24-045 | March 2024

中国金融四十人研究院
CHINA FINANCE 40 INSTITUTE

CF40 Policy Brief

Fighting Gravity: Japan's Endeavors Over the Past Three Decades

Yu Fei
CF40 Institute

Guo Kai
CF40 Institute

Abstract: *Looking back at Japan's economic performance over the past thirty years, three puzzling issues arise. First, Japan's economy has been stagnating for a long time, far beyond the usual business cycle and the timeframe of a real estate crisis. Second, after the bursting of the real estate bubble, Japan's various indicators, aside from housing prices, did not immediately show a significant decline. The real downturn did not occur until after 1997, making Japan's real estate cycle far longer than that of most countries' real estate crises. Third, despite the prolonged economic slump, Japan's stock market returned to an upward trajectory starting in 2003. Our explanation for these issues is threefold. First, the fundamental reason for Japan's long-term economic sluggishness is its continuous struggle against the "gravitational pull." Second, the reason for the longer real estate cycle is the delayed but unavoidable effects of gravity. Third, despite hesitation in policy choices, Japan eventually adopted the right measures. The stock market, a barometer of the economy, grew as a response to correct policies.*

Japan's stock market has recently returned to its historical peak, a milestone that has taken 34 years to achieve since the last peak. Previously, Japan's economy was often described in terms of the so-called "Lost Decades," a period of stagnation following the bursting of the real estate bubble in the 1990s. However, a closer look at Japan's capital market reveals that the Japanese stock market began to stabilize and recover as early as 2003. Despite a subsequent downturn due to the global financial crisis, the overall performance of the Japanese stock market since 2003 has not been poor compared to other major developed economies. In an attempt to reassess Japan's economic performance over the past three decades, we have identified three puzzling questions.

First, why has Japan's economic growth failed to return to its previous levels in the 30 years following the bubble burst? Its growth rate not only lagged behind its past economic growth but also significantly trailed the economic performances of other major developed countries. This duration far exceeds the length of typical business cycles (usually a few years) and real estate cycles (6-7 years, as detailed in *Long Tail 2: A Cross-Country Observation of Real Estate Markets After the Bursting of the Real Estate Bubble*). During what has been dubbed the "Lost Decades," what issues has Japan encountered, or are there specific reasons that make Japan's economic growth appear so sluggish?

Second, after the real estate bubble burst, the trends in Japan's economy and real estate indicators were peculiar. In the initial few years, despite falling house prices, Japan's performance, in terms of both the real estate market and GDP growth, did not seem too bad. It wasn't until after 1997 that Japan's real estate market began a significant adjustment, with the slowest phase of GDP growth occurring between 1997 and 2002. This resulted in a real estate cycle in Japan that far exceeds the length of typical real estate cycles.

Third, if we exclude the international financial crisis as an exogenous shock, it's evident that the Japanese stock market has been on an upward trajectory since 2003 and has now returned to its historical peak. What logic underlies the Japanese stock market's robust growth despite slow economic growth?

I. Puzzles In Japan's Economic Performance

Puzzle 1: Why Has Japan's Economy Been Stagnant For Thirty Years?

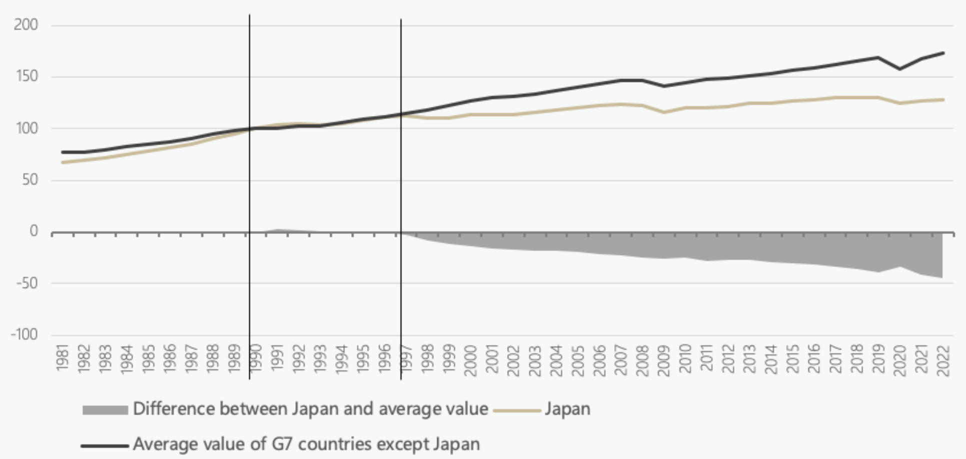
Since 1990, Japan has ended its phase of rapid growth and entered into a prolonged economic stagnation lasting thirty years. We compare Japan's actual GDP growth with the average of the other Group of Seven (G7) countries (Canada, France, Germany, Italy, the United States, and the United Kingdom).

As shown in Figure 1, the average annual growth rate of Japan's real GDP from 1981 to 1990 was 4.5%, while the average for the other countries during the same period was 2.8%. From 1990 to 1997, Japan's average growth rate dropped to 1.7%, with the other countries averaging 2.0%. After 1997, Japan's growth rate further declined, averaging only 0.7% from 1997 to 2019, much lower than the 1.8% average of the other countries.

The shaded area also indicates that over these three decades, the gap in real GDP between Japan and other countries has gradually widened, showing no signs of recovery.

