

Research Report

**Learning from Japan National Railway Reform, Advancing China National Railway
Development and Reform**

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March 2016

Research Report Presented to

Ritsumeikan Asia Pacific University

In Partial Fulfillment of the Requirements for the Degree of

Master of GSA

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Abstract:

Japan National Railway (hereinafter refers to JNR) reform in 1980s is a successful state-owned enterprise reform case. From the time JNR slipped into loss to its reform, it lasted more than 20 years. After researching this period and comparing it with China Railway Corporation (hereinafter refers to CRC), many similarities of both are found.

Although CRC is running well now, the experience of JNR shows the future of CRC. It is the government's responsibility to take measures avoiding the worst situations. There are many effective measures in the process of Japan government rescuing JNR, learning these measures will promote the development of CRC.

As China is carrying out mixed ownership reform in state-owned enterprises, learning the successful experiences of JNR reform will be of great help of CRC's development and reform in the future. In the JNR reform, the most significant successful experiences are legislation and separation of government function with enterprise management. The method of flotation of shares to realize privatization set a good example for CRC to perform its mixed ownership reform.

Keywords: JNR CRC state-owned enterprise reform measures

1. Introduction

JNR was privatized and broken up in 1987, and since then almost 30 years have passed. It is a successful state-owned enterprise reform case. What did JNR experience in the process? What can we learn from the reform in advancing China National Railway development and reform in the future?

In 2013, one of the most significant events for China institutional reform of the State Council was the reform of China Railways Ministry. After this, CRC was established as a solely state-owned enterprise, the administration function of former Ministry of Railway was transferred to several government sectors, and this reform realized the nominal separation of enterprise from administration. In recent years, China is propelling new round of state-owned enterprises reform. How to deepen CRC reform is a new issue, what shall we do before the reform? JNR reform provides us a good example to research.

The report is a case study. There are ten parts in the report, mainly introduces the background, financial issues, political issues, rescuing attempts, process and outcome of JNR reform and advices about CRC' reform. From 2nd to 8th part, the report analyzes JNR's successful experiences and lessons from failure of its development and reform by comparing JNR with CRC in different aspects, as well as taking different economic and political system in consideration. In the part 9, some recommendations of CRC development and reform are given. Finally, it draws a conclusion.

2. Background

JNR's privatization took place in 1987. Although great changes have taken place in this long period, JNR's reform background maybe definitely different from CRC's, But China is a developing country while Japan is a developed country, what China is experiencing now is highly similar with previous Japan, this is one of the points we should learn from Japan.

2.1 Background of JNR reform

A sense of public enterprises privatization reconstruction was taken place in some Europe and America countries from 1980s, in these countries, the main mode of public enterprises reform was privatization, the amount and scale of public enterprises decreased apparently after this. Especially in Great Britain, because its nationalization degree was higher than other countries, its intensity of privatization was greater than other countries too. Great Britain is the headstream of privatization trend. In May 1979, Thatcher won the General election as the leader of Conservative Party, and put forward the public enterprises privatization policy shortly thereafter. In the following 10 years, the GDP proportion of public enterprises decreased from 15% to 5%, and there were only 5 public enterprises left in Great Britain. As to the United States, at the end of 1991, more than 90% of them were privatized. In the second years of Great Britain began to reform, the United States of America president Reagan signed The 12348th Act, made determination to privatize 5 power agencies, 2 petroleum warehouses, 1 passenger railway, 5 remote sensing satellite earth station in 5 years (Robert 2004). Furthermore, a series of privatization plan were issued and implemented in the following years.

The privatization wave occurred in the western country had many social and economic reasons. Firstly, the most important reason was the massive debt resulting from deterioration of economy. After the First Oil Crisis, these countries fell into stagflation and financial crisis. Oversized state-owned enterprises impeded effective competition in the market and seriously affected the national economy development. More than that, the government had to pay a huge amount of subsidy to the state-owned enterprises. For example, in 1984-1985, 20% of UK government financial

deficit was stemmed from subsidizing the steel, coal and railway enterprises. Secondly, low management benefit was ubiquitous in state-owned enterprises. Particular after the economic crisis of 1973-1975, many enterprises had suffered great loss. For example, the British Steel made 612 million pound loss in 1980; All France state-owned enterprises made 3.6 billion franc loss in the same year. Under the circumstances, the idea being sell national assets and enterprises to investors, using the proceeds to pay down the countries' debt is killing both birds with one stone (Robert 2004).

As a developed country, Japan was affected by the international privatization wave without doubt, but it just was the external cause, the internal causes came from the social and economic changes. The majority of state-owned enterprises' business could not meet the need of the time, the problems within them became more and more apparently, reform was imperative. Firstly, Japan financial crisis was getting worse. Japan issued the special bond in 1965, after this, the financial deficit accumulated rapidly. The government long-term liability reached 153trillion *yen*, it accounted for 53.6% GNP of 1985(Tian, 2003). At the end of 1980s, Japan government organized the Second Special Government Inspection Committee, which aimed to reduce national spending. In the following time, it was proved just reducing spending could not balance the budget. The slogan "saving the budget without more tax" was put forward, a cut on financial expenditure had to be made, and then government reform became the big issue of that time. Secondly, Japan domestic demand changed dramatically. JNR took the advantage of monopoly position and could make profit before 1964, as more and more highway was built, bus service became popular due to its lower price, more convenience and less time consuming, as well as cars entered Japan common families. People' demand of railway transportation declined step by step, the competition from road and air service got fiercer, JNR fell into deficit and was unable to extricate itself (Ishikawa & Imashiro, 1998).

2.2 Background of CRC

As China began to establish Socialist Market Economy at the beginning of 1990's, State-owned enterprises reform was taken into central government's consideration. At that time, China had no experiences of state-owned enterprises reform, many problems had emerged as the reform being carried out, such as high unemployment, state-owned assets loss, even group incidents. Although the society paid a huge price for the reform, it still did bring new energy and power into China economy. But the reform is still going on.

After entering the 21th century, China had still enjoyed a rapid economic growth at first. In 2008, the globe economic crisis happened, China economic growth slowed down, in order to maintain the economic high speed growth, China government took a series of measures to stimulate the economy, but it just provided

temporary effect. China economy was highly dependent on investment (Investment even took more than half proportion of GDP in some years after 2009 (NSBC, 2013)), stimulus policy led to a huge amount of money being injected into the economy, As the economy going down again, a lot of enterprises suffered from their excess production capacity. At the same time, national debt was mounted and more and more enterprises went into loss.

Only at the time of pain, change will be called up, this is human's nature. In the November of 2013, China put forward to develop mixed ownership economy in public enterprises. This means a new round of state-owned enterprises reform has started. At the same year, CRC was established, which was regarded as a significant step of promoting the marketization reform of China National Railway.

3. Common Problems in Public Enterprises

It was in 1949 that JNR was established by the government to take the place of Ministry of Transport Railways Bureau, JNR began to serve for the general public as a public corporation, just as “the Railway Nationalization Act of 1906” said, “which is established to improve the welfare of general public.” But in all-purpose it was more like government itself than an enterprise. The reform of China Railway Ministry separated its administration function from enterprise, and transferred administration function to the Ministry of Communications, so the CRC is more like JNR after 1949. As public enterprises, JNR and CRC have some common problems.

Their objective embodies paradox in the beginning. JR East chairman Masatake said: “public corporations are by their very nature unable to commit themselves to clear goals and principles.” (Masatake 2002)As a state-owned enterprise, its primary target is improving the public welfare, on the other hand, as a corporation, only the one makes profit can survival. This means public enterprises have to give up the profit objective when it contradicted public interest. For example, many JNR local lines in remote area made loss every year due to low transport density, but JNR could not simply close them, although afterwards the JNR Rehabilitation Act was approved in the Diet and gave JNR the authority to relinquish them after consulting with local government, 12 years had passed since JNR firstly tried to close some local lines in 1968. Under such conditions, it is impossible for JNR to function effectively in business (Ishikawa & Imashiro, 1998). As to CRC, it is prescribed by the law that it has to give priority to public interest in many circumstances.

Their operation responsibility was vague. JNR was governed by the Railway Nationalization Act, according to the Act, JNR financial operation was administrated by Ministry of Finance (Okurasho), significant personnel arrangement and investment plan must be approved by Diet(Ishikawa & Imashiro, 1998). JNR's operation was

extensively controlled by the government and politics. The same as JNR, CRC's investment plan, fare and personnel issues were administrated by government. Therefore, it was very difficult to distinguish who took the final responsibility. This led to the enterprises managers and the administrators of government lacking of responsibility sense. The enterprises didn't take making profit as its primary target, which provided excuse of weaseling out of financial deterioration responsibility for the managers. On the other hand, their employees didn't need worry about being unemployed and their hardworking even could not be properly evaluated under the circumstances. Eventually, they would lose enthusiasm and initiative in working and opposed reasonable reform. Because reform meant they would lose their semi-civil-servant status, the idea of "Don't rock the boat" became prevail (Masatake 2002).

They lacked operational autonomous right. Because of their public enterprises identity, their important decision such as investment plan, income distribution, business scope and fare system were controlled by the government, which resulted in many problems. For example, JNR had to invest in building new rail lines at remote area, even JNR clearly knew it would never make profit, because it was decided by Diet other than itself; In Japan, private railways could operate realty business and commercial business along with lines, these were their main profit source, but JNR was not permitted to do so, then JNR would lose advantages in competing with private railways (Ishikawa & Imashiro, 1998); JNR and CRC had no power over fares which were all the same all over the country, the managers had no way to think about the differences in different area transport cost; No matter where you were working, their employees enjoyed the same pay of nationwide, it's unfair to the stuff working at the high transport density area, they had to do more work than the stuff working at the low transport density area with unique pay.

Monopoly and overstuff were also their chronic and stubborn disease. Private railways companies were forbidden or limited to enter their area(JNR got approval to expand its operation scale later, but CRC still have not), JNR had no competitors in the market, the managers and employees would not pay attention on improving services, not to mention dedicating to their work. After Second World War, in order to resettle the soldiers from abroad, JNR accepted many of them as staff, its personnel reached a peak of 610,543 in 1947. In1980, JNR still had 414,000 employees operating 21,300 km railway lines (Ishikawa & Imashiro, 1998). As to CRC, it has 2,065,600 employees operating 97,840 km railways (CRC, 2013). Too many surplus workers led to be lack of control, moral laxity in the workplace, low morale among managers, deteriorating labor relations – matters such as these were prevail

4. Finance Situations in JNR and CRC

The immediate reason that resulted in Japan government making determination to privatize and break up JNR was its huge loss which stemmed from all kinds of reasons. From 1964 that JNR made loss with 30 billion yen to 1847.8 billion yen of 1985 (Figure 1 shows the deficit change from 1964 to 1986), as well as its long-term liability mounted to 18,240 billion yen (Ishikawa & Imashiro, 1998), it took 21 years. What happened in such long period? Why JNR finance could deteriorate to such extent? Comparing with JNR, are there any similarities in CRC's conditions?

