Lessons Drawn from Our Neighbor

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The views expressed in the paper are those of the speaker and should not be attributed to People's Bank of China.

Abstract

Japan's economy experienced substantial fluctuations since the latter half of the 1980s. Due to the rapid appreciation of yen, to avoid the recession, Bank of Japan conducted easy monetary policy from 1986 to 1989, during which period we saw a sizable increase in money supply, excess of credit lending, and a rapid and large surge in asset prices. One important reason of Japan's experience during this period is the speedy inflow of foreign capital. From 1989, to fight with asset bubble, Bank of Japan tightened monetary policy rapidly. The bubble burst after the tightening. Due to the drop of asset price, the speculative capital out flew fast, which pushed the drop further. The real economy was adversely affected by the aftermath of the bubble and growth rates during the 1990s have mostly been near zero.

Some people claim that China now looks like Japan in the "pre-burst" period. However, there are some important differences between these two economies. With a discussion on the similarities and differences between current China and late 1980s' Japan, this paper attempts to figure out whether there are Japanese-style bubbles inflating in the Chinese economy.

This paper also tries to draw lessons based on the experience of Japan during that period and find out what China can learn from Japan.

1. Introduction

Japan's economy has experienced substantial fluctuations since the second half of

the 1980s. Due to the rapid appreciation of yen against dollar after Plaza Agreement, to avoid of recession of economy, Bank of Japan conducted easy monetary policy from 1986 to 1989, during which period we saw a sizable increase in money supply, excess of credit lending, and a rapid and large surge in asset prices. After that, to fight with asset bubble, Bank of Japan tightened monetary policy rapidly. The bubble burst but the real economy was adversely affected and growth rates during the 1990s were near zero.

Some people claim that China now looks like Japan in the late 1980s before bubble burst. With a discussion on the similarities and differences between current China and Japan in late 1980s, this paper attempts to figure out whether there are Japanese-style bubbles inflating in the Chinese economy.

The main purpose of this paper is to draw lessons based on the experience of Japan before and after the bubble period and find out what China can learn from such experience.

This paper is structured as follows. Chapter 2 gives a brief review of Japan's economy before and after the bubble, the cause of bubble and the impact of collapse, and the role monetary policy played in the bubble. Chapter 3 considers the similarities and differences between current China and once- Japan to indicate that whether bubble exists now in China. Chapter 4 concludes what lessons could China draw from Japan's experience.

2. Japan's Bubble Period and the Monetary Policy

2.1 Appreciation of yen

During the first half of the 1980s, Japan's current account surplus grew quickly. The ratio of current account balance to GDP increased from -1% in 1980 to 4% in 1985 (Figure 1). There was a great pressure on Japan to appreciate the yen against the dollar.

In 1985, Plaza Accord (Table 1) was signed affirming that the US dollar was overvalued (i.e. yen undervalued). This agreement, and shifting supply and demand pressures in the markets, led to a rapid rise in the value of the yen. From its average of ¥239 per US$1 in 1985, the yen rose to a peak of ¥128 in 1988, virtually doubled its value against USD. After a small drop in 1989 and 1990, it reached a new height of ¥123 to US$1 in December 1992 (Figure 2).

2.2 Bubble Period

After Plaza Agreement was signed, yen appreciated rapidly and significantly against dollar, from 260 yen/dollar in Feb. 1985 to 128 yen/dollar in Dec. 1987, and kept on appreciating afterwards, rose by more than 50% totally (Figure 2). To avoid economy recession caused by slump of exports led by yen appreciation, and to stimulate domestic demand, Bank of Japan started to conduct easy monetary policy by lowering the official discount rate (Figure 3), which is the rate that central bank of

Japan charges for its loans to commercial banks. The rate decreased from 4.5% to the lowest level at 2.5%. It lasted for more than two years from 1987 to 1989, as in the following table:

Year	10/1985	1/1986	3/1986	4/1986	11/1986	2/1987	5/1989
Discount rate	5.0%	4.5%	4.0%	3.5%	3.0%	2.5%	3.25%

The effect of easy monetary policy served to stimulate GDP and avoid recession seems pretty good. The GDP growth (Figure 4) was quite good, keeping an increasing trend, about 4.8% on average during that period, which implied the policy was effective. It seemed appreciation of yen did not make GDP growth decrease.

Year	1986	1987	1988	1989
GDP growth rate	2.97%	4.46%	6.51%	5.28%

What is more, when we turn to CPI (Figure 5), the inflation rate was quite low during 1986-1989, less than 1%. Normally speaking, decreasing discount rate would increase money supply, thus would cause inflation. However, Japan's consumer price was not inflated. We think it is mainly due to rapid yen appreciation and people were lack of confidence in economy so they consumed less. At the same time the increasing liquidity flooded into asset markets, such as bonds, stocks, and property market. The stock index Nikkei increased from 13,000 in 1986 to 35,000 in 1989 almost tripled (Figure 6). Besides, PE ratio was doubled, from 30 before bubble period to the

highest level 63. Especially during 1987-1989 the lowest discount rate period, the PE remained above 60 on average. The increasing trend of PE can be referred to Figure 7. Below is the summary of average annual PE ratio in Japan:

Year	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
PE	30.4	36.7	36.4	43.5	61.0	61.6	63.3	54.0	42.0	35.1

The land price measured by commercial land price index for six major cities in Japan also increased sharply accompanying the stock price index, the same trend as Nikkei (Figure 6). From this point of view, the high GDP growth rate during 1986-1989 might be the result of fast growing investment, rather than net exports or domestically consumption.

