

What lessons can China learn from the Japanese prolonged financial slump?

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China has been experiencing high economic growth along with massive change in its industrial structure. How will the industrial structure change affect the Chinese economy? Similar changes were observed by Japan, when the Japanese banking system fell into a structural failure in terms of the inability to respond to the paradigm shift from “catching up” to “frontier economy.” This paper is undertaken to highlight the lessons that China can learn from Japan’s prolonged financial slump. We point out that big cities in China have already shifted to frontier economy and major provinces are on the same trend. We argue that in spite of economic reform reshaping the Chinese banking system, the financing pattern of state owned commercial banks (SOCB) is not in line with the industrial change. The Chinese banking system should be overhauled or transformed to respond to the increasing uncertainty along with the paradigm shift. Otherwise, China may fall into the same dilemma that Japan had faced in its industrial structure change.

Introduction

Economic reform has dramatically increased China’s economic productivity and has changed the industrial structure of its economy. The general trend of this structural change is the decline of the importance of agriculture and the rapid growth of the non-agricultural economy, particularly the substantial expansion of the manufacturing sector, followed in recent years by the growth of the service sector. From a historical perspective, Japan went through the same trend of the structural change. Japan enjoyed its “catching-up” period that brought high economic growth, followed by its “moderate economic growth” period until the hard landing of the “bubble” economy. Finally Japan has fallen into the period of prolonged “economic and financial stagnation” since the onset of financial crisis when the bubble finally burst. What caused this dramatic change?

The smooth circulation of financial resources is clearly a necessary condition for vitalising economic activities. Accordingly, the effective screening and monitoring of financial intermediation is essential for economic growth. At the same time, the effective screening and monitoring by lenders and investors is critical for a properly functioning financial market, or at least for preventing the rapid build-up of non-performing loans (NPL). The accumulation of a huge volume of NPL in the Japanese banks in the 1990s represented a malfunction of the traditional mode of monitoring. In our view, Japan’s financial crisis can

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be explained in terms of an intensification of “uncertainty,” which magnified previously manageable structural and institutional problems in the Japanese financial system. That is, an important driver behind Japan’s prolonged slump was the inability of Japanese banks to respond to the “uncertainty” created in the economic environment, as a result of the structural changes introduced through the 1970s and 1980s as Japanese banks tried to integrate into a global financial market in a context where Japan was itself transforming from a catching-up economy into a “frontier economy”.

In its frontier economy, many Japanese industries were getting closer to or even reaching the international technology and marketing frontier. It appears that the Chinese economy is becoming a frontier economy, too. How does the transition to a frontier economy affect the Chinese banking and economic system? On what path should the Chinese economy go? On what conditions can China sustain its economic growth preventing its banking sector from undertaking excess credit risk? This paper aims to draw the lessons that China can learn from Japan’s transition failure, by reviewing what went wrong in the Japanese traditional mode of credit monitoring that had been so effective during the high growth period.

Section 2 aims to overview how the industrial structure has been changing in China in contrast with the structural change experienced in Japan. We focus on the industrial structure change in China with an emphasis on two main cities and four provinces. Section 3 examines how the transition to a frontier economy severely affected the Japanese banks. Section 4 looks at the current performance of the “big four” state-owned commercial banks in China, namely the Bank of China, the China Construction Bank, the Industrial and Commercial Bank of China, and the Agricultural Bank of China. Section 4 concludes with drawing some lessons that China can learn from Japan’s transition failure.

A comparative study of industrial structure change in China and Japan

China has been experiencing a dramatic turnaround after the implementation of economic reform in 1978. The economy has shifted to a decentralized market oriented approach from a centralized state directed approach with a view to fostering growth of private sectors. This shift, in particular political interference and economic liberalization, is unique in China and can be viewed as socialist market economy (Yeager, 1999). Even though China has embraced economic decentralization, many of its political and social institutions remain highly undisturbed (*ibid.*, p. 143). However, the ability of the reform policy of China with respect to generating a high rate of economic growth is widely acknowledged and has attracted much attention (Renard, 2002, p. 34; Morrison, 2006; World Bank, 1996; Stiglitz, 1999). In fact, China has attained an average gross domestic product (GDP) growth rate of 9.6 percent during the period 1979-2005, and as such it has been considered as one of the fast growing economies around the world. This achievement is remarkable in world history.

The high growth rate in China leads to an influential change in the industrial structure. The outputs of non-agricultural sectors exceed the outputs from agricultural sector, and accordingly, the share of primary industry has fallen significantly after the adoption of economic reform. Similarly, the availability of inexpensive labour and raw material with an abundance of land accelerate the growth of secondary and tertiary sectors. Table 1 represents the industrial structure contribution to the GDP in China during the period from 1960