4.1 Market Changed

At the time JNR first went into loss, which did not attract enough attention from public and government. The Audit Committee of JNR, which was established as the auditing body in June 1956, issued its report of 1962-1963 with the following words: “To meet the increasing demand for transportation services... the current second five-year plan needs to be followed a third and fourth plan”. People took it granted that JNR Would come through it soon like in 1940s, but JNR financial condition got worse and the deficit kept on increasing, the reserves was used up 3 years later (Ishikawa & Imashiro, 1998). From then on, JNR's balance had never returned black.

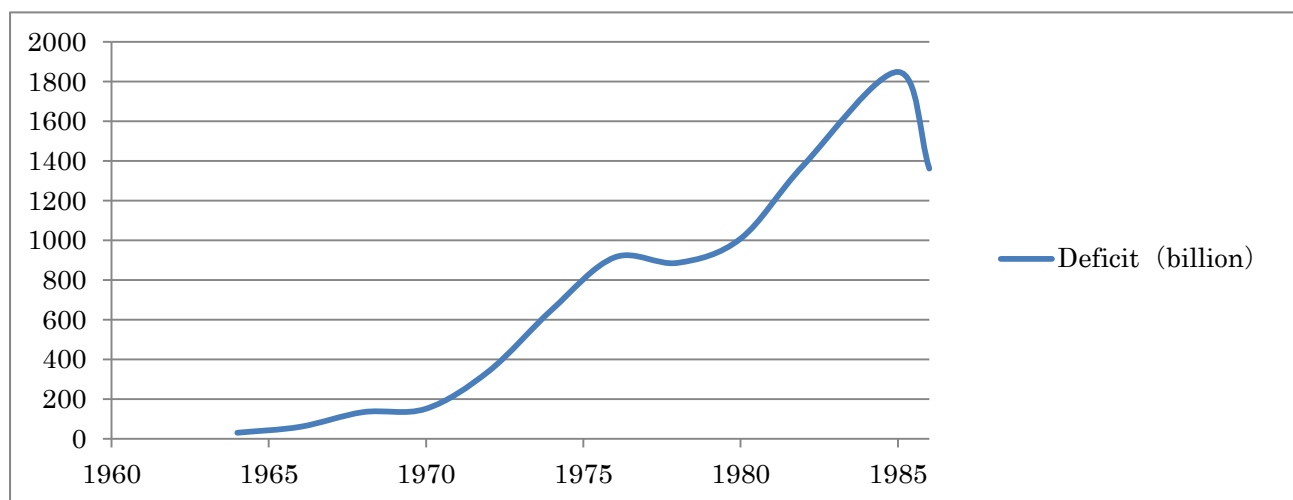


Figure 1. Data sources: *The Japanese National Railways 1872-1985 A Statistical Summary*, 1996, Kotsu Tokei Kenkyujo. Quote from “The Privatization of Japanese National Railways” The Athlone Press (1998) p257

Table 1 shows the market share change with different transport system of Japan at that time. From 1955-1981, the proportion of train passenger volume to all Japan passenger volume decreased from 55.0% to 24.3%, At the same time, the proportion of automobile passenger volume increased from 16.6% to 55.4%, as well as the proportion of train freight volume decreased from 52% to 7.8%, the proportion of automobile freight volume increased from 11.7% to 42.4%. This dramatically change could be seen one of main reasons that led to JNR's decline.

unit: %

Catalog	Year	JNR	Private railway	Automobile	Ship	Air
Passenger	1955	55.0	27.1	16.6	1.2	0.1
	1965	45.5	21.3	31.6	0.9	0.8
	1975	30.3	15.3	50.8	1.0	2.7
	1981	24.3	15.7	55.4	0.8	3.9
Freight	1955	52.0	8.4	11.7	25.5	0.0
	1965	30.3	0.5	26.0	43.3	0.0
	1975	12.9	0.2	36.0	50.9	0.1
	1981	7.8	0.2	42.4	49.5	0.1

Table 1. Market Share Change in Different Transport system Statement of Japan Data source: “Transport Economy Survey”(Japan) each year. Quote from “Mirror of State-owned Enterprises Reform” China Economy Press (2002) p90

unit: %

Catalog	Year	CRC	Automobile	Ship	Air	others
Passenger	1985	18.1	76.8	5	0.1	--
	1995	8.8	88.8	2	0.4	--
	2005	6.3	91.9	1.1	0.7	--
	2010	5.1	93.3	0.7	0.9	--
	2014	10.7	86.4	1.2	1.7	--
Freight	1985	17.5	72.1	8.5	0.0	1.9
	1995	13.4	76.1	9.2	0.0	1.3
	2005	14.4	72.1	11.8	0.0	1.7
	2010	11.2	75.5	11.7	0.0	1.6
	2014	8.7	76.0	13.6	0.0	1.7

Table 2 Market Share Change in Different Transport system Statement of China. Data sources: China national Data website

China economy had enjoyed a long period of rapid growth from 1980s to 2010s, which was alike Japan in 1950s-1980s. Therefore it is reasonable to compare JNR and CRC’s market share change in the periods. Table 2 shows the market share change of different transport system in China from 1985 to 2014, we can also see the rail transport market share decline, although it had not shrunk so dramatically like Japan, the tendency is clear. The expansion of rail passenger transport market share in 2014 was benefit from the China high-speed rail's operation, which proved the demand of this kind of transport service is strong in certain extent, but at the beginning time of Shinkansen's operation, it also led to rail passengers’ volume temporary increase, reached its peak in 1976 (Ishikawa & Imashiro, 1998). China is a big

country, long distance travel demand is much more than Japan, High-speed railway transport has the advantages such as safety, comfort and economy, but we can hardly conclude the decline tendency will reverse just basing the several years' data. Another point should be mentioned is all the changes happened in a great prosperity time, once the economy slow down, it would be not so optimistic. Whatever, market have changed and CRC should make respond.

4.2 Retirement fund of JNR

It was in 1945 that JNR first made a loss of 741 million *yen*, it was also in this year, the Second World War came to an end, and many railway workers from previous Japan colonies came back Japan and were resettled to work in JNR. From 1945 to 1947, JNR's staff reach its peak of 610, 000 from 518,000, but JNR had never set up reserve fund for them. JNR's management at that time, realized that the time would come when about 20,000 staffs would retired every year, then JNR would need huge number of money to pay them. Then JNR submitted an application in 1964 – at that time the number of retiring employee had not reach 10,000 – asking the government to set up a retirement allowance fund. It was a foresight advice for JNR to avoid difficulty in pay the retirement cost. But the Minister of Transport, which was in charge of JNR' basic accounting rules' change, left the proposal for about 6 years and finally rejected it (Ishikawa & Imashiro, 1998). There was a viewpoint said it was because the government fail to understand the need for a reserve fund, which led in the matter becoming worse. I don't think government didn't know the importance of establishing the fund, they knew that setting up the reserve fund need money, and there were only two way to raise the money, one was using the fare to cover the fund, the other way was to subsidize the fund. But government policy, which was more concerned JNR was a public-sector system, had always kept JNR's fares low, there was no room for new cost to be added in, moreover, no politician was willing to support very unpopular train fares raise. The other one is using government grant to set up the fund but this should get the approval of Diet, of course it was not a good idea. So the problem was delayed. Up to 1980s, the number of retiring employee exceeded 20,000 annually, more than one hundred billion of retirement cost was a heavy burden to JNR (Ishikawa & Imashiro, 1998).

As to CRC, it also shoulders the responsibility of resettling demobilized cadres as well as some children of workers of CRC. Now, it has had 2,045,600 employees, much more than it demanded. This has become a heavy burden of CRC, and the situation will not change in a short term.

4.3 Lessons from JNR's local lines and freight services

It was possible to solve JNR's financial problems only on the conditions of finding the main reasons of JNR's loss. By dividing JNR services into 3 sectors – main

lines, provincial lines and freight – will help us to identify which operation was JNR's main source of loss. Figure 2 and figure 3 show the operation length and traffic volume respectively of main lines and provincial lines from 1975 to 1985, it is clear that both the length and traffic volume in different lines changed little in this period, choose 1980 as an example to illustrate the situation, the total length of 1980 was 22722km, main lines accounted for 55.2% of total lines but undertook 94.8% of total volume of rail transport. It also proved that between major cities, railway could take its advantages of mass transport, while the local lines in low transport density area was totally different. Furthermore, the traffic volume of local lines still suffered from slightly decline. From 1972 to 1985, the traffic volume decreased from 16.8 billion to 8 billion, dropped by more than 50% (Ishikawa & Imashiro, 1998).

