

China on the Way to Modernization

-Perspectives from Chinese View

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Preface

Since the end of the 1980's, the transformation from planned to market economies has characterized economic development both in Eastern Europe and China. Not only have political developments contributed to this trend, but also the disadvantages of the planned economy become more and more apparent for the development of these countries. The disadvantages of the planned system like high information cost, lack of motivation, inefficient allocation of resources and low productivity are constituted as negative factors for economic development. Reform is the common way to identify and solve these problems and challenges. Because of the different social, political and economic conditions, the East European countries, Russia and China have chosen different development strategies which economists refer to as "Shock Therapy" and "Gradualism" (Wu Jinglian:2004).

For more than 20 years, the gradual or incremental way of the Chinese reform has produced tremendous changes in the political, social and economic conditions in the country as well as the image of the country to the world. The most important change both for China and the world is reflected in that China moved out from the shadows of its political isolation by the Western countries and was integrated into the world market. In the context of globalization is China strongly linked to the world. The further development of China needs the cooperation of the world and the world is not complete without China.

The success of the economic opening and reform policy, reflected in the high economic growth rate (8% on average) has made China one of the most interesting countries for foreign direct investment in the world. In 2003 China, with 53 billion dollars of foreign direct investment, has attracted the most foreign direct investment in the world (Spiegel Special 5/2004:9). The establishment of numerous joint ventures, wholly-owned foreign enterprises, the increasing number of international mergers and acquisitions and especially the localization of research institutions of foreign investors in China proves that China is more than a "world factory" with only cheap human resources, but also an integral part of the global strategy of many corporations.

China acts not only as the “world production bank” as the statistical data indicate in producing textiles, digital cameras and dvd players. It is also one of the most important and interesting markets for the products of other countries. Imports and exports increased in 2004 by about 35% and reached a total of 1154 billion dollars. Imports from other countries increased by about 36% (Mofcom). International trade is another important engine for economic growth.

Economic growth in China attracted not only foreign direct investment but also attracted the political interest of the world. China has enjoyed perennially more attention in world politics. China is regarded as “sleeping lion who woke up in the East”. For this reason, not only economic and technical cooperation and exchange are of great importance, but also improving the intercultural exchange between China and the rest of the world is a high priority. The world is very interested to know what has happened in China and why. Since the beginning of political reform in China, economic development has been the major topic in the research literature in the Western countries. Authors of various national origins have tried to make a survey about economic and social development in China and to forecast the further trends and challenges of Chinese development. The results of the researches in the Western countries have made a great contribution to interpret the “secret” of the development dynamic in China. They have also improved the mutual understanding between China and the world.

The data in terms of economic growth indicate euphoria on the one hand. On the other hand, as the results of sociological and economic research both in China and Western countries indicate, China confronts many problems such as the discrepancy between rich and poor, high unemployment, reconstruction of the old industrial structure, environmental problems as well as problems with the energy resources. In the West, a common interesting question both in public and scientific discussions is: how will the government and “Lao Baixing” (citizens) handle these problems and what will be the consequences?

In the literature in English and other Western languages, the publications about the problems in China from the view of Chinese researchers are still relatively few in number. As a Chinese saying expresses, one can understand the problem better when he listens to opinions from both sides. In this connection, it is of great importance to know how the “Insiders” explain and understand their own problems and

challenges which they have to face. This is also the approach that the International Center for Energy and Environmental Policy (ICEEP) discussed with Beijing Institute of Technology more than one year ago. As result of the cooperation we have motivated some researchers to contribute to this book which focuses on the historical developments, problems and perspectives. Based on different scientific disciplines, the authors have tried to provide an integrated survey about political, social and economic development and their context from the macro-political level to the micro-operational level.

Development in China changes the world in the sense of increased mutual exchange in economics, politics and culture. Exchange or cooperation are most effective on the basis of constructive dialogue. The most important purpose of this book is to conduct such a dialogue with people who are interested in the globalization process and development for whatever reasons.

The Beijing Institute of Technology (BIT) and The International Center for Energy and Environmental Policy (ICEEP) have provided not only functional help but also financial support for this book. We give our thanks to the both institutions. During the editing we have got a lot of help and support from colleagues and friends who deserve our best thanks as well. In particular we would like to distinguish our friends Evelina Skurski, Thomas Keagy who have spend a lot time reading and reworking some contributions.

Contents

| | |
|---|-----|
| 1. Preface..... | i |
| 2. The Process of the Economic Reform in China | 1 |
| <i>Jiao Jianguo</i> | |
| 3. Development of Science & Technology Policy in China..... | 26 |
| <i>Mu Rongping</i> | |
| 4. Foreign Direct Investment and the Development of the Chinese Society..... | 39 |
| <i>Meng Fanchen/Guo Shuangyuan</i> | |
| 5. Dynamics of FDI Location after China's Entering WTO..... | 59 |
| <i>Wei Houkai</i> | |
| 6. Foreign Direct Investment: A Analysis of Success Factors..... | 76 |
| <i>Qi Chun</i> | |
| 7. The Chinese Policy for High Tech-Development Zones..... | 98 |
| <i>Xu Lei</i> | |
| 8. Development of the Foreign Trade in China..... | 117 |
| <i>Qi Chun /Dong Jin</i> | |
| 9. The Development and Policy Adjustment of Processing Trade: China's Experience..... | 143 |
| <i>Liao Han</i> | |

10. The Financial Systematic Reformation and Development in China.....164
Ding Dezhang
11. On the Leading Functions of China Government in the Development of Infrastructure Industries.....195
Hu Lijun/Zheng Yan,/Wu Yingna
12. The Nature and Organizational Forms of China's TVEs.....228
Yu Li/Jiang Chunhai /Li Shu
13. The Strategic Restructuring of State Owned Enterprises: The Analysis and Proposal toward Wuhan's Reform..... .249
Ren Jianxin
14. Joint-stock System Transformation and China's Accounting Reform.....283
Deng Chunhua/Gong Jun
15. China's Petroleum Industry Corporations' State Assets Management System.....314
Li Haohao/Feng Min
16. Review and Expectation on China's energy resources reform.....352
Feng Jin/Meng Fanchen

The Development of China's Economic Reform

Jiao Jianguo

Since the 8th National Congress of Communist Party of China (hereafter referred to as CPC) held in September 1956, on which the reform of the “economic management system” was decided, China’s economic reform has been going on for nearly half a century. At the beginning, the so-called “reform of the economic management system” was only limited to some policy adjustments so as to improve the economic situation and vitalize the economy, but there was not a certain fixed goal. But the reform with market orientation has been becoming more and more clear-cut until mid 1980s. In the reform lasting for 50 years, China has been taking various measures to reform the original economic system. (1) 1958-1978, Administrative Decentralization: this period was featured by the central government distributing its power and benefits to the government at different levels. (2) 1979-1992: Incremental Reform: also entitled “priority of reform for outside system sectors”, the reform was carried out mainly in non state-owned sectors or those sectors outside the plan so as to facilitate their development. (3) 1993-2002, a strategy was adopted that the reform shall be advanced integrally and there should be breakthroughs in key sectors. This reform intended to initially establish socialist market economy. (4) After 2003: a scientific development view has been put forward, and the reform has been carried out in economy, society and politics so as to improve the socialist market economic system.

1. Historical background: The forming of centrally planned economic system and the successes in economic development

Before the founding of the People’s Republic of China in 1949, China was like an extremely poor and weak giant. It claimed a population of 0.5 billion on a vast territory of 9.6 million square kilometers, while the highest annual outputs for the main industrial products were meager – yarn 0.445 million tons, fabric 2.79 billion meters, coal 61.88 million tons and electric power 6 billion Kwh. The highest annual crop output had been only 0.15 billion tons and cotton 0.849 million tons. This was the starting point of new China’s economic development. After three years of economic reconstruction (1949-1952), a socialistic

transformation was launched to settle all the ownership problems, and the socialistic ownership of the means of production became the only economic foundation of the nation and the society. By the end of 1956, the transformation had been basically completed, and a public ownership was established, which was mainly based on two forms – the first being state owned system and the second being quasi state-ownership system, i.e. collective ownership system. Based on these, a Soviet style centrally planned economic system was established. From 1953 to 1957, the First-Five year plan was fulfilled.

During economy recovering period (1949-1952), the government enacted a series of effective economic policies to control the galloping inflation, restore the production that had been destroyed in the wars and increase the employment. At the same time, it continued with the land reform, which had been started by the communist government since the period of “Base Area Era”, so that “Every farmer has his own land”. The privileges enjoyed by the imperialist countries were abrogated, and the bureaucratic capital was confiscated. By 1952, the outputs of most major agricultural and industrial products had surpassed the highest level before the founding of the Republic, the inflation was kept within limits, and the people began to live and work in peace and contentment. During the period of “Socialist Industrial and Commercial Transformation” (1953-1956) and the period of the First Five Year plan (1953-1957), the original national industry and commerce experienced a transition to socialist economic models through a series of policies like state capitalistic form. The farmers getting the land organized themselves spontaneously so as to cooperate with each other in farming. 156 key projects were constructed to fill up the blanks in the national economy, and the throughput of the weak sectors was strengthened. During this period, the national economy developed steadily, the proportion between different industries was in balance, the average annual growth rate of National Income achieved 8.9%, and the average annual consumption of the urban and rural residents increased by 4.2%.

From the economic development strategy point of view, the centrally planned economic system was based on the economic development strategy, which put priority to heavy industry, aiming to quickly change the poor and backward situation in China. Taking this background into consideration, the traditional economic system consisted of three parts. The first was the contorted price system. When the economy is underdeveloped and capital is extremely scarce, the capital cost will be very high. If the relation between demand and supply decides about the interest rate on the capital market, the strategy to primarily develop the capital-intensive heavy industry would be very difficult to realize.

Therefore, reducing the cost of heavy industry is only feasible through lower prices of capital, foreign exchange, energy, raw materials, labor force, life necessities, etc. Second is the highly centralized planned system for resources allocation. The contorted production factors and product price system caused the shortage in economy. In order to distribute the resources to heavy industry, a new resources allocation system different from the market mechanism must be set up. Therefore, the following systems, including banking, foreign exchange management, material allocation and labor income, etc. were featured by highly centralized planning control. Third, there was a management system with lack of autonomy at micro-operating level. In such a situation the government must ensure that the surplus products should be used by the micro-operating organization according to the strategic goal. Therefore, it nationalized the industry and reconstructed the agricultural sectors in people's communes, so as to set up a micro-operating system applicable to the development strategy of heavy industry. These three parts were dependent on each other and they constituted an integral organism.

China's government initiatively adopted a development strategy that put priority to heavy industry and the centrally planned economy. China made this choice due to the international environment it faced and its goal to quickly achieve industrialization. It may also be attributed to many domestic and international factors of this time. The main features: (1). It took the theory of traditional socialist economy from the political-economical textbooks of the Soviet Union, copied Marx's early conjecture about socialist economy, and regarded "distribution according to work", "public ownership", "planned economy" as the basic characteristics of socialist economy. On the other hand, it ignored the principle of material benefits and did not accept the practice of co-existence of multi-economic elements and market economy. This philosophy was the theoretical basis for setting up the centrally planned economy. (2) After the Korean War broke out in 1950, China was up against the pressure and blockage from the western countries, and as a result, strengthening the defense power had to be considered as premier. China had to choose such a system and arrangement, which allowed mobilization and allocating of the limited resources in favor of heavy industry with national defense as a core. (3) Past one hundred years of history humiliated China as a colony and half colony, Chinese government and people universally had a strong wish to overtake the western developed countries. It was thought that China would achieve the modernization in a very short period of time, if it could depend on the state power already obtained, fully mobilize, allocate and use manpower, material and fund with the

Soviet Union as an example. (4) For quite a long time, China had been a nation of petty farmers, and “administrative power governs the society” had historically been an established and consolidated tradition. After liberation, with the high prestige it enjoyed during the long-term revolution, the CPC established an all-around government under its leadership. This was the political foundation on which China could carry out the socialist transformation and establish a planned economy within only a very short period of time.

2. Decentralization: The reform and adjustment within the planned system (1958—1978)

The highly centralized planning economic system enjoyed advantages of a command economy – it could mobilize the resources to an extremely high extent, and use them in the key infrastructure projects to which the government paid close attention, so that the industrialization of heavy industry and the defense industry could be carried out quickly. However, Chinese leaders found some defects to be removed soon after the establishment of this system. The main defect was that “The power is centralized too much to the central government”, and the central government gave too much administration and directions, which caused lack of flexibility. At that time, delegation of greater power and benefits to the enterprises and their employees was considered not to conform to the requirement of “keeping a politically correct stand”, so that the system reform was defined as “transferring system (power) to a lower level”. Therefore, the basic measure taken was that the central government transferred power to governments at lower levels. That was the idea of “administrative power distribution”. According to this idea, China started its first economic reform in 1958 since its establishment of socialist economy. The focus of this reform was the power and benefit distribution among governments at different levels. It allowed the delegation of power over the industrial management, commercial management, fiscal management to the local administrative organizations, so that the local governments and the enterprises could give full play to their initiative and enthusiasm to fulfill the plan set down by the state in the light of the local conditions. The powers transferred covered the following – planning, enterprise jurisdiction, resources allocation, infrastructure construction project approval, investment and credit management, fiscal levy, and labor management. Moreover, some other measures were also taken to a limited extent to transfer power to enterprises. These measures ranged from reducing planned quota, enacting a regulation of “profit retention system”, increasing the power of enterprise over

human resources management. In addition, enterprises could regulate some fund, and were entitled to increase, reduce fixed assets and even claim fixed asset depleted or written-off.

The planned economy allocated the resources with administration commands – with this general frame keeping unchanged, powers were transferred to governments at different levels. This practice, together with the people's communes in rural China consisted of the system basis of "Great Leap Forward". With support of this system, local governments substituted scientific attitude with administrative commands, and they made full use of their power to mobilize resources to approve many infrastructure projects, recruit new employees, mobilize farmers' resources free, so that they could meet the planned quota that were not based on reality at all. As a result, different districts, departments and working units worked in their own ways, and each was independent of other organizations. They had to scramble for the resources, which destroyed the normal order of economic development, and the proportion of national economy was in serious imbalance. The abnormal development of heavy industry was the most obvious evidence. From 1958 to 1960, heavy industry increased by 230%, much higher than the growth rate of the light industry development, which was only 47%. At the same time, agriculture declined by 22.8%. Such a high accumulation rate made the residents' living standard decline annually by 4.9%, and fiscal deficit increased considerably. In rural sector, the establishment of people's communes was against farmers' wishes, and these communes were not based on the free will of cooperative economy. Peasants' enthusiasm was greatly damped. In addition, production was declining, a lot of factories and commercial enterprises suffered losses, living necessities were in short supply, and the economy as a whole was in great difficulties. Finally, when the natural disaster occurred, production dropped dramatically and great famine occurred in very large areas. A lot of urban residents suffered from edema due to lack of food; and in rural areas, thousands of people died from famine.

In 1961, the state was forced to make adjustments to the national economy, and decisive measures had to be taken to get over the serious economic difficulties caused by the "Great Leap Forward" and "Anti-Rightists Movement". Power in finance, credit and enterprise jurisdiction were centralized again, and a system was set up, which was "more strict and tight" than that of 1950s. Most enterprises transferred to the local governments were administrated by the central government again. The investment in infrastructure was cut down, the development of heavy industry was put under control, and the imbalanced industrial structure was readjusted. In rural areas, the working units were made

smaller with the production brigade as the basic working unit. After several years, economy was slowly recovering, and in 1963 it basically recovered. Agriculture, light industry and heavy industry were developing in a balanced way. Outputs of major agricultural production achieved or surpassed that of 1957. In contrast with 1960, the output value of agriculture increased by 42.2% in 1965; the output value of light industry increased by 27.5%; heavy industry decreased by 37.2%. The national financial situation became better, the accumulation rate was lower, and people's living standard got improved. Compared with the period from 1958 to 1960, the average accumulation rate fell by more than 50% during the period from 1961 to 1965; moreover, the actual consumption increased by 25.7% in the first five years of 1960s in rural and urban areas.

However, when the economy began to develop normally, all the disadvantages of planned economy appeared again. In addition, in the "Cultural Revolution"(1966-1976), economy, society and political life were in anarchy. The production development of industry and agriculture was ruined, industrial structure was in serious imbalance, the incentive of employees was restrained, the productivity was not improved, the living standard of rural and urban residents was improved only a little, the salary of the employees in state owned enterprises (hereafter referred to as SOE) had been declining, and income of peasants remained the same as before. During this period, the decentralization of the administrative power similar to that of 1958 had been put into practice. For instance, the largest reform - the economy management system reform in 1970 - was labeled by the slogan "Power decentralization is revolution, the more power is delegated, the more revolutionary it is". However, till the end of the "Cultural Revolution" in 1976, due to the ideological barrier that socialism could only allocate resources in accordance with administrative commands, the market-oriented reform could hardly be accepted politically. As a result, transferring the planning power to local governments became the only possible choice available to such reform.

After the Cultural Revolution was over (1976), within two years the government tried to correct the mistakes made in the past 10 years so that the normal economic order could be resumed. However, because the low-efficiency economic system had not been reformed, and the established development goal was not applicable to the national situation, the accumulation rate continued going up, which made the economic situation worse, and the industrial structure became even more seriously imbalanced. By 1978, most economic problems had not been resolved, and 250 million peasants were extremely impoverished. On the whole, all the decentralization reforms during 1958-1978 failed, because they

caused chaos without exception and then the power had to be centralized again. “If power is transferred, there is chaos; if the power is taken back by the central government, ossification occurs.” A circulation like this formed “Power decentralization--chaos--power withdrawal--ossification”.

3. Incremental reform: rural reform, development of non-state-owned economy, experimentation of opening to the outside world and dual track approach. (1979-1992)

After the Third Plenary Session of the 11th Central Committee of the Communist Party of China (thereafter referred to as the Third Plenum) held in late 1978, China started its economic reform in a real sense. However, at the beginning of the economic reform, the government did not have an overall outline. The reform was carried out “step by step”, starting from the production units at the basic level. At that time, aiming at the serious situation of low incentive and low efficiency in people’s communes and SOEs, contract responsibility system with remuneration linked to the household was put into practice in rural areas, also experiments were made to give more autonomy in some SOEs. The rural reform was quite successful, and efficiency in SOEs was improved to some extent. Then in the mid 1980s, an overall reform was carried out in urban areas. Since then on, reform had started in fields such as price, taxation, revenue, fiscal administration, finance, employment and welfare etc.

3.1. Explorations of enterprise reform

Enterprise reform started from the enterprise’s autonomy. At the end of 1978, Sichuan province began to “expand enterprises’ autonomy” so that the enterprises could enjoy more power and get more profit, and it was a success. By the late half of 1979, the State Council successively issued several documents concerning reform of SOEs, requiring all the districts and departments to carry out the experiment of expanding autonomy in some chosen enterprises in accordance with these regulations. By 1980, the outputs of chosen pilot SOEs accounted for 60% of the national industrial budgetary output, profit being 70% that of all the industrial enterprises. In the first several months, “autonomy” considerably improved incentive of the enterprise employees to increase output and profit. However, the limitations of this practice soon appeared. In the new system, some enterprises with autonomy were not bound by the fair competition on the market, neither were they guided by the price system that could reflect the extent

to which the commodities were scarce in the society. Therefore, the enthusiasm of the enterprises may not necessarily have been beneficial to the effective allocation of resources. Moreover, the requirement set for the industrial development was too exigent, and there was a great demand for more investments. As a result, the general supply and demand were out of control, the fiscal deficit increased sharply, and the economy was again in disorder. At the same time, reforms in non-state sectors and non-planned sectors were also in constant exploration, and gradually they changed from “potential forces” to a main stream. When the macro economy was in disorder and the reform in SOEs was pending, an argument broke out concerning the planned economy and market adjustment at the beginning of the 1980s. The government confirmed the guideline that “The reform should take planned economy as mainstay, and the market orientation as supplementary.” Under such an environment, reform of SOEs got lost. Though the experiment of “Contract” system was still going on in several enterprises such as Shougang, some problems were shelved including the independent operation of enterprises, the system of sole responsibility for profits or losses, and the establishment of commodity economy.

3.2. Strategies of rural reform and incremental reform

When the reform in SOEs was in difficulties, Chinese leaders who were headed by Deng Xiaoping, changed the pivot of the reform. The reform was carried out in non-state sectors in rural areas instead of in the urban state sectors. Among which, the paramount policy change was that the peasants were allowed to make a household production contract. The rural reform was the real starting point and impetus of China’s economic reform. So far, the successful rural reform and agricultural development were the preconditions for the achievements made in China’s economic reform and development.

In December 1978, 21 farmers signed a “live or die contract”, which was a household production contract, in Xiaogang Village, Fengyang County, Anhui Province. This event became the symbol indicating the breakthrough of China’s economic reform. In September 1980, CCCPC (the Central Committee of the Communist Party of China) and the State Council issued the first “No1 Document” concerning the rural economic policy, confirming the household production contract system and the household work contract system” which then was being practiced all over the country. This provided a formal policy basis for the household production contract system. Soon the “the household work contract system” became the main stream of household production contract

system, symbolizing the transition of China's agriculture from collective economy based on people's communes to the household farming system based on the contracted land. After the household production contract system was put into practice, the people's communes were abolished. The features of the new system were that peasant's families obtained land usufruct (right of land use) and possessed surplus produce, and household became the basic unit of agricultural production and operation, while most functions of collective organizations including the former people's communes, production brigades were then performed by rural families. The former communes were replaced by Xiang, which is the lowest organization in government; the former production brigade became present villages, and they are the villagers' autonomous organizations; the real rural land owner; the former production teams became the groups of villagers, and most of them do not perform any economic function at all.

The practice of household production contract system made the farmers regain the right to use the land. From then on they could independently arrange their farming, deal with their produce, and decide by themselves what and how much to grow. They were also granted more options in dealing with their produce. The practice of state monopoly for purchase at a unified price and quota was abrogated, and the prices for most of the produce were market oriented; most of the restrictive policies were abolished, and peasants were allowed to develop multiple production activities, open town and village enterprises (hereafter referred to as TVE). Peasants were extraordinarily enthusiastic and the output of produce and their income increased considerably. The rural economy presented an entirely new appearance. Based on this, TVEs developed quickly with the accumulation by the collectives and households, and the new resources in rural areas were allocated to the labor-intensive sectors in which productions had previously lagged backward. TVEs mainly based on collective ownership also flourished. From then on, China had been adopting a strategy distinct from former Soviet and East European countries, which took SOEs as the major sectors in reform. China's reform would not take great measures in state sectors, whereas it has been putting emphasis in non-state sectors, where market-oriented enterprises were set up to achieve growth and development. This strategy was named "the priority for sectors outside system" or "incremental reform".

3.3. Implementation of the incremental reform strategy

Since rural reform succeeded preliminarily, Chinese government had spread it to the other sectors in order to boost non-state-owned economic growth. In

addition, since opening to the outside world was put forward before rural reform, a few mixed-owned enterprises appeared in the coastal areas, which were joint ventures with foreign capital. These non-state-owned enterprises gradually became the main force of Chinese economic development. The strategies of developing non-state-owned economy mainly focus on three aspects as follows:

(1) Encouraging the development of non-state-owned enterprises. At the beginning of reform, non-state-owned economy only developed by means of twists and turns. After “the household production contract system” at the base of rural house holding operation was legitimized, the durance of this thought was broken. The government did the full-scale work in order to eliminate the thoughts and policies of obstructing non-state-owned economic development. So collectively-owned and private TVEs developed very quickly. During 10 years from 1979 to 1988, up to 100 million peasants found the job in town-and-village industrial and commercial enterprises. Since 1983, private enterprises have begun to develop.

As soon as non-state-owned economy appeared, its superiority was unfolded prominently and developed increasingly. In the 1980s, the growth rate of non-state-owned industrial output was about twice of that of state-owned industrial output. Until the middle of 1980s, non-state sectors, including collectively-owned economy, and private economy, had played a significant role in both industrial production and the whole national economy. The output value in industry had been up to 1/3.

Tab. 3-1: Proportions of different economic sectors in GDP (%)

| Year | 1978 | 1980 | 1985 | 1990 |
|--------------------------------|------|------|------|------|
| SOEs | 77.6 | 76.0 | 64.9 | 54.6 |
| Collectively-owned enterprises | 22.4 | 23.5 | 32.1 | 35.6 |
| Other enterprises* | 0.0 | 0.5 | 3.0 | 9.8 |

* Other enterprises include private enterprises and foreign business enterprises.

Sources: “Chinese Statistic Yearbook” 1978-1991

As the following table shows, the share of non-state sectors in retail business, increased more quickly.

Tab. 3-2: Proportions of different economic sectors in retail business sales(%)

| Year | 1978 | 1980 | 1985 | 1990 |
|--------------------------------|------|------|------|------|
| SOEs | 54.6 | 51.4 | 40.4 | 39.6 |
| Collectively-owned enterprises | 43.3 | 44.6 | 37.2 | 31.7 |
| Other enterprises* | 2.1 | 4.0 | 22.4 | 28.7 |

* Other enterprises include private enterprises and foreign business enterprises.

Sources: "Chinese Statistic Yearbook" 1978-1991

The economic activities of non-state sectors were mainly market-oriented. With the development of non-state-owned economy, the local markets gradually came into beings and market strength began to play more and more important role in allocating resources.

(2) Opening to the outside world and linkup with the international market. The tradition of business culture in the old China was very weak; in addition, with 30-year planned economic practice in the country, there were no market economic factors which could play a role in the development. It was very difficult to set up a domestic market. In this case, Chinese reformers tried to link some areas in possession of the right conditions with the world market through opening policy, so that competitive strength can be brought in order to speed up the formation of the market and expand it by means of reform and opening.

In 1979, Chinese government began to adopt "special policy and flexible measure" in Guangdong and Fujian provinces in order to develop their advantages of being close to Hongkong and Macao. In 1980, Chinese government established four special economic zones: Shenzhen, Zhuhai, Shantou and Xiamen. In 1985, 14 coastal cities were decided to open up. Since opening to the outside world, a longitudinal open belt has gradually come into being in coastal, riverside and border areas.

Open costal areas have made a great contribution to increasing export, introducing foreign technology and capitals. China's economy has been more dependent on foreign trade. (See the table 3-3). Two oversea capitals, loan and direct investment, largely flew into China.

At the beginning of reform and opening up, the amount of foreign loans was larger than that of foreign direct investment (FDI). After 1990s, FDI increased at a fast speed and became the main form of foreign capital inflow. In the first 7 years of reform and opening up, FDI only totaled up to 7.4 billion US dollars. During 6 years from 1986 to 1991, FDI totaled up to 18.6 billion US dollars.

Tab. 3-3: Degree of China's national economic opening up(%)

| Year | 1978 | 1985 | 1990 |
|---|------|------|------|
| Percentage of import and export total amount in GNP | 9.90 | 24.2 | 31.9 |
| Percentage of import total amount in GNP | 5.22 | 14.7 | 14.8 |
| Percentage of export total amount in GNP | 4.67 | 9.45 | 17.1 |

Sources: Chinese Statistic Yearbook, 1978- 1991

Opening to the outside world accelerated domestic economic reform. Chinese managers involved in fierce international competitions had a more and better understanding of international market, at the same time, they began to realize the urgency of improving product quality and reducing product costs. For the sake of surviving in the competition, it becomes quite necessary to obtain more autonomy and improve the methods of management. Participation in the competition of import and export encourages domestic price structure to come up to the standard of international market, which accelerates domestic price reform.

(3) Establishing experimental areas. Because the market-oriented reform couldn't spread at the same time all over the country and reform also needed systematic progress, some coastal areas were to be chosen to establish reform experimental areas. These areas were developed all along and had better conditions of opening to the outside world. Two measures mentioned above on reform and opening up were put into effects on these areas. Then reform and opening up in inland could be driven to develop by the model and radiation of those developed areas. This was another efficient way of the reform - to start in some regions as take-off strategy.

Due to this strategy, people's living standard improved evidently in these areas, where reform and opening up were implemented in advance. After more than ten years of development, until the early 1990s, many areas teemed along the coastal line from Liaodong Peninsula to Guangxi, whose market had come into being initially and economy had been vigorous. In the back provinces, some areas began to have vitality. The market strength spread out from these areas in different directions and they had become strong bases of impelling market-oriented reform.

More-than-ten-year incremental reform made China's economy increase at a high speed. During the 12 years from 1978 to 1990, an average annual GDP increased by 14.6% and an average annual urban resident disposable income per

capita increased by 13.1%.

Tab. 3-4: Economic Increasing Situations (1978-1990) (100 Mio. Yuan)

| year | 1978 | 1980 | 1985 | 1990 |
|-------------------------------|--------|--------|--------|---------|
| GNP | 3624.1 | 4517.8 | 8964.4 | 18547.9 |
| GDP | 4237.0 | 5154.0 | 9716.0 | 23924.0 |
| Im- & export | 355.0 | 570.0 | 2066.7 | 5560.1 |
| Export | 167.6 | 271.2 | 808.9 | 2985.8 |
| S. Consumption Retails | 1558.6 | 2140.0 | 4305.0 | 8300.1 |
| Urban Income p. capita (Yuan) | 343.4 | 477.6 | 739.1 | 1510.2 |

Source: Chinese Statistic Yearbook, 1978-1991

3.4. Emergence of “Dual Track Approach”

Under the condition of planned economy, means of production was adjusted in state-owned economic sectors by the state and price was only a tool of accounting. Consumptions were all managed by state-owned commercial system. Different layers of price-administrative-department decided on the price. Thus, there were nearly no real markets except for some bazaar trades (free market) which are accounted only for a small proportion in the social consumptions. In addition, compared to Soviet Union and eastern European socialist countries, China's planned economy system had a stronger administrative control. During a long period before the reform in 1979, ration system for life necessities widely existed, so a typical substantial economy was presented. Because non-state-owned economic emerged, the situation under planned economy had to be altered, otherwise, these non-state-owned enterprises would not survive because they would not have normal supply and marketing channels.

Various irregular means, such as “the barter in kind” between the “joint-operated” “enterprises”, have been put into use in order to resolve the problem of the supply and marketing channel and product pricing among non-state-owned enterprises at the beginning of the reform and opening up. According to “certain regulations on extending independence in management of state-owned industrial enterprises” transmitted by the State Council in 1979, the enterprises were permitted to manage their non-planned products, which explored “the second avenue” for commodity circulation -- the market. For the sake of survival of enterprises under the uncomfortable planned allocating resource mechanism, making them get the supply of raw materials, etc and manage their own products independently, China made this special system arrangement—“Dual track approach” of price and other aspects. The price-setting mechanism of

products and factors of production (interest rate, exchange rate, and wage) had been transformed from the planned system to market system gradually. “Double track approach” implicated that the production activity was regulated by planned mechanism and market mechanism simultaneously. With the development of the reform, especially the developing depth of the price system reform, the proportion of planned regulation decreased while market mechanism was strengthened.

In the early 1980s, non-state economic sectors had been strengthened rapidly. The total value of non-state-owned industrial output made up 31% of the gross domestic industrial output value. They could not survive without the free trade through markets. At the same time, the production and business scope outside the plan of the state-owned enterprises were expanded. In January 1985, State Price Control Bureau and State Commodities Bureau issued new regulations, which permitted enterprises to purchase and sell non-planned products in accordance with the market price. Thus the “Dual track approach”, supplied and price fixed by means of production was operated formally from then on. The concrete method is: those state-owned enterprises which had the right to get the allotted planned materials before 1983, still enjoyed it and got the production factors according to the allotted base of 1983, that is “base-83”. And the part outside “base-83” could be purchased from the market according to the market price.

The formal establishment of “Dual track approach” prepared a fundamental environment of the development and existence of the non-state economy. Therefore, the arrangement of this system fit the reform strategy of developing the non-state economy, which promoted the rapid development of the non-state economy and the whole national economy during the early stage of reform. With the expansion of non-state economy among national economy, the non-planned commodities raised gradually. As a result, the scope of the market pricing had been enlarged by degrees. Simultaneously, with the expansion of the international trade, the price of overseas market put a great influence upon domestic market, which made the relative price in domestic market approach the international price structure. Hence, planned pricing commodities had not been predominant in the interflow of domestic commodities until the early 1990s. Currently, the market-fixed price accounts for over 80% of amount of retail commodities, as well as purchasing amount of agricultural and sideline products and sales of means of products.

The incremental reform strategy creates a beneficial environment for new private enterprises, enhances the accumulation of non-government capital, fosters a lot of entrepreneurs, strengthens the market power and promotes the latter regulation of national economic distribution and the reform of state-owned

enterprises.

3.5. Negative effects of adopting incremental reform strategy in a long term

Incremental reform strategy aims at reducing reform resistance, accumulating reform strength and shortening reform progression. The final purpose is to establish uniform market economic system. Thus, reform should be carried out in state sectors after all. The “outside system” reform has already prepared a necessary condition for establishing market-oriented economy system across-the-board, so we should seize the opportunity. We should launch a complete and integrated “reform assault” in state sectors, which take up a majority of important resources of national economy, to fully transit from planned economy to market-oriented economy. However, in the mid-1980s, market-oriented reform didn’t form a clear-cut recognition of mainstream and still “cross the river by feeling the stepping stones”. The transition of reform strategy was not in time, so some vigorous economy “outside system” in national economy began to have a conflict with the other traditional largely-restricted economy “inside system”. There were a lot of leaks in the economic system and the stable development of national economy was often threatened. Reform stagnation of state sectors and coexistence of dual-track approach played a negative role in a few aspects as follows:

(1) Critical finance situation of SOEs. Since the reform, non-state sectors have made quite significant progress, while SOEs have developed slowly and dropped far behind non-state sectors. There are two main reasons. On one hand, SOEs, to a great extent, still kept the enterprise system formed under planned economy. The efficiency was hard to promote and production increase still depended on a large number of resource inputs, especially the support of investment. On the other hand, state sectors were reformed by means of “delegation of power and sharing of profits” and “expand the enterprises’ autonomy”, but they couldn’t establish efficient restrictions of property rights and market competitions. As a result, insider control appeared, which further softened the restriction of fiscal budget in SOEs. Therefore, as the backbone sector of national economy, state-owned economy became increasingly weak instead.

(2) Pressure of Inflation. China’s rapid economic growth has been accompanied by dramatic economic fluctuation all the time since the reform began. Pressure of high inflation attributing to high fiscal deficit existed all along. The reasons why such a high deficit existed were that, on one hand, as the main source of China’s fiscal revenue, the fiscal situation in the state sectors was deteriorating day after day; on the other hand, the fiscal system hasn’t been

upgraded thoroughly and its expenditure burden hasn't been eased, which enhanced the pressure of fiscal deficit and inflation. Meanwhile, under the dual systems of planned system and market system, efficiency of the old model controlled by plans has been reduced enormously while macro-economic administrative model suitable for market system hasn't been established, therefore monetary authorities couldn't find effective means to reach their goal of monetary policy and keep macro-economic stability. China's dual track economy often kept a heavy pressure of high inflation affected by all the integrated factors above. When economic growth rate was up to double digits, high inflation would break out before long.

(3) "Rent-seeking Activities" and administrative corruption. Coexistence of mandatory economy and market economy provided a wide foundation for rent-seeking activities seeking expedience by utilizing administrative monopoly and other kinds of corruption. The sticking point was that economy had been monetarized to a large extent under the reform strategy of "priority of reform outside system", while the dominant administrative power still intervened market trade under the planned economy. Although independent enterprises were able to be established in the reform, a large quantity of resources, such as means of production, land, investment and credit were still controlled by the government and allocated by means of administration. Therefore, this situation provides the whole economy with a large hotbed for rent-seeking activities.

(4) The gap between the poor and the rich. Since China's reform and opening up, the average resident income has been improved on a large scale. However, the gap between the poor and the rich widened sharply. There are some reasons for this development. ① Different policies were adopted in different areas, sectors and economic sectors under incremental reform strategy. It made the gap of the income in different blocs widen rapidly; ② The negative factors above, such as deterioration of financial situations in SOEs, high inflations and inundate corruptions, widened the gap. ③ Stagnation in urban industrial and commercial reforms resulted in low efficiency and extravagance. Job opportunities were too insufficient to allocate for rural redundant labors. So the number of these rural redundant labors increased. It is hard for more and more rural labors engaged in decreasing farms to get rid of poverty and to become rich.

All the conflicts above threatened sustained stable increase of economy. When the conflicts sharpened, social and political fluctuations would arise.

4. Set up socialist market economy system tentatively (1993-2002)

As for the target mode of China's economic system, it is originally not very

clear and needs to be gradually cleared in practice. At the beginning of reform, plan was not regarded as side by side in relation to market. Planned economy is a fundamental and essential economic system, while market-regulated economy is subordinate and less important, but necessary and generally harmless. However, with the deepening of reform, the understanding of plan in relation to market economy has been changing constantly.

A milestone was set up at the Third Session of the 12th CPC Central Committee in October 1984. At this meeting the socialist economy was affirmed as the planned commodity economy. In 1987, the 13th National Congress of Communist Party of China affirmed that socialism has planned commodity economy, to-be-set-up economic movement mechanism can be summarized as “country regulate market, market guides enterprises”. At the 14th Representative Conference of the CPC held in 1992, the target mode of China's economic reform was confirmed as “setting up socialist market economy system” formally, and has illustrated that this kind of system was to make market play a basic role to resource distribution under socialist state's macro-regulation. The statement of “socialist market economy system” is summarization of more than ten years of economic reform practice at that time, and the essence would be richer and clearer with the in-depth of reform.

