy Framework:**
 - Zero interest rate policy (Feb 1999-Aug 2000)
 - Guiding O/N call rates down to virtually zero
 - Commit to zero rate until deflationary concerns are dispelled
 - Quantitative easing policy (Mar 2001-Mar 2006)
 - Shifting operational target from O/N call rate to reserves
 - Commit to reserve targeting until CPI inflation becomes stably zero or above
- **Financial Assets Purchased:**
 - Outright purchase of JGBs (Cumulative amount during the QEP, 13% of GDP; Outstanding amount at Mar 10, 2006, 13% of GDP)
 - Credit Easing
 - Outright purchase of ABCPs and ABSs
 - Equity purchase from financial institutions
 - CP repos

Central Bank Balance Sheet Size

Relative size of central bank balance sheet to nominal GDP expanded most significantly in Japan from 1995 to 2006.



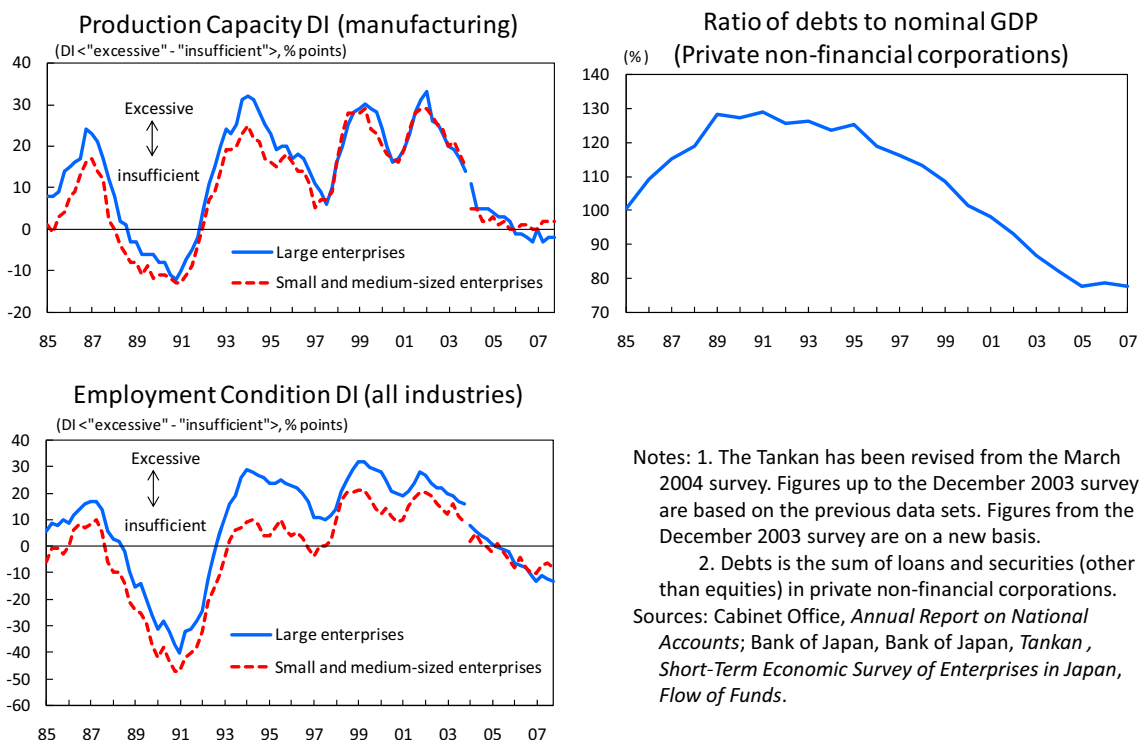
Notes: 1. The latest figures are the ratio of balance sheet size at the end of August, 2010 to nominal GDP for the second quarter of 2010.

2. The BOE's balance sheet increased temporarily from 1999 to 2000 reflecting a technical factor associated with the BOE's participation to the TARGET system, the settlement and clearing system for euro.

Sources: Bank of Japan, Board of Governors of the Federal Reserve System, European Central Bank, Bank of England.

“Three Excesses”

Resolution of “three excesses” came before the full-fledged recovery.

