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Housing Bubble and Macro-prudential supervision
- A case study from Japan in 1980's and 90's -

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Sound housing finance around the world

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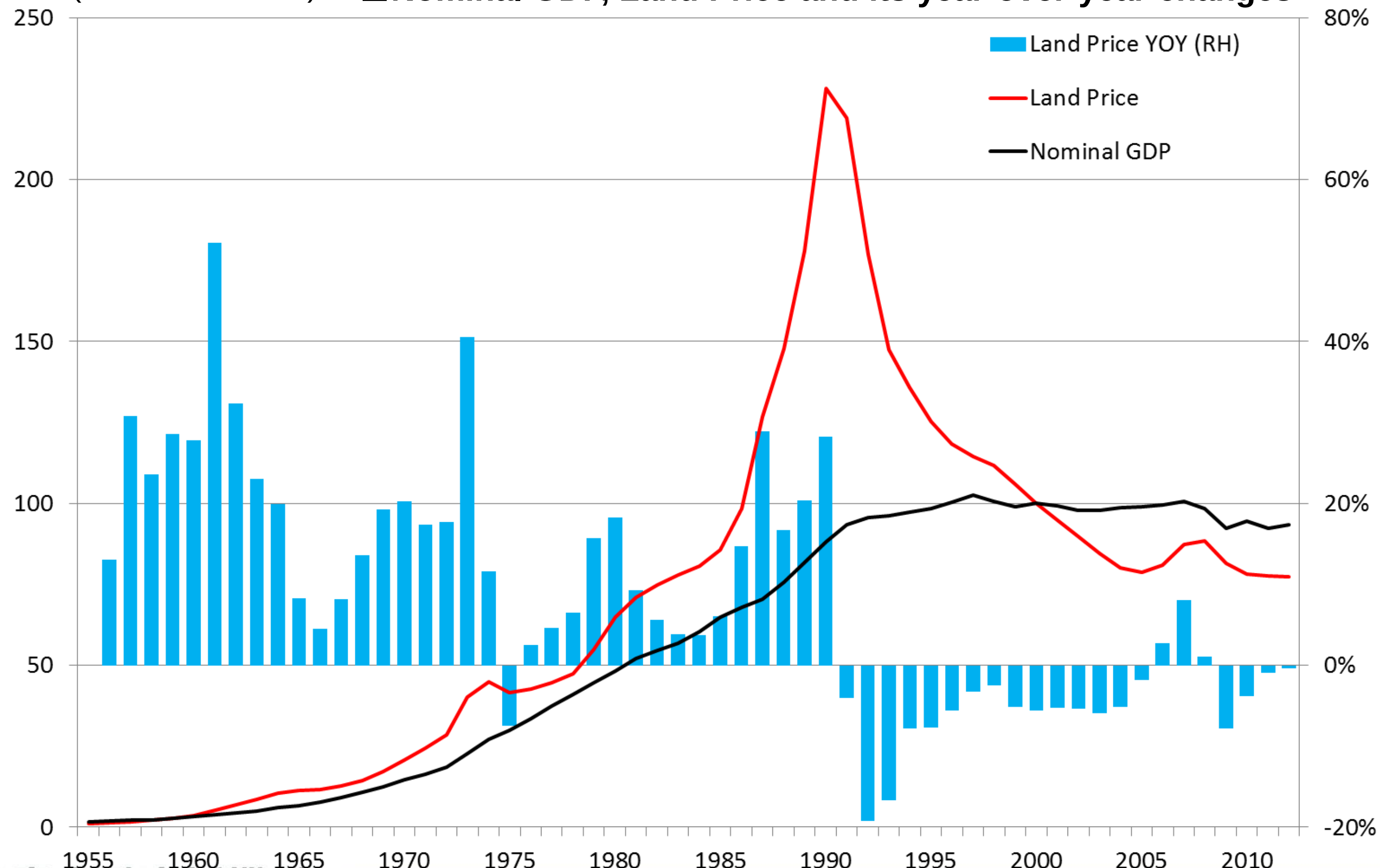
Japanese bubble in the late 1980's and early 1990's

There was a property bubble in Japan in the late 1980's to the early 1990's. Before the collapse of the bubble, people believed that land prices in Japan would not decline (scarce resource). After the collapse of the bubble, people lost confidence in this asset class and the Japanese economy experienced "lost decades".

(Year 2000 = 100) ■**Nominal GDP, Land Price and its year-over-year changes**



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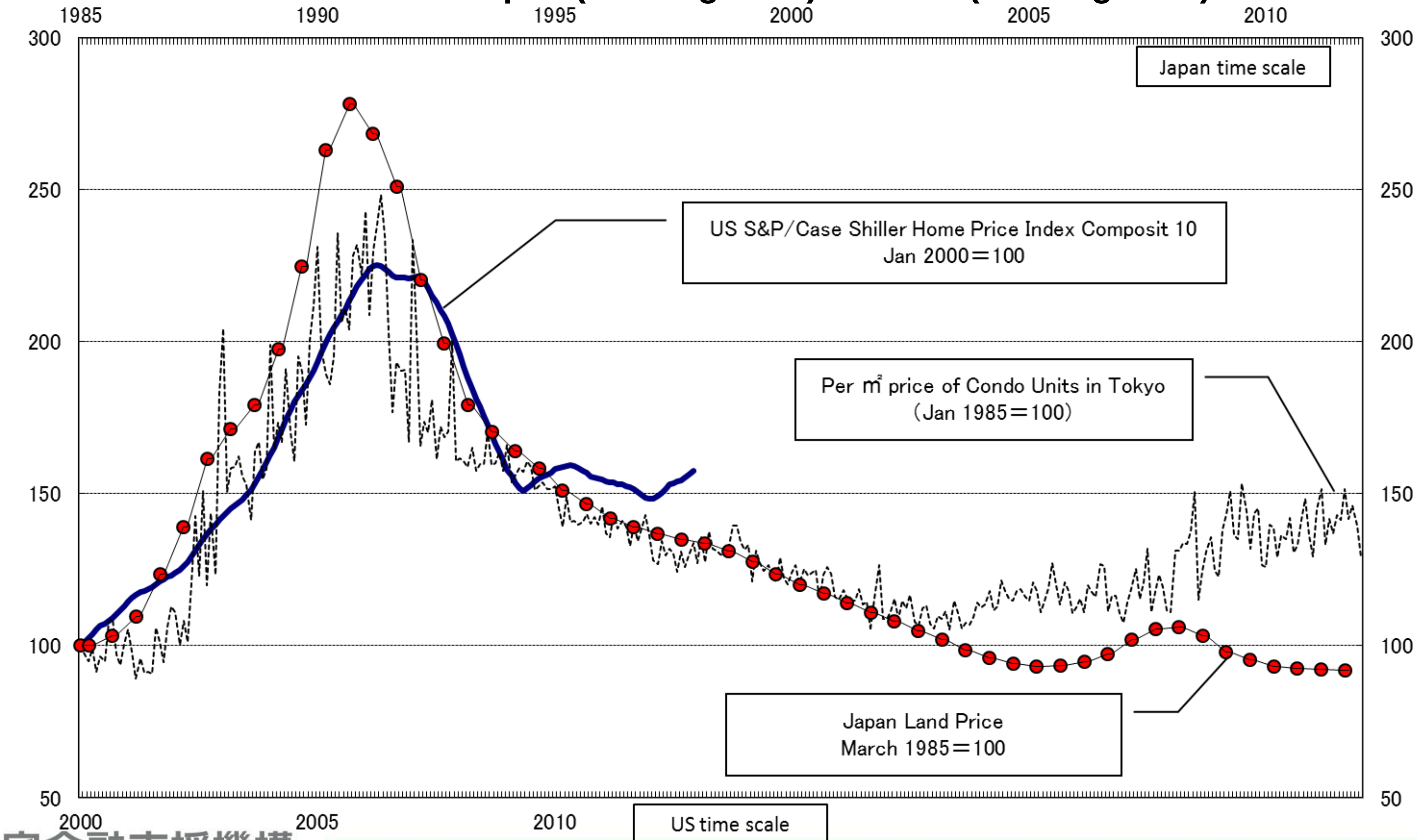
(Source) Cabinet Office, Japan Real Estate Institute

Bubbles in Japan and the US

Some of the indicators, such as per square meter price of Condominium in Tokyo Metropolitan Area or land price in 6 major cities in Japan, measured from 1985 on, show a similar trend as the housing prices in the US from 2000 on. Question: Will the US face "lost decades" like Japan? Or if not, what makes the difference?