4.1. The strategic transformation of 1984-1986

Maintaining dual track system for a long time gained more appraise and support at home and abroad, especially from those local officers and supervisors of state-owned enterprises who have had benefits from it, but its limitation and negative influence became more and more obvious as time went by. Under Deng Xiaoping's promotion, reform in an all-round way was kicked off in the middle of 1980s. Deng Xiaoping advocated “increment reform”. He was not satisfied with achievements made by non-state-owned departments in the earlier stage of the reform. At moment that the development of non-state-owned economy can already offer strong support for the whole reform, He proposed the transition of the strategic emphasis in time and push the reform to the state-run departments. The decision at the third Session of the 12th Central Committee of the party held in October, 1984 set up the goal of establishing and developing “socialist commodity economy”, and claimed to push forward city-focus reform in an all-round way, which could boast as an epoch-making document and indicated that the focus of China's reform has begun to transfer from rural areas to cities.

This “Decision” also pointed out that developing socialist commodity economy should, first, establish reasonable pricing system, which will enable the

price to reflect the change of the social labor productivity and of supply-demand relationship more sensitively. The reform of the pricing system is the key to the whole economic system reform and may result in its success or failure. Second, it should separate government function from enterprise management and separate the ownership and management. The key to the whole city-focused economic system reform is to strengthen the vigor of enterprises, especially that of large and medium-sized enterprises. Third, various kinds of economic forms and types of operation should be actively developed as state-owned, collective and private economic elements. In order to implement the “Decision”, "the suggestion of making the seventh Five-Year Plan (1986-1990)" proposed by the CPC National Party Member Representative Conference in 1985 put forward that enterprises should independently manage their own operation and assume their own responsibility for their profits or losses, perfect marketing system and set up macro-regulation system relying mainly on indirect means, etc. These three aspects should be interactive, and strive to establish basically the foundation of the socialist economic system with Chinese characteristics in the following five or more years.

Unfortunately, this systematic thinking way of reform was not well implemented later. Instead, the SOE reform was taken as main direction again, and such five all-round contract systems were implemented in 1988 in 1987 as “the contracting by enterprises”, “the contracting by departments”, “ financial all-round contract “, “all-round contract of foreign trade” and “the credit stripping and slicing”, etc., and went back and maintained the old method of coexistence of market economy and planned economy, therefore lost the opportunity of strongly advancing the reform and brought difficulty to reform later on.

4.2. The Third Session of the 14th CPC Central Committee – New Milestone of the reform

After economic crisis in 1988 and political disturbance in 1989, the thought of reform and opening-up seems to fluctuate. At the beginning of the year 1992, Deng Xiaoping delivered a speech in southern area further promoting reform and opening-up of promoting, which would bring forward the new upstage of reform and opening up. In October 1992 the 14th CPC Representative Assembly confirmed that the goal of reform was to set up socialist market economy. The concept of socialist market economy, in fact, is a synthesis of the economic system mode in the future China, its core is that market mechanism functions as the basic mode of resource distribution. Specifically, it includes the following

aspects: First, setting up one micro management system coexistent with market economy. The state-owned enterprises should make sure to set up clearly established ownership, well defined power and responsibility, separation of enterprise from governmental administration and scientific management through transformation into corporation form (like in the western countries), developing together with various kinds of non-state-owned economy in the meantime. Second, setting up nationally unified and open market system. The market in urban and rural areas integrates, and the domestic market and international market link up each other. Third, allowing distribution according to one's performance and according to funds, land and other production factors coexisting at the same time. The pricing mechanism of production factors should be formed on the basis of market too. The principle of giving priority to efficiency with due consideration to fairness must be advocated. Fourth, setting up a multi-level social security system that is suitable for China's conditions. The Third Session of the 14th Central Committee of the party in November 1993 got a break-through on the following questions: First, it proposed the reform strategy of "advancing new reform wholly and breaking through the key points" and called on to make reform not only in the less important departments, but also in the state-run departments, requiring to set up socialist market economy system tentatively at the end of the 20th century. Second, it put forward the goal and drafted the scheme for making reform in fiscal taxation, banking, exchange control, enterprise and social security system, etc. Since the beginning of 1994, Chinese government has taken a series of great reform measures in such aspects as fiscal taxation, finance, exchange control, enterprise system and society security system. Meanwhile, the State Council called on to set up the pilot project of the modern enterprise system according to "company law", so as to popularize the experience in an all-round way. Therefore China's reform entered a new stage of moving forward on the whole scale.

4.3. The Development Strategies in the 1990s

By the middle of 1990s, the reform has made great progress in both the establishment of macro economy management system and the adjustment of ownership structure. It is characterized through the fact that the state-owned economy does not occupy the whole industry any longer and its proportion in national economy has declined greatly. However, in terms of setting up ownership foundation of market economy in an all-round way, the reform still has a long way to go. Until 1993, although the state-owned economy accounted for less than half of GDP, the government and state-owned enterprises still dominated

rare economic resources. Take the gold for example, the state-run department has taken up more than 70% of the credit resources. In addition, because the government and state-owned enterprises have taken the leading position in national economy, it is difficult to develop finance and taxation systems fully suitable to market economy. This is mainly because the old state-owned economy system, “The State Syndicate”, or in other words, “Party-State Inc”, is the core or foundation of the entire old system. The relation of interests taking this as basis is deep-rooted. Some people, especially the elites of the society, grasp vital interests in keeping this kind of system. If people owning interest cannot take the interests of the whole society as top priority, they will hinder the state-owned department's reform and reorganization with all sorts of excuses (including the political excuse). Then reform and reorganization will meet great hindrance.

The state-owned economic reform underwent exploration and made a historical break-through again on the 15th Representative Conference of the Communist Party of China in 1997: the traditional view that the more the state-owned economy accounts for in national economy, the economic development would be better, has been changed; and the state-ownership with dominant position in the national economy going with multiple kinds of ownership has been defined as the basic economic system at least within the future 100 years. It is required to establish long-term-observed basic economic system by adjusting and perfecting the ownership of the national economy in subjective to the principle of improving people's living standard. The adjustment should take the following into account: (1) Narrowing down the range of the state-owned economy, the state-run capital should withdraw from the field not involving the lifelines of the national economy; (2) Exploring different kinds of public-owned realization that can bring an advance in productivity, developing diversified forms of public ownership; (3) Encouraging the development in such non-public economy as the individual and private business, etc., making it become important component of socialist market economy. In 1998, the above-mentioned decisions made in the 15th Representative Conference of the Communist Party of China were written into “the Amendments to the Constitution of the PRC”. At the turn of the century, an outline taking mixing ownership as market economy on the foundation begins to appear in front of people (see the table 4-1).

Tab. 4-1: Proportion of various kinds of economic sectors in GDP (%)

| Year | State-owned Dept. | Collective-owned Dept. | Private Dept.* |
|------|-------------------|------------------------|----------------|
| 1990 | 47.7 | 18.5 | 33.8 |
| 1995 | 42.1 | 20.2 | 37.7 |
| 1996 | 40.4 | 21.3 | 38.3 |
| 1997 | 38.4 | 22.1 | 39.5 |
| 1998 | 38.9 | 19.3 | 41.9 |
| 1999 | 37.4 | 18.4 | 44.2 |
| 2000 | 37.3 | 16.5 | 46.2 |
| 2001 | 37.9 | 14.6 | 47.5 |

*Here privately owned departments refer to all non-state-owned and non-collective countryside and urban economic entity.

* Sources: Chinese Statistic Yearbook, 1990 - 2001

5. The Coordinating Reform and Development of Economy, Society and Politics (after 2003)

From the Third Session of the Eleventh Party Central Committee at the end of 1978 to the Third Session of the 16th Central Committee of the Communist Party of China held in October 2003, through 25 years' of reform and opening-up, the socialist market economy system of China has already been set up tentatively.

To this extent, reform also met further questions thereupon, that is, how to guarantee China's market economy to set up one efficient market economy. The social political reform in conformity with market-based reform is coming up on the agenda. With the advancement of the reform, people find out of increasing contradictions and frictions in the system that the reform is the whole transition taking market economy as goal. That is, both planned economy and market economy are huge systems of many subsystems, and there is "the logic consistency" between each part in the system and must go on forming a complete set in each major aspect. The reform of political system must be in conformity with the corresponding political system reform, and the economic base of market economy must be in conformity with corresponding political superstructure, or in other words, "political container". And it can only be a political system of high democracy that socialism ought to establish according to social justice and market economy. The goal put forward clearly in the 16th Representative Conference of the Communist Party of China at the end of 2002 is that of promoting the political civilization, developing democratic politics and building a country governed according to law. "Decision on solving several questions in socialist market

economy system” proposed in the Third Session of the 16th Central Committee of the party in September 2003 is a guiding file, which further illustrated how to carry on the above-mentioned reforms of various fields. Its proposal means that the social political reform of China will continue moving forward and launching in an all-round way in the next period.

The tasks in China’s further reform are unusually arduous. In the transition, China must face multiple tasks of dispelling old issues that old system left over, solving the contradiction breeding in the coexistence of the old and the new system, and having to keep on building new system environment in the meantime. We can say, “this is spring full of hopes, meanwhile it is also winter full of disappointment; we are moving towards the paradise, or might be going in another direction too.” In the face of the intricate contradiction and the social and economic crisis, the outlet of China lies in continuing to advance the reform in such respects as economy, society, politics, etc. and to set up and perfect market economic system in an all-round way.

First, although non-state-owned economy has already considerably developed, there is a long way in the perfection of the ownership system. At present, state-owned enterprises still arrange the most important economic resources, especially capital resources. Therefore, except trying to adjust as soon as possible the overall arrangement of the state-owned economy and the transformation of state-owned enterprise into modern corporation form, we should also experiment actively to open up various realization of public-owned ways that are suitable to socialized production. Meanwhile, we should also implement the policy of encouraging private economic development which is favorable to the national economy and the people's livelihood conscientiously, cancel all discrimination policies to the none-state-owned enterprises. Here we need to pay attention to the following aspects: the private entrepreneur growing up in the environment of market intervened by governmental administrative power in many aspects still is often infected with all sorts of bad habits of making networks with local authorities and seeking rents, even going on the branch road of crony capitalism. As to this, the government must take the effective measure to prevent as well.

Second, except the state-owned enterprises of a few special trades that need to accept the government's special structure as the special legal person, general state-holding companies and national share-holding companies will not enjoy any special right. They should involve in fair competition in the unified legal environment with other ownership. Under terms of planned economy, these enterprises bear a lot of social functions that should not be born, having got special favors from the government in many aspects at the same time. Therefore,

the performance of the state-owned enterprise is difficult to get just and objective measurement. Under the pattern of new market economy, all state-owned enterprises can only carry on the activity in the capacity of legal person of enterprises, really accomplish the separation of Party function from that of administrative governess, separate government function from enterprise management, make decisions on one's own, and take profit-and-loss responsibility.

Third, we need to announce clearly in the name of constitution and law that we treat economic sectors in various kinds of ownership equally without discrimination, protect their property rights of lawfully earned income and grant the national treatment. We should check up every law and regulation carefully in an all-round way, dispel the different treatment towards non-state-owned economy of different ownership and the discrimination in such respects as tax revenue, finance, market access, legal status and social identity, etc., put forth effort to build the fair competition environment, and realize that everyone is equal in the market rule, so as to make the honest and lawful operating economic sectors make development under the unified legal frame of the country.

Fourth, China joined WTO formally in December 2001. This means that after the transition period of 5-6 years, China will participate in global economic cooperation and competition omni-directionally, abiding by the free trade principle reflected in the rules of World Trade Organization. But our government organs, the enterprises and even general residents are not very familiar with the social and judicial as well as cultural norms which are very important to the successful operation in world market and the interaction with people from other countries. China must abolish the laws and regulations conflicted with WTO rule in the trade of the domestic market, and set up the order and rule of fair competition. In the meantime, it should cancel the restrictions to foreign traders and overseas-funded enterprises according to the commitment while joining WTO and abolish the special favor to some foreign enterprises practiced in the past, so as to realize the general national treatment internally and externally as soon as possible.

Fifth, we should insist on realizing the social justice and adhere to socialist principle of the common prosperity. Among Chinese residents at present, the difference of income level has already been expanded to reaching the degree of society's unstable danger between town and city. The country should prevent illegal transferring of the public property into private ownerships in the course of ownership structural adjustment conscientiously by means of law and policy, avoiding the initial polarization in the occupation of the property.

The government must also be on the basis of generally improving in living standards of the people, and make full use of different policies, such as the taxation system of social welfare facilities, to assist widowers, widows, orphans, the elderly and childless, the old, the weak, the sick and the disabled, suppress the excessive accumulation of the individual wealth among only a few people, prevent the polarization between the rich and the poor, so as to guarantee the gradual realization of the goal of socialist common prosperity.

Sixth, in order to standardize the behaviors of all kinds of economic subjects in the market, and form good market environment, the government needs to standardize its own behavior at first. Currently, government's function reform itself has already fallen in the back of market process. In market economy, the government can only provide service to the society as the public goods provider, not ordering by gesture to enterprises and ordinary residents; it can only act the part of referee, but can't act the part of coach and athlete.

The governments at all levels should not interfere with others' affairs, and go to deal with the manpower, financial resources and material resources that ought to be dealt with by enterprises themselves - such questions as producing, supplying and selling, etc. They should perform their own functions effectively and offer low-cost public goods to society.

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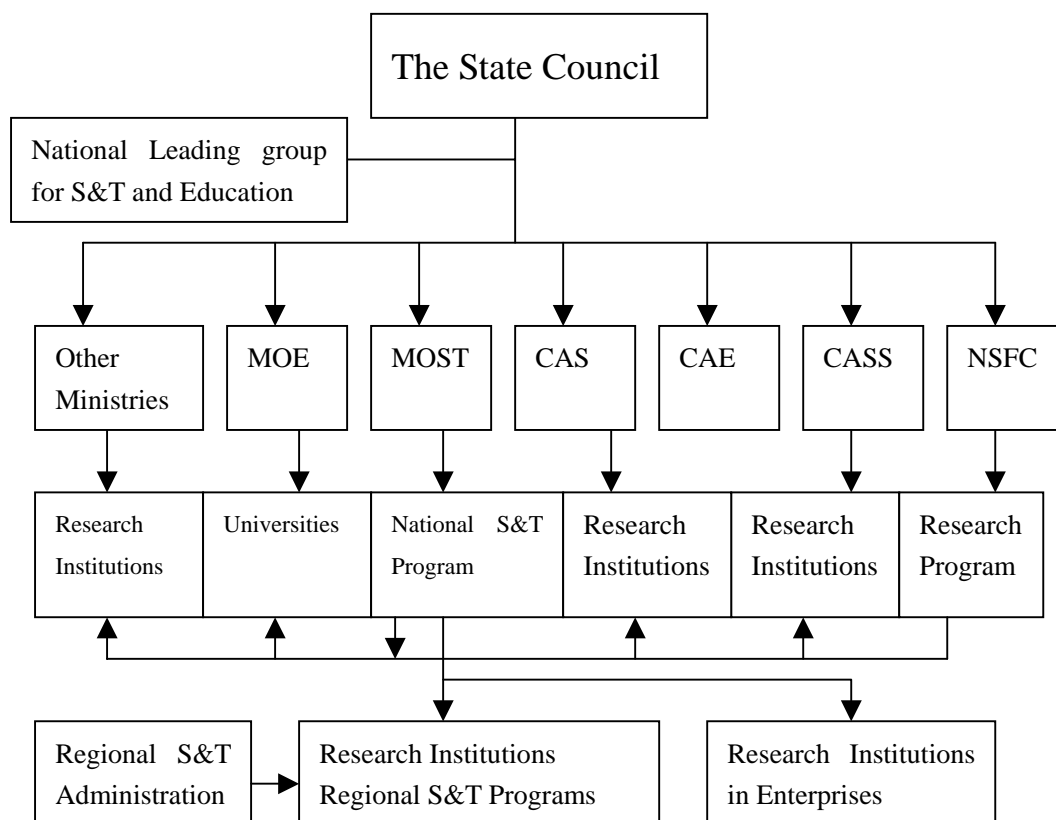
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Development of Science & Technology Policy in China

Mu Rongping

1. Introduction

Since 1980s, China has experienced a change of economic system reform from reforming micro operational mechanism to reforming allocation system for resources, and finally to setting up socialist market economy system in China. Meanwhile, China also has experienced a change of the science & technology system reform (STSR) from extending decision-making power of government-owned research institutions to reforming R&D funding system, gradually to introducing the market mechanism (namely the competition mechanism) into science and technology system. The administration system for Science and technology in China is as following:



China has made great progresses in science and technology legislation since 1980s, and lots of issued laws and regulations including “Science

and Technology Progress Law”, “The Technology Contract Law”, “The Law for Agricultural Technology Diffusion”, “The Law for Dissemination of Science and Technology”, “The Law for Promoting Commercialization of Science and Technology Achievements”, “The Patent Law”, and “The Statute for Computer Software” etc. Besides, China has published lots of policies and measures ranging from priority setting of research fields, science and technology system reform, platform for scientific research, industrialization of science and technology achievements, to promoting the talent mobility and international cooperation so as to increase the supply of science and technology resources, to generate effective demand for science and technology, and to improve innovation environment in favor of the science & technology development and the integration of the S&T and the economy. However, the policy and law system of science and technology in China is still in construction, namely there are still lots of issues in discussion.

The policy and law system of science and technology in China consists of seven parties concerning micro-management of S&T, R&D, S&T achievements, technology market & trade, inspiring and infrastructure, hi-tech and its industry development, international cooperation.

2. Quantitative Analysis on the S&T Policy and Law in China

By the end of 2002, the State Council and related ministries issued over 500 pieces of policies concerning science and technology innovation¹. The roles of science and technology policies and laws have changed a lot during the past two decades, in two directions, namely changing their roles and extending their roles.

2.1. Changing the Role of Policies and Laws for S&T

Tax policies have become the most important measures for government to promote science and technology innovation. Tax policies account for about 25% of total S&T policy and laws issued in the past two decades.

Government, especially central government is changing its role from managing R&D project to making policies & strategies for S&T and

¹ Department of Policy and System Reform, MOST: Survey on Laws and Regulations of Technology Innovation, 2003.

providing service and demonstration experiences as socialist marketing economy system in China becomes increasingly more effective than before. Therefore, the role of national S&T programs in promoting S&T innovation tends to become less important at present although some government sectors used to manage R&D projects. For example, MOST is organizing all government sectors, scholars from research institutes and universities as well as experts from enterprises to make the long term planning for S&T development of China during the period of 2006-2020.

The share of policies concerning “direct S&T input and equipment input” tends to be smaller as the policies related venture capital and government stock become popular. The key measure of S&T policies changes from providing fund to stimulating demands for science and technology innovation.

Policies for talent and education have received increasingly more and more attention from decision-makers, especially the policies attract overseas scholars to serve for domestic S&T development, no matter they join in one of domestic enterprises and research institutions, or just have a short-time on-site visit or bilateral cooperation research in China.

China has gradually improved its intellectual property right (IPR) system by revising related laws and regulations as well as policies, especially the “Patent Strategy” and Standardization Strategy” initiated and implemented by the MOST. The share of incentive policy measures for property right encouragement increases gradually. Evaluation and license as well as standardization play increasingly important role in promoting science and technology innovation.

2.2. Function Extension of the S&T Policy and Laws

The acquisition and export of technology still play very important role in economic development while S&T policies gradually pay more attention to international S&T cooperation and competition

Industrialization and commercialization attract more attention than new product development in the S&T policies, which implies that government pay more attention on industrial development instead of product development, on engineering and marketing as well as market development instead of technology development.

The S&T policies pay increasingly more attention to hi-tech enterprises and foreign invested enterprises as well as large-middle sized enterprises so as to promote science and technology innovation.

3. Effectiveness of S&T Policy and Laws

3.1. Promoting the Reform of the S&T System

After 20 years incremental reform on operational mechanism with a view to strengthening the linkage between production and research, for example, to decrease government budget for applied R&D institutions gradually so as to force them to survive in the market, and to encourage R&D institutions and university to exploit the economic value of S&T research by setting up their own companies, Chinese Government decides to withdraw from some competitive sectors and take some radical reform measures.

Since 1999, China began to transform government-owned research institutes into enterprises with a view of strengthening national innovation system, especially the capability of technological innovation in enterprises level. In the national level, the first batch of 242 research institutes affiliated to former State Committee for Economic and Trade and the second batch of research institutes affiliated to other Ministries have been transformed into enterprises by the end of 2001.

The transformation of the 242 R&D institutions has very important demonstration effect for transforming other scientific institutions. About 5,000 local government-owned have been transformed into enterprises. Last year, Central government began to transform state-owned public welfare research institutions, but in different way to some extent. For example, the research institutes that providing public goods have been transformed into nonprofit organization with more government budget.

However, the transformed research institutes still play very important role in promoting industrial technology progress. They took over lots of projects of the national science and technology program and provided technology service for enterprises. For example, 242 transformed research institutes receive 676 million yuan RMB by took over the projects of national S&T programs, and profit 1.1 billion yuan RMB with 9.1 billions yuan RMB of sales revenue in 2002.

In recent years, enterprises gradually become principal part in the technology innovation. The technological innovation capability of enterprises has been increasingly strengthened according to new results of

² Department of Policy & Law and System Reform of MOST: Survey on Reform and Development of Transformed Research Institutes of Technology Development affiliated to Central Government Ministries (1999-2002), July 2003, pp10-12.

evaluating 302 technology development centers of large enterprises³.

Universities have become significant base for knowledge generation, diffusion, technology innovation as well as commercialization of S&T achievements. Universities account for about 17.5% of total full-time equivalent R&D personnel, while research institutions and large and medium-sized enterprises account for 19.9% and 41.0% of total full-time equivalent R&D personnel in 2002. The universities, research institutions and large and medium-sized enterprises account for 22.4%, 30.1% and 35.8% respectively in 1998, which indicates that more and more R&D personnel concentrate in enterprises⁴.

Universities account for 10.1% of total R&D expenditure, independent research institutes⁵ account for 27.3%, enterprises account for 61.2% in 2002, the share of the universities and the independent research institutes is 10.4% and 42.5% respectively in 1998, which shows that enterprises have become principal part of innovation.

Chinese Academy of Science (CAS) has significantly strengthened its competitiveness by implementing the “Knowledge Innovation Program”. The number of SCI papers published by CAS surpasses Max-Planck Society (MPG) surpassed in 2000, and 4109 units more than MPG in 2003, while the number of SCI papers published by CAS in top twenty journals of each research fields increases faster than that of MPG and CNRS⁶, from 20% of MPG and 17% of CNRS in 1998 to 53% of MPG and 52% of CNRS in 2003, which shows that the gap in quality of published papers tends to be smaller. Besides, CAS accounts for more than 50% of published papers by Chinese in *the Science* and *the Nature*, 54% of that in the top twenty journals of each research fields.

3.2. Promoting the Integration of the S&T and the Economy

The technology capabilities in the sectors such as energy sources, resources, raw materials, communication, and machine building have been dramatically improved during past two decades. In recent 10 years, the productivity increased 11942 yuan/year · person, the energy consumption /10 thousand GDP decreases 2.69 ton standard coal⁷.

³ These centers are authorized by former state committee for economic and trade, and now by the State Committee for Development and Reform.

⁴ National Bureau of Statistics and Ministry of Science and Technology: China Statistical Yearbook 2003, China Statistics Press.

⁵ Transformed research institutes are not included.

⁶ CNRS means the French National Center for Scientific Research

⁷ State Committee for Development and Reform: Report for Implementing the Law for S&T progress 2003.

Mechanism for cooperation between industry, universities and research institutes has gradually established. Enterprises engaged in 90% of all projects of the National S&T Program for Key Technologies R&D. 80% of large enterprises have established cooperation partnership with universities and research institutes.

The transformation of the 242 R&D institutions strengthens the linkage between R&D and production, and the technological innovation capability of enterprises to some extent. The share of scientists and engineers in state-owned independent research institutions decreased from 31.5% of total in China in 1991 to 21.5% in 19998. The share should be much lower than before as soon as all state-owned independent research institutions have been transformed. The fact that the share of R&D persons in state-owned independent research institutions has been gradually decreasing also implies that more and more R&D personnel join in industrial sectors. Enterprises are gradually becoming the principal innovator, and investor in R&D.

The transformation of the 242 R&D institutions is propitious to exploiting human creativity of researchers, and to building up indigenous technological innovation capability in the transformed institutions. On the one hand, the transformed institutions are forced to build up indigenous continual innovation capability due to increasingly drastic market competition so as to develop competitive hi-tech products and to win the competition; on the other hand, the fact that technology and management expertise participate, together with other production factors such as capital labor and land, in distributing the economic returns of the transformed institutions must prompt researcher to exploit new technological resources, and to make full use of them.

The transformation has changed the research model of state-owned independent research institutions from government-oriented or following foreign research organization to market- oriented. Although state-owned independent research institutions are encouraged to run business for about 20 years, but performance of researchers is still evaluated according to academic indicators such as academic papers and experiment results, not the economic value of research results. The purpose for R&D institutions to run business is to make money so as to survive, not to meet the technological demands of enterprises. As soon as these state-owned

⁸ The Ministry of Science and Technology: China Science and Technology Indicators, kexue jishu wenxian chubanshe (Science & Technology Documents Press): Beijing 2000, p.57.

independent research institutes are transformed into enterprises, to maximize profit, the nature of enterprises will push transformed independent research institutes to develop what market need and then quickly commercialize them. Besides, the transformation itself also provides many opportunities for the combination of technology and capitals, which enable transformed R&D institutions to enlarge their market share.

3.3. Building up the Indigenous Capability of S&T

As a developing country, China has to face the challenge of further strengthening its infrastructure in science and technology and so as to promote its productivity, innovation capability and social welfare. Besides, China also has to make structural adjustment and institutional reform so as to improve the magnitude and efficiency of S&T inputs, enhance the role of the business sector in R&D and innovation, and foster the diffusion and utilization of technology throughout the economy.

S&T infrastructure has been improved gradually since 1990s. During past ten years, China has put lots of money for big science project, large experiment instruments and S&T documents/data bank. The sharing mechanism for S&T infrastructure has been highly emphasized in S&T policy measures. Besides, Chinese government is making the long term planning for S&T development (2006-2010) with a view of supporting national social, economic development. The first stage of the strategic research for the long term planning ranges from macro strategy research, to key science and technology assignments, and S&T input & policy environments.

The macro strategy research concerns the general strategy for S&T development, the S&T system reform and national innovation system, while the key science and technology assignments concern the manufacturing, agriculture sectors, the energy, resource and oceanic technology, the transportation and communication and the modern service sectors, cover the issues related to the population and health, the public security, the eco-reconstruction, environment protection and recycling economy, the city development and urbanization, the strategic hi-tech & industrialization, the national defense and the basic science issues. The main purpose for studying the key science and technology assignments is to determine the S&T priority. The S&T input & policy environments concern the equipment and infrastructure for S&T research, the S&T

talents, the S&T input and its management, the laws and policy for S&T development, the innovation culture and science popularization, and the regional S&T development.

The expenditure for S&T in China increases steadily since 1998. The expenditure for R&D reaches to 128.76 billion yuan RMB in 2002, about 1.23% of GDP⁹. There are 3.22 million S&T personnel in 2002 in China, including 2.17 million scientist and engineers, about 22.7% and 39.8% higher than that in 1995¹⁰.

The sales of new products account for 13.2% of total revenue from the sale of products in 1999, and 16.1% in 2002. The expenditure on purchase of domestic technology in large and medium-sized enterprises of China accounts for 1.63% of expenditure on technical renovation in 1999, 2.88% in 2002, while expenditure on technology absorption accounts for 2.14% of expenditure on technical renovation in 1999, 1.72% in 2002 (see table 1).

Table 1 Major Indicators on Large and Medium-sized Enterprises (100 million yuan)

| | 1999 | 2000 | 2001 | 2002 |
|--|-------|--------|--------|--------|
| Expenditure On Technical Renovation | 845.6 | 1132.6 | 1264.8 | 1492.1 |
| Expenditure On Import of Technology | 207.5 | 245.4 | 285.9 | 372.5 |
| Expenditure On Technology Absorption | 18.1 | 18.2 | 19.6 | 25.7 |
| Expenditure On Purchase of Domestic Technology | 13.8 | 26.4 | 36.3 | 42.9 |

China ranks the fifth position in terms of published SCI papers in the world in 2002, and becomes one of countries with advanced spaceflight after the successfully launching of the manned spacecraft “Shenzhou 5” in 2003.

4. Problems in Building Environment of S&T Policy & Law

4.1. Lacking of Top-design for S&T Policy and Policy Monitoring System

Science Progress Law needs revising so as to promote its legal position and authority. Some S&T policies need transforming into laws. Lots of S&T policies need adjusting so as to avoid conflicts and overlap

⁹ MOST and Bureau of Statistics: China S&T Statistics Annual Report 2003, www.sts.org.cn

¹⁰ National Bureau of Statistics and Ministry of Science and Technology: China S&T Statistical Yearbook on Science and Technology 2003, China Statistics Press, p.5

each other.

Lacking of effective cooperation mechanism among the people's Congress, the State Council, the State Committee for Development and Reform, and the Ministry of Science and Technology in S&T policy-making process results in the conflicts between demand and supply for making S&T policies and laws, and in the incomplete S&T policy & law system. Besides, lacking of foresighted S&T policy research, effective S&T policy evaluation and monitoring system also has negative impact on S&T development and social-economic development.

4.2. Lacking Effective Support of S&T Policy for National Innovation System

Lacking of increasing mechanism for public S&T has limited the S&T development while lacking of effective adjusting and priority-setting mechanism for S&T input has decreased the efficiency of S&T input. Besides, lacking of classified guidance for regional S&T enterprises, and special guidance for industrial S&T enterprises as well as agricultural S&T enterprises has weakened the industrial competitiveness.

Lacking of effective inspiring mechanism and measures to promote enterprises become principal part of technology innovation, and to promote the development of S&T service institutions for public interest has decreased the efficiency of national innovation system.

Lacking of effective mechanism for evaluating and inspiring S&T talents, and for promoting the mobility S&T talents has negative impact on behavior of scientists and engineers. For example, evaluations of S&T activities and talents at present pay more attention to the quantity of papers than the quality of papers, more attention to the application of patents than the commercialization of research achievements.

Lacking of effective mechanism for deploying public S&T resources has decreased the utilizing efficiency of S&T resources. For example, S&T micro-management sectors usually launch important national S&T program without approval of legal organization, lots of public S&T resources such as big science infrastructures, observations and databanks have not been effectively shared among users.

4.3. Lacking Effective S&T Support for Social & Economic Development

Lacking of effective mechanism in balancing the technology import and the domestic R&D as well as the localization of imported technology has important but negative impact on native technology capability-building, while lacking of legal status hi-tech industrial park and defined ownership of S&T achievements has slowed down the process of industrialization of research achievements.

With the economic development and social change, China has to face a series of problems concerning urbanization, aging population, production safety, public health and information security as well as anti-terror issues. To solve all these problems needs to integrate and develop nature science, engineering technology and social science, and to establish a monitoring & precaution system and a quick response mechanism for social development crisis.

5. Future S&T Policy & Law System in Discussion

5.1. The Goal of Building S&T Policy & Law System of China

Now China is revising “The Law for S&T Progress”. However, lots of experts suggest establish Chinese S&T Policy System based on “S&T Basic Law” approved by the People’s Congress of China, and hope to realize five transformations, namely: from emphasizing policy-making quantity to quality, from policy guidance to institution promotion, from static policy-making to dynamic policy adjusting.

Therefore, the goals for building Chinese S&T policy & law system are to promote positive interaction among innovative parties, to integrate S&T resources and personnel so as to provide institution support for leapfrogging development by 2010, and to establish effective mechanism for policy-making, policy-implementing and policy-monitoring, to ensure an increasing mechanism of S&T input so as to realize goal of well-off society by 2020.

It is expected that the national expense for R&D reaches 360 billion RMB in 2010 and 900 billion RMB in 2020, R&D / GDP reaches 2.0% and 2.5% respectively. Meanwhile, social investment in S&T reaches 730 billions RMB in 2010 and 1800 billions RMB in 2020.

5.2. Future Eight Tasks for Improving System of S&T Policy & Law in China

There are lots of problems to be solved in the process of improving China S&T Policy & Law System. However, I think following eight aspects are major tasks in the future 15-20 years.

(1) To Make “S&T Basic Law of PRC”

The most important task in building S&T policy & law system of China is to make “S&T Basic Law” approved by the People’s Congress of China so as to assure the ratio of R&D/GDP reach to 2% by 2010 and 2.5% by 2020, to identify the role of government, the market, and the central government and regional government in S&T.

(2) To Increase the National Decision-making Level for S&T

It is necessary to increase the national decision-making level for S&T (for example, to the cabinet level) so as to coordinate national interest among different governmental sectors. Besides, it is also necessary to establish monitoring mechanism and transparency, rational and impartial evaluation mechanism for S&T policy and laws so as to adjust and cancel related policies and laws, and for S&T program so as to increase the efficiency and effectiveness of public investment in S&T.

(3) To make “The National Strategy for IPR”

To set up an effective mechanism for formulating, implementing and adjusting the national strategy for IPR by improving IPR laws system and bringing IPR into property right system so as to harmonize related theory and law system. To monitor the implementation of S&T policy & laws so as to support the change from acceptor of “game role” to active participant of making process of “new game roles”.

(4) To make the statute for Sharing S&T Resources

It is necessary to make the statute for sharing S&T resources so as to establish the mechanism for sharing S&T resources and to increase the effectiveness and efficiency of development and utilization of S&T resources such as large equipments and instruments as well as scientific data & information. license

(5) To Promote Enterprise Innovation and Internationalization

It is necessary to improve the innovation policy and to make implementing policy measures for related laws such as the “Promotion Law for Small and Medium Sized Enterprises”, and to deepen S&T system reform so as to assure that enterprise be principal part of innovation and investment in innovation, to promote integrated innovation and engineering development in enterprises, and to encourage enterprise become the world leading firms.

(6) To Make the Statute for Regional Innovation

It is necessary to make the statute for Regional Innovation so as to promote the development of regional innovation system, especially the national hi-tech industrial development zones and regional agriculture S&T system construction to assure economic development and S&T progress in rural regions.

(7) To Strengthen the Integration of National S&T Resources

It is necessary to strengthen the integration of national S&T resources by establishing an effective mechanism for priority setting based on rational S&T policies so as to promote the social and economic development, to strengthen basic research, and to improve environment and social condition for people’s survival and development as well as S&T infrastructures. For example, setting up several consulting committees directly affiliated to the State Council so as to continuingly provide strategic integration of national S&T resources.

(8) To Ensure the National Security and Sustainable Development

To establish effective policy system and the foresight, precaution and emergency management system so as to ensure the national security concerning defense, information, bio-technology, technology standards and finance. Meanwhile, to educate hi-level, compound talents with knowledge of S&T, laws, and management so as to promote sustainable economic and social development.

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Foreign direct investment and social change in China

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Since carrying out the policy of reform and opening, China has been actively attracting foreign capital as an important basis of economic development. In recent years, China has ranked first among developing nations in attracting foreign capital. In 2002, China attracted more than 52.7 billion dollars of foreign direct investment; this was also the year in which China first exceeded the United States as a recipient of foreign capital. With the rapid pace of globalization, China's economy has been growing quickly and the flow of foreign investment has increased continuously. These developments will certainly have long-lasting consequences for China's society.

Through an analysis of the conditions for foreign direct investment in China and the social changes which will accompany such large-scale investment, this paper will offer suggestions and advice on how China can best use the advantages and opportunities provided by foreign direct investment.

1. The conditions of foreign direct investment

China began to absorb foreign direct investment in 1979, since then it has experienced three distinct historical stages. In the **first stage**, from 1979 to 1986, the sources of investment were from Hong Kong, Macau and the overseas Chinese. At this time the industrial structure was primarily labor-intensive and included various processing industries, the hotel industry and the service sector in general. A regional concentration, primarily in Guangdong, Fujian and other coastal areas, was also evident.

In the **second stage**, from 1987 to 1991, the geographic realm of investment was enlarged to include the southeast coastal areas to the east of Shanghai and the gulf region of the Bohai Sea, thus increasing the distribution of foreign investments in these districts. At the same time, China improved both the investment environment and the conditions for the foreign-owned enterprises: particularly those industries most likely to promote the production of exports or products with a large content of high technology. From 1988 to 1991, China attracted foreign investment of 3.6 billion dollars, a three-fold increase over the first stage. The industrial structure was also improved in the second stage.

The **third stage**, beginning in 1992, is the most recent stage of advance. In this stage the country has opened up to a vaster realm. At the end of 2003, the total number of approved foreign enterprises was 465,277; the volume of foreign contractual capital increased to 943.13 billion dollars and the actual usage of foreign capital amounted to 501.471 billion dollars. (source: news office of the Commercial bureau). The success rate of foreign invested enterprises has increased steadily and economic effectiveness has also improved continuously. Presently, two thirds of the foreign enterprises are profitable and the success rate of big and medium-sized projects is above 80%. The high rate of return on investment, the improved investment environment and the tempting market potential have been attracting an increasing number of foreign investors.

With China entering the WTO, the field of foreign investment expanded continuously from general processing industries to real estate and extended to basic industries, infrastructure, the farming and breeding industries, retail business, gastronomy, travel, finance, insurance and investment consulting. Except for a few realms, which are closely related to national security, and therefore not opened to foreign investment, China has no other limitations. China was once concerned that foreign investors would manipulate the financial market and was reluctant to liberalize the banking industry, but now this has also opened gradually. Since 1996, foreign capital financing institutions have been permitted to be engaged in the RMB business in Shanghai Pudong and this indicated that the opening steps in the financial industry have accelerated. In 2003, the amount of foreign capital in actual usage in the sectors of finance and insurance was 230 million dollars, an annual increase of 117.5%. This accounts for .43% of the total usage of foreign capital and these sectors have become the fastest growing sectors in the economy. Foreign banks have established 191 operating agencies and 84 among them were permitted to be engaged in the RMB business. Some sectors once regarded as vital to the national economy and therefore not accessible to foreign investors (such as ports and airports) are now opened to foreign investment. In 1997 the first joint venture was established in Shanghai indicating that the opened realms are increasingly being extended.