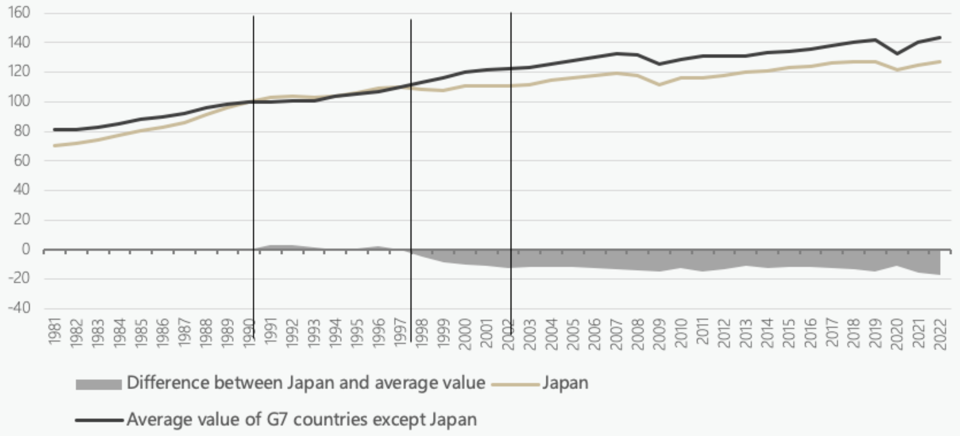
The same trend is observed in per capita GDP; as shown in Figure 2, based on real per capita GDP, Japan's average growth rate from 1990 to 2019 was 0.82%, while the average for the other countries was 1.21%.

Figure 1: Comparison of real GDP levels (1990=100)



Sources: WDI; authors' calculations.

Figure 2: Comparison of real per capita GDP levels (1990=100)



Sources: WDI; authors' calculations.

The most puzzling thing is why Japan's economy has been in a slump for three decades. Thirty years exceeds the length of a typical business cycle. Even considering the real estate cycle, according to our observations in *Long Tail I: A Cross-Country Observation on the Burst of the Real Estate Bubble*, after the outbreak of the real estate crisis, the GDP growth rate will plummet and continue to decline for 8 quarters before it begins to gradually recover. The real estate cycle itself generally lasts about 6-7 years. (See *Long Tail 2: A Cross-Country Observation of Real Estate Markets After the Bursting of the Real Estate Bubble*). If Japan's long recession can be attributed to the bursting of the real estate bubble in 1990, why did the impact of the crisis last for so long? In the "Lost Decades", what problems did Japan have, or are there some special reasons why Japan's economic growth seems so slow?

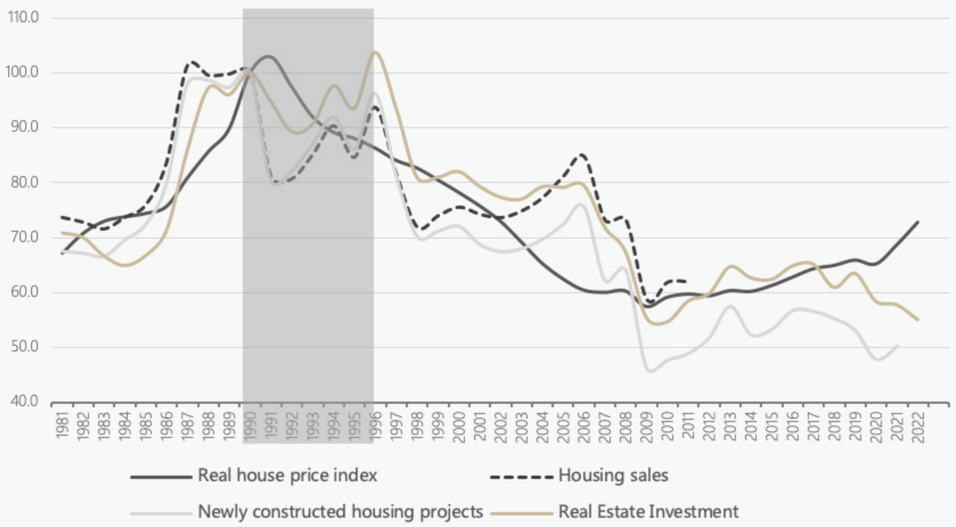
Puzzle 2: Why Was Japan's Trend So Unique After The Real Estate Bubble Burst?

As indicated by Figures 1 and 2, between 1990 and 1997, Japan did not maintain high growth rates, but the economic gap with other G7 countries was not significantly pronounced, suggesting that economic growth remained at a normal level. In terms of the real estate market, despite a continuous decline in housing prices, indicators such as real estate investment, newly constructed housing projects, and housing sales showed considerable resilience. They began to fluctuate and recover in the second year after the crisis. By 1996, real estate investment even surpassed pre-crisis peak levels, with newly constructed housing projects and housing sales reaching 93.7% and 96.3% of their peak levels, respectively. These signs seemed to indicate that Japan's economic fundamentals and real estate market had not suffered a severe impact, and the "land myth" could continue.