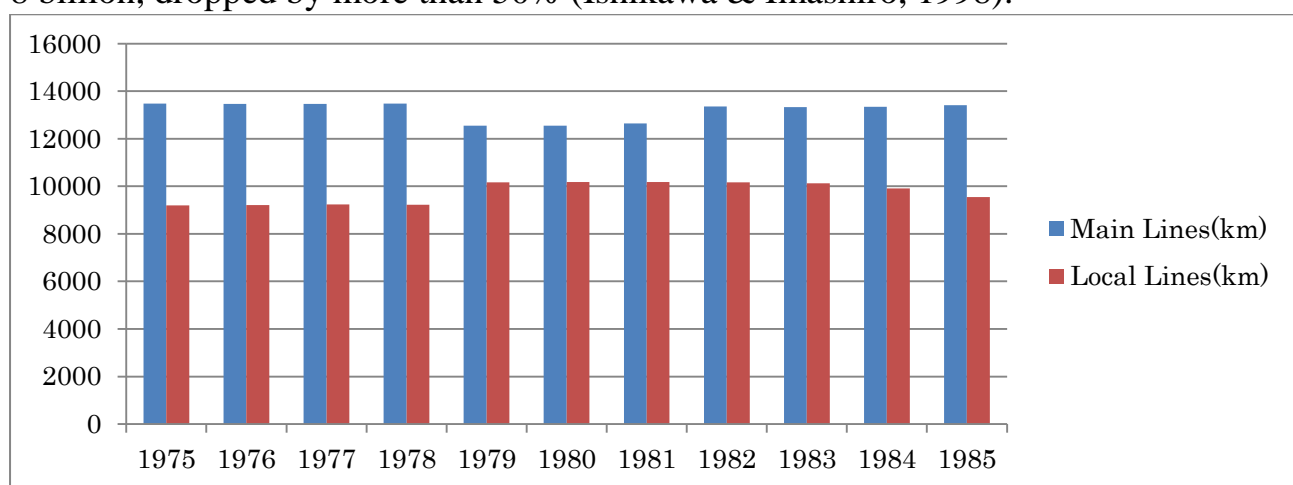


Figure 2: The operation length of main lines and local line from 1975 to 1985

Data sources: *The Japanese National Railways 1872-1985 A Statistical Summary*, 1996, Kotsu Tokei Kenkyujo. Quote from "The Privatization of Japanese National Railways" The Athlone Press (1998) p260

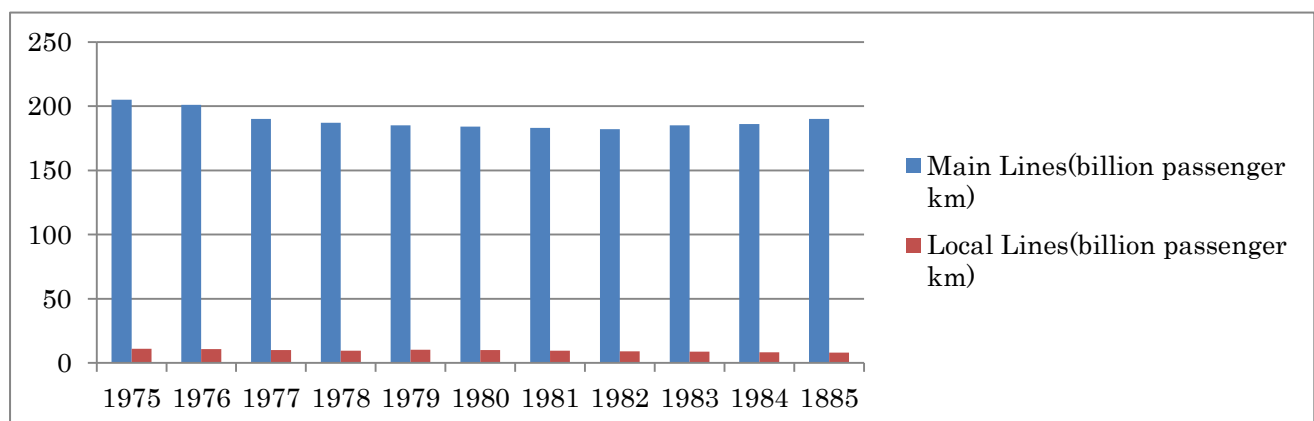


Figure 3: The traffic volume of main lines and local line from 1975 to 1985

Data sources: *The Japanese National Railways 1872-1985 A Statistical Summary*, 1996, Kotsu Tokei Kenkyujo. Quote from "The Privatization of Japanese National Railways" The Athlone Press (1998)

Figure 4 shows the loss of main lines and local line from 1975 to 1985. In 1985, local lines loss accounted for 33.8% of total loss, this means the local lines operated about 40% total railways and took one third of total loss but shouldered less than 10 % traffic volume, and it was in such a low efficiency. How about the main lines? As being mentioned in part 4.3, JNR had to pay a certain amount of retirement allowances to the railway workers from Japan former colonies annually. It could hardly say it was JNR's responsibility to pay for the special labor cost. At the time Tohoku and Joetsu Shinkansen lines began to construct, the government asked JNR to bear the capital expense of this line, although government recognized it was not JNR's responsibility but JNR had to shoulder the burden annually (Ishikawa & Imashiro, 1998). Both of the expenditures were paid by main lines revenue. Such as in 1985, JNR paid 1,326.0 billion *yen* for both of the two items, if it was excluded from the main lines' loss, the main line could even make 141 billion profits. Then, it was very clear that comparing

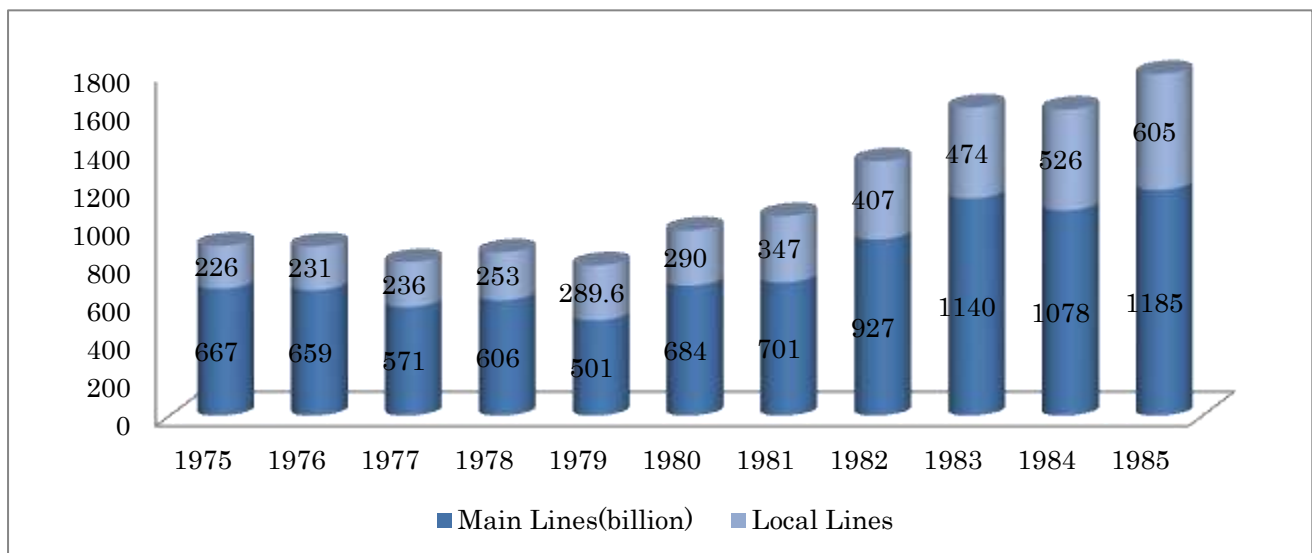


Figure 4 The loss of main lines and local line from 1975 to 1985 Data source: The Privatization of Japanese National Railways

with main lines, local lines was a main source of loss.

How about the freight sector? Figure 5 shows the separate financial results of passenger and freight sector. The total expense is divided into passenger and freight operation with considering the common expense, which was distributed to both sectors. It can be seen that neither passenger nor freight operations could cover its cost, especially the freight even couldn't cover its own proprietary expense. Table 1 also shows the fact JNR lost its dominant position eventually. Shipping takes the advantages in large-volume and long distance freight market, and truck transport is also a highly competitive rival because of its more flexible and convenience services, both led to rail freight operations becoming unprofitable and shrinking in

size(Ishikawa & Imashiro, 1998).

Although CRC can make profit now, but the railways traffic has showed an obviously decreasing tendency (Table 2). As more and more people moving to big

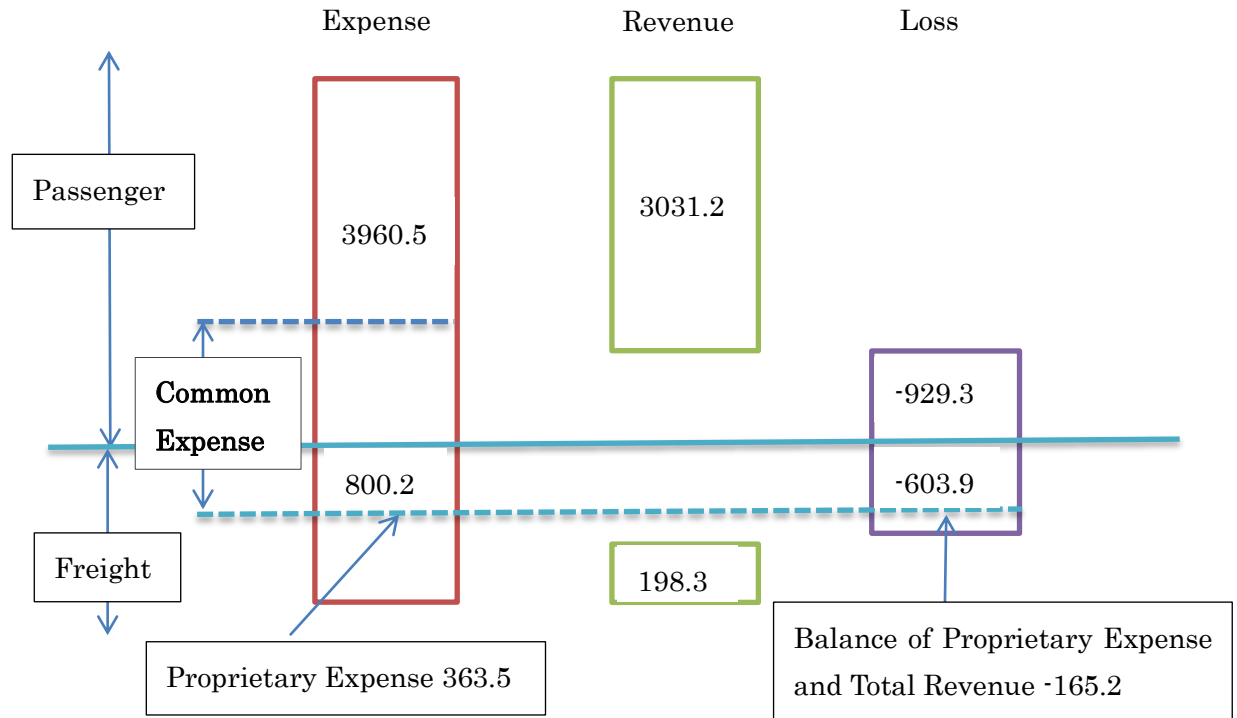


Figure 5 Loss of Passenger/ freight Operation (billion yen)

Quote from “The Privatization of Japanese National Railways” The Athlone Press (1998) p9

cities, the provincial lines of CRC will inevitable face the same problems. As to the freight services, its proportion in transport market have decreased more dramatically. In recent years, as China trying to optimize the economic structure, the transport demand of mineral stones, coal, and rolled steel are eventually decreasing. This kind of transportation is the main business of railway freight services in China. Therefore, it is reasonable to worry about the future development of CRC’s provincial lines and freight services.