The foreign invested forms have increasingly diversified. In the past, the foreign investors primarily adopted the form of “three foreign-funded enterprises” but now many new forms have appeared. Traditional merger and acquisition is now considered to be the new type of investment form which is favored by an increasing number of foreign investors. In order to satisfy the demand of some foreign investors to be engaged in the stock market, China has started to develop foreign-invested joint-stock enterprises. At the end of 2001, there were a total of 981 foreign-invested joint-stock enterprises approved in

China. Some regions have made use of the experiences of the foreign invested enterprises to reform state-owned enterprise and have obtained positive results.

2. The social influence of foreign direct investment on China

There is no doubt that China has experienced unprecedented economic growth over the last 25 years. This is attributable to the opening policy, especially with respect to foreign direct investment. It has a substantial effect, however, on social development in China. The effectiveness of foreign direct investment is reflected not only by direct economic indicators, but also by non-economic performance.

2.1. Direct economic performance evaluation

The effect of absorbing foreign direct investment is first indicated by direct economic performance. According to the government, these are macro-economic effects which primarily influence economic growth, price stability, full employment, a balanced international budget and revenue increment. From the social point of view, they emphasize the influence on the long-term development of the national economy; particularly technical progress, industrial upgrading, and the transformation of the economic structure. The residents, however, are concerned about living conditions in the short-term, namely the influence of FDI on employment and personal income. From an integrated point of view, direct economic performance can be included in the following aspects:

2.1.1. Economic growth

Theories of economic growth focus on the factors of labor, capital and synthetic elements as the most important factors which lead to economic development. For a country lacking sufficient capital, foreign direct investment can be considered the major and most direct contribution which transnationals bring to the host country. When a developing country has a high rate of savings, the main benefit of FDI is to significantly increase the host country's industrial competitiveness. For China, the two facets exist simultaneously. With the passage of time, the influence of FDI on China has changed.

Important source of capital

Since the late 1970's, the FDI proportion of China's capital assets increased greatly, reached its peak in the middle of the 1990's and then decreased. In 2002, the FDI proportion of China's fixed capital assets was 11.32%.

| Year | Capital assets (0.1 billion dollars) | FDI (0.1 billion dollars) | Proportion (%) |
|-------------|---|--------------------------------------|-----------------------|
| 1991 | 100.160 | 4.366 | 4.36 |
| 1992 | 146.522 | 11.008 | 7.51 |
| 1993 | 226.871 | 27.515 | 12.13 |
| 1994 | 199.734 | 33.767 | 17.08 |
| 1995 | 239.723 | 37.521 | 15.65 |
| 1996 | 276.332 | 41.726 | 15.10 |
| 1997 | 305.957 | 45.257 | 14.79 |
| 1998 | 343.729 | 45.462 | 13.23 |
| 1999 | 360.800 | 40.318 | 11.17 |
| 2000 | 394.426 | 40.715 | 10.32 |
| 2001 | 444.554 | 46.846 | 10.54 |
| 2002 | 467.825 | 52.700 | 11.32 |

Data source: Statistics according to the Statistics Bureau 2003 (Summary of China statistics)

The improvement of the quality of FDI

Since the late 1990's, China's condition of lacking sufficient capital has improved gradually. A positive capital balance has been reported every year since 1991. Simultaneously, the supply of goods and services has exceeded demand; many industries are overproducing with the consequences that in many of China's enterprises the profit rate has fallen continuously. At the same time, the volume of foreign investment has achieved a record high of more than 40 billion dollars. Their market occupation ratio has steadily increased. These facts lead to the following question: does China really need so much foreign capital?

As a matter of fact, the entrance of foreign capital into China fostered the development of a number of economic resources such as human resources, technology transfer, improved R&D capability, international marketing ability, improved management techniques and the ability to better understand the customer. All these factors played important roles in improving the quality of China's assets and increasing the efficiency of capital accumulation.

From this point of view, domestic assets are no substitute for FDI. The contribution of FDI in improving the quality of China's assets is demonstrated as follows:

Firstly, it formed new assets of high quality

The problem that the ratio of input to output was low has not been properly solved in China's development. China's products were formerly barely competitive, and many enterprises were "in the red" as soon as they went into operation. This indicates the poor quality of the assets. Since the new foreign-invested enterprises began operation in China, they have introduced new products, new technologies, new ideas, new management strategies and international marketing techniques and have thus formed new assets of high quality.

Secondly, it improved the quality of the existing assets

Presently, most of China's existing assets are of inferior quality. FDI is likely to turn those inferior qualities into higher qualities through providing foreign capital. In many cases, foreign investors have improved the conditions of the enterprises previously running at a loss by changing their style of management, marketing strategies and internal distribution without any substantial investment.

2.1.2. Employment

China, with a population of 1.3 billion, has abundant human resources. Full employment is vital for people to increase their income level and improve their lives. This also has an influence on social stability. However, the economic growth derived from the reform policy has indicated that the work force has been shifting from industries with low productivity to industries with high productivity. This has contributed directly to economic growth. As the capability of the state-owned enterprises to absorb labor weakened, FDI, as a major component of the non-state owned economy, became an important resource to absorb surplus labor.

The foreign-owned enterprise has generally three kinds of employment effects on the host country. First, it can expand employment through entering some new industries or mating industries; it can transfer employment to other economic sectors and finally, it can extrude the employment. This is because new products with components of high-tech and high quality generally replace labor intensive products. This indicates that many people working in the traditional Chinese factory would be unemployed. In respect to China, from 1980 to 1995, the main influence of FDI is in expanding employment. The employees working directly in the foreign-invested enterprises were less than one million in the 1980's; in 1990 the number was two million, while up to 1995, the number increased to 16 million. From 1996 to 1999, FDI mainly influenced the transfer of employment, accompanied by expanding and extruding

employment generally. At present, nearly 400 of the 500 largest multinational companies in the world have established branches in China. The number of employees in the foreign-owned enterprises equals one tenth of the non-agricultural labor force. How can we best understand the contribution of FDI to the development of the labor market? In fact, the relationship between investment and employment is effected by the enterprise's capital organism constitution and distribution of the investment by industry.

In 1979, when China first began to absorb foreign capital, the proportion of foreign investment in labor intensive industry was high. The capital organism of most of the enterprises in China was very low and capital was seriously short of supply. Because the competition between foreign investment and domestic business was not intensive, foreign investment contributed significantly to the development of the labor market.

As the realm of foreign investment extended, more and more foreign companies invested in the knowledge and technique intensive industries. As the constitution of the capital organism was improved, economic conditions of shortage in the domestic economy also improved, resulting in a situation of overproduction. The competition between the foreign and domestic-investmed businesses became more intense, affecting the contribution rate of foreign investment to China's employment. Presently, China is in a dilemma about how to expand in the high-tech sector. To solve this problem, the development of the high-tech sector should not be restrained, but rather expanded.

After entering the WTO, China was deeply involved in international competition and the volume of FDI coming into China has increased. Since then, China's industrial structure has shown a positive tendency to utilize its comparative advantages. The significance of the increasing scale of FDI to effect employment cannot be underestimated. To emerge as a major world manufacturing center, China has to exploit its labor-intensive advantages and produce in correspondence with world demand. Employment in the manufacturing sector is expected to increase significantly and, in doing so, enable the employment structure to transform from agriculture to industry. Furthermore, FDI provides an impetus for the development of the labor market in China and promotes the education of the work force. Because many foreign-invested companies have a purely economic approach to resource allocation and management, their work force is steadily developing without interference from outside. Their employees, directly recruited from the labor market, have neither life-long tenure nor secure jobs. This has set an example for domestic companies to learn how to manage according to the principles of the market economy. Additionally, their reward system is completely rationalized. The level of wages

reflects not only the relationship between supply and demand, but also the contribution and hard work of each employee.

2.1.3. Exports

In the past decade, the exports of foreign invested-enterprises have increased dramatically and at a faster rate than China's total exports. At the same time, foreign-invested enterprises have exported an increasing amount of electromechanical equipment and high-tech products thereby significantly upgrading the proportion of Chinese exports with a high-tech component and improving the overall structure of exports. These changes indicate not only that China's comparative advantages extend to other industries beside those which are strictly labor intensive, but also that China's exports are competitive in the world market over the long term. First, FDI added greatly to the volume of exports. Since 1990, the international trade of China has increased rapidly, The volume of trade increased from \$135.7 billion in 1991 to \$851.2 billion in 2003. At the same time, the value of exports increased from \$71.91 billion to \$ 438.37 billion. This increase is due to the growth of exports by foreign-invested companies. The proportion of exports by foreign-invested enterprises to total exports has increased greatly. In 2003, it reached 54.83% of total exports; according to the official summary of China statistics.

FDI has secondly, upgraded the general structure of exports. The increase of exports in high-tech and high-value products has upgraded the overall structure of exports. This is a permanent and far-reaching contribution to the China's international trade. FDI enters China with advanced technology, application capability and international marketing ability. This has not only transformed China's domestic economy, but also has created new comparative advantages.

After the mid-1970's, the rapidly increased investment of large multinationals with cutting-edge technology improved the development of high-tech and high value industries thereby improving the structure of China's exports in general. The proportion of manufactured goods which are electromechanical and high-tech has grown substantially. In 2001, the proportion of total exports by the foreign-invested enterprises was up to 64.05%, but for high-tech products it was even higher: 81.5%.

Thirdly, combined with local capital, FDI brought domestic industry into the international distribution net of the multinationals, expanded opportunities to export high-value products, optimized the export structure and improved the status of international distribution.

Besides the direct influence described above, FDI also affects the performance of exports in the following ways: first of all, by establishing

relationships with foreign invested enterprises, domestic companies can become indirect importers. Also, because of the influence of the multinationals, domestic companies are more likely to become gradually independent. Next, while doing business in China's market, foreign enterprises transfer many skills related to marketing and production and play an exemplary role for domestic companies. This is very important if domestic companies are to improve their ability to compete. Furthermore, FDI can produce market access spillover. For example, China's enterprises can share the fruit of lobbying for trade liberalization and reducing the resistance to entering foreign markets. Because foreign-invested enterprises have experience with the global market, they can provide a channel for domestic enterprises to obtain information or establish friendships with foreign trade groups or industrial unions. Finally, domestic enterprises can utilize the marketing channels of the multinationals at a low cost.

2.1.4. Technical progress and industrial upgrade

Technical progress

During the 1980's, most foreign-invested enterprises were medium or small-sized, came from Hong Kong, Macau or the Taiwan prefecture, and accounted for 75% of the total FDI in China. Even the investment which came from the United States, Japan and Europe was medium or small-sized. As a whole, the technology that they transferred was not more advanced than China's. In the late 1980's, only 2% of foreign-invested enterprises were categorized as technically advanced. Since 1993, the larger multinational firms have invested in China and replaced the medium or small-sized enterprises.

In practice, almost all multinationals investing in China are linked with technology transfer. They introduce technologies into China in several different ways.

First, they import capital goods and processing methods with a high-tech content and use them effectively, thereby improving the level of engineering competence in China.

Second, by producing in accord with demand, plus high-tech and high value, the engineering level is further improved and rapidly upgraded. For example, the rapid growth of the auto industry in China is mainly owed to foreign-invested enterprises.

Third, new research and development capabilities are introduced which is a new tendency in international investment. China, a developing country, is one of the highest in absorbing foreign investment. In a short amount of time, the multinationals have introduced design and R&D projects into China which have

improved not only engineering competence, but also the overall capacity of R&D.

Fourth, the multinationals have not only introduced advanced technology, but also new management skills and economic thinking generally. They have provided a chance for domestic enterprises to learn practically and have made them understand how advanced technology can be turned into advantages whereby enterprises can increase their efficiency. For example, with respect to management skills, China's enterprises learn how to combine the elements of global production, marketing and technology development into an integrated system thereby reducing costs and expanding their market. Using enterprise strategic policies, they learn how to explore new possibilities for cost reduction, employ new skills and ideas and learn how to make use of new services in the areas of finance, accounting, global information and consultation. Such demonstration effects broaden the horizon for domestic enterprises and provide them with successful examples of good business practice.

In addition, through technology spillover, foreign-invested enterprises contribute to upgrading the technology of domestic enterprises. The technology spillover occurs through both the demonstration effect and competition.

The demonstration effect can be achieved by technology demonstration in one industrial group, horizontally integrated; or by the exchange of managers between foreign-invested and domestic enterprises.

The competition effect occurs in conjunction with the competitive pressure which multinationals experience in the need to develop new products and technology, which accelerates technology transfer. There are two reasons for this: as product life is shortened, the complexity of technology is enhanced, the cost of R&D is increased and a horizontal distribution based on different countries contributes to forming a global market, multinationals are forced to use the newest technology simultaneously throughout the world. Second, because competition has upset the monopoly structure, multinationals are forced to transfer advanced technology to China and set up institutions to reduce the high costs of R&D.

Industrial upgrade

At the same time, foreign-invested companies accelerate the upgrade of the industrial structure of China.

In the 1980's and the early 1990's, foreign investment was concentrated in labor intensive production such as textiles, shoes, electronic components, bags and other plastic goods. This did not contribute to upgrading the industrial structure of China.

Since the middle of the 1990's, FDI has concentrated mainly in capital and technology intensive industries such as micro-electronics, the auto industry, household appliances, communications equipment, office equipment, instruments and the chemical and pharmaceutical industries. As research from the Chinese Science Academy's International Research Center has indicated, the main products of the top 500 enterprises investing in China were electronic and communications equipment, machines, transportation, chemicals and drugs: this is now equal to 40% of the total volume of FDI. At the same time, the multinationals have decreased their investment in labor intensive industries such as textiles and weaving. The research indicates that the multinationals have given the industrial upgrade an obvious push forward.

2.1.4. The economic structure and reorganization of state-owned enterprises

The main factor that restricts the development of the domestic economy is its structural antinomy. From the standpoint of ownership structure, state-owned capital is insufficient to meet the demands of the state-owned economy. The state-owned property allocates resources according to non-economic criteria and lacks an overall market economic orientation. Over the past ten years, the performance of state-owned property has been well below satisfactory and many sectors of the Chinese economy have become virtually autonomous resulting in redundancy and wasted resources. The investment of state-owned capital, not only insufficient, but also poorly distributed, is unable to meet the demand of large-scale economic production, for example, in the automotive, petro-chemical or aero-space industries. Because of the high degree of monopolization, the management system of the state-owned enterprises is difficult to reform. Though the government of China has emphasized the theme of reconstruction again and again, the effects are barely discernable. In the past, because of an industry by industry restriction policy, most foreign enterprises or joint ventures utilized market-oriented strategies which to a certain extent aggravated the problem of restructuring. In order to promote rapid and stable economic growth, more capital must be accumulated. According to conservative estimates, state-owned property is worth more than 250 billion RMB. Such a substantial capitalization lacks the capable non-state-owned investors to manage the capital effectively. Even after several decades of development, the domestic non-state-owned enterprises are still too weak in capitalization and management experience to undertake the reorganization of state-owned property.

It is not just the price problem, there will be enough investors if China relaxes the price of the property rights market and the asset price of state-owned

property falls to a lower level. This in turn produces two problems: first, when the strength between buyer and seller is out of balance, the price will fall steeply in the short term with unequal effects in respect to income distribution. Second, selling shares in the state-owned enterprise at a low price will not improve the performance of the enterprise, because the correction of this situation demands not only structural adjustments, but also motivated and capable strategic investors. Therefore, ushering in foreign capital to participate in the structural adjustment of the state-owned sector is an important breakthrough. It is now possible for foreign capital to bring market-economic principles to bear in this sector. Investment in this sector is, without question, a major explanation for the phenomenal growth of the domestic economy.

Foreign investment directly influenced the adjustment and upgrade of the economic structure including: (1) property reorganization or the reorganization of tangible assets. Through joint ventures some state-owned enterprises successfully decreased the proportion of their investment in technology or withdrew from the competitive realm. Furthermore, the infusion of foreign investment has greatly increased the overall value of the property. (2) Enterprise reorganization: as the foreign-invested enterprise enters the local market it can accelerate the transformation of the market from monopoly to competition. Under the pressure of competition, parts of the enterprises that are uncompetitive must fail while the successful parts of the enterprise will expand, thereby increasing the possibility of successfully competing in the free market. Moreover, the relative size difference between enterprises creates the conditions for enterprise reorganization. Conversely, when the foreign-invested enterprise buys the domestic enterprise, it can realize structural reorganization quickly and promote the improvement of both technique and management. (3) Industrial structure adjustment: when foreign-invested enterprises enter the market, they create and develop some industries thereby reforming traditional industry. (4) The change of structure of imports: because the products of the foreign-invested enterprise replace traditional imports, the content of imports and the structure of trade itself are altered. In order to guarantee normal production conditions for the foreign investor, China must import large quantities of primary products and semi-processed goods from abroad. Finally, making use of foreign direct investment has changed the structure of imports from one of consumption to one of production.

2.2 The evaluation of non-economic performance

The influence of foreign direct investment is reflected not only in direct economic performance, but more importantly, in non-economic performance in

China, particularly in creating the free-market system, pushing reforms further and widening the possibilities for the investment of foreign capital.

2.2.1 Creating the free-market system

First, foreign investment accelerates the structural changes in China's economic system. It plays an important role in forming the public sector of the economy and its development. It also serves as an impetus to the reform process. Among the 400,000 foreign-invested enterprises, state ownership and collective ownership comprise over 57% of the value of the total economy.

Second, FDI accelerates the changes in the enterprise system. State-owned enterprise has cooperated with foreign capital cutting the umbilical cord between the government and the economy as a whole. Under these conditions, enterprises are able to avoid intrusive government interference in such areas as labor, personnel, allotment, import-export policies and investment law. Increasingly, enterprises are also introducing standard international management practices.

Third, the development of the foreign-invested enterprise changes the allotment system. As a rule, employee income is higher in a foreign-invested enterprise and the disparity between income in the public sector and private sector is growing. Generally, the income for blue collar workers in the foreign-invested enterprise is three times higher than the income in local enterprise. For white collar jobs, the differential increases to five times higher in foreign-invested enterprise and for top management positions, the differential is ten times as high. This kind of allotment mechanism increases the income for all employees in the foreign-invested sector while it weakens the established domestic system of average distribution and distributes funds, technique, management skills, and knowledge throughout the economy. At the same time, it has eliminated an obstacle to reform in the allotment system generally.

Finally, the development of foreign-owned enterprise directly effects the functioning of the macro-economy: increasing employment and stabilizing price levels and balance of payments once government regulation is removed. Also, the government cannot control the development of the foreign-invested enterprise by direct administrative means: it can attain macro-economis targets by indirect macro-controlling. In other words, the macro-economic management system must change more quickly in order to promote the function of the government to match the demands of the market economy.

2.2.2 Gradual economic reform

China has carried out a number of special preferential and convenient reforms for foreign-invested enterprises. In the short term these policies,

exclusively for foreign-invested enterprises, could be a source of injustice for domestic enterprises. In the long term, however, these policies promote the overall economic development of China.

During the process of gradual reform in China there were mainly two new developments. One was the rural-industrial economic model and the other is the foreign-invested economic model. These models, which concentrate on increasing supply, shaping the competitive market, forming the new legal framework guided by the free market, creating new macroeconomic control systems and reforming the trade and control system all played decisive roles in the process of reform.

The entrance of foreign capital impelled the legal system of China to conform to the demands of the market economy. Since the 1970's, the passage of the earliest law on the economy made an attempt to conform to the demands of the market economy and dealt specifically with the issue of direct foreign investment. On July 1, 1979, The China and Foreign Venture Law of the People's Republic of China went into effect. This was the first law approved at the meeting of The National People's Congress after the reformation. Many laws and regulations were made previous to this concerning domestic capital investment. The contents of these laws dealt basically with the questions of establishing an enterprise, the use of land and labor, import and export regulations, accounting systems, tax revenue and general investment policy. Those established with respect to utilizing foreign capital have become the basic law and are still currently still in use.

The Chinese government has chosen to reform gradually for reasons of social stability, peace and prosperity. At the same time, China faces a contradiction in that it must seek the motor for development in the reform process. In reality, reform itself is the redistribution of duty, power and benefits. Therefore the resistance of various interest groups is to be expected. Opening to and absorbing direct foreign investment became the basic direction of reform. The entrance of foreign-invested enterprises was a shock to the national economy to some degree, but it accelerates the elimination of the old system and the establishment of the new system. The government and the enterprises, in general, should adapt to the demands of the foreign-invested enterprises and increase the pace of reform. In other words, the positive effect of FDI not only impacts directly on economic performance, but also intensifies reform and the eventual development of market mechanisms. Foreign capital has produced the motivation for the extensive reform of local market monopolies and has accelerated the transition from the central allocation of resources to the allocation of resources according to market principles.

Absorbing foreign capital also propelled the development of China's market economy. The inflow of huge amounts of direct foreign investment shifted the government's control of the macroeconomy from closed to open. Because a more perfect money market and a higher capacity to manage currency and finance was needed, the central government was impelled to speed up the reformation of the macro-control system. A large number of foreign-invested enterprises doing business in China weakened the ability of the government to intervene in the work of the enterprises directly, thereby accelerating the transfer of the government's means of management.

The inflow of foreign capital and its influence on foreign trade make even higher demands on the trade system, the exchange rate system and the management system of foreign trade thus giving impetus to relax the central control of trade and form a new system. The first regulation center for foreign exchange was established in November 1985. Soon afterwards, two other centers were set up in Shanghai and Beijing in 1986 and 1988 respectively. At the beginning of 1990, there were about 90 centers throughout China to serve foreign-invested enterprises. China has reformed the management of foreign exchange significantly, set up a floating rate system based on market principles and unified and standardized the foreign exchange market.

Additionally, foreign-invested enterprises weaken the monopoly in some industries. Many industries need enormous investment of capital and high technology. These are great barriers for China's non-state enterprises to overcome. Historically, a real competitive market in China has hardly existed. Some industries, such as auto manufacturing, heavy equipment manufacturing and communications facility manufacturing depend to a large extent on foreign capital to break the monopoly structure controlled by a few large state-owned enterprises. The competitive market structure improves the development of foreign-invested enterprises and domestic companies. It injects greater vitality into China's market and promotes the general economic development of China.

2.2.3 Renew ideas

Many foreign-invested enterprises such as McDonald's, IBM, P&G, Siemens, Dell and Nestle are now actively competing with domestic enterprises in the areas of management, marketing, employee education and the utilization of technology. This has brought new added value and new economic ways of thinking into China. Many market oriented ideas such as the primacy of the customer and the tailoring of products to match human needs have become the strategy of successful domestic enterprises. The operation of MNC's in China is always connected to their parent company and the services it provides. The

MNC's diffuse international economic information to domestic enterprises thus enabling them to better compete in the world market. As a consequence, domestic enterprises are able to obtain the latest economic information and experience without going overseas. That is an impulse for China's domestic enterprises to reform, update their ideas, uphold the brand concept and introduce the strategic management ideas which are necessary in the global market.

At the same time, in order to adapt to local competition, many foreign-invested enterprises train local managers. The globalization of the world economy and the localization of business force multinationals to make efforts to localize management. The MNC's have been providing extensive training in what is known as "send-off and engage again" programs to improve the capability of management and also the utilization of technology. According to the strategy of the parent company, local managers are selected, exposed to the latest technological developments, trained in cutting-edge theories of management and transferred to a subsidiary. Once the native managers are trained and qualified for the job, they will replace foreign managers. This strategy not only reduces costs, but also avoids cultural conflicts between the multinationals and the local community. This also enhances the adaptability of the multinational and increases their capability to respond to market changes. The formation of China's entrepreneur teams provides for the training of talented people who would otherwise be lacking. Conversely, the new type of manager and the infusion of new ideas decrease the cost of economic structure reform.

3. The tendency of FDI

After entering the WTO, China opened its markets to foreign investment and now the policy with respect to foreign investment is more in accord with the standards of international investment. The rapid and robust development of China's economy attracts increasing amounts of FDI, thus the introduction of FDI is a milestone in the development of the Chinese economy.

Extending China's market

China promised to open the service sector, to give foreign-invested enterprises the same treatment as national enterprises, to improve the degree of policy openness, to cancel the balance of foreign exchange, and to remove the requirement of total production in China. All these improvements have made foreign investment in China more convenient and, more importantly, more in accordance with international trade regulations. This impells multinationals to speed up their investment in China. Some companies invested in China early: BASF, Siemens, Motorola and Nokia, and one after another they have increased

their investment in China. Also many other multinationals have moved, or are preparing to move, their regional headquarters to China. Others have scaled up their purchasing from China: Wal-Mart, the world's largest retailer, purchases over \$10 billion worth of goods from China annually.

Foreign investments are increasing rapidly

From the aggregate investment and the volume added by new foreign-invested enterprises in 2002 and 2003, we can see the rapid increase of foreign-invested projects. At the same time, the investment structure has been continually optimized and the quality of FDI has improved constantly. In 2002 China attracted more than \$52.7 billion in FDI, marking the first time that China has exceeded the U.S.A. in attracting foreign investment.

The technology content of foreign-invested projects has improved greatly

In recent years, capital and technology intensive projects and basic facility projects increased more quickly than ever before. Multinationals such as Motorola and General Electric have established additional R&D centers in China. Today, there are no less than 400 R&D centers in China. The proportion of foreign-invested enterprises in the total production of electro-mechanical devices and high-tech products has increased annually, accounting for more than 65% and 80%, respectively, in 2002 and greatly improved China's export structure. The quantity of patent applications by foreign-invested enterprises increased greatly to about 2/3 of the total amount in China in 2002. In the electronic and communications equipment industries and the chemical material and chemical synthetic industries, the use of foreign capital increased to 20.81% and 22.82%, respectively, in 2002.

Industry groups formed as a consequence of foreign investment

In the last two years, heartening changes took place in China with respect to absorbing foreign investment. Adjusting their global business structure, many multinationals moved their manufacturing base to China in order to utilize China's low-cost and excellent labor supply and its immense manufacturing capability. More and more multinationals have come to China and regard it now as their key area of investment. In the IT and IC industries, complete industry groups have formed.

Hotspot service industry

With China entering the WTO, the entire field of foreign investment was substantially enlarged. In accordance with the demands of Chinese development, and the regulations of the WTO, finance, insurance, the stock market, delivery marketing, international trade, accounting, law, medicine, education and

transportation have been opened with some conditions. Foreign investment in the service sector is likely to increase further and many multinationals have invested actively in this sector.

Foreign investment in the west of China

In 2001, accompanied by rapidly increasing investment in the coastal areas, the west of China played a role in reversing the diminishing tendency of foreign investment. In 2002, foreign investment increased at a rate of 22.14% in the actual usage of foreign investment. The west of China has abundant resources and a large market. Foreign investors have taken advantage of the development policy in the west and have increased their volume of investment accordingly.

Changing investment forms

Because the investment environment of China has improved greatly and the risk involved continually decreases, multinationals are now more inclined to invest as a sole investor. In so doing, they avoid conflicts in the areas of management objectives, general business philosophy and cultural differences between the MNC and local business. Additionally, advantages in the application of new technology can be sustained for a longer period of time. In 1992, the proportion of stock ownership by foreign-invested enterprises was 49%; by the end of 2002 it was 60%.

Mergers and acquisitions (M&A)

Before 2001, the volume of transnational M&A in China was no more than \$2 billion, accounting for only 6% of FDI. Foreign investors have increased the tempo of M&A since 2002. The laws and regulations concerning M&A, published in 2003, cleared the path for transnational M&A. Danone, a French company, controls 50% of the stock of ROBUST and 41% of WaHaHa through merger and acquisition. Ford became the second largest shareholder through subscription and ration. In the future, M&A will probably replace previous forms as the main focus of FDI.

Future tendencies

China actively promotes trade and investment liberalization and favors the establishment of more open, just and reasonable multilateral trade and investment systems. The development of economic conditions both at home and abroad creates opportunities for China to absorb investment, but also presents challenges. China will pay close attention to the environment for foreign investment in order to improve their ability to compete and create a more favorable environment for foreign investment.

The tendency of China's policy in absorbing FDI

In accordance with the commitments to the WTO and the concomitant demands of opening, China has to make further efforts to perfect the legal framework governing foreign investment, establish new legislation and improve the system for its implementation. The most important task is to revise local legislation with respect to foreign investment to correspond to the regulations of the WTO. At the same time, China will continue the stability, continuity, anticipation, and flexibility of the policy. These measures will expand the scale of absorbing foreign capital and improve both the level and quality of foreign investment.

The protection of intellectual property; create an open market

In order to realize these measures, local protection and the monopoly enjoyed by certain industries must be broken up; specifically, laws relating to the protection of intellectual property must be strengthened. China must suppress the piracy of intellectual property and create a unified and open market environment. It must also further improve the system of redress for foreign-invested enterprises thus protecting their rights and interests within the framework of the law.

Extend the opening of the service industry

China will expand the service industry in active, reliable and orderly steps. It will open the possibilities for foreign investment in the areas of education, accountancy, marketing, international trade and medicine. It will improve the conditions for foreign investment to enter this segment of China's market. It will encourage foreign investment in the fields of shipping and delivery and chain store operations. Purchasing, shipping and delivery centers to enhance the export trade will also emerge. China will encourage the introduction of modern ideas, advanced management and technology from overseas to improve the service sector and the overall level of services.

Create favorable conditions for investment in the west of China

China is still actively pursuing the strategy of the intensive development of western China. In view of the existing situation, restrictions on the service industry in the west of China will be relaxed and soft financing terms for foreign-invested projects will be established. China will take measures to encourage investment in the west: in particular, investments in the fields of basic industry, mining, travel, environmental protection, agriculture, farming and processing will be favored.

Encourage investment in high-tech and innovative industry

China has a great capacity to absorb foreign investment. On one hand, there are many advantages in the development of high technology industries such as Large Scale Integrated circuits (LSI) and bioengineering. China will encourage investors to enter into capital and technology intensive projects. On the other hand, China should develop the processing industry, labor intensive industries and guide foreign investment into related industries. Raw materials and primary products should be provided by the domestic market in order to promote the cooperation between small and medium-sized domestic companies and MNC's to introduce advanced technologies. By so doing, they can mate with foreign-invested enterprises and enter the global production and marketing net of the multinationals.

Seek a new FDI mode; open up new channels for investment

Using the experience of international merger and acquisition (M&A) as a reference, and combining the comparative advantages of China's economic system with the needs of foreign investors, China should establish a flexible policy of foreign investment by M&A. The government should encourage multinationals to participate in the reform of the state-owned sector and its reorganization by allowing stock ownership or direct ownership. At the same time, multinationals might participate in the reform or reorganization of state-owned enterprises by transferring their advanced technology and management experience, thereby optimizing the use of resources. China has selected a number of inefficient companies, especially medium to large-sized state-owned enterprises, which will be offered for sale on a step by step basis. China should make further efforts to modify the existing regulations which govern both foreign investment and joint stock companies. Furthermore, the BOT and the regulations which govern transferring licenses should be improved. Far-reaching regulations concerning foreign-invested enterprises issuing stock shares at home and abroad should be established. These steps, taken together, will create more favorable conditions for a wider participation of FDI in China's development.

Improve the investment environment by simplifying examination and approval procedures

The competence of the government is the key factor which will influence the future decisions of the multinationals to invest in China. This will play the leading role in the process of absorbing FDI. The more sensible, rational, responsible and transparent the policies of the government are will determine the

future of FDI in China. Furthermore, China should take measures to simplify and standardize the examination and approval procedures for foreign investment. Finally, the legal knowledge of government officials should be strengthened so that it is open, fair and transparent to ensure a favorable climate for future foreign investment in China.

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Dynamics of FDI Location after China's Entering WTO

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As we know, foreign direct investment (FDI) in China has increased rapidly in total amount, its industrial fields have been widened continuously and technological level has been heightened after China's entering WTO. However, it's unexpected that foreign investors didn't advance rapidly to central and western regions but concentrated in coastal regions more and showed the tendency of "going north".¹ At the same time, the Yangtze River delta and Bohai-circled Gulf regions are becoming the ideal investment places. Especially more and more MNCs establish their regional headquarters and R&D institutions in Beijing and Shanghai. In a long run, the "going west" tendency will speed up, but we have to say that the "going west" tendency is "advancing gradually" while not a "big leap" style.

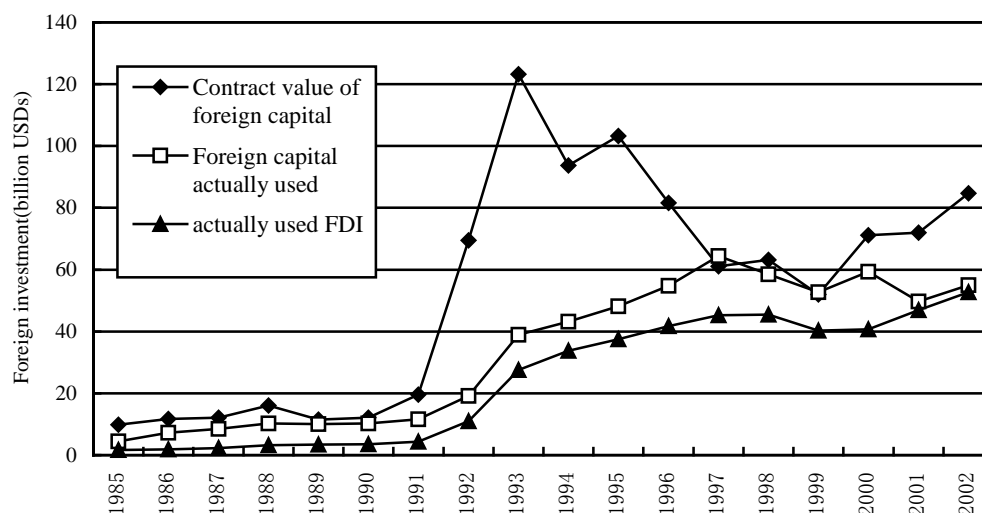
1. Foreign investment growth and its location patterns in China

Since China's reform and opening policy began in 1978, FDI in China has increased greatly. In 1985, China utilized 4 billions US dollars FDI actually and reached up to 10 billion US dollars in 1992, then broke through 40 billion US dollars in 1996 again. After that year, the total amount of FDI had been maintained more or less 40 billion US dollars until 2001 when it reached 46.88 billion US dollars. After entering WTO, China's FDI actually used has increased continually and broke through 50 billion US dollars, first time reaching 52.74 billion US dollars in 2002, which has made China be the country attracting the most FDI in the world (see figure 1). China has authorized 424,196 foreign funded enterprises, attracted 828.06 billion US dollars foreign capital by contract and utilized 447.97 billion US dollars actually before the late December 2002. Now FDI has been an important force of promoting China's high economic growth. The industrial output

¹ China was divided into eastern, central and western regions in the 7th five years planning. Of which, eastern region includes Beijing, Tianjin, Hebei, Liaoning, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong, Guangxi and Hainan; central region includes Shanxi, Inner Mongolia, Jilin, Heilongjiang, Anhui, Jiangxi, Henan, Hubei, Hunan; and western region includes Chongqing, Sichuan, Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Qinghai, Ningxia and Xinjiang. The eastern region is generally called as coast region and central and western regions are called as inland region. In 1999, Chinese government advanced western development strategy and Guangxi and Inner Mongolia were also included in western region and enjoyed state western development policies.

achieved by foreign funded industrial enterprises in China occupied 28.5% of total industrial output, and industrial additional values achieved by them occupied 25.2% of total in 2001. The ex-import amount of foreign funded enterprises as a percentage of national total was 50.8% in 2001, while 53.2% in 2002.

Figure 1: The growth of foreign capital in China



Sources: National Bureau of Statistics of China (NBSC), China Statistical Yearbook (various editions), China Statistics Press; NBSC, China Statistical Abstract (2003), China Statistics Pres, May 2003.

FDI entering China highly concentrated in southeastern coastal regions especially in southern coastal regions in the early 1980s because China's opening policy was advanced from coastal regions to central and western regions gradually (Wei, He and Wang, 2002; Lu, 1997). Foreign direct and other investment attracted by eastern regions occupied 96.73% of regional total in 1984, of which Guangdong province occupied 73.42%, while central and western regions occupied 1.19% and 2.08% respectively (see table 1). Since the middle of 1980s, the share of foreign investment attracted by eastern region has been decreasing and the share by central regions has been increasing while the share of western regions showed a drop tendency in a whole with China's widening opening gradually. The share of western foreign direct and other investment decreased from 6.81% to 2.75% between 1987 and 1999.