■Bubbles in Japan (Starting 1985) and US (Starting 2000)

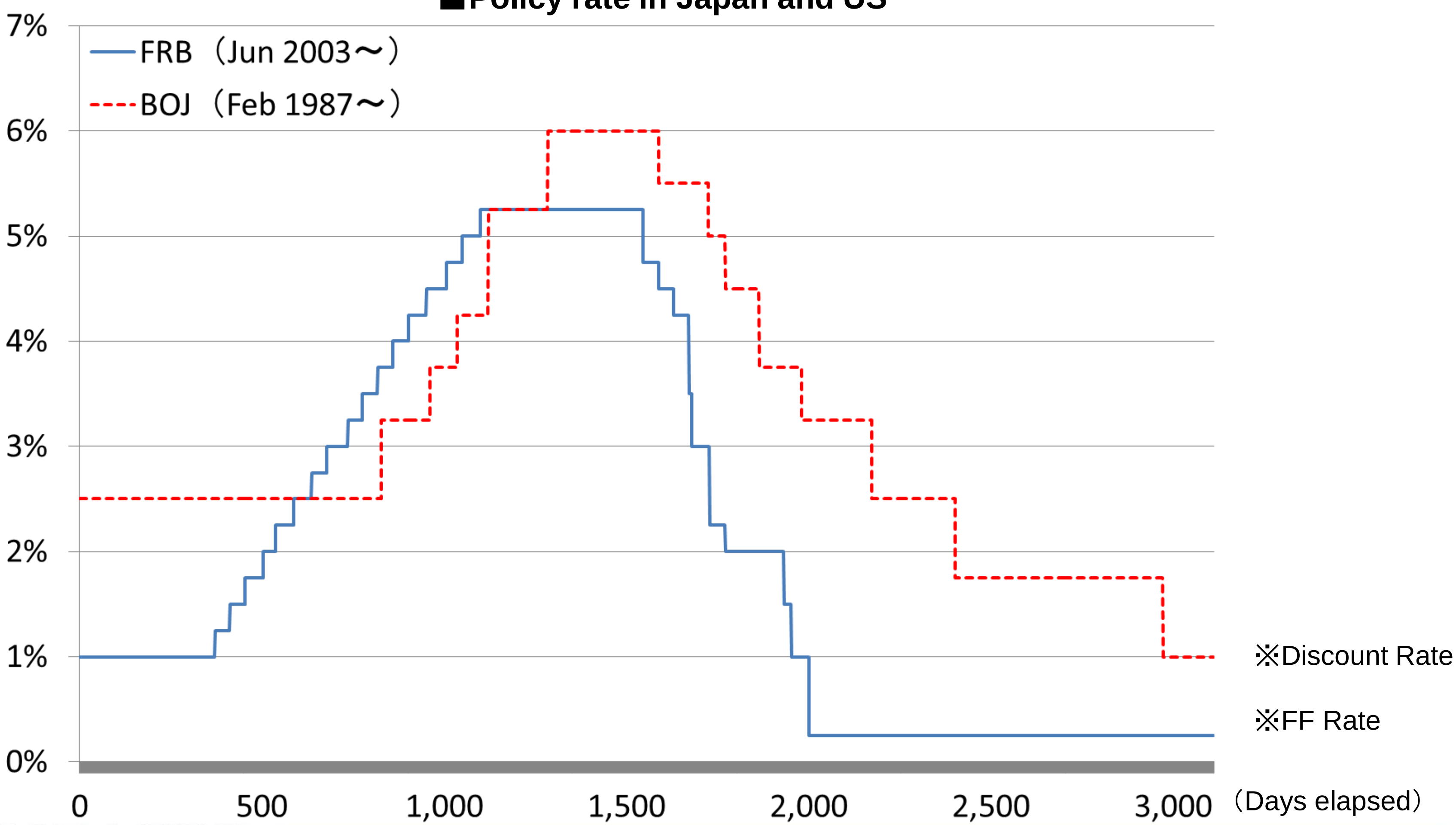


(Source) Standard and Poor's, Real Estate Economic Institute, Co. Ltd, Japan Real Estate Institute

Japanese and US monetary policy before and after the housing bubble

Before the bubble formation stage, BOJ kept the then-lowest policy rate twice as long as the Fed in the early 2000's. In contrast to that, monetary easing by BOJ was not as rapid as by the Fed after the collapse of asset bubbles.

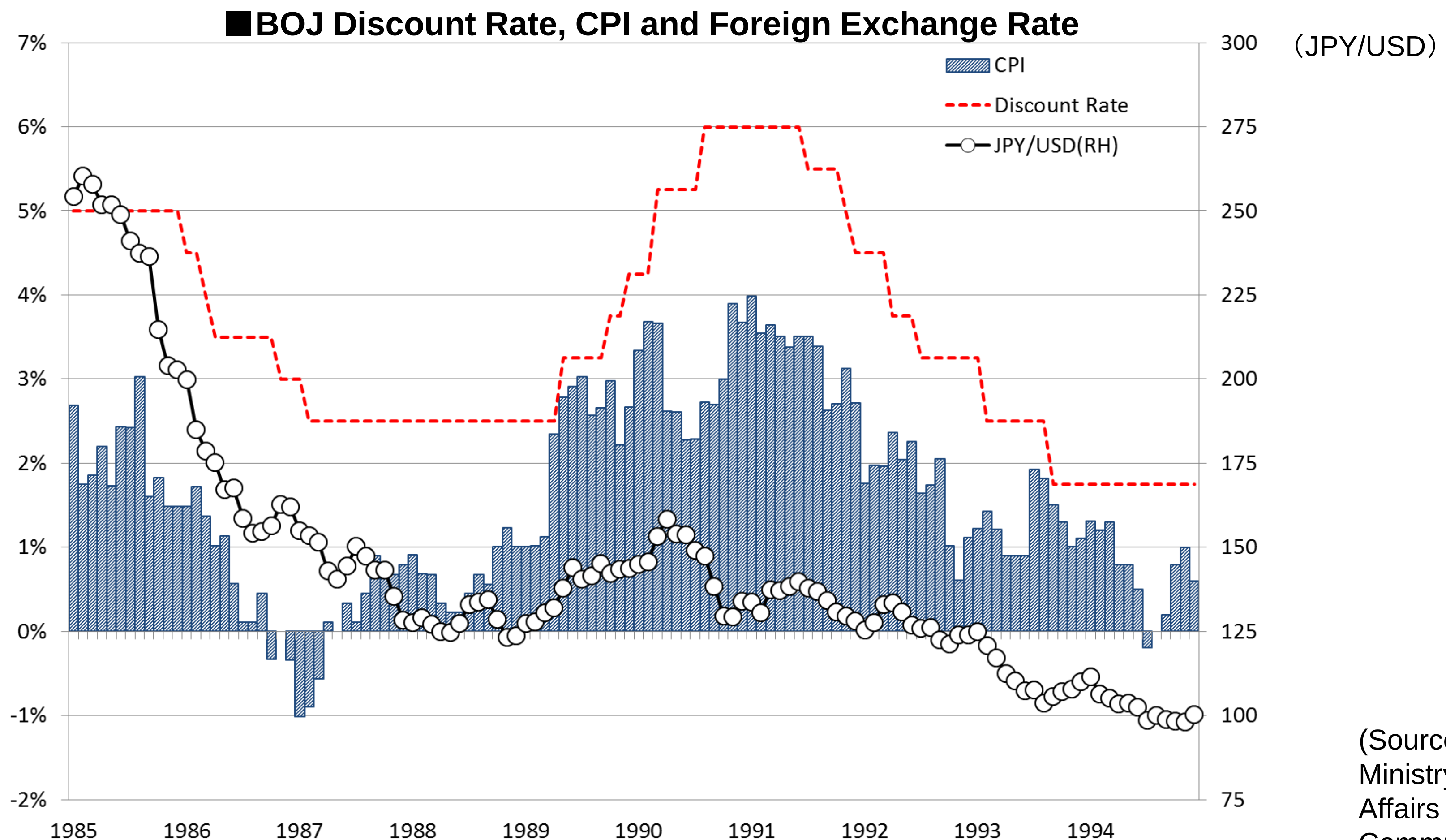
■Policy rate in Japan and US



(Source) Federal Reserve, Bank of Japan

BOJ Discount Rate, CPI and Foreign Exchange Rate

BOJ maintained discount rate at 2.50% from Feb 1987 to May 1989 because 1) there was a need to take accommodative monetary policy after the rapid appreciation of Yen initiated by Plaza Accord in 1985 and 2) Consumer Price Index (CPI) remained stable during that period and there was no fear of inflation.

