THE RAILWAY FREIGHTAGE ORGANIZATION STUDY FROM THE CASE OF CHINA RAILWAY EXPRESS

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Abstract

The paper reveals main problems existing in the traditional Chinese railway transportation system and points out directions for its reform by analyzing the case that China Railway Express (CRE) having successfully expanded express business network since its foundation. It holds the opinion that CRE has become the transportation enterprise full of vitality in its true sense in the whole railway system because of its rapid formation of the business network with low cost and the complete control of the whole express service realized by the continuous adjustment of property right relation. Chinese railway must construct the self-operation enterprise with clear responsibility and right, renew the idea for transportation and promote the development of extra value-added business on the basis of further expanding and perfecting basic business to change the industry from “self-service orientation” to “custom- or market-orientation” mode.

Keywords: Railway reform; Transport organization structure; China Railway Express (CRE); Entire transport product; Property rights
Topic Area: B3 Logistics, Freight and Fleet Management

1. Introduction

China Railway Express (CRE) is the transportation enterprise that provides the inter-city “door to door” parcel express service with the luggage van as major conveyance to which short-distance automobile distribution is subsidiary and special organizations established in each business city. In the circumstance that air express is the major adopted means, CRE realizes the national quality express service for the whole railway network through the innovation on system and organization. For ten years, it has obtained the continuous super conventional development and become one of the major express providers. The other two are Express Mail Service (EMS) and Air Express Service (AES). CRE is the typical representative that provides entire transportation product or extra value-added service with high efficiency in the form of enterprise in Chinese railway industry. The research on its success will have important significance for the railway transportation system reform in China. We first introduce its creation and development, and then analyze the reason for its success. Its implications for Chinese railway reform are discussed finally.

2. CRE creation and development

Before 1993, there were no real freight express services in Chinese railways. Rail freight transport is generally divided into three types, namely, wagonload, less-than-wagon-load (both generally called regular freight) and container transport. And parcel transport (generally called express freight transport) and luggage hauled with passengers together are classified as passenger transport. Among which, wagon-load goods sometimes load and unload on industrial sidings, while most are collected and delivered in freight yards or

luggage rooms at stations in cases of containers, regular freight and parcels without “door to door” service. For a long time, parcel and luggage transport was not considered as the main business of railway transport whose income is also low. For example, the income of parcel and luggage was only 380 million RMB Yuan, accounting for only 1.8 percent of the total income of railway transport in 1985, which was just raised to 2.0 percent in 1991. Most luggage vans running on the Chinese railways were idle for much of the time. While at that time, the opening-up and reform have brought great changes to Chinese economic structure and distinct increase in per capita income, which resulted in the rapid development of both EMS and AES. At the same time, the increasing demand has also attracted foreign express companies come into the Chinese market.

Be aware of the potential market for express transport market, some enterprising persons inside rail industry began to contemplate the possibility of utilizing the luggage vans and carrying out a new-style parcel express service with new management and different organization manner. Under their effort, on June 19th 1993, the Ministry of Railways (MOR) issued the “Notice on Trial Operation of Rail Parcel Express Transport Service” and appointed China Railway Foreign Services Company (CRFSC) to carry out the business firstly in 7 cities, namely, Beijing, Shanghai, Tianjin, Guangzhou, Shenzhen, Shenyang and Zhengzhou from September 1993 to future enhancement and expansion when having attained extensive experiences and perfected its business network. To reach this, CRFSC established a parcel express transport department to specially explore and operate rail parcel express services, set up branch institutions in the 7 cities specified in the Notice, and cooperated with relevant railway administrations to carry out express business. This is the initial stage of CRE. With the target market that completing the delivery in 3 days between major cities on the Chinese railway network and the 130 percent tariff of common luggage or parcel plus collection and delivery fees, as well as guaranty fund and packaging charges as its charge that is more expensive than that of common parcel, CRE built its reputation in the whole society due to its convenient, speedy, top-quality and safe door-to-door service and grew rapidly.

In March 1994, CRFSC registered to establish Beijing China Railway Foreign Service Express Company with independent corporate qualification, since then, CRE began to operate its business as the independent market body. In November the same year, MOR issued the notice to approve eight cities including Qingdao, Jinan, Harbin, Dalian, Nanjing, Xi’an, Lanzhou and Chengdu to develop the express parcel business. Meanwhile, CRFSC also printed and distributed “Notice on CRE Business Management Measures”, which, along with 3 addendums, “CRE Business Management Measures”, “Operation Procedure of CRE”, and “CRE Freight Packaging Measures” further set down the business scope, service tenet, organization structure, business management, operation procedure, service quality, the charge as well as financial settlement and income distribution of CRE. The distribution of these two notices shows the gradual expansion of business network as well as the formation of standard service. On the basis of operation and management experiences achieved from the trial express parcel business, MOR notified that the express parcel business could be carried out in 43 major stations in August 1995. And in April 1997, China Railway Express Co. Ltd formally registered.