However, after 1997, the situation in Japan took a sharp downturn. In addition to a sudden slowdown in economic growth, housing prices entered a rapid decline phase, and real estate investment, newly constructed housing projects, and housing sales experienced a dramatic drop, declining by 21.9%, 27.1%, and 23.3% within two years, respectively, stabilizing around 2002. **Overall, the worst period of economic performance in Japan was between 1997 and 2002.**

Most importantly, Japan's real estate cycle was exceptionally long. Unlike in most countries, where the real estate crisis bottoms out and rebounds within 6-7 years, Japan's real estate cycle lasted for more than a decade.

Figure 3: Changes in Japanese real estate market indicators (1990=100)



Source: Authors' calculations.

Puzzle 3: Why Did Japan's Stock Market Begin To Recover From 2003?

Despite the continuous stagnation in Japan's real GDP and housing price levels, after thirty years, Japan's stock market has returned to its peak level.

As depicted in Figure 4, the Nikkei 225 index peaked at the end of 1989, nearing 39,000 points, before entering a phase of fluctuating decline, dropping to 7,600 points by 2003, with market value shrinking by nearly 80%. If we consider the global financial crisis as an exogenous shock, it suggests that the Japanese stock market began to recover in 2003, experiencing fluctuating growth to the present. By the end of February 2024, it reached 39,208 points, exactly returning to its previous peak level.

The puzzle lies in why the Japanese stock market was able to return to an upward trajectory beginning in 2003, despite stagnant growth in real GDP. As a barometer of economic conditions, what logic underpins the resurgence of Japan's stock market?

Figure 4: Tokyo Nikkei 225 Index

Source: Wind.

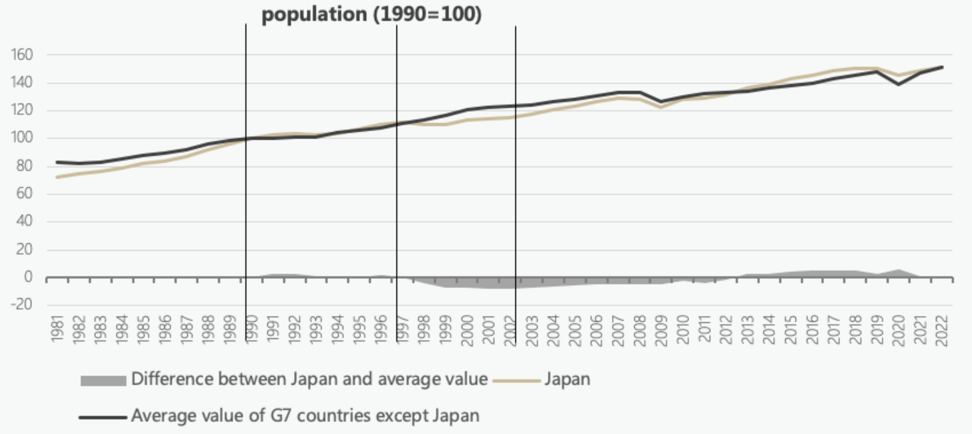
II. Explanation Of Japan's Economic Performance

Explanation 1: Japan Has Been Combating The "Gravitational Pull" Of Demographic Challenges.

When we examine Japan's economic performance over a thirty-year timescale, the impact of demographic changes on the economy is undeniable. Compared to other countries, Japan entered an aging society earlier, with a more rapid decline in the proportion of the working-age population, from 69.7% in 1990 to 58.5% in 2022. **When there is a significant change in the proportion of the working-age population, using GDP per capita to measure economic growth may mask changes in output per working-age individual.**

If we observe the GDP per working-age population, we find that Japan's economic performance is not poor and reaches the level of a normal developed country. As shown in Figure 5, the average growth rate of GDP per working-age population in Japan from 1990 to 2019 was 1.43%, while the average growth rate for the other G7 countries was 1.36%. From this perspective, Japan's output per unit of labor is consistent with other countries. The fundamental reason Japan lags behind other countries is the decline in the working-age population.

Figure 5: Comparison of the actual GDP per capita level of the working-age population (1990=100)



Sources: WDI; authors' calculation.

Therefore, the decisive factor affecting Japan's long-term economic performance is demography, and this downward gravity cannot be countered by macroeconomic policies. Japan's economic performance is still poor in terms of total volume and per capita. From Figure 1, we can see that Japan's per capita GDP has maintained a fairly stable gap with the average of other countries after 1997. Although Japan has tried to take various measures to stimulate economic growth, it can only maintain the output level of the working-age population, but cannot make up for the gap caused by demographic problems. This reveals to a certain extent the limitations of macroeconomic policies in dealing with demographic issues.

Explanation 2: The Inevitable Adjustment of the Real Estate Crisis and Financial Markets.

The reason why various indicators after the burst of Japan's bubble exhibited a rather unique trend, remaining stable at the outset of the crisis and then significantly declining between 1997 and 2002, is because Japan attempted to conceal and postpone the onset of the crisis. However, the outcome still saw a comprehensive and significant decline in indicators such as housing prices, and the financial system had to thoroughly address the problem of non-performing loans. **Japan merely delayed the outbreak of the crisis but could not avoid it; the real estate market and financial system still underwent the necessary adjustments.**

Looking back at the entire process from the outbreak to the resolution of real estate crisis in Japan, it can be divided into two stages.

The first stage was from 1990 to 1997, during which Japanese society was filled with hope for the economy, expecting housing prices to naturally recovery, supported by proactive policies. On one hand, Japan launched six rounds of stimulus policies between 1992 and 1995, with a total amount exceeding 50 trillion yen, most of which was used in public investment. On the other hand, the "land myth" story was still deeply rooted in people's hearts. Despite facing the reality of continuously falling housing prices, many still hold hope for the future of the real estate market.