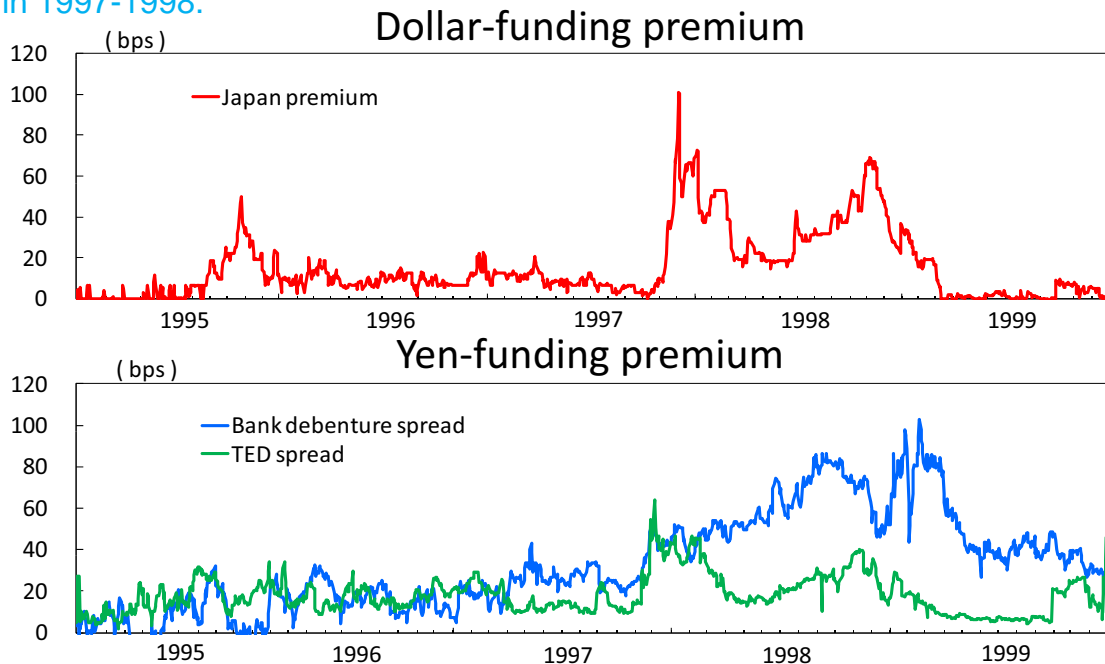


Notes: 1. The Tankan has been revised from the March 2004 survey. Figures up to the December 2003 survey are based on the previous data sets. Figures from the December 2003 survey are on a new basis.

2. Debts is the sum of loans and securities (other than equities) in private non-financial corporations.
Sources: Cabinet Office, *Annual Report on National Accounts*; Bank of Japan, *Tankan*, *Short-Term Economic Survey of Enterprises in Japan*, *Flow of Funds*.

Spreads in Interbank Markets

Japanese interbank money markets became destabilized and malfunctioned in 1997-1998.