Figure 1 shows the increase of major business of CRE since its establishment in 1993, from which we may conclude that CRE has a rapid development within these 10 years. The business network has been spread from 7 cities initially to 195 cities in 2002 (including 26 cities without railway stations), the annual delivery volume raised from less than 200 tons to 225.8 thousand tons, nearly 14000 thousand parcels, with the annual revenue having exceeded 720 million RMB Yuan. Now CRE not only has a business network covering most of the large and middle cities in China, including Hong Kong special administration region,

but also cooperates with aviation and water carriage to carry out international express transport businesses. It forms a large express service network with typical Chinese characteristics, becoming one of the three major express delivery systems, the other two are EMS and AES in China.

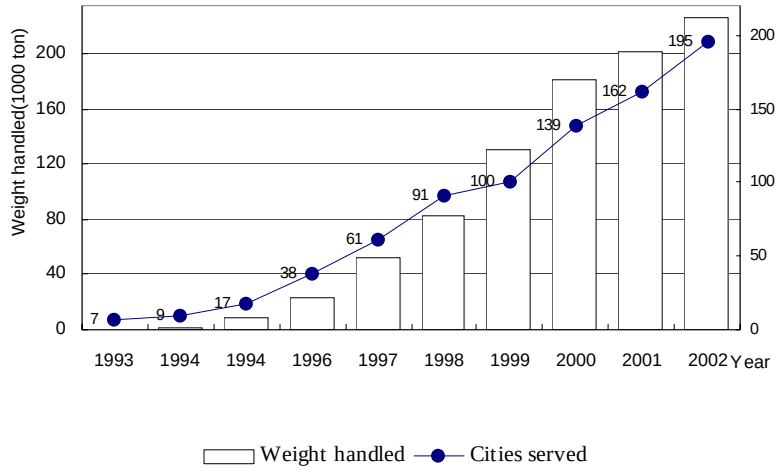

Figure 1. Sketch map of CRE business development

Many factors attribute to CRE's success. Besides adapting to market demand, providing top-quality and low price express service, and other marketing advantages, we believe some institutional aspects are very important including: adopting reasonable transport organization structure with lowest cost to fully utilize the transport network economies and expand the service network; seizing the opportunities to get the maximum support from present railway institutions by applying most favorable cooperation strategy and reducing the resistance probably appearing in the foundation and development as much as possible; perfecting the structure of property right and organization according to characters of products as well as the market to realize the whole control of express transport process; necessary support provided by government institutions, such as MOR in the exploration and reform on the new system.

3. Low-cost business expansion

Generally speaking, express transport or express delivery is a kind of freight transport service that conveys time sensitive shipments from consigner to consignee, the whole process of which is usually operated by one carrier in a guaranteed limited period, say the same day in the same city or within 3 days between international big cities, which require seamless connection between different modes of transport. Compared with general freight, express delivery goods are usually of higher value and require stringent inspection to transport them punctually and safely, thus business tracking and information feedback system matched with the whole transport process are needed. Additionally, express companies are usually equipped with mini freight automobiles to provide door-to-door service beyond stations or airports (At present, within city express deliveries in China often use bicycles or auto bikes to complete the collection and delivery service).

Whether or not having its own long-distance transportation tools and exchange terminals as well as constructing the delivery network with its own software and hardware depend on the management strategy adopted by each company. Take as an example, in the AES industry, although the transportation organization mode adopted by FedEx and UPS is considered as the typical one, namely, having their own special freight transport jet fleets and realizing the hub and spoke system, there is also operators as DHL that provides global