The second stage was from 1997 to 2006, when the fragile recovery process was broken, and the situation in the real estate market took a sharp turn for the worse. Compared to the peak before the crisis, real estate investment, newly constructed housing projects, and housing sales decreased by 22.6%, 32.6%, and 26.4%, respectively, which is consistent with the average decline of other real estate crisis samples (see *The Long Tail 2: A Cross-National Observation of the Real Estate Market After the Burst of Property Bubbles*). Housing prices did not bottom out until around 2006, by which time they had fallen by 41.2% from their peak, 10.3% more than the decline in other crises, almost returning to the level of housing prices a decade before the crisis. Only then did the adjustment of Japan's real estate market conclude.

Looking at the outcome, the real estate crisis in Japan still followed a general pattern, undergoing the necessary adjustments after a delay. In the early stages of the crisis, Japanese society had strong confidence, hoping that the "land myth" and the uniqueness of its economic development laws would allow it to smoothly escape the crisis with economic recovery. However, the reality was that after 1997, the Japanese real estate market experienced about 6-7 more years of adjustment before it ended, consistent with the pattern of other crises in terms of the duration and magnitude of the decline. The delay in the early stages merely extended the time for Japan's real estate market to hit bottom by twice as long.

Secondly, there is the problem of non-performing loans accompanying the bursting of the bubble. The decline in house prices and the growth of non-performing loans have fallen into a mutually reinforcing cycle, and the financial system is facing a huge downward pull. When the accumulation of bad debt exceeds the critical value for financial system stability, a banking crisis becomes an inevitable result.

Figure 6: Real house price index (period 0=100)

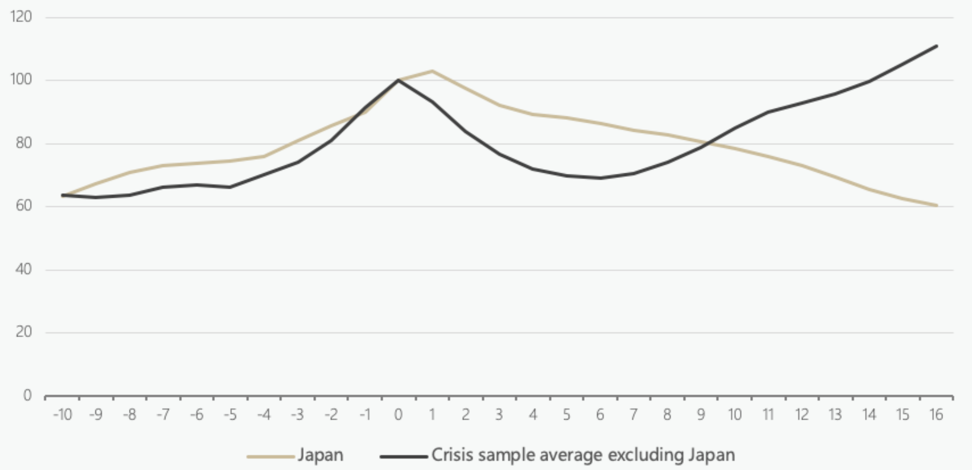


Figure 7: Real estate investment (period 0=100)

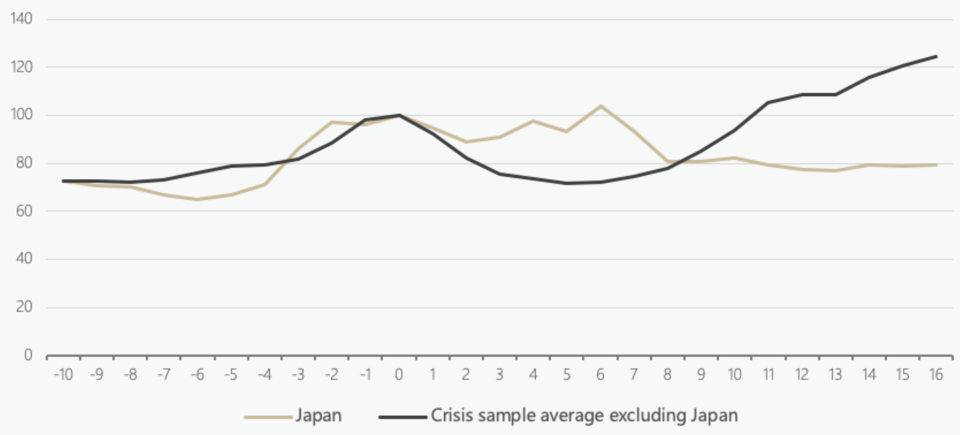


Figure 8: Number of newly constructed houseing projects (period 0=100)