2.3 Analysis of Bubble

The low official discount rate led an expansion of aggregate money supply in the banking system. Due to the low financing cost, banks borrowed more from central bank. Therefore commercial loans increased as well. Indeed, Japan's M2 increased faster in 1986-1989 than previous years (Figure 8). However, because of the expectation of rapid yen appreciation, borrowers (corporations) were in lack of confidence in the future exports. They borrowed money from banks but did not invest in the real economy such as machineries, plant expansion, etc, but invested in stock and land for speculative purpose. This is what we called "moral hazard"

problem, because banks could not monitor how borrowers spent the money after they lent the money to the borrowers. As demand of stock and land increased, the price increased as well. Then more and more money was put into asset markets again for capital gains. The stock and property market were stimulated in such vicious circle. Figure 9 illustrates that loan made to construction and real estate industry increased rapidly during the bubble period 1986-1991, which coincided with the property market boom. Figure 10 shows that during 1986-1989, IPO was a popular and major way for raising capital. It is easy to understand that since the stock market was good, many companies wanted to raise capital through IPO at a high offering price. However, the money raised from IPO was not invested in real economy again but used in security investment or land purchasing. It partly, if not fully, explains why the asset bubble became bigger and bigger.

2.4 Bubble Burst

As the asset price kept increasing, Bank of Japan started to tight monetary policy by increasing discount rate in 1989. It may be questioned that why central bank of Japan did not tight monetary policy earlier to stop the bubble from getting worse. Maybe Bank of Japan faced a dilemma at that time. On one hand, CPI implied low inflation, less than 1% during the bubble period, lower than inflation target 2%, which suggested there was room for easy monetary policy; therefore Bank of Japan could conduct easy monetary policy. While on the other hand, stock and land price were increasing at 30% annually. To stop asset price continuing to go up, Bank of Japan needed tightened monetary policy. No perfect solution of monetary policy can be

found by only using interest rate. Bank of Japan was focused on avoiding recession of economy or rescuing low CPI at the beginning. Until May 1989 Bank of Japan increased the discount rate quickly from 3.25% to 6% within 15 months, as shown in the following table:

Year	1987-4/1989	5/1989	10/1989	12/1989	8/1990	7/1991
Discount rate	2.50%	3.25%	3.75%	4.25%	6.00%	5.5%

The hurry tightened monetary policy took effect quickly. Nikkei peaked at 39,000 at the end of 1989 and drop down on the first trading day of 1990 and kept on dropping afterwards (Figure 6).

At the same time Bank of Japan combined tightened policy with regulatory policies to stop land price inflation, including limiting bank lending to real estate projects and companies since 1990 and raising taxes on realized capital gains from land investment. The effect was that land price also started to decline from 1991 (Figure 6). The asset bubble burst finally.

Actually the tightened monetary policy was effective at the beginning. The stock price and land price did decline. Specially, decreasing housing price pleased people with normal income who could not afford high housing price. At the same time GDP growths were still good in the first two years after tightened monetary policy, 5.69% in 1990 and 3.33% in 1991. However, economy started to slow down from 1992.

Nikkei was down to 16,000 in 1992, which was only 40% of the peak level 39,000 in 1989, 60% lost.

Year	1990	1991	1992	1993	1994	1995
GDP growth	5.69%	3.33%	0.95%	0.20%	0.62%	1.94%

2.5 Impact of decline in property price

It is essential to point out that the problems caused by property price decline after asset bubble burst were very serious in Japan. As property market declined, construction and real estate companies faced financial problems because they could not sell out the properties easily as before since demand decreased. As a result they had no cash flow to pay interests and debt principals. Then they went bankruptcy. Banks suffered a lot due to the high ratio of nonperforming loans and falling asset prices, which lead to banking system crisis later in Japan.

3. China's situation

3.1 Similarities with Japan

China rebounded more swiftly from the global downturn than any other economy, largely attributed to its enormous monetary and fiscal stimulus. But many skeptics claim that its recovery is built on wobbly foundations. Indeed, they say, China now looks much like Japan in the late 1980s.

There do exist many similarities between China nowadays and Japan in the late 1980s. Both of them enjoy high GDP growth, accumulate huge surplus in current account, which causes high pressure on the exchange rate of local currency. A flood of bank lending threatens a future surge in bad loans, while markets for shares and property look dangerously frothy.

Since 1993, China's GDP grows very well (Figure 11). In most times, the growth rate was higher than 8 percent. The only exceptions occurred in 1998 and 1999, due to the Asian Financial Crisis, the number dropped to 7.8% and 7.6%. Just as in the late 1980s when Japan accumulated huge foreign exchange reserve via export, China's surplus in current account (Figure 12) showed a rapid growth in the recent years, especially from 2004 to 2007. China exceeded Japan in foreign exchange reserve in 2006 as a country holding the largest foreign exchange reserve in the world.

With the rapid economic growth, the savings and bank lending also increased sharply in the period. From 2001 to 2008, the deposit increased around 32 trillion while the loan balance in CNY increased 19 trillion. We should notice that there was also a large loan increment in foreign currencies. Because of the expectation of the appreciation of the local currency, many borrowers liked to borrow in US dollar so that they can pay back less. As a result of this phenomenon, the money supply measured by M2 kept a year on year growth rate of nearly 18%, which can be referred to the Figure 13.

China's equity market is rebounding from the bear market of 2008. Shanghai Composite Index is around 3,000, nearly doubled compared with the lowest in 2008, but it still has a long way to reach the 6,124 point of Oct 16, 2007. China's property market is certainly hot. Prices of new apartments in Beijing and Shanghai are leapt by 50-60% during 2009.

3.2 Differences between China and Japan

China also has some differences from ex-bubble Japan. All of these characters have their own positive or negative effects when it turns to economic development.

First is the aging problem. In the late 1980s, Japan had begun to face the problem. In 1994, the percentage of old people (elder than 65 years old) was 14%, while in China the number was 9.35% in 2008. This means China has a relatively plenty of labor supply to make the wage level at a low price, therefore the pressure on inflation can be eased somehow. Young people are also like to consume more than older ones, which can support the economic growth, so China is different from Japan facing serious aging problem which cannot boom up economic growth easily.

Another thing is that the capital account is still officially controlled in China. So the capital inflows and outflows still affect the domestic market to a limited extent.

However, China has its shortcomings compared to Japan. Figure14 shows that when Japanese economy boomed, they enjoyed a lower oil price, while nowadays oil price is maintained at a high level.