Table 1: Distribution of foreign direct and other investment in China

| | Amount of Capital (USD 10,000) | | | | Regional distribution (%) | | |
|-----------|--------------------------------|----------|---------|---------|---------------------------|---------|---------|
| | Regional | Eastern | Central | Western | Eastern | Central | Western |
| 1983 | 57655 | 53579 | 647 | 3429 | 92.93 | 1.12 | 5.95 |
| 1984 | 88546 | 85650 | 1050 | 1846 | 96.73 | 1.19 | 2.08 |
| 1985 | 132061 | 118399 | 6903 | 6759 | 89.65 | 5.23 | 5.12 |
| 1986 | 174165 | 150805 | 13336 | 10024 | 86.59 | 7.66 | 5.75 |
| 1987 | 178273 | 157898 | 8233 | 12142 | 88.57 | 4.62 | 6.81 |
| 1988 | 314973 | 274101 | 22818 | 18054 | 87.02 | 7.25 | 5.73 |
| 1989 | 343733 | 310703 | 19738 | 13292 | 90.39 | 5.74 | 3.87 |
| 1990 | 343615 | 320133 | 13832 | 9650 | 93.17 | 4.02 | 2.81 |
| 1991 | 442583 | 409221 | 19817 | 13545 | 92.46 | 4.48 | 3.06 |
| 1992 | 1100402 | 1004650 | 74993 | 20759 | 91.30 | 6.81 | 1.89 |
| 1993 | 2734174 | 2388799 | 242799 | 102576 | 87.37 | 8.88 | 3.75 |
| 1994 | 3326765 | 2922005 | 261269 | 143491 | 87.83 | 7.86 | 4.31 |
| 1995 | 3721549 | 3264139 | 342936 | 114474 | 87.71 | 9.21 | 3.08 |
| 1996 | 4147007 | 3653815 | 392417 | 100775 | 88.11 | 9.46 | 2.43 |
| 1997 | 4637439 | 3993650 | 485248 | 158541 | 86.12 | 10.46 | 3.42 |
| 1998 | 4719149 | 4133417 | 448377 | 137355 | 87.59 | 9.50 | 2.91 |
| 1999 | 4145307 | 3649131 | 382167 | 114009 | 88.03 | 9.22 | 2.75 |
| 2000 | 4204386 | 3702825 | 379246 | 122315 | 88.07 | 9.02 | 2.91 |
| 2001 | 4831353 | 4243734 | 444388 | 143231 | 87.84 | 9.20 | 2.96 |
| 1983-1991 | 2075604 | 1880489 | 106374 | 88741 | 90.60 | 5.12 | 4.28 |
| 1992-2001 | 37567531 | 32956165 | 3453840 | 1157526 | 87.73 | 9.19 | 3.08 |
| 1983-2001 | 39643135 | 34836654 | 3560214 | 1246267 | 87.88 | 8.98 | 3.14 |

Sources: Department of Trade and Material of NBSC, 1979-1991 Statistics of Chinese Trade and Economy, China Statistical Information Consulting Service Center, 1992; NBSC, China Statistical Yearbook (various editions), China Statistics Press.

China has quickened the steps of opening and opened inland frontier cities, cities along the Yangtze River and capital cities of inland provinces after Deng Xiaoping's south speeches in 1992, which has formed China's all-orientation opening patterns. In 1999, Chinese government carried on the western development strategy and stimulated to transfer capital from Hong Kong, Macao, Taiwan and foreign countries to central and western regions by adopting a series of measures. Encouraged by those measures, the share of foreign direct and other investment attracted by eastern regions decreased from 90.60% between 1983 and 1991 to 87.73% between 1992 and 2001, and the share of central regions increased from 5.12% to 9.19% at the same time, but western regions decreased from 4.28% to 3.08%, which shows that the spatial diffusion of the capital from Hong Kong, Macao, Taiwan and foreign countries is limited even if it is promoted by central regional policies. Foreign capital was diffused to central regions with better conditions

especially the middle reach of the Yangtze River near to coastal regions. The share of foreign capital in western regions showed a decreasing tendency because of their location far from coastal opening belt and their rather bad investment environments.

In order to open out the changing patterns of FDI location, we mark off coastal regions to three sub-regions namely northern, central, and southern coastal regions. Northern coastal region consists of Liaoning, Hebei, Beijing, Tianjin and Shandong, central coastal region is comprised of Shanghai, Jiangsu and Zhejiang, and southern coastal region includes Fujian, Guangdong, Guangxi and Hainan. As it's shown in table 2 that foreign investment in China has shown a tendency of "going north and advancing west" with China's opening to the outside world since 1980s, which means that foreign investment has been diffused from southern coastal region to central coastal region and central region gradually. The share of foreign direct and other investment in southern coastal region dropped from 56.06% to 42.74% between 1983-1990 and 1991-1999 while western region dropped from 4.60% to 3.13%, and central coastal region increased from 13.28% to 24.17%, central region increased from 5.30 to 9.15% and northern coastal region maintained stable nearly at the same time. The share of southern coastal region descended continually while the other regions increased respectively after 2000.

Table 2: The distribution of foreign direct and other investment actually used in China

| | 1983-1990 | | 1991-1999 | | 2000 | | 2001 | |
|----------|--------------------------------------|----------------|--------------------------------------|----------------|--------------------------------------|----------------|--------------------------------------|----------------|
| | Amount of Capital (US\$ 100 million) | Percentage (%) | Amount of Capital (US\$ 100 million) | Percentage (%) | Amount of Capital (US\$ 100 million) | Percentage (%) | Amount of Capital (US\$ 100 million) | Percentage (%) |
| Regional | 163.29 | 100 | 2897.45 | 100 | 420.44 | 100 | 483.14 | 100 |
| Northern | 33.91 | 20.76 | 603.16 | 20.81 | 86.05 | 20.47 | 106.16 | 21.97 |
| Central | 21.68 | 13.28 | 700.39 | 24.17 | 111.98 | 26.63 | 134.18 | 27.77 |
| Southern | 91.54 | 56.06 | 1238.34 | 42.74 | 172.25 | 40.97 | 184.04 | 38.09 |
| Central | 8.65 | 5.30 | 265.00 | 9.15 | 37.92 | 9.02 | 44.44 | 9.20 |
| Western | 7.51 | 4.60 | 90.56 | 3.13 | 12.23 | 2.91 | 14.32 | 2.97 |

Sources: Department of Trade and Material of NBSC, 1979-1991 Statistics of Chinese Trade and Economy, China Statistical Information Consulting Service Center, 1992; NBSC, China Statistical Yearbook (various editions), China Statistics Press.

More than 70% of foreign investment attracted by China concentrated in the Pearl River delta, the Yangtze River delta and Bohai-circled Gulf regions, and the concentrating tendency has been enhanced more obviously since 1992. The share of foreign direct and other investment attracted by three coastal core regions was 71.03% in 1993 and 77.55% in 2001, which increased 6.52 percent points (see table 3). By comparison, the share of foreign investment in the Pearl River delta has decreased gradually and the Yangtze River delta increased continually while the Bohai-circled Gulf region maintained stable generally as it's shown clearly in Table 3. Thus it can be seen that the decreasing share of the Pearl River delta was mainly transferred to the Yangtze River delta.

**Table 3: Foreign direct and other investment in coastal core regions
as a percentage of regional total**

| Regions | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|----------------------------------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Regional total (US\$ 100million) | 31.68 | 44.26 | 110.04 | 273.42 | 332.68 | 372.15 | 418.80 | 463.74 | 452.84 | 399.35 | 403.33 | 463.67 |
| Bohai-circled Gulf (%) | 23.54 | 22.89 | 19.00 | 17.67 | 20.75 | 19.51 | 21.27 | 22.32 | 22.31 | 20.29 | 21.19 | 22.88 |
| Yangtze River delta (%) | 10.94 | 10.32 | 19.96 | 25.73 | 22.20 | 25.10 | 25.48 | 24.07 | 25.51 | 25.41 | 27.76 | 28.94 |
| Pearl River delta (%) | 46.08 | 43.90 | 33.63 | 27.63 | 28.45 | 27.57 | 28.07 | 27.25 | 26.54 | 29.19 | 27.97 | 25.73 |
| Three core regions (%) | 80.56 | 77.11 | 72.59 | 71.03 | 71.40 | 72.18 | 74.82 | 73.64 | 74.36 | 74.89 | 76.92 | 77.55 |

Note: The Bohai-circled Gulf region includes Liaoning, Hebei, Beijing, Tianjin and Shandong, the Yangtze River delta region includes Shanghai, Jiangsu and Zhejiang; the Pearl River delta region refers to Guangdong province.

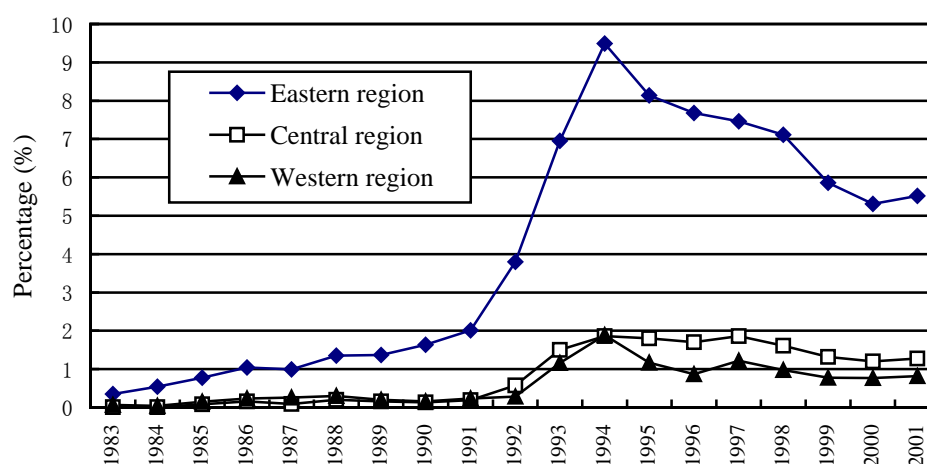
Sources: Department of Trade and Material of NBSC, 1979-1991 Statistics of Chinese Trade and Economy, China Statistical Information Consulting Service Center, 1992; NBSC, China Statistical Yearbook (various editions), China Statistics Press.

To sum up, China's foreign investment actually used still concentrates highly in eastern regions while central and western regions occupy only a small share, although their population occupies almost 60% and land areas nearly 83.4% of the whole nation. The share of foreign direct and other investment actually used in eastern regions was 87.88%, central regions was 8.98% and western regions occupied only 3.14% between 1983 and 2001. That's to say, central and western regions

occupied only 12.12%. In coastal regions, foreign investment mainly concentrated in Guangdong, Jiangsu, Shanghai, Fujian and Shandong etc., which utilized actually FDI about 30.58 billion US dollars and occupied 66% of the whole nation in 2001.

It's obvious that the unbalanced regional distribution of foreign investment has an important impact on the formation of capital, the process of industrialization and regional economic growth (Wei, 2002; Wei, He and Wang, 2002; Sun, 1998; Kueh, 1992). Foreign direct and other investment in eastern region as a percentage of GDP has maintained between 5%-10% since 1990s, comparing to 1%-2% in central region and less than 1% in western region (see figure 2). As far as the formation of capital is concerned, foreign capital actually used as a percentage of total investment in fixed assets in eastern region was 16.3% in 2001 and central and western regions were 4.3% and 2.0% respectively. From the aspect of promoting industrialization, industrial added values achieved by foreign funded enterprises in eastern regions as a percentage of total industrial added values reached 33.9% in 2001, and central and western regions reached 9.0% and 6.7% respectively. For industrial gross output value (GOV) achieved by foreign funded enterprises as a percentage of total industrial GOV, it was 36.2% in eastern regions, 10.0% in central regions and 7.6% in western regions. It shows that the industrialization in China's coastal regions has been promoted by foreign investment in a large degree while for the central and western regions it wasn't the case.

Figure 2: Foreign direct and other investment as a percentage of GDP



Sources: Department of Trade and Material of NBSC, 1979-1991 Statistics of Chinese Trade and Economy, China Statistical Information Consulting Service Center, 1992; NBSC, China Statistical Yearbook (various editions), China Statistics Press.

Considering the development of outward-looking economy, the ex-import of foreign funded enterprises as a percentage of total amount of ex-import had reached 54% in eastern regions until 2001 while 21.1% in central regions and 12.3% in western regions, of which the amount exported by foreign funded enterprises was 53.6% in eastern regions, while 16.1% in central regions and only 10% in western regions (see table 4). It shows that foreign investment has been a key factor to promote export in eastern regions, which is not the case for the central and western regions. It's apparent that the unbalanced regional distribution of FDI has greatly increased regional gap between coastal and inland regions since the reform and opening to the outside world (Wei, 2002).

Table 4: Regional distribution of ex-import of foreign funded enterprises (%)

| | 1999 | | | 2000 | | | 2001 | | |
|-----------------|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| | Ex-import | Export | Import | Ex-import | Export | Import | Ex-import | Export | Import |
| Total | 48.4 | 45.5 | 51.8 | 49.9 | 47.9 | 52.1 | 50.8 | 50.1 | 51.7 |
| Eastern regions | 51.4 | 48.7 | 54.6 | 53.0 | 51.4 | 54.8 | 54.0 | 53.6 | 54.4 |
| Central regions | 22.2 | 15.4 | 30.6 | 19.9 | 15.7 | 25.3 | 21.1 | 16.1 | 27.2 |
| Western regions | 12.0 | 9.1 | 14.9 | 12.9 | 10.0 | 16.3 | 12.3 | 10.0 | 14.7 |

Sources: NBSC, China Statistical Yearbook (2002), China statistics Press, 2002.

2. The change of FDI location after China's entering WTO

On December 11th of 2001, China was accepted as a formal member of WTO after a 15 years' negotiation, which promotes China's integration into the world economy and the process of market freeness and boosts China's FDI growth. In 2001, the amount of China's FDI actually used reached 46.88 billion US dollars, which increased by 15.1% than last year, of which it increased 15.0% in eastern regions and 13.7% in central regions while 17.1% in western regions (see Table 5). Foreign investment has increased more rapidly in the simulation of Chinese economy's highly persistent growth and great potentials of the market. According to the data provided by foreign capital department of MOFTEC, China authorized 34,171 foreign projects and signed 84.75 billion US dollars agreements and contracts of foreign capital in 2002, which increased by 30.72% and 19.15% respectively than last year. In that year, China utilized actually 55.01 billion US dollars foreign

capital including 52.74 billion US dollars FDI, which increased by 12.67% and 12.51% respectively.

Just as we mentioned above, foreign investment had a tendency of more concentrating in coastal regions during the middle and late of 1990s. The share of foreign investment in coastal regions decreased while central and western regions increased a little by the stimulation of state policies after carrying on western development strategy. However, FDI hasn't rapidly advanced into central and western regions as expected while concentrated in some places of coastal regions. In 2001, six provinces achieving higher growth of the share of FDI except Jiangxi almost concentrated in coastal regions including Tianjin, Shanghai, Zhejiang, Liaoning and Shandong, and their share of FDI increased by 4.5% s. At the same time, the six provinces gaining lower growth of the share of FDI except Henan also concentrated in coastal regions including Guangdong, Jiangsu, Guangxi, Beijing and Hebei, which decreased by 4.5% (see Table 6). It shows that the changes of FDI location mainly lie in the inner coastal regions. Furthermore, the share of FDI in the mid-up Yangtse River regions including Jiangxi, Hubei, Sichuan and Hunan increased .

Table 5: The growth and regional share of FDI by regions in China

| | FDI (USD 100 million) | | | Growth rate (%) | | Regional share (%) | | | Change of share | |
|-----------------|-----------------------|--------|--------|-----------------|------|--------------------|-------|-------|-----------------|-------|
| | 2000 | 2001 | 2002 | 2001 | 2002 | 2000 | 2001 | 2002 | 2001 | 2002 |
| National Total | 407.15 | 468.78 | 527.43 | 15.1 | 12.5 | | | | | |
| Regional total | 403.33 | 463.67 | 524.72 | 14.9 | 13.2 | 100 | 100 | 100 | | |
| Eastern regions | 354.11 | 407.28 | 458.75 | 15.0 | 12.6 | 87.80 | 87.84 | 87.43 | 0.04 | -0.41 |
| Central regions | 37.00 | 42.08 | 51.86 | 13.7 | 23.2 | 9.17 | 9.07 | 9.88 | -0.10 | 0.81 |
| Western regions | 12.22 | 14.31 | 14.11 | 17.1 | -1.4 | 3.03 | 3.09 | 2.69 | 0.06 | -0.40 |

Sources: NBSC, China Statistical Yearbook (2002), China statistics Press, 2002; NBSC, China Statistical Abstract (2003), China Statistics Pres, May 2003

The location of FDI presented a new pattern after China's entering WTO. The amount of FDI actually used increased by 23.2% in central regions while it was 12.6% in eastern regions and decreased by 1.4% in western regions in 2002. As a result, the share of FDI actually used in central regions increased by 0.81% while it decreased by 0.41% and 0.40% points in eastern and western regions respectively (see table 5). It shows that there exists a tendency of spatial diffusion of FDI from eastern coast to central regions. However, there exist evident geographical differences between coastal

regions and inland regions. In coastal regions, the amount of FDI actually used presented a highly-growth tendency in Jiangsu, Zhejiang, Liaoning, Shandong and Hebei provinces while it decreased in Tianjin, Guangdong, Beijing, Fujian and Shanghai. In inland China, there are two kinds of regions where the amount of FDI actually used grew rapidly. One is located in the Yangtze River drainage area such as Jiangxi, Anhui, Hubei, Hunan, Yunnan and Guizhou; another belongs to those regions that utilized actually FDI in a small scale (see table 7). That is to say, the FDI entering China mainly diffused from southern coastal regions to those regions along the Yangtze River and northern coastal regions. At present, western regions actually utilized FDI in a small scale and increased in a low rate although Chinese government tried to promote foreign investment in western regions.

Table 6: The changes of regional share of FDI by provinces in China in 2001

| Regions | Amount of FDI (USD million) | Regional share (%) | Change of share than last year | Regions | Amount of FDI | Regional share | Change of share |
|----------|--------------------------------|-----------------------|-----------------------------------|--------------|------------------|-------------------|--------------------|
| Tianjin | 2133.48 | 4.60 | 1.71 | Heilongjiang | 341.14 | 0.74 | -0.01 |
| Shanghai | 4291.59 | 9.26 | 1.42 | Inner | 107.03 | 0.23 | -0.03 |
| Zhejiang | 2211.62 | 4.77 | 0.77 | Shanxi | 233.93 | 0.50 | -0.05 |
| Liaoning | 2516.12 | 5.43 | 0.36 | Chongqing | 256.49 | 0.55 | -0.05 |
| Jiangxi | 395.75 | 0.85 | 0.29 | Fujian | 3918.04 | 8.45 | -0.06 |
| Shandong | 3520.93 | 7.59 | 0.23 | Hainan | 466.91 | 1.01 | -0.06 |
| Hubei | 1188.60 | 2.56 | 0.22 | Anhui | 336.72 | 0.73 | -0.06 |
| Sichuan | 581.88 | 1.25 | 0.17 | Jilin | 337.66 | 0.73 | -0.11 |
| Qinghai | 36.49 | 0.08 | 0.08 | Yunnan | 64.57 | 0.14 | -0.18 |
| Hunan | 810.11 | 1.75 | 0.07 | Hebei | 669.89 | 1.44 | -0.24 |
| Shaanxi | 351.74 | 0.76 | 0.04 | Beijing | 1768.18 | 3.81 | -0.36 |
| Gansu | 74.39 | 0.16 | 0.01 | Henan | 457.29 | 0.99 | -0.41 |
| Guizhou | 28.29 | 0.06 | 0.00 | Guangxi | 384.16 | 0.83 | -0.47 |
| Xinjiang | 20.35 | 0.04 | 0.00 | Jiangsu | 6914.82 | 14.91 | -1.02 |
| Ningxia | 16.80 | 0.04 | -0.01 | Guangdong | 11932.03 | 25.73 | -2.24 |

Sources: NBSC, China's Statistical Yearbook (2002), China statistics Press, 2002.

The reasons why FDI concentrated further in coastal regions after China's entering WTO can be following: firstly, foreign investors are inclined to seeking the best overseas production sites and bring it to the firm's global chains of production in the networks of globalization. In that global chain, the foreigners investing in coastal regions not only benefit from the relationship between their headquarters and the oversea companies, but also benefit from the ex-import of materials, facilities and products. Secondly, when they choose the location of economic activities

foreign investors generally consider a lot of qualified external environment factors such as a perfect infrastructure; institutional environments matched the market economy and a better industrial qualified condition, which makes coastal regions have comparative advantages over the central and western regions. And finally, foreign investors pay more attentions to agglomeration economies when they select investment location overseas. The success of some foreigner-funded enterprises especially MNCs in some places will attract a large number of correlated enterprises to concentrate around them (Head et al, 1995, 1999), which will form a wholesome industrial chain. In fact, the concentration of large quantities of correlated enterprises will reduce transaction costs, information costs and uncertainty (He and Wei, 2001).

Table 7: Foreign direct investment used actually by provinces in 2002

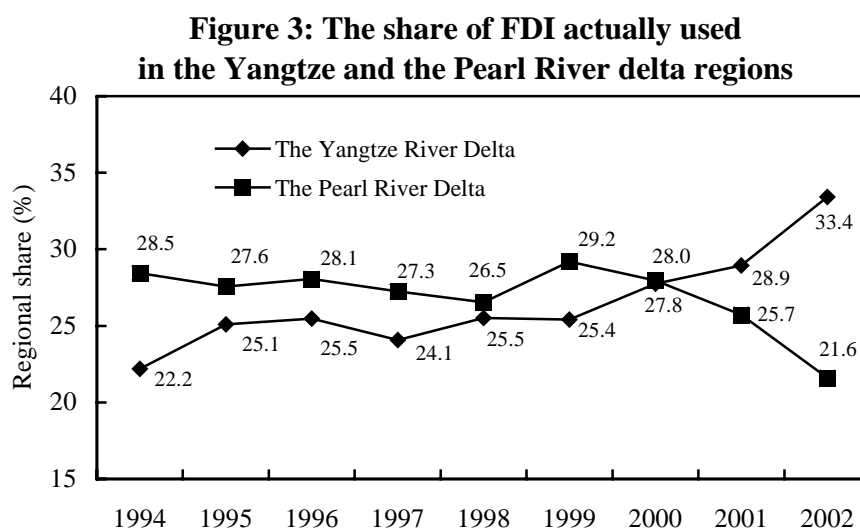
| Highly-growth regions | | | Lowly-growth regions | | | Decreasing regions | | |
|-----------------------|----------------------------|-----------------|----------------------|----------------------------|-----------------|--------------------|----------------------------|-----------------|
| | Total amount (USD million) | Growth rate (%) | Regions | Total amount (USD million) | Growth rate (%) | Regions | Total amount (USD million) | Growth rate (%) |
| Jiangxi | 1081.97 | 173.40 | Anhui | 383.75 | 13.97 | Shanghai | 4272.29 | -0.45 |
| Yunnan | 111.69 | 72.98 | Hunan | 900.22 | 11.12 | Fujian | 3838.37 | -2.03 |
| Inner Mongolia | 177.01 | 65.38 | Hainan | 511.96 | 9.65 | Beijing | 1724.64 | -2.46 |
| Jiangsu | 10189.60 | 47.36 | Guangxi | 417.26 | 8.62 | Sichuan | 555.83 | -4.48 |
| Zhejiang | 3076.10 | 39.09 | Heilongjiang | 355.11 | 4.10 | Guangdong | 11334.00 | -5.01 |
| Liaoning | 3411.68 | 35.59 | Shaanxi | 360.05 | 2.36 | Xinjiang | 18.99 | -6.68 |
| Guizhou | 38.21 | 35.07 | | | | Shanxi | 211.64 | -9.53 |
| Shandong | 4734.04 | 34.45 | | | | Henan | 404.63 | -11.52 |
| Ningxia | 22.00 | 30.95 | | | | Gansu | 61.21 | -17.72 |
| Qinghai | 47.26 | 29.51 | | | | Chongqing | 195.76 | -23.68 |
| Hubei | 1426.65 | 20.03 | | | | Tianjin | 1581.95 | -25.85 |
| Hebei | 782.71 | 16.84 | | | | Jilin | 244.68 | -27.54 |

Sources: NBSC, China Statistical Abstract (2003), China Statistics Pres, May 2003.

In coastal regions, foreign investment has shown a new tendency of “going north” or “expanding north” after China’s entering WTO. That is to say, foreign investment in southern coastal regions taking the Pearl River delta as the core transferred to the northern and central coastal regions taking the Bohai-circled Gulf region and the Yangtze River delta as the cores, which led to a fast growth of FDI in coastal regions. In 2001, the Yangtze River

delta drew on 13.42 billion US dollars of foreign direct and other investment, which occupied 28.94% of regional total and increased by 3.53% than 1999 and 18.0% than 1990. At the same time, the Pearl River delta (Guangdong province) attracted 11.93 US dollars, which occupied 25.73% of regional total and decreased by 3.46% than 1999 and 20.35% than 1990.

Since 2002, the tendency of “going north” has advanced more greatly in coastal regions. The Pearl River delta region (Guangdong province) utilized actually 11.33 billion US dollars FDI decreasing 5.01% while the Yangtze River delta region utilized 17.54 billion US dollars increasing 30.70% in 2002. As a result, the share of the Pearl River delta region went down 4.1 percent points from 25.7% in 2001 to 21.6% in 2002 and it increased 4.5 percent points from 28.9% to 33.4% in the Yangtze River delta region (see figure 3). In Bohai-circled Gulf region, the amount of FDI actually used also grew fast excluding Beijing and Tianjin s, of which it increased by 35.59% in Liaoning, 34.45% in Shandong province and 16.84% in Hebei province. The difference of growth rate indicates that location patterns of FDI are changing gradually and the Yangtze River delta region is turning into the “ideal” location for foreign investors.



Sources: NBSC, China Statistical Yearbook (various editions), China Statistics Press; China Statistical Abstract (2003), China Statistics Pres, May 2003.

The investment by Taiwan businessmen played an important role in the shift of FDI especially in the high tech industries. The investment from Taiwan has decreased apparently in Guangdong province and Fujian province while increased largely in the Yangtze River delta region such as Shanghai,

Suzhou, Kunshan and Ningbo since the middle of 1990s. In 2001, Jiangsu province authorized newly more than 1,000 Taiwanese enterprises and utilized more than 5 billion US dollars Taiwanese capital by contrast, which increased by 30% and 50% respectively than 2000. Taiwanese capital in Jiangsu province already occupied 52% of the total Taiwanese capital in Mainland China. In 2002, Taiwanese businessmen invested 1282 projects, signed 2.56 billion US dollars by contracts and Taiwanese capital actually used reached 1.13 billion US dollars in Mainland China, which increased by 46.7%, 89.6% and 66.2% respectively; at the same time, Zhejiang province authorized newly more than 680 Taiwanese-funded firms, signed 3.45 billion US dollars by contracts and the total investment reached 3.82 billion US dollars, which increased by 116.2% and 109.3% respectively. With SMIC entering Shanghai, it has built 8 chip product lines, of which there're 4 mainstream product lines of producing 8 inches chips; the number of chip-designed firms has reached 80 and there have been 15 chip encapsulation firms. All those have made Shanghai be the most important base of chip design, processing and encapsulating, and form a whole chip chain including R&D, designing, processing, encapsulating, testing, facilities, materials, mould, human resource training and tech service.

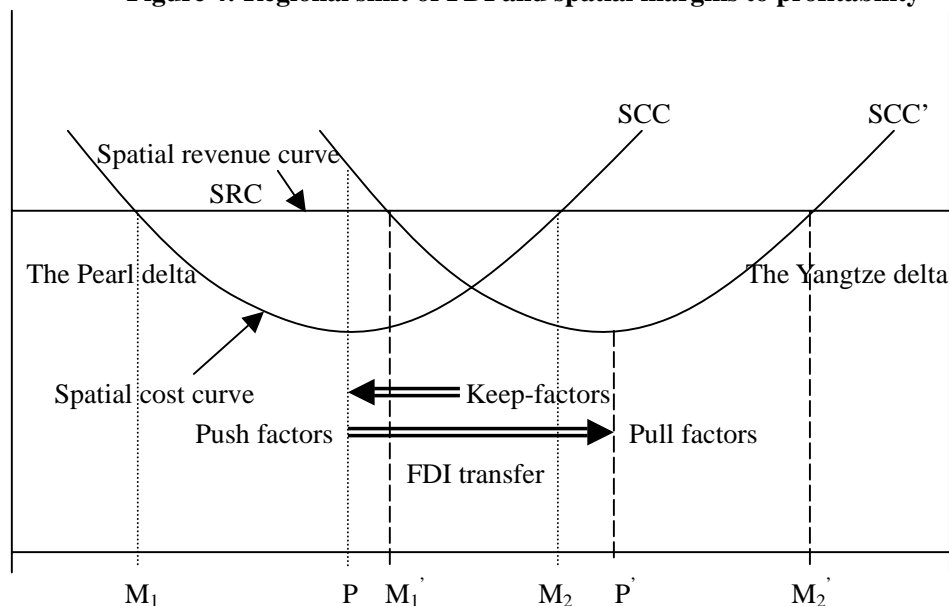
3. Explaining location changes of foreign investment in China

Thus it can be seen that the location choice of FDI after China's entering WTO has shown an obvious tendency of "going north" while not "going west", which can be explained by the following three reasons: firstly, seen from the geographical location, although the Pearl River delta is near to Hong Kong and Macao and has a convenient transportation, its linkage with inland China and its scale of economic hinterland are far less than the Yangtze River delta region. Foreigners investing in the Yangtze River delta region not only can make full use of Shanghai's financial service, modern physical distribution, scientific and technological talents and ports advantages, but also can be close to inland China especially the large consumption market along the Yangtze River, by which they can achieved low costs of product exports and domestic marketing. Secondly, with China's opening further to the outside world especially the exploitation in Pudong district of Shanghai, the advantage of policies in the past in the Pearl River delta is disappearing while agglomeration of foreign investment and all kinds of industries led to rising costs such as the shortage of energy resources, the worsen environment pollution, the rising costs of land and labor and the lack of varieties of human

resources which formed “push” factors for foreign investors. Thirdly, the Yangtze River delta region with the core of Shanghai possesses abundant scientific and educational resources, all kinds of talents, better qualified industrial conditions and has a great deal of high quality and low cost industrial workers which form “pull” factors for foreign investors.

We can explain regional shift of FDI from the Pearl River delta to the Yangtze River delta using Smith’s theory of spatial margins to profitability (Smith, 1971). As was seen in figure 4, SRC denotes spatial revenue curve and SCC denotes spatial cost curve, then M_1 and M_2 (the points of intercross between SRC and SCC) are spatial margins to profitability of firms. The space between M_1 and M_2 belongs to profitable location of firms, of which, P is the maximum profitable point of firms. At the beginning, foreign firms chose their location in the Pearl River delta region because of favorable external factors, such as state opening policies and geographical location near Hong Kong and Macao. However, spatial cost curve of firms moved from SCC to SCC’ because of the changing external factors, thus spatial margins to profitability of firms shifted to M_1' and M_2' , and maximum profitable point shifted to P'. Therefore, the best location of FDI in the past will become inferior location leading to deficit of firms. In order to achieve their target of profitability, it is necessary for foreign firms to transfer their investment to new maximum profitable point P'. That is to say, it is the result of the change of external conditions that foreigners transferred their investment from the Pearl River delta to the Yangtze River delta region, which will help to raise international competitiveness of foreign firms.

Figure 4: Regional shift of FDI and spatial margins to profitability



Generally speaking, regional shift of FDI was determined by three kinds of external factors: (1) the push factors from the Pearl River delta such as rising costs of land and labor, the lack of energy and resource, environmental pollution; (2) the pull factors from the Yangtze River delta such as near domestic market, better economic foundations, abundant resource of human capital; (3) the keep factors which keep firms stay in the Pearl River delta such as the loss of fixed costs, existing supply chain of production and labor-capital relations, increasing travel costs of managers, and the persuasion from local governments. Obviously, firms may make decisions of migration only when the push factors from existing location and the pull factors from new location are sufficient for getting over various keep factors.

4. The prospect of attracting FDI for inland China in the future

In near and metaphase, eastern regions will be still the first choice of FDI location in China. Because the investment environment of coastal regions has been perfect gradually after more than 20 years' construction in a large scale, it hasn't exerted its full potentials. However, we must see that the location choice of FDI in China will advance from coastal regions to central and western regions by the promotion of state western development strategy in a long run. Firstly, some "super-nationality treatments" for foreign investors of coastal regions in the past will be gradually canceled according to the nationality treatment of WTO while western regions may gain a series of preferential policies. Secondly, with the opening further to the outside world in business service fields, foreign banks' branch institutions, all kinds of firm agencies will be established and the spatial limitations in engaging in wholesaling, retailing and telecom service will be canceled, which will expand the space of foreign investment in central and western regions. Thirdly, because of increasing agglomeration of population and industries and raising level of income and consumption, production costs such as land price and labor wage will be continuously increasing in developed eastern regions. Finally, the infrastructure will be improved gradually and profitability of capital will go up with the state western development strategy taking effect in the future.

The foreign investors are likely to adopt "advancing gradually" strategy in the process of "going west" while not the "big leap" strategy as someone had thought. In fact, in the eyes of foreign investors, it is difficult for foreign firms in a "big leap" way to get across central provinces especially those

provinces along the middle reaches of the Yangtze River, which are near to coastal regions in geographical location, have convenient traffic conditions and better investment environment. As a result, it's natural for foreign investors to add up direct investment in those regions gradually. Then, some provinces in central regions are between western and eastern regions geographically, have numerous populations, develop rapidly in recent years and have established better economic foundations, which mean great market potentials increasingly. Finally, there exist abundant labor resources, which have low wage level and better productivity in central regions than in western regions. That's to say, central regions have comparative advantages over western regions in efficiency wages.

Now western regions face many handicaps in attracting foreign investment. By comparison with other regions, western regions lag in the degree of opening and reform and have worse investment environment especially in soft infrastructure. At present, western regions lag 10 to 15 years in the degree of opening compared to coastal regions(Wang, 2002). Although western regions have abundant and cheap labor resources, their efficiency wages, which mean the wage costs and welfare fees spending in a unit of output, are higher than coastal regions for their lower productivity. In fact, the foreign investors pay more attention to the real efficient wage while not the nominal wage level. The industries in western regions have high average tax burdens than their counterparts in coastal regions. Especially in some underdeveloped regions, local governments intervene the management of enterprises leading to firms hardly carry out independent rights and produce a serious "disorderly-charges" phenomena because of their deep conception of planned economy. Furthermore, their low efficiency of handling affairs and complex procedures of administration because of the overstaffed not only increase the opportunities of seeking-rent and raise transaction cost, but also easily multiply governmental corruption.

In a long run, western investment environment will be improved gradually with the implement of state western development strategy. As a result, foreigners will increase their investment in a large pace in western provinces and the share of western foreign investment in the whole nation will be gradually raised. However, western development strategy is a long-run development strategy and western investment environment should be improved step by step. In the near and metaphase, foreign investment entering western regions will mainly concentrate in the big and middle scale cities such as Xi'an, Chongqing, Chengdu, Lanzhou, and Kunmin which have

better economic conditions. Considering industrial development, foreigners will firstly invest those industries which have comparative and competitive advantages such as infrastructure, exploitation of energy and natural resources, agriculture with local characteristics, agro-product processing, tourism industry, Chinese medical and pharmaceutical industries under the promotion of governmental policies and the stimulation of investment profit rate. It can be forecast that there are two kinds of firms taking the lead of pouring into western regions in a large scale: one kind is middle and small firms responding to the state strategy and taking advantages of governmental preferential policies, which are named footloose industries. This kind of firms pay much attention to governmental preferential policies and low costs, and have a few fixed capital and unstable investment location. Another kind of firms is large MNCs, which pay more attention to their long-run development strategy and take occupying and exploiting western market and utilizing local resources as their main targets. Therefore, local governments should encourage the second kind of firms “going west” and give them support in policies.

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Determinants analysis of FDI in China

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1. Background of FDI in China:

1.1. General information:

Many countries see attracting foreign direct investment (FDI) as an important element in their strategy for economic development, because FDI is widely regarded as an amalgamation of capital, technology, market and management. For example, from 1979 to May 2003, China attracted US\$ 8431.99 billion of intended foreign direct investment (FDI), of which US\$ 4605.59 billion (47%) has been realized (China Statistical Yearbooks, 1987-2003). Since it began making reform and opening up to global commerce China has made great achievements in economic development that have attracted worldwide attention over the past 20 years. With its vigorous economic growth, China potentially has the largest market in the world today, and with an overall improvement of its investment environment, it is therefore an attractive location for foreign capital. China is only second to the USA in absorbing foreign capital and has taken the lead among developing countries. According to Fortune magazine (1999), of the top 500 multinational companies selected, more than 400 have made investments in China. In total, there are more than 300,000 foreign invested enterprises in China. From 1979-1998, China attracted US \$566.112 billion of intended foreign direct investment (FDI), of which US \$266.122 billion (47%) has been realized (China Statistical Yearbooks, 1987-1999).

Since 1979, China has adopted an economic reform and opening up policy. This was the beginning of encouraging FDI inflows. From 1979 to 1987, China attracted less FDI inflows due to the lack of an acceptable legal system, a high risk, and a low level of infrastructure. In the first decade of Chinese economic reform, the total amount of FDI inflows was US \$8.62 billion, and the total number of projects was 7405 (China Statistical Yearbooks, 1987-1999).

In the mid-1980s the Chinese government promulgated more FDI related laws. In 1986 the government increased the number of incentives

for foreign investors, and these were export-oriented. In addition, the Chinese government concentrated on the development of basic infrastructure. During 1988-1991, US \$14.44 billion of FDI was realized, and the total number of projects initiated was 31,975 (China Statistical Yearbooks, 1987-1999).

From 1992 to 1995, there was a sharp increase in FDI. From 1993 China became the second largest host country of FDI in the world -- just following the US (World Investment Report, 1994). During this period, a total of US \$109.8 billion of FDI flowed into China. This occurred, because the Chinese government promulgated various investments and ownership laws, and the increase in the security of private property rights and contracts created greater confidence among foreign investors.

Since 1996, the Chinese government has been adjusting policies, especially tax policies, to guide sectoral distribution and to attract foreign fund enterprises (FFE's). Partly as a result of these policy incentives, a total of US \$133.2 billion of FDI has flowed into China during the past 6 years. Three improvements have been observed: (1) the total amount of realized FDI is increasing; (2) the scale of FFE's is increasing; and (3) the total amount of inward FDI for the high technology and basic infrastructure sectors is increasing.