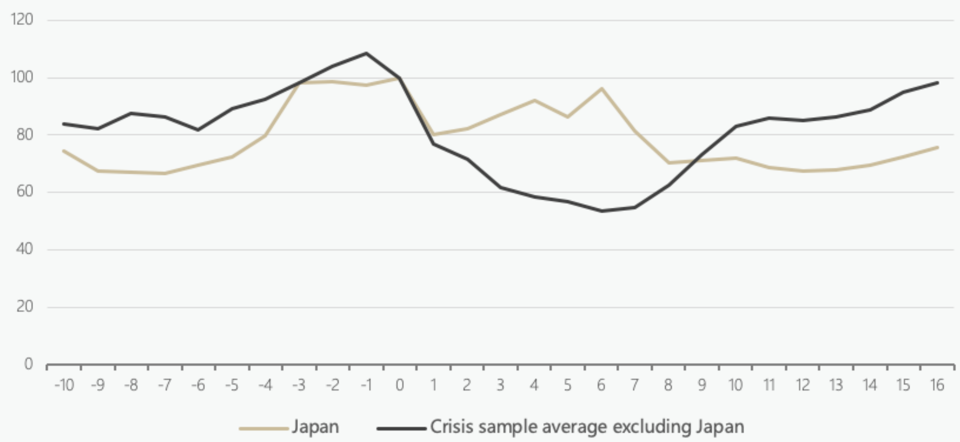
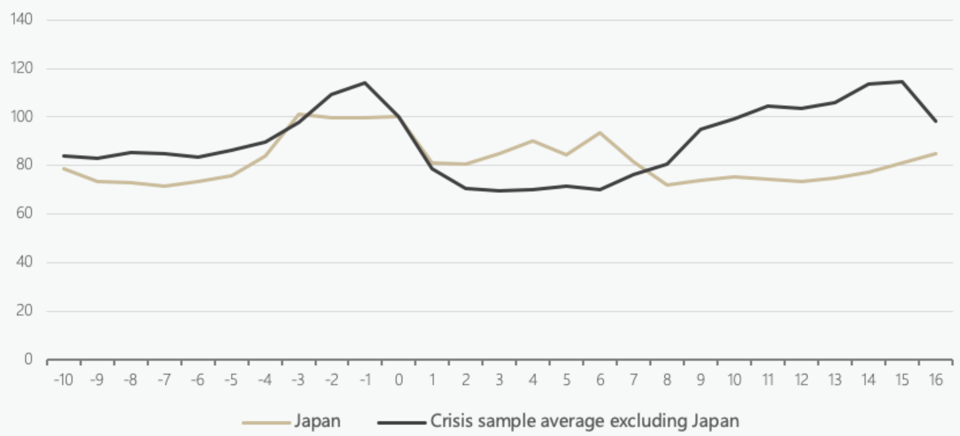


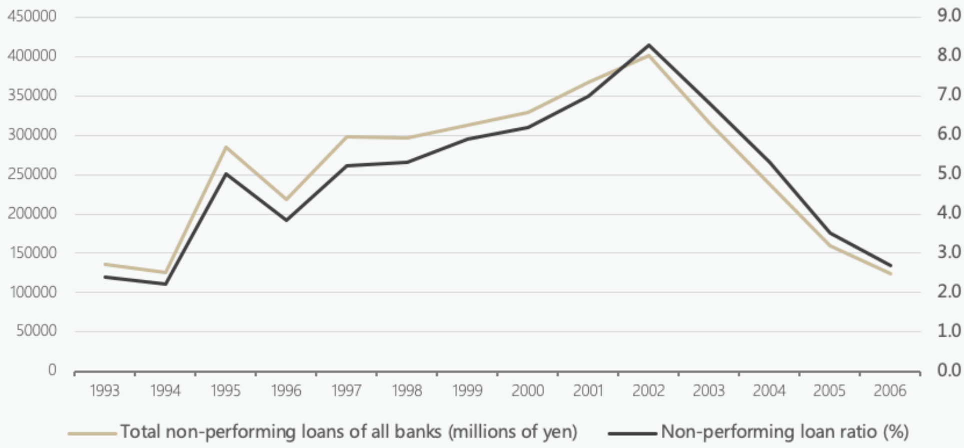
Figure 9: Number of housing sales (period 0=100)



Source: Authors' calculations.

Source: Financial Services Agency; Bank of Japan; Authors' calculations.

Figure 10 : Japan' s total non-performing loans and non-performing loan ratio



Note: The non-performing loan ratio data from 1993 to 1998 are estimates made by the author, using the total amount of non-performing loans of all banks as the numerator, and an estimated total amount of outstanding loans as the denominator.

From 1993 to 1997, the total amount of non-performing loans in Japan rapidly increased from 13.5 trillion yen to 30.0 trillion yen, more than doubling. Despite the significant presence of these bad debts, as previously mentioned, there was a widespread belief in Japanese society in the "land myth" — the notion that it would not falter, and that the non-performing loan issue would naturally resolve itself with economic recovery. During this phase, the Ministry of Finance (MOF), responsible for regulating the financial system, initially adopted a rather passive policy, hoping to protect the troubled banks through lenient regulation and other forms of support, thereby buying time for economic growth and the recovery of asset prices.

Japan's delay in dealing with the problem of non-performing debt in the early stages can be attributed to two aspects. First, the Japanese government is very wary of the moral hazard caused by using fiscal funds to rescue financial institutions. Consequently, at the macro-policy level, only limited assistance measures were attempted, such as providing 680 billion yen in expenditure for jusen (home mortgage lending companies). This policy was also greatly criticized at the time. Second, Japan was limited by the financial legal system at the time and lacked a suitable legal institutional framework to deal with bankrupt financial institutions. The above two points make Japan lack both funds and institutional support to deal with the problem of non-performing debt.