The third thing is the fortune held by residents is small in China. Domestic consumption does not contribute very much to the GDP growth. On the contrary, in Japan, Prime Minister Hayato Ikeda raised the “income-doubling” plan and completed it in 1967; the Japanese people became richer so they could consume more.

3.3 Does the bubble exist in China now?

Recently, many people claim that there are bubbles in the property and stock markets and the authority should take some measures to deal with them, but when we take a further look, it might not be that situation. To define what is a bubble is difficult, we have not find a clear way to recognize it yet. As many one mentioned, a bubble is recognized only after it is burst. The burst of bubble could cause disastrous consequences, therefore it may not be proper to mistake prosperity for a bubble and take measures to prick it. As Bernanke said, “It is rarely, if ever, advisable for the central bank to use its interest rate instrument to try to target or control asset price movements.”

For the stock market, we can take PE ratio as the indicator. A high PE ration means a high stock price relative to its “fundamental value”, although no one knows what a “fundamental value” is. In China, although the stock index nearly doubled compared

to the bottom in 2008, the average PE ratios for Shanghai Stock Exchange A shares (Figure15) and Shenzhen Stock Exchange A shares (Figure16) are now at the normal average levels. For Shanghai Stock Exchange A share, now the PE is less than 30, while the highest digit in 2007 touched 70. For Shenzhen Stock Exchange A share, the current PE is 40 while the highest historical number was 76 in 2007. As for Japan, during the bubble period, PE ratio kept above 50 most of the time (Figure7). The climax lasted much longer. Consider that the capital account of China is still under control, there is not likely to be a fast inflow and outflow of capital to cause large fluctuation. Therefore the situation in China is not as serious as Japan in the referred period.

For the property market, the most cited evidence of a bubble—and hence of impending collapse—is the ratio of average home prices to average annual household incomes. This is almost ten in China, while in most developed economies it is only four or five. However, the average income level comes largely from the richest 20-30% of the urban population which exceeds the income of rest of population a lot, or in other words actually not most of Chinese homebuyers have this average income level which was pulled up by small proportion of extremely rich people. Using China richest group's average income, the ratio falls to rich-world level. In Japan the price-income ratio hit 18 in 1990, obliging some buyers to take out 100-year mortgages. Also from Figure 17, ratio of house price over average income for China from 1999-2009 is lower than Japan in 1980-1990, so it can be concluded that housing bubble in China is not as serious as Japan either.

Furthermore, Chinese families carry much less debt than Japanese families did 20 years ago. One-quarter of Chinese buyers pay in cash. The average mortgage covers only about half of a property's value. Chinese households' total debt stands at only 35% of their disposable income, compared with 130% in Japan in 1990.

China's property boom is being financed mainly by saving, not bank lending. According to Yan Wang, an economist at BCA Research, only about one-fifth of the cost of new construction (commercial and residential) is financed by bank lending. Loans to homebuyers and property developers account for only 17% of Chinese banks' total, against 56% for American banks. A bubble pumped up by saving is much safer than one fuelled by credit.

To conclude, asset bubble in China is not as serious as that in Japan in the late 1980s, but China still need to control the overheated and excess liquidity to prevent asset inflation from getting higher and higher.

4. Lessons could be learned from Japan

4.1 What did Japan do wrong?

Firstly, yen appreciated too fast in a short time, appreciated about 50% within 3 years. To fight with deflation, Bank of Japan conducted easy monetary policy. However, due to the lack of confidence in the future business and the environment of low cost of

capital, the corporations used the property or security investments for speculative purpose, which boost up the asset demand and price consequently.

Secondly, in the environment of easy monetary policy, credit boom of banks occurred. As a result, money supply increased rapidly which was a main cause of asset bubble. Policy makers just focused on CPI, monitoring and alerting on asset price were not enough.

It is always argued that the monetary policy was too lax during that period. If Bank of Japan started to hike interest rate earlier instead of waiting until 1989, the bubble would not be that serious and could be prevented more effectively. When bubble grew big, Bank of Japan did not tight the monetary policy in time, kept interest rate at the lowest level 2.5%, from 1987 to 1989 for more than two years. Perhaps Bank of Japan thought there was room for easing policy due to the low inflation rate.

Thirdly, when bubble became bigger and bigger, Bank of Japan used the discount rates directly to pop the bubble, which was not appropriate. Firstly, central bank often would not know whether asset prices are rising due to fundamentals or due to a bubble. Secondly, Bank of Japan conducted tightened monetary policy in a rapid way, trying to use a very high interest rate to pop the bubble, which destroyed the stability of economy and caused volatile fluctuations in the financial market. The negative impacts continued for a long time, even until today.

4.2 What should China do?

Facing the similar scenario as Japan, the current account surplus of China keeps on growing recently, which brings the excessive liquidity according to the passive increasing money supply, so China needs to pay attention on the liquidity adjustment to prevent economic overheating and asset bubble. For the exchange rate policy, the main problem China currently facing is to consolidate the structure of the economy and built up the exchange rate mechanism that can reflect the market estimation of CNY.

To withdraw liquidity, central bank should use tightened monetary policy. Looking at Japan's experience, they mainly used discount rate as a direct tool to control the bubble, which led a serious result. So China should combine several tools, including interest rate, reserve requirement, open market operation, window guidance and credit policy guidance, rather than sole interest rate to make the monetary policy more effective.

4.2.1Exchange Rate Policy

Nowadays, China is facing a similar situation of current account surplus and pressure of appreciation. Warned from experience of Japan, since 2005 China adopted a managed floating exchange rate system and appreciated gradually.

4.2.2 Interest Rate

Central Banks' objective is to maintain macroeconomic stability, not to second-guess the asset price decisions of investors in the market. It is difficult for central bank to determine whether asset price increasing is caused by fundamentals or just bubble.