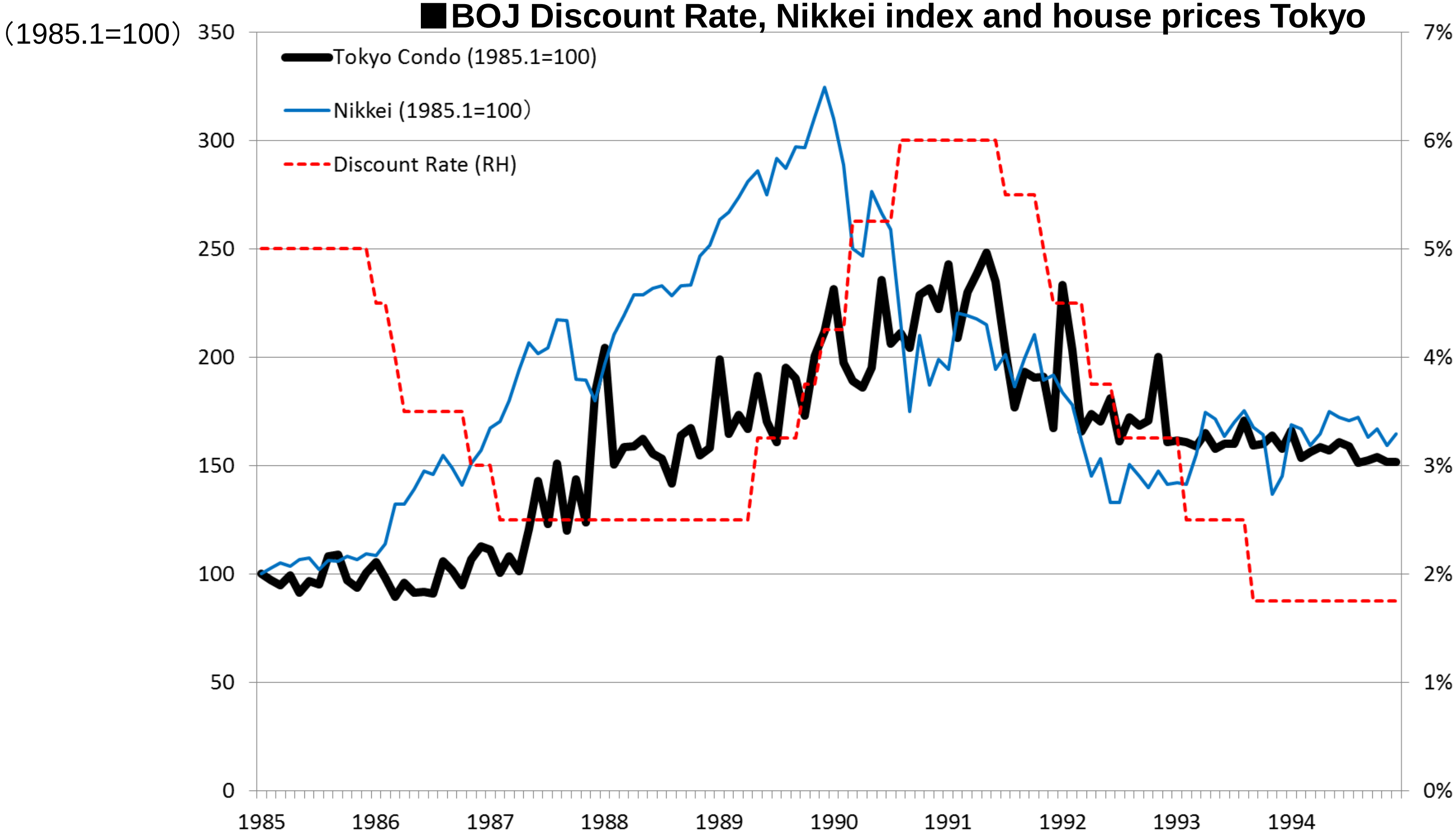


(Source) FRB, BOJ, Ministry of Internal Affairs and Communications

BOJ Discount Rate, Stock Bubble and Housing Bubble

While BOJ maintained Discount Rate at 2.50% until May 1989, stock market prices increased. The stock market recorded its peak in Dec 1989, but housing price continued to rise through 1991. Despite the stock market crash, BOJ maintained Discount Rate at 6.00% until Jul 1991 to curb housing bubble.

■BOJ Discount Rate, Nikkei index and house prices Tokyo



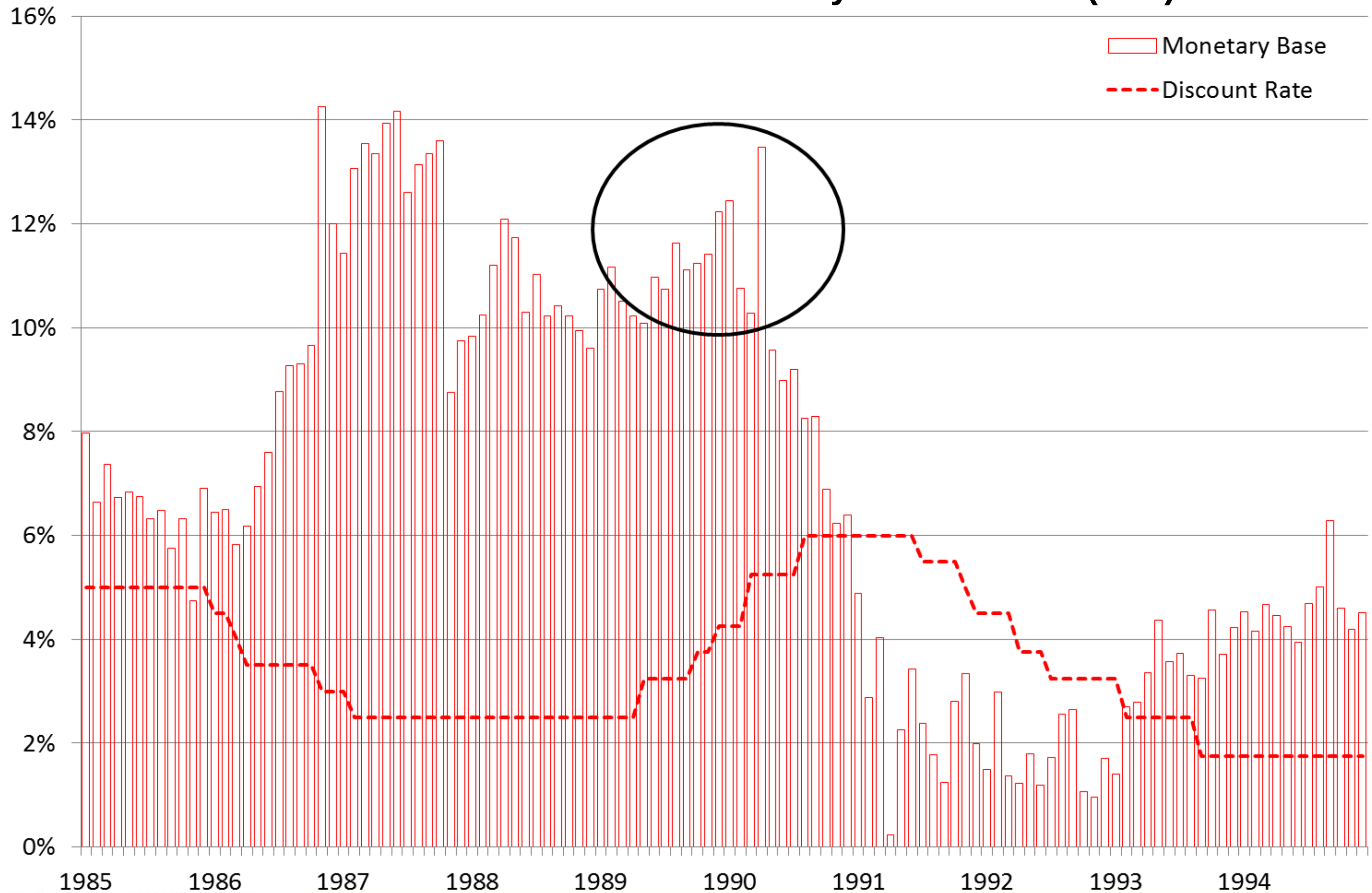
1983/10/22	5.00%
1986/1/30	4.50%
1986/3/10	4.00%
1986/4/21	3.50%
1986/11/1	3.00%
1987/2/23	2.50%
1989/5/31	3.25%
1989/10/11	3.75%
1989/12/25	4.25%
1990/3/20	5.25%
1990/8/30	6.00%
1991/7/1	5.50%

(Source) Nikkei, Real Estate Economic Institute, Co. Ltd, BOJ

BOJ Discount Rate and Monetary Base Growth

While BOJ started to raise Discount Rate in May 1989, BOJ continued to increase the monetary base. Annual growth rate of monetary base remained in double digit percentage points through mid 1990.