Overall, it was due to the "delay" in addressing the non-performing asset problem that Japan's non-performing asset issues accumulated more and more, increasing the difficulty and cost of later handling, causing Japan to experience a much longer recession.

Explanation 3: Japan Finally Chose the Right Policies.

After encountering the systemic banking crisis that began in 1997, Japan began to seriously and decisively deal with the problem of non-performing debt. In 1998, Japan revised the Deposit Insurance Act and promulgated the Act on Strengthening Financial Functions (ASFF), making it possible to invest fiscal funds. In March 1998, 1.8 trillion yen was injected into major banks for the first time. Compared with the total non-performing loans that were as high as 22 trillion yen at that time, this capital injection could only slightly improve the capital adequacy ratio. The second capital injection of 7.5 trillion yen in March 1999 was more effective. At the same time, Japan has also carried out multiple rounds of reforms in the financial regulatory mechanism and established the Financial Services Agency (FSA) to strengthen the review and supervision of non-performing loans in the banking system. In October 2002, the Program for Financial Revival (PFR) was launched, a package of policies aimed at speeding up the processing of non-performing debt problems. After imposing radical regulatory measures Japan's stock of non-performing loans has been decreasing year by year. The systemic banking crisis ended in 2005, and the non-performing loan ratio of major banks has dropped below the target level set by the government.

After resolving the issue of non-performing debt, Japan's macro policy went through a period of uncertainty. First, in response to the global financial crisis, Japan's fiscal and monetary policies continued to exert force and launched an emergency economic stimulus package to tide over the crisis. However, as the economic situation at home and abroad improved, fiscal policy began to shift to tightening to control debt levels. During this period, fiscal and monetary policy adjustments were mainly aimed at responding to the global financial crisis and stabilizing the economy. However, the decision to implement fiscal austerity also reflects the government's concerns about long-term debt problems. Later, the implementation of Abenomics injected new policy impetus into the Japanese economy.

In 2012, Japanese Prime Minister Shinzo Abe launched the "three arrows" policy combination to support economic development with unprecedented intensity.

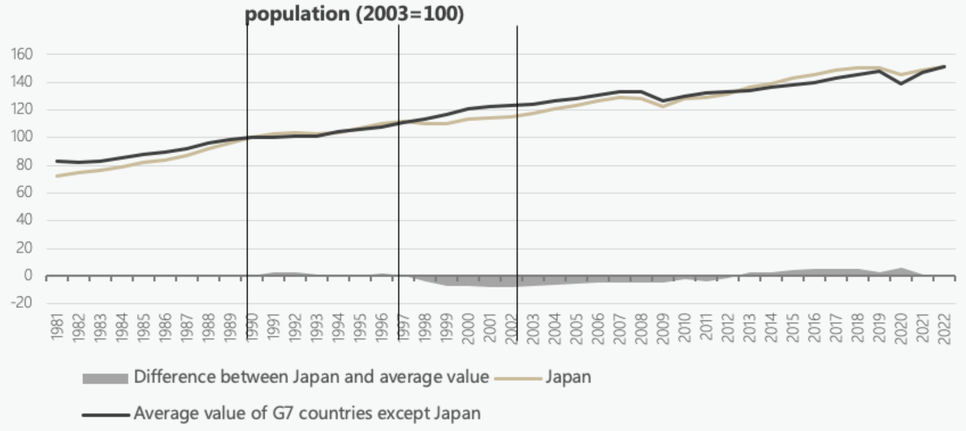
One is monetary easing. The Bank of Japan has adopted a series of monetary easing measures, including the introduction of negative interest rate policies and the purchase of government bonds and other financial assets. Through large-scale monetary easing policies, we increase money supply, lower interest rates, promote inflation, and boost business and consumer confidence.

The second is fiscal stimulus. Implement a series of fiscal stimulus plans, including increased public spending, tax cuts, and various economic revitalization measures. By increasing government spending, increasing infrastructure investment, and other means, we can stimulate economic activities, improve employment levels, and promote inflation.

The third is structural reform. Including reforms in the labor market, corporate governance, education system, and other fields. Through a series of economic structural reforms, we will improve the flexibility of the labor market, promote corporate innovation, increase competitiveness, and achieve long-term economic growth.

Therefore, we tend to believe that Japan has entered the recovery stage since 2003, and with the support of several stimulus policies, economic growth has been picking up. This trend is even more obvious in Figure 11 based on 2003. From 2003 to 2019, the average growth rate of GDP per capita of Japan's working-age population was 1.49%, and the average growth rate of other countries was 1.03%. And if we look at the economic performance after the financial crisis, the gap between Japan and other countries has further widened. From 2009 to 2019, the average growth rate of GDP per capita of Japan's working-age population was 2.12%, and the average growth rate of other countries was 1.55%.