From Japan's experience, we learned that it is not an bright way to use interest rate directly as an intervention to target or control asset price, because the negative impact is very terrible. When bubble burst suddenly, the price of property decreased, borrowers would be unable to pay loans back. Banks would suffer huge loss from non-performing loans. The transmission mechanism of the negative effect was described as the "vicious circle", which may even bring a bank crisis.

4.2.3 Other Methods

.The reserve requirement ratio can be used to avoid blindly expanding loans of banks with inadequate capital and poor loan quality, preventing credit risk, and inhibiting economic overheating. PBC now sets differentiated reserve requirement ratio to financial institutions with different business risk in terms of capital adequacy ratio and bank loan quality

Open market operation is another useful way to control liquidity. Although China is still lack of a well-developed debt market which limits the usage of this monetary

policy tool, PBC has been issuing the central bank bills since 2003 to withdraw the liquidity passively created by increasing foreign reserve

If the above methods do not work well, central banks still have a choice, window guidance, especially in countries with less developed financial markets. It is a direct and effective approach of credit controlling and curb with the overheated economy.

4.2.4 Monitor Capital Flows

One thing cannot be forgotten is the effect of capital flows in Japan's case. When there was an expectation of appreciation and prosperity, speculative capital flooded into domestic markets, which helped the forming of the so-called bubble. When the situation reversed, speculative capital escaped fast and left a worse environment.

No doubt that China will open its capital account finally. But it does not means it will be opened suddenly. Flows of speculative capital should be monitored carefully. Meanwhile, there need to be a pool or buffer to minimize the impact caused by speculative capital flows.

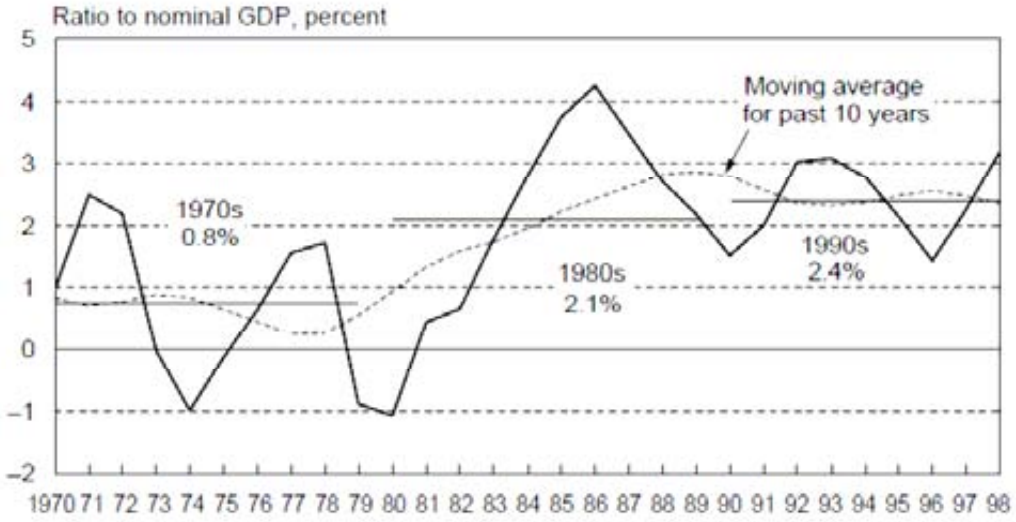
5. Conclusion

Japan experienced asset bubble during late 1980s. It can be traced to the rapid appreciation of yen and following easy monetary policy. Nowadays, the situation in front of China is quite similar to Japan in 1980s before bubble. China must manage its

exchange rates gradually, monitor both capital inflows and outflows and be careful on asset markets. In terms of monetary policy, another thing should be mentioned is that it is not a proper way to use interest rate only to target the asset price. Besides interest rate, PBC should combine several monetary policy tools such as required reserve ratio, open market operation and windows guidance to achieve its objects.

Appendix

Figure 1 Japan ‘s current account to nominal GDP, percentage.



Note: Figures for current account are concatenation of current and previous basis data by adjusting the average from 1985 to 1995 when both basis data are available.

Sources: Bank of Japan, *Balance of Payments Monthly*; Economic Planning Agency, *Annual Report on National Accounts*.