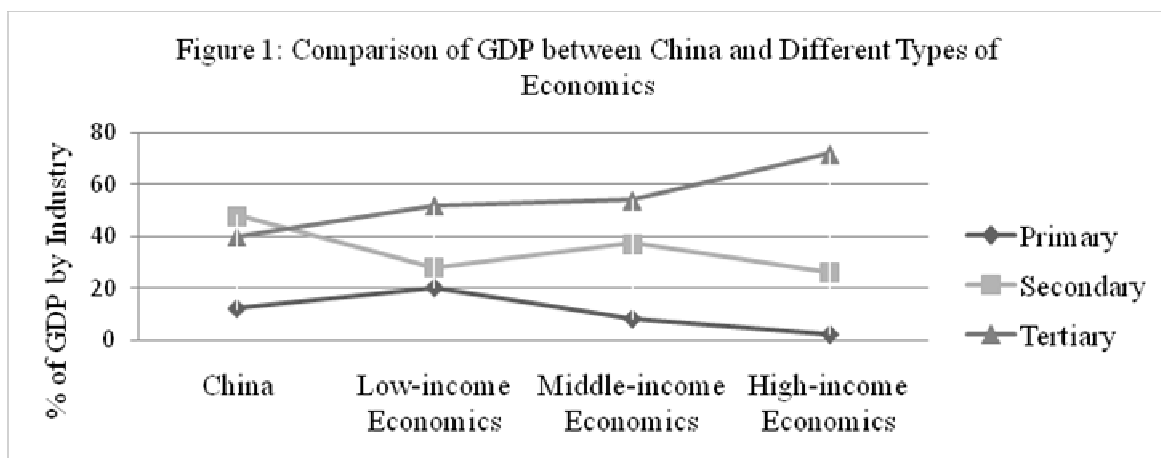
to 2008. It indicates that the share of primary industry was reduced to 12.91 percent during 2000-2008, as compared to 37.36 percent during 1960-1969, whereas the share of tertiary industry increased to 39.70 percent in 2000-2008 from 27.66 percent in 1960-1969. It is worth noting that the relative size of secondary industry in China is higher than any other similar per capital income generating nation (figure 1). Sasaki and Ueyama (2009) compare China with other countries having similar per capital income levels, and also mention that the share of primary sector is in a decreasing trend, while the share of the tertiary sector is in the opposite direction. Zhang (2002) opines that China has already experienced transition to an industrial and service oriented economy from an economy based on agriculture.

Table 1: Share of Industrial Structure Contribution to GDP in China during 1960-2008

Type of Industry	1960-1969	1970-1979	1980-1989	1990-1999	2000-2008
Primary	37.36	32.34	29.32	20.97	12.91
Secondary	34.98	44.54	44.59	46.99	47.39
Tertiary	27.66	23.12	26.09	32.04	39.70

Source: National Bureau of Statistics of China

Note: The primary industry includes farming, fishery, forestry, and livestock breeding; the secondary sector consists of manufacturing, construction, and the mining industry as well as production and supply of electricity, gas, and water; and all other industries belong to the tertiary industry.



Source: Sasaki and Ueyama (2009)

Japan has experienced the same trend of industrial structure change. In the “catching-up” period when Japan’s economy was trying to catch up with the US, the business model of absorbing and improving engineering know-how absorbed from abroad greatly contributed to Japan’s high economic growth. During the subsequent “frontier economy,” many Japanese industries were getting closer to or even reaching the international technology and marketing frontier. Many empirical studies observed a trend of “internationalization” and “technological change” in Japanese firms since the mid-1970s (Aoki *et al.* 1994; Schaberg, 1998; Patrick, 1998; Kanaya and Woo, 2000; Hoshi and Kashyap, 2001). Also, the share of

the tertiary sector had substantially grown in the frontier economy. It can be reasonably argued that the development paradigm for the Japanese economy shifted to that of a frontier economy around 1975. This period too came to an end around 1991, when the financial bubble that had been developed eventually burst, and the adverse macroeconomic consequences became significant. As a result, we take 1992 as the starting point of the prolonged economic and financial slump. Table 2 illustrates the average real GDP growth rate in each phase. On the other hand, table 3 shows the typical changes in the sectoral shares of different types of activities in the Japanese economy as it matured over the period we are discussing in the three phases. From this data, it is evident that the shares of primary and secondary sectors were in decline, while the share of the tertiary sector was on the increase.

Table 2: Japan's Average Real GDP Growth Rates (at constant prices)

1966-1974 ^a	1975-1991 ^a	1992-2008 ^b
8.82% p.a.	4.05% p.a.	1.20% p.a.

Source: Author based on statistics of Cabinet Office and ESRI (2008). ^aBase year = 1990, ^bbase year = 2000.

Table 3: The Changes of the Share of each Industry in Japan's GDP (at current prices)

Sector	1966-1974 ^a	1975-1991 ^a	1992-2008 ^b
Primary	7.5%	3.8%	1.8%
Secondary	40.7%	36.7%	28.5%
<i>Manufacturing</i>	33.5%	27.9%	21.3%
Tertiary	51.8%	59.5%	69.6%

Source: Author based on statistics of Cabinet Office^a and ESRI (2008)^b

Going back to the trend of industrial structure change in China, similar findings were also reported by Li and Haynes (2010). They refer to the general trend of China's industrial change, from the aspect of employment structure of its economy from 1995 to 2004, showing the decline of the importance of agriculture and the substantial expansion of the manufacturing sector, followed in recent years by the growth of the service sector. They show the relative share of employment in three sectors by provinces, regions and municipalities. It is worth noting that the three large municipalities (Beijing, Tianjin and Shanghai) were dominated by manufacturing in 1995 (46.7%), while the share of tertiary industry was 41.6%, but in 2004, the service sector (56.0%) overtook manufacturing (34.1%). These three cities have become industrialized service regions.

According to World Development Indicators of the World Bank, the contributions of secondary and tertiary sectors to GDP in both China and Japan are represented in table 4. It looks that the current Chinese economy can be compared to the catching up period in Japan. However, the overall figures do not always show the true scenario of industrial structure change in China, because China is a huge country in comparison with Japan. We look at the industrial structural change of individual large cities and provinces, which provides a clearer picture about the industrial change in China.

Table 4: Comparison of GDP by Industry in China and Japan

	China (in 2008)	Japan (in 1966-1974)	Japan (in 1975-1991)
Secondary Industry	48.6%	43.2%	38.4%
Tertiary Industry	49.8%	53.6%	59.3%

Source: World Development Indicators, Secondary Industry includes manufacturing, construction and utility (electricity and gas supply)

Table 5 provides the contributions of primary, secondary, and tertiary industries to GDP during the period 1995 to 2008 in Beijing and Shanghai. In Beijing, both the shares of primary and secondary industries have decreased dramatically. In particular, the contributions of primary and secondary industries were 6.9 percent and 46.1 percent respectively in 1995, whereas in 2008, both shares were reduced to 1.1 percent and 25.7 percent. On the other hand, the size of tertiary industry became 1.56 times higher in 2008, in comparison with 1995. Similar findings are also observed in Shanghai, which is considered as the commercial and service hub of China, as well as the place where the head offices of many multinational companies are located. Again, the contributions of both primary and secondary industries are in a decreasing trend, while the share of tertiary industry is 1.36 times higher in 2008 compared to 1995. The changes in Beijing and Shanghai are similar to the changes in Japan during the period 1975-1991, shifting to its “frontier” economy, and as such it can be argued that both two cities have already shifted to, at least, a tertiary industry based economy.