express service by signing long-term agreements with airways having advantages in passenger transport flight course and renting the bottom cabin of passenger flights. Of course, the latter shall pay carriage for aviation parcels, while it saves the purchase and operation cost of airplanes and doesn't be responsible for the loss and risk resulted from the low operation rate of freight cabin. It needs also its own international or regional terminals to realize the sorting and transfer that are formed by replying on the base airdrome of large-scale airways instead of its own special large-scale freight airdromes to satisfy the needs of exchange stations. Take Hong Kong Airdrome as the example, in 2001, the throughput of passenger and freight transport exceeds 32000 thousand person-time and 2 million tons respectively that ranks the tops in the whole word. Although freight planes of FedEx and UPS also arrive and departure there, Hong Kong Airdrome is the main terminal for DHL in Asia. 50 of the throughput is completed by about 200 thousand flights. FedEx and UPS rent airdromes such as Subic Bay and others emphasizing on freight transport as their Asian freight transport terminals for long-term and special use. The differences existing in their operation modes make the above mentioned two kinds of air express companies have their own advantages, that is, FedEx and UPS are famous for their punctuality and DHL for its low-cost and flexibility. Mail delivery including EMS actually utilizes the existing land and air transport network and carrying tools as its general measures for long-distance transport.

Therefore, the key to express business success lies in the establishment of reliable seamless delivery chain and service network with high efficiency, which is realized by the complete control of the whole transport process. As for express enterprises, express service network construction (including production organization structure, management institution, obligation structure, and information network, etc.) is more important than the direct ownership of the physical infrastructure, such as stations and transport vehicles. Although the former one has to be based on the latter one, how to use the latter depends on the requirement of the former. Once the quality of the entire express service is achieved, it is reasonable to consign others to operate part of the production chain. Anyway no matter how strong a company is in the financial aspect or how large in the scale, it cannot do everything alone. Without doubt, how to establish and expand a reliable business network and utilize external resources as efficiently as possible are key issues to the success of express enterprises.

Like DHL, CRE successfully create and expand its business network with low cost by exploiting existed state railway network. It only needs to have middle and small size automobiles for express goods collection and delivery, operation spots in the cities, and administration office buildings and warehouses, while no need to have rail lines or rolling stock, say nothing of operating trains. It takes luggage vans as the main means of transportation and utilizes luggage vans, platforms, luggage offices and luggage workers of the state railway. Passenger trains in China are organized according to the train working diagram, which usually running at the same time, along the same route and stop at the same station every day, meeting the requirements of both saving travel time and providing convenience for passengers along the route. Moreover, passenger transport service almost covers the entire railway network. In railway stations of large and middle cities, there are often trains with different directions passing by, and as for terminals, there are even more trains joining including a great amount freight trains which are the ideal location for changing goods. Due to the four consecutive large scale speed-up activities, passenger trains are nearly twice fast as freight trains in China, especially high-speed trains, not to mention freight train's delay caused by making up and breaking up, as well as freight wagon plan application. Consequently, by utilizing luggage vans in passenger trains, CRE was able to carry out its express business conveniently in many cities that have railway stations. Such

kind of production organization is not hub-and-spoke structure as that in aviation, but grid-like with passengers getting on or off along the routs, which forms some important nodes with relatively important reception, departure or transit functions naturally in the network.

If all the infrastructures and equipment needed by its business network were created by CRE's own investment, it would be very expensive, even not impossible. However through proper utilizing existed equipment and infrastructure, including more than 2000 passenger trains, platforms, and luggage offices, etc. CRE successfully established and expanded its business network with low cost. By this strategy, CRE spread its business network from 7 cities to over 60 in the initial 3 or 4 years since its set up, covering most large and medium cities in China, and also acquire international express business qualification, which have significant meaning for a new enterprise to keep its legs in the competitive market. After that, besides further increasing number of cities in the network and expanding business, CRE spread its business to those cities without rail lines through highroads, adjust and optimize its business procedure constantly in practice, realize network economies, and establish proper organization structure.

4. Property right and organization structure transformation

As an independent market entity and a new-style enterprise growing up at the margin of present state railway system in China, CRE's survival and development lies in whether it can keep good relationship with the state railway system which integrates both government responsibilities and enterprise functions. The most important for CRE is to make its own strategic objectives in accordance with the management system and production organization of present state railway system, and at the same time meet the demand of express business to control the whole process. In the beginning of its foundation, CRE cooperated with railway administrations and branch administrations by allowing them to share 70% equity and receive 70% revenue to achieve fully support from them and to efficiently utilize transport resources. To normalize property rights relationship, CRE gradually alternates its branches from cooperative corporations to joint ventures, establishing over 40 CRE filiales possessing independent legal person qualification, thus it disciplines the relationship between assets and management, promoting its speedy and normalized development. Most of CRE's filiales are joint ventures with relevant railway administrations or branch administrations. Due to its high growth rate and high profit, CRE attracted those railway administrations and branch administrations to cooperate and support actively in various aspects, such as human resources, equipment, business, and charge collection, greatly reducing barriers on its way and ensuring its rapid development in business capacity and market share. In order to further promote the support and cooperation of railway administrations and its affiliated units, CRE has paid work cost according to certain proportion to corresponding railway administrations besides corresponding railway package carriage and provide extra stimulation system for workers who handle with express goods of CRE. All the above-mentioned measures are helpful for employees to exert their enthusiasm of related railway stations in the express chain.