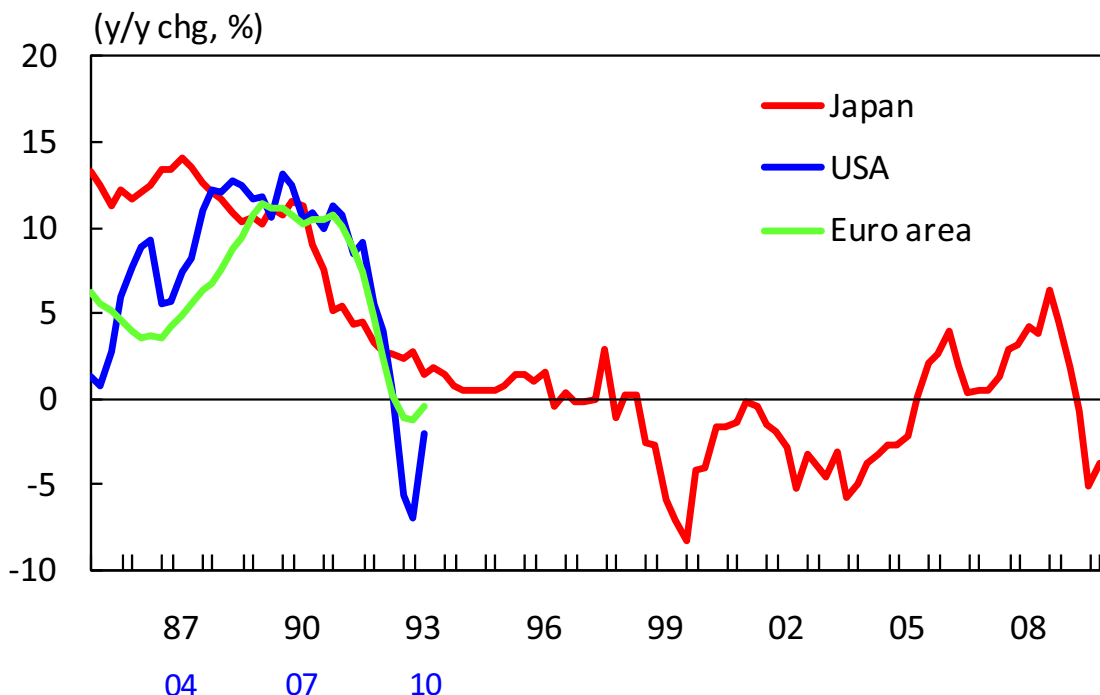


Notes: The "Japan premium" and bank debenture spreads are calculated as the differences between LIBORs quoted by the Bank of Tokyo-Mitsubishi (currently the Bank of Tokyo-Mitsubishi UFJ) and the average of those quoted by Non-Japanese Banks, and those between 5-year bank debenture rates issued by the Industrial Bank of Japan (currently Mizuho Corporate Bank) and the corresponding JGB rates, respectively.

Source: Bloomberg.

Bank Loans

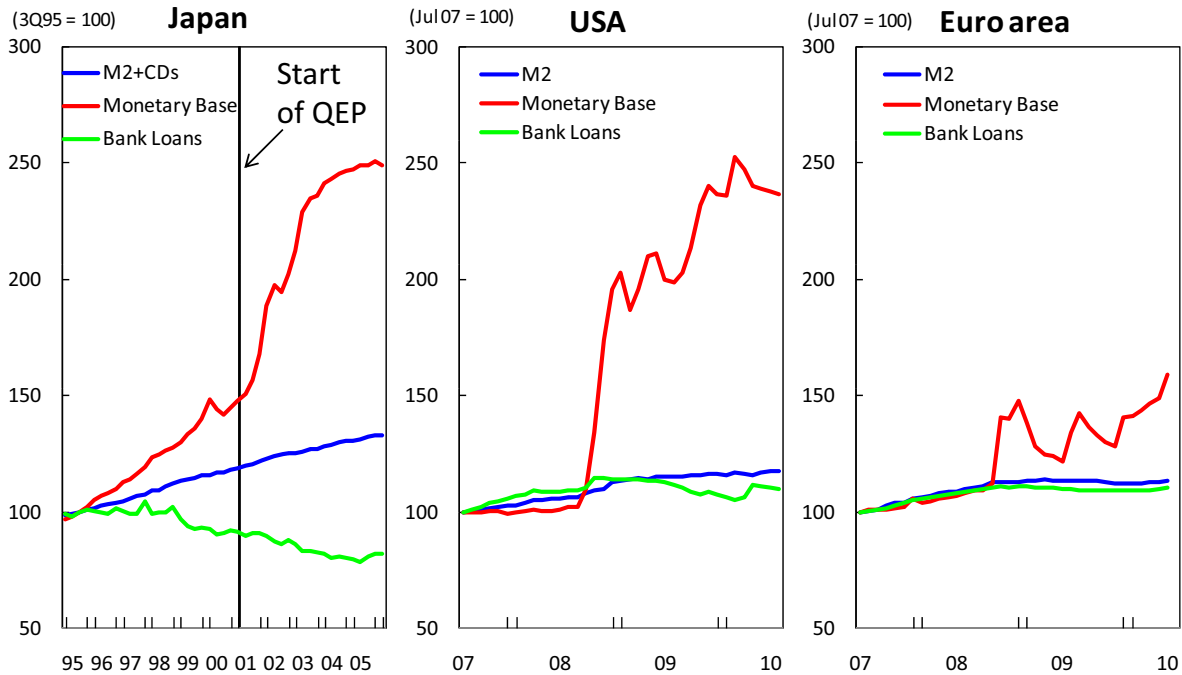
Bank loans declined significantly after the bubble burst, and remained stagnant thereafter for a long period of time.