4.4 Long-term debt

Up to 1986, JNR's financial almost collapsed, its long-term debt reached 19,745 billion yen (excluding special account long-term debt), accounted for 82.7% of total capital debt. The interest payment, which reached 1,325 billion yen, accounted for 36.8% of revenue, became a heavy burden of JNR. This was due to JNR was strictly restricted in its way of raising capital, and could only depend on long-term loans (Ishikawa & Imashiro, 1998). Such huge amount of debt made it was impossible to pay off the debt under current system, only the reform could bring a slim chance of survival.

Unit: billion yen

	Long-term debt	profit	Interest payment	revenue	Interest/revenue
1976	5,458	-914	316	1,993	15.9%
1978	8,462	-887	478	2,570	18.9%
1980	9,077	-1,008	476	2,964	16.1%
1982	12,723	-1,378	799	3,313	24.1%
1984	16,505	-1650	1,093	3,390	32.2%
1986	19,745	-1361	1,325	3,605	36.8%

Table 3. JNR financial condition. Data source: The Privatization of Japanese National Railways The Athlone Press (1998)

Table 4 shows CRC's long-term debt also took very high proportion of total debt. Furthermore, such a huge number increasing with 10% annually will be a great potential risk of CRC. The former chairman of China Banking Regulation Committee Said that he deeply worried about CRC's long-term debt and warned banks should be cautiously with CRC's loans (Report 2013). As the debt mounted, even if CRC can pay billions of interest every year, no one knows when it can pay off the debt.

unit:RMB million

	Long-term debts	Revenue	Profit	Repay Principal with interest	Interest payment	Total debt	Long-term debts/total debt
2013	2,604,086	1,016,646	257	215,739	53,533	3,225,850	80.7%
2014	3,028,081	986,787	636	330,184	62,998	3,675,551	82.4%
2015	3,388,526	909,605	681	338,512	77,916	4,095,145	87.7%

Table 4. CRC financial condition. Data source: www.china-railway.com.cn

CRC is experiencing the rapid growth of long-term debt that JNR had experienced. As a state-owned enterprise, it can easily borrow money from banks, because the majority banks of China are state-owned enterprises too. In the process of borrowing, CRC can usually get the backup of government directly or indirectly. The decision-maker of banks will not pay much attention on the credit risk, because they clearly know they will not responsible for it. Another problem should be mentioned is, state-owned enterprises will shoulder the responsibility of stimulating economy by the means of expanding its investment in the time of economic downturn. This is so-called

macro-control, but in reality it is very difficult to control. Moreover, such investment plans always did not allow for its profitability. For example, in order to offset the recession of 2008 World Economic Crisis, China put forward the famous “4 Trillion Investment Plan”, many cities began to build inter-city high speed railway, such as the Wuhan(the capital of Hubei province)—Xianning inter-city line, which began to operate in 2013, was one of them. but now half of its capacity is in idle. The director of Hubei Development and Reform Committee Railway Office Wang Jianzu said, after the 4 inter-city lines’ being put into operation, their total depreciation cost, interest payment and railway activity cost of one year will reach RMB 3 billion *yuan*, but its revenue is just RMB 0.8 billion *yuan*, this means its loss will be RMB 2.2 billion *yuan* every year (Fang 2014).

Before the time CRC was established, the government realized its debt was partly due to its limited financing channels, and issued a policy of encouraging private capital invest in this field. This policy will provide CRC more financing means and lower banks’ risk, the most important thing is it will open the door for CRC's partly privatization.

4.5 Subsidy

Subsidy is widely used as a tool to offset public enterprises’ losses. It was from 1977 the government began to grant JNR in the name of “grant in support of operations”, “special account grant” and “grant for constructions cost” because of JNR was deeply suffered in interest payment of its long-term debts. From 1980, the payment of part long-term debts was deferred, and the government subsidy was used to pay the interest. Table 3 and figure 6 shows before 1981, the grant from government could cover the long-term debts interests’ payment, from 1981 onwards, the grant decreased and the interests payment skyrocketed (Ishikawa & Imashiro, 1998).

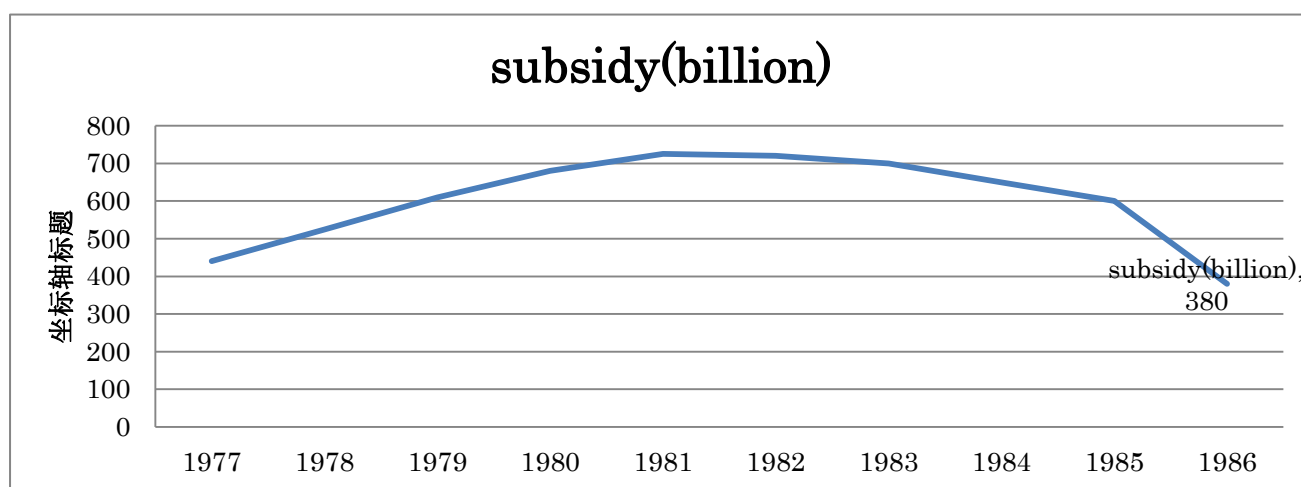


Figure 6 the fluctuation in the amount of subsidy to JNR

Quote from “The Privatization of Japanese National Railways” The Athlone Press (1998) p24

The subsidy actually facilitated JNR's financial burden temporarily, but it could not save JNR, and even worse, the gain turned out to be a loss afterwards. At the end of 1980s, Japanese government's budget was in trouble and the attempts to introduce an increase of tax failed. At that time, the national budget deficit was mainly produced by JNR, Health Care System and Food Management Law. But JNR was the most attractive one for its size as well as the public hostility which stemmed from its unskilled service attitude and high fares in comparison with private railway companies. Privatizing JNR could reduce financial spending and meet the will of public. It was under this background the government made decision to reform JNR (Ishikawa & Imashiro, 1998). In a certain sense, the subsidy from government accelerated JNR's reform.

CRC was just established three years ago and can make profit now, so it still have never received subsidy from government. But as a huge public enterprise with amount of trillions *yuan* investment annually, it is always eager to capital. The main source of its capital came from bank loans with very low interest which were guaranteed by the State, if CRC is a private company, such low interest would never happen. This can be regarded as another kind of subsidy.

Public enterprises partly serve for the public welfare and shoulder the responsibility of national economic development. Thus it is easy for them to get resources form government, but this advantage may turn out to be a disadvantage and lead them to walk up the road of no return. Such as JNR's subsidy became an impetus of reform, CRC can get bank loans easily have led to its debts mounting quickly. China shall deepen state-owned enterprises market-oriented reform, give all the enterprises equal market position, this will be to the benefit of improving public enterprises' competitiveness, and promote national economy sustainable development.

5. Rescue attempts for JNR & Implication to CRC

As JNR's loss increasing year by year, Japan government tried to rescue it with many plans, although these plans didn't successfully revitalize JNR, they actually took positive effect on its development in a certain degree. Researching the experiences will be of some help to CRC's development.

5.1 Raising Fares

JNR fares was firstly regulated by JNR Fare Act, which means if JNR want to change its fares, the Act's revision was necessary. It is time consuming and difficult to pass on the Diet. Although the Act was revised in December, 1977, and became less rigid, JNR still had to get the permission of the Minister of Transport and it was limited on the fares JNR could propose. In order to promote economy growth, Not only after the Second World War, but also during the time of rapid economic growth and inflation, fares always were kept very low, this was a part of government policy

(Ishikawa & Imashiro, 1998).

Another problem of fare system was its uniformity. As a nationwide public enterprise, uniform fare system was easy to manager, but ignored the different regional conditions. Same fare in local lines were lower than private railways but higher in metropolitan line, this led to JNR could not make profit in local area and lost its competition in high transport density area. For example, from Shinjuku to Hachioji, there were two parallel tracks, one was operated by JNR and its ticket cost 440 *yen*, the other belonged to Keio Line but its ticket cost 220 *yen*, this was an odd situation at that time, the higher cost of JNR reflected that JNR users should pay the nationwide average cost of the section between Shinjuku and Hachioji. In regard to local lines, there is another example, the Oigawa Railway, charged 1,270 *yen* for its service between Kanaya and Senzu, but JNR just charged 630 *yen* for the same distance (Ishikawa & Imashiro, 1998). On this situation, simply raising fares could not fundamentally solve the problem.

As JNR's deficit piling up, raising fares became inevitable. During the last ten years of JNR, its fares were raised every year except 1977 and 1983, especially in 1976, the tariff increased by approximately 50%. Raising fares actually could increase the revenue, but in a fiercely competitive transport market, which also led to many passengers moving to buses, cars and planes, its impact was therefore limited. Nevertheless, frequently raising fares without any improvement resulted in people's complaining and distrust to JNR. Whatever, this attempt to rescue JNR came to failure finally.

Comparing with JNR fare system, CRC is experiencing the similar situations, China government policy tried to keep fares low and practiced a uniform standard too. CRC's fares standard was formulated in 1994 and enacted in 1995, and this means China national railway fares have not changed for more than 20 years. During this period, China GDP rose from RMB 4,846 billion *yuan* in 1995 to RMB 67,671 billion *yuan* in 1995, the fare is still about RMB 0.06 *yuan* (about 1 *yen*) per kilometer, such low fares are unsustainable due to the inflation and increasing labor cost.

Without doubt, low fares policy will benefit the national economy, and state-owned enterprises have to serve public welfare. JNR's experiences proved that the fares system problems will probably bring CRC into trouble in the future, the main point is what time to change it can avoid irretrievable result.