However the fact that 3 to 7 equity proportion in each joint venture also bring out some problems in the further development of CRE. For instance, the head office has limited power in controlling its filiales' manager appointment, development strategy, and other important issues. With the rapid expansion of its business, the problem of controlling power in business, human and capital, etc. becomes more and more prominent. In order to realize the real control over those filiales of the head office, CRE, under the support of MOR, have carried out the restructuring of 37 joint filiales since 2000 to make the CRE become the holding company. The specific plan is that CRE adjusts its equity proportion in each filiales

to 51 percent by increasing the investment and shares (the income distribution is not changed for reducing the resistance). After that, each filiale establishes general manager accountability scheme under the leadership of the board of directors and objective obligation system, normalizing its business behavior. The adjustment of equity interest reinforces the control over filiales by the head office.

Filiales play the key role on CRE's management chain, because besides the local collection and delivery of express parcels, they are also responsible for the business liaison and coordination with local state railway institutions. In this regard, their management performances determine the operation effect of the whole network to a large extent. While due to historical reasons, most employees of the filiales were come from relevant railway administrations or branch administrations, and had close relationships with the present railway system, which make the filiales the center of contradictions between the new enterprise and traditional state railway system, as well as the front field to handle those contradictions. Furthermore, enterprises as CRE have a business network emphasis much on inner integration and uniform management and high interdependence of subordinates will weaken the efficiency of the whole network. Each filiale is the only local production unit for the whole business network of CRE by nature; they can neither provide entire express service nor acquire revenue from market independently, so that they are not qualified to be real market entity. Therefore, further weakening the filiales independence and improving their loyalty and order executive ability are the necessary preconditions for the development of CRE. In the latter half of 2001, CRE abolished the independent market entity status of each filiale, and established the head office and regional branches structure, making the head office the real center for decision making, profit and assets management, while each branch just plays the role of production implement and cost control. Profit is also allocated according to real share of equity.

The above mentioned organization evolution of CRE, that is, from corporative company to join-venture, from head office holding the majority equity to abolishing filiales independence, which including the change of establishment of joint conditions, property right types and organization structure of the company, is a process to continually realize integrated operation system and entire express service. Express delivery enterprise is typical example in modern economic and social society to provide integrated transport products and seamless transport services with high efficiency, which must implement strict control over the whole transport process. Through property rights and organization structure modification, CRE solved a series of contract relationship problems existing in the railway express business chain, settled the troubles about specific assets, low transaction frequency, and uncertainty, closely integrated present railway assets, human, production and management, greatly reduced transaction cost due to institutional friction, and strengthened control power over production management and residual income to make the new adjustment and internal stimulation system to be promoted more smoothly.

5. Implications for China Railway reform

5.1 Promotion to railway luggage traffic by CRE

To a certain extent, the success of CRE promotes China railway transport organization reform, making the railway department in charge notice at least two aspects, one is that luggage traffic market has great potential; the other is that operation system do need reform in certain degree. On April 1st, 1997, Chinese railways started the rapid freight train, the so called "trains with five specifics" (specific rout, specific departure and arrival stations, specific departure and arrival time, specific train number and specific tariff), including 7 pairs of transnational trains providing service for international trade and 76 domestic trains, total number amounts to over 500 per month. The "trains with five specifics" broke up the

traditional way of freight train organization in China, and marched an important step towards organizing freight trains as passenger trains. In traditional transport organization system, freight trains have to be operated according to make-up and break-up plan, which often wait until making up enough freight wagons in the same direction. As to those long distance freight transports, the trains have to pass several railway administrations and marshalling stations to make up or break up, as a result, no railway administration is able to effectively control the entire process or make sure the arrival time. The “contracted freight trains” are running on the five specific terms and need not to meet the requirements of former make-up and break-up plan. Although this may bring the loss to the railway under low traffic demand, it provides customers with reliable and top-quality transport service. Foreign railways have already adopted such kind of operation method under the competition. Japanese railway even abandoned all the marshalling stations and district stations in the railway network, gradually adopting the method for all freight trains. In March 1998, MOR began to operate special luggage and parcel trains in Guangdong, Yangtse Rive Delta, North China, Northeast, Northwest and Southwest China. These special luggage and parcel trains also run on the “five specific terms” basically, the difference lies in that it is the private enterprises that have full responsibility in organizing freight resources, leaving state railway to collect fixed charges according to contract. The way that private enterprises bearing the risk of train operation while state railway acquiring fixed revenue is also a breakthrough for Chinese railways, during which, some private entrepreneurs show great management competence. Fig 2 shows that since 1997, increase of parcel and luggage volume exceeded that of total freight volume, and parcel and luggage revenue also exceeds 3 percent of total revenue in 1999.