Table 5: Share of Industrial Structure Contribution to GDP in Beijing and Shanghai during 1995-2008

Name of City	Type of Industry	1995	2000	2005	2008
Beijing	Primary	6.9	3.6	1.4	1.1
	Secondary	46.1	38.1	29.4	25.7
	Tertiary	47.0	58.3	69.1	73.2
Shanghai	Primary	2.5	1.8	0.9	0.8
	Secondary	58.0	47.5	48.6	45.5
	Tertiary	39.6	50.6	50.5	53.7

Source: National Bureau of Statistics of China

Table 6 generates the contribution of primary, secondary, and tertiary industries to GDP in four provinces, namely, Jiangsu, Zhejiang, Fujiang, and Guangdong respectively. Changes are also observed in all four provinces, especially in terms of primary and tertiary industries. The share of primary industry was reduced by 58.43 percent in Jiangsu, 69.28 percent in Zhejiang, 51.58 percent in Fujiang, and 66.46 percent in Guangdong during the period 1995-2008. In comparison, tertiary industry is in the opposite direction. In Jiangsu, it is 1.29 times higher in 2008, compared to 1995. Similarly, it is 1.31 times higher in Zhejiang, 1.16 times higher in Fujiang, and 1.29 times higher in Guangdong. Besides, it is worth not-

ing that the share of secondary industry remains dominant in all of the provinces, where the share still stayed around 50 percent in 2008.

Table 6: % of Industrial Structure Contribution to GDP in Jiangsu, Zhejiang, Fujiang and Guangdong during 1995-2008

Name of Province	Type of Industry	1995	2000	2005	2008
Jiangsu	Primary	16.6	12.0	8.0	6.9
	Secondary	53.9	51.7	56.6	55.0
	Tertiary	29.5	36.3	35.4	38.1
Zhejiang	Primary	16.6	11.0	6.6	5.1
	Secondary	52.0	52.7	53.3	53.9
	Tertiary	31.3	36.3	40.0	41.0
Fujiang	Primary	22.1	16.3	12.8	10.7
	Secondary	43.9	43.7	48.7	50.0
	Tertiary	34.0	40.0	38.5	39.3
Guangdong	Primary	16.4	10.4	6.4	5.5
	Secondary	50.5	50.4	50.7	51.6
	Tertiary	33.2	39.3	42.9	42.9

Source: National Bureau of Statistics of China

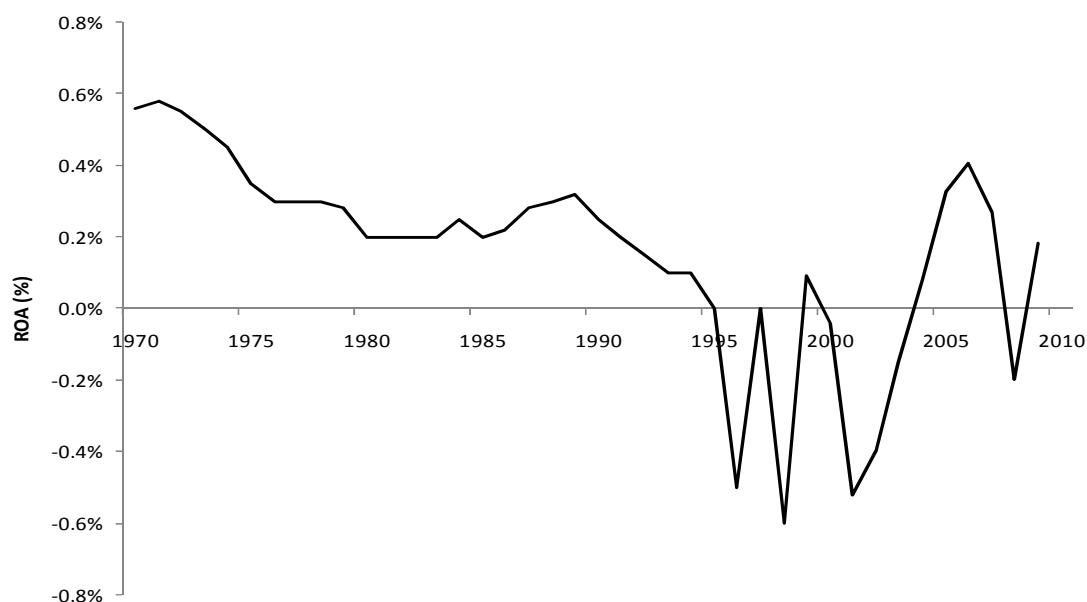
Lessons from Collapse of Monitoring System under the Japanese Transition Failure

We now move on to examine how the transition to a frontier economy in Japan affected its traditional banking and monitoring system. To begin with, we should note that the returns on assets (ROA) achieved by Japanese banks were declining since the 1970s (see figure 2 and Suzuki, 2011).

As was argued, the contribution of primary and secondary industries to Japan's GDP has been declining, while that of tertiary industry has been increasing (Table 3). This trend has been continuing from the "catching-up" period to the "frontier economy" period, and even in the period of economic "stagnation" after the bursting of the bubble economy. Looking at the change in the distribution of loans by the Japanese banks to industries, the share of loans to the manufacturing sector, which were relatively dominant in 1960 and 1970, has been declining rapidly since 1970 (Table 7). This change reflects the structural change in Japanese industry.