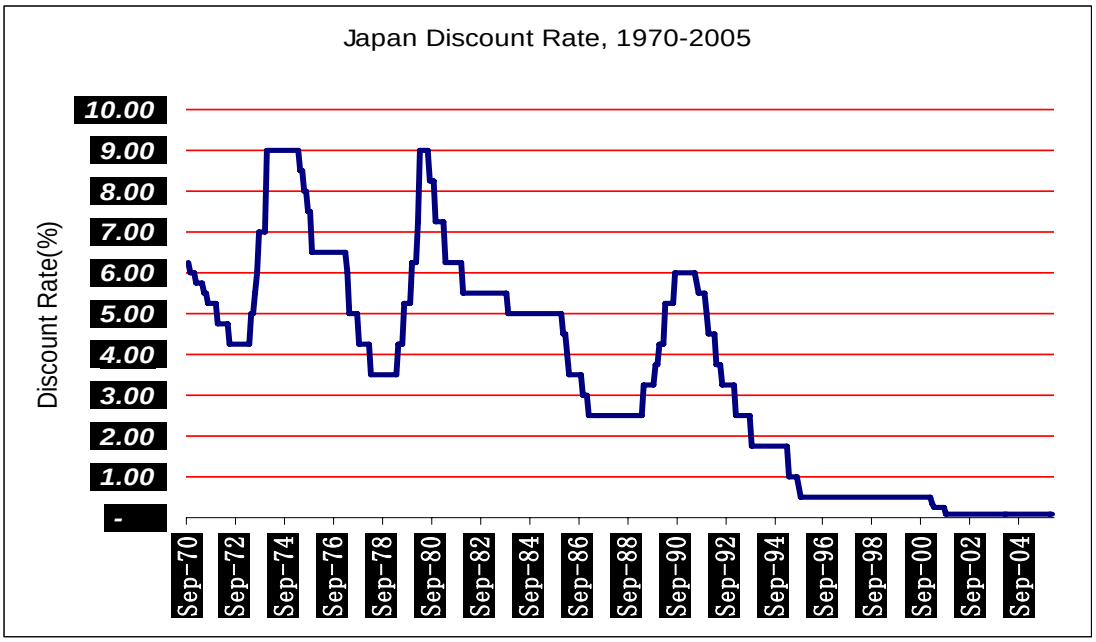
Table 1 Plaza Agreement

Plaza Agreement (September 22, 1985 in New York)
18. The Ministers and Governors agreed that exchange rates should play a role in adjusting external imbalances. In order to do this, exchange rates should better reflect fundamental economic conditions than has been the case. They believe that agreed policy actions must be implemented and reinforced to improve the fundamentals further, and that in view of the present and prospective changes in fundamentals, some further orderly appreciation of the main non-dollar currencies against the dollar is desirable. They stand ready to cooperate more closely to encourage this when to do so would be helpful. . . . In particular, the Government of Japan will implement policies with the following explicit intentions. . . . 3. Flexible management of monetary policy with due attention to the yen rate. . . .

Figure 2: Exchange Rate: Yen/Dollar, 1975-2010

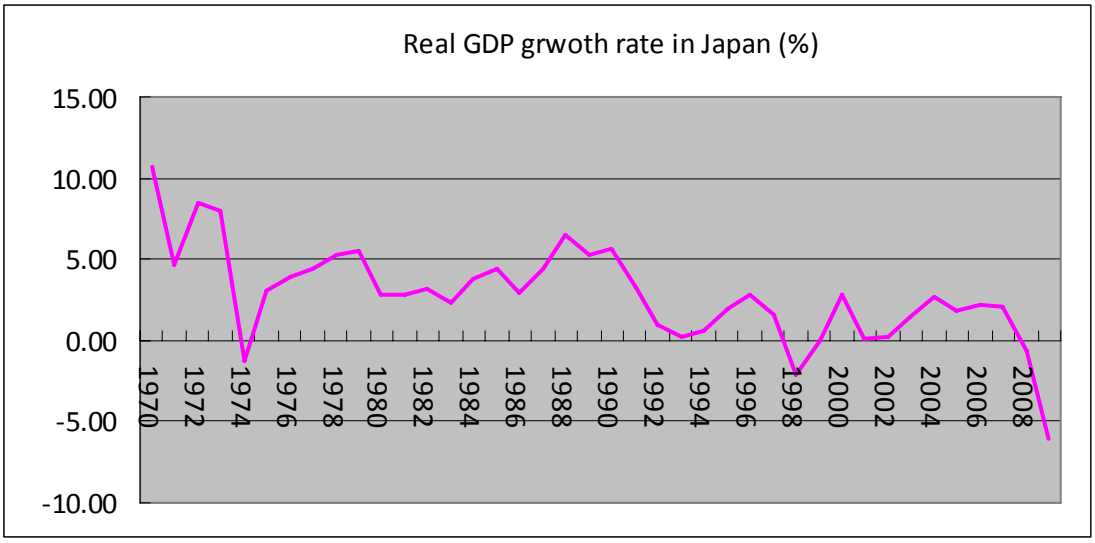
Data source: Pacific Exchange Rate Service.

Figure 3: Japan Official Discount Rate, 1970-2005.



