

# Long-term low interest rates and economic stagnation – a comparative study of Japan and the Eurozone

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**Abstract.** This paper takes Japan's "lost 20 years" and the low interest rate policy after the eurozone financial crisis as the research object, and compares the similarities and differences between the two in the background, economic performance and policy effect of monetary policy. Through analysis, this paper finds that Japan's long-term low interest rates are mainly due to structural stagnation after the bursting of asset bubbles, deflation expectations, and population aging. Low interest rates in the euro area are mainly affected by the impact of the financial crisis and sovereign debt crisis, as well as institutional constraints. Research shows that although low interest rate policies help stabilize the economy and financial markets in the short term, they have a limited role in driving economic growth and inflation under long-term stagnation or institutional constraints, and may also reduce bank profit margins and exacerbate financial market differentiation. Through the comparison between Japan and the euro area, this paper reveals the limitations of monetary policy in different economic environments, and proposes that fiscal stimulus, structural reform and population policy should be combined to improve policy transmission efficiency and economic recovery ability.

**Keywords:** Japan; Eurozone; low interest rate policy; Quantitative easing; Long-term stagnation.

## 1. Introduction

Since the bursting of the Japanese economic bubble in the 90s of the 20th century, the Japanese economy has been in the predicament of low growth and deflation for a long time. To stimulate the economy and respond to insufficient demand, the Bank of Japan (BOJ) first introduced a zero-interest rate policy in 1999 and implemented quantitative easing in 2001. However, despite the increasing policy efforts, the Japanese economy has never been able to get out of the "lost 20 years" [1,2], and was finally forced to implement negative interest rates in some industries in 2016. This process made Japan the first developed economy in the world to enter a state of ultra-long-term low interest rates.

In Europe, the situation is similar. Under the influence of the global financial crisis in 2008 and the European debt crisis in 2010, the eurozone economy was weak and inflation continued. In response, the European Central Bank (ECB) took the lead in bringing deposit rates down to negative levels in June 2014[3], along with a massive asset purchase program to stimulate credit expansion and boost inflation. However, years of negative interest rates and quantitative easing have not significantly restored the growth vitality of the eurozone, but have led to new problems such as damaged bank profits and increased financial divergence.

The effectiveness and risks of long-term low interest rate and negative interest rate policies have become an important topic in contemporary macroeconomics. They are not only related to the effectiveness of traditional monetary policy tools, but also directly affect financial stability and long-term economic growth potential. This paper will compare the implementation paths, economic results and structural limitations of long-term low interest rates in Japan and the euro area, explore the mechanism of low interest rate policies in different institutional and economic contexts, and put forward implications for future policy formulation.

Existing research mainly focuses on the cases of single economies, and there is still little systematic comparison between Japan's low-interest rate policies and those in the euro area, especially the lack of comprehensive analysis of institutional structure, demographic trends and banking system differences. In addition, most of the existing literature is limited to the evaluation of policy effects,

and few cross-country comparisons are made from the perspective of long-term sustainability and policy side effects.

The contributions of this paper are: 1 systematically compare the implementation path and effect of low interest rate policies in Japan and the euro area; 2. Combined with macroeconomic indicators and financial market responses, analyze the commonalities and differences of long-term low interest rates. 3. The limitations of low interest rate policies and future policy implications are proposed, and it is emphasized that monetary easing must be combined with fiscal and structural reforms.

## **2. Literature Review**

### **2.1. Theoretical basis for long-term low interest rates**

The issue of the Zero Lower Bound (ZLB) has long been regarded as a constraint on monetary policy. The data points out that when nominal interest rates are close to zero, traditional monetary policy loses its stimulus effect, and the economy may fall into a "liquidity trap" [2]. Research further suggests that in this case, central banks need to raise inflation expectations through forward-looking guidance and unconventional tools such as quantitative easing to restore effective demand.