As for the loans by the Japanese banks to the manufacturing sector, the following points are worth noting. First, even though the share of loans to the manufacturing sector has been decreasing, Japanese banks have expanded their overall lending business since 1970. As a result, the outstanding amount of loans to the manufacturing sector has been increasing (Table 7).

Figure 2: Returns on Assets (ROA) in Japanese banks



Source: EPA, 1999,; p.245, BOJ Time Series data etc.

Table 7: Changes in the Outstanding Loans by the Japanese Banks to Industries (in trillion yen)

In levels	FY1960	FY1970	FY1980	FY1990	FY1995	FY2000	FY2008
Manufacturing	4.0	17.5	43.0	59.0	72.6	67.1	56.4
Construction	0.2	1.8	7.3	20.0	31.1	28.8	15.4
Real Estate	0.1	1.5	7.6	42.4	57.4	57.0	58.7
Finance	0.1	0.5	4.5	37.7	49.6	39.7	36.9
Wholesale & Retail	2.3	11.3	34.4	65.6	78.1	65.8	45.9
Loans to Individuals	0.0	1.6	15.2	61.2	80.9	92.7	112.1
Others	1.4	5.0	22.6	90.1	114.8	107.2	96.1
Total	8.1	39.2	134.6	376.0	484.5	458.3	421.5

In percentage terms	FY1960	FY1970	FY1980	FY1990	FY1995	FY2000	FY2008
Manufacturing	49.4	44.6	31.9	15.7	15.0	14.6	13.4
Construction	2.5	4.6	5.4	5.3	6.4	6.3	3.6
Real Estate	1.2	3.8	5.6	11.3	11.8	12.4	13.9
Finance	1.2	1.3	3.3	10.0	10.2	8.7	8.8
Wholesale & Retail	28.4	28.8	25.6	17.4	16.1	14.4	10.9
Loans to Individuals	0.0	4.1	11.3	16.3	16.7	20.2	26.6
Others	17.3	12.8	16.8	24.0	23.7	23.4	22.8
	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Created by the Author upon BOJ (1960, 1970, 1975, 1980), Japan Statistical Year Book 2010.

Second, those major manufacturing firms that had succeeded in using a business strategy of absorbing and improving engineering know-how during the “catching-up” period, radically reduced their reliance on bank loans as a source of finance. Hamazaki and Horiuchi (2001) point out based upon a survey by the Bank of Japan (BOJ) that the major Japanese manufacturing firms drastically reduced their reliance on bank loans in the late-1970s from more than 30% to less than 10% (table 8). One reason for the reduction is that these firms increased their use of internal funds as they became financially matured. Another reason could be that the shift from high to moderate growth reduced the overall investment in manufacturing *per se*. In contrast, we should note that non-manufacturing firms continued to rely on bank loans as a major funding source into the late-1980s.

Table 8: Changes in the Composition of Fund Raising by the Japanese Major Manufacturing / non-manufacturing Firms (Unit: Percentage)

Type of Firms	Sources of Funds	FY 1961 -1965	FY 1966 -1970	FY 1971 -1975	FY 1976 -1980	FY 1981 -1985	FY 1986 -1990
Manufacturing	Internal Funds	27.1	33.7	35.9	54.3	68.0	53.9
	Corporate Bonds	2.8	3.0	3.9	1.0	10.3	19.9
	Borrowing	38.2	30.4	34.0	9.5	1.2	-9.5
	Stocks	10.8	3.2	2.4	7.8	12.8	19.1
	Others	21.1	29.7	23.7	27.4	7.7	16.7
Non- Manufacturing	Internal Funds	22.7	46.3	29.6	44.9	51.8	35.8
	Corporate Bonds	12.3	10.3	12.9	19.3	10.8	14.1
	Borrowing	32.7	65.9	59.0	39.1	26.1	29.1
	Stocks	7.9	6.8	7.0	8.5	9.5	11.5
	Others	24.3	-29.3	-8.5	-11.7	1.8	9.5

Source: Based on Hamazaki and Horiuchi (2001)

Notes: The major part of ‘others’ in the table is the trade credit. According to Hamazaki and Horiuchi (2001), the non-manufacturing industry includes public utilities such as the electric power, the railway companies which were favoured in their bond issuing compared with other industries. Therefore, the relative share of bond-issuing was larger in non-manufacturing than in manufacturing.

Third, those manufacturing firms that maintained their reliance on bank loans as their major funding source were (a) firms who had not yet matured financially. Most of these firms were small and medium enterprises (SME). (b) Firms who were forced to restructure their business to high-value added manufacturing to face market competition. (c) Firms who shifted their production base overseas to reduce the production cost.

Within the manufacturing sector, we have to look at the breakdown according to the types of manufacturing. Tanaka (2002) classifies the manufacturing firms according to the following types of manufacturing; a) Light industry based on assembling and processing: including the food industry, the textile industry and other forms of manufacturing. b) Light industry using basic materials, including pulp, paper, ceramic industry and soil stone products. c) Heavy industry using basic materials, including the chemical industry, petroleum and coal products, the primary metal industry and metal products. d) Heavy industry based on assembling and processing, including general machinery, electric / electronic ma-

chinery, transport machinery and precision machinery. Table 9 shows the changes in the average real growth rate in each category in the periods between 1956 and 1974 (the high economic growth period), between 1975 and 1984 (the moderate economic growth period), between 1986 and 1991, and between 1992 and 2008, respectively.