Sources: Bank of Japan, Board of Governors of the Federal Reserve System, European Central Bank

Monetary Base & Broad Money

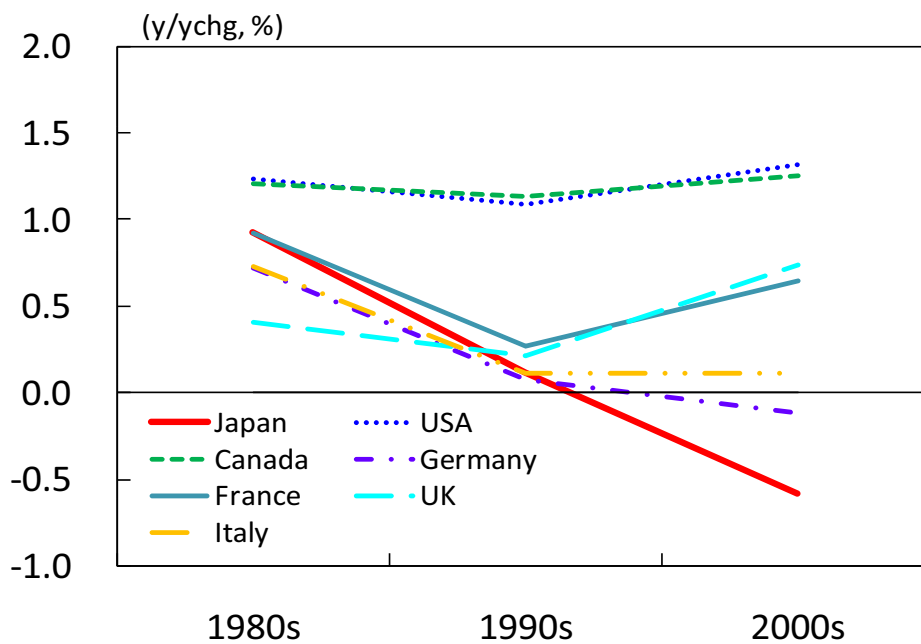
An increase in the monetary base did not induce an increase in broad money and bank loans.



Sources: Bank of Japan, Board of Governors of the Federal Reserve System, European Central Bank

Labor Force Growth

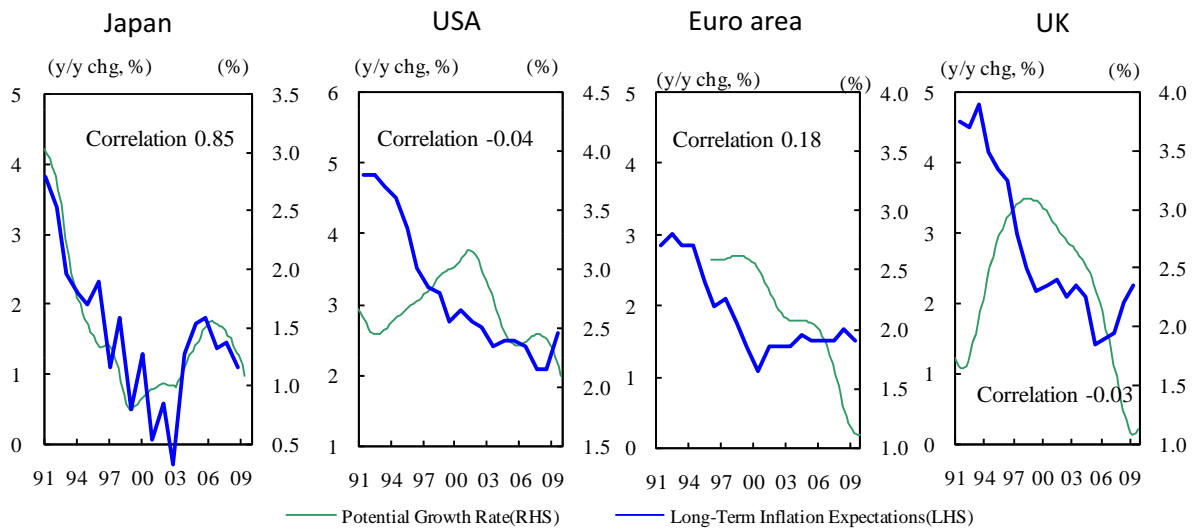
Japan's declining trend in labor force growth is significant among G-7 countries.



Source: Organisation for Economic Co-operation and Development, *OECD.Stat*.