Figure 11: Comparison of the actual GDP per capita level of the working population (2003=100)

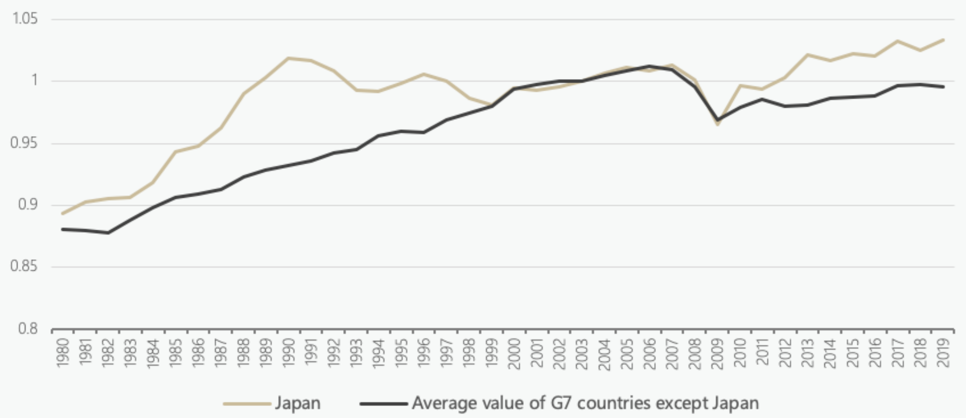


Source: WDI; authors' calculations.

This growth trend is also reflected in total factor productivity and the stock market. After 2003, Japan's TFP began to resume growth and was eventually faster than the average of other countries, and even exceeded the peak level in 1990 after 2012. At the same time, the capital market has also returned to the growth channel, and the Nikkei 225 Index has bottomed out and has also exceeded its peak level so far. **Therefore, behind the rebound of the Japanese stock market is the recovery of the Japanese economy, which is a reasonable response to Japan's correct policies.**

Source: Wind; authors' calculations.

Figure 12: Comparison of total factor productivity (taking 2003 as 1)



III. Summary

First, from a thirty-year time scale, population gravity is the most important factor affecting the economy. Looking only at the GDP per capita of the working-age population, Japan's economic performance is pretty good. The most fundamental reason why Japan is inferior to other countries is the decline in the working-age population. No matter how hard macro policies work, the "gravity" of demographic structure on the economy is irresistible.

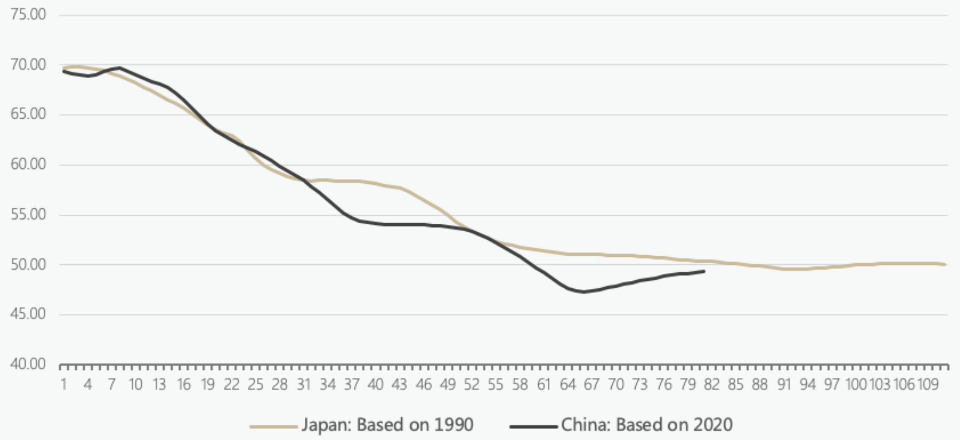
Second, adjustments to the real estate crisis and financial markets "will arrive late," and delay cannot prevent the outbreak of the crisis. The adjustments that need to be made will eventually occur and are unavoidable. As far as the real estate market is concerned, after the bubble bursts, both housing prices and physical workload will be adjusted in place. Japan delayed the outbreak of the crisis, but it could not avoid it. As far as the financial system is concerned, the problem of non-performing debt should be actively resolved as soon as it arises. Delays will lead to greater disposal costs.

Third, despite its initial passive avoidance, Japan did the right thing in the end. After vigorously dealing with the real estate market and non-performing debt problems, Japan is also trying to take various measures to stimulate economic growth, such as large-scale monetary easing policies, to push economic growth back on track. Judging from the GDP per capita of the working-age population, Japan has entered the recovery stage since 2003, and the capital market and total factor productivity have also rebounded. **Behind the rebound of the Japanese stock market is the recovery of the Japanese economy, which is a reasonable response to Japan's correct policies.**

Appendix: Comparison of data between China and Japan

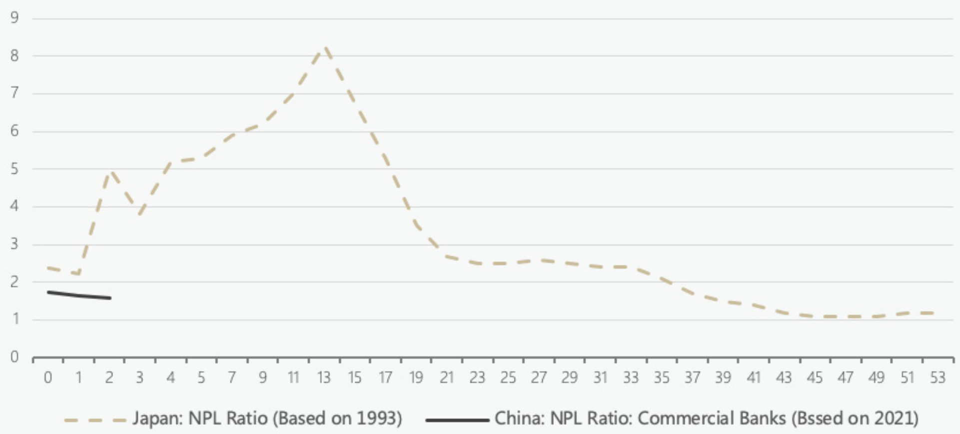
We have listed China's relevant data for simple comparison with Japanese data, only as a reference.