■BOJ Discount Rate and Monetary Base Growth (YoY)

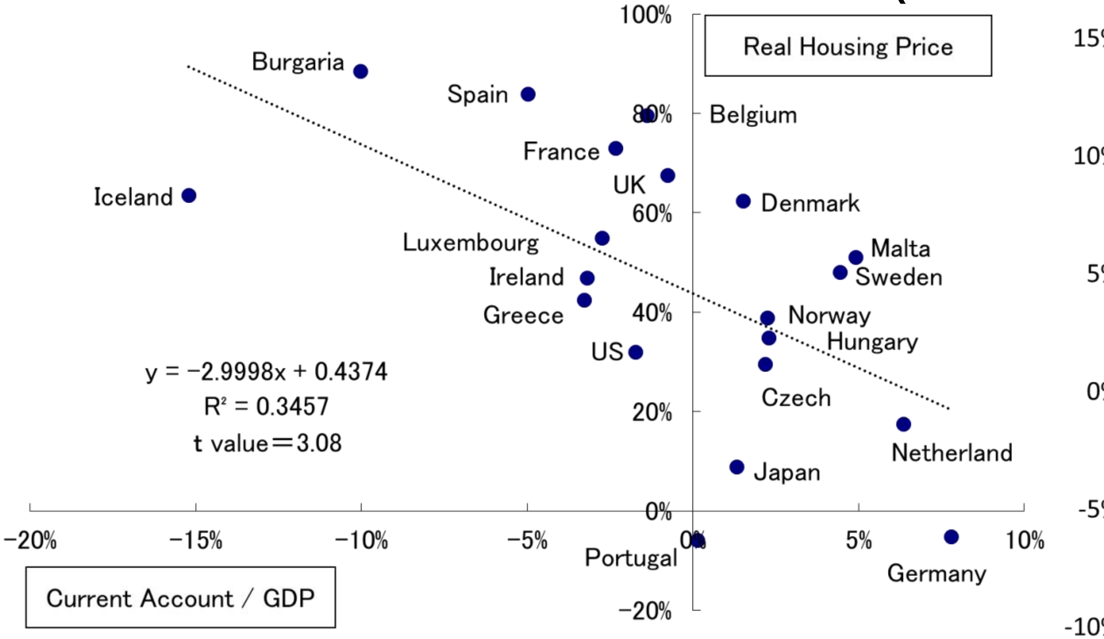


(Source) BOJ

Current Account and Housing Bubble

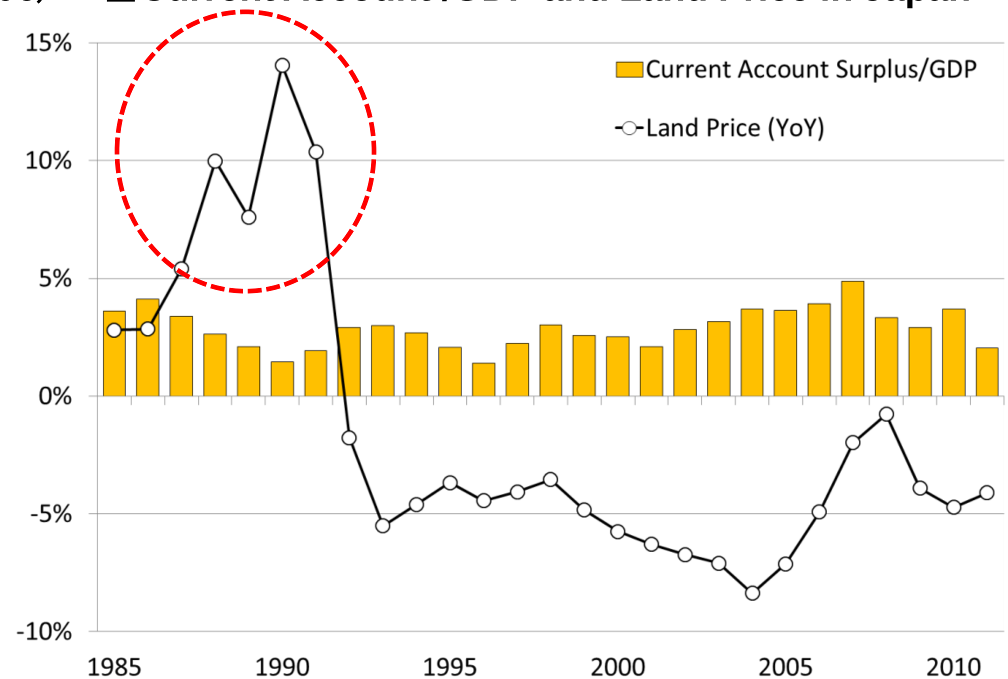
Chairman Bernanke, FRB, blamed global imbalance as one of the cause of the U.S. housing bubble. He mentioned that countries in which current accounts worsened and capital inflows rose had greater house price appreciation. In Japan of the late 1980's, however, current account was in surplus during the bubble economy. The "global savings glut" hypothesis does not work here.

■Current Account /GDP and Real Home Price (2000-2006)



(Source) European Mortgage Federation, IMF FHFA and Real Estate Economic Institute, Co, Ltd.