5.2 The rehabilitation Act of JNR

In November 1980, a special Act—the Rehabilitation Act – got the approval of the Diet, which was aimed to recover JNR finance. This Act includes 3 major plans, introducing discount fares, scaling down freight yard-system and trimming unprofitable lines. Because the freight services and rural lines were JNR's main loss

sources, the Rehabilitation Act made the point and took a positive impact on reducing JNR finance deficits (Ishikawa & Imashiro, 1998).

Of all the problems, how to deal with unprofitable line was the most complicated one. Closing rural lines policy was firstly put forward in 1968 in a report of the JNR Consultative Committee, the policy also proposed to close 83 lines out of 145 rural lines and replace them with bus services. Up to June 1972, although 11 lines of the 83 lines were closed, these lines only took 4.6% of total planned closures length, because the closures were strongly opposed by local residents and politicians. From 1972, JNR began to manager rural lines and trunk lines separately, as well as introduced new accounting arrangement to clarify their different financial situations. This kind of accounting arrangement improved public's understanding of rural lines problems, public realized the reason of the rural lines' loss was out of JNR's managerial control. In the following several years, the government proposed to close more rural lines but fail to be passed in the Diet, although the plan was under the condition of getting the agreement of local authorities. In 1976, the Committee of JNR Provincial Line Problems was set up and prepared the plan for "JNR Rehabilitation Act". After many turns and twists, the bill of the Rehabilitation Act was finally approved in the 93rd Diet (Ishikawa & Imashiro, 1998).

In JNR history, different definition such as "rural line system", "provincial lines", "rural low density lines" were used by the government and JNR in different time indicating different range. The JNR Rehabilitation Act gave JNR lines three kind definitions according to its traffic density, and the standard of definition was set at the density of 8000 person per day. The lines of which its passenger density over 8000 were trunk lines, its passenger density between 4000 and 8000 were provincial lines, its passenger density below 4000 were selected provincial lines. Moreover, allowing for the different conditions, the selected provincial lines were divided into first selected lines, second selected lines and third selected lines. The plan intended to close the lines which density was less than 4000 persons per day, because below this number buses would be more efficient than railways. After considering all aspects of the problems, 40 lines (total 729.1km) were listed in first selected lines and would be closed by summer 1983; 31 lines (total 2089.2) were listed in second selected lines and would be closed from 1983 to 1985. The closing plan would be implemented in three stages, firstly, selection of the closed lines; secondly, holding conference and talking about how to maintain public transport after closing the line; thirdly, closing the lines following the conference agreement. The most important feature of the policy was that JNR could still close the lines after two years if an agreement could not be reached in second stage (Ishikawa & Imashiro, 1998).

On the conferences for closing the lines, all authority insisted upon the

importance of railway to local residents, it could hardly reach an agreement. Although the Rehabilitation Act empowered JNR to close the lines without agreement, JNR was not always intended to use it. It is gratifying that the Act also offered the local government three options, as well as corresponding subsidies. Firstly, if the local government chose bus service, the central government would subsidize the season ticket holder, the implementation cost of change and the whole deficit in first five years. Secondly, if the local government chose railway service and could find a private company to operate it, beside the subsidy for season ticket holder and implementation of the change, the central government would also provide subsidy, but the subsidy just covered half deficit in first five years. It was obviously that taking bus service would be more advantageous, this was also the government's intention. In fact, the subsidy arrangement did lead to more local government chose bus services. Thirdly, if local groups insisted on railway services but no private company wanted to operate the line, a new company could be established. Usually the private company is profit-making one, no private company was forthcoming meant the line could hardly make profit. Therefore, the new established company could not make enough profit and need public support, this was a third sector company and the creation of it got the approval of central government. In other words, the third sector was a public and private mixed ownership enterprise. There were two types of third sector, semi-private enterprise and semi-public enterprise. The former one meant private capital had more than 50 per cent shares; the latter one meant public capital had more than 50 per cent shares. JNR would support third sectors with all its railway facilities or leasing them by free, all the wheeled vehicles were bought by government subsidies. In the first five years, all operating losses were borne equally by central and local government, after this period, the local authorities would bear all losses (Ishikawa & Imashiro, 1998).

The third sector companies' financial performance showed that it was possible to revive and even make profit in the facing closure provincial lines. In 1989, 28 third sector companies which had operated for long enough time published their annual accounts, 8 of them had made profit (Ishikawa & Imashiro, 1998). This mode set a good example for CRC to treat their unprofitable lines.

In all the three options, the central government would grant the implementation of change and provide many favorable conditions, but finally it would shift the responsibility for financial losses from JNR to local authorities. The Act did reduce JNR's financial losses of operating rural lines. Figure 1 shows that after the closure of 71 provincial lines at the end of 1985, a dramatic decline of JNR loss from 1,848 billion *yen* in 1985 to 1,361 billion in 1986, its deficit gained a 26.4% reduction. But this kind of policy did not solve all the unprofitable lines' problems, more than half of the provincial lines were still operated by JNR, how to maintain low traffic density

lines which had certain social reasons for their continuance was still a big problem (Ishikawa & Imashiro 1998).

The reasons led to JNR provincial lines' loss were many, but the major affection came from two sides. One was more and more people moved from countryside to cities, this is so-called urbanization; the other was that car became more and more popular in common families. Table 5 shows the urbanization rate of China and Japan from 1950 to 2015. With the rapid development of China economy, both Urbanization rate of Japan and China from 1950 to 2015. Unit: %

	1950	1960	1970	1980	1990	2000	2015
Japan	37.3	65.2	72.1	76.2	77.4	78.7	---
China	---	17.3(1962)	17.4	19.4	26.4	36.2	56.1

Table 5. Source: Japan census 2000, China National statistics bureau.

urbanization rate and the car popularity rate continuously increase. In 2015, the number of private car reached 144 billion (NBSC 2015), which means China current car popularizing rate is similar with Japan in 1960s (about 10%). Although China urbanization rate is lower than Japan in 1960s, CRC provincial lines may face the similar situation of JNR in the near future.

In fact, CRC also have many unprofitable lines now, CRC shall first set standard for the unprofitable lines and separate these lines from others, then make different accounting arrangement to distinguishing them like JNR after 1972. After this, it is possible to watch the situation continuously and carefully and respond the market change swiftly. This kind of accounting arrangement can also get the understanding of public and avoid compliments and distrust. As to the closure policy, due to the different national conditions, the method to deal with provincial cannot be indiscriminately imitated in China. China is much bigger than Japan in its area, and the economic difference among different regions is significant, especially in provincial areas, many people still live in poverty and many local governments even have to depend on central government subsidy to maintain. Shifting the responsibility of operating unprofitable lines to local government will increase their burden and they are unable to maintain the railway services. More important is this is inconsistent with national balance development policy. However, the way to replace the railway service with bus and set up third sector are still successful experiences in serving the local public welfare. Because the bus service is more suitable for the low density traffic and can reduce the financial burden of central government. JNR's experiences showed that establishment of third sector enterprises did can improve the operational efficiency and provide new way of raising capital. These are also the objectives of China state-owned enterprises mixed ownership reform.

5.3 Capital investment project and the Reorganization Plan

In 1970s, Japan Government put forward a capital investment project. it aimed to modernize JNR and cut down cost through investment, as well as improve the service and attract more rail use passengers. However, high inflation, which even reached 23.18% in 1974 (WID 2016), caused by Japanese Yen appreciation and the First Oil Crisis pushed up the total cost, expected increasing of transport volume did not emerge, and the competition from road and air intensified. The following capital investment didn't successfully help JNR to exploit its specific advantages of railways, but made things worse, both losses and debts piled up.

Another plan was JNR reorganization which intended to rationalize its management. In this plan, JNR set a goal to reduce the number of employee from 401,362 to 350,000 by the end of 1986, this was regarded a sound number to manage. But as the plan came into implementation, JNR did not need so many employees particularly that great changes took place in freight service sector. Therefore, the goal was revised down to 320,000 in 1984. This revision continued with comprehensive and thorough rationalization while without any new staff increasing. By the end of 1986, its employees downsized to 223,947, more 40% decrease (Ishikawa & Imashiro, 1998).

The capital investment project failed to find the point of JNR decline, wasted a lot of money and delayed JNR reform. JNR reorganization plan lay off a large number of employees, had reduced its labor cost and improved its financial situations, as well as paved the way to rationalization. But the measures to treat public enterprise surplus staff also aroused controversy.

6. Political Issues

JNR and CRC had ever been a department of central government, from the day they came into being, they had extensive connections with politics, and their reform undoubtedly would affect the interests of political groups. Although Japan and China have different political system, the nature of politics is similar.

6.1 Political stability

The success reform of JNR partly attributed the stable political environment in 1980s. Table 6 shows Japan Prime Minister in 1980s, the time in office of Prime Minister Yasuhiro Nakasone reached 1805 days, which was the longest time to Japan Prime Ministers in 1970s-1980s, much more longer than Japan Primer Minister average 2 years reigning time. We all know that state-owned enterprises' reform is a complicated and difficult project, from the 1983 that JNR Restructuring Committee was established to the reform accomplishing time 1987, it took 4 years. It is impossible to make success without a stable political environment. In the following years, Primer Ministers whose reigning time less than 2 years made little progress on state-owned enterprises reform (Tian, 2003).

Sequence Number	Name	Period	Total time in office
43	Kakuei Tanaka	1972.07.07—1974.11.09	885days
44	Takeo Miki	1974.11.09—1976.11.24	746days
45	Takeo Fukuda	1976.11.24—1979.11.07	713days
46	Masayoshi Ohira	1978.11.07—1980.06.12	553days
47	Masayoshi Ito	1980.06.12—1980.07.17	35 days
48	Zenko Suzuki	1980.07.17—1982.11.27	863 days
49	Yasuhiro Nakasone	1982.11.27—1987.11.06	1,805 days
50	Noboru Takeshita	1987.11.06—1989.06.03	575 days
51	Sosuke Uno	1989.06.03—1989.08.10	68 days
52	Toshiki Kaifu	1989.08.10—1991.11.05	817 days

Table 6. Source: Official website of the Prime Minister of Japan. Retrieved 23 May 2016

China political system is different from Japan, China presidents usually have 5 or 10 years tenure, this is an advantage of carrying out CRC's reform.

6.2 Reform determination and capability

State-owned enterprises always have extensive connections with government, reforms usually touch related vested interest groups, and it is often resisted by them. How to deal with the problems shows the reformer's determination and capability.