Although FDI inflows into China have increased rapidly, the distribution of FDI is not balanced among the provinces. FDI inflows into China were initially concentrated in four special economic zones (SEZs) and coastal areas from 1979 to the mid 1980s. With the development of economic reform and opening up, from the mid 1980s to the early 1990s, FDI in China has gradually spread from the initial areas to other provinces. Increasingly, the most important areas for hosting FDI are the Yangtze River Delta and the Bohai Gulf. Several provinces, such as Hubei, Hunan, Henan, and Sichuan in the central region of China, have also received relatively large increases in FDI inflows from 1993 to 1995 (China Statistical Yearbooks, 1987-1999). Since 1996, FDI inflows in the central and the western regions have been fluctuating, and the majority of FDI inflows is still concentrated in the eastern region, especially in the coastal areas. Therefore, FDI inflows in the early 1990s have diffused from the initially concentrated, southern coastal areas towards the southeastern and eastern coastal areas and towards the inland areas. Consequently, the gap between the eastern region and the central and

western regions, in terms of the magnitude of annual FDI inflows, has increased since 1992.

FDI contributes to export, providing capital, technology, critical managerial skills, know-how, as well as creating needed employment. With the surge of FDI in the past decades, FDI once again has moved to the center of attention in policy discussions and in the literature on international economics and business. According to a comprehensive survey and analysis of the international and domestic environment, the introduction of foreign investment by means of transnational purchase will be the main task for the next period. With the international climate of transnational purchase and further reforms of State Owned Enterprises (SOEs), the introduction of foreign investment will assume a new look, i.e. transnational purchase. However, seven attitudes are blocking the introduction of foreign investment.

1.2. Negative influence of FDI

With the development of FDI, FFEs have occupied the majority of market shares in the electric equipment industry, the detergent industry, the cosmetics industry, the beer industry and the soft drink sector. This is particularly true in the telecommunication industry, the computer industry, and the machinery industry; FFEs own 90%, 60%, and 64% of market shares respectively. Local enterprises are losing their competitive advantages in these sectors.

In many developing countries, environmental issues have attracted relatively little attention. Currently, the main task for these countries is to work towards economic development, and these countries cannot be too selective on investment projects. This is why some developed countries/areas transfer their pollution, creating industries in developing countries. For instance, in 1991, Hong Kong, Macao and Taiwan invested US \$8.9 billion in Mainland China with 10,614 projects. Among these projects, 2,378 of the total (22.4%) were highly polluting projects. Evidently, transferring high pollution sectors into Mainland China is one important part of their investment (Lu, 1999). Although the United Nations Center on transnational Corporations' (UNCTC) study did not support the argument, some developing countries like China are taking environmental issues seriously. Even though environmental issues have been mentioned in many studies, few analyses have explicitly considered them. In this study, environmental issues will be included in the analysis.

1.3. Challenges for Attracting FDI

To manage existing FDI and attract more FDI inflows, the Chinese government faces some challenges both from the domestic and MNEs sides. In this section, some challenges in attracting FDI inflows to China will be summarized from literature review. It is important to be aware of these challenges as they may suggest potential determinants of inward FDI.

- **MNEs Independence**

Many Chinese observers fear that MNEs can, by playing one province against another, avoid falling under almost any unfavorable restrictions. For example, if the wage rates in one province are not liked, they can move elsewhere or at least threaten to do so. In addition, structures can be developed to minimize the payment of taxes anywhere. However, the fact that companies, once operating, are generally reluctant to abandon fixed assets in one location to move to another, indicates that MNEs are limited in their ability to have provinces compete for them. A challenge for China is to reduce the bargaining power of MNEs in negotiations.

- **Legal System**

MNEs also fear that home-country and host-country laws will conflict because settlement of conflicts inevitably must happen between government offices, with the companies caught in the middle. Laws need not be in complete conflict for extraterritoriality to become an issue. To illustrate this point: Home-country laws requiring companies to remit earnings or pay taxes on foreign earnings, certainly have an effect on a companies' foreign expansion and the local governments' control over such an expansion. Research has indicated that "tax sparing" is effective for stimulating FDI. Japanese firms locate a much larger fraction of their foreign investment in countries where Japan has "tax sparing" agreements than do American firms. How to construct a complete and practicable legal system is another challenge for the Chinese government.

- **Unbalanced Distributions of Inward FDI**

According to Chinese laws, although provinces and municipalities have certain responsibilities regarding local finance and the economy, they cannot ban product flow into the domestic market and cannot attract domestic investment by adopting tariff barriers. They cannot ban people

flow towards developed areas as well. The whole country is a unified market and resources naturally flow from developing areas towards the developed areas. Therefore, it is predictable that the eastern region dominates the market of the western region because the former has a higher competitiveness with respect to domestic trade. In addition, foreign investors will not invest in the western region to produce similar products as the eastern region as the western region has fewer competitive advantages than the eastern region like skilled labor or market size. Considering these points, the western region has to attract other types of inward FDI to complement those in the east.

However, in the past two decades, FFEs have been required to export a large portion of their products and have limited access to the domestic market. Therefore, the eastern region is more attractive for foreign investors due to policy based incentives and linkages with foreign markets. However, in recent years, the western region has begun to improve its attractiveness by improving its infrastructure and opening-up its local market. In addition, foreign investors have been concentrating on the spread of market shares, multiple operations, R&D capabilities and management skills of local partners, thereby becoming more domestic-market oriented when policy incentives are eliminated in the eastern region. Therefore, the eastern region has begun to lose its attractiveness for FDI inflows. The challenge for the eastern region is to create a new attractive environment for FDI.

- **Lack of Infrastructure**

China still lacks basic infrastructure, although transportation, power and telecommunication facilities have developed rapidly in recent years. Infrastructure is difficult to improve in the short term, and it becomes a deterrent for attracting FDI. In fact, the insufficient transportation network has become a “bottleneck” for the fast growing economy. The “bottleneck” problem in transport has seriously hampered development in North- and Southeast China.

At the end of the 1980s and the beginning of the 1990s, rapid economic growth led to a 30% increase in demand for electric power. Even though power generation was increased, it could not cope with the demand. Many developed zones were under the threat of an interrupted power supply. The power supply shortage made 20% percent of the industrial capacity inactive (Pan and Pan, 1999).

As a whole, compared with developed countries, the Chinese telecommunication industry that provides the information foundation for economic development is still underdeveloped. The challenge for the telecommunication industry is to attract foreign investors to invest in infrastructure facilities, conduct joint development of information technologies and international exchange, and link the information nets on the basis of equality and mutual benefit.

- **Reorganization of Existing Industrial Structure**

Dunning (1998) argues that the debate over the impact of inward direct investment on host countries is now entering a new phase as markets and production have become increasingly internationalized. Moreover, not only are MNEs taking a global view of their strategies and viewing the local attributes of countries from this perspective, but also countries are beginning to recognize that their industrial strategies and competitive postures must address an international dimension. Since the industries that most countries view as strategically desirable are largely dominated by MNEs, it follows that the conflict between multinational oligopolies pursuing global economic strategies and countries pursuing domestic political strategies (both within a changing and increasingly competitive international environment) is inevitable and, in part, irreconcilable.

China is facing a reorganization of its industrial structure, and the most difficult issue is that China cannot reorganize existing industries by simply expanding their economic scale or updating their product life cycles. This is because the industries that need to be reorganized are mainly the textile industry, the clothing industry, the mid-to-low semiconductor industries and the light industrial product industries. These industries have totally different equipment, technology and management than industries such as the electronic industry, the auto industry, the chemical industry and the finance industry, which have the potential for future development. Inward FDI is welcomed for the resources and market-access it brings to China and for its role in promoting and upgrading existing local resources.

- **Lack of Industrial Agglomeration**

MNEs consider access to resources as an important determinant when they make location decisions. Resources include both natural resources and intermediate products. Normally, MNEs would choose a location that

has a higher development level for industries. This is because the choice of MNEs can save transportation costs and support their operations. However, there is still a large gap between Chinese industries and the current advanced level in developed countries. This is clearly shown by the following issues: (1) the product mix of the Chinese industry lags behind market demands and slowly changes with the patterns of consumption, and the enterprises have a weak ability for shifting production to cope with changes in market demands; (2) The organizational setup of the enterprises is undesirable and both the degree of organization of production and the degree of specialized cooperation are low; (3) The scale structure and technical structure of the enterprises are irrational; (4) The regional distribution of Chinese industries and their location of resources are not optimal; (5) The equipment and technologies are outdated, and most of the equipment has to be replaced.

- **Lack of R&D Capability**

MNEs, especially high-technology MNEs, prefer to invest in regions where a higher potential for growth of local R&D and human resources exist. MNEs want to improve production efficiency through adopting local R&D capability and they consider this when making location decision.

Unfortunately, a lack of R&D capability has limited China to try to attract more high-technology related FDI inflows and to create competitive advantages by participating in global production. Compared with developed countries, China spends much less on R&D activities. In 1996, expenditure for R&D as a percentage of GDP was only 0.6% in China. During the same period, the ratio was higher than 1.5% in developed countries. For example, the ratio was 2.5% in the US, 2.9% in Japan, 2.4% in France, and 2.4% in Germany. The lower level of R&D expenditure may explain why China continues to produce lower value-added products for global production. China does not have the capability to receive technology spillover from MNEs and to improve its position in global production. Therefore, improving R&D capability is an additional challenge for the Chinese government to attract more FDI.

- **Lack of Skilled Labor**

One of China's competitive advantages is low labor cost. In the early 1990s, unit labor cost (ULC) was \$10.46 for American MNEs. ULC was \$1.29 at the same time for a Sino-American joint venture. Therefore,

lower labor cost is one of the most important reasons for FDI inflows and Chinese competitiveness (Zhang and Ding 1995). Tcha (1998) also argues that China has lower labor cost and fewer labor problems than any other Southeast Asian country. Nevertheless, China, especially the eastern region, may provide sufficiently skilled labor for foreign investors, but China may not be able to provide enough white-collar labor to manage these enterprises. This is why many MNEs have to hire high-level managers internationally, which increases their operating cost. Therefore, how to provide more skilled labor is another challenge for the Chinese government.

1.4. Problem statement

The advantages of FDI in China, the main problems and challenges for China in attracting further inward FDI have been reviewed. These analyses note that in the past two decades, China successfully attracted billions of inward FDI. In spite of this, the Chinese government also faces certain problems in managing realized FDI and attracting further FDI inflows. As the first step, it is necessary for decision-makers to find out what the determinants of FDI are and this is the main objective of this study.

Inward FDI is not occurring in China or its regions in the same manner as other countries. Therefore, the central question emerges: what are the major determinants of FDI flows into different Chinese provinces? It is necessary to study the determinants of FDI inflow to China to assess which factors contribute to making certain provinces attractive. Because FDI in China is a relatively recent topic of discussion, few academic studies have focused on China. However, the Chinese model may provide some useful insights for other developing countries due to its success in attracting inward FDI. Therefore, this suggests that it is important to explore the determinants of FDI in China.

2. Determinants analysis of FDI in China:

The author has conducted her dissertation to analyze determinants of FDI in China and proposed 30 variables as independent variables (see Table 1). Since most proposed independent variables have been tested in other studies, those studies provide some categories for these variables. Several variables are combined to form a category to represent a certain

dimension of the variables. These categories contribute to the analysis of the economic influence of these variables on inward FDI. Some variables stand alone, in these cases they are represented by their original measurements without any modification.

Among them, some traditional variables have been included, e.g. market size, labor cost, infrastructure, tax and industrial agglomeration. These variables have been discussed in the literature review.

Some new variables have also been proposed in the list, for example, the environment issues were included as an independent variable in analyzing Chinese FDI. As a determinant of FDI in China, environmental issues (V22 and V23) have attracted the attention of some Chinese provinces like Beijing and Shanghai, where governments have spent billions of Yuan on environment-related projects to improve the environments in these places. On the other hand, foreign investors also consider the environment an important issue when making a location decision. Foreign investors consider the environment to be the second most important issue in investing in Beijing (Foreign Trade and Business Committee, 2001).

Another variable proposed by the study is the number of tourist hotels for foreigners (V18). The variable is a proxy for its history of openness. The more tourist hotels a province has, the longer open history it has. From the host province's point of view, its open history indicates its skill in managing the foreign operations (overall international management knowledge assets) (Nitsch 1999) owned by a host province. In other words, it measures whether the province has any previous favorable experience in working with foreign investors or not. The more experience the province has, the more attractive its environment is. From the foreign investors' point of view, it indicates that the opportunity to reduce uncertainty will be greater in provinces affected by FDI penetration for a longer period, so that a new investor could benefit from the longer circulation of information diffused by other multinational enterprises (Mariotti & Piscutello 1995).

Thirdly, profitability could also be important in attracting FDI inflows in the study. ROA and ROS (V15 and V16) were selected as proxies for the profitability of enterprises.

Finally, a complete investment environment includes both the economic environment and the social environment. In the study, two variables were proposed as proxies for the social environment: the

availability of children's education, and medical services in the province (V12 and V13). Studies for Shanghai indicate that foreign investors consider two major issues in the social environment, living conditions and children's education, when deciding whether or not to invest in the city. Existing studies have found that foreign investors often prefer the availability of local professional services, for example education, medical service or entertainment, and better living conditions. Guangdong province, for example, is losing its attractiveness due to its inferior living conditions (Lan 1997).

From her analysis, we find that 14 out of 30 variables (see Table 1) were selected as the most important variables in attracting FDI flows into China. Among those variables, traditional variables: market size, basic infrastructure (transport intensive) and cost are significant in our cross-region (provinces) analysis. Both domestic and abroad market sizes are significant, but they have a different kind of influence on FDI inflows. Potential market size (GDP growth rate) is positively significant in attracting FDI inflows and international market (export) has a negative influence on inward FDI. For potential market size, as we have described above, many foreign investors locate their investments in the southeast coast areas and economic developed provinces like Beijing. This happens particularly because these areas have higher economic growth rate and larger existing or potential market size. But for the international market, our finding differs from existing arguments.

The current hypothesis is that, based on the Chinese comparative advantage, inward FDI will be greater in provinces which are more export-oriented. Since a negative influence of export on FDI inflows is found in our study, the result reflects export-oriented or saying international market is not a main purpose of foreign investors when they invest in China. The manufacture of some products necessitates a high fixed capital cost for plant and equipment. For such products, especially if they are standardized or undifferentiated from competitors' products, the cost per unit drops significantly as output increases. Companies can export large amounts of such products, because the cost savings from scale economies overcome added transportation cost. But smaller plants, to serve national rather than international markets, will save transportation costs. Since the majority of foreign projects in China are small and medium sized projects and the foreign market is not the main purpose of foreign investors, our findings support the argument that

existing export requirements of FFEs may discourage inward FDI, because the main purpose of export requirements is to solve Chinese foreign exchange shortage instead of serving international market.

Business volume of postal and telecommunication services is used as a proxy for communication intensity (Wei et al. 1999). Since it indicates the total achievements made by the post and telecommunications department during a given period of time in a comprehensive way, it is an important indicator to study the composition and development of the post and telecommunications business. So it is not used as a proxy for infrastructure here but a proxy for information cost, and then its negative influence on FDI inflows has been found in our study. Because foreign investors need to be kept abreast with economic news and promotions through media, visits and trade shows, any ignorance of information is used as a deterrent to FDI. Mariotti & Piscitello (1995) also confirm that the economic theory of information cost provides a useful framework for a better understanding of determinants of the asymmetric geographical distribution of FDIs within a host country.

A complete investment environment includes both economic environment and social environment. Living conditions for foreign investors are an indicator for social environment. As Mr. Zhao (2000), vice mayor of Shanghai, said, foreign investors consider two major issues about living conditions in Shanghai. The first is whether they can survive in the place; and the second is whether their children can be educated in the location. Existing studies find that foreign investors often prefer the availability of local professional services and better living conditions. And existing research shows that Guangdong province is losing its attractiveness due to out-to-date living condition (Lan 1997). Therefore, we argue that, two variables are proposed as proxies for living conditions: availability of children education and availability of medical services in the province. Selection of a number of hospitals guarantees that these provinces are able to provide foreign investors with medical and nursing services. It indicates that the better living conditions a province is able to provide for foreign investors, the more FDI flows into the province.

The labor-intensive FDI inflows rely on cheap labor in developing countries like China and Southeast Asian countries, because it is in line with these countries' comparative advantage. Although it is observed that China starts to lose her competitiveness in labor cost, wage still plays a positive role in foreign investors' decision making in China. This finding

is different from a few existing studies, e.g. Chen (1997), Wei et al. (1999), and Cheng and Kwan (2000). In their studies they argue that efficiency wage has a negative influence on attracting inward FDI in cross-region analysis. Those results also suggest that in some provinces of China, MNEs have lower productivity than local firms. In other words, MNEs pay higher wages than local firms when productivity in both groups is equal. But we find that with higher labor productivity than China's average, the wage premium FFEs pay is less than their productivity advantage.

ROA is measuring profitability of enterprises. The reason that we use all independent enterprises instead of foreign fund enterprises is that some studies have found that foreign firms are more profitable than their domestic counterparts. However, the differences are not always large or statistically significant and in a few studies, the domestic firms have higher rates of profit. Moreover, profits of foreign firms cannot be measured accurately, given the possibility that they can use transfer pricing to shift reported profits out of host economies. Chinese economists believe that foreign investors are profit-orientated, and that, if investors cannot earn premium profits from one investment, they will move out of this plant. Because of the increased cost of transferring resources abroad and the perceived greater risk of operating in a different environment, the company will not move unless it expects a higher return than it can get at home and unless it thinks it can outperform local firms. The positive influence of this variable demonstrates that investors originally are profit-seeking under any situation, although they may be resource-seeking, market-seeking or efficient-seeking in an analytical approach. Chakrabarti (1998) also argues that all of these analyses have attempted to explore the implications of circumstances in which corporations find it profitable to become multinational – not to identify and assess the contribution of various local elements that make a potential host country appear more or less attractive as a target for the multinational to set up its subsidiary.

Openness, the trade (exports plus imports) to GDP ratio, is usually used as an indicator for the degree of openness of an economy. A higher degree of openness not only indicates more economic linkages and activities with the rest of the world, but also a more liberalized economic and trade regime. For FDI, a higher degree of openness also means better implementation of laws and government policies, safer investment

environment, more transparent political system, more relevant information available, and even more international culture environment. Therefore, it should have positive influence on FDI inflows. But in theory, trade and FDI can be substitutes or complements, where trade is restricted because of tariff protection, the two are more likely to be substitutes since foreign investors will have an incentive to jump domestic tariffs and establish affiliates in the host market. Where trade is relatively unrestricted, trade and FDI are more likely to be complements, given the propensity of multinational companies to engage in vertical and horizontal specialization of production within their affiliate network (Globerman & Shapiro 1999). Therefore, openness may play an opposite role under different economic environments. In our study, a negative role of openness has been found in attracting inward FDI, and it means that after two decades' of economic reform and opening up, the degree of Chinese openness is not high enough. The situation in the western region is worse than in the east. Foreign investors prefer to invest in China in order to avoid tariffs or non-tariff barriers.

The Number of patent applications examined is proxy for intellectual property right (IPR) protection. Some observers have argued that relatively weak intellectual property protection in a developing country may lower the probability of multinational firms investing there, and that, even if they do invest there, they may be willing (because of weak protection) to invest only in wholly-owned subsidiaries (not joint ventures with local partners) or to transfer only older technologies. In some studies, American Special 301 Recommendations is used as a proxy for IPR protection. But the Chinese government does not admit that law, so the number of patent applications can be used as a proxy for IPR protection in a China related analysis. A higher level of patent applications not only refers to better implementation of IPR laws but also reflects how local people are conscious of responsibilities of IPR protection. A positive relationship is found in our study, and it indicates that a higher IPR protection will attract FDI inflows into a province in China. And foreign investors may be willing to transfer their newest technology to local partners because of a high level of IPR protection.

The transaction value in the technology market is an indicator of R&D capability, which does not belong to location advantages in the OLI paradigm, but belongs to ownership advantages. It is a proxy for efficient technology transfer in host provinces. The Selection of R&D capability in

China means that a developing country has certain capability in doing R&D and transferring its achievements to be produced. Based on our study we argue that in a developing country like China, determinants of inward FDI not only are limited in location advantages, but also include ownership advantages. Ownership advantages in the host country are an important pull factor. They provide new opportunities by combining them with location advantages of the host market. The positive influence of the variable reflects that China has a comparative advantage not only at labor cost, raw material, but also at technological capability.

As a new topic in developing countries, environmental issues have attracted much attention. Some provinces and cities like Beijing and Shanghai in China have brought it into consideration. On the other hand, foreign investors also consider the environment an important issue, when they make location decisions. Foreign investors consider environmental issues as the second important hardware in investing in Beijing (Foreign Trade and Business Committee, 2001). Our selection of environment cost shows that both the Chinese government and foreign investors do see environmental issues as an important determinant of FDI in China. A province with a better production environment associated with living environment will be more attractive for FDI inflows.

The level of accumulated FDI stock has been found to be a positive explanatory factor of current FDI inflows in several previous studies and so in our study. Consequently, the hypothesis has been confirmed many times, that a higher level of accumulated FDI stock indicates an overall better investment environment in developing host countries. Foreign investors may be attracted to areas with existing concentrations of foreign-owned firms. Being less knowledgeable as to the general conditions of the region, investors may emulate the decisions of other foreign firms to reduce uncertainty (Guimaraes, Gigueiredo, and Woodward, 2000). Most Japanese investors insist to visit existing foreign projects, especially Japanese projects, when they intend to invest in a province. It shows that there are spillovers from existing foreign projects to the group of potential international investors. Therefore, we argue that the level of accumulated FDI stock has a positive demonstration effect on the investment location decision of foreign investors in China. Additionally, successful foreign projects, especially of the same country, have more convincing power for potential investors.

The recent economic development suggests a structural change in a composition from manufacturing industry to service industry. But this kind of change hasn't happened in China yet. In China, the FDI related policy is contrary to international tendency. Tertiary industry is not really opened although the Chinese government has started to open the commerce, transportation, finance, insurance and telecommunication industry since 1992. We found that until 1998, only Beijing and Hainan's compositions of tertiary industry to GDP show significantly more importance than gross output value of manufacturing industry to GDP. In other Chinese provinces and cities, including the largest host provinces like Shanghai, Guangdong, Fujian, Jiangsu, their tertiary industries are less developed than the manufacturing industry or just have similar levels of development as the manufacturing industry. Economic developments in those provinces still emphasize the development of the manufacturing industry. We also know that FDI inflows into China have concentrated on the manufacturing industry in the past two decades, and that FDI inflows into tertiary industry have decreased in recent years due to a reduced attractiveness of the real estate sector. Moreover, high entry barriers of FDI exist in tertiary industries too. The more profits the tertiary industry makes, the more monopolized it is, and the less chance FDI has to enter the industry. Therefore, its negative influence probably refers to an industry dominated by existing enterprises, which have been established in the location for a significant period of time. Those industry-dominating enterprises make it difficult to enter and compete in the same sector – especially when the distribution chain is either owned or controlled by those enterprises.

The Gross output value of the manufacturing industry has been selected as a proxy for industrial agglomeration and it is a positive significant determinative factor for FDI flows into China. The basic idea of agglomeration economies is that linkages between firms, institutions and other economic agents, located in geographical proximity, generate advantages of scale and scope, e.g. development of general labor markets and specialized skills (Lloyd and Dickem, 1990). Agglomeration economies are supposed to give rise to the minimization of distance between firms and their trading partners and, at the same time, facilitate communication between customers and suppliers. On other words, to improve the competitiveness of participating agents by lowering transaction cost (Scott, 1988). At a conceptual level, however, it is

suggested that, during the last few decades, the importance of natural resources and unskilled labor has diminished in motivating inbound FDI in developed countries, while that of created assets and opportunities of networking with local firms has risen (Dunning 1994). Furthermore, Dunning (1995) suggests that one of the most important location-specific variables affecting the activities of MNEs these days, can be related to the availability of resources and capabilities that investing firms believe are necessary to upgrade and make best use of their own firm-specific competencies.

As we know, major FDI inflows to China are concentrated on the manufacturing sector, and this tendency will remain in the coming decade too. Manufacturing agglomeration will be more attractive to foreign investors that have less specific demand for specialized labor and other inputs, but seek to locate in areas with a heritage of industrial activity. So a province will be more attractive than others due to a better industrial agglomeration.

Among these 14 variables, both traditional and recent variables have been selected. It indicates that Chinese determinants have some similarities with international determinants, and they have some special variables as well. To analyze Chinese determinants, we need to consider not only existing frameworks, but also Chinese special situations.

3. Determinants analysis of FDI in China pre- and post- financial crisis

After knowing these determinants, a further analysis had been done to analyze whether there were any different determinants between the pre- and post- financial crisis in China. Being one of the most important economic issues in 1990s, the crisis had very deep influence on the Asian economy as well as the Chinese economy. An interesting result has been found.

Some researchers have proved that, as a milestone event, the Asian financial crisis did not have a negative effect on FDI flows into Asian countries. Bartels and Mirza (1999) argue that pre- and post-crisis patterns consistently support unchanged commitment to Asia. Their evidence supports their view that the Asian crisis has not seriously dented the confidence of MNCs either in Asia or in their own organizational capabilities. Ironically, the crisis, in forcing faster deregulation and

liberalization, has created opportunities for mergers and acquisitions. Their argument may support those identical variables in our results.

But compared with Bartels and Mirza's study, our study finds two different variables between these two samples of pre- and post- Asian financial crisis. So it could be concluded that the difference between these two samples is caused by whether it includes the influence of the Asian financial crisis or not. In other words, the Asian financial crisis does have some influences on FDI inflows to China. Now, let's look at these two variables one by one.

Firstly, let's see the result of the sub-sample, which is selected before the crisis (see Table 2). The result includes one special variable, foreign loan. The World Bank Report (1999) argued that the critical immediate vulnerability came from an excessive buildup of short-term foreign currency debt on the balance sheets of private agents. This debt made countries vulnerable to sudden swings in international capital market sentiment. As we know, it was one of the main reasons for causing the Asian financial crisis in 1997. Although foreign loans, especially short-term foreign currency debts, were a not too significant cause of the financial crisis in China, they cannot be ignored in our study, especially after the Asian financial crisis. But as we have seen in our results, it is no longer a determinant for China after the crisis. This phenomenon indicates that China got experience from the financial crisis and restructured its financial system. The new investment environment must be better for China's further economic development. According to experiences from the Asian financial crisis, compared with international indirect investment, e.g. foreign loan, it is found that direct investment can contribute more to long-term economic growth. This happens because direct investments won't crowd in or crowd out at the same time.

Secondly, let's see the result of the sub-sample selected after the crisis. It includes another special variable, growth rate of GDP. It means that after the financial crisis, a faster growing market is more attractive for foreign investors than before. This is an unsubstituted advantage in China and it could support sustained development in the long run.

According to these two variables, foreign loan and growth rate of GDP, we cannot conclude that the financial crisis had no effect on FDI flows into Asia, especially into China, although the majority of determinants of FDI inflow to China didn't change. We have to say

among determinants, what have been changed have significant influence on China, even for the whole Asia.

4. Conclusions

These 14 factors contribute to forming a successful investment environment for FDI inflows in China. They are as follows: market size and economic growth, infrastructure development, living conditions, labor cost, profitability, the level of openness, R&D intensity, environmental issues, overall investment environment, and industrial agglomeration.

In this study, compared to past studies, additional variables have been identified to be important determinants of FDI inflows. For example, living conditions, R&D intensity, and environmental issues are “new” variables that could provide insights for policy makers when working to attract more FDI inflows. They reflect that China has a comparative advantage not only with labor cost and raw material, but also with technological capability. The consideration of environmental issues and R&D capability provides a new dimension to maintaining sustained growth of FDI inflows in China that the government could exploit.

We find that the Asian financial crisis also had an influence on FDI inflows to China. It reminds us that it is more meaningful to make the Chinese financial system stronger than before 1997, because the financial system will have an influence on economic development as well as FDI inflows.

According to these selected variables, we want to suggest that the Chinese government needs to consider traditional variables as well as new environmental variables, e.g. living conditions, R&D intensity and environmental issues when they make policy to attract FDI inflows. Furthermore, lessons, like strengthening the financial system, reducing foreign short-term loan, etc., we have learned from the Asian financial crisis are very important references for the Government when they make decisions.

Table 1: Determinants of FDI in China

| Independent Variables | Determinants of FDI in China |
|---|------------------------------|
| 1. Population size | |
| 2. Growth rate of GDP | 1 |
| 3. Per capita consumption | |
| 4. Size of domestic market | |
| 5. Residents consumer price indices | |
| 6. Export value to GDP | 1 |
| 7. Total investment in fixed assets | |
| 8. Turnover freight traffic | |
| 9. Transportation intensity | 1 |
| 10. Total revenue from postal and telecommunications services | 1 |
| 11. Size of government | |
| 12. Available of children education | |
| 13. Available of medical service | 1 |
| 14. Wage | 1 |
| 15. ROA | 1 |
| 16. ROS | |
| 17. Degree of openness | 1 |
| 18. No. of hotels for foreigners | |
| 19. No. of patterns applied | 1 |
| 20. Transaction value in technology market | 1 |
| 21. R&D manpower | |
| 22. R&D investment | |
| 23. Environment related cost | 1 |
| 24. Environment related profit | |
| 25. FDI stocks | 1 |
| 26. Government incentive | |
| 27. Tax | |
| 28. Foreign loan | |
| 29. Composition of tertiary industry of GDP | 1 |
| 30. Gross output value of industry to GDP | 1 |

Table 2: Results of determinants analysis with Effectiveness of Asian Financial Crisis

| Independent Variables | Result before the Crisis | Result after the crisis |
|---|--------------------------|-------------------------|
| 1. Population size | | |
| 2. Growth rate of GDP | | 1 |
| 3. Per capita consumption | 1 | 1 |
| 4. Size of domestic market | | |
| 5. Residents consumer price indices | | |
| 6. Export value to GDP | 1 | 1 |
| 7. Total investment in fixed assets | 1 | 1 |
| 8. Turnover freight traffic | | |
| 9. Transportation intensity | 1 | 1 |
| 10. Total revenue from postal and telecommunications services | 1 | 1 |
| 11. Size of government | | |
| 12. Available of children education | | |
| 13. Available of medical service | | |
| 14. Wage | 1 | 1 |
| 15. ROA | 1 | 1 |
| 16. ROS | | |
| 17. Degree of openness | 1 | 1 |
| 18. No. of hotels for foreigners | | |
| 19. No. of patterns applied | 1 | 1 |
| 20. Transaction value in technology market | 1 | 1 |
| 21. R&D manpower | 1 | 1 |
| 22. R&D investment | | |
| 23. Environment related cost | 1 | 1 |
| 24. Environment related profit | | |
| 25. FDI stocks | 1 | 1 |
| 26. Government incentive | | |
| 27. Tax | 1 | 1 |
| 28. Foreign loan | 1 | |
| 29. Composition of tertiary industry of GDP | 1 | 1 |
| 30. Gross output value of industry to GDP | 1 | 1 |

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On the Institutional change in the Development Zone of High-Tech Industry in China

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The development zones in China have developed for more than 15 years. Contrasted with the early time, the constraint term of legislation, policies, technologies, industry and market which decide the survival of development zone, have changed greatly. The developing pattern of high-tech zone led by the government departments is transferring to the developing pattern of self-organized evolution under the effects by the market's mechanism. Such process of transformation of the development zone is obviously a process of institutional transformation. The core of this paper is to research on the background, motive, adaptable learning of this transformation as well as the problem of path dependence in institutional change.

1. Background of the Transformation of the Development Zone

Due to the special internal conditions of China, the initiative, evolutionary and constructional process within most of the development zones are propelled by the government departments. The self – organized process of Zhongguancun development zone in Beijing is one of the few exceptions¹.

¹ The initial scientific and technical enterprises in ZhongGuancun of Beijing are self founded by a group of scientists with achievements in scientific research and an ideal of establish businesses. The “Survey Report on the Electronics Street in ZhongGuancun” advocated formally the four principles

At the beginning of the 1990's, when the development zone were at the initial stage, China was lack of the conditions for the development of high-tech enterprises, for example, market environment, basic infrastructure, basis of innovation and public goods etc. Under such circumstances, the government departments firstly carried the responsibility as the developers, leading the construction work of the basic environment in high-tech development zone and provided service functions under the lacking situation in the market of production factors. At the same time, the government departments defined the development zone as the economic areas where could carry out special-favour policies, and the special policies resulted in more or less the high-tech industry cluster in these areas².

Such developing pattern of development zone was quite reasonable and practical under the situations at that time: during the initial period of Chinese economy's transformation to market economy, the government leading the construction may have more time advantages, which is beneficial to grasping the developing opportunities for high-tech industries' development. It is considered, that the growing process of the market transformation would be step by step, and in the early time the market' mechanism for allocation of economy resources was ineffective. Under these situations, the government departments maybe not the only but still the main supplier of resource. Especially in the aspect of the construction of public environment such as basic infrastructure, government departments had particular advantages in resource.

If the officials who were in charge of the affairs in the development zone understood the keys of developing market's

of "self-funding, self-organization, self-administration, self-responsibility of profits and loss". It was definitely a trailblazing precedent at that time in China where the planned economy was in dominant position. (Refer to the "People's Daily" on 12th March, 1988)

mechanism, and introduced the mechanism to the development zone, or if they had the spirits of innovation, learning and experimenting, the government departments can play a part of the initial group for transformation, the cost of concentrated learning may be relative lower than that of every enterprise's scattered learning and attempting to explore in the market.

At the early time of the development zone, there's a great lack of various public goods, from the rules of law, incubatory environment to the basic infrastructures, therefore, the government had a large space to take actions. Under such situations, the government not only took part in the development zone's construction, but also dominated correspondent developing process.³

However, it has been problems in last years that whether such development pattern of the development zone led by the government can continue to play a role in the growing environment of market economy, which people are questioning on and thinking about, that is, whether it is reasonable and effective method that the government departments build, run and administrate the basic infrastructures in the development zone in the condition of market economy; whether the industry cluster, gathered under the situations of special-favour policies and basic infrastructure, can have only the relations of overlap in quantity, or they can produce further gathering and interact effects within the zones, wherein they can do business frequently and effective with each other.

It is also a question, under the situations in the market economy, whether the enterprises gathering in the development zone can produce more structures of professional work division, and form more various cooperation relationships between enterprises so as to make a more reasonable allocation of the local economic resources.

It is doubted too, whether the government departments' preference in industry policies has restricted the opportunities for various forms of development, and how to relocate the functions of the government departments during the transferring process of the development zone. All the problems deserved to research.⁴

With continuous layout and arrangement of the market system and government's behavior, the behavior pattern of the government's which takes the regional preferential policies as the major method has been losing legal basis and the comparative advantage. Meanwhile, the instruction pattern of the government's in the development zone in form of offering basic infrastructure also has been losing effective; the unreal economic environment resulted from the incorrect preferential policies will not only suffocate some enterprises' initiatives to strive and go all out in the competition and practice, but also lose the supporting conditions in market for its own. To be more important, after ten years' development, the conditions of the local infrastructure have been less superior resource in development zone to attract enterprises, while the values of the market condition developed through competition, the assembly mechanism of the local innovational factors as well as the culture atmosphere to stimulate innovations within the regions are being paid more and more attention by people.⁵

In relation to the research on development zone, the economics has provided a series of concepts which are explainable to these problems, such as labor division, organization experiments, transaction cost, institutional change etc. The present studies prove that by bettering the market's conditions and efficiency, more effective professional structure of labor division can self evolves in the areas, and the risky investment, intermediate service, the extend of industry chains, as well as the effective innovation network are all expectable from the evolution.⁶

2. Motives for the Transformation of the Development Zone

It is definitely a problem of institutional change that the development pattern by which the government promote the development zone' transfer to the new pattern, which depend on the mechanism of self-development formed by the market system. The motives of changes are from the demand to external economic scale, the coupling effect of industry chain and the demand to minimize the transaction cost.

2.1. The Demand to External Economic Scale

The high-tech development zone are the economic areas where assemble large number of medium and small high-tech enterprises. In the initial period of undertaking, there can not be various specialized work division in the internal part of those enterprises, so many auxiliary functions can only take effects by relying on the external businesses and services given by the government departments. There hence comes out the demand to the external economy of scale⁷. At the same time, since the initial services for enterprises' undertaking are usually provided by the government departments in the development zones, there conceals an unbalance between supplies of system and demands: what the enterprises need is the correspond conditions and professional incubatory services, while the government departments used to provide general services. However, with the extension of the enterprises' gathering scale, their demands to the service and correspond resource both in varieties and quantities expand synchronously, while the government departments can not expand their scale endlessly. while the enterprises were gathered more and more, their demands to larger scale of intermediary services and intermediate products and the scale-restriction of the government departments, are all the cause to the institutional transformation

and the upgrowth of the production factors market in the development zone.

2.2. Coupling Effect

When the gathering of the enterprises from the same industry reaches a certain level, it will not only stimulate the upgrowth of factors markets and the intermediate market, but also will lead to the mutual effects between every part of the industry chain. The case of the information industry in Zhongguancun Zone and the case of the medicine industries in Kunming high-tech development zone can provide us the evidence that related enterprises match each other, transact mutually so as to realize regional innovation¹.

The degree of the division and cooperation between the firms in the development zones is an important indicator for evaluating the quality of the development in this zone. That we used to measure the development only from the aspect of quantity certainly hasn't given good explanation to the structure of work division and cooperation between the enterprises, while the cooperative relationship and the mutually effects are important requisites to the extension and transfer of the technical innovation. For example, if the enterprises which does well in research and development can find the enterprises which does well in production as partners within certain region with the condition of low transaction cost, they can reach their production goals through enterprise combine, reorganization or outside epiboly manufacture. Such process of innovation is feasible. And within one zone, if the enterprises can find professional marketing agency and take in charge of their marketing network, their cost for entering the market will be reduced a lot and the procedure of entering the market will subsequently speed up. And if there are number of complement enterprises and service enterprises around the core enterprises, the core enterprises will be able to gather the resource and have

distinguishes development in their competent fields, while needn't scatter their resource to develop auxiliary departments. The self development in scale of the enterprises and the development in scale through enterprise combine as well as reorganization are both the elementary patterns of the high-tech enterprises' development, while the question is whether this kind of development can be self choices and self develop with lower cost.