■Current Account /GDP and Land Price in Japan

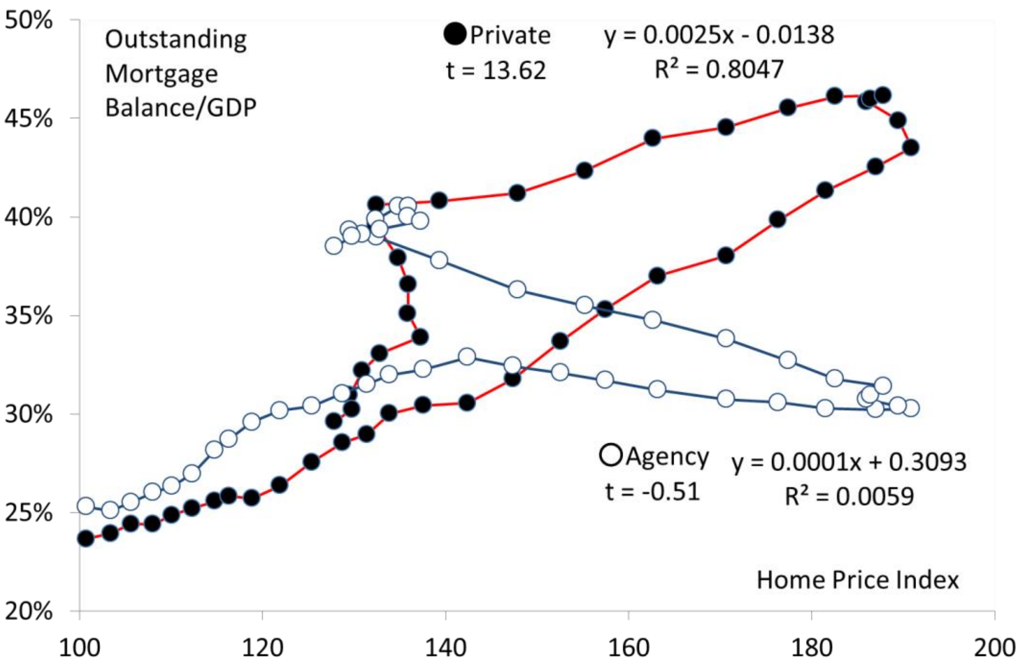


(Source) Ministry of Finance, Cabinet Office, and Japan Real Estate Institute

Housing Bubble and Involvement of Government Financial Institutions

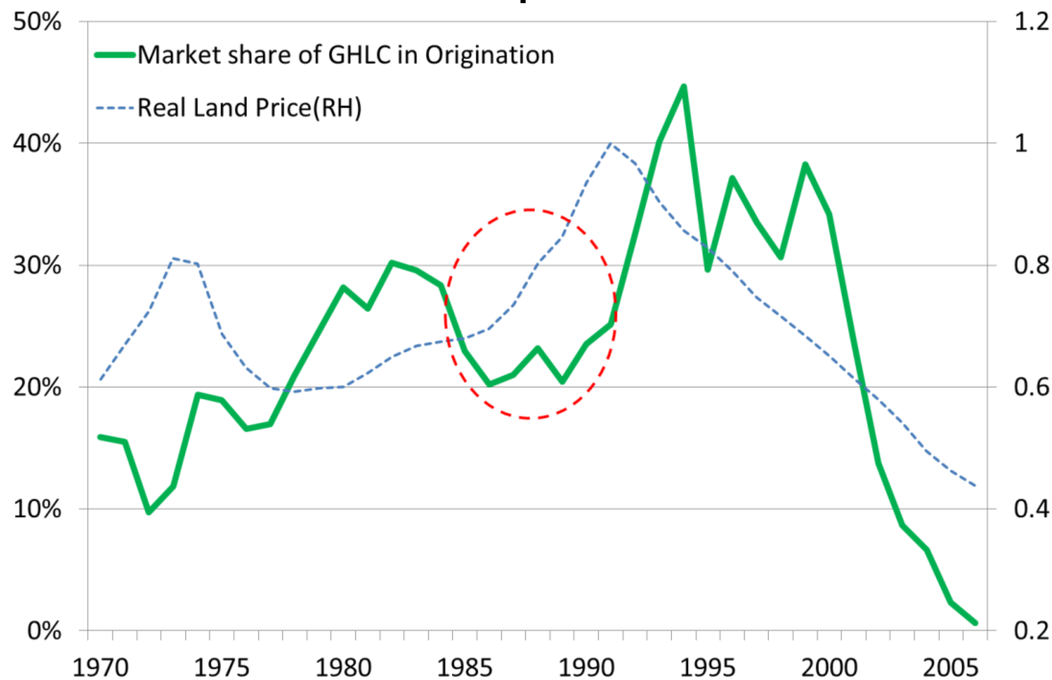
In the US, share of Agency and GSE (Fannie Mae, Freddie Mac, Ginnie Mae and FHLB combined) in the mortgage market declined during the boom period of mid 2000's. Same was the case for GHLC of Japan in late 1980's. Share of these agencies increased after the collapse of the housing bubble. They addressed housing market corrections and acted counter-cyclically, rather than procyclically.

■US



(Source) Standard and Poor's, FRB

■Japan



(Source) Japan Real Estate Institute, GHLC and JHF

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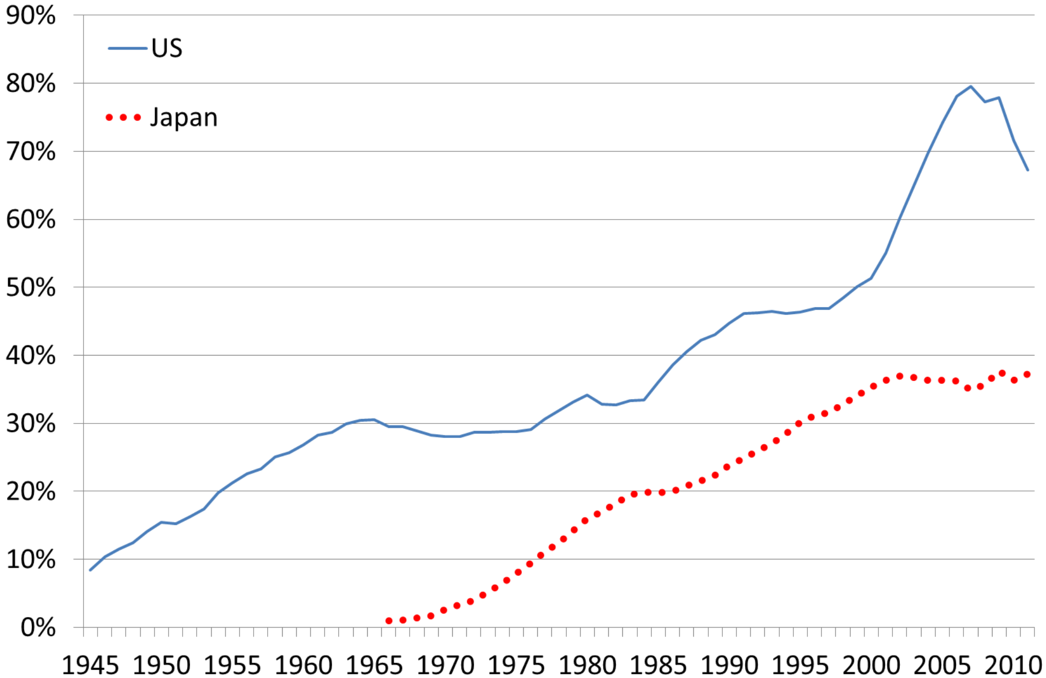
Bank Lending and Mortgage Activities

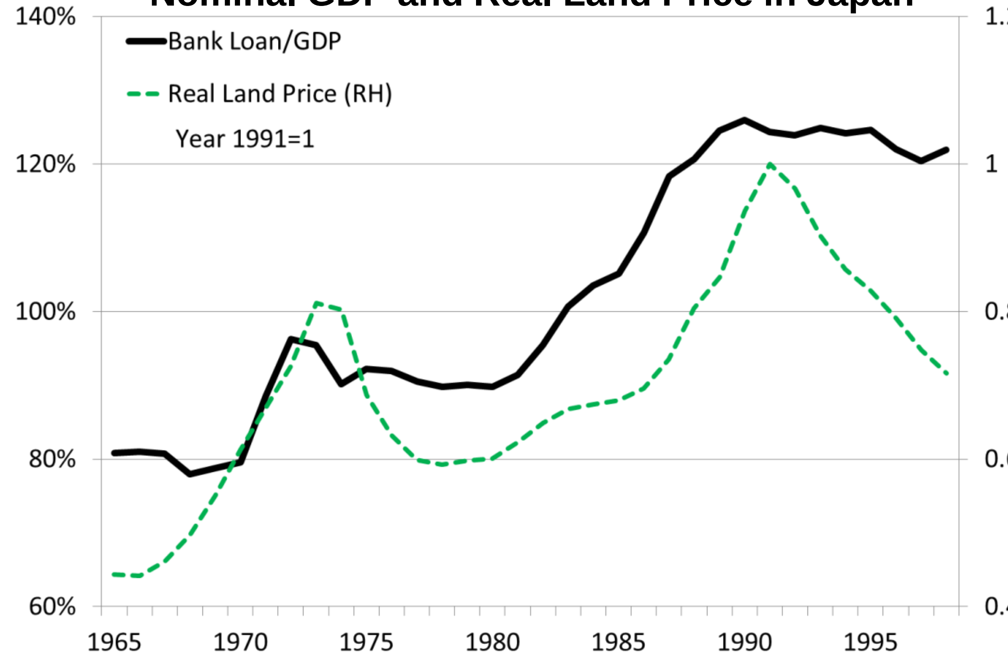
In the US, there was a rapid credit expansion during the housing bubble in early 2000's. There was no similar movement in Japan during the bubble in 1980's so far as mortgage debt is concerned. However, there is a strong correlation between bank lending and real land price. This is so because the bubble in Japan was initiated by speculation by non-financial corporations, to which banks extended commercial loans, not mortgages.

■Mortgage Debt Outstanding as percentage of Nominal GDP



(Source) FRB, US Department of Commerce, Cabinet Office and JHF

■Bank Lending Outstanding as percentage of Nominal GDP and Real Land Price in Japan