In 1983, in order to promote JNR reform, JNR Restructuring Supervisory Committee – which was responsible for implementing the wishes of the Second Special Government Inspection Committee – was established under the aegis of the Prime Minister's office. There were 5 members and an office staff in the committee, it's worth noting that the committee had no JNR representatives on it, the 5 members and the office staff were either came from the Second Government Inspection Committee or the Ministry of Transport. This means it was independent of JNR. Moreover, considerable authority over JNR was endowed to the committee, which could make “recommendation” and pronouncement about the JNR budget. This kind of arrangement avoided the affection from JNR, and ensured the committee could carry out their work objectively and fairly. In fact, their work did win the public's trust and support.

In August 1984, the committee submitted a report named “Opinion on the Restructuring of JNR”, recommended to privatize and break up JNR. JNR was reluctant to accept the proposal, and replied with publishing its own “Basic Policy for Management Restructuring” in January 1985. In this announcement, JNR suggested it should not be broken up, and the process of privatization should be step by step. The response of Prime Minister Nakasone was to dismiss the JNR chairmen and more than half of top officials, JNR president was replaced by a civil servant of from the

Transport Ministry. After this, the power balance between JNR and the Minister of Transport was broken, and reform went forward (Ishikawa & Imashiro 1998). The decision showed the Prime Minister's determination of reform. The following words will help us to understand what he was thinking about at that time:

"I was carrying out a kind of improvement of Japan's structure. For 110 years, ever since the Meiji restoration, Japan had been striving to catch up with America and Britain. In the 1970s we did catch up. Beyond that point the (state's) regulations only stand in the way of the growth of the economy. If government officials have too much power, the private sector of the economy will not grow. We had to change the system."(Harvey, 1994)

This was just the first step of reform, JNR's huge debts, hundreds of thousands of employees and trade union were still great difficulties ahead, if anyone of them could not be settled appropriately, JNR reform would not gain final victory. The Prime Minister Nakasone's lofty ideal gave him firm determination to carry through the reform, his excellent political talent helped him to overcome the obstacles on the way to success. China state-owned enterprise reform will inevitably encounter many difficulties, CRC have separated from government just for 3 years, most of its top leaders were former civil servants, and they had close connection with government, which will complicate the reform. CRC have 2,045,600 employees and 97,840 km operating lines (CRC, 2013), its size is much bigger than JNR, so its reform will be more complex and difficult. How to surmount these difficulties will test China top leaders determination and capability.

6.3 Labor union

Labor union is a topic cannot bypass in the process of JNR reform. JNR workers belonged to the following three unions: the National Railway Motive Power Union (NRMU), the National Railway Workers' Union (NRWU) and Japan Railway Workers' Union (JRWU) (Masatake 2002). These unions were so influential that they could affect many aspects of JNR's management and reform. The following report from Japan Economic Journal can show us a tip of the iceberg.

Yoshiyuki Kasai, who is currently honorary chairman of JR Tokai and 74 years old now, faced "Promotion Attack" in 1981 at JNR. He was the general manager of Sendai Railway Management Office, and was widely known for his intransigence attitude with decline of workers moral in JNR work places. At that time, in one of JNR station where workers' irregular activities in the workplace prevailed, he did not hesitate to impose strict penalties. He also reduced surplus personnel for railroad truck maintenance. Kasai's confrontational management style angered the Unions. However, the top management of JNR, who took an appeasement policy with them, was embarrassed and confused by Kasai. In 1980, a JNR labor union senior member told

Kasai that he will be transferred from to the Management Planning Bureau of Tokyo Headquarters. as well as a rumor came from another source of labor union, which said: “he is too aggressive He should not be given managerial authority”, this meant he would be promote to higher position with weaker authority. This was so-called “Promotion Attack”. Such confidential information like making decision of senior manager’s appointment was often leaked out to the labor union. The appointment of general manager of a regional office who had the authority over labor relations was often affected by the labor union; this made it was impossible to decent labor relations and productivity improvement. (Nihon Keizai Shimbun, 2015) In this case, JNR Unions were so influential that seriously affecting JNR rationalization at the time JNR suffering its huge loss. Thus the labor union should partly be responsible for JNR’s decline; JNR’s worker moral had deteriorated to such degree and the attitude of top manager to the Unions also showed JNR’s reform was necessary and urgent.

When JNR Restructuring Supervisory Committee declared privatization/breakup plan, the plan was initially opposed by all the three unions. After JNR managers worked on the details of the plan, the NRMU and the JRWU accepted the plan and support the reform. But the NRMU, which had 200,000 members, didn’t change its position. In order to persuade its members to “make a bold compromise” and support, all union members held a meeting in Shuzenji, but the effort failed due to the anti-reform minority. As the members realized the inevitability of breakup and privatization, they began to quit the union in droves. By the time JNR accomplished its reform, the member of the union decreased from once 200,000 to 40,000 (Masatake 2002).

Labor union can take an active role in maintaining or improving the conditions of their employment (Webb, 1920), they always tried to protect their interests and raised request, therefore it was understandable that JNR labor union’s behavior in JNR management and reform. On the other hand, the unions’ attitude to reform was also a vital factor, and their support is necessary. JR east chairman Masatake Matsuda said: “More than our efforts, it was the unions’ change of heart which signaled a changed in the awareness and attitudes of our unionized staff. This provided us with a strong push toward reform from within JNR.” This problem is not peculiar in JNR. In China, labor union is under the leadership of China Communist Party, it is more like a worker service center, and usually lacks influence on management. But this not means the workers will accept any decisions made by government unconditionally. In fact, there are many similar situations in the process of China state-owned enterprises reform. For example, in 2010, Henan Textile Institute Company, which was one of Henan province state-owned enterprises, had suffered from loss for about 10 years. After the restructuring committee announced the privatization plan, which was strongly opposed

by its employees and the worker refused to accept the conditions that offered according to national staff resettlement policy by the restructuring committee, about 100 employees (it total had about 500 employees) went to some government authorities and claimed for higher allowance. They even blocked one main street of the city to expand influence. The company's reform was forced interrupt many times. Finally, the restructuring committee had to compromise with them, and the company was merged by another public enterprise, which meant privatization reform failed. State-owned enterprise privatization will inevitably touch the workers interests, because it always means they will lose "iron bowl" and semi-civil-servant status. At same time, the attitude of Labor unions or workers to the enterprises' reform should not be despised, because sometime they even can determine the result. Labor union, no matter in Japan or China, they can play an active role or negative role in the process of reform, and it is the government responsibility to make them to be the former one.

7. Privatization Process of JNR

7.1 Outlines of restructuring

Chapter 1 of The Japanese National Railways Restructuring Law states its purpose as follows: 'This law sets forth the basic items for fundamental restructuring of the management of the Japanese National Railways (hereinafter called 'Japanese National Railways Restructuring') for establishing an efficient management system in response to the situation whereby it has become increasingly difficult for the nationwide integrated management system in the form of a public corporation as is evidenced by the failure of its railway business and other business operations. It is deemed crucially important to create a new management structure that can cope appropriately with transport trends and deliver the functions expected of a key transport enterprise in Japan with greater efficiency, thereby helping to stabilize and improve people's lives and the national economy.'(JNR restructuring Law, 1986) This is to say, the "nationwide integrated management system" and "the form of a public corporation" are the fundamental reasons of JNR's failure. Therefore break-up and privatization could elegantly solve the problems, both of the measures aimed to establish an efficient management system which could response to the change as well as serve the public welfare and national economy.

JNR was such a big enterprise and the transport demands among different areas were quite different. In order to balance the discrepancies, two principals were applied in the breakup, one was to maintain as parity as possible in terms of profitability; another was the profit adjustment measure including the Shinkansen leasing system and the Management Stability Fund. The Shinkansen leasing system was to put whole Shinkansen system into an independent corporation, and all JR parts could lease and

operate the system from the corporation. The leasing revenue is to offset the loss of unprofitable lines with profitable lines. The Management Stability Fund was designed to help the operations of Three-Island corporations with the profit of The Fund investment, because it is extremely difficult for them to make profit in their market (Ishikawa & Imashiro, 1998).

According to the principals, JNR was divided into 9 corporations, including 6 passengers Japan Railway (hereinafter refers to JR) (East JR, Tokai JR, West JR, Hokkaido JR, Shikoku JR and Kyushu JR), 1 freight corporation (JR Freight), Shinkansen Holding Corporation and JNR Settlement Corporation (Ishikawa & Imashiro, 1998).

CRC's scale is much bigger than JNR. The length of CRC's operation lines reaches 97,840 km, about 5 times of JNR's 19,639 km (Ishikawa & Imashiro, 1998). The transport demand of China differs from one region to another quite a lot, but CRC is still applying a national unified system, these situations are very similar with JNR. Although breaking up CRC maybe is not a good idea now, JNR's history proved that the CRC's current system is low efficient and could not response to market change immediately, which will inevitably bring its management into trouble. Whatever, CRC shall make some management adjustment. CRC has 15 bureaus and 6 companies now, according to CRC's structure and JNR's principals of breaking up JNR, CRC shall be divided into a certain number of parts and give different parts more autonomous right. Moreover, the unified fare and personnel system shall be abolished -- maybe it is difficult to make decision now-- this will significantly improve the managers and employees' motivation.

Privatization means separation of enterprise from administration. As public enterprise, JNR had many problems that have been mentioned in part 3. Privatization would help JNR to set clear target – making profit, avoid too much interference from government, and give JNR more management autonomy, in other words, thoroughly freed JNR. As to CRC, completely privatize the enterprise would conflict with the principal China public owned economic system. But, the idea of separation of enterprise from administration does meet the requirement of China public enterprise reform. CRC shall try to establish a mechanism, ensure the independence of CRC's management from the government.

7.2. Payment of debts

At the end of 1986, JNR's total amount of debt was calculated to be 37.2 trillion *yen*, which included JNR long-term debt 25.0 trillion *yen*, Japan Railways Corporation debt 4.5 trillion *yen*, Honshu-Shikoku Bridge debt 0.7 trillion *yen*, Management Stability Fund 1.3 trillion *yen*, pensions 5.0 trillion *yen* and others 0.7 trillion *yen* (Ishikawa & Imashiro, 1998) .

Table 7 shows the breakdown of burden of total debt. It embodies the principal of profitable corporations should bear more liability. The three Honshu JRs took over totally 5.9 trillion *yen*, of these, JR Tokai inherited more than half of it, because JR Tokai had the busiest Shinkansen route. As to the three island JRs and JR freight, they didn't take over any debt, because the market they had is very difficult to make profit. JNR Settlement Corporation would take over all the remaining debts, 25.6 trillion *yen* (Ishikawa & Imashiro, 1998).