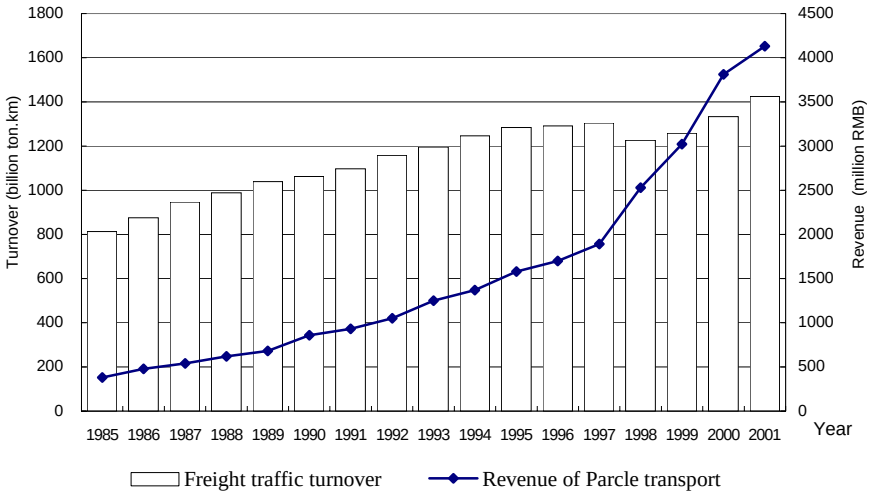

Figure 2. Total railway freight turnover amount and parcel and luggage revenue increase
Source: “National Railway Statistics” over the years

Here, we need to make the explanation on the differences between CRE and the “trains with five specifics” and the “special luggage and parcel trains” in the state railway system. Compared with common freight trains, the “trains with five specifics” do much better in delivery speed and time, but they still cannot provide “door to door” service. Furthermore, they are still operated under the present operation system of railway administrations whose freight transport consignation, activity division and revenue allocation are realized according to the traditional transport organization, which is pushed greatly by MOR through the administrative power instead of entire control of the process as CRE. As to the “special luggage and parcel trains”, the contact only covers certain luggage and parcel trains with

fixed origin and destination whose business scope is very limited. Moreover, their cooperation and contract relationship with existing national institutions are still in the initial stage. Unless they can organize enough resources for goods by their own, they can not better utilize the dimensional economy and density economy of the existing railway network as well as expand its service range. All these situations limit the development of “trains with five specifics” and the “special luggage and parcel trains”.

5.2 Real enterprises are required in Chinese railways

CRE is a successful case of the enterprise providing integrated transport product in the state railway system. Providing entire transport product is the requirement as well as the trend for today’s transport market which is realized by means such as forming through transportation chain with many transport enterprises by contracts, forming integrated large-scale enterprise and forming alliance between enterprises with higher degree of through transportation cooperation and inferior to integration within one enterprise. With the higher demand in transport quality and more fierce competition, integrated transport enterprise shows more advantages. But the traditional operation organization of Chinese railways has serious disadvantages in this aspect.

Railway network distributes in a wide range of space, and at present the state railway system accounts for about 60 thousand kilometers in over 70 thousand kilometers rail lines in operation. Due to long distance and multitudinous activity points, the production processes are widely distributed in many rail lines and stations. To guarantee production in order and safety, state railway has long been adopting highly centralized administrative management system and formed strict hierarchical organization structure. In present state railway system, the Ministry of Railways is on the top of the pyramid, next are 14 railway administrations divided according to the region (including Guang Tie Group resulted from the restructure of Guangzhou Railway administration), and then branch administrations subjecting to each regional administrations. In the beginning of 1990s, there were 62 branch administrations in the state railway system, while, recent years, railway administrations of Hohhot, Nanchang, Liuzhou and Kunming have canceled their branch management layer, now there are 44 branch railway administrations at present. The fourth layer includes basic stations and districts directly responsible for transport production and maintenance and train operation depot, locomotive depot, rolling stocks, passenger transport, permanent way and communication and signal district etc. Last, there are workshops and teams and groups consisting of each station and sections. The state railway system still combines administrative responsibility and enterprise functions, in which the MOR actually is a general budget unit. After reform and opening up policy, state railway has long been expected to separate the government from enterprise, but for a long time, transportation enterprises cannot be determined within the railway industry.

