The Causes of the Japanese Lost Decade: An Extension of Graduate Thesis

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Ⅰ. Introduction

The “Lost Decade” – the country known as of the rising sun was not brimming with rays of hope during the 1990's. Japan's economy plummeted into stagnation after the bubble burst in 1991, entering into periods of near zero economic growth; an alarming change from its average 4.0 percent growth in the 1980's. The amount of literature on the causes of the Japanese economic bubble burst is vast and its content ample, ranging from asset-price deflation, financial deregulation, deficient banking system, failing macroeconomic policies, etc.

This paper, an overview of this writer's graduate thesis, re-examines the post-bubble economy of Japan, an endeavor supported by additional past works coupled with original data analysis, beginning with a general overview of the Japanese economy during the bubble compared to after the burst. Several theories carried by some scholars were chosen as this paper attempts to relate the theory to the actuality of the Japanese experience during the lost decade.

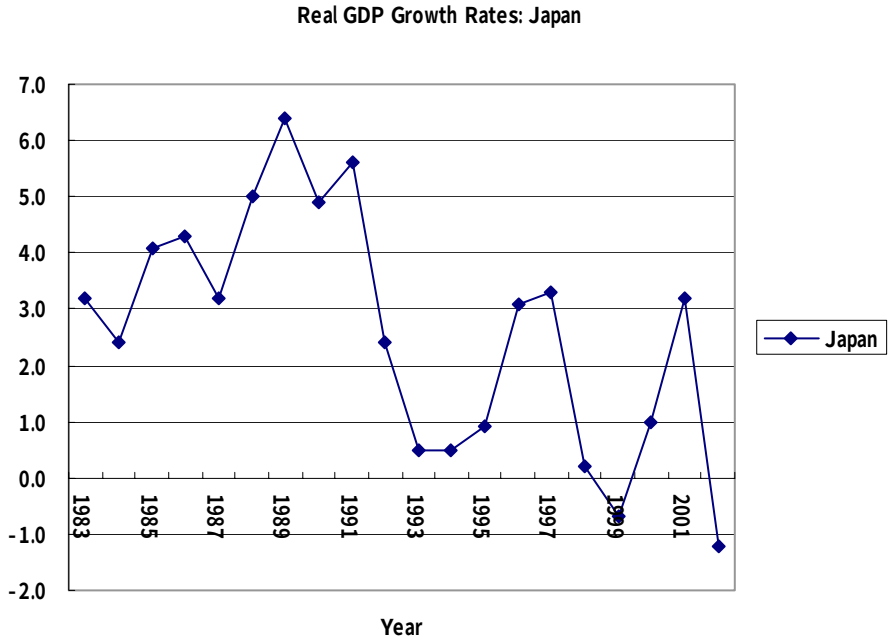
Ⅱ. The Bubble and Burst: the Rising Sun to the Lost Decade

A. General Overview

The so-called Japanese "bubble economy" marked high economic growth. The 1973 period of high growth illustrated an average real growth rate of GDP/capita of close to 10 percent. It was also a time where there was near-zero inflation rate. The period of 1973-1991 shows moderate growth of around 4 percent. As can be seen from figure 1, 1981 marked the highest real GDP growth rate of 6.4 percent. The second half of the '80s signifies this moderate growth and it is from 1985-1991 that is coined the bubble economy, showing high growth expectations, high asset price levels and rapid credit expansion. In comparison, the data clearly shows a sudden drop in GDP growth rates after 1991 from 5.6 percent to 2.4 percent the following year and 0.5 percent the year after, leading to – 0.7 percent in 1999.

Fig 1. Real GDP Growth Rates of Japan

Source: Bank of Japan



From the late 70's, the Japanese government started its path towards deregulation of its financial institutions, starting with the introduction of a secondary government bonds market,