Figure 13: Proportion of working-age population



Source: World Population Prospects 2022.
Note: Data after 2023 are forecast data.

Figure 14: Non-performing loans



Sources: Wind; Financial Services Agency; authors' calculations.
Note: Japan's non-performing loan ratio data from 1993 to 1998 is estimated by the author.

Figure 15: House price index (adjusted for inflation, taking period 0 as 100)

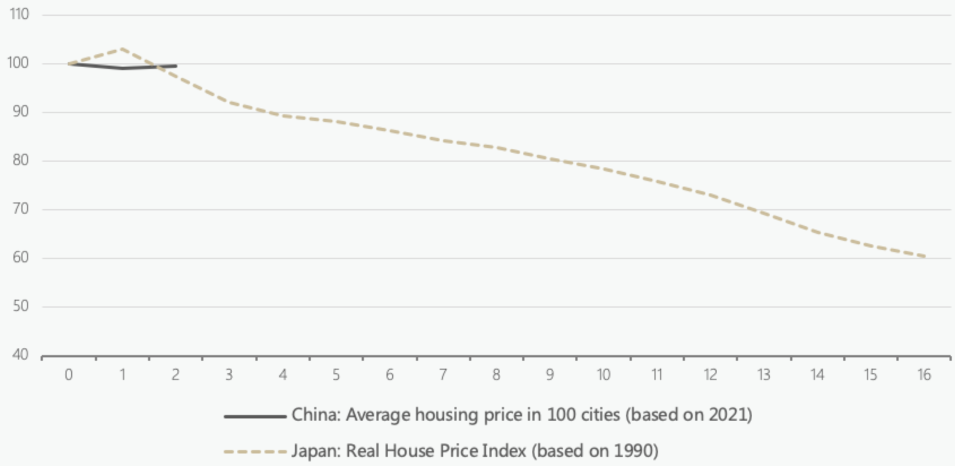


Figure 16: Real estate investment (adjusted for inflation, period 0=100)

Figure 17: Newly constructed housing projects (period 0=100)

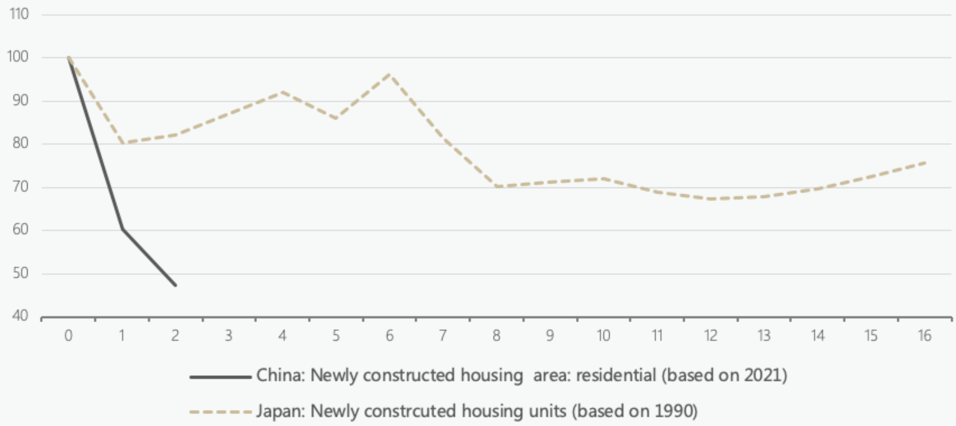
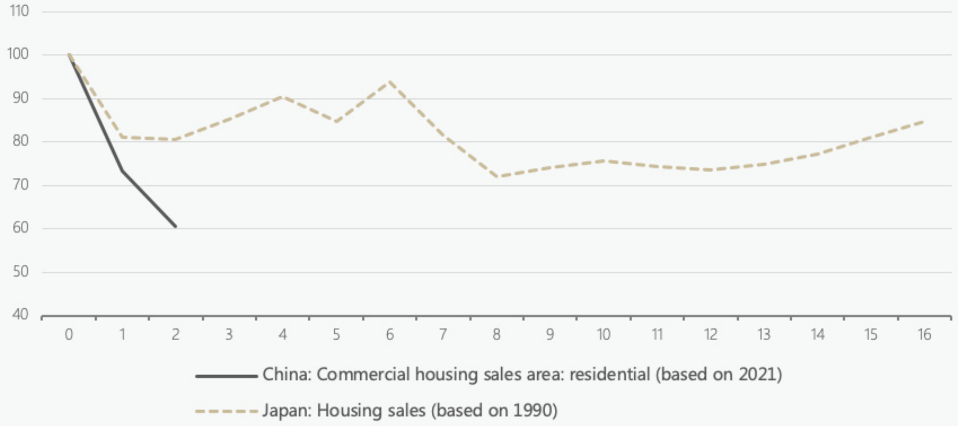


Figure 18: Housing sales (period 0=100)



Sources: Wind; authors' calculations.

中国金融四十人研究院
CHINA FINANCE 40 INSTITUTE