2.3. Minimization Effect of the Transaction Cost

The research on the new institutional economics has given answers to why there is such evolution in the internal part of the development zone. In certain areas, only if there are elementary guaranteed conditions for transaction between enterprises or society members such as definitude the property rights, providing information of the business partners, making sure of the business rules and keeping business contracts available, sooner or later, continuously deepening and extending social work division and cooperation will come out.

In such an environment the society members are able to concentrate on developing their own merits and accumulate professional experiences by effective ways. Each specialized economic unit transacts and matches specialized resources mutually, and realizes Pareto optimum in the resource allocation. With the improvement of the business situations, the effective economic patterns and structures of work division and cooperation will continuously make self-production and evolution, and form various structures equilibrium of work division and cooperation and resource-allocation equilibrium on different level of transaction cost. It can explain the formation of the intermediate markets and the intermediate service enterprises, while the appearances of such markets create better institutional conditions for improving the dealing efficiency.

Under such circumstances, the development pattern of the development zone dominated by the government departments can transform to that dominated by the market. The government departments play less important roles in directly controlling business and providing resources, therefore, they can focus their core functions, on establishing and maintaining regulated laws and concepts as well as the policy's environment, to establish fair, just and reasonable system framework so as to ensure fair in market's functioning, competitions and effective innovational cooperation among enterprises and every correspond part.

Meanwhile, in the economists' point of view, the consequence of the market competition is that the social average marginal profits rate is inclined to zero, and without the input of creative factors, the enterprises do not have new ways to reduce business cost, so they are unable to make accumulative increasing returns. The enterprises are trying to get rid of such a destiny that they have to keep on deepening the specialization, on technology and organization innovation. The pressures of competition force them to be in requirement of realizing scaled economy through external cooperation or promoting the competence through internal reorganization and to make continuous balance on and compare the dealing cost of external cooperation with the administration cost of internal reorganization so as to make reasonable decisions in resource allocation.

In the age of information economy, the advances in technology have reduced the cost of business information step by step, and there have been feasible conditions in technology for optimal combination among the specialized units which people are seeking for. Reducing the transaction cost among society members and enterprises is essential to improve the business efficiency. With such a condition, all the carriers of elements of technology, productivity, fund and market will quit the low-efficient develop-

ment pattern of self supply and turn into specialized work division and cooperation, therefore, and make best use of the knowledge, experience and economic resource of human beings which have been continuously evolving. And they can do experiments of various business patterns among the carriers of various elements and make up different structure of work division and organization. For example, during the process of technology innovation, all the elements in technology, fund and market must be combined together, this kind of combination involves a large amount of transactions among units with different property rights at different model, man should construct correspond business relationship and institutional conditions, therefore it will form a pass way for smooth transformation of those intermediate achievements at every interface of technology innovation⁸. Then people will quit those inefficient and closed development patterns without comparative advantages and the scaled gathering of the enterprises will show the values of region economy.

Therefore, the transformation of the development zone firstly means establishing a just environment of laws and the conditions for market competition, promoting transaction efficiency and starting up spontaneous evolving process of the structures of work division and cooperation, as well as other business actions process. Man can explore more reasonable institutional conditions and development patterns for region economy through various organizational experiments, the regional economies environment will also bring on the minimization of transaction cost.

3. Adaptable Learning during the Process of Transformation

The transformation in high-tech development zone is not only the change of constraint conditions in technology and institution, but also the change of constraint conditions in ideal.

The new institution economics has proved the significance of knowledge, potential experience, ideal of value, habits and culture in the forming and maintenance of the institution⁹. Active innovations in technology and institution are fundamental motility to the high-tech zone, and these innovations themselves are transformation of information, knowledge and ideal of value, are learning process of solving the problems in technology, production, market and institution.

From the three aspects of learning resource's allocation, learning mechanism's and continual learning environment, the following paragraphs will discuss on the problems about regional learning and the transformation of high-tech zone and will prove that the adaptable learning process is undivided part of the system transformation.

Firstly, regional learning is above all a process of spreading, receiving and applying public knowledge. The development zones have noticed the problem of learning resource allocation in the choice of location, therefore, the development zone usually are adjacent to the universities and institutions of research. In fact, the universities and institutions of research always play core roles in regional learning as a headspring of information. Continuous interactions of information and communication of learning between the information units in one region are essential to holding the regions' creativity and basis to form regional innovational networks. This has been proved in the experience of Silicon Valley and Zhongguancun zone in Beijing.

Besides that, it is also a absolutely necessary part to the learning regions by establishing public flat or communication network of information, especially to those new technical industries; the public information interface is not only a necessary window for the consumers to know about the new technology and new products, but also an intermediate way by which the

innovational elements interact mutually and the cooperation between enterprise is realized. The public information interface is the media for spreading the ideals of market and institutional change and the basic carrier for carrying out digital regional administration and service, at the same time it is also the basic condition to break through the restriction of single organization and to realize the gathering of the learning resources within the region. It has been proved by facts that although physical networks are important, those sociality places, which possess regional features of social and culture and in which people can gather and enjoy life, are also the knots of the networks to exchange information and build social relations. Regional informal and sociality places may be more important conditions for the communication of no-digital information and concealed private experiment, it is also important for discuss the ideals about value and culture between peoples. Rich learning resource is beneficial to accept new technology, new institution and new ideals¹⁰.

Secondly, allocating learning resources is just external condition to establish the learning region. To be more important, is to form effective learning mechanism. Regional learning is divided into technical learning and institutional learning. Technical learning is realized mainly through the regional incubatory mechanism in which the specialized incubator can provide supports of professional conditions and technical direction for the innovational unit to finish the research and exploration of technology. The intermediate incubator can provide all kinds of consultant services and agencies for the input of fund and other affairs related with agent business. The technology incubator can provide to the creator the public hardware condition and environment for tech-innovation, in this way the investment frisk and the cost of carve out are reduced, the creator can put more energy into essence process of innovation.

Institutional learning is a more important mechanism for the transformation of the development zone. The original type of the administration system in the development zone can be said to come from the imitations of system, technology or industry parks in Silicon Valley in U.S, Xinzhu in Taiwan and Cambridge in England etc. are examples often mentioned by those founders of development zones. However, only the imitation of system is far insufficient: it is easier to build the products market of new technology but it is more difficult to imitate the running of the elements market; it is easier for the government to declare laws and regulations, but it is more difficult for the government to make clear of its functions and to function rightly.

Therefore, there can not be one single pattern of the transformation of the development zone and such process of institutional learning and innovation must be a process of tentative and eliminate error within the frame of laws and regulations, be a process of many sides taking part in and interacting, be a process of various patterns communication and compensating with each other. Here a new ideal of learning must be emphasized, that is, some neutral and objective paradigm for institutional analysis should be introduced during the process of institutional learning and innovation. According to these paradigm, people can compare, tentative and eliminate error and choose among various institutional patterns. Some people perhaps can have great power and capital, but they can have only finite rationality. The decision makers should be able to survey their own limits and the world's variety in a modest way, for at most time, the world evolves in spontaneous competition and choosing, not be outlined by the great people in advance¹¹.

The objective of institutional learning is to seek an effect of value's identification. When people agree on the aspect of regulation, they will obey such behavior regulation consciously, so

it will form a kind of regional culture. Contrasted with the restriction of technology an institution which influence people's behaviors and ideals, the constraint of culture are regional conditions which are more difficult for imitation. At the same time, it can greatly increase the efficiency of people's communicating on ideals in the transaction and form mutual understanding and credits so as to reduce the cost to keep the contract and the whole transaction cost¹².

Finally, only the opening-up zone are the areas which take continuous learning. The opening-up here has two meanings: one is that people have been familiar with the opening-ups in the sense of location, the development zone should continuously get information from external world, save and transfer the information into valuable new knowledge so as to reach the objective of continuous learning; the other is in the sense of the institutional innovation an evolution, the development zone should produce a gathering effect of innovation, so it needs an environment of institution for the regions to gestate specialized service organization and industry organization with new features, in order to guarantee that specialized experience can be continuously accumulated and deepened. At the same time, there might be effective business and cooperation among each specialized unit so as to realize a higher leveled institution, that is, the learning regions should produce a large range of structuring of work division and cooperation during the process of continuous experiments. The economics have proved that the structure of work division and cooperation with continuous evolvement has been the most important condition to keep the economy's motive. Establishing regional learning mechanism is vital to promote the transformation of the development zone¹³.

4. Paths Dependence in the Transformation of Development Zone

All the institutional change is redivision of the benefits' structure, during the transformation of development zone from government leading to the market leading, all the functions and benefits of the government departments need the same redivision. And what consequence of the path dependence in the transformation will lead to is also a problem people should pay attention to.

The ultimate benefits of the government departments which administrate the affairs in development zones are the approbation from superior commitment department to their achievements in term of politics and the profits and taxes returned to development zone areas in term of economy, the interest of authorizing the enterprises and providing payable services are relatively very small. Therefore, if an economic environment adapted to the structure of market and specialization division is built and maintained within the region, and keeps a good trend with the increase of the regional economies scale and quality and produces more conditions to attract the enterprises to enter, it is identified to the benefits of the government departments in term of politics. Especially nowadays, with more consummation of conditions for the market economy in China, it comes out disputes on the necessity of the development zone' existence. The development zone need to prove the unreplacable feature of its environmental conditions, therefore, factors like the institution environment of production and business within the region, the conditions for work division and cooperation, innovational network and incubational flatfom, regional learning mechanism and regional culture as well its radiation effect to the external region are certainly become the new work focuses of the government departments. From this point, the government departments should

have motivation to transform as long as they understand the process and pattern of the transformation and its relation with their own benefits.

Therefore, the factors related with each action-unit cognitive and adaptive capability during the transformation, former institutional structure and the cost of transformation, the environment for the market's cultivation and the governments' actions are constraint terms to the transformation. Regarding to the length of this paper, there are only discussions mainly on the problem of path dependence related with government departments.

From the aspects of cognition, with further development of the market economy in China, the development indicators of the development zone become more various, including: ① indicators of institutional conditions, such as legislation environment for the market business, construction and running of market's rules, reasonable location of the government's functions, polices condition, efficiency of the government departments; ② indicators of the market conditions: flow of the production factors, incubatory services, transaction efficiency, the environment and conditions of the market; ③ indicators of industry environment: the relations between the endowment of the regional resource and the features of industry structure, cluster degree of the industries, the interaction between the parts within the industry chain and the evolution of the regional specialized chain of work division; ④ the indicators of infrastructure conditions: information network, telecommunication, traffic, electric power, water provision, accommodation for both business and living, business facilities, culture and education etc. ⑤ indicators of investment environment: enterprises profits and their abilities to return investments and the economic prospect of the regions^{14,15}. So we can know that the transformation of the development zone is a series of complex process restricted by economy, technology and system.

At the same time, the government departments of all levels give great passion to the investment to the development zone' economy, for they have more expectations to the development zone than general economic areas. Besides the indicators to quantified development zone such as increase of economy profits and regional economy structure, the evaluation indicators to development zone also include the degree of positive externality effects of regional economic, for people also expect that they will become the increasing points to lead the local economy. Based on such location of objectives, the development zone will play greater part in a larger economic range and the government departments expect that the development zone can produce the radiation effects so as to become the local incubators of new technology, new industry and new institutional factor.

Facing new comprehensive development objective, whether the government departments can locate their functions rightly, whether they can understand and adapt to the market mechanism are important requisites to the smooth transformation of the development zone. The paths of the transformation are related to the government departments' capability of understandings. Owing to the complexity of this problem, there must be great differences of understandings to the objectives and grasping of the implementary methods between different departments. We just call this **cognitive path dependence**.

Based on the locations of function of the development during the early time, many development zones have established construction enterprise controlled by the government departments, these enterprise had been charge with the major work for infrastructure construction, with many years of accumulations, they dominate a large amount of construction resource either directly or indirectly and accumulate large quantity of deposited cost in the formed infrastructure. When the government

departments are fading out from the constructor's functions or introduce competition mechanism to develop infrastructures, all of these process will threaten more or less upon the already benefits of these enterprises, the deposited cost will be transferred while the transformation of the construction pattern take place, the development zone have to pay some cost of transformation. Different methods are taken to deal with this problem in different areas, that is the **institutional path dependence caused by deposited cost**.

With more than ten years' development, the government's industry policies have produced unconvertable accumulative effect. The cluster degree of the industries within the development zone, and the coupling degree of the part r & d, production, intermediate service and the marketing in one industry chain, influences on the growing of the markets system and industry structure within the regions. The formation of the market and industry depends on conditions and the costs will be paid. The development plan made by the government and its choice of policies in the industry structure as well as the inclinational accumulation effects resulted from the public goods, will lead to the **planning path dependence**.

In addition to the above path dependences with regional characteristics, all the development zones have already institution conditions under the restrictions of the central government's unified policies and rules of law. It determines those fundamental institution such as the government's basic functions, the market's structure and the system of property rights, that is **the institutional path independence** that everybody is faced with.

All the factors of the path dependence make up the initial conditions and boundary conditions for the transformation of the development zone; they have direct influence on the results of the transformation. The research on the problem of the path

dependence is the basis of feasible research on the transformation of development zone.

All in all, the problem about the transformation of the development zone can be researched by means of the paradigm of new institution economics. The orientated indicators of the development zone include the institutional environment and market condition within the region, to reduce the cost of enterprises' running, to better the self-evolution of the structure of specialized work division and to promote the endogenous relations among industry chain, all the orientated demand lead to further institutional innovation.

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Development of Foreign Trade in China

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In 2002, China's gross domestic product (GDP) of the year topped the 10 trillion Yuan level to reach 10,239.8 billion RMB Yuan, up 8% over the previous year at comparable prices. In 2002, total value of imports and exports reached 620.8 billion US dollars, up 21.8% over the previous year. The value of export was 325.6 billion US dollars, up 22.3%, and the value of import was 295.2 billion US dollars, up 21.2% (Table 1).

Moreover, China's balance of payments was in a good position. The trade surplus was US\$25.5 billion in 2003, a decrease of US\$4.9 billion. The utilization of foreign capital continued to increase. And foreign exchange reserves were increased by a large margin. China's foreign exchange reserves reached US\$403.3 billion by the end of 2003, an increase of US\$116.8 billion compared with the end of the previous year. The RMB exchange rate remained stable. The total value of imports and exports in 2003 reached US\$851.2 billion, up 37.1% over the previous year. The value of exports was US\$438.4 billion, up 34.6%, and the value of imports was US\$412.8 billion, up 39.9%.

Table 1 Domestic Economy

| | 1999 | 2000 | 2001 | 2002 | 2003 |
|-------------------------|-------|-------|-------|--------|---------|
| GDP (RMB Trillions)* | 8.21 | 8.94 | 9.66 | 10.239 | 11.669 |
| GDP Growth rate (%)** | 7.1 | 8.5 | 8.0 | 7.5 | 9.1 |
| GDP per capita (US\$)** | 769 | 856 | 878 | 950 | 1020.72 |
| Exports | 195.2 | 249.2 | 266.7 | 325.6 | 438.4 |
| Imports | 165.8 | 225.1 | 243.6 | 295.3 | 412.8 |

Source: Chinese government statistics Notes

* at current prices

** at constant prices

Chinese exports more than doubled over the eight-year period, 1995-2002. Sales of many products gained strongly, however, exports of computers and parts were particularly expansive, rising nearly ten-fold to \$33 billion. The increase in sales of just these two products accounted for nearly 20% of the overall eight-year gain in China's exports to the world. Sales of transmission equipment, video apparatus, and integrated circuits were also particularly strong, all rising at least ten-fold over the period.

According to the fast development of China's economy and foreign trade, the country attracts more attentions on her trade issues. To understand China's foreign trade, an overview introduction is needed. Generally speaking, to understand a subject, we need to start with its definition, historic review, development of the subject, its characteristics, and prediction of its further development if it is possible. Therefore, to introduce China's foreign trade, we will include the following 5 parts:

- History of China's foreign trade
- Trade partners in China
- The development and characteristics of China's foreign trade policy
- Foreign trade management
- Relevant Chinese organizations which are in charge of foreign trade issues in different periods

1. History of China's Foreign Trade

Chinese foreign trade began as early as the Western Han dynasty (206 B.C.-A.D. 9), when the famous "silk route" through Central Asia was pioneered by Chinese envoys. During later dynasties, Chinese ships traded throughout maritime Asia, reaching as far as the African coast, while caravans extended trade contacts in Central Asia and into the Middle East. Foreign trade was never a major economic activity, however, and Chinese emperors considered the country to be entirely self-sufficient. During parts of the Ming (1368-1644) and Qing (1644-1911) dynasties, trade was officially discouraged.

In the nineteenth century, European nations used military force to initiate sustained trade with China. From the time of the Opium War (1839-42) until the foundation of the People's Republic in 1949, various Western countries and, starting in the 1890s, Japan compelled China to

agree to a series of unequal treaties that enabled foreigners to establish essentially autonomous economic bases and operate with privileged status in China. Foreign privileges were abolished when the People's Republic came into being.

Foreign trade did not account for a large part of the Chinese economy for the first thirty years of the People's Republic. As in most large, continental countries, the amount of commerce with other nations was small relative to domestic economic activity. During the 1950s and 1960s, the total value of foreign trade was only about 2 percent of the gross national product (GNP). In the 1970s trade grew rapidly but in 1979 still amounted to only about 6 percent of GNP.

The importance of foreign trade in this period, however, far exceeded its volume. Foreign imports alleviated temporarily but critical shortages of food, cotton, and other agricultural products as well as long-term deficiencies in a number of essential items, including raw materials such as chrome and manufactured goods such as chemical fertilizer and finished steel products. The acquisition of foreign plants and equipment enabled China to utilize the more advanced technology of developed countries to speed its own technological growth and economic development.

During the 1950s, China imported Soviet plants and equipment for the development program of the First Five-Year Plan (1953-1957). At the same time, the Chinese government expanded exports of agricultural products to repay loans that financed the imports. Total trade peaked at the equivalent of US\$4.3 billion in 1959, but a sudden decline in agricultural production in 1959-1961 required China's leaders to suspend further imports of machinery to purchase foreign grain. Under a policy of "self-reliance", in 1962 total trade declined to US\$2.7 billion. As the economy revived in the mid-1960s, plants and equipment again were ordered from foreign suppliers, and substantial growth in foreign trade was planned. But in the late 1960's, the chaos and anti-foreign activities of the Culture Revolution (1966-1976) caused trade again to decline.

The pragmatic modernization drive led by party leaders Mao Zedong and Deng Xiaoping and China's growing contacts with Western nations resulted in a sharp acceleration of trade in the early 1970s. Imports of modern plants and equipment were particularly emphasized, and after

1973 oil became an increasingly important export. Trade more than doubled between 1970 and 1975, reaching US\$13.9 billion. Growth in this period was about 9 percent a year. As a proportion of GNP, trade grew from 1.7 percent in 1970 to 3.9 percent in 1975. In 1976 the atmosphere of uncertainty resulting from the death of Mao and pressure from the Gang of Four, whose members opposed reliance on foreign technology, brought another decline in trade.

Beginning in 1978, China committed itself to a policy of being more open to the outside world and widening foreign economic relations and trade. The opening up policy led to the reorganization and decentralization of foreign trade institutions, the adoption of a legal framework to facilitate foreign economic relations and trade, direct foreign investment, the creation of Special Economic Zones (SEZs) and “Open Cities”, the rapid expansion of foreign trade, the importation of foreign technology and management methods, involvement in international financial markets, and participation in international foreign economic organizations. These changes not only benefited the Chinese economy but also integrated China into the world economy. In 1979 Chinese trade totaled US\$27.7 billion – 6% of China's GNP but only 0.7% of total world trade. In 1985 Chinese foreign trade rose to US\$70.8 billion, representing 20% of China's GNP and 2% of total world trade and putting China sixteenth in world trade rankings.

After entering 1990s, thanks to economic reform, China's foreign trade had a significant improvement. In 1998, China's imports and exports totaled 323.93 US dollars. Of which, exports stood at 183.76 billion US dollars, and import, 140.17 billion US dollars, with an annual trade surplus of 43.59 billion US dollars, ranking 11th place in total imports and exports among chief trading countries (regions) over the world, ranking 10th place in imports and 9th place in exports. China's total imports rose from \$132 billion in 1995 to \$295 billion in 2002, a 124% gain over the eight-year period.

From above historical review, we find that Chinese foreign trade has great development in terms of quality as well as quantity in the past two and half decades. Now, a question is arising that why Chinese foreign trade could develop so fast in the past two decades than before. The answer is that the development is results of change of Chinese foreign

trade policies. In next part, we will review the development of China's foreign trade policies from 1949 to now.

2. China's foreign trade partners

In the past 50 years, we find that China's foreign trade partners have changed in different economic period, followed changes of China's foreign trade policies. The difference of trade partners is a proxy for different trade policies in different economic period.

During the 1950s China's primary foreign trading partner was the Soviet Union. In 1959 trade with the Soviet Union accounted for nearly 48 percent of China's total. As relations between the two countries deteriorated in the early 1960s, the volume of trade fell, decreasing to only just over 7% of Chinese trade by 1966. During the 1970's, trade with the Soviet Union averaged about 2% of China's total, while trade with all communist countries made up about 15%. In 1986, despite a trade pact with the Soviet Union, Chinese-Soviet trade, according to Chinese customs statistics, amounted to only 3.4% of China's total trade, while trade with all communist countries fell to 9% of the total.

By the mid-1960s Japan had become China's leading trading partner, accounting for 15% of trade in 1966. Japan was China's most natural trading partner; it was closer to China than any other industrial country and had the best transportation links to it. The Japanese economy was highly advanced in those areas where China was weakest, especially heavy industry and modern technology, while China was well endowed with some of the important natural resources that Japan lacked notably coal and oil. In the 1980's Japan accounted for over 20% of China's foreign trade and in 1986 provided 28.9% of China's imports and 15.2% of its exports. Starting in the late 1970's, China ran a trade deficit with Japan.

Beginning in the 1960's, Hong Kong was consistently the leading market for China's exports and its second largest partner in overall trade. In 1986 Hong Kong received 31.6% of Chinese goods sold abroad and supplied about 13% of China's imports. Hong Kong was a major market for Chinese foodstuffs and served as a transshipment port for Chinese goods re-exported to other countries.

The United States banned trade with China until the early 1970s. Thereafter trade grew rapidly, and after the full normalization of diplomatic and commercial relations in 1979, the United States became the second largest importer to China and in 1986 was China's third largest partner in overall trade. Most American goods imported by China were either high-technology industrial products, such as aircraft, or agricultural products, primarily grain and cotton.

Western Europe has been important in Chinese foreign trade since the mid-1960s. The Federal Republic of Germany, in particular, was second only to Japan in supplying industrial goods to China during most of this period. China followed a policy of shopping widely for its industrial purchases, and it concluded deals of various sizes with nearly all of the West European nations. In 1986 Western Europe accounted for nearly 18% of China's foreign trade, with imports exceeding exports.

Third World countries have long served as a market for Chinese agricultural and light industrial products. In 1986 developing countries purchased about 15 percent of Chinese exports and supplied about 8% of China's imports.

In 1990s, with the development of Chinese economic and foreign trade, developed countries have become major partners of Chinese foreign trade. The end of 1998, the number of China's trading partners reached more than 220. Table 2 shows that in 1999, Japan, USA, and EU were ranked top 3 among Chinese trade partners. It indicates that China has turned to an important trading country in the world.

From 1949 to now, we have seen that Chinese major trade partners had been changed several times due to development of economic policies. They focused on developing countries firstly and then moved to developed countries. Later due to the change of Chinese economic policies, developing countries became Chinese major trade partners again, and finally after economic reform, developed countries once again take the majority in Chinese foreign trade. The movement indicates changes of Chinese economic position in worldwide economy.

Table 2: 2003 major trading partners statistics (billion US)

| | Exports | Up previous | Imports | Up previous |
|-----------|---------|----------------|---------|----------------|
| | | Year % | | Year % |
| USA | 92.5 | 32.2 | 33.9 | 24.3 |
| Hong Kong | | | | |
| China | 76.3 | 30.5 | 11.1 | 3.7 |
| EU | 72.2 | 49.7 | 53.1 | 37.7 |
| Japan | 59.4 | 22.7 | 74.2 | 38.7 |
| ASEAN | 30.9 | 31.1 | 47.3 | 51.7 |
| Korea | 20.1 | 29.4 | 43.1 | 51.0 |
| Russia | 6.0 | 71.4 | 9.7 | 15.7 |

Source: China Council for the Promotion of International Trade (CCPIT), 2004

3. The development and characteristics of China's foreign trade policy

Since the foundation of the PRC in 1949, the development of China's foreign trade policy has undergone four major stages:

Stage I (1949-1978): Highly controlled trade policy under planned economy.

China's foreign trade management system was based on the implementation of state controlled trade. A highly centralized and state-run management system was established after the foundation of the PRC. It included the following 5 items:

(1) The planning management system of the foreign trade is the most important part of the whole set of management system, and it includes purchasing, allots, export, import, foreign currency revenue and expenditure as well as establishment, assigning and carrying out of other plans. The establishment of export plan was implemented under a dual-track system that includes foreign trade administrative system and specialized company system. The establishment of import plan was the responsibility of the State Planning Commission, and these plans were organized and carried out strictly after sanctioning.

(2) Concerning the management, the state Foreign Trade Companies (FTCs) operated natively, that was, trade rights only designated to every specialized foreign trade enterprises and their branches. Any other

organizations were forbidden to participated in the import and export activities. But the FTCs, which had trade rights, were not granted autonomy in operation; their businesses were restricted in several aspects, especially bureaucratic interference.

(3) Referring to financial management of foreign trade, every parent company was in charge of balance the inner profits and losses of import and export. The surplus should be transfer to the Ministry of Finance, while the deficit was also suffered by the Ministry. The FTCs were not responsible for the profits and losses, neither the production enterprises, nor import-using companies.

(4) For the pricing of the import and export products, most of import products were sold at domestic prices, with the FTCs absorbing the cost difference through subsidies. Exports were sold to the FTCs at fixing planned prices. While export and import products were priced due to the price in international market. Therefore, it was so-call a dual-track foreign trade pricing system.

(5) The central government centralized the rights of distributing and managing foreign exchanges. All the foreign exchanges earned by FTCs that excess a certain amount must be turned in, and all the foreign exchange related business had to be transacted in authoritative banks only.

Before the economic policy reform and opening-up, China had implemented a state controlled introverted protectionism. It was famous in shattering imperialistic embargo and blockage, withstanding external economic pressures, and closely cooperating with the diplomatic battles. It was also aimed at promoting the infrastructure of socialist economy and maintaining the balance of payments. However, it also caused many negative results. For instance, by cutting the connection with international markets, China was quarantined by international economies. With an over-protection of the domestic companies, FTCs were generally inefficient and lack of international competitiveness. Moreover, they could not actively participate in international production division. All the negative factors induced the slow development of China's foreign trade.

In 1950, the volume of export stood at 0.91% of total world trade, ranking 28th place. While in 1976, the figure fell to 0.69% of total world trade, putting China 34th in world trade rankings. During a quarter of the

past century, China's foreign trade did not move forward but far behind the world.

Stage II (1979-1991): Opening up and reform under planned commercial economy.

After the eleventh Plenary Meeting in December 1978, the pragmatic modernization drive, committed itself to a policy of being more open to the outside world and widening foreign economic relations and trade. The opening-up policy led to the reorganization and decentralization of foreign trade institutions, the adoption of a legal framework to facilitate foreign economic relations and trade. And this period could be subdivided into three phases:

(1) From 1979 to 1987, based on the principles of separating the Chinese government's functions from enterprises' management, the government conducted several reforms. One was to introduce foreign trade agency system, and the other included combining industry, technology and trade together and integrating import and export. The control of operation was partially decentralized as well. Furthermore, experimental units of industry and trade integration were developed. Plans and contents of foreign trade were predigested and an Export Contract Responsibility System was carried out elementarily.

(2) From 1988 to 1990, the Contract Responsibility System was formally established for China's production, foreign exchange, circulation and fiscal systems. Essentially, this meant that the central and local governments would determine quotas for various domestic and foreign trade enterprises (characteristic of a command economy) by signing a "contract" to give authority to operate in a relatively independent manner in order to maximize their profits. In the late 1980s, China had numerous national specialized corporations handling import and export transactions. Although nominally supervised by the Ministry of Foreign Trade and Economic Relations, each of these corporations was responsible for its own profits and losses.

(3) In 1991, all export subsidies were eliminated to fulfill the Contract Responsibility System.

Implementation of the Contract Responsibility System encouraged foreign trade enterprises to conduct their business in China. Even if the

economic quotas were set by the state, it was now that the enterprises and domestic companies became more cost-efficient in their production processes and innovative in attracting foreign capital to meet their profit objectives. In other words, they could more or less operate as capitalists -- the only difference was that their corporate goals were set by the central government instead of their own executive board. But these domestic companies could set even higher goals for them to meet quotas, which were set by the government and step up it.

Reforms of foreign trade system in the 1980s focused on transforming the highly centralized system to a new system that combined mandatory plans and market regulation. The system was deemed that it enabled to integrate with international market. Along with structural and economic policy reforms, the gradual liberalization of trade resulted an incredible growth of the Chinese economy in terms of GNP, FDI and Foreign trade in the 1990s.

Stage III (1992-2001): reform of foreign trade policy in line with international standards.

This ten-year period has been highly characterized by converting tightening control policies into market-oriented policies, and encouraging export-led growth policy.

Import and Export Management: China lifted import quotas, licensing and other controls on more than 170 tariff categories in April 1996. Export commodities subject to export quota controls were reduced by 50% to 143 at the end of 1996, and China also reduced the number of commodities, which were under license control from 385 to 152 in 2000.

Trade in services: foreign access was to be ensured through transparent and automatic licensing procedures in various sectors, including banking and insurance, legal and other professional services, telecommunications, and tourism.

- Rights to Trade and Distribution—within two years (by end-2003) foreign service suppliers were permitted to engage in retailing all products; within three years (by end-2004) all firms had the right to import and export all goods except those subject to state trading monopolies (e.g., oil or fertilizers); within five years (by end-2006),

foreign firms will be allowed to distribute virtually all goods domestically.

- Banking—foreign financial institutions were permitted to provide services without client restrictions for foreign currency business upon accession; local currency services to Chinese companies within two years (by December 2003); and services to all Chinese clients within five years (by December 2006).

The reform of foreign exchange management system: On January 1 1994, China abolished the dual-track exchange rate system (as mentioned in previous sections) and created a unified rate based on a managed floating system. Since the implementation of these policies, the RMB exchange rate appreciated by 4.8% from US\$1 = RMB8.7 in the start of 1994 to US\$1 = RMB8.288 on May 19, 1997. Swap centers continued to act as the official channel for the foreign exchange requirements of enterprises, but these were slowly being phased out in favor of the National Foreign Exchange Trading Center and its designated banks (which included both domestic and foreign banks).

Construction of laws and regulations: China's central government has been firm in pushing through the required policy reforms and adjustments, with the outstanding performances of reinforcing its efforts in the foreign trade sector. The State Council has processed 2,300 documents, of which 830 were repealed and 325 are being amended before WTO accession.

In conclusion, all these efforts reflected concrete steps towards institutionalized policy-making procedure in China. Financial services and foreign exchange management are coming into their own, creating the foundation for a greater economic growth in the coming years.

Stage IV (from 2002 to now): both commanded and free trade policy

At the end of year 2001, after a long match of negotiations with the rest of world, China finally entered WTO. The WTO membership became a milestone of China's foreign trade policy. The trade policy after entering WTO has several significant changes, and it can be concluded as following:

Firstly, the draft amendment to the Chinese Foreign Trade Law was passed at the eighth meeting of the 10th National People's Congress (NPC) Standing Committee on April 6 2004. The amendment adjusted trade policy on two tracks: one was to reform and adjust existing structures and practices, and the other was building new rules-based trade policies.

Passage of the revised Foreign Trade Law concluded China's two-year review of her laws related to foreign trade and made China's legal system consistent with her WTO commitment. Specifically, the revised law has several major changes:

The new law allows individuals to participate in import-export businesses and removes some restrictive qualifications for foreign trade operators in accordance with China's WTO commitments.

In contrast to vague stipulations in the old law, the amendment explains the implications of trade promotions and specifies how to implement the mechanism.

In order to respond promptly to sudden changes in foreign trade and provide better services to operators, the law also introduces an early warning system, a public information service system, a statistics mechanism and publicity about illegal operations.

Instead of only one penalty available in the old law, e.g. withdrawal of operation credit, the revised law strengthens sanctions against illegal operations through adopting more severe punishment, from criminal to administrative penalties and to cancellation of operators' licenses.

Secondly, the revised Foreign Trade Law also added clauses concerning how to maintain fair trade order and how to exert trade relief, so that the domestic foreign trade conductors could utilize anti-subsidy and anti-dumping means under the WTO framework to protect their own justified interests in international trade affairs.

Thirdly, The Chinese government has also worked on opening the services market in accordance with WTO commitments. China had enacted more than 30 laws and regulations related to trade in services, containing the fields of finance, trade, logistics, tourism, construction and etc.

Major characteristics of China's foreign system reforms include:

(1). The adjustment and consummation of foreign trade policy ran through the entire process of China's foreign trade system reform.

From the above contents, we can figure out that China's foreign trade policy reforms went with the reformation of China's economic system, especially the process of foreign trade system. It also reflected the substantial achievements of reforms. These were based on the general thoughts of the opening up and political reform, and learning advanced experiences from developed countries. After entering WTO, fulfilling the commitments with WTO has become an external pressure and critical impetus to complete reforms of foreign trade policy system.

(2). China has changed some related laws and regulations in line with the agreements between China and the WTO, and to comply with the formulas of market economy system.

In the WTO era, the functions of the Chinese Government have shifted from managing enterprises' specific operations to ensuring fair and ordered competition and taking measures to protect domestic enterprises when they face discrimination or harmed by foreign trade disputes.

In addition to amending existing trade rules and principles and creating new ones, the Chinese government has issued a series of regulations concerning about foreign investment liberalization and market access improvement in banking, insurance, telecommunications, distribution, consulting, and some other service sectors. New rules eliminate WTO-incompatible requirements on foreign exchange, advanced technologies, export performance, and local content as conditions for investing by foreign-invested enterprises.

(3). The smooth passage of the revised law benefited from the full participation in the legislation by the NPC Standing Committee members, relevant administrative departments, state-owned and foreign-funded trade enterprises and commerce chambers.

(4). After WTO accession, rule-based behavior has become one of the basic principles of the government. Even though rules themselves do not automatically lead to liberalization, ongoing efforts of imposing a systemic set of rules will continue to boost economic performance. However, Chinese authorities are still ready to intervene if necessary.

4. China Foreign Trade Management

The change of trade policies has influenced on foreign trade management as well. To have a whole picture of China's foreign trade, in this part, we will review trade management issues. This part will be divided into two parts:

- The first part is about legal management of China's foreign trade;
- The second part is about trade management system.

(1). China Foreign Trade Laws and Regulations

Recently, China has instituted a fairly perfect foreign trade legal system with the "Foreign Trade Law" as the core, involving management of foreign trade dealers and import and export commodities and technology, foreign exchange, customs control, import and export commodity inspection, animal and plant quarantine, protection of intellectual property rights, and economic and trade arbitration related to foreign interests and proceedings.

A. Foreign Trade Law

The revised Chinese Foreign Trade Law, which will take effect on July 1, 2004, serves as the basic law on standardizing foreign trade activities in China. Its basic principles are:

That the whole country practices a unified foreign trade system; Safeguarding a fair and free foreign trade order; Ensuring the independent operational authority of foreign trade dealers; Encouraging the development of foreign trade; and Promoting trade relations with other countries and regions on the basis of equality and mutual benefit.

B. Laws and Regulations on Managing Foreign Trade Dealers

Apart from the fact that the Foreign Trade Law has stipulations in this regard, other major related references are the "Regulations on Issues Concerning Examination and Approval of Foreign Trade Enterprises" promulgated by the Ministry of Foreign Trade and Economic Cooperation (MOFTEC) on May 24, 1988, the "Provisional Procedures on Operating and Managing Import and Export Commodities" promulgated on July 19, 1994, the "Provisions on the Distribution of Export Commodity Quotas" promulgated on December 29, 1995, the

"Procedures on Paid Bidding for Export Commodity Quota" promulgated on April 17, 1995, and related detailed rules for implementation, the "Procedures on Bidding for the Export of Machinery and Electronic Products" promulgated on July 2, 1996, and the "Provisional Procedures on the Automatic Registration for the Authority of Productive Enterprises in Special Economic Zones to Independently Handle Imports and Exports" promulgated on January 22, 1997.

C. Laws and Regulations Governing Management of Import and Export Commodities

Major laws and regulations on managing import commodities: the "Provisional Regulations of the People's Republic of China Concerning the License System for Import Goods" promulgated on January 10, 1984, and related detailed rules for implementation, the "Provisional Procedures on Managing Quotas for the Import of General Commodities" promulgated on December 29, 1993, and related detailed rules for implementation, the "Provisional Regulations Governing the Automatic Registration for the Import of Special Commodities" promulgated on April 13, 1994, the "Provisional Regulations on Managing the Import of Machinery and Electronic Products" promulgated on October 7, 1993, and the "Circular on Tightening Management of the Import of Used Machinery and Electronic Products" promulgated on December 22, 1997, the "Detailed Rules for Implementation on Managing Imports by Foreign-Funded Enterprises" promulgated on June 9, 1995., and the "Management Method on the Standard of the Imported Machinery and Electronics Products."

Major laws and regulations on managing export commodities: the "Provisional Procedures on Managing Export Commodities" promulgated on December 29, 1992, and the revised "Provisions on Managing Export Licenses" promulgated on January 2, 1996.