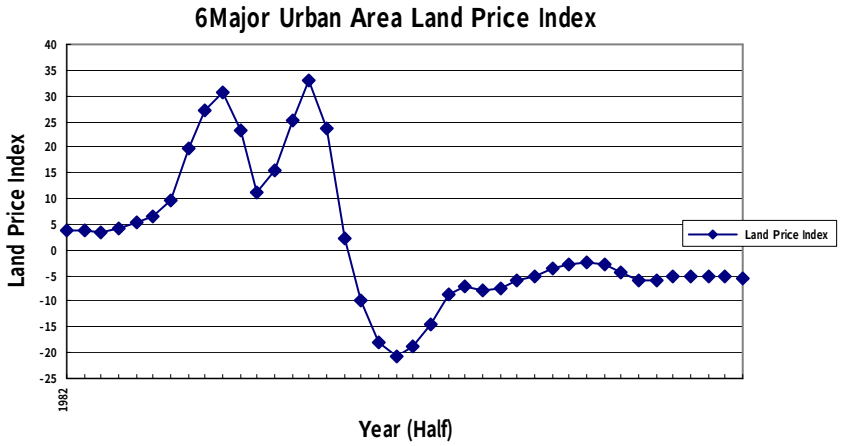
then corporate bonds market and equities market. Moreover, in 1980, the Foreign Exchange and Control Act was reformed and there was a relaxation of foreign exchange controls. By 1984, several deregulation moves allowed Japanese firms to raise funds abroad. Greater choices for sources of funding meant that large Japanese corporations were no longer so dependent upon Japanese banks. Large firms began to replace their bank loans with new bond financing.

The sectoral pattern of total bank lending underwent dramatic change. Lending to manufacturing fell in the second half of the 1980s while international lending grew rapidly. Growth in real estate investment continued to accelerate from 7 percent annual growth in the second half of the 1970s to 18 percent in the first half of the 1980s and 20 percent in the second half of 1980s.

Faced with the possibility of recession during an enormous appreciation of the yen from the spring of 1985 to 1987, the government responded with monetary ease, enabling the economy to sustain annual real economic growth that averaged 5 percent from 1987 to 1991. Under normal circumstances, this would have led to higher inflation but yen appreciation had put manufacturers under strong price pressure. They either needed to absorb a large part of yen appreciation in order to maintain market share abroad or face new pressures from imports at home. Increased international competition lowered the prices of goods coupled with strong yen lead to this

Fig 2. 6 Major Urban Area Land Price Index

Source: Bank of Japan



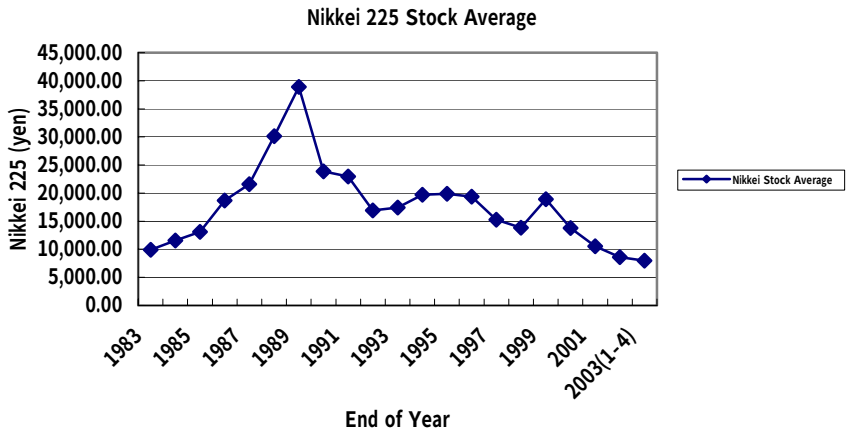
end. With limited growth in demand for manufacturing funds, banks lent more for real estate

and stock market investments. Rather than general price inflation, Japan got asset inflation.

In five years, both equity prices and urban real estate tripled in value. In the 1970s, the rate of increase in land prices began to sky-rocket. And as people became more affluent, demand for land intensified. In 1974, the Government reported land price had increased 30.9% from the previous year. People who bought land were rewarded with significant price appreciation, which lasted until 1991. As can be seen from Figure 2, urban real estate prices in Japan's six largest cities tripled between 1985 and 1991. Nikkei Average index of stock prices tripled in value from 1985to the end of 1989, as shown in Figure 3. At the peak of the bubble, the Japanese society bore a myth that land price in Japan will only soar because the land supply is so limited. The post 1991 figures speak of a different story.

Figure 3. Nikkei 225 Stock Average

Source: Bank of Japan



Ⅲ. Major Causes of the Bubble Burst

A. Financial Deregulation

Fukao (2001) and Kamigawa (2001) both raise financial deregulation as one of the key factors in setting up a favorable environment for a land price bubble, enabling firms to borrow heavily in order to invest in commercial real estate, golf courses, private land and golf club memberships for households.