Unit: trillion yen

JR East	JR Tokai	JR West	JR Hokkaido	JR Shikoku	JR Kyushu	JR Freight	SHC	JNR SC	Total
1.77	3.48	0.65	0	0	0	0	5.7	25.6	37.2

Table 7. Data source: *The Privatization of Japanese National Railways* The Athlone Press (1998) p28

The Shinkansen Holding Corporation would use the revenue which is the charges on three Honshu JRs for the use of the Shinkansen lines to pay off its share. The JNR Settlement Corporation had two ways to obtain revenue to pay off the debts—the sale of land and share. Even though JNR Settlement Corporation sold all JNR assets, the total debts still couldn't be paid off, and the remaining part would be beard by the nation (Ishikawa & Imashiro, 1998).

CRC's long-term debt reached RMB 3.38 trillion *yuan* and it increased by more than 10% annually, there must be a day CRC have to face the problem of how to pay off its debt. The way of JNR to pay off its long-term debt set a good example for CRC. JNR's experience also remind China government to control CRC's debt, the current policy of *laissez-faire* to CRC's debt will inevitably lead to CRC's debt mounting, if CRC cannot pay off the debt someday, it will became the nation's debt.

7.3 Resettlement of surplus employees

Although JNR employees had decreased from 420,000 to 270,000 before privatization, the new JNR corporations could only accept 215,000 of them. This means there were still about 55,000 redundant employees. JNR took many measures to deal with the problem, in the process, about 3,000 of them were rebalanced nationwide; 40,000 employees were early retired with additional payment, the remaining employees joined the JNR Settlement Corporation. The JNR Settlement Corporation offered training for the workers out of job, almost all the workers were reemployed in the end. (Masatake 2002)

In 1990s, China state-owned enterprises reform led to more than 24,000,000 employees losing their jobs (State Council of China, 2004), many of them fell into trouble and their families were suffering. Too many unemployed workers also brought

about many public security problems. Not only the workers but also the society paid very high price for the reform. This is also a main reason that the reform was widely criticized by public. The neglect of resettlement staff gave China a profound lesson. JNR's experiences of establishing a special corporation to resettle the surplus workers can be applied in China. Offering the employees training opportunity and helping them to find a new job is necessary to guarantee a smooth transition. These are the government's responsibility.

8. Outcome of the Privatization

JR companies combined profit reached 151 billion *yen* in the first year after privatization, the performance was much better than expected. All the three Honshu passenger companies and the freight company made profit, and the majority of profit came from operating the railways. The three island companies made operating loss without doubt, but the profit from the Management Stability Fund made up for the loss of them (Ishikawa & Imashiro, 1998).

JR companies passengers and freight traffic had increased apparently after privatization. Their passenger traffic had increased by an annual average of 3.4% over the following 7 years after privatization, freight traffic had increased by 3.4% at same time; but from 1982 to 1986, JNR's passenger traffic had just grown by an annual average of 0.6%, freight traffic had decreased by 9.5%. Along with the traffic volume increasing, JR companies service quality had improved obviously, won the praise of customers (Tian, 2003).

JNR privatization reduced the national financial burden. Before privatization, JNR had been subsidized by government with an average annual 600 billion *yen* for about 10 years, JNR just paid little taxes. After privatization, Japan government subsidized the JNR Resettlement Corporation 100 billion *yen* annually, and the taxes payment of JR companies was much more than that. For example, in 1991, JR companies paid 444.3 billion *yen* taxes, which were much higher than the 108.2 billion *yen* subsidy of government (Tian, 2003).

The three island JRs problems were the ratio of profit from the fund to revenue from the railways was quite high, 21 percent for Kyushu, 37 percent for Shikoku, 60 percent for Hokkaido. This showed that the Fund was so important that it was the lifeline of the three island JRs, and it was effective to maintain the three companies' operation. On the other hand, the three JRs were so dependent on the Fund showed their vulnerability. Because the interest rates were not under their control and they were easily affected by the economic environment. If they want survive, the only way was expand their non-operation revenue. In fact, that is exactly what happened. JR Kyushu, one of the three island JRs, its non-railway operation accounted for nearly 60% of its overall revenues in 2015, while its railway operation made 13 billion *yen*

loss. It is the non-railway operation that revives it. (Sugulu, 2015)

There are many reasons why JR companies could perform so well, such as the reduction of labor cost, no interest payment pressure and so on. The most important is privatizations freed the JR companies and improved the managers and employees' motivation, as well as breathed new life and enthusiasm into the JR companies. The Honshu JRs took the vantages of its profitable markets, and provided better services to improve their competitive power. Although the three island JRs couldn't make profit with its railway operation at the beginning, they didn't await their doom like JNR. By expanding their non-railway business, they have come through the difficulties and survived.

In China, there is always a voice against the privatization. They argue that the private companies lack the sense of social responsibility, if the public enterprises are privatized, the public will have to endure worse service but higher price. JNR privatization proved that private company can provide services as well as public, the point is whether it is in a competitive market. JRs have many private railways' competitor, as well as other transport service providers, only if they try their best to attract customers, then they can survive. Comparing with JNR, CRC hardly have private railway competitors, because China had ever applied the policy of forbidding private investors entering the market in a long period before. In recent years, private companies gradually gained admittance; this will create a competitive environment for CRC's reform. Another argument is public enterprises like CRC, their social responsibility should prior to making profit, even if they cannot make profit, the nation shall assume the duty to maintain it. The success of JR Kyushu shows that if a public company cannot make profit, it doesn't always mean the government shall undertake the loss and maintain it, it probably means it's time to change, give more autonomy and proper support to the company, maybe it will show you a miracle.

9. Recommendations for CRC's Future Direction

As it shows, JNR privatization is a representative case of public railway enterprise reform, which has a profound influence on Japan railways business. All of these such as Japan Prime Minister Nakasone's determination, the idea of establishing the Management Stability Fund and the JR companies' development after privatization give us deep impression. Of course, there are also a lot of successful experiences can be applied in CRC development and reform in the future.

9.1 Separation Government Function from Enterprise Management

JNR privatization had successfully avoided Japan national railways' collapse, gave a new life to the old company. Shall CRC be completely privatized like JNR? There is an argument that China is a socialist country, and public ownership is its foundation, privatization is against China fundamental economic policy. It is right. But

the key of JNR Privatization's success is the reform freed JNR from the administration functions, which give the new JRs maximum freedom. Therefore it is the separation government function from enterprise management frees the public enterprise. Since China introduced the economic reform in 1990s, a major mission of China government is to separate the administration functions from those of the state-owned enterprises in order to improve both of their efficiency.

In 2013, the first meeting of the 12th session of the National People's Congress was held in Beijing, and the "*For the Review of the State Council Institutional Reform and Function Transformation Scheme*" was approved in the conference, the scheme prescribes the former Railway Ministry's function will transferred to several government sectors, and the railway business will be inherited by CRC. The institutional reform has realized the nominal separation of government function with enterprise, but CRC is still controlled by government. The Ministry of Communications takes CRC's trade administration function; the Ministry of Finance performs the investor duties; the State Railways Administration inherits the railway development planning and policy making functions. Moreover, the relationships with others government sectors have not changed. For example, the Central Bank will support its development as usual, which means CRC will use the same way to raise capital (Report, 2013). In one words, there are still a lot of obstacles to actualize the real separation of government functions from CRC management.

Firstly, break the monopoly. JNR's success was attributed from the privatization which gave JRs and other market players equal status. The Railway Business Act became all the railways companies' regulation. Privatization had freed JNR from the government's rigid constraint, as well as destroyed JNR's monopoly and privileges. Unlike JNR, China firstly permitted private capital to participant China trunk railway business in 2005, since then many mixed ownership branch railway enterprises have been established, but most of them are state holding enterprises. Up to 2015, private railways merely shoulder about 1% of total railway passenger volume (NBSC, 2015). This means most of China railways still belong to CRC and CRC is an obsolete monopoly in railway transport market. Under the situations, CRC lacks motivation to improve its competitiveness. Government shall try to attract private capital enter railway business and eventually cancel CRC's privileges, create a fair competition market. This measure will be of great help to the entire railway transport market players, as well as improving CRC's competitive force.

Secondly, distinguish CRC and government's responsibility. CRC's top managers' appointment, fares system, personnel, investment project and other significant affairs are all under the government administration. Under these conditions, it is impossible for CRC to make immediate response to the market, unified system

leave CRC little room to perform flexible management in different region. Distinguishing CRC and government's responsibility means clearly dividing government and CRC's responsibility in developing the enterprise. The government shall not interfere CRC's business directly, its responsibility is to formulate and implement policies through which to manager and develop all railway companies indirectly. Moreover, the government shall ensure CRC to be an independent market player, and then CRC can try its best to improve its competitiveness inside the policies and pay all its attention to meet the customers' demand. CRC shall make operating decision according to the market information and be responsible to the consequences, equally take part in the market competition. These are CRC's responsibility.

Thirdly, change government regulation pattern and content. JNR was regulated by several laws such as the Railway Nationalization Act, JNR Fare Act and the Railway Construction Act, JNR's annual budget must be passed by the Diet, its investment plan and significant construction and lines' closure must be approved by Minister of Transport. After JNR's privatization, all the railway companies were regulated by the Railway Business Act and the Railway Operating Act. The JRs business scope and investment plan was deregulated by government, the procedure on fares was much less rigid than before, raising fares only require the approval of the Minister of Transport. Due to the importance of railway transport safety, the government still performed the safety supervision and inspection function through setting technological standards. As to CRC, China shall learn from the JNR, try to minimize the government control, give CRC maximal operating freedom. Change government regulation pattern, try to avoid the government taking part in the enterprise management directly. The government shall not administrate the public enterprise like an administrative agency. Change the modus operandi of assigning the enterprises certain administrative grades; cancel the semi-civil-servant status of public enterprises' employee; then the public enterprises can be independent from government. Since CRC is a solely state-owned enterprise and China government is its sole shareholder, another important thing for China government is to separate ownership from management, change the old regulation pattern, and establish modern enterprise system in CRC. In the new system, the government can exercise its shareholder's right, as well as realize scientific and normative management to CRC.

9.2 Making a clear legal law framework

A very remarkable feature of JNR privatization is the Acts that issued in the process of reform. In order to smoothly advance JNR reform, Japan established the JNR Restructuring Supervisory Committee, which carried out thorough and careful investigation for preparing JNR reform, as well as a series of laws was passed in the Diet. The JNR Restructuring Act of 1986 (the 87th law) sets out the basic elements for

the fundamental restructuring of JNR; The Application Act of 1986 (the 93rd law) repealed the Railway Construction Act, the JNR Act and the JNR Fare Act. The Act also terminated the government responsibility of constructing rural railway system, as well as the legislative procedure on fares; The Railway business Act (the 92nd law) repealed the Local Railway Act relating private railways, became the common regulation of railway related business. These laws were of great help for the reform to abide by, guaranteed the reform's smoothly going and the future development.