Table 9: Changes in the Average Real Growth Rate by each type of Manufacturing (%)

Manufacturing Sector	1956 -1974 ^a (High Growth)	1975 -1984 ^a (Moderate Growth)	1985 -1991 ^a	1992 -2008 ^b
Overall manufacturing sector	17.0	7.1	5.4	-1.7
Light industry upon assembling & processing	13.5	7.2	4.5	-1.9
<i>Food and beverages</i>	10.4	10.4	2.6	-0.2
<i>Textiles</i>	12.2	1.1	-0.1	-7.5
<i>Other manufacturing</i>	18.0	6.8	6.6	-2.8
Light industry upon basic materials	18.2	4.2	5.0	-1.9
<i>Pulp, paper and paper products</i>	18.0	3.9	5.7	-2.0
<i>Non-metallic mineral products</i>	18.5	4.5	4.5	-1.9
Heavy industry upon basic materials	18.4	6.2	5.3	-1.3
<i>Chemicals</i>	16.0	7.5	4.8	-2.4
<i>Petroleum and coal products</i>	15.9	26.7	3.8	2.8
<i>Basic metal</i>	21.8	4.7	3.7	-1.3
<i>Fabricated metal products</i>	21.6	3.4	10.2	-3.2
Heavy industry upon assembling & processing	21.7	8.5	6.3	-1.0
<i>Machinery</i>	22.6	8.8	8.0	-1.3
<i>Electrical machinery and equipment</i>	23.1	11.6	6.6	-1.7
<i>Transport equipment</i>	21.2	5.8	3.9	1.0
<i>Precision instrument</i>	18.5	6.3	5.8	-1.4

Source: Author based on statistics of Cabinet Office^a and ESRI (2008)^b

This table shows that in the high growth period, all types of manufacturing could succeed, while after the moderate growth period, there were “winners” and “losers”. For instance, heavy industry based on assembling and processing has contributed to the overall growth in and after the moderate economic growth, while light industry using basic materials and textiles have rapidly declined. Also, for instance, almost all types of manufacturing, except petroleum and coal products and transport equipment, were stagnant in the period 1992-2008. One implication was that as Japan approached the competitive frontier, each firm was required to restructure its business under conditions of fundamental uncertainty.

Fourth, the share as well as the outstanding amount of loans made by Japanese banks to the non-manufacturing sector has been increasing. Japanese banks thus began to undertake relatively higher credit risks, such as the credit risk associated with lending to SME whose financial strength was still weak.

The non-manufacturing sector and the SME sector overlap to a considerable extent (Tanaka, 2002). Needless to say, there are many SME in the manufacturing sector as well. However, SME's share of contribution in the non-manufacturing sector is very high (higher than that of large firms). In particular, the shares of wholesale and retail trade, restaurants, services and construction are relatively high. According to Tanaka (2002), in 1999, the share of non-manufacturing firms in the SME sector was 87%, numbering a total of 5.65 million firms. Out of this number, 41% of the SME were engaged in wholesale & retail trade, 24% in services and 13% in construction.

Looking at table 7, outstanding loans to the wholesales & retail trade (including restaurants and hotels sector) and other services (including transport & telecommunication sector), increased in 1980 compared to the manufacturing sector. In 1990 and again in 1995, the Japanese banks expanded lending to the non-manufacturing sector, in particular to the real estate, finance, construction sector and housing loans to individuals. Yoshikawa (1999) argues that the lower productivity of the Japanese non-manufacturing sector was one of the root causes of Japan's economic stagnation in the 1990s. Our concern is that the Japanese banks increased their loan exposure to SME sector and the non-manufacturing sector since the 1980s. In other words, banks have moved to undertake relatively higher credit risks.

To sum up, during the catching up period, efforts were the key, and almost all industries led to success. At that time monitoring from the bank's perspective was not very difficult. However, during the frontier economy period, competition was intensified and fundamental uncertainty occurred, which in turn led to the economic and environmental changes with regard to the traditional monitoring system and to the changes in associated transaction costs.

Aoki (1994) implies that the traditional monitoring system, where the main banks played a dominant role in monitoring companies' capacities worked effectively in the period when the Japanese economy was still catching up in terms of technological capability. An important component of this mode of monitoring was to monitor the managerial and organizational ability of a firm to absorb and improve engineering know-how developed abroad, rather than to assess the commercial and engineering values of emergent technology *per se* (Aoki, 1994; p.118). Ironically, the very success of Japanese industries in reaching the international technological and competitive frontier gradually changed the risk factors, which the main bank had to assess and monitor.

Current Performance of Chinese Banks

China has been implementing state directed credit policy with the help of state-owned commercial banks (SOCB), even after the adoption of financial reform. In other words, the financial system of China is featured by the fact that the state plays the most significant role as a primary intermediary (Zhang, 2002). Under this system, the fund is disbursed according to the decision made by the local and state government, in spite of considering the physical viability of projects undertaken by the firms (Lardy, 1998; Yeager, 1999). This policy lending with less incentive for SOCB to earn the spread margin enough to cover the associated credit risk up to the year 1995 led to the accumulation of huge NPL in SOCB, and can be regarded as the fundamental causes of the dismal performance of the Chinese bank-

ing system (Suzuki *et al.*, 2008). It is important to mention that the main borrowers of SOCB are state-owned enterprises (SOE), of which most are engaged in the manufacturing and energy industries. According to Gang (2003), the NPL of China was equivalent to 40 percent of its GDP. Similarly, Garcia-Herrero and Santabarbara (2004) mention that considering the financial system as a whole, the amount of NPL was 36 percent of the GDP, and independent analysis even provided a higher percentage of about 50 percent of the GDP. Presumably, the involvement of the government in fund allocation without considering the real creditworthiness of business firms played a profound role in generating enormous bad debts and non-performing loans within the Chinese banking system. At the same time, there is every possibility that the changing industrial structure will add more pressure on the overall banking system of China.