Financial deregulation prompted the acquirement of differing financing options for corporations,

lessening their dependency on banks for funding. In the 1980s, the Japanese banks shifted their main target of credit supply from manufacturing to non-traded-goods industries such as real estate, finance, and other services that were not well disciplined by global competition (Hanazaki and Horiuchi, 2000). Looking at the table below,

Table 1. Distribution of Bank Credit to Industries

(*Source: Bank of Japan)*

Industry	1960	1970	1980	1990	1995
Manufacturing	49.7	44.7	32.0	15.7	14.9
Construction	2.7	4.7	5.4	5.3	6.4
Real estate	0.8	3.8	5.6	11.3	15.3
Finance	1.5	1.2	3.3	10.0	10.2
Wholesale&retail	28.9	28.8	25.5	17.4	16.1
Other services	2.3	24.5	6.8	15.4	15.5
Other	14.0	12.4	21.3	24.8	21.6
Total	100.0	100.0	100.0	100.0	100.0
(¥tillion)	(8.1)	(39.2)	(134.6)	(376.0)	(486.7)

it is noteworthy that shares of bank credit to the manufacturing sector fell from 49.7 percent to 14.9 percent between 1960 and 1995. On the other hand, the real estate, finance, construction and other service sectors increased their shares largely since 1980.

B. Asset Price Deflation

Financial liberalization and inadequate prudential regulations played a role in the increase of asset price levels. In the first half of the 1980's, control on capital movements were dismantled, interest rates on deposits deregulated and new financial institutions were in place. As banks lost large firms to the international capital markets and domestic securities markets, they found alternative lending prospects in small and medium sized firms. These firms were able to borrow for risky or low-return projects simply on the basis of real estate collateral.

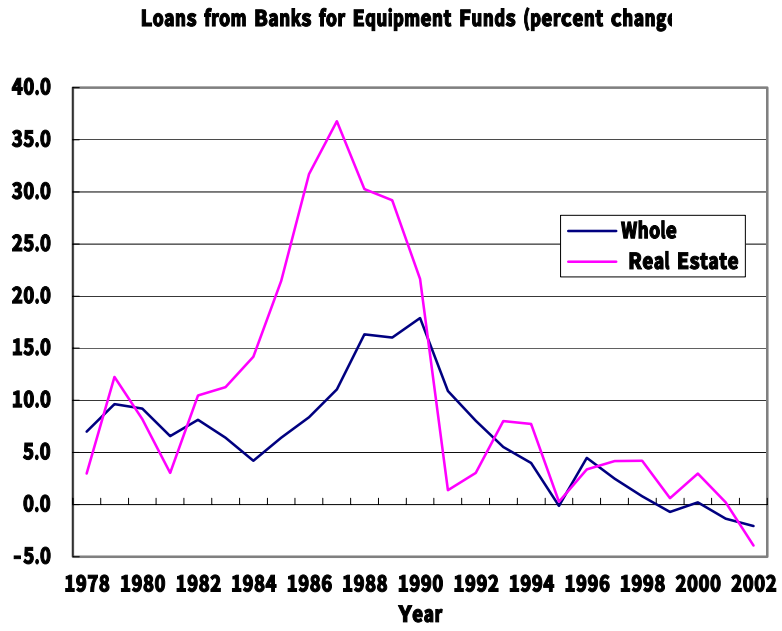
Moreover, monetary policy implemented by the second half of the 1980s also fueled asset price inflation. The Bank of Japan's official discount rate was halved in several steps to 2.5 percent between the end of 1985 and early 1987 and remained unchanged for two years, despite

the robust growth of activity. Continuing low level of general price inflation in the second half of the 1980s may have also weakened the case for monetary tightening.

By 1989, even the MOF recognized that the bubbles in real estate and stock prices were unsustainable. They were confident that these price levels would eventually decline. Contrary to their belief, total bank assets declined dramatically from 508 trillion yen in 1989 to 491 trillion yen in 1990. Monetary policy was tightened sharply from May of 1989, with the official discount rate being raised in several steps to 6 percent by August 1990. Equity prices began to fall in early 1990, the Nikkei index had declined by over 60 percent from its peak at the end of 1989. MOF introduced guidelines limiting total bank lending to the real estate sector. The plunge in stock price started in early 1990 and was over by the end of 1992.