At the beginning of 1980s, China former state leader Cheng Yun had ever described China reform with the following words: "Crossing the river by feeling the stones".(Chen Yun, 1980) Another China state leader Deng Xiaoping had ever used the words to encourage people experimenting boldly in China economic system reform. This is Chinese theory of carrying on reform, it means the reform shall be pushed forward step by step and avoid be anxious for success. But in the practice, it was regarded that reform could be carried out without clear rule, try and see how it goes became the dominant ideas. On one hand, China is a socialist country and there were no successful experiences of socialist country economic system reform to learn from, China reform must depend on itself. The only way to push forward the reform was to try and pave the way. On the other hand, the theory also led to many problems in the process of reform. Because of the absence of workable laws, the public authority was abused in the process of reform, and no one would be responsibility for the mistake. Another serious issue of state-owned enterprise reform is the erosion of state assets. Now, more than 20 years have passed since China state-owned enterprises reform, there are a lot of successful experiences and lessons from failure in China and abroad, as the reform objective became more and more clear, China shall formulate complete laws to guarantee the reform. As to CRC, allowing for the JNR privatization' related laws, the following laws-making shall take into consideration.

Firstly, China shall make law to definite the reform purpose. In the JNR Restructuring Act, it clearly states the purpose of restructuring with following words: 'it is vital to establish a new management system which is responsive to market need. It is also vital that under this management JNR should fulfill the role of the basic method of transport in Japan, for it is imperative to stabilize the life and economy of our people.' (Ishikawa & Imashiro, 1998) In the Act, 'the market need' is prior to public welfare, which is the point of the restructure. However, the former Ministry of Railway's institutional reform scheme states the purpose of the reform is the separation of government and enterprise, has never mentioned the purpose of CRC. It prescribes that CRC would be established under '*the State-owned Industrial Enterprises law*' that was made in 1998(State Council, 2013). In article 3 of the State-owned Industrial Enterprises law, all the public enterprises' task were stipulated

as follow: ‘In accordance with national plans and market demand, the development of commodity production, create wealth, increase in accumulation, to meet the increasing material and cultural needs’(SIE Law, 1998). The law being made in 1998 shows strong Chinese characteristics. This means the national plan and market demand are equally important in CRC, and it is completely under the government control. CRC’s reform shall make law to definite its purpose, and give market need priority to public welfare, because public welfare is the government’s responsibility. The core solution is making law to definite a proper relationship between the government and the market, leaving the market to play the decisive role in allocation of resources. The definition will guide CRC’s direction of reform, making it clear that competitiveness and efficiency are keys to survive in the market.

Secondly, China shall make law to regulate the reform procedure. The JNR restructuring Act has 3 chapters, in which every aspect of the reform schedule is stated in detail. Such as sharing of liabilities, staff of the successor corporations and the price of the property to be taken over. It was so comprehensive that the reform can be carried out easily. Furthermore, the transparent process will avoid corruption and win the public trust. In 1990s, many China state-owned enterprises’ reforms were implemented merely based on rough government documents. Such documents were very difficult to operate, and some aspects were neglected. This led to many reforms were carried out at will, as well as emerged corruption phenomenon. For example, because of the absence of standard assessment method, state property was sold at very low price, which resulted in a great loss of state assets; because there was no provided reform schedule, the staff resettlement fund was embezzled by related officers. The lessons from failure of China and the successful experiences of JNR proved the importance of making law to regulate public enterprises’ reform procedure. CRC is a large scale state-owned enterprise, its reform is much more complicated than ordinary enterprises, and this makes it more important to legislate in the entire process of reform.

Thirdly, China shall make law to treat all market players equally. China has established the mixed ownership reform policy, as well as the company system will become China’s modern enterprise system, which set the target model of CRC’s future reform. As being mentioned in preceding part, China National Railway has promoted private capital to participant in China railway construction since 2005, but the result is far from expected, the total length of private railway only accounted for 1% of China railway (NBSC, 2015). There are three reasons of this, one is railway industry takes huge fund and long return period, private investor seldom has such capital strength. A more important fact is, unlike CRC, private company can seldom obtain loans from banks if they don’t have enough mortgages. Another one is that it is very difficult for

private companies to acquire land in population region. The third one is that it is difficult for private shareholders to protect their interest in mixed ownership companies. Private investors are usually minority shareholders due to their limited capital. This means they only have limited decision making power in the companies. Furthermore, another problem should be carefully deal with. For example, even some majority private shareholders have to compromise with public shareholders in decision making, because the public shareholders can use public authority to counter with them. In a word, private companies in China are unequal with public enterprises; it is too difficult to get enough resource for private companies to take part in the railway business, as well as their disadvantaged position comparing with public enterprises. In order to maintain a fair market, China must carry out a deeply reform, and establish a complete legislative system to guarantee the equal status of market players. Finally the public and private interests could be equally protected. This is not just for CRC's reform.

9.3 Mixed Ownership Reform

At the beginning of JNR reform, the target of JNR reform was to realize all the JR companies' privatization, but their shares were held by the JNR Settlement Corporation (After 1998, held by the Railway Construction Corporation). Although the three Honshu JRs had finished the flotation of shares in the 2000s, up to now, JR Hokkaido, JR Shikoku and JR Kyushu's entire shares are still being held by the Railway Construction Corporation. Both the JNR Settlement Corporation and the Railway Construction Corporation are public enterprise owned by Japan government, so from the point of view of ownership, the new JRs were still public companies at first (Ishikawa & Imashiro, 1998). Before the Honshu JRs finished the flotation of shares, they had ever been mixed ownership companies. As to the three island JRs, they are still not real private companies now.

Developing mixed ownership economy in China was firstly proposed in 1980s. In the practice of China economic system reform, mixed ownership system have improved the efficiency of resources allocation, as well as strengthened the public enterprises' competitiveness (Huang, 2014). In the 3rd Plenary Session of 18th CPC Central Committee, China put forward to initiatively promote mixed ownership economy once again (China Daily, 2013). The mixed ownership economy which were mentioned in the two times are different, the former one means developing mixed ownership in the whole economic system. As it well known, the private company had not existed before the Reform and Opening-up policy which took place in the beginning of 1980s. The latter one means developing mixed ownership in the public enterprise. This is a method to deepen public enterprises' reform, through which the public capital and private capital can make the best of both worlds and help each other

forward, promoting sustainable development of China economy. But how to carry out mixed ownership reform in state-owned enterprises is still in discussion. As to CRC, its railways business are vital to China economy as well as CRC is such a large scale firm, it is very necessary to making thorough plan before implementing its reform. JNR has many similarities with CRC, thus its privatization set a good example for CRC reform.

Firstly, carry out corporation system reform. Although CRC is called China Railway Corporation, Strictly speaking, it is not a standard corporation. As being mentioned in preceding part, CRC was established on the basis of the State-owned Industrial Enterprises law rather than the Corporation Law. This defines CRC a solely state-owned enterprise. It was in 1993 that China first put forward to establish modern enterprise system, as well as The Corporation Law was issued at the end of 1993. The law prescribes a clear definition of company: the primary purpose of a company is making profit, while CRC gives priority to public welfares. This is the radical difference of company and enterprise. Carrying out corporation system reform means restructuring CRC in accordance with the Corporation Law. Only under this situation, it is possible to carry out mixed ownership reform in next stage. The relation of government and CRC will became shareholder and company relation other than leader-member relation. Such restructure will normalize CRC's management and guarantee all shareholders equally taking part in CRC's operation.

Secondly, realize mixed ownership through flotation of shares. The JNR's ways through flotation of shares to realize privatization ensured the smooth transition of reform, as well as provided CRC's mixed ownership reform a successful example. After CRC's corporation system reform, the government can sell a certain proportion of its shares on the stock market when the company satisfies the criteria laid down by the Stock Exchange Law. There are many advantages of this method. Firstly, it is possible to seize the moment and sell the shares at a good price, maximizing the value of state-owned assets; secondly, the open and transparency of stock market can avoid the corruption and state-owned assets' loss in the process of selling state-owned shares; thirdly, keeping a certain proportion of public shares can not only give government certain power to exert influence over CRC in special circumstances, but also realize the mixed ownership reform target.

10. Conclusion

Both JNR and CRC are state-owned enterprises, so they have common disadvantages of public enterprise. Moreover, through analyzing JNR's financial issues, it can be found that the market change was the main reason of loss. While JNR failed to make proper response to the transport trends because of its nationwide integrated management system in the form of a public enterprise. China economy had

enjoyed a long period of rapid growth from 1980s to 2010s, which was alike Japan in 1950s-1980s, as well as similar changes had taken place in China transport market. Therefore it is reasonable to worry about CRC's destiny in the future.

When JNR's finance fell into trouble, Japan government had tried to rescue JNR with many measures, such as raising fares, subsidy, and the rehabilitation plan. Although these measures had not successfully revived JNR, they did take an active role in JNR's development, especially the way to deal with provincial lines. Provincial lines of JNR was one of its loss sources, due to China increasing urbanization, CRC will face the same problem in the near future. Japan government and JNR took many actions to deal with the problem, these experiences can help CRC to solve same problem. The failure of JNR's rescue attempts also proved only reform could save JNR.

State-owned enterprises reform always have extensive connection with politics, the state leaders' determination and capability as well as the trade union took important roles in JNR's reform. In other words, the financial issues are internal cause of reform, while external causes -- political issues -- are necessary in achieving reform. As to CRC's reform, these factors shall take into consideration.

JNR privatization and breakup freed JNR from all kinds of constrains of government, although JNR reform had not solved all its problems, it did avoid the collapse of JNR and reduce the burden of government, as well as set a good example for other enterprises. From this point of view, it was a successful reform case. To be sure, CRC development will lag behind the need of society as time changing. It is not wise to delay the reform just because it still can make profit. Advancing CRC reform will improve its efficiency, which serves the public interest.

The way of resettling surplus staffs, treating debts and unprofitable lines, streamlining management and so on, are all very good experiences that CRC should learn. Furthermore, the radical success reason of JNR privatization is the separation government function from enterprise management. This is the target that CRC should pursue in its reform. Japan government's legislation for JNR reform and the method to realize privatization through flotation of shares are of great inspiration for CRC mixed ownership reform in the future.

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