(Source) Bank of Japan, Cabinet Office

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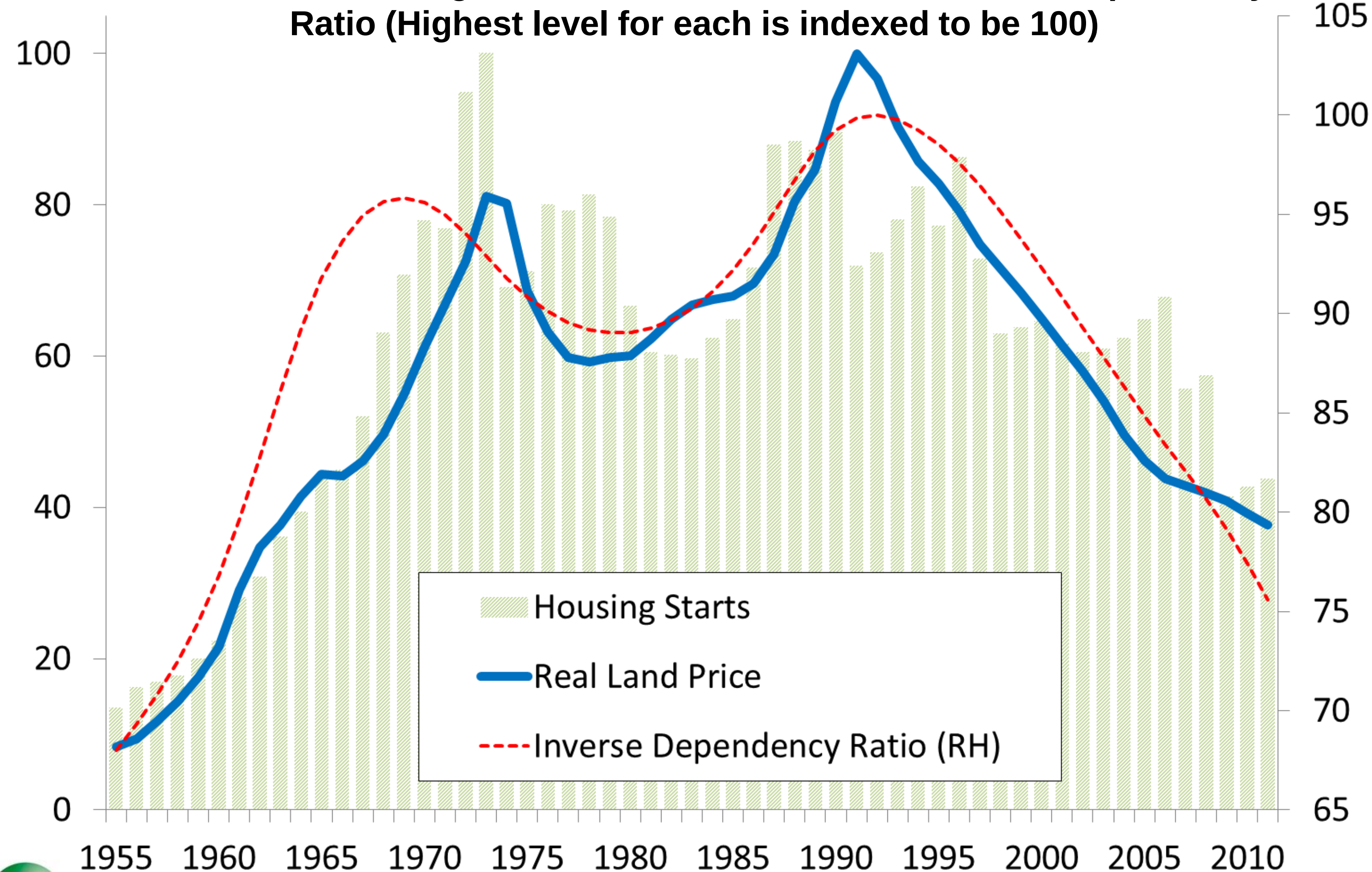
Demographics and Housing Markets

Inverse Dependency Ratio (population aged 15-64 divided by dependent age population) has strong correlation with housing index in Japan. The period of housing boom coincided with population bonus stage.

■Number of Housing Starts, Real Land Price and Inverse Dependency Ratio (Highest level for each is indexed to be 100)

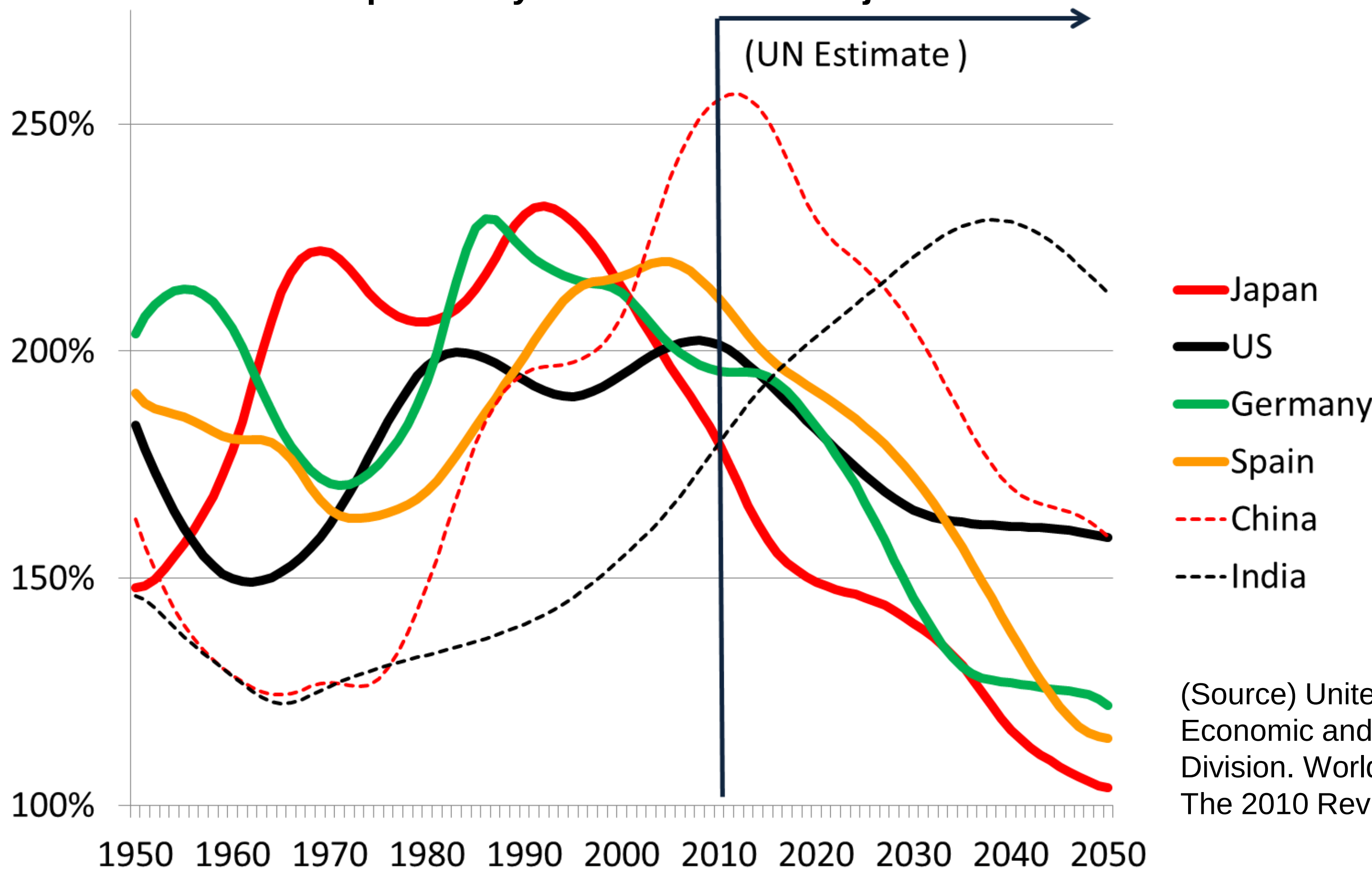


(Source) Ministry of Land, Infrastructure, Transport and Tourism, Ministry of Internal Affairs and Communications, Japan Real Estate Institute, and United Nations, Department of Economic and Social Affairs, Population Division. World Population Prospects: The 2010 Revision （June 2011）

Inverse Dependency Ratio - Population Bonus

Inverse Dependency Ratio (population aged 15-64 divided by dependency population) is expected to decline in many major economies. Does this mean that there would be no property bubble in those countries? Maybe NO.