Figure 4. Loan from Banks for Equipment Funds

Source: Bank of Japan



C. Non-Performing Loans

Land prices began to fall after 1991 and were still falling in mid-1998, causing the quality of loans to the real estate industry to deteriorate significantly. Moreover, collateral value declined as prior to 1991, borrowers could borrow up to 90% of their real estate collateral, which dropped to 50% between '91-'98, leaving 40% of such loans uncovered. Loans to industries with

land as their collateral became non-performing, leading to the bad-loan problem of Japanese banks (Hoshi 2001). Loans directly for stock market activity became non-performing with the decline in the market. As well, loans for real estate development, based on the assumptions on the future value of land, became non-performing.

It is very difficult to precisely identify the magnitude of the non-performing loans because of the lax requirements for reporting non-performing loans in Japan. According to the Ministry of Finance in September 1997, the banking sector held 28 trillion yen in non-performing loans; but later admitted that by "broader" definition, loans totaled some 77 trillion yen. As a ratio to GDP, this amounts to 16 percent of all outstanding private bank loans in Japan. In 1998, the new Financial Supervisory Agency (FSA), recalculated the value of problem debt as 123 trillion yen (Lincoln 1998), raising the ratio of bad debt to GDP to 25 percent.

In addition to these banks' bad debts, Lincoln (1998) points out that insurance companies and securities houses also have losses from both stock and real estate investment, whose figures are not accountable. Moreover, a large part of Japanese banks' lending to Asian countries, totaling some 125 billion dollars in 1997, may account as either non-performing or will become so. To make matters worse, Lincoln attributes unethical or illegal activities among financial firms, their clients, government officials, and politicians to have an influence on the expansion of bad debts.

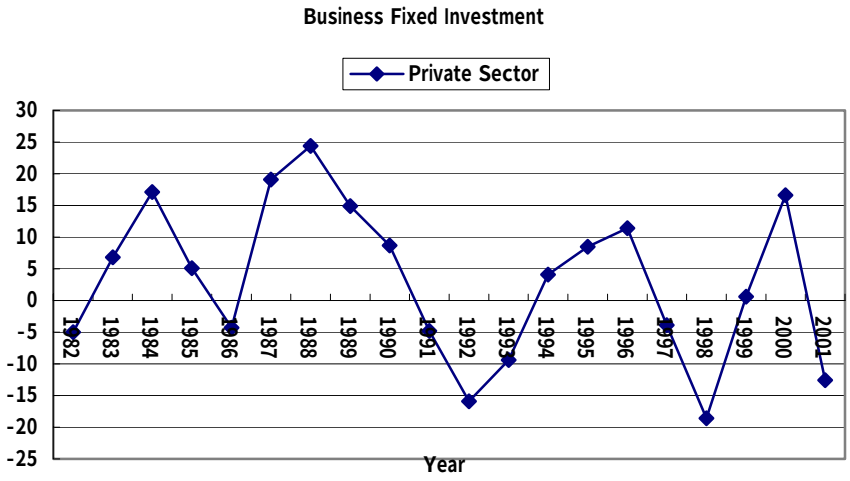
D. Investment

Investment grew rapidly in the latter half of the 1980s and the capital-output ratio increased markedly in relation to its upward trend as many low return and high risk projects were undertaken. Thus, investment spending during the second half of the 1980s was excessive, spurred by the combined effects of the boom in asset prices and the lax lending policies of banks.

The collapse of the asset price bubble was followed by a sharp decline in domestic demand. Investment contracted particularly as returns to capital dropped. Investment by small and medium-sized enterprises had been particularly adversely affected by the squeeze on credit. We can see that gross private fixed investment contracted on average by over 2 percent a year in the first half of the 1990s. From Figure 5, it is apparent that although private fixed investment picked up in 1996, it fell again in 1997 and carried over into the first half of 1998. On the other hand, Figure 6 depicts a relative increase in public investment in the 1990s through repeated