Not until the middle and latter half of 1990s, railway administrations are regarded as railway transport enterprises, which are in charge of the branch administrations and basic stations and districts to provide passenger and freight transport for the society. Railway administrations divided almost every main line into several sections, which are managed by each railway administration. Locomotives and passenger trains are allocated to each regional administration, but many trains will enter areas managed by other administrations and operated by their locomotives. Freight wagons are not allocated but shared by all the administrations. Once they leave the area managed by one administration and enter that of another administration, transport task and responsibility also shifted to the other administration. In this transport organization system, traffics are naturally divided into two categories, local traffic and through traffic. The former one refer to those passenger and freight traffic that originate and terminate within the area managed by the same

administration, while the latter refer to those go through areas managed by two or more regional administrations. Presently, the average length of trip for passenger and freight are 450 km and 800 km respectively, therefore through traffic volume has always been taking a large share in total traffic volume, occupying about two thirds. Consequently, most passenger and freight traffic have to be done by more than one administration, causing inconsistence between business scope and cost occurring boundary, which is why the state railway system has long been adopting the “separation between receipt and payment” system and highly centralized production mechanism, in which the MOR directly controls through traffic, as well as capacity allocation at main dividing points. Under the system, MOR controls directly the dispatching of through trains, including the allocation of transport capacity in boundary area of two administrations. It owns almost all of the freight wagons, and has the right to dispatch empty wagons to main freight sources such as coal mine. The passenger and freight traffic revenues received by each local railway unit must be handed in to the MOR immediately, the MOR then distributed the revenue to each railway administration according to their transport work quantity completed and transport cost level (which is called “liquidation inside the railway system”), which means that the business revenue of each regional railway administration is not from the market directly. The system has great problems, railway administrations can neither provide integrated transport product to the market directly nor acquire revenue independently from market, therefore, they cannot get the basic qualification as the market entity, which is resulted from the unreasonable division of the railway network under present system.

In recent years, much analysis has been done on problems existing in the traditional railway system. In fact, as the carrier, each railway administration cannot realize the control over the basic quality and cost beyond its own domain, which also increases greatly the difficulty in defining the responsibility and making compensation for goods loss and damage. The railway administrations acquire most their income through “revenue liquidation” which is calculated by the product of workload completed in their region and liquidation unit price also with the adjustment coefficient. The system has obvious negative effects. Firstly, rather than endeavoring to save workload, each railway administration tends to “create” workload as much as possible (such as the ton-km) while not increasing real transport products or total revenue. Secondly, the determination for liquidation is based on the past cost of each railway stations, which obviously encourage the increase of cost. Thus, the traditional system leads the railway “enterprises” care more in obtaining resources from the superior and increasing cost than in competing in market to enlarge market share. One actual example is that railway administrations have never calculated their specific passenger or freight product cost as well as the operation cost of trains and rolling stock, but only the “liquidation cost” for obtaining income from the MOR. In the huge state railway system, the most important market entities were actually not existed for a long time, which is one of the most important reasons for the lagging behind of railway reform in the overall marketalization process in China.

CRE, one of the few real commercialized transport organization in the state railway system, once emerged, shows great vitality in meeting the market demand, setting down innovative marketing strategy, and adjusting organization structure, etc., fully illustrating its business competence. The success of CRE really inspires us that the Chinese railways call for real transport enterprises. In the latter half of 1999, the state railway system started to organize simulated passenger companies based on the passenger assets and relevant businesses of each railway administration. The simulated passenger companies receive revenue directly from the passenger tickets, and pay fees for use of rail lines, stations and locomotive services. Although they are still not independent from the railway administration and only have limited rights in designing the time and station of train

departure and arrival, the simulated passenger companies already show great market consciousness, bringing fresh air of market economy to the state railway system.