Important laws and regulations in connection with trade are: the "Provisions of the People's Republic of China on Environmental Management of Chemicals imported for the First Time and the Import and Export of Poisonous Chemicals" promulgated on March 16, 1994, and related detailed rules for implementation, and the "Provisional Regulations on Environmental Protection Regarding the Import of Wastes" promulgated on March 1, 1996.

D. Laws and Regulations on Import and Export Commodity Inspection, Animal and Plant Quarantine and Hygienic Quarantine

Major Laws on Inspecting Import and Export Commodities: the "Law of the People's Republic of China on Inspecting Import and Export Commodities" promulgated on February 21, 1989, and related detailed rules for implementation, the "Procedures on the Implementation of the License System for Safety and Quality of Import Commodities" promulgated on August 1, 1993, and related detailed rules for implementation, the "Procedures on Managing Labels of Import and Export Foodstuffs (for Trial Implementation)" promulgated on May 1, , and the "Procedures on Exemption of Import and Export Commodities from Inspection (for Trial Implementation)" promulgated on January 11, 1990, and the "Procedures on Re-Inspection of Import and Export Commodities" promulgated in 1993.

Major laws and regulations on animal and plant quarantine: the "Law of the People's Republic of China on Quarantine of Entrance and Exit Animals and Plants" promulgated on October 30, 1991, and related detailed rules for implementation.

Major hygienic quarantine laws and regulations: the "Law of the People's Republic of China on Border Hygienic Quarantine" promulgated on December 2, 1986, and related detailed rules for implementation, the "Food Hygiene Law of the People's Republic of China" promulgated on October 30, 1995, and the "Procedures of the People's Republic of China on Managing Imported Pharmaceuticals" promulgated on November 2, 1990.

E. Laws and Regulations Governing Foreign Exchange Control

China's most basic law on foreign exchange control is the "Regulations of the People's Republic of China on Foreign Exchange Control" promulgated by the State Council on January 26, 1996.

Moreover, regulations in this regard include: the "Notice of the People's Bank of China on Further Reforming the Foreign Exchange Control System" released on December 28, 1993, the "Provisions on Managing Settlement in, Sales of and Payment in Foreign Exchanges" promulgated on June 20, 1994, and the "Procedures on Managing the

Settlement in Foreign Exchanges under Current Account" printed and distributed on July 25.

F. Customs Laws and Regulations and Tariff Laws and Regulations

Customs laws and regulations: the Customs Law of the People's Republic of China" promulgated on January 22, 1987, the "Customs Procedures on Managing the Processing and Assembly Business for Overseas Customers" promulgated in September 1987, the "Customs Procedures on Managing Bonded Factories Handling Processing Trade" and the "Customs Procedures on Managing Bonded Warehouses and Goods Stored Wherein" promulgated in April 1988, the "Customs Procedures on Managing Processing Import and Export Goods with Imported Materials" promulgated in June 1988, the "Provisional Procedures on Managing Export Warehouses under Supervision and Control" promulgated in March 1992, the "Procedures on Supervising and Levying taxes on the Import and Export of Goods by Foreign-Funded Enterprises" promulgated in August 1992, the "Customs Regulations of the People's Republic of China Concerning Protection of Intellectual Property Rights" promulgated on July 5, 1995, the "Customs Procedures on Supervising Bonded Zones" promulgated on August 1, 1997, the "Customs Inspection Regulations of the People's Republic of China" promulgated on January 3, 1997, and the "Customs Procedures of the People's Republic of China on Supervising Imported Exhibits" promulgated on January 3, 1997.

The regulations involving tariffs are primarily the "Import and Export Duty Regulations of the People's Republic of China" (which were promulgated following revisions on March 18, 1992) and the "Anti-Dumping and Anti-Subsidy Regulations of the People's Republic of China" promulgated on March 25, 1997.

G. Civil and Commercial Laws Involving Foreign Interests

With the increasingly higher degree of economic reform and opening-up, China has paid increasingly closer attention to civil and commercial legislation involving foreign interests. The "Law of the People's Republic of China on Economic Contracts Involving Foreign Interests" was adopted on March 21, 1985. It was the first time that China enacted a law in regard to economic and trade contracts. The "General

Principles of the Civil Code of the People's Republic of China" was adopted on April 21, 1986. This was a significant step taken by China in civil and commercial legislation.

(2). Trade management system:

In accordance with the stipulations of the "Foreign Trade Law of the People's Republic of China," China practices a unified foreign trade system, and safeguards a fair and free foreign trade order according to law. The state permits the free import and export of goods and technology (except for those subject to laws and regulations stipulating otherwise).

The Chinese government will implement step-by-step reforms on the foreign trade system in accordance with "Protocol on the Accession of the People's Republic of China" and its Annex and "Report of the Working Party on The Accession of China".

A. Trade Rights

Trade right refers to the right to import and export in the trade of cargoes, excluding the right to distribution in domestic markets.

Gradually, China will reduce the requests of minimal registered capital for the Chinese enterprises to obtain trade right, enable the foreign-funded enterprises to obtain complete trade right, and cancel the system of trade-right examination and approval within 3 years upon China's entry into WTO.

B. State Trading and Designated Trading

In China, state-run trade will be enforced in the import of 8 types of staple goods essential to the national economy and the people's livelihood, including grain, cotton, vegetable oil, sugar, crude oil, finished oil, chemical fertilizer and tobacco. State-run trade control will be enforced in the export of such commodities as tea, rice, maize, soybean, tungsten sand, ammonium paratungstate, tungsten-ware, coal, crude oil, finished oil, silk, unbleached silk, cotton, cotton yarn, cotton textile, antimony sand, oxidized antimony, antimony-ware, silver, etc.

The government permits the non-state-run trade enterprises to undertake the import and export of a restricted amount of the goods on which the state-run trade control is enforced.

Considering the need to maintain the import and export business order, the department of the State Council in charge of foreign trade and economy may enforce designated business management on a portion of the goods within a definite period of time, i.e., by authorizing a number of companies to act as agency of the import and export of a certain products.

At present, the products subject to designated business include natural rubber, timber, plywood, wool, acrylic fibers and steel. The products will be open to free business within 3 years upon China's entry into WTO.

Those enterprises and organizations that are not included in the list of state-run trade enterprises or in the list of designated business management are forbidden to undertake the import and export of the goods on which state-run trade control or designated business management is enforced.

C. Customs Duties and Other Duties and Charges

China had adopted the Harmonized Commodity Description and Coding System ("HS") from 1 January 1992 and joined the International Convention on the Harmonized Commodity Description and Coding System in the same year.

According to the commitment made by the Chinese government in order to enter WTO, the general level of China's tariff will decrease from 14% to 10% by 2005: that of industrial products will decrease from 13% to 9.3%, and that of farm produces from 19.9% to 15.5%. The implementation of the promise on tariff decrease in farm produces will come to an end in 2004 and 98% of the industrial products in 2005, but the tariff of automobile and auto parts will decrease to 25% and 10% (average level) respectively by July 1st, 2006, and the tariff decrease of some chemical products will last until 2008.

China, on April.24, 2003 joined the Information Technology Agreement ("ITA") and must eliminate tariffs and all other duties and charges on covered IT imports from all WTO members as set out in China's schedule.

D. Non-Tariff Measures and Import and Export Licensing Procedures

China will cancel the current non-tariff measures of over 400 duty paragraphs no later than January 1st, 2005, including the measures of quota, license, etc., covering such products as automobile, electromechanical products, natural rubber, color sensitive material, etc. During the period in between, the quota of relevant products will be allowed a certain increase rate.

• Import Licensing

Goods whose import is restricted in amount will undergo quota management; other types of goods under import restriction will undergo licensing management. Those under quota control will be publicly assigned a total import quota for the next year before July 31st of each year by the import quota control department.

Considering the need to monitor the import of goods, automatic import licensing management will be enforced on some of the free-import goods. To import the goods subject to automatic import licensing management, the importer should submit an application for automatic import license to the department of the State Council in charge of foreign trade and economy or to relevant economic management departments of the State Council before going through the procedures of customs declaration.

In order to maintain the balance of international payment, when international income and expenses suffer serious imbalance, or in order to maintain the foreign exchange reserve at a suitable level to the implementation of economic development plan, the government may take temporary restrictive measures on the value or amount of imported goods.

In 2003, eight kinds of goods were subjected to import licensing control, totaling 143 8-digit commodity codes. The 4 types of goods subjected to import quota-licensing control include finished oil, natural rubber, auto tires, automobile and key parts. The 4 types of goods subjected to import licensing control include CD production equipment, monitored chemicals, drug-producing chemicals and ozonosphere eroding material.

China implements classified management on electromechanical products, i.e., import ban, restricted import and automatic import licensing.

About the finished electromechanical products of restricted import, where there is a restriction in amount, quota control will be implemented; where there is none, it is a specified finished electromechanical product that is subject to licensing control. The import of specified products mainly takes the form of worldwide bidding.

To import electromechanical products subjected to automatic licensing control, the importing unit should apply for an automatic import license before going through the customs declaration procedures.

China prohibited or restricted the importation of certain commodities, including weapons, ammunition and explosives, narcotic drugs, poisons, obscene materials and those foodstuffs, medicines, animals and plants which were inconsistent with China's technical regulations on food, medicines, animals and plants.

- Export Licensing

China applied its export license system to certain agricultural products, resource products and chemicals. China's export licensing system was administered in accordance with the "Interim Procedures for the Export Licensing System".

Global export licensing control applies to all the listed goods that are subject to export licensing control, except where special rules dominate.

In 2003, export-licensing control was implemented on 52 types of goods (338 8-digit commodity codes) (excluding textile commodities of passive quota), including export licensing, export quota bidding, compensable use of export quota, free bidding of export quota and export licensing control.

Textiles of restricted export are subjected to quota and export credentials managements, monitored by the customs and inspected by the entry-exit inspection and quarantine department in accordance with relevant rules and regulations.

China prohibited export of narcotic drugs, poisons, materials containing State secrets, precious and rare animals and plants.

E. Tariff Quotas

Upon entering into WTO, China will implement tariff quota control on such farm produces as wheat, maize, rice, cotton, sugar, soybean oil, palm oil, wool, etc., chemical fertilizer, and such industrial products as wool top. The calculation of the quota of farm produces will take the period between 1995 and 1997 as base period.

While the tariff quota products are subjected to state-run trade management, some of the tariff quota is reserved for import by non-state-run trade enterprises.

About goods imported within tariff rate quota, tariff is to be submitted according to the tariff rate within quota; as for goods imported outside the tariff quota, tariff is to be submitted according to the tariff rate outside quota. The department of import quota control will announce the total tariff quota of the following year between September 15th and October 14th each year.

F. Technical Barriers to Trade

The Chinese government maintains the right to inspect the imported and exported goods.

In accordance with the principles of citizen treatment, China promises that within 18 months upon its entering into WTO all the qualified evaluation organization will be able to provide evaluation service to domestic products as well as to imported products.

G. Sanitary and Phytosanitary Measures

China applied sanitary and phytosanitary (SPS) measures only to the extent necessary to protect the life and health of human beings, animals and plants.

Within 30 days upon China's entry into WTO, the Chinese government will inform WTO of all the laws, regulations and other measures concerning sanitary and phytosanitary measures, including the scope of finished products and relevant international standards, guidance and suggestions.

H. Customs Valuation

The overwhelming majority of China's customs duties were ad valorem duties. The customs value of imported goods was assessed according to the c.i.f. price based on the transaction value, as defined in the Customs Valuation Agreement. If the transaction value of imported goods could not be determined, the customs value was determined based on other means provided for in the Customs Valuation Agreement.

I. Rules of Origin

China's rules of origin for import and export were non-preferential rules of origin. Once the international harmonization of non-preferential rules of origin was concluded, China would fully adopt and apply the internationally harmonized non-preferential rules of origin.

Upon its entering into WTO, China would ensure that its laws, regulations and other measures relating to rules of origin would be in full conformity with the WTO Agreement on Rules of Origin and that it would implement laws, regulations and other measures in full conformity with that Agreement.

J. Export Tax

China collects export tax on such products as eel fry, lead, zinc, tin, antimony, ferromanganese iron, chromium iron, copper, nickel, aluminum, etc., totaling 84 duty paragraphs.

5. Organizations of Foreign Trade

The increasing of complex foreign trade system underwent expansion and decentralization in the last two decades. In 1979 the Ministry of Foreign Trade's nine foreign trade corporations lost their monopoly on import and export transactions as the industrial ministries were permitted to establish their own foreign trade enterprises. The provincial branch corporations of the state foreign trade corporations were granted more autonomy, and some provinces, notably Fujian, Guangdong, and the special municipalities of Beijing, Tianjin, and Shanghai were permitted to set up independent, provincial-level import-export companies. Some selected provincial enterprises were granted autonomy in foreign trade decisions. In 1982 the State Council's Import-

Export Control Commission, Foreign Investment and Control Commission, Ministry of Foreign Trade, and Ministry of Foreign Economic Relations were merged to form the Ministry of Foreign Trade and Economic Relations (MOFTEC). In 1984 the foreign trade system underwent further decentralization. Foreign trade corporations under this and other ministries and under provincial-level units became independent of their parent organizations and were responsible for their own profits and losses. An agency system for foreign trade was also established, in which imports and exports were handled by specialized enterprises and corporations acting as agents on a commission basis.

(1). Ministry of Commerce

China's Ministry of Commerce (MOC), in charge of both domestic and foreign trade as well as international economic cooperation, began operations on March 25, 2003 to replace the decade-old State Economic and Trade Commission and the Ministry of Foreign Trade and Economic Cooperation (MOFTEC). Its main responsibilities are: perfecting a market system, monitoring commodities demand and supply, organizing international economic co-operation and coordinating matters relating to anti-dumping and anti-subsidies. Internally, the new MOC is in charge of regulating market order and strengthening the management of the market. Externally, it is responsible for creating a favorable environment for enterprises to compete in the international market. In line with this concept, enterprises will be responsible for their own commercial operations and investment; the government will only do what it is supposed to do.

(2). Financial Transactions and Investment

The People's Bank of China is in charge of the making and implementation of monetary policies; safeguarding the overall financial stability and providing financial services. The State Administration of Foreign Exchange is under the People's Bank of China.

Foreign exchange and reserves were controlled in the mid-1980's by the State Administration of Exchange Control under the People's Bank of China, the central bank. Foreign exchange allocations to banks, ministries, and enterprises were all approved by the State Administration of Exchange Control. The Bank of China, the foreign exchange arm of the

People's Bank of China, lost its monopoly on all foreign exchange transactions in 1984 when the Agricultural Bank, People's Construction Bank, China Industrial and Commercial Bank, and China International Trust and Investment Corporation (CITIC) were permitted to deal in foreign currency. The Bank of China remained China's principal foreign exchange bank and provided loans for production and commercial transactions related to exports, set up branches overseas, maintained correspondent relations with foreign banks, and did research on international monetary trends. The Bank of China was also active in international financial markets through such activities as loan syndication and issuing of foreign bonds. CITIC, formed in 1979 to facilitate foreign investment in China, also borrowed and lent internationally and issued foreign bonds in addition to encouraging and participating in joint ventures, importing foreign technology and equipment, and making overseas investments. In 1986 CITIC was renamed CITIC Group and shifted its emphasis to power, metallurgical, and raw materials industries, which had trouble attracting investments. In late 1986 the CITIC Group had set up 47 joint ventures, invested in 114 domestic companies, and issued US\$550 million in foreign bonds. The China Investment Bank was established in 1981 as a channel for medium- and long-term loans from international financial institutions such as the World Bank.

In January 1994, the State Council designated CITIC as a pilot for modern enterprise system. In turn, CITIC made the decision to follow the requirements of the modern enterprise system and establish and perfect its management system, as well as further define the development direction and business scope of its subsidiaries. In the meantime, domestic investment business was to be tightened and financial business actively developed, with the hope of further improving its asset structure and financial conditions. In addition, CITIC is determined to replace its objective management mode with operating plan management.

(3). Other Organizations Involved in Trade

In March 2003, the National Development and Reform Commission (NDRC) took over the responsibilities of State Economic and Trade Commission (SETC). NDRC is involved in long-term planning for the development of foreign trade, and they developed national priorities for imports and exports.

Several other organizations under the State Council were also involved in foreign trade matters: the Special Economic Zones Office, General Administration of Customs, State Administration for Entry-Exit Inspection and Quarantine (under the General Administration of Customs), and China Travel and Tourism Bureau.

The China Council for the Promotion of International Trade (CCPIT) assisted the Ministry of Commerce (the former MOFTEC) in foreign trade relations. CCPIT handles trade delegations to and from China, organizes foreign trade exhibitions in China and Chinese exhibitions in other countries, and publishes periodicals to promote Chinese trade. The People's Insurance Company of China expands its business in 1980 for the purpose of encouraging foreign trade. New categories of coverage offered to foreign firms included compensation trade, satellite launching, nuclear power plant safety, offshore petroleum Exploitation insurance, insurance against contract failure, and insurance against political risks.

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The Development and Policy Adjustment of Processing Trade: China's Experience

Liao Han

The processing trade has become the most dominant trade pattern in China. The policies of the processing trade need to adjust due to its weakness. We should continue to encourage the development of processing trade, to try hard increasing the technical quality and add-value in final products, to increase the quality and technical contents of domestic raw materials by adopting a sloping policy. The active policies will be carried out to upgrade processing trade and to optimize its structure.

1. Utilizing foreign investment, encouraging international trade and the development of processing trade (1978—2003)

Since 1978, Chinese government has implemented the policy opened to outside world. Its basic content is to develop international trade and to absorb foreign investment in order to propel the growth and development of the national economy. Therefore, Chinese government implements more preferential policies to attract foreign businessmen to invest in China mainland and stimulates foreign and domestic enterprises expand exports and earn more foreign exchange by the measures of deducting a percentage from a sum of foreign exchange, drawback of exports and so on. On the trade pattern, China encourages the domestic and foreign funded enterprises to utilize the advantage of low cost of the domestic labor force and take the pattern of processing trade. Different from other countries and areas, China permits all kinds of enterprises operating processing trade anywhere instead of taking the pattern of processing district of exports. The outcome of these policies was that within the short 20 years, China's exports increased rapidly and the foreign funded enterprises appeared the trend of processing trade. From 1979 to 2003 the export of processing trade has kept the growth rate of more than 15% every year averagely, surpassing the growth rate of GDP and exports at the same period. In 1996, the proportion of the value of exports and imports by processing trade took up the total value of exports and imports,

surpassed the proportion that other trade patterns took up and became the biggest trade pattern in China. The value of exports by the processing trade still account for 55.2% of the total value of exports in 2003.

The development of China's processing trade appears some basic features as follow:

(i) The development of processing trade concentrates on the coastal areas of China

Despite Chinese government took the open managing model and encouraging policies on the processing trade, the character of processing trade - "two ends abroad", leads that China's coastal areas have more advantage in operating processing trade. Guangdong, Fujian, Shanghai, Jiangsu, Shandong, made full use of advantage on geography, humanity culture, policies and so on and had become the main districts which developed external assembling operation. The five places' value of processing trade accounts for 80 percent of the total value of the China's processing trade. Among them, the value of exports of Guangdong province's processing trade accounts for 80% of the value of local exports.

(ii) The destinations of import and export of processing trade mainly concentrates in the area of Asia, Europe, and America and so on.

When Guangdong and Fujian provinces developed external processing assembling operations in the beginning, their clients mostly came from Hong Kong and Macao. After 1985, the clients from Japan, the USA, German, Canada, South Korea, Australia and Taiwan province stepped into mainland by way of Hong Kong and Macao. By now, the mainly import original place of the processing trade are Japan, Taiwan province, South Korea and Hong Kong. Since 1997, the value of imports from the above four places accounted for 64.4% of the total value of the imports of the China's processing trade. The destinations of export of processing trade mainly are the US, Japan, Hong Kong and Europe Union. The value of exports to these areas accounted for 79.2% of total value of exports of the China's processing trade. It indicates that in the process of China participating in the international production, the raw material, technology mainly came from Asian area, the processing product mainly sold to the market of Europe and America. This reflects China's character of industry structure and statue in the international division, in this era China mainly depends on the traditional industry and the low-grade technology transferred from the new industrialization countries and areas(NICs) to

develop processing trade, mainly in order to absorb foreign investment, solving employment, and expanding exports at that time.

(iii) Processing imported materials developed faster than processing materials supplied by clients.

In the beginning, processing materials supplied by clients is in the dominant statue. After 1988, despite its absolute volume had been increasing, its increasing speed was slower than processing imported materials. Correspondently, the proportion accounted for the total volume of processing trade decreased year after year. However, processing imported materials developed more rapidly. Its proportion in the total volume of processing trade increased with time passing and it had become the dominant pattern of processing trade. From 1988 to 1997, the export of processing materials supplied by clients increased 14.3% every year on average; but the export of processing imported materials increased higher, 27.2% every year on average. The proportion of processing imported materials in the total processing trade increased from 44% in 1988 to 70% in 1997. However, the proportion of processing materials supplied by clients decreased from 56% to 30%. This means that the pattern which China utilized foreign investment had been changed and its quality had been improved, the operation ability of enterprises which pursued processing trade was improving constantly. The change of the processing trade's structure benefits from the upgrading of China's industry structure, and also was affected by the devaluation of RMB and the policy of drawback. The devaluation of RMB had a greater simulative effect on processing imported materials than the processing materials supplied by clients. According to the examination, the devaluation of RMB in 1994 made the export by processing imported materials increase 4%, but the processing materials supplied by clients only increased 2.5% or so. It also made the export of processing imported materials increase more rapidly than the processing materials supplied by clients because of the tariff drawback---the drawback of raw material which was used in the processing imported materials, and not drawback of the domestic raw material which was used in the processing materials supplied by clients.

(iv) The structure of the import and export products of processing trade is being optimized continually

China's comparative advantage is that the resource of labor force is abundant and its cost is low. It determines that China's processing trade

must begin with developing labor intensive manufactures. However, though this kind of product is still dominant in the export of processing trade, the proportion of capital and technical intensive manufactures have been improved gradually. Compared with the beginning of processing trade, the standard and quality of the products has changed greatly. In 1993, labor intensive manufactures accounted for 73.4% in the export of processing trade, while the capital and technical intensive manufactures accounted only for 23.5%. By 1997, the proportion of labor intensive manufactures had decreased 14.5%, the capital and technical manufactures 13.7%, and so are the imports of the two kinds of manufactures (as indicating in table one). This state has the trend to continue and accelerate with the adjustment of China's industry structure and the change of policies of utilizing foreign investment.

Table 1-1: change of imports and exports of processing trade (%)

| | 1993 | | 1995 | | 1997 | |
|--|---------|---------|---------|---------|---------|---------|
| | exports | imports | exports | imports | exports | imports |
| Primary products | 3.1 | 12.2 | 4.2 | 16.5 | 3.9 | 14.3 |
| manufactures | 96.9 | 87.8 | 95.8 | 83.5 | 96.1 | 85.7 |
| Labor intensive manufactures | 73.4 | 52.0 | 66.3 | 43.9 | 58.9 | 42.1 |
| capital and technical intensive manufactures | 23.5 | 35.8 | 29.8 | 39.6 | 37.2 | 43.5 |

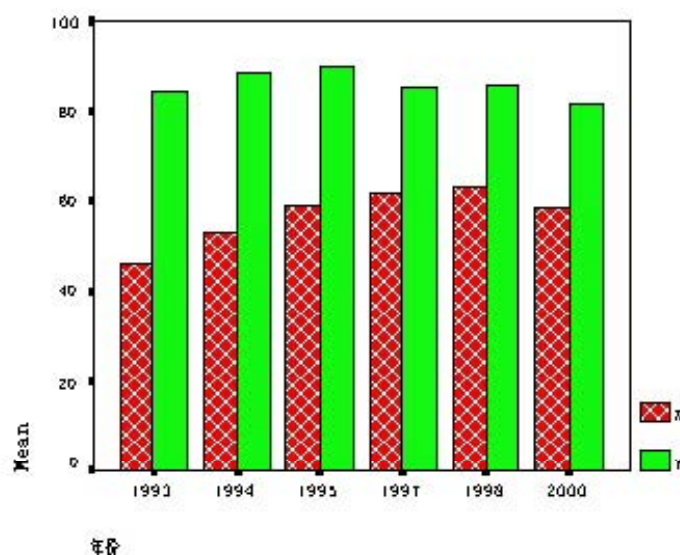
(v) The trend of foreign funded enterprises operating processing trade is obvious

China took the processing trade pattern as a main method to absorb foreign investment. The foreign direct investment in China has high relativity with China's processing trade. Obviously China's trade policy encourages foreign funded enterprises to pursue processing trade. From 1988 to 1990, the export of foreign funded enterprises accounted for 21.3% in the total export of processing trade. It increased to 48.5% during the period from 1991 to 1995, nearly half of the total export of the China's processing trade. After 1996, it surpassed a half. The proportion was 62.9% and 64% in 1996 and 1997.

Seeing from the operation state of foreign funded enterprises, since 1993, the trend of the foreign funded enterprises to operate processing trade had become very obvious. The proportion of imports of the foreign enterprises increased from 46.14% in 1993 to 62.9% in 1998. The proportion of exports was above 80% from 1993 to 1998. It was as high

as 89.73% in 1995 (look at picture one).

Figure 1-1: the trend to pursue processing trade of the foreign funded enterprises



Note: X: the proportion of imports of processing trade of the foreign funded enterprises in the total imports of the foreign funded enterprises
Y: the proportion of exports of processing trade of foreign funded enterprises in the total exports of foreign funded enterprises

(vi)The contributing rate and propelling degree to economy's growth brought by the processing trade are on the low side and its relevancy effect is weak

According to the regressive analyze to the relative data, the net export of processing trade has a strong correlation with GDP. It indicates that the export expanded by processing trade has strong supporting effect on the rapid growth of China's economy in 20 years. But the processing trade's contributing rate and propelling degree to GDP is not worth being optimistic.

$$GDP = 18991.89 + 21.13PNE$$

$$(6.6924) \quad (13.17)$$

$$R^2 = 0.935 \quad DW = 0.377$$

Table 1-2: Processing trade's contributing rate and propelling degree to GDP

| Year | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Propelling degree | 0.002 | 0.01 | 0.01 | 0.004 | 0.002 | 0 |
| Contributing rate | 0.051 | 0.097 | 0.045 | 0.016 | 0 | 0.047 |
| Year | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
| Propelling degree | 0.01 | 0.01 | 0.01 | 0.01 | 0.007 | 0.002 |
| Contributing rate | 0.038 | 0.047 | 0.065 | 0.079 | 0.035 | 0.18 |

The relative low contributing rate and propelling degree indicates that the effect of processing trade on the growth of China's GDP is very limited. This has close relationship with processing trade's intrinsic characters. Because of "two ends abroad", the enterprises operating processing trade only undertakes the step of simple processing and assembling. So it has a short chain of domestic processing and a low rate of add-value. Therefore, the relevancy affect of processing trade is weak. It indicates concretely as follow: First, the effect of processing trade has on promoting industries transferring to capital and technical intensive ones is not obvious. Foreign funded enterprises choose China as the processing and assembling country in order to utilize China's cheap labor force. So it determines that foreign funded enterprises do not have motility to provide advanced technology and capital to replace the labor force. According to the statistics, the equipments with higher technical level only accounts for 10%-20% in the foreign funded enterprises operating processing trade in Suzhou. It has very limited effect on the upgrade of China's industry structure and the technology advancement. Secondly, the intermediate inputs of processing trade have a low localization rate in China. According to the statistics, the localization rate of the intermediate inputs of processing trade in China is lower than not only that of NICs, but also that of the countries of Eastern Union. This phenomenon indicates that the present development of processing trade can't form a strong propelling power to promote the relative industries.

2. The analysis of import substitute of the intermediate inputs of processing trade in China

The localization of the intermediate inputs of foreign funded enterprises' processing trade in China is not ideal. Because it's very difficult to grasp the whole status of foreign funded enterprises' processing trade, we only use the data of the stock distribution of the intermediate inputs of Japanese funded manufacturing enterprises in China. It can reflect the localization condition of intermediate inputs of foreign funded enterprises' processing trade. Firstly, Japan is an important investor in China. In 2000, Japan's direct investment in China was 29.1585 billion dollars, only less than Hong Kong (154.9998 billion dollars), the US (43.8389 billion dollars) and Virgin Islands (26.5896 billion dollars). Secondly, Japan is one of the major original places which China's processing trade imports from. The imports of processing traded from

Japan in 1997 were as high as 173.3 billion dollars, which was in the first place. Thirdly, processing trade mainly concentrates on the manufacture industry. Here, we select the data of local stock of the intermediate inputs of Japanese funded manufacturing enterprises. Fourthly, Japan is a country with advanced economy and technology. Its technical lever of intermediate inputs and traditional industry, which are transferred into China through direct investment and processing trade, is higher than Hong Kong, Macao, Taiwan and South Korea. Therefore, it can explain the great significance of import substitute of the intermediate inputs of processing trade to China by analyzing the localization of intermediate inputs of Japanese funded enterprises.

We can see from the table 2-1, 2-2, and 2-3 that:

Table 2-1: stock distribution situation of Japanese funded enterprises in China

| stock | 0-30% | 30%-60% | 60%-90% | 90%-100% |
|--------------------------|-------|---------|---------|----------|
| Enterprises distribution | 98 | 29 | 33 | 97 |
| | 37.1% | 10.6% | 12% | 35.3% |

Table 2-2: stock value of Japanese funded enterprises in China (from the third country)

| Area | North America | Middle-south America | Asia | Middle East | Europe | Oceanic |
|----------------------|---------------|----------------------|-------|-------------|--------|---------|
| Manufacture industry | 2131 | 253 | 83459 | 379 | 427 | 181 |
| | 2.4% | 0.3% | 93% | 0.4% | 0.51% | 0.2% |

Table 2-3: Local stock rate of Japanese funded enterprises

| | Local stock rate | Import from Japan | Import from the third countries |
|---|------------------|-------------------|---------------------------------|
| Japan funded Manufacture enterprises in China | 29.1 | 49.1 | 21.8 |
| Japan funded Manufacture enterprises in USA | 60.1 | 34.8 | 5.2 |
| Japan funded Manufacture enterprises in south-east Asia | 45.8 | 36.9 | 17.3 |
| Japan funded enterprises in the world | 44.1 | 33.1 | 22.9 |
| Japan funded Manufacture enterprises in the world | 47.2 | 37.4 | 15.4 |

(I) the proportion of local stock of Japanese funded manufacturing enterprises is low, and the proportion imported from Japan is high. The local stock rate of intermediate inputs of Japanese funded manufacturing enterprises in China is only 29.1%, the rate imported from Japan is 49.1%, and the rate imported from other countries is 21.8%. Among the total stock value of Japanese funded manufacturing enterprises in the world, the local stock accounts for 44.1%, the stock from Japan accounts for 33.1%, stock from other countries accounts for 22.9%; while the proportions of stock of Japanese funded manufacturing enterprises in the USA respectively are 60.1%, 34.8% and 5.2%, the proportion of stock of Japanese funded manufacturing enterprises in South Asia respectively are 45.8%, 36.9% and 17.3%. In the world, the local stock rate of Japanese funded manufacturing enterprises is 47.2%, the stock from Japan accounts for 37.4%, the stock from other countries accounts for 15.4%. We can draw a conclusion that the local stock rate of Japanese funded manufacturing enterprises in the other countries or areas in the world, special in USA is much higher than the one in China. (II) The enterprises of low local stock rate are majority. Among the Japanese funded manufacturing enterprises in China, the enterprises of 90%~100% rate of local stock account for 35.3%, the proportion is little higher than the one of local stock rate Japanese funded manufacturing enterprises in South Asia which is 3.3%. But there are many enterprises whose local stock rate are below 30%, accounting for 37.1%, not only higher than 13.5% of Japanese funded manufacturing enterprises in the USA, but also higher than 26.3% of Japanese funded manufacturing enterprises in the Southeast Asia.

The above two points reflect the statue of localization rate of Chinese processing trade.

Is China lack of the intermediate inputs and has to import? It isn't all like that. Accounting to statistical data, we find that the volume of import and export of mineral fuel, lubricating oil and the related material, rubber products and the machine and transparent equipment are very close. It indicates in some degree that except different quality among products, the import products and export products can be substituted each other in some degree. That is to say, some imported products can be substituted by the congener exported products that are produced in China.

(1) The first barrier of the intermediate inputs substitution---- the integration of international management

To foreign funded enterprises, the low substitute of intermediate inputs lies in:

Firstly, the integration of Multinational Corporation's (MNC) management will affect both the parent country and the host country greatly. In macro scopes, it expands the field of resources allocation, accelerates the process of integration of world economy, and improves the efficiency of world economy. In microscope, as Buckley and Casson's theory of "interior" said, multinational enterprises can reduce transaction cost through integration of management. On one hand, the integration is helpful to improve efficiency of production and yield of capital; on the other hand, it is helpful to control the global production better. Integration of multinational production promoted intra-firm trade to grow rapidly. In the beginning of 1980s, 30% of exports and 40% of imports in USA are finished inside the MNC. In 1992, more than 60% of exports and 30.3% of imports belonged to the intra-firm trade. The transfer pricing isn't a market price but a managing price, parent enterprises and sub-enterprises don't optimize their own benefit, but try to optimize the benefit of the whole corporation. So it is said "The inter-firm trade isn't a market behavior but an executive behavior". In addition, in the complex condition of operation environment presently, the transfer pricing has become a way of MNC in transfer profit, earning competitive advantage and utilizing difference of tariff and other policies in different countries. And it has also become a tool to leap over the barrier of international management and reduce the risk of management.

Because of the development of inter-firm trade, MNC would like to trade inside company rather than stock intermediate inputs in host countries. Even though it is cheaper to purchase in host country, MNC still chose the inter-firm trade only if they can save more transaction cost.

Presently, the integration of international operation has led intermediate inputs substitution to be difficult because of the high proportion of foreign funded enterprises in Chinese processing trade enterprises. Considering of the integration of management, foreign funded enterprises would like to purchase intermediate inputs more from their own company than from China. In addition, there still exists some difference between the domestic intermediate inputs and the import ones in quality, technology content and price. They can't be substituted completely. If enterprises choose domestic intermediate inputs, it may lead to the quality decrease of end products and affect the international

competitiveness of the export products.

Secondly, protect the advantage of technology from diffusing. The competitiveness of products depends on the technology content more and more. Now, with the development of processing trade in China, its field is not only limited in simple elementary industry, but transfer to electronics, mechanism, telecommunication and other such industries with higher technology content. So it is certain that the technology content of intermediate inputs will be improved gradually. If foreign funded enterprises produce intermediate inputs of high technology content in local place, the technology will be diffused. Therefore, foreign funded enterprises prefer to import intermediate inputs from parent countries in order to protect the advantage of technology from being diffused.

(2)The mechanism of management of domestic enterprises existed shortcoming.

Firstly the standard and quality of local intermediate inputs are not stable. In processing trade, the quality of intermediate inputs has direct link with the competitive advantage. According to the investigation on foreign funded enterprises which operate processing trade in ShengYang, Dalian and such thirty cities by the relative department, when asked about the barrier of turning to purchase in local place, nearly 40% of enterprises worry about the quality and standard of intermediate inputs provided by domestic enterprises. Surely, now China lags behind the developed countries in technology, producing techniques, administration level. Table 6 shows the statue of import technology of foreign funded enterprises in Guangdong province. From the table, it is easy to find that the import technology and equipment of foreign funded enterprises concentrate in 1980s and 1990s. The technology and equipment imported in 1970s only accounts for 14.3%.

Table 2-4: Import technology of foreign funded enterprises in Guangdong province

| Time of import technology | 20 th 70's | 20 th 80's | 20 th 90's |
|---|-----------------------|-----------------------|-----------------------|
| Proportion accounts for total equipment volume of foreign funded enterprise | 14.3% | 67% | 17.6% |

In this point, the statue of foreign funded enterprises is better than domestic enterprises because many investors import equipments as a part of investment in China and quite a lot of equipments are advanced. In

addition, because generally foreigner businessmen have close link with manufacturer of equipments, which brings great convenience in providing advanced equipment to foreign funded enterprises in China.

Secondly, domestic enterprises are lack of enough stimulating mechanism and financing ways to produce intermediate inputs, which is also a restrictive factor that affects the local substitution of intermediate inputs. On the investigation of Shengyang, Dalian cities, some related departments select information of about 400 products, which are planned to be localized from 100 foreign funded enterprises. About 200 state-owned enterprises in Shengyang are interested in the information. But after elementary negotiation, 90% of the enterprises give up. The main reason is not that the enterprises do not have ability to produce them, but that they can not accept the requirements foreign funded enterprises make. They must firstly provide samples, when the samples pass the examination, they shall make some products and send the products to foreign funded enterprises to be examined. Then the foreign funded enterprises will order a small volume of products. Only after a certain time, they can order in a large volume. There are reasons for the domestic enterprises not to accept the requirements. One is that most of orders are not the existing products. When they trial-produce new products, some enterprises need produce moulds. It need invest a lot in prophase and is lack of fund. The second is that it will take one year or even longer from trial-producing new products to ordering products finally. The domestic enterprises would not like to take risks. Though the policies permits spending research and developing cost according to the facts, the problem not be solves for those enterprises being lack of capital. The domestic related departments also have the funds of trial-producing new products, developing new products, developing foreign trade. But the program of application is very complicated. The state-owned banks are very cautious to such kind of loans.

Thirdly, Chinese domestic enterprises' ability to exploit market is very poor. Foreign funded enterprises utilize the advantage of controlling management, marketing and utilize Chinese cheap materials and labor force to make labor-intensive products occupy quite a large international market. So it is one of Chinese competitiveness of export products that the foreign funded enterprises are close to international market and familiar with it. But the domestic enterprises do not have the advantage. Firstly, under the condition of planned economy, the state-owned

enterprises have little chance in contacting with international market; secondly, the strength of domestic enterprises is not strong. It is difficult for them to scramble international market with MNC.