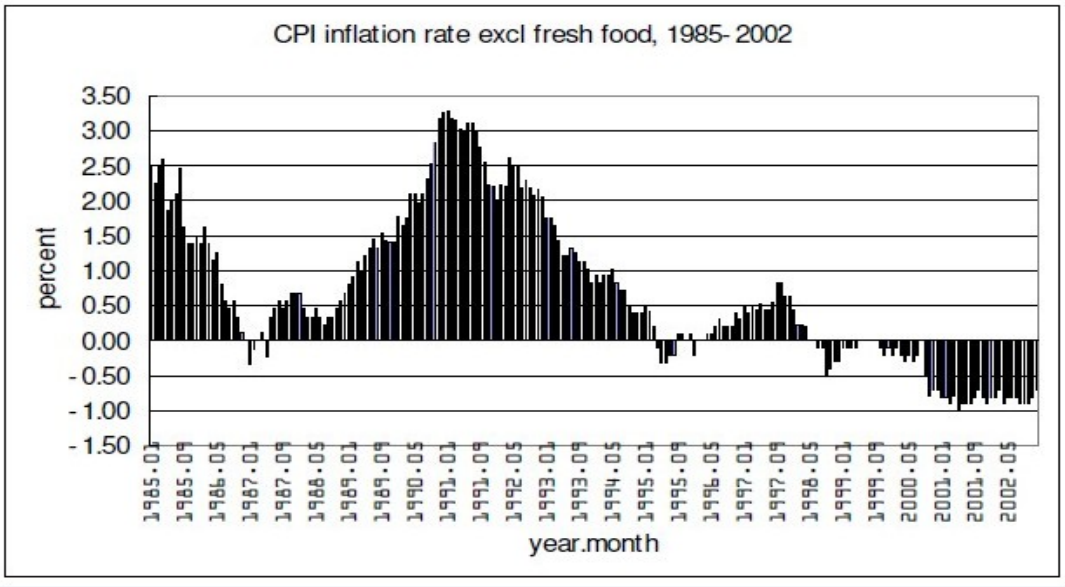
Data source: CEIC

Figure 4: Japan Real GDP Growth Rate, 1970-2009



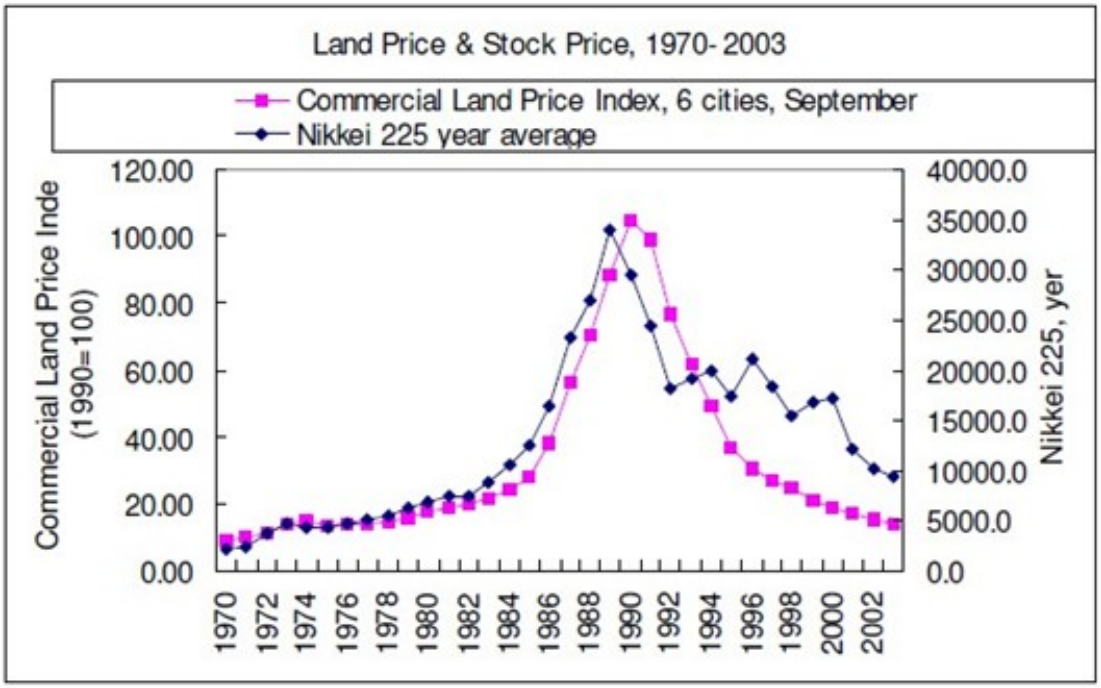
Data source: CEIC

Figure 5: Japan CPI Inflation Rate



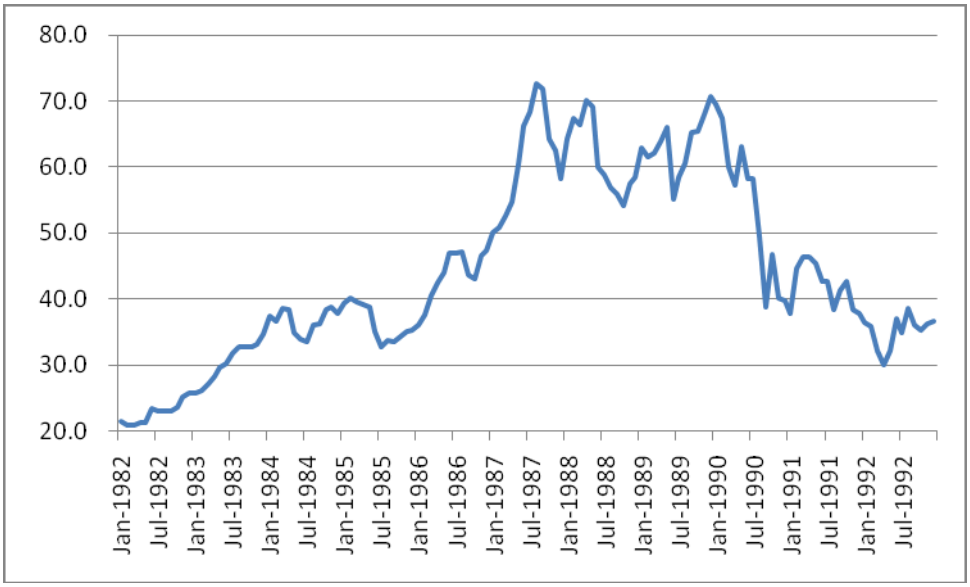
Data source: Paper "Two Decades of Japanese Monetary Policy and The deflation Problem", Takatoshi Ito, Frederic S. Mishkin.

Figure 6: Japan Stock Index and Land Price Index



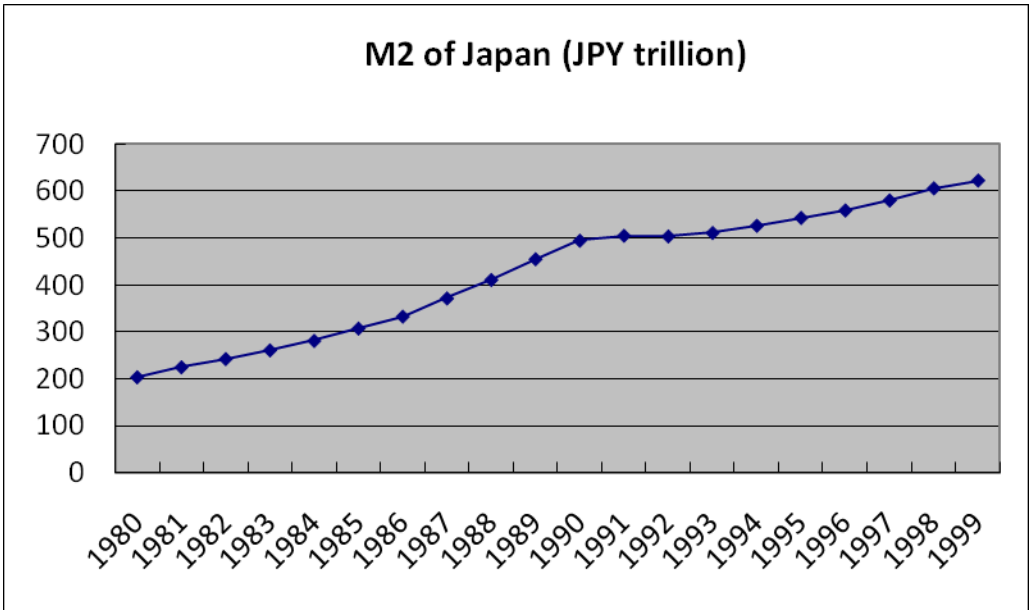
Data source: Paper "Two Decades of Japanese Monetary Policy and The deflation Problem", Takatoshi Ito, Frederic S. Mishkin.