■ **Inverse Dependency Ratio in several major economies**

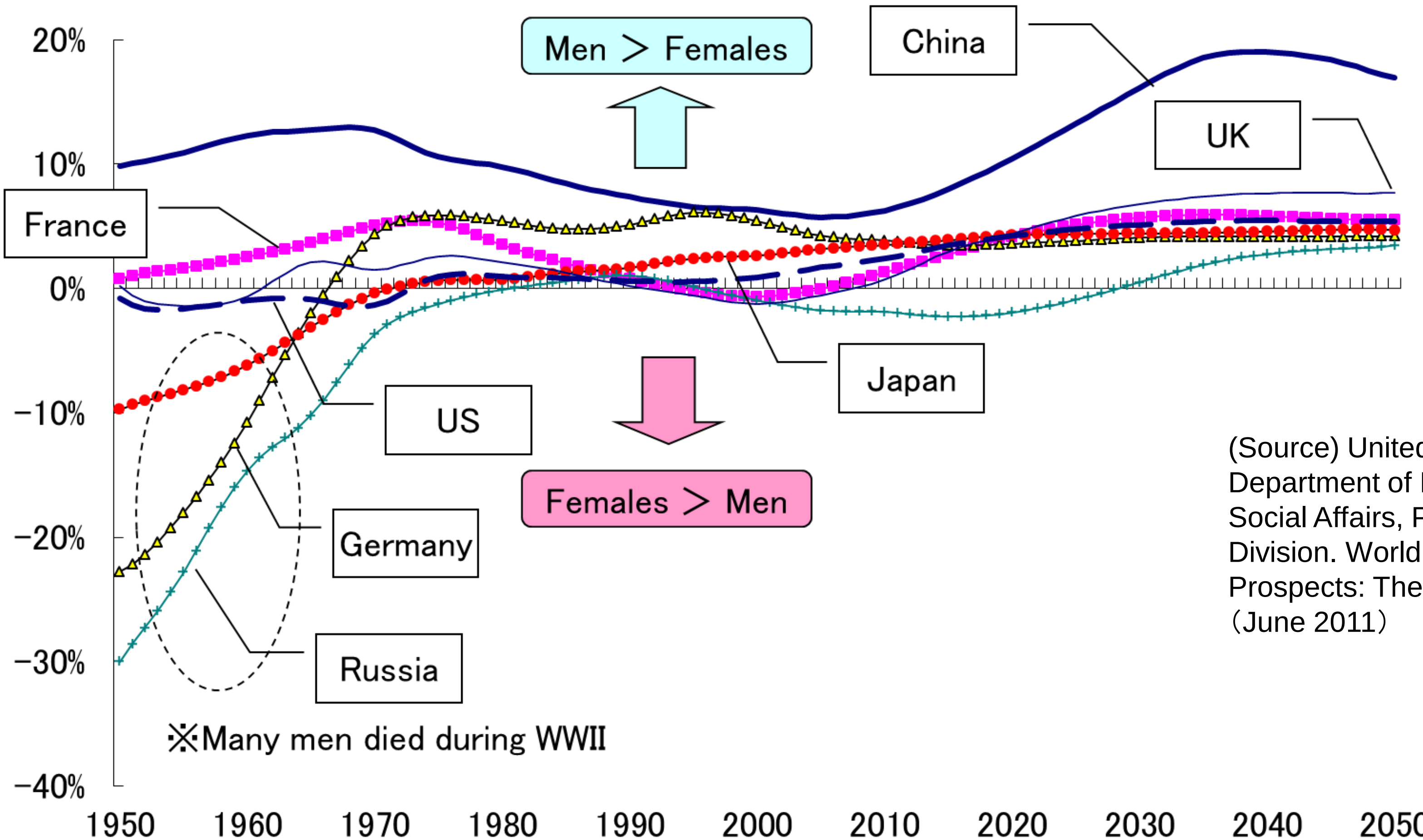


(Source) United Nations, Department of Economic and Social Affairs, Population Division. World Population Prospects: The 2010 Revision（June 2011）

Gender imbalance

Although population bonus is expected to decline in China soon, excess men may push demand for housing to attract brides (if a man does not own a house, he is not likely to be able to get married in China so far).

■Percentage of men less females aged 20-44

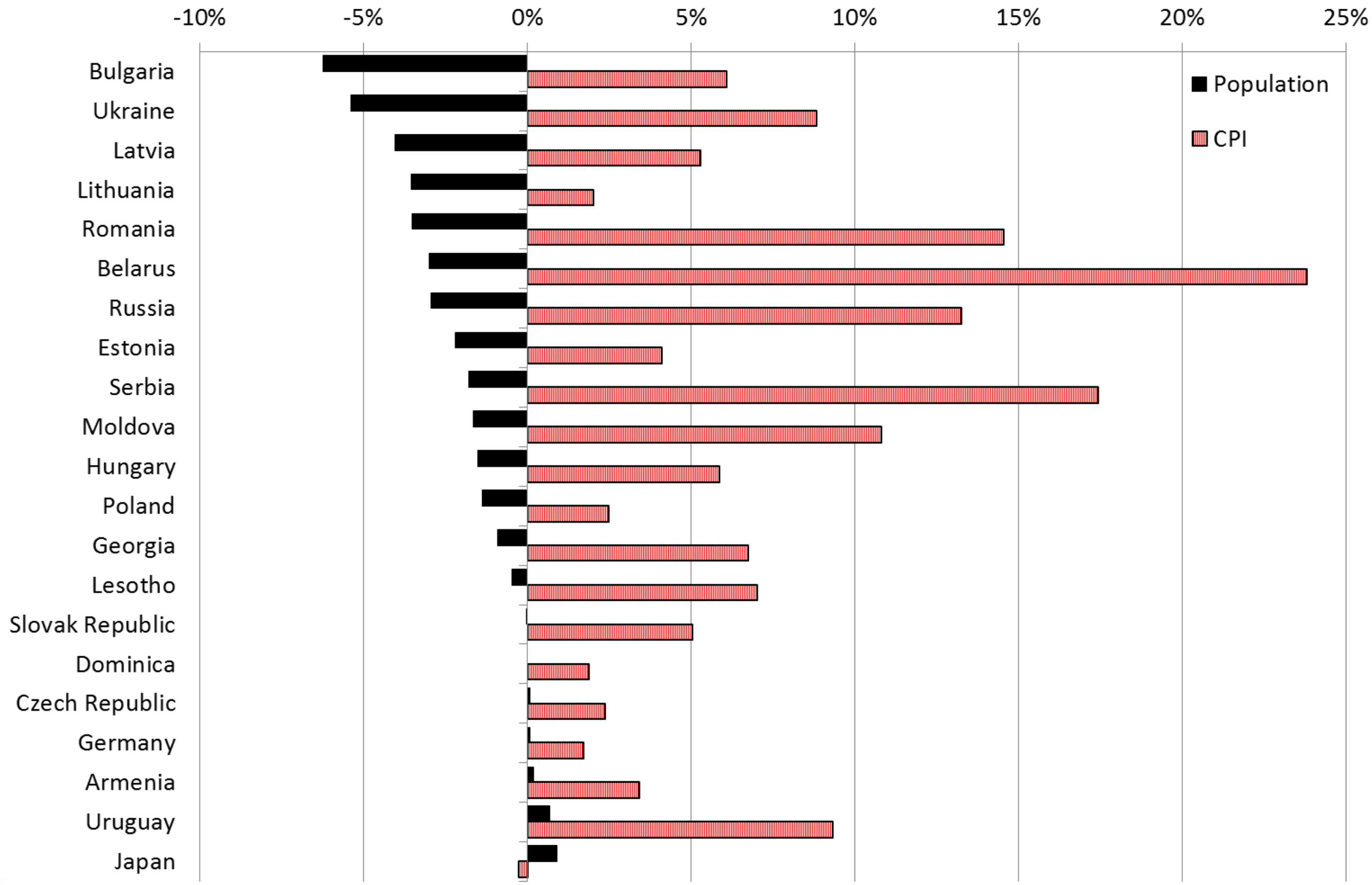


(Source) United Nations, Department of Economic and Social Affairs, Population Division. World Population Prospects: The 2010 Revision （June 2011）

Demographics and CPI (1)

There is a wide spread belief in Japan that deflation is inevitable because Japan has entered into population declining stage. However, there are 20 countries whose population growth rate from 2000 to 2007 (before the financial crisis) was lower than in Japan, 15 of which had negative growth. None of them recorded negative growth in Consumer Price Index (CPI) during the same period.

■Annualized growth rate of population and CPI (2000-2007)