5.3 Energetically explore new transport product

Some people stressed that the nature of railway operation organization makes it unable to provide integrated transport product by one single enterprise, which may be a good illustration that the traditional railway system is not customer-centered or market-oriented, but to a large extend production-oriented. It is true that not all railway units or institutions can become integrated transport product carrier, but this is not testify that such kind of provider is not needed by the society, nor railway enterprises should not endeavor to meet such social demand. Moreover, actually, there are foresighted institutions including CRE having made great effort in this regard both at home and abroad, of which some have already controlled the market to some extent. The above-mentioned traditional combined transportation cannot meet the demand of express market, and gradually lose its market share to enterprises alliances or integrated transport enterprises. Although in many cases, combined transportation is still necessary in express freight transport, it is actually subordinates to the whole transport chain, and get relative less revenue compared with the transport distance it provides, with the rest larger part of revenue taken by express company as value-added income. (For example, CRE payments to railway parcel charges once accounted for 50 percent of total revenue, and less than 40 percent in recent years.) Under the condition that the demand and supply of transportation market have changed, if Chinese Railways insist on the traditional transport idea, not willing to adjust its business strategy and organization structure, we can imagine the consequence. For example, due to the failure of business strategy, Japanese rail freight lost its main goods resources to 3 big road express companies, and the direct contact with those shippers, becoming appendages to others' integrated transport chain. European railway losing market share provides another bitter lesson.

From the perspective of demand and supply change in transport market, rail transport actually may be divided into main businesses and extra value-added businesses, among which main businesses include passenger and freight train operation and direct services for trains such as locomotive traction, departure and arrival, delivery and receive, load and unload and de-formation etc. Extra value-added businesses are mainly services extended from passenger and freight transport, especially freight "door to door" transport. In the respect of transportation organization and system, there appears the trend that extra value-added businesses are separated from main businesses of railway freight transport, with the former gradually becoming direct customers of the latter and the latter providing indirect services for the transport market through the former. Now, Extra value-added businesses are playing more and more import role in strengthening the industry's competitiveness in transport market. For example, the American railway was once navigated by express companies, but now it has already taken control of its fortune in container transport in the fierce competition against road. Those big railway companies have already extended their container transport chain of high efficiency to places where the shippers needed. The container transport has also become the most profitable section with highest increase rate among all the railway freight transportation. Accordingly, one of the key conceptual innovations in railway transport is that, besides further expanding and perfecting the traditional main businesses, we should greatly accelerate the development of extra value added businesses, making traditional main businesses meet the demand of extra value added businesses as much as possible. Furthermore, if railway does not develop value-added business actively, others may take the opportunity and take away the affluent profit. After China's entry into the WTO, according to analysis, rather than investing in

infrastructure construction, foreign capital is more likely to enter those of extra value-added businesses, which we should keep alert to.

Chinese railway departments are now endeavoring to promote reform in container transport, special freight transport and luggage and parcel transport, organizing several specific transport companies. From the typical example of China Railway Express and some foreign ones, we can draw out the right direction for reforms on these businesses. Taking container transport as an example, the fundamental issue is not whether all the railway containers and related freight yards as well as mechanical machines are controlled by a certain container transport center or not, but more importantly is whether integrated services for the customers can be provided by some responsible carriers, who must be able to utilize the railway transport capacity efficiently during the entire container “door to door” transport process, and to integrate necessary processes such as collection and delivery, load and unload, transfer, etc. into a seamless chain, perfectly realizing the core character of container “door to door” service. That is to say, as CRE, the carrier should be an extra-value added service provider who takes its own road container trailers as the main self-control section and at the same time utilize the railway containers with high-efficiency. As for train operation, vehicles ownership, stations and yards ascription and even the property right of containers, etc., they belong to the secondary issues here, which can be completely relegated by contracts if these necessary services are provided by existing railway institutions through long-term agreements and constituted as the part in container transport. These special transport enterprises or centers must be the real controller of all sections in their businesses and market service chain. As the carrier, the transportation center or enterprise must let the existing railway institutions have more benefit than they could by themselves at least during their cooperation, which is realized surely on the basis of larger value created than past and the drive for stimulating railway units to promote the equipment, facilities and production organization form of container transport.

5.4 Role and function conversion of departments in charge

As we have mentioned earlier that CRE is a new type railway transport enterprise growing up at the margin of traditional state railway system, its success obviously relies on necessary conditions and favorable environment, including government’s supports, especially that from the MOR. According to the economist, Douglass C. North, the innovation of institution usually needs co-efforts from “primary action group” and “secondary action group”. It is impossible for CRE to make its success in nearly the whole railway network without the necessary support and coordination of MOR, the secondary action group. In the initial period of its foundation, CRE received definitude support from the MOR. In order to ensure the punctual delivery and arrival of goods, MOR issued “Notice on ensuring the priority on parcel transport” to ensure the priority of express parcels in the production organization; CRE also get support from MOR in settlement with present railway operation institutions, as well as getting exclusive business right in the whole network; moreover, without the support and coordination from the MOR, CRE was unable to alter its equity proportion so smoothly. To sum up, in the 10 years of CRE’s development, MOR, under the premise of maintaining the overall organization and rules of freight and passenger transport unchanged, provides necessary support for the parcel express transport organization reform and institution innovation outside the traditional railway management system while utilizing the operation conditions of existing railways.