Potential Growth & Long-Term Inflation Expectations

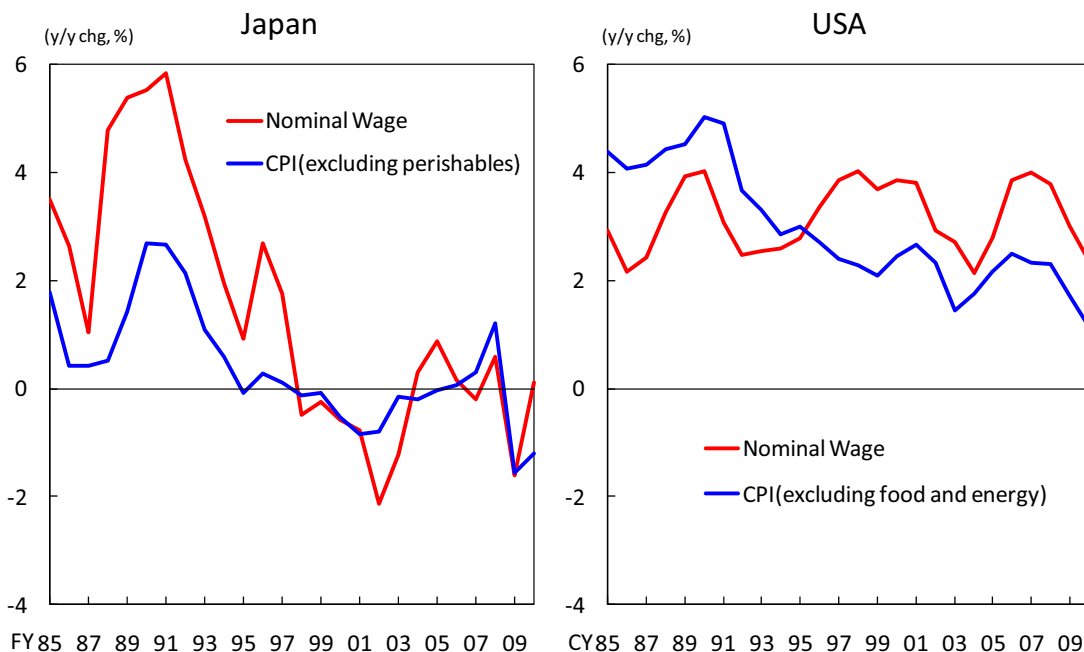
A significantly positive correlation between the potential growth rate and long-term inflation expectations is observed only in Japan



Notes: 1. Long-term inflation expectations for each year are 5-10 years ahead projections, averaged on April and October survey results of private research institutions. Potential output growth rates are 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 are used for inflation expectations up to 2002 in the euro area.
 3. Correlation coefficients are calculated for the 1991-2009 sample period.
 Sources: Kimura *et al.* (2010).

Consumer Prices and Nominal Wages

Downward rigidity in nominal wages disappeared in the late 1990s in Japan.