Figure 7: Japan Stock PE ratio, 1982-1992



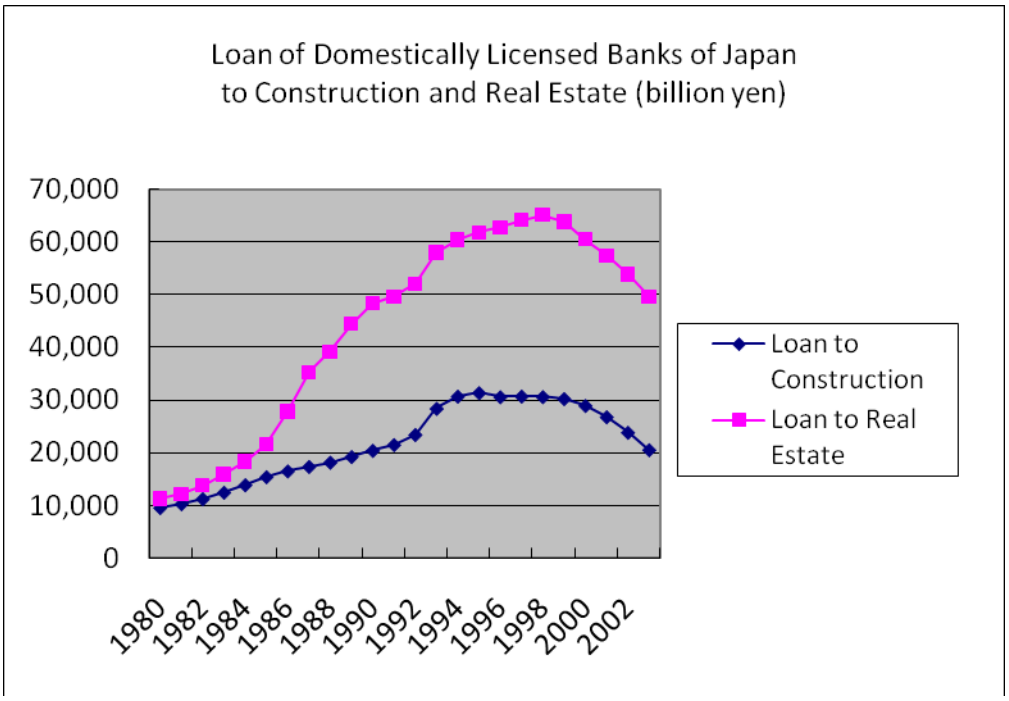
Data source: CEIC

Figure 8: Japan M2, 1980-1999



Data source: CEIC

Figure 9: Loans of Domestically Licensed Banks of Japan made to Construction and Real Estate Industry, 1980-2002



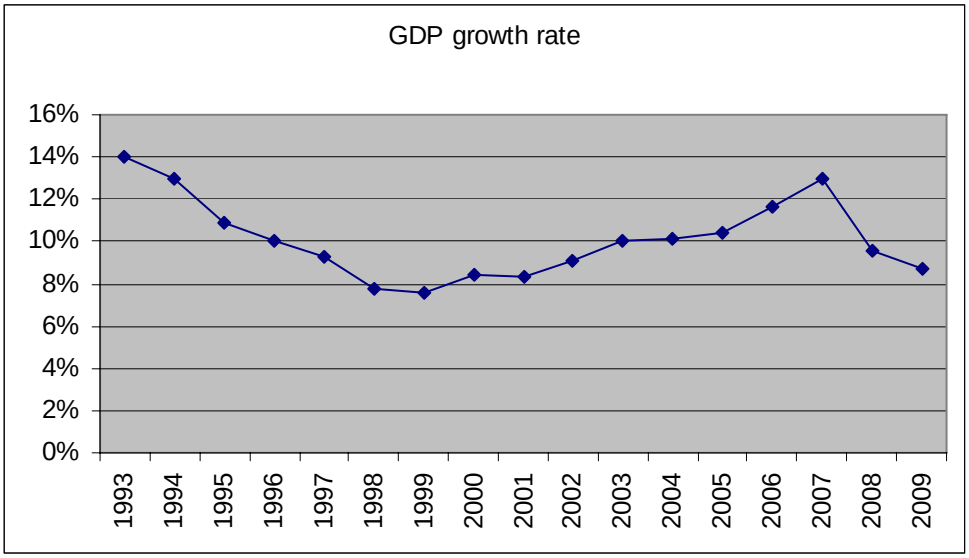
Data source: CEIC

Figure 10: Capital raised through IPO, 1986-1992

Year	Capital raising through IPO (billion yen)	% of total capital raising
1986	3,999	80.01%
1987	13,937	71.87%
1988	25,820	74.34%
1989	58,302	87.57%
1990	19,753	63.42%
1991	1,258	28.12%
1992	40	1.85%