Table 10 highlights the performance indicators of big four SOCB. The percentage of NPL of big four banks was 52.7 percent in 1997, which was reduced to 9.3 percent in 2006. This decline can be attributed to the transfer of NPL from banks to the asset management companies (AMC) as per the remedial measures undertaken by the government in 1998 (Min, 2005). Return on average assets (ROA) is decreasing constantly, which shows a sign of continuously poor performance of SOCB. While the net interest margin increased during the period 2000-2006, although the absolute level is lower than the rate in country such as India with a similar stage of economic development (Matthews *et al.*, 2008), the ROA decreases constantly. We assume that SOCB still undertake the role of financing to even the less profitable or loss making SOE, some of which may defer the interest payment. Hagiwara (2006) points out that the share of loss making SOE was being reduced during the period 2000-2004, but it was 35 percent in 2004. This rate is still high for SOE, in the sense that China has been experiencing remarkable economic growth. The continuous emphasis on SOE financing along with the reduction of market share might have a negative impact on the SOCB's ROA. The findings of Lin and Zhang (2008) concur with the above. They conducted research with a panel data of Chinese banks from the period 1997 to 2004, and reported that SOCB are less profitable and less efficient with poor asset quality compared to other types of banks. However, the recent decrease in the number of employees and cost-income ratio indicate the restructuring activities of SOCB with regard to cost reduction and consistent decline in the market share.

Table 10: Data of Big Four SOCBs

	1997	2000	2006
Market Share (% of Assets)	88.0	71.4	51.0
Employment (in thousands)	1,394.8	1,493.6	1,336.8
NPL (%)	52.7	31.5	9.3
Return on Average Assets (%)	0.93	0.78	0.67
Net Interest Margin (%)	1.8	1.5	2.5
Cost-Income Ratio (%)	48.2	59.6	43.3

Source: Matthews *et al.* (2008)

The percentage of financing for different sectors by big four banks in China is represented in table 11. It is evident from the table that all four banks have been patronizing the manu-

facturing sector with the majority of the financing provided. This financing pattern of big four banks is similar to the catching up period of Japan, when the share of loans to the manufacturing sector were relatively dominant during the period 1960-1970. However, the share of financing for the manufacturing sector in SOCB, particularly for the Commercial Bank of China and the Agricultural Bank of China, has been declining since 2004. On the other hand, financing for non-manufacturing sectors, such as real estate, construction, transportation, storage, etc. has been in an increasing trend in the case of the Commercial Bank of China and the Agricultural Bank of China. Likewise, the financing for individuals is increasing in the cases of the Bank of China and the China Construction Bank, and the financing for wholesale and retail is increasing in the case of the China Construction Bank. All of these indicate that big four banks in China have already started to gradually incorporate similar behaviour shown by Japanese banks in the process of a paradigm shift from catching up to a frontier economy, and even in a period of economic stagnation.

Table 11: % of Financing to Different Sectors by Big Four banks

Name of Bank	2004	2005	2006	2007	2008	2009
Manufacturing						
Bank of China	24.39	23.77	24.80	24.13	25.94	23.13
China Construction Bank	18.00	17.60	17.76	18.11	17.48	16.67
Commercial Bank of China	38.20	29.08	30.27	25.32	21.29	19.34
Agricultural Bank of China	N/A	N/A	N/A	34.25	32.35	29.87
Real Estate						
Bank of China	8.71	8.51	8.96	8.68	6.25	6.17
China Construction Bank	11.20	10.40	10.52	9.71	8.68	7.44
Commercial Bank of China	7.77	8.52	10.36	10.43	9.23	10.75
Agricultural Bank of China	N/A	N/A	N/A	15.52	17.74	17.75
Construction, Transportation, Storage and Postal Service						
Bank of China	1.68	1.61	1.60	1.59	1.56	1.21
China Construction Bank	14.70	14.80	14.73	14.43	14.32	13.18
Commercial Bank of China	12.65	16.13	23.63	20.66	18.54	20.40
Agricultural Bank of China	N/A	N/A	N/A	5.76	8.48	10.22
Loans to Individuals						
Bank of China	23.00	23.40	23.95	25.70	23.23	22.57
China Construction Bank	18.50	18.50	20.36	22.12	21.65	22.58
Commercial Bank of China	N/A	N/A	N/A	N/A	N/A	N/A
Agricultural Bank of China	N/A	N/A	N/A	N/A	N/A	N/A
Wholesale and Retail						
Bank of China	N/A	N/A	N/A	N/A	N/A	N/A
China Construction Bank	2.60	2.60	2.56	2.73	2.70	3.04
Commercial Bank of China	N/A	N/A	N/A	N/A	N/A	N/A
Agricultural Bank of China	N/A	N/A	N/A	11.10	7.00	7.66

Source: Annual Reports of Big Four Banks

According to the Second National Economic Census conducted in 2008, the number of

SOE is 3.1 percent of the total enterprise numbers in China, but they altogether hold 30 percent of the total enterprise assets in the secondary and tertiary sectors. Although the magnitude of value-added output relative to the national total and the percentage of employment of SOE have declined significantly during the course of reform (Liu, 2009), there exist a considerable number of loss incurring SOE. China has been experiencing remarkable economic growth, which is not at all possible to attain if other non-state enterprises are not contributing significantly. Zheng and Yang (2009) report that the contribution of private enterprises to GDP rose to 49.7 percent, and the percentage of private investment to total fixed asset investment was 60 percent in 2005. Apparently, the economic reform in China requires a paradigm shift from budgetary allocation for financing SOE to a mode of financial intermediation upon a market oriented pricing (Suzuki *et al.*, 2008). However, the financing pattern of SOCB seems to remain unchanged. Financing has to be done on the basis of true identification of the credit viability of projects. So far as SOCB are still required to financially support SOE, in other words, they are not allowed to diversify their loan portfolio at their discretion. They may fail to improve their ROA, and to increase their capacity to respond to the increasing uncertainty, along with the industrial change. This may result in hindering sustainable economic growth in China.