Figure 5. Private Fixed Investment

Source: Bank of Japan

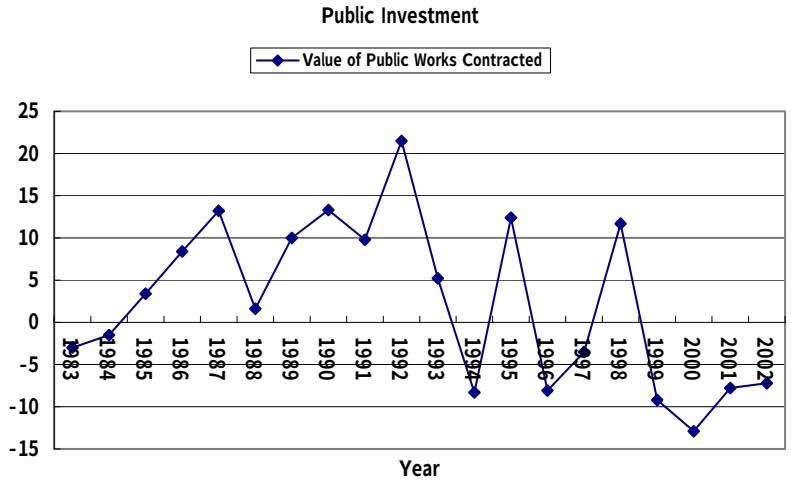


attempts to revive the economy. However, it declined and dropped significantly from 1992.

The slow down of private investment also contributed to lower potential output growth. The decline in the growth of the private capital stock accounted for almost half of the slow-down in the trend growth of output in Japan in the 1990s.

Figure 6. Public Investment

Source: Bank of Japan



Moreover, this trend growth is most likely to be negatively affected by demographic changes in the future. To offset these negative factors, deregulation and other structural reforms are needed to enhance productivity growth.

Ⅳ. Several Theoretical Background and Insight into the Japanese Experience

Hoshi (2001) points out that the large corporations, once dependent upon banks for funding, were those that were well established and belonging to one of the major *keiretsu* groups. Because of their long-standing relationship, banks were able to obtain relatively sufficient information in order to monitor and regulate their client firms. However, when the banks switched to lending to small and medium sized firms, the problem was lack of information and credit.

Stiglitz and Weiss (1981) study the role of credit in the economy. It is extremely difficult to take credit into account as it is fragile and cannot be incorporated into the general equilibrium model or the supply function. This is because credit is highly sensitive to information; especially information on an individual's trustworthiness (ie. economic circumstance, managerial incentive structure, willingness to take risks, etc). For banks, gathering such information, as well as making judgments on another's credit worthiness entails high cost of risk-bearing. Moreover, information is easily lost or become outdated, which implies that both the process of gathering and evaluating credit information needs constant rejuvenation.

To protect themselves from risk of bankruptcy, the Japanese banks looked favorably upon the rising land prices and utilized land as collateral when giving out loans. Thus, investment in real estate and construction businesses looked especially safe. When their expectations failed them and land prices fell miserably, the balance sheets of Japanese firms were affected negatively by the accumulation of debt. In some cases, they were forced to sell inventory goods at a lower price. In other words, cutting prices reveal bad information about the firm's financial state, causing them to lose credit and banks refusing to lend money. Stiglitz and Weiss also examined a similar case and argued that as the relative price of the product of indebted firm versus the price of the same products of other firms drops; it conveys information that the debtor firm is performing badly. In turn, their credit worthiness, or reputation, is ruined. To avoid revealing their state, the product price is relatively fixed compared to the asset prices.

This is reflected upon the Japanese firms as especially the small and medium size firms rely heavily on credit for funding. The small and medium sized Japanese firms were pressured

by the cut in prices. It shows how once a reputation is ruined, it would be extremely difficult for firms to obtain loans.

Ueda (March, 2003) showed the relationship by industry between NPLs and the extent of land holdings. He found out that there was a positive relationship between the two: the larger the land holding, the more serious the NPL problem. Thus, he argues asset price deflation was the cause of NPL problems. Sekine (1999) showed that deteriorating balance-sheet conditions influence in firms being cautious in implementing projects that are risky since the firms are risk-averse. Thus, debt overhang may explain why firms became reluctant to take risks.

The ability of debtors to cover to their loans declined as the Japanese firms' balance sheet collapsed after the bubble burst. Greenwald and Stiglitz (1993) argue that in the world of firms facing asymmetric information, firms with large debt and insufficient equity will act in a risk avert manner as they have to consider risk when making production, investment and pricing decisions. As such, when a firm is in debt and is a risk averter, it will not take risk. Moreover, the firms' total net worth and stock of liquid assets also defines their ability to absorb risks. As we saw in the case of Japan, as asset price declined and so did firms' total net worth, their willingness to take risks also declined. Moreover, the implication of asymmetric information is to restrict a firms' ability to raise equity funds in external capital markets. This caused debt-overhang.