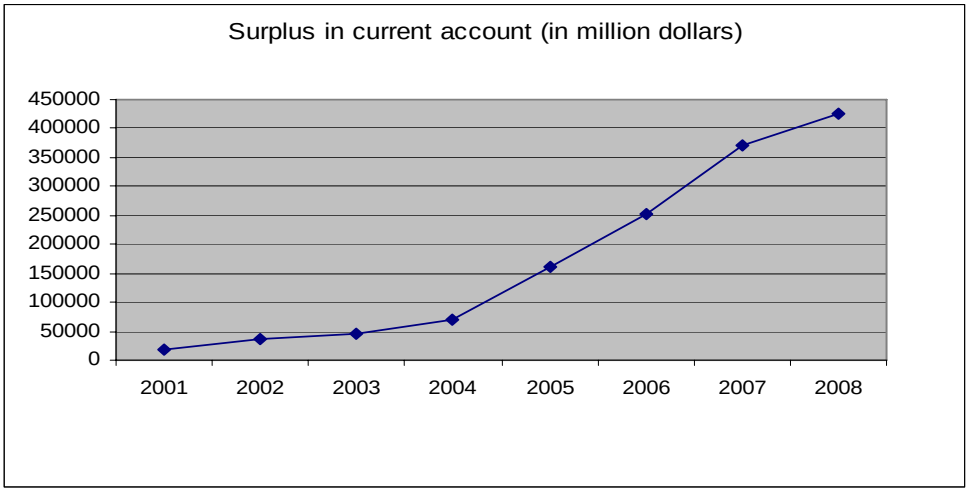
Data Source: CEIC

Figure 11: China GDP growth rate, 1993-2009



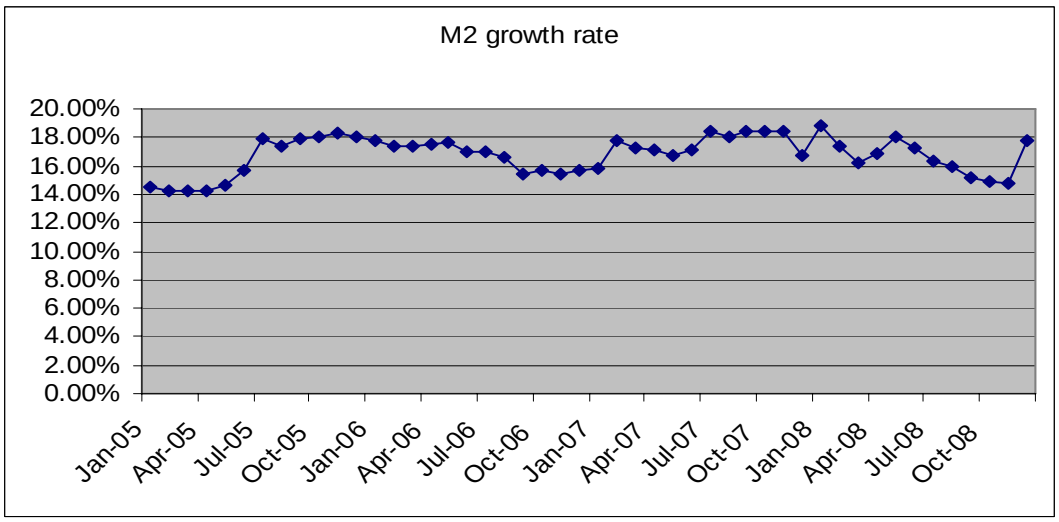
Data Source: CEIC

Figure 12: Surplus of Current Account in China, 2001-2008



Data Source: CEIC

Figure 13: China M2 growth rate, 2005-2009



Data Source: CEIC

Figure 14: Crude Oil Prices

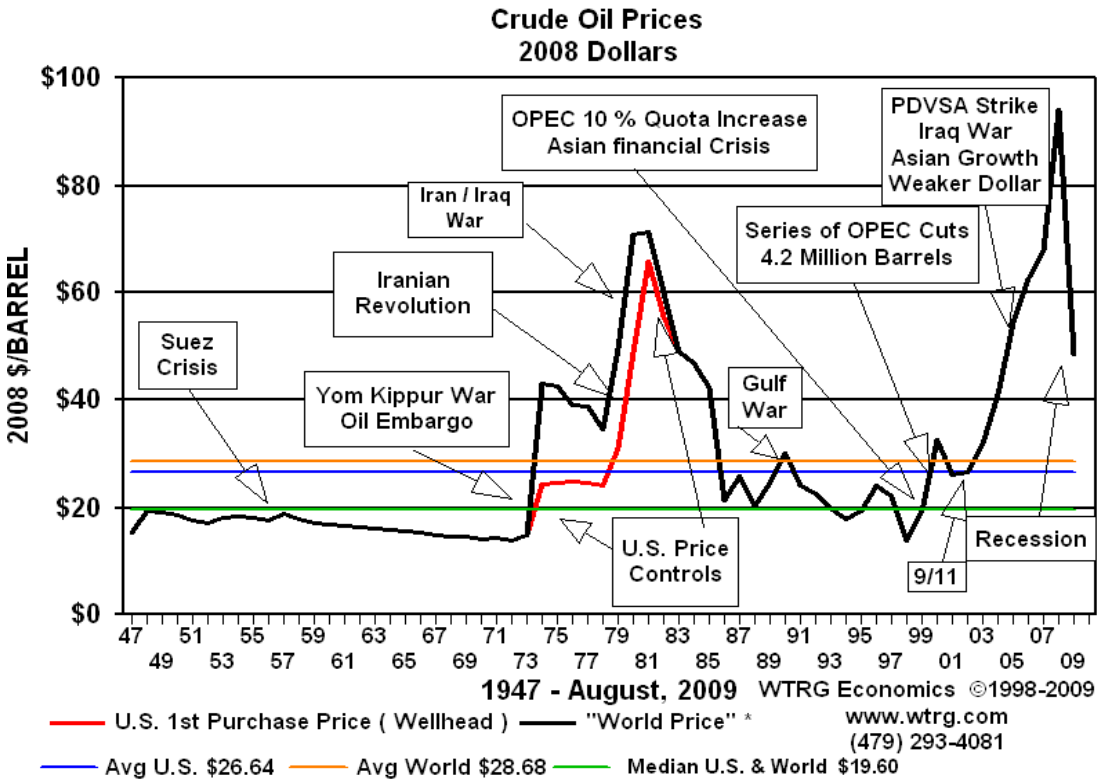


Figure 15: China Shanghai Stock Exchange A share PE Ratio: Weighted Average by Issued Volume, 1998-2010

Data Source: CEIC

Figure16: China Shenzhen Stock Exchange A Share PE Ratio, 1998-2010

Data Source: CEIC

Figure17: Ratio of house price to average income for China, Japan and the US.