The concentration of SOCB financing on manufacturing sector makes one thing clear. Tertiary industry is so far financed mainly by private and informal financial sources. Tsai (2001) reports that only 0.4 percent of the formal financing was assured for the private sector in 1998, and accordingly, 88 percent of the private entrepreneurs relied heavily on informal sources of financing. Tsai adds that less than 1 percent of the financing requirements of the private sector were fulfilled by the entire formal banking system of China in 2000. Suzuki *et al.* (2008) also state that although the non-state sector is increasing rapidly as a vehicle for massive economic growth in China, it remains unattended by the formal financing engine. Ayyagari *et al.* (2010, p.4) use the data of 2,400 Chinese firms and opine that the fast growing private sector along with alternative financing and governance mechanisms support the rapid economic progress of China. They also report that nearly 43 percent of financing for business firms in China is derived from alternative financing sources. In this regard, it can be noted that to some degree from a macro perspective, China has an informal base of diversifying and absorbing the credit risk associated with the tertiary industry. However, we should raise a further question - how will the private and informal financial base sustain economic growth?

It can be argued that the informal base is not abundant. It would be too optimistic to rely on the informal base as the sole engine for the sustainable economic growth. SOCB as formal financial institutions will be more encouraged to finance the private SME in the non-manufacturing sector. Their loan portfolio is to be diversified more to the private SME, in particular, in the regions of big cities and major provinces. However, the increase in the portfolio of undertaking (undertaking what?) in the non-manufacturing sector without prudent monitoring and a lending strategy would undermine the soundness of their lending business, as the Japanese banks had wrongly done in the process of the paradigm shift to a frontier economy, resulting in the financial bubble and the subsequent lingering financial slump.

Conclusion

This paper aims at identifying the lessons that China can learn from Japan's financial slump. It attempts to identify the root cause of the failure of a monitoring system of Japanese banks. The performance of the Japanese monitoring system worked well during the catching-up period, and accordingly Japan, achieved high economic growth until mid 1970s. Consequently, many business firms, especially major manufacturing firms, that succeeded in the catching-up period reached financial maturity. The profit opportunities of Japanese banks of lending to these stable firms subsequently declined. Meanwhile, the economy gradually shifted to a frontier economy, in which "less credible" manufacturing firms that previously relied on bank loans had to survive by developing new competitive technologies, restructuring to higher value-added businesses, or by shifting their production base overseas to reduce their production costs. Accordingly, Japanese banks had to monitor these firms by evaluating the feasibility and effectiveness of their strategies for survival. The changes in important risk factors increased the cost of monitoring, including the cost of hiring experts with the capacity of evaluating advanced technologies, including those who have expertise in international corporate finance and in monitoring SME. A failure to adequately assess and monitor major risk factors did not just lower the efficiency of monitoring for maintaining a sound portfolio of loans in individual main banks. It also lowered the performance of the rent-based mode of monitoring as a whole, resulting in a lower efficiency of Japan's banking and credit system. Therefore, Japan observed a structural failure in its banking system, in terms of the inability to respond to the paradigm shift to a frontier economy.

Similarly to Japan, China is also currently experiencing high economic growth, which brings a gradual shift in its industrial structure. The economy in China, especially in big cities, is apparently moving towards a frontier economy, and the share of tertiary industry is in an increasing trend in the provinces. The economic reform changes the financial system by ensuring market based lending instead of long cherished budgetary allocation. However, the financing pattern of big four banks remains unchanged with a focus on patronizing the SOE involved predominantly in manufacturing. Moreover, the increasing market share of tertiary industry is financed mostly by the private and informal sector, which works very well to achieve huge economic growth. However, there is no guarantee that a private and informal base can sustain the economic growth forever. Therefore, it can be concluded that it is the high time for Chinese banks to respond to industrial change. More specifically, SOCB requires adopting some kind of transformation in the financing pattern, and as well in monitoring and assessing credit risks. Otherwise, it is most likely that the banking system in China will face similar failure that was experienced in Japan.

References

- Aoki, Masahiko, 1994, "Monitoring Characteristics of the Main Bank System: An Analytical and Developmental View," in Aoki, Masahiko and Patrick Hugh, *The Japanese Main Bank System*, Oxford University Press.
- Aoki, Masahiko, Patrick Hugh and Sheard Paul, 1994, "Introduction, The Japanese Main