CRE had been the only transport enterprise authorized to establish express business network in the entire railway system, which contributes much to its success. In 1980s, Shanghai railway administration set up an express parcel transport company, whose business once grew rapidly, but due to institutional reasons, it could not spread its express

service of high efficiency to other regions, limiting the further development of its business network. Subsequently, following the footstep of CRE, many express transport institutions founded by other railway administrations cannot obtain the qualification to operate independently in the entire railway network, which resulted in the interruption of express transportation chain and therefore unable to compete with CRE. It is the sole operation right that guarantees the advantage of CRE in this industry.

Under the present system, MOR plays a key role in keeping daily transport operation in order and with high efficiency. Depending on its special administrative power, MOR partly prevents the decentralization and departmental selfishness caused inevitably by the railway network separation. For example, the train working diagram and daily traffic control are the base for railway's normal operation and only MOR can organize the large-scale speed-up activities within the railway system. Moreover, MOR made great effort in correcting the separation of production line, such as the strict regulation on priority of assembly, loading, trailing transportation, running and unloading in transportation organization concerning "trains with five specifics", and prohibiting limitation of loading, refusal loading in boundary area, reservation, deformation during the trip, change of arrival stations except for particular situations. All these, in a degree, relieve the disadvantage resulted from the separation of railway network. We can say that without the MOR, the state railway system can hardly achieve the present operation efficiency and moreover may not guarantee the safety of train operation, which possibly are the reasons for China to be one of the few nations that still keep MOR and the system of dual roles as both government and enterprise in Chinese Railways. What for sure is that, all these cannot rationalize the present system. After all, the railway industry has many disadvantages, and the separation between government and enterprise is the required direction for reform.

In terms of the requirements of general railway transport system reform and development of railway transportation system, major adjustments in their functions shall be taken in MOR and other departments in charge, which including: actively carrying out the research and promoting the railway transport reform, reorganizing real market transport enterprises in line with the requirements of network economy, and energetically creating conditions for separation between government and enterprise; According to the system of market economy and our commitment to WTO, adjusting the way of administration, establishing and perfecting railway legal system, transforming from the director of the state railway to the one of the whole railway industry; establishing as soon as possible the market order and rules that meet the demand of market economy and the specialties of railway industry, breaking up administrative monopoly, and encouraging orderly competition within the industry; dealing well with the relationship between speeding up the railway network construction, the ability of increasing rapidly basic businesses and vigorously exploiting extra value-added businesses under the background of railway leaping development, and attaching enough importance to the latter in its role of improving railway's competitiveness; we have already noticed the limitations existing in the national transportation management system, for example, at present, the traditional system for management of transportation departments cannot meet the requirements in providing entire transport product. Therefore, the unified management system of multiple transport modes should be constructed as soon as possible.

6. Conclusion

One of the major problems existing in Chinese Railways is that the 14 railway administrations and over 60 sub-administrations divided according to the regions are considered as transportation enterprise, which, to a large extent, can neither provide entire transport product for the consignor, nor get independent income directly from the market,

even not having entire product commanding right. The above leads to the loss of effective control over the whole process of transport production, the transportation quality and the transportation cost of. And the system that MOR distributes the transportation income in an over all way also makes these operation bodies lose their drive to compete actively in the market. On the contrary, CRE, during almost 10 years since its foundation, has established chain operation network of high efficiency. The inspiration from the success of CRE for the reform of Chinese Railways is that, with the real transportation enterprise that can compete actively, the railway can occupy the market even in the field as express delivery. The great change in the demand of transport market as well as the transportation technology and facilities put forward higher requirements for railway transpiration organizations, whose function and structure must be adjusted to satisfy the demand of entire transport service. The arrangement and innovation of system is the sine qua non for realizing the progress of organization. Moreover, it is necessary for the railway industry to renovate the transport conception, energetically accelerate the extra value-added operation development while further expanding and perfecting basic businesses, and change the industry from past "self-service orientation" to "custom- or market-orientation" mode. Finally, the entire control on express business established by CRE also fully testifies the modern property rights theory that the one who grasp the core control power should take the main surplus benefit.

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