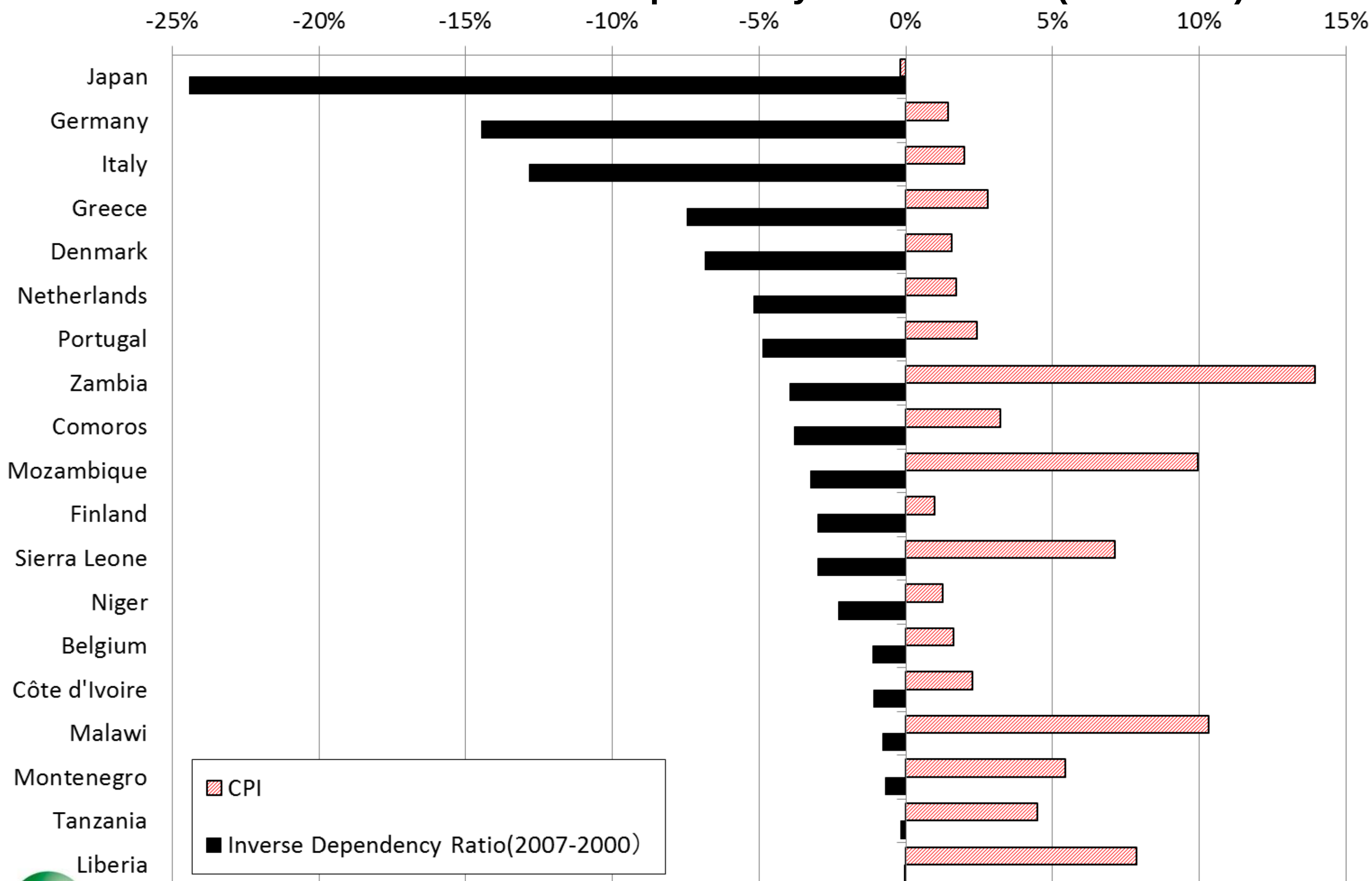
※Libya, Guinea-Bissau and Hong Kong SAR recorded negative CPI growth during the same period, but all of them had positive increase in population.

(Source) IMF World Economic Outlook Database October 2012

Demographics and CPI (2)

Japan recorded largest decline in Inverse Dependency Ratio (population aged 15-64 divided by dependency population) during 2000 to 2007. However, there are 18 other countries which recorded negative growth in the same index, none of which faced deflation.

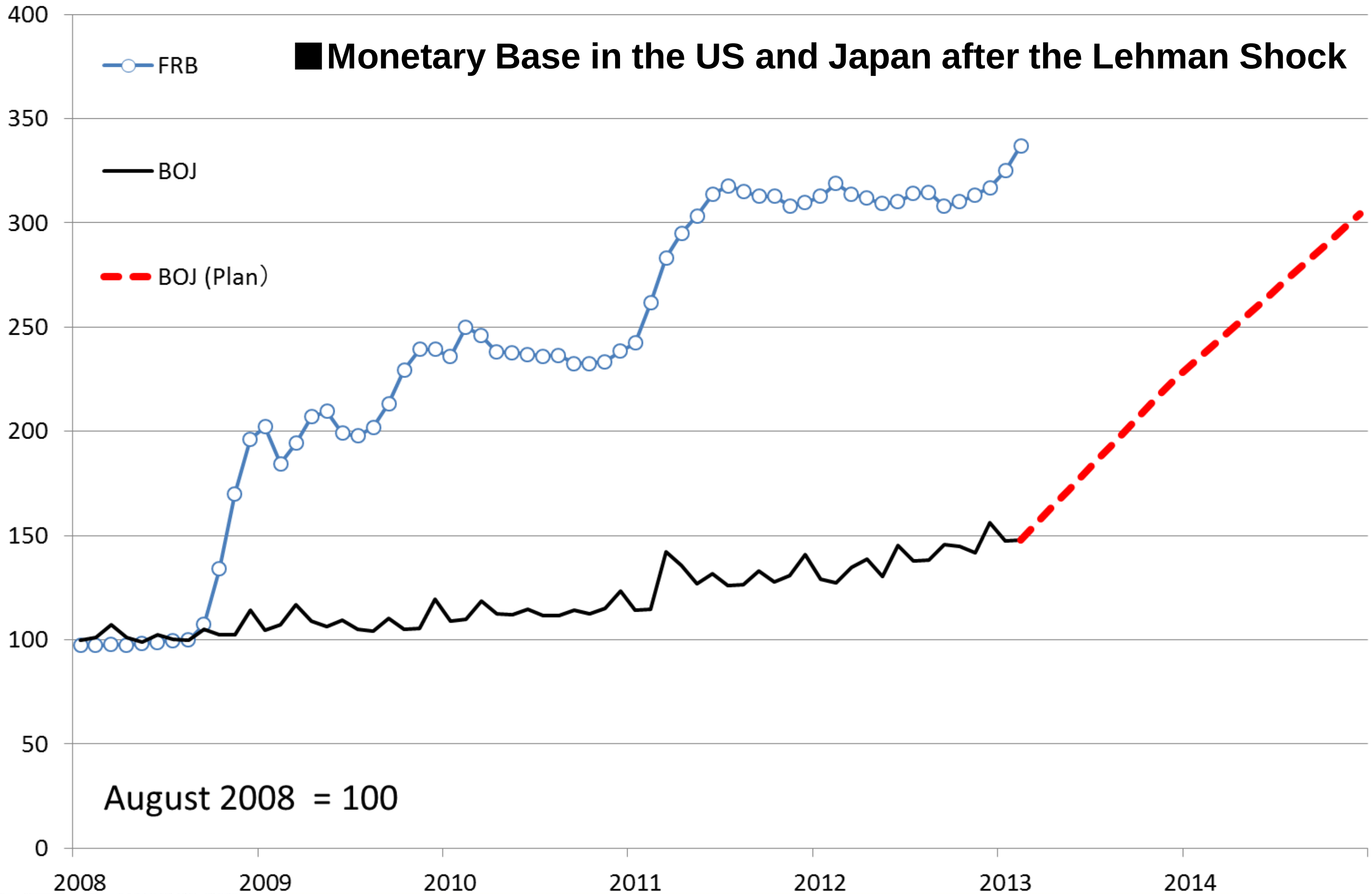
■Inverse Dependency Ratio and CPI (2000-2007)



（Source）
IMF World Economic Outlook Database October 2012,
United Nations, Department of Economic and Social Affairs, Population Division. World Population Prospects: The 2010 Revision（June 2011）

BOJ entering a new phase of monetary easing

On April 4, 2013, Bank of Japan (BOJ) announced the Introduction of the "Quantitative and Qualitative Monetary Easing“ to double the monetary base as well as to double the average remaining maturity of JGB purchases in two years. Compared to the level just before the Lehman Collapse, BOJ is likely to catch up the pace of FRB.



（Source）BOJ, FRB

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Market reaction to BOJ's new policy

Even before the announcement of BOJ's new policy, stock market and foreign exchange market started to rally, but the rally was accelerated because of the unexpectedly aggressive stance of BOJ to get out of deflation. So far, this rally is thought to be an adjustment of the depressed prices rather than bubble.

■Foreign Exchange Market

JPY/USD

（Source）FRB

■Stock Market

Nikkei 225

（Source）Nikkei

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Lessons from Japanese Case

It is not easy to detect bubbles in real time. The development of a comparative housing price database at an international level would be helpful, but local nature of housing market makes it a challenging work.

Primary objective of monetary policy is price stability. However, considering the aftermath of collapsing bubbles in property markets, more attention should be paid to the property markets.

Policy reaction to property bubbles tends to be delayed. Policy makers should take proactive approaches rather than retroactive approaches.

Housing bubbles may be accompanied with bubbles in other markets, including the stock market. If there are separate movements in housing price and stock price, it remains debatable which market the policy makers should focus on.

Monetary policy tools which address property bubbles need to be clearly identified. If various tools move in different directions, it might confuse the market participants and result in unintended consequences.

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