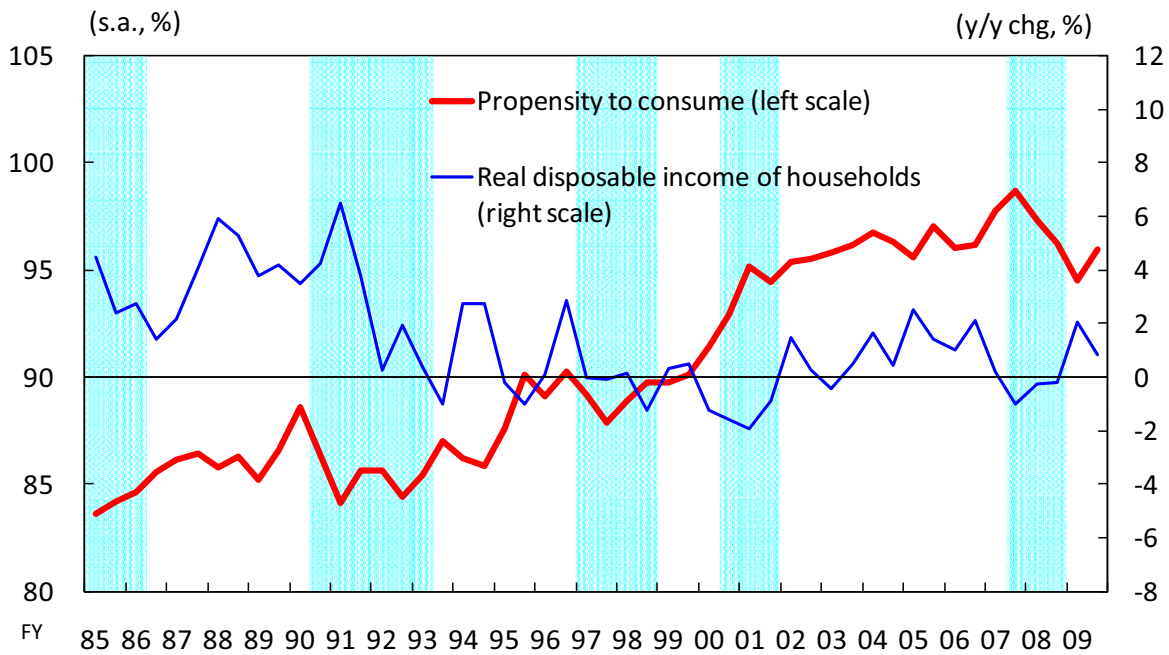


Notes: Figures of nominal wages are on a per hour basis. Figures for CPI in Japan are adjusted for the impact of consumption tax, introduced at 3 percent in 1989, and raised to 5 percent in 1997.

Sources: Ministry of Internal Affairs and Communications, *Consumer Price Index*; Ministry of Health, Labour and Welfare, *Monthly Labour Survey*; US Bureau of Labor Statistics, *Consumer Price Index*, and *Average Hourly Earnings*.

Propensity to Consume

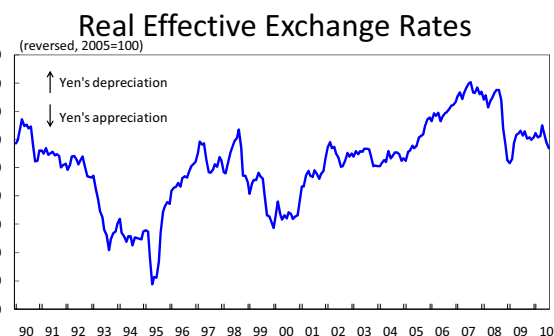
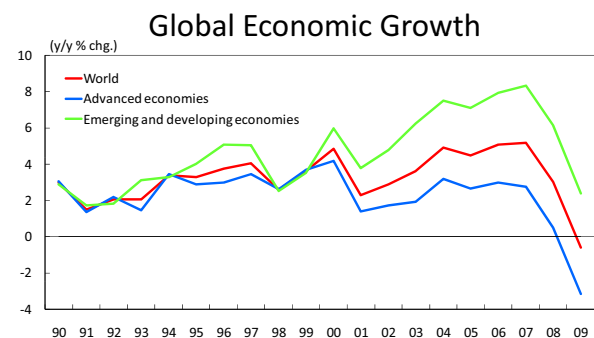
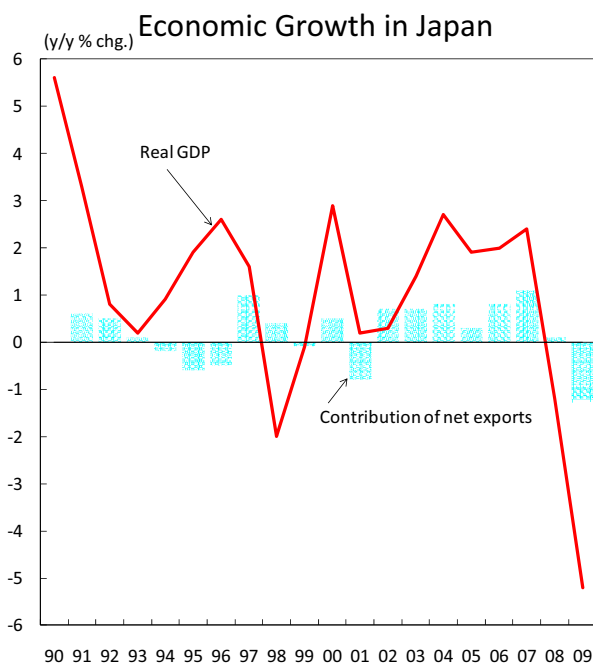
The propensity to consume actually increased under mild deflation.



Notes: Shaded areas indicate business cycle contraction periods.
Source: BOJ, *Outlook for Economic Activity and Prices*, April 2010 (Figure 44).

Global Economy and Japan

Japan's recovery was attributed to the increase in external demand, supported by high global economic growth and the yen's depreciation.



Note: The effective exchange rates are based on the broad indices of the BIS effective exchange rate.
Sources: International Monetary Fund, World Economic Outlook Database; Cabinet Office, Annual Report on National Accounts; Bank of Japan, *Financial and Economic Statistics Monthly*.