The expected goal of long-term low interest rate policies is to reduce financing costs, stimulate consumer investment, and increase inflation. However, some relevant data have proposed the "long-term stagnation hypothesis", which suggests that advanced economies may fall into a long-term lack of demand due to population aging, declining productivity, and excess savings, making it difficult for low interest rates to truly restore economic vitality [1]. At the same time, over-reliance on low interest rates may weaken the soundness of the financial system and increase the risk of asset bubbles.

### **2.2. An empirical study of Japan's long-term low interest rates**

Japan is considered a "laboratory" for studying long-term low interest rate policies. The data pointed out that the Bank of Japan (BOJ) reacted too slowly to the recession in the early 1990s, leading to entrenched deflation expectations [3]. The sluggishness of the central bank has led to poor incomes for Japanese households and businesses, the collapse of trust in the banking system, and structural factors that have made the Japanese economy sluggish.

The study found that despite interest rates falling to zero, Japanese households and businesses still suppress consumption and investment due to poor income prospects, and the transmission effect of monetary policy is limited, falling into a vicious circle [3]. At the same time, after the NPL crisis, the Japanese banking system experienced a crisis in which risk aversion intensified and the enthusiasm for corporate lending was insufficient, further weakening the role of monetary easing [4]. Therefore, the core of Japan's long-term economic downturn lies in structural factors, including an aging population, a shrinking labor force and a decline in potential growth rates. Under these conditions, even if the convenience rate is very low, it is difficult to stimulate private sector demand.

Overall, Japan's research shows that long-term low interest rates have not fundamentally reversed deflation and low growth, but have exposed the limitations of monetary policy.

### **2.3. Research on long-term low interest rates and negative interest rates in the euro area**

The low interest rate results in the eurozone are different from those in Japan. In the aftermath of the European debt crisis, the ECB must reduce financing costs and prevent deflation through negative deposit rates and quantitative easing. Subsequent empirical studies have found that negative interest rates do reduce bank lending rates in the short term and promote credit expansion to a certain extent [5].

However, in a negative interest rate environment, banks' profit margins are compressed, and some banks choose to reduce the size of loans or even turn to riskier investments to maintain profits. Due to the significant differences in the economic structure of eurozone member countries, negative interest rate policies have worked relatively well in core countries such as Germany and France, while

in southern European countries have a relatively limited effect, which may even exacerbate the differentiation of the financial system.

Therefore, although the negative interest rate policy in the euro area has contributed to preventing further economic deterioration, its long-term effects and side effects are still highly controversial.

### **3. Background of the implementation of low interest rate policies in Japan and the euro area**

Japan's low interest rate policies are similar to those in the euro area, but the roots are different. Japan is more of a product of long-term structural problems [1,2,7], while the eurozone is the result of financial crises and institutional deficiencies [5,6]. This difference paves the way for different subsequent policy effects.

#### **3.1. Japan: From bubble burst to long-term stagnation**

At the end of the 80s of the 20th century, Japan's economy showed a high degree of prosperity around the world. Stock market and real estate prices have risen sharply[1]. However, this boom is based on excessive credit expansion and asset bubbles. The bubble burst in the early 1990s, causing stock markets and housing prices to fall sharply, and corporate and bank balance sheets to be damaged at the same time. Many companies are heavily indebted and forced to reduce investment and employment, while the banking system has accumulated a large amount of non-performing loans [2,3]. During this period, the Japanese economy entered the so-called "balance sheet recession". In response to the crisis, the Bank of Japan (BOJ) lowered its policy rate to near zero for the first time in 1999[3], marking the beginning of the "zero interest rate policy".

However, the stimulus effect of zero interest rate policy is very limited. Due to the reduced risk appetite of financial institutions, funds have not been effectively inflowed into the real economy. In 2001, the Bank of Japan (BOJ) further introduced "quantitative easing" and lowered long-term interest rates by purchasing long-term government bonds and asset-backed securities. But even so, the economy has not recovered effectively.