- Bank System: An Introductory Overview,” in: *The Japanese Main Bank System* (eds Aoki, Masahiko and Patrick Hugh), Oxford University Press.
- Ayyagari, Meghana, Demirguc-Kunt Asli and Maksimovic Vojislav, 2010, “Formal versus Informal Finance: Evidence from China,” *Review of Financial Studies*, Vol. 23, No. 8, pp. 3048-97. Retrieved from http://siteresources.worldbank.org/INTFR/Resources/Formal_verus_Informal_Finance_Evidence_from_China.pdf on August 23, 2010.
- Bank of Japan (BOJ), 2000, Kinyuu Keizai Tokei Geppo (Monthly Financial and Economic Statistics), July 2000.
- Cabinet Office, 2004, Heisei 16 nendo-ban, Keizai Zaisei Hakusho (Annual Report on Japan’s Economy and Public Finance 2003-2004), Government of Japan.
- Gang, Fan, 2003, “China's Nonperforming Loans and National Comprehensive Liability,” *Asian Economic Papers*, Vol. 2, No. 1, pp. 145-52.
- Garcia-Herrero, Alicia and Santabarbara Daniel, 2004, “Where is the Chinese Banking System Going with the Ongoing Reform?,” Occasional Paper, Banco De Espana. Retrieved from <http://ideas.repec.org/p/wpa/wuwpma/0408001.html> on August 23, 2010.
- Hagiwara, Yoko, 2006, “The Present State of Chinese Enterprises and the Direction Reforms,” *Economic Review*, Vol. 1, No. 4, pp. 1-11.
- Hamazaki, Masaharu and Horiuchi Akiyoshi, 2001, “Can the Financial Restraint Hypothesis Explain Japan’s Postwar Experience?,” NBER/CIRJE/CEPR Japan Project Meeting, September 2001.
- Hoshi, Takeo and Kashyap Anil, 2001, *Corporate Financing and Governance in Japan: The Road to the Future*, The MIT Press.
- Ikeo, Kazuhito, 2006. *Kaihatsu Shugi no Boso to Hosin*, NTT Shuppan.
- International Monetary Fund (IMF), 2000, “Progress in financial and corporate restructuring in Japan,” *The 1999 International Capital Markets Report*, IMF Publication.
- Kanaya, Akihiro and Woo David, 2000, “The Japanese Banking Crisis of the 1990s: Sources and Lessons,” IMF Working Paper, WP/00/7.
- Lardy, Nicholas R., 1998, *China’s Unfinished Economic Revolution*, Washington D. C.: Brookings Institutions Press.
- Li, Huaqun and Haynes Kingsley E., 2010, “Economic Structure and Regional Disparity in China: Beyond the Kuznets Transition,” SSRN Working Paper Series, Rochester, May 2010.
- Lin, Xiaochi and Zhang Yi, 2008, “Bank Ownership Reform and Bank Performance in China,” *Journal of Banking and Finance*, doi:10.1016/j.jbankfin.2006.11.022.
- Liu, Yunhua, 2009, “A Comparison of China’s State-Owned Enterprises and Their Counterparts in the United States: Performance and Regulatory Policy,” *Public Administration Review*, Vol. 69, pp. 546-52. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/j.1540-6210.2009.02088.x/pdf> on August 24, 2010.
- Matthews, Kent, Guo Jianguang and Zhang Nina, 2008, “Non-Performing Loans and Productivity in Chinese Banks: 1997-2006,” Cardiff Business School Working Paper Series, E2008/17. Retrieved from http://www.cardiff.ac.uk/carbs/econ/workingpapers/papers/E2007_30.pdf on August 20, 2010.
- Min, Xu, 2005, “Resolution of Non-Performing Loans in China,” The Leonard N. Stern School of Business, Glucksman Institute for Research in Securities Markets, New

- York. Retrieved from http://w4.stern.nyu.edu/glucksman/docs/Xu_2005.pdf on August, 21, 2010.
- Morrison, Wayne M., 2006, "China's Economic Conditions," Congressional Research Service (CRS) Issue Brief for Congress, The Library of Congress, Updated January 12, 2006. Retrieved from <http://www.fas.org/man/crs/IB92117.pdf> on August 15, 2010.
- National Bureau of Statistics of China.
- Patrick, Hugh, 1998, "The Causes of Japan's Financial Crisis," Prepared for Conference on Financial Reform in Japan and Australia, The Australia National University.
- Renard, Mary-Francoise, 2002, *China and Its Regions Economic Growth and Reform in Chinese Provinces*, MPG Books Ltd, Bodmin, Cornwall, Great Britain.
- Sasaki, Hitoshi and Ueyama Satoko, 2009, "China's Industrial Structure and its Changes in Recent Years: An Analysis of the 1997–2005 Input-Output Tables," Bank of Japan Working Paper Series, No.09-E-2, June 2009.
- Schaberg, Marc, 1998, "Globalization and Financial Systems: Policies for the New Environment" in D.Baker eds.: *Globalization and Progressive Economic Policy*, Cambridge University Press.
- Stiglitz, Joseph E., 1999, "China: Forging A Third Generation of Reform," A Key Note Speech Presented for Senior Chinese Policy Makers Hosted by the World Bank Office Beijing, July 23, 1999, Beijing, China.
- Suzuki, Yasushi and Dulal Miah M., 2008, "China's Non-Performing Bank Loan Crisis: The Role of Economic Rent," *Asian-Pacific Economic Literature*, Vol. 22, No. 1, pp. 57-70.
- Suzuki, Yasushi, 2011, *Japan's Financial Slump: Collapse of the monitoring system under institutional and transition failures*, Palgrave Macmillan (forthcoming).
- Tanaka, Takayuki, 2002, *Contemporary Japanese Economy (Gendai Nihon Keizai)*, Nihon Hyoron Sha.
- Tsai, Kellee S., 2001, "Beyond Banks: The Local Logic of Informal Finance and Private Sector Development in China," Paper Prepared for the Conference on Financial Sector Reform in China, Co-sponsored by the China Public Policy Program at the Kennedy School of Government, Harvard Business School, and Massachusetts Institute of Technology, Cambridge, MA, September 11-13, 2001.
- Tsai, Kellee S., 2002, *Back-alley Banking: Private Entrepreneurs in China*, Ithaca, New York: Cornell University Press.
- Yeager, Timothy J., 1999, *Institutions, Transition Economics, and Economic Development, The Political Economy of Global Interdependence*, Westview Press.
- Yoshikawa, Hiroshi, 1999, *Tenkanki no Nihon Keizai*, Iwanami.
- Yoshikawa, Hiroshi, 2003, *Kozo Kaikaku to Nihon Keizai*, Iwanami.
- World Bank, 1996, *From Plan to Market*, World Development Report, Oxford University Press, New York.
- Zhang, Chunlin, 2002, "The Interaction of the State and the Market in a Developing Transition Economy: the Experience of China," Paper Presented in an International Seminar on Promoting Growth and Welfare: Structural Changes and The Role of Institutions in Asia, Santiago, Chile and Rio de Janeiro, Brazil, April 29 - May 03, 2002. Retrieved from <http://www.eclac.org/brasil/noticias/noticias/4/9794/Zhang.pdf> on August 8, 2010.
- Zheng, Hongliang and Yang Yang, 2009, "Chinese Private Sector Development in the Past

30 Years: Retrospect and Prospect,” Discussion Paper 45, China Policy Institute, The University of Nottingham. Retrieved from <http://www.nottingham.ac.uk/cpi/documents/discussion-papers/discussion-paper-45-hongliang-zheng-chinese-private-sector.pdf> on August 25, 2010.