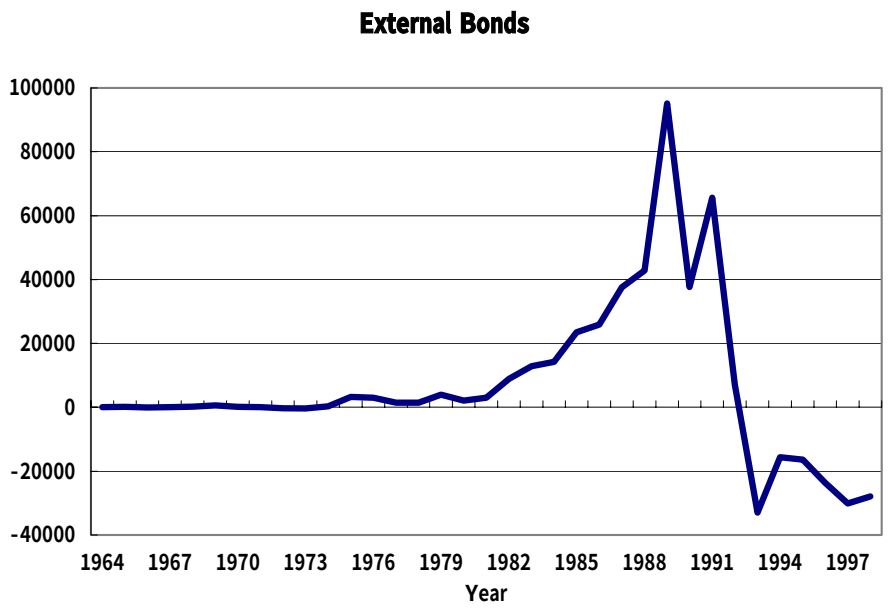
Lamont (1995) describes this debt overhang as when new investment is deterred on account of already existing debt, since the benefits from new investment will go to existing creditors rather than to the new investors. Therefore, Lamont stressed that there is a certain threshold value for investment returns where anywhere below it would make it impossible for firms to attract funds and therefore, invest. Especially when the economy is stagnant with low return to investment, Lamont found that debt overhang would bind. Expectations of future economic conditions also play a role in investment.

Hoshi (2001) argues that neither the burst of land price nor the failure of monetary policy could explain the failure of the Japanese banking system. Hoshi uses land price inflation data from 1956 to1997 to explain that

the asset bubble in the late 1980s was not the first the Japan had experienced after the World War. In actual fact, Japan had faced similar

Figure 7. External Bonds

Source: Bank of Japan



land price inflation that was longer lasting. Cross-sectional variance of banking data to prove that. He further stresses that the main reason of the failure of the Japanese banking system is due to the slow and incomplete deregulation of the financial system in 1980s, making the financial system more vulnerable to the fluctuations of land prices. The important findings in his study after doing a series of regression analyses, is that Japanese banking problems would persist even if land prices recover.

Therefore, Hoshi calls for further deregulation so that depositors can immigrate out of bank deposits and traditional banking business to be reduced to fit the needs of corporations.. He especially looks favorably upon the Big Bang deregulation and hopes it would complete the deregulation process of the Japanese banking system, reflecting the decline in loans demanded by the corporation sector.

Krugman (1998) believes that the Japanese recession was caused by the failure of macroeconomic policy and the economy has fallen into a liquidity trap, mitigating the effects of monetary policy since nominal interest rates cannot fall below zero. Krugman (1998) argues Japan is in a liquidity trap that occurs when the equilibrium real interest rate is negative over several periods. Therefore, zero nominal interest rates cannot bring desired savings and investment into balance and prices must increase in order for the economy to reach full

employment. Japan's declining work-force and rising dependency rates contributed in the negative outlook of future Japanese economic activities. Krugman denotes this negative expectation causes investment opportunities to decline while desired savings rise, forcing real interest rates into the negative in equilibrium.

Ⅴ. Conclusion

This paper gave an overview of the rise and fall of the Japanese bubble economy, placing emphasis on the post bubble problems of its financial sector. It also looked at various reasons behind the bubble burst. Several theories were chosen and incorporated in to the Japanese experience during the Lost Decade. Further extension of this paper would include a study of specific major corporate balance sheets and an examination of their implications.

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