After 2013, the Bank of Japan (BOJ) adopted a larger scale of "quantitative and qualitative easing" (QQE) under the policy framework of "Abenomics" [4]. Despite this, Japan's GDP has grown at an average annual rate of only about 0.8%, and inflation has been below 2% for a long time [2,4,14].

In summary, the main reasons for Japan's long-term low interest rates include the following:

- Long-term balance sheet repair due to the bursting of asset bubbles;
- Entrenched deflation expectations, dampening investment and consumption;
- Population ageing and shrinking labor force leading to a decline in potential growth rates;
- The recovery of the soundness of the banking system has been slow, and credit transmission channels have been blocked.

#### **3.2. Eurozone: The dual impact of financial crisis and debt crisis**

Unlike Japan's asset bubble bursting, the eurozone's low interest rate losses are more related to institutional arrangements and external shocks. After the outbreak of the global financial crisis in 2008, the eurozone banking system was severely hit, and credit activity contracted sharply [5]. Immediately afterwards, the European debt crisis broke out in 2010, and the fiscal deficits and debt levels of Greece, Portugal, Spain, and Italy deteriorated rapidly [6,11]. Treasury yields rose sharply due to the lack of unified fiscal policy in eurozone member countries, which led to a loss of confidence in debt sustainability.

In 2012, ECB President Mario Draghi proposed "whatever it takes", that is, defending the euro "at all costs", which successfully stabilized market confidence. However, the economic recovery process has been slow, and unemployment has been chronically high. In response to low inflation and deflation risks, the European Central Bank (ECB) lowered the deposit rate to -0.1% in 2014, becoming one of the world's first major central banks to implement negative interest rates on a large

scale. In 2015, the European Central Bank (ECB) further launched the Asset Purchase Program (PSPP) to lower long-term interest rates by purchasing government bonds [1,3].

The main reasons for the eurozone's low and negative interest rate policies are as follows:

- The impact of the global financial crisis and the European debt crisis;
- Differences in internal economic structure, with high debt in southern European countries and strong financial stability in northern European countries;
- The lack of unity of fiscal policy and the forced monetary policy to take on more responsibilities;
- Inflation has been low for a long time, and the ECB must take unconventional measures to stabilize expectations.

Compared to Japan, the eurozone is more of a passive choice under institutional constraints. Due to the lack of unified fiscal tools, the European Central Bank's (ECB) low interest rate policy often faces the dilemma of "fighting alone".

## **4. Comparison of policy effects and economic performance**

### **4.1. Economic growth performance**

In Japan, zero interest rates and quantitative easing have not significantly boosted economic growth. Even after the launch of "Abenomics" in 2013, Japan's GDP growth rate is still difficult to exceed 1%. The low interest rate environment has not been effective in stimulating corporate investment, but has led to more capital flowing to low-risk government bonds [2,3,4].

After the implementation of negative interest rates in 2014, the eurozone showed signs of recovery, with GDP growth reaching about 2% between 2015 and 2017. However, this recovery is not robust [1,5,11]. After 2018, global trade tensions and internal political uncertainty slowed growth again. Overall, low interest rates have helped the eurozone avoid a long-term recession, but have failed to recover more than 3% of pre-crisis growth.

### **4.2. Inflation performance**

Japan has been in a state of low inflation and even deflation almost consistently since the late 1990s [2,6,14]. While the Bank of Japan (BOJ) has set a target of 2%, core inflation has mostly remained between 0% and 1%. Low interest rates and large-scale monetary injections have not changed the psychology of residents and businesses that deflation will continue.

Inflation in the euro area was also low between 2014 and 2019, averaging only around 1.2% [5,11,13]. While true deflation was avoided, it was well below the "close but below 2%" target set by the European Central Bank (ECB). Even large-scale QE after 2015 has not significantly boosted inflation.

### **4.3. Banking system and credit transmission**

In Japan, banks experienced a long period of non-performing loan clearance in the 1990s and early 2000s. Although the financial system has tended to be stable since then, banks are generally risk-averse and unwilling to lend to enterprises. Low interest rates have compressed banks' profit margins, leaving insufficient momentum for credit expansion [3,12,14].

In the euro area, negative interest rates have a more direct impact on bank profit models. Due to the narrowing of deposit and loan spreads, the profitability of banks has declined, and some banks have even directly passed on costs to enterprises or customers, resulting in credit expansion not as expected. In addition, the banking systems of southern European countries are more fragile, with negative interest rates exacerbating differences between the North and South [6,11,13].

#### 4.4. Financial market performance

Japan's long-term government bond yields fell to near zero in the 2010s, and even negative yields in some years. Financial markets are stable but lack dynamism in this context [2,9], and investors are more inclined to hold safe assets.

The eurozone shows significant market differentiation. German Bund yields have been negative for a long time, while Greece, Italy and other countries have significantly higher interest rates. While the European Central Bank's (ECB) asset purchase program has compressed spreads to some extent, the problem of "financial fragmentation" [5,11] remains.

### 5. Discussion and analysis

#### 5.1. Common Ground

- Limited economic recovery: Low interest rates have failed to revive long-term growth in both Japan and the eurozone [2,5].
- Inflation target not met: Both have failed to achieve the 2% inflation target for a long time [6,11,13].
- Decline in bank profits: low interest rates compress bank profits and weaken credit expansion [12,13].
- Diminishing marginal effects: The effectiveness of policies decreases over time, and side effects gradually appear.

#### 5.2. Differences points

- Japan: Structural stagnation → Aging population and declining potential growth rates are the root causes [14,15].
- Eurozone: Institutional constraints → Fiscal fragmentation and banking system differences lead to uneven policy effects [6,11,13].

#### 5.3. Theoretical enlightenment

- Long-term stagnation hypothesis: Tests the possibility of long-term stagnation in advanced economies proposed by "Summers" [7,11].
- The zero interest rate floor (ZLB) dilemma: low interest rates cannot stimulate the economy unlimitedly, and there are boundaries [10,13].
- The importance of policy coordination: Monetary policy alone is difficult to work and must be combined with fiscal and structural reforms [7].

### 6. Conclusions

In terms of economic growth, Japan's low-interest rate policy has been sluggish for a long time, while the eurozone has been effective in the short term, but there are still structural problems. In terms of inflation performance, Japan and the eurozone have both failed to target inflation, indicating that monetary easing has a limited role in addressing deflationary expectations; From the perspective of the banking system and credit transmission, both banking systems have been affected by negative interest rates, but Japan is "cautious and conservative", and the euro area is "intensified differentiation"; From the perspective of financial market performance, Japan's financial market is highly stable but lacks risk-taking, while the eurozone market is affected by institutional fragmentation and is difficult to form a unified policy transmission.

By comparing the low interest rate and negative interest rate policies in Japan and the Eurozone, the following conclusions are drawn:

1. Short-term effectiveness, long-term weakness: Low interest rates can prevent the crisis from worsening, but cannot restore long-term growth [4,11].

2. Inflation targets are difficult to achieve: Monetary easing cannot reverse deflationary expectations alone [13].

3. Banking system damaged: Reduced profitability weakens monetary policy transmission [3].

4. Differences between institutions and structures determine policy effectiveness: Japan's stagnation stems from structural factors, while the Eurozone's predicament stems from institutional constraints [1,2,11].

5. Future policy implications: Monetary policy should be combined with fiscal stimulus, population policy, and structural reforms [8,10,16].

For other advanced economies, Japan's experience with the eurozone serves as an important cautionary tale: overreliance on low interest rates could lead to diminishing policy effectiveness and even new financial risks. Therefore, in the future, macro policies must pay more attention to the combination of policy tools and institutional innovation.

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