All these led Chinese enterprises not to form a strong ability to provide intermediate inputs.

(3)The current processing trade policies made against import substitution of intermediate inputs.

The policies of processing trade here refers to the tariff policies on processing trade, including the policies of free custom of import goods of processing trade and free added-value tax of export goods.

Presently, any company operating processing trade in China can enjoy the benefit of free customs of import goods. This is just the key of problem of intermediate inputs import substitution. For the reason of technology and management, the cost of intermediate inputs produced in China is often higher than the cost of the same kind of import goods. Besides this, they can get preferential tariff. Therefore, no matter what the domestic enterprises and foreign funded enterprises will choose to import them. At the same time, the export goods of processing goods can also enjoy the benefit of free export tariff. So many enterprises will choose to operate processing trade. But the character of processing trade is to import primary raw materials and parts from abroad. It leads to import intermediate goods instead of purchasing it inside the country. It blocks the localization of intermediate inputs in a certain degree.

Another tariff benefit on processing trade is free add-valued custom of export goods. According to the current policy of processing trade, China does not collect add-valued tax on processing materials supplied by clients and also not drawback; on the materials which is purchased in China and used in processing imported materials, China firstly collects tax and drawback later. But China currently does not drawback the add-valued tax on export products of ordinary trade that has been collected in the process of production and circulation. So majorities of the enterprises will choose to operate processing trade. Anymore, this leads to the phenomenon of dual import. Because it can get benefit of drawback and settlement by foreign exchange, some enterprises firstly export the products and then import those products back by the enterprises operating processing trade.

3. “Impoverishing Growth” of processing trade

The research of “Impoverishing Growth” problem has a close link with terms of trade. In 1950s, Prebisch and Singer put forward “P—S Hypothesis” to testify that the price terms of trade of primary goods of developing countries has a trend to deteriorate. The Indian economist Bhagwati took it as the base to testify that for developing countries, export revenue could be offset by deterioration of terms of trade with export volume growth. But, It will lead to the absolute decrease of real income level and consume level of own country’s dwellers. In the model of “impoverishing growth of a country of large trading”, he reckons that “impoverishing growth” only takes place on some given conditions:

- The economy growth must depend on export departments.
- The demand of foreign countries on export goods must be lack of price elasticity. Therefore, the expansion of export must lead to rapid decrease of export price.
- The country must be a country of large trading.
- The economy of the country must have a high dependence on the export.

There still exists controversy on “P—S Hypothesis” and “impoverishing growth”. One cause is that their research only deals with price terms of trade, but the research should also deal with income terms of trade, factor terms of trade and so on. The second cause is that with the proportion of manufacture goods during the export goods in developing countries increasing continually, it is not clear whether there exists deterioration of terms of trade and “impoverishing growth”.

Let’s turn back to the processing trade. With the rapid development of processing trade in 20 years, its contributions to the sustaining growth of national economy, absorbing foreign investment, expanding exports, improving the structure of export products and increasing employment are very great in China. Therefore processing trade does not bring “impoverishing growth” to Chinese economy and welfare. But it is necessary to note whether processing trade will come into being “impoverishing growth”. With the scale of processing trade expanding continually, is it possible that the price of export products by processing trade will decrease continually and we have to develop larger scale of processing trade to acquire the same value of foreign exchange?

It is a very complex problem whether the terms of trade of Chinese

processing trade will deteriorate. Though there is not enough evidence to testify, we still can get some ideas on the processing trade on some data.

- Firstly, according to the related data of “The People’s Republic of China Custom Statistical YearBook” and “China Statistical YearBook”, from 1990 to 1995, export volumes of some staples goods such as real silk, raw silk and satins, aquatic products and so on grew faster than their export value. Comparing 2000 with 1998, Chinese export products on the top 100, export volume of suitcase, vanity bag, leather clothes, cotton trousers, T shirt, toy and such weaving products developed faster than their export value. So are the labor-intensive mechanical and electrical products. But export value of technology intensive mechanical and electrical products grew faster than their export volumes. Majority of those goods are also the goods that have a higher proportion in the Chinese processing trade. This indicates in one aspect that the prices of primary products and labor-intensive products have the trend to decrease continually. But the prices of technology intensive goods have the trend to keep stable and increase.
- Secondly, the related research shows that price terms of trade appears the trend of decreasing from 1980 to 1994. Compared with 1980, the price terms of trade in 1992, 1993 and 1994 had deteriorated 14%, 12% and 9% respectively. Compared with 1982, it had deteriorated 18.9%, 17%, 14.2% respectively.
- Thirdly, since 1986, with rapid development of Chinese processing trade, not only make Chinese export increase greatly but also change the structure of export greatly. The proportion of final products has surpassed 85% since 1995. However, this period is also the period in which the trade price terms of trade decreased continually. Since 1990(except 1992), Chinese trade kept constant preferential balance of payments and foreign exchange reserve had also kept increasing constantly. This shows that depravation of price terms of trade did not give rise to depravation of income terms of trade. This is mainly because the higher demand elasticity of finial products leads that the loss of export income caused by the depravation of price terms of trade can be offset by the expansion of export or itself is the result of improvement of factors productivity in export departments. But we should take notice that the processing trade enterprises managed by foreign funded enterprises takes up a higher proportion but its

add-valued rate is lower than that of processing trade managed by the domestic enterprises. In 1995, the added-value rate of foreign funded enterprises was 13.4%, but the added-value rate of domestic was 41.8%. In 2000, the added-value rate of domestic enterprises was 68.5%. It indicates that foreigners catch more revenue in Chinese processing trade. China participates in revenue allocation by providing cheap labor force and land in processing trade. Presently Chinese processing trade is only a pattern of low revenue. In this statue, the more export, the faster the developing speed will lead to the bigger loss of resource.

The above four conditions leading to depravation of price terms of trade as Bhagwati said can be found in Chinese processing trade. Particularly the second one--- “export goods must be lack of demand elasticity,” aims at the primary products. But on the finial products of demand elasticity, Sarkar and Singer also reckon later, the proportion of finial products increasing in export cannot erase the depravation of price terms of trade. The third condition is “the country must be a country of large trading.” But even if China is not one, because the structure of export products, comparative advantage, and export destination of processing trade is analogical to countries and areas of east and Southeast Asia, with the expansion of export, the price terms of trade still has the trend to deteriorate. In 1998, the financial crisis erupted in Southeast Asia. If the value of RMB decreased, the price terms of trade in China and the area of Southeast Asia will deteriorate dramatically. Therefore, though the development of processing trade in China has the character or trend of “impoverishing growth”, we cannot think the development of processing trade has led to the deteriorating trend “impoverishing growth”, we can not think the development of processing trade has directly led to the deteriorating trend of Chinese economy and welfare. It is only has a possibility take place now. What we should do is to learn the possibility and make some adjustments on the strategy and policies of developing processing trade and tries to alter the trend of “impoverishing growth” of processing trade.

4. The evaluation and advice of present Chinese policies of processing trade

(1) Continue to implement encourage policies on processing trade

It is obvious that processing trade can expand export and employment. Chinese economy will experience an important transforming in later 10 years. By encouraging the development of processing trade, China will acquire more foreign exchange. It is benefit for China to import advanced technology from abroad, to rebuild traditional industries and to elevate the international competitiveness. In addition, processing trade itself has prepared good condition for Chinese products to enter into international markets. It is very useful to improve the international reputation of Chinese products and train Chinese labor force to become skilled ones which are fit for modern industry production.

The trend of economy globalization and production globalization is more and more obvious on the current world. It has become an effective way for the developing countries to participate in international division, becoming a part of the international production chain of MNC and studying the other country's advanced technology and managing experience. Processing trade is just an important revelation of production globalization and provides important chance for the developing countries to participate in the international division. Having a look at the whole world, we can find that most of developing countries are trying to utilize the advanced countries' technologies, managing experience and capital to develop their own country's economy and have established all kinds of preferential policies to encourage the development of open economy. Under this kind of international environment, if China does not encourage processing trade, the chance will be grabbed by other developing countries that have the similar statue with China. China will become passive in the international competition.

Of course, the current policies of processing trade should be adjusted. The principle and purpose of the adjustment are to propel the escalation and structure optimize of processing trade, stably to develop the traditional processing trade of comparative advantage, to push processing trade into high-tech industries, to elevate the ability to explore the own brand and own technology, to arrange the area structure of processing trade reasonably, to enhance the ripple effect of processing trade, to increase technology level of processing and add-value of the products, to bring up new comparative advantage; to enhance international competitiveness.

(2) To enhance ripple effect of processing trade

If we hope processing trade contributes a lot in optimizing the structure

of Chinese industry and enhancing the international competitiveness, it's necessary to improve its ripple effect on other industries.

Presently, the effect has not been exerted completely for both the cause of policy and the cause of non-policy. It is really a meaningful question for developing countries about how to guide processing trade to develop deeper and have a closer link with domestic industries.

According to the above analysis, we can divide the direction into two aspects. Firstly, it is how to improve the localization of intermediate inputs of processing trade gradually in order to exert the processing trade's ripple effect on the intermediate inputs industries of the host country. Secondly, it is how to extend the processing chain in the host country in order to improve the added-value rate of processing trade and exert the ripple effect of processing trade on the deepen processing step in the host country.

In allusion to the first problem, we advise as following:

- Improve the quality and technology content of domestic materials and try to come up to the international standard. This is the essential way to develop intermediate inputs industries. The concrete measures are to rebuild the present mode of production by imported advanced technology, to enlarge the investment on human capital to train workers to meet the demand of modern production, to give favors to domestic enterprises producing intermediate inputs on tax and using land, to increase the investment on R&D, give preferential policies to foreign funded enterprises with advanced technology which invest on intermediate inputs so on.
- Provide fair external environment for enterprises producing intermediate inputs. Presently the enterprises operating processing trade are encouraged to import intermediate inputs from abroad in fact. One of the reasons is that the domestic enterprises producing intermediate inputs face unfair treatment because of the unreasonable tax policy. The government should have more effect on enhancing the communication between the domestic enterprises producing raw materials with enterprises operating processing trade.

(3)The active policies will be carried out to upgrade processing trade and to optimize its structure

If processing trade stays at the low-tech level and simply processing and assembling, it is not benefit for the technology advancement of

Chinese processing industry and the elevation of international competitiveness. Presently, China has the same policy on both the low-tech level processing trade and the processing trade with high and new technology. It leads most foreign capital to invest on simple processing trade. It betrays the original intention of utilizing foreign investment for China. So we advise that china should cancel some favors on foreign funded enterprises operating simple processing trade in order to incite foreign capital to evacuate from the low-tech processing trade and enter into higher technical level processing trade.

People may worry about whether processing trade can develop as rapidly as before for this reason. Actually, the above policies may make some foreign funded enterprises which can not operate higher technical level processing trade leave from China and even lead weaker effect on creating employment opportunities. On the contrary, if we only emphasize on employment purpose and ignore the upgrading of processing trade, the processing trade is certain to lose potential energy.

The concrete advices on improving the transforming and upgrading of processing trade are:

- To adjust processing trade policy. To emphasize on transferring preferential policies into encourage “double high” (high technology content and high add-valued rate) processing trade, establishing processing and export zone of high technology, relaxing the limiting policies.
- To support the development of industries that produce raw material and intermediate inputs in Central, Western and Northeast area of China. To encourage MNC to enter into these industries and to move their R&D institutions to our country.
- To relax foreign trade policies. Giving equal competitive chance and statue to all kinds of enterprises. To improve the proportion of processing trade operated by the state-owned enterprises and private enterprises.
- To improve the area structure and products structure of processing trade. The Northeast area should take the advantage of old industry base and mainly produce raw materials and intermediate inputs of processing trade. It should be emphasized on developing farm products, especially the green products and touring products in the middle and west areas. The developed coastal area will move simple processing trade to backland or abroad and transfer to develop the

processing trade of “double high” products, special in developing the processing trade of electrical information technology, biological medicine, new material and environment-protected and such industries of high and new technology.

(4)The adjustment of managing model on processing trade

At present, the Chinese non-limited supervision pattern in processing trade makes against the supervision to the processing trade. The law consciousness of the processing trade corporations is very faint. So in practice there appears serious smuggle, high cost of supervision and so on. These problems have brought the recognition of the Chinese CIQ. One of the measures is that setting up export processing zone in Dalian or other areas, closely supervising the corporations in the zone.

In the zones, the custom should reform its traditional supervision pattern and simplify procedure, which means “one declaration, one examination of documents, on testing”. The concrete measures are:

- Customs will adopt the close and 24 hours check post supervision. The check post will be respectively set up goods and personnel channels.
- Customs will adopt the computer supervision pattern to the corporations in the zone. Customs and the corporation in the zones will be netted together by the computers, that can transfer the electronically data and transact procedure; The customs in zone and the customs of port will be netted together by the computers.
- The processing trade zones don’t carry out the bail pattern of the processing trade bank, cancel the “libber”, customs adopt the supervision pattern of electronically account book and the system of deduction once a half year.
- To the cargo to be dealt between the zones and outside of the zones, will carry out the supervision pattern of putting or records, the enterprises should fill in the “customs declaration of China” to declare the imports (or exports). (V) Between the zones and ports, the zones will carry out the directly supervision pattern, all of those will be check and discharged by the charge customs of the zones.

It can be anticipated that with carrying out the supervision pattern of the processing zone, the supervision of the processing enterprises will be gradually standardized. For the corporation, that will simplify procedure

and improve efficiency. For customs, this supervision pattern is propitious to carrying out more effective supervision, and to reduce smuggle. This supervision pattern is the basis orientation of the processing trade supervision pattern.

5. Conclusions

The development principle and purpose of Chinese processing trade are to propel the escalation and structure optimize of processing trade, to stably develop the traditional processing trade of comparative advantage, to push processing trade into high-tech industries, to elevate the ability to explore the own brand and own technology, to arrange the area structure of processing trade reasonably, to enhance the ripple effect of processing trade; to increase technology level of processing and add-value of the products, to bring up new comparative advantage, to enhance international competitiveness.

The present producing pattern is rebuilt by imported advanced technology. The investment on human capital and R&D should be enlarged. To give preferential policies to domestic enterprises producing intermediate inputs and foreign funded enterprises with advanced technology which invest on intermediate inputs, in order to improve the quality and technology content of domestic materials and try to get to the international standard.

We should cancel some favors on foreign funded enterprises operating simple processing trade in order to incite foreign capital to evacuate from the low-tech processing trade and enter into higher technical level processing trade.

The active policies will be carried out to upgrade processing trade and to optimize its structure. Processing and export zone of high technology should be established in order to support the development of industries that produce raw materials and intermediate inputs in Central, Western and Northeast area of China; and to encourage MNC enter these industries; and to move their R&D institutions into our country; as well as to give equal competing chance and statue to all kinds of enterprises. To improve the proportion of processing trade operated by the state-owned enterprises and private enterprises, the Northeast area should take the advantage of old industry base and mainly produce raw materials and intermediate inputs of processing trade; it should be emphasized on developing farm products, especially the Green products and Touring

products in the Middle and West areas. The developed coastal area will move simple processing trade to backland or abroad and transfer to develop the processing trade of “double high” products.

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The Financial Systematic Reform and Development in China

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Since 1978, with the increasing development and furthering improvement of economic systematic reform, China's financial system, which has undergone a series of reform with various contents and has basically founded modern market financial system, is now becoming a basic constituent of China's socialist market economic system. Those financial activities with the fields of bank, bond and insurance as the basic contents, have more and more intimate relationships with various parts of social economic life in the progress of China's socialist market economic development, playing more and more important role in harmonizing and propelling the development of national economy, thus improving the rapid development of social economy. Yet due to China's still being in the process of perfection, there still exist many aspects waiting to be gradually consummated or problems being badly in need of solution. This paper intends to make a general survey and discussion of the process, achievement, and some existential problems in China's financial systematical reform.

1. The Process of China's Financial Systematical Reform

Since the foundation of the People's Republic of China on October 1st, 1949, having gone through 3-years' recovery period of national economy, after the national economy's large-scale and planned development which started in 1953, according to the Pre-Soviet's pattern in holding high-level intensive planned management system, financial system has made reform in the pattern of the original Soviet's bank management, and has founded a highly-intensive national bank system which Chinese called later "The Big Unification" at the same time. This system extended to the end of 1970's or the beginning of 1980's. "The Big Unification" pattern of financial system was decided by the highly-intensive financial credit supervision system which includes canceling the function of commercial credit and centralizing credit in National Bank, separate management of the financial credit of the state-owned enterprises' fund, the enterprises' getting credit only from one branch institution of national

bank, canceling multiple kinds of account-settlement means and only using several fixed account-settlement means servicing in instructive project, practicing strict running in cash, implementing strict planned running in credit funds from above to below, and practicing funds-running system of unified income and expense, unified deposit and loan in corresponding banks, etc. Obviously, this kind of financial credit supervising system needs objectively “The Big Unification” in financial system in which various sorts of financial institution, of financial business function, and of both higher and lower levels in the interior of a bank centrally unified to be adaptable to each other, to depend on each other of existence, or it’ll lose the necessity of existence.

It can be seen from “The Big Unification” financial system that People’s Bank of China is actually the only one bank in China, with its branch institution spreading all over the country in a gradual level according to executive zones and each level of branch institution performing its business according to the central bank’s unified plans and instructions. It’s a combination of national financial executive administrative department and an economic entity of managing bank business. The starting point of projecting credit, account-settlement and cash receiving and paying in economic activities is to supervise strictly and guarantee the implementation of the center’s highly centralized planning task. “The Big Unification” financial system is the direct product of highly centralized planned economic system; therefore, it’s convenient to complement policies and controls the whole situation in the planned economic system. The realization of the “First Five” project and the following three years’ adjustment of national economy all reflected the efficiency and advantages of this financial system. Depending only on executive instead of economic means, the financial pattern of “The Big Unification” unified excessively and mechanically. For example, “The money planned to buy sesame oil can not be spent on vinegar” neglects the role of commodity production, value law and market regulation, thus making the whole financial system lack vigor, especially making the basic financial institution lack decision-making power, and making it unable to give initiality and positivity into full play. All these illustrates that this kind of financial systematic pattern didn’t fix with the development of social productivity, especially with that of market economy later on. It’s necessary to reform.

After 1978, China has reformed the financial system during the

process of economic systematical reform. This process has undergone three periods, the beginning period, the all-round propelling one and the deepening and standardizing one over the twenty-five years.

1.1. The beginning period of financial systematic reform (1979-1984)

The core of this period's reform was to transform the old highly centralized financial systematic pattern, to disintegrate "The Big Unification" financial systematic pattern and to establish two-level bank system. Before 1978, the bank's satisfying the need of highly centralized planned economic system was basically to bring the function of financial cashier and accountant into play. 60% of enterprises' needed funds came from financial allocation, 40% of the funds came from bank loan that was actually distributed strictly by plan. The characteristic of that period's finance is that money should accompany goods that were stipulated strictly by the nation's project. During the Cultural Revolution, the general branch of People's Bank of China was combined into the Financial Department. In 1979, Deng Xiaoping proposed, "It's a necessity to make the bank a real bank." The proposing of the "real bank" slogan played a very important propelling role in the reform of China's financial system. With the implementation of the policy which permits the governments to send out power and profits to the enterprise, the demand of funds circulation in economic activities began to increase, especially with the expansion of the enterprise's running autonomy, thus smashing the original structure of national income distribution. The percentage of finance in national income distribution gradually decreased, the income of enterprises, habitants and departments increased correspondingly, thus generating objective conditions which needs bank's role such as expanding deposition and loan credit, therefore providing opportunities and conditions for the bank's reform politically and in the angle of the needed funds of economic development.

The expansion of the scope of bank business will necessarily propel the change of running business. Under the system of "The Big Unification", the corresponding financial unified income and expense to the general branch of China's Bank of People is unified deposit and loan, that is to say, all the deposits are centralized in the general branch which decided the credit project and then made known to various departments of the lower level, making the lower branches lack the positivity to absorb the credit. After the reform, particularly under the slogan of making the

bank a “Real Bank”, banks began to attach importance to expanding business scope and absorbing credit, gradually establishing the concept of “Credit Establishes Bank” and the principle of “Deposit Determines Loan”, extending the autonomous power of basic organization and gradually improving the ability of the bank’s financing. Through establishing various kinds of credit means, banks attempted to protrude some basic bank business such as trade note acceptance and discount, thus expanding business scope and starting to make a breakthrough in the single bank credit mean. In 1981, China began to publish treasury, various kinds of credit such as national credit, bank credit and business credit began to be active gradually. China began to practice the measure of “Foreign currencies should be put aside according to a certain percentage” in the aspect of establishing foreign currency business, thus propelling efficiently the development of foreign currency. Some non-bank financial institutions were set up. Financial institutions began to be multiplied. In 1979, Henan founded some City Credit Press, and at the same year, the International Affiance Investment Company was founded. In 1981 Joint-ventured Loan Company was founded. In 1983 investment bank which aims specifically at engaging in the World Bank’s exchange loan business was founded, etc. Therefore, the reform of economic system and the change of bank’s business means propel each other, forming a momentum to propel the reform of “The Big Unification” financial systematic pattern.

Recently, China has basically established two-level bank system. In February 1979, China Agriculture Bank was recovered. In March 1979, China’s Bank solely established a system as Currency Specialty Bank. In January 1984, China’s Commercial Bank was separated from People’s Bank of China and founded formally. People’s Bank of China began to perform the function of Central Bank single-handedly, becoming the symbol of this period. As the end of the beginning period of China’s financial systematic reform and the beginning of the new phrase, the foundation of Central Bank system has important monumental significance.

1.2. The overall propelling period of financial systematic reform (1984-1993)

Finance is the core of modern economy while central bank is the core of modern finance. Without the establishment of central bank system,

China cannot make so many achievements. Central Bank doesn't deal business with enterprise or private person directly. Its function is as the bank of currency issuing and burden the function of the final loaner for the commercial bank engaging in specific credit business, meanwhile representing the departments for the government to manage finance, surrogating financial exchequer and supporting the government's economic policy, that is, the government's bank. So the three functions of issuing bank, bank's bank, and government's bank generalize the basic functions of central bank.

After People's Bank of China exerted technically the function of Central Bank in 1984, the two level bank (central bank and commercial bank) system formed elementarily in a modern sense. China's financial systematic reform entered into an overall spreading new era. The major contents of this period's reformation included:

- On the basis of giving priority to the direct adjustment and control, financial macro-adjustment and control increased the power of indirect adjustment and control. Under the basic goal of financial macro adjustment and control in keeping the basic balance between currency provision and currency requirement, the power in macro-analysis of national economy was increased. The relevancy degree between the economic variants and currency requirement was groped for through a series of relevant analyses in economic and financial target. Credit project and currency provision was established reasonably. The dual goal of currency stability and economy's rapid development was being given attention to. The regulation of deposit provision money and re-loan was established. The regulation of credit funds management was reformed further. The power of indirect finance was gradually extended. The original executive and direct management means were replaced with economic and indirect adjustment and control means and methods. The plasticity of currency provision system was strengthened. The unite banks' liquidation regulation was reformed, and the "mess" of the original unite banks' funds was destroyed. Central Bank and Special Bank set accounts separately, dividing funds, expanding the running autonomy's power of Special Banks, allowing various financial institutions to lend to each other, thus propelling the movement of funds. These measures not only strengthened the scientificity and efficiency of financial regulation macroscopically,

but also propelled the reform of financial institution microscopically, thus laying a good foundation for the establishment of indirect macroscopical regulatory system. Certainly, there existed transitory, incremental, and immature characteristics in the aspects of system, regulatory goal, regulatory means and methods, etc.

- Realize the diversification of financial institution. The most dominant change was reflected in the system of financial organization. In 1986, China established Joint-stock Company that was dominated by the state-owned stock—Traffic Bank. In the later half period of 1980s, Central Credit Bank, China Merchants Bank, Guangzhou Development Bank, and Shenzhen Development Bank were founded successively. By 1994, the number of City Credit Press has reached 5000. Financial Trust Investment Companies reached to 800 from the upsurge of trust business in 1984 to the end of 1988. Moreover, stockjobber, insurance company, enterprise financial company, trusts leasehold company developed quickly from scratch. By 1994, in terms of the variety of financial institution, China basically had almost all the financial institutions which were owned by developed countries, although there still existed some gap in the aspects of service function and management.
- Financial market developed rapidly, and short-term currency market and long-term capital market established successively. The first reflection is the appearance of Lending Market in the Same Business. After the establishment of Central Bank system, Commercial Bank and its branch institutions and webpoints increased rapidly, the problems of cash relief appeared. The efficiency is very low if cash is regulated simply according to the up-and-low level. Therefore solving the problems of zone gap, time gap and business gap in funds allotment between different zones and different kinds of financial institutions, making the funds flow efficiently, and playing their function into full play, thus Lending Market in the Same Business emerged as the time requires and developed fast. For example, in 1986, the bargain quantity of China's Lending Market in the Same Business was only 30 billion Yuan, but in 1988, it increased sharply to 520 billion Yuan. The second reflection is the establishment of Stock Market. In 1990 and 1991 when Shanghai and Shenzhen's Stock Exchanges were founded, the amount of listed quantity was limited and the scale was small. In 1991, the number of

the Listed Companies in Shenzhen and Shanghai's stock exchange was 14, in 1992, 53, in 1993, 189. The collected funds in 1991 was 0.05 billion Yuan, in 1992 was 9.4 billion Yuan, in 1993 was 37.5 billion Yuan. The third reflection is the rapid development of Bond Market. The Bond Market that was dominated by national debt has experienced remarkable change from executive allotment to market publishing in publishing means, with its publishing scale expanding year after year. In 1984, the national debt was 4.3 billion Yuan, in 1993, it reached to 46 billion Yuan. Meanwhile, the second-level market of national debt exchange developed gradually. Although the scale of currency market and capital market then was not big, and there existed many problems, their status and role in the development of China's financial systematic reform was extremely important.

1.3. The deepening and standardizing stage of financial reform (1994-1998)

The financial reform of China entered a new phase, which is characterized, by orderliness, regularity and stability. In November 1993, *the central government's decision on establishing socialist market economy system* was passed in the Third Session of the Fourteenth Central Committee of the Party, soon after it, *the decision on financial reform* was made. This indicates that the financial reform of China has arrived at a new phase of orderly operation, regular development and pushing forward as a whole. The main achievements of the reform in this period are:

- Making clear the goal and direction of our financial reform. The financial reform of earlier stage achieved spectacularly, but in fact, these achievements were obtained primarily under the guidance of “crossing the river by groping for stones”. The direction of the reform was general and in strict accord with principles with the feature of “unidirectional leaping forward” and the obvious trace of spontaneity and disorderliness. The financial reform of new phase makes clear the direction at the outset, that is, establishing the financial system fitting in with the system of socialist market economy and the target is to establish the macroscopic controlling system of central bank which can independently execute monetary policy; establishing the financial system with separate policy finance and commercial finance, with the nation-owned

commercial bank as the center, various kinds of monetary establishments coexisting; establishing uniform opening financial market system of orderly competition and strict management. What's more, it makes clear a series of tasks relevant to reform for the realization of the three systems. This indicates that the reform of the 3rd phase is not only the summation and deepening of the experiences of earlier stages, but also the transition from spontaneous to guiding, from "crossing river by groping for stones" to "crossing river by building bridge" phase.

- Striking improvement of macro-controlling level. With the demand to establish a powerful macro-controlling system of central bank as the target, it systematically designed the program to reform and perfect our monetary policy system, studied the object system of monetary policy, hierarchical division and monitoring analysis, the tools of monetary policy, the conducting mechanism from decision and enactment to feedback of effect. And on this basis, the operation plan of gradual enforcement and orderly pushing forward was put forward.
- Promoting the reform and deepening of monetary system. For this purpose, at first, we created situations for the transition from nation-owned specialized bank to commercial bank, deprived the nation-owned specialized bank of its policy monetary task and established three policy banks consisting of State Development Bank, agricultural development bank, import and export bank. Secondly, we enforced the unified corporation policy among all the monetary bodies in order to reinforce the capability of uniformly dispatching capital and management of all the monetary establishment headquarters. Thirdly, we resumed the mutual help and cooperation of urban and rural credit cooperatives and founded urban commercial bank in central cities through amalgamating credit cooperatives. By doing this, we met the financial demand of local economy. Fourthly, on the basis of appraisal of properties and funds, settling claims and debts, we enforced the principle of separate management and administration of bank, trust stock and insurance. Our primary task is to solve the chaotic management of bank and trust.
- Readjusting the order of financial market and normalize the development of financial market. Firstly, we perfect the currency

market. We established the money supply lending market and short-term financing market respectively in 1994; we established the trade network of lending market nation-wide and loosened the restriction of the interest of lending market. Besides, we strengthened the management from the acceptance to discount, trans-discount and rediscount of commercial receipt. Secondly, we accomplished the establishment of nation-wide foreign currency market from April 1994. In July 1996, the foreign investment corporation is incorporated into the bank's settling system, which marked the formation of the nation-wide foreign currency market. Thirdly, the further development of stock market. Stock and Treasury bond market develop rapidly; Treasury bond becomes more and more diversified; issuing market is gradually expanded; the issuing way becomes increasingly mature. The monitoring system of stock market is further improved and the transaction behavior and rules of subject is further standardized.

- Four capital management corporations are established one after another. Nation-owned corporations were deprived of bad capitals of 1,400 billion Yuan. The bad loans of large and middle-sized corporations are transformed from debts to shares.
- Financial supervision and legislation were strengthened. The diversity of financial corporations, the corporatization of financial institutions and the marketization of the financial operation were enhanced greatly which aggravated market competition and increased the risk of corporations' operation. To further the financial reform, stabilize the finance, ensure financial safety, the financial supervision and its legislation must be strengthened. The financial supervision of new phase is different from the previous administrative supervision and management. In the new phase, the competence of financial monitoring subject, the regulations, monitoring means, basis, object of the monitoring object changed tremendously. The nucleus content and basic relationship of our market financial system have been summarized into certain statute law *Chinese central bank law, commercial bank law, insurance law and stock law*.

It has been 26 years since the reform and development of our financial system was carried out. Now, the framework of market financial system, including financial adjustment, organization, market, and

supervision is basically established.

2. The market financial system of China

The reform and development of China's financial system during these 26 years and the basically established financial system framework are the basic achievement of China's financial system reform. China's financial system framework is composed of financial organization system, market system, regulating system and supervising system.

2.1 China's financial organization system

Opening and reform of China brought out the prosperity of financial industry. Till now, China has basically established the financial organization system with the nation owned financial institution as the center; various kinds of financial institutions doing their own labors and cooperating with each other. Gradually, the bank, stock, insurance industry and their corresponding financial system with respective supervision responsibility are formed.

Now, financial institutions of China are classified into 7 groups according to their significance and functions.

- Central bank and bond, insurance, bank supervising bodies. In China's supervising system, People's Bank of China is the central bank, which is responsible for making and enacting monetary policy according to law, enforcing macroscopic control and resolution on financial industry and anti-money laundry and inquiry. The Bond Supervising and Managing Committee of China is the supervising and managing organ of stock industry, whose duty is supervising and managing stock and option industry. The Chinese Insurance Supervising and Managing Committee is the supervising organ of insurance industry, responsible for supervising the insurance industry and market. The Bank Supervising and Managing Committee of China is the supervising organ of bank industry, responsible for supervising bank industry and rural credit union. China has firmly established financial management system including one bank, three committees, and one bureau.
- Policy bank. Launched and funded by Chinese government, it carries out financing and credit activities according to the country's special economic policy and purpose. At present, there're three

- policy banks in China, including the Development Bank of China, Import and Export Bank of China, Agricultural Development Bank.
- Commercial bank. Commercial bank is the financial institution, which makes profits through absorbing deposits, granting credits or doing intermediary business. At present, Chinese commercial bank is composed of nation-owned commercial bank with its own investment, joint-stock commercial bank and urban commercial bank, housing deposit bank, foreign capital bank and joint bank.
 - Stock organization. It provides intermediary service for the participants (issuer, investor) in stock markets. There are stock corporations, stock exchanges, stock registering and settling corporation, stock investment consulting corporation and capital managing corporation.
 - e). Insurance organ. It specializes in insurance business. There are nation-owned insurance corporations, joint-stock insurance company, and branches of foreign- capital insurance company in China, joint insurance company.
 - Credit cooperative organization. At present, there are urban credit unions and rural credit unions.
 - Non-bank financial organ. At present, it consists of credit investment companies, finance companies, and charter companies.

The variety of financial organization corresponds with the development of Chinese market economy and the plural economic structures, the variety of economic subjects and the change in the distribution layout of national income requires the corresponding change and development of financing channel and financial market and further, the establishing of different financial organs to serve economic development of different levels and types. In May 1998, the Central Financial Committee was firmly established. Its primary duty is leading the communist party's construction work in the financial system, rather than financial business. Meanwhile, the Central Financial Discipline Inspecting Committee was founded. Then, in order to perfect the supervising mechanism of the key nation-owned financial organization, supervising committees are sent by government to the primary nation-owned financial organs to supervise and manage their assets quality and increasing value of national assets.

2.2. The financial market system of China

Financial market is the place where financing is carried out. In

economic life, it juxtaposes with commodity market, technical market and labor market. Financial market is a big system including many concrete, independent yet closely related markets. Now, in China the lending market in money market and stock market in capital market are relatively rapidly developing and influential.

Lending market. It's the market in which capitals are lent between financial organizations. It's the short-term financing conduct between financial establishment with corporate organization and financial branch organization authorized by legal person. In some countries, it refers specially to the short-term financing among money establishments, which absorbs public deposits; the purpose is to regulate money supply and temporary capital surplus. The characteristics of lending market are as following:

- Short-term. Because it is temporary need, the term is relatively short, usually it ranges from overnight, one-day, 7-day, one-month to 4-month.
- The financial institutions participating in lending market open deposit account in the central bank. In the deal, they primarily used the surplus capital in that account.
- Credit lending. The admission to the market is rather difficult, the participating financial organization play important parts in promoting the development of socialist market economy of China. They are mainly: First, financial organizations don't need to maintain large amount of excess reserve. In this situation, the expenditure is not influenced; besides, the highly profitable capital scale can be maintained and expanded to realize interest maximum. It not only benefits the realization of the management goal of financial organizations, but also can meet the businessmen's demands for capital in economic activities to advance the development of social economy. Secondly, it is advantageous for the central bank to enforce money policy correctly and financial macro-control. The change of the trade price or interest reflects the short-term capital supplying and demanding situation in capital market. According to its interest level and the tightening of capital, the central government correctly employs money policy tools to regulate money supply and stringency of money to carry out macro-control and realize the object of monetary policy.

Bond Market. Bond is the debt voucher that the government,

financial organizations, industry and commerce publicly issue to the investors and promise to pay back the principal sum and interest at the agreed interest and term. Bond market is the place where stock is sold. It consists of bond issuing market and circulating market. There're many types of bonds in China at present. According to the different issuers, there're national bond, local bond, financial bond, corporation bond, etc. According to different interest-paying method, there are discount bond, interest payment, fixed-interest bond, floating rate bond. Discount bond is also called interest-free bond and there is no coupon attached to it nor is the earning rate stipulated. The issuers issue at the price lower than the face amount and buy back at face amount. The difference between issuing price and buying price is interest. Interest-attached bond is also called fixed-interest bond. The interest is paid in the form of coupon exchange at the due time. For fixed-rate bond, interest must be paid in payment period as agreed no matter how the financial situations change, while the interest of floating rate bond changes with the fluctuation of market rate. Sometimes, the upper-limit and low limit of rate fluctuation are stipulated, interest should be paid according to it at due time. China's present bond market developed very smoothly, mainly because the good development of economy and the features of bond are acceptable.

- Repayability. The holders can have the principle sum and interest back at the fixed repaying time.
- Security. Since there is no direct relation between bond interest and issuers' achievement, the earning is steady and secure. Even if the enterprise goes bankrupt, the bondholder can enjoy the priority of residual assets to the stockholder.
- Profitability. The bondholder can gain interest income. They can benefit from buying and selling bonds. They can also gain additional income by mortgaging and repurchasing bonds in the financial market.
- Mobility. The bonds can be transferred or traded in the market.

Stock market. The stock issued by the limited corporation is written scrip, which indicates the holders' rights and corresponding obligations according to their share. Stock market is made up of stock-issuing market and stock-trading market. Stock-issuing market (primary stock market) is a place where the limited corporation collect fund by issuing stocks. Stock-trading market (secondary stock market) is a place where various issued stock is transferred, circulated and traded.

There are two types of secondary market. One is a market with fixed central place such as stock exchange. China has two exchanges in Shanghai and in Shenzhen. The other is a kind of trade without fixed or central place such as NASDAQ in New York, the United States. This type of exchange does not exist in China, but it has been discussed for years. The main participants of stock market are investors, listed companies, securities companies and stock exchanges. The listed companies are limited corporations whose stock is permitted to trade in stock exchange. They collect fund by issuing stock, acting as the fund-collectors. Securities companies are intermediary organizations between investors and listed companies. By mid-April, 2004, there are 1300 listed companies in China, valued 4300 billion Yuan of stock.

New types of stock appear constantly. According to stockholders' rights stock has two types: ordinary stock and favorable stock. The former indicates that holders enjoy equal rights and no special limitation. The holders can gain corresponding dividend according to earning of company. They have various rights including the right to manage the company, to assign the earning, to share the residual assets and priority to underwrite stock. Favorable stock issued by corporation have prior claim to the distribution of earning and residual assets. The dividend of ordinary stock is changing with earning of company. While that of favorable stock is fixed, just like bond. The limited corporation allocates the earning first to creditors as interest, then to holders of favorable stock, finally to holders of ordinary stock as dividend.

Although stocks is various, they do have common features. First, profitability and risk. The stockholders enjoy the rights of assigning dividend and sharing bonus. The company operates better, the more dividend and bonus. Vice versa. Sometimes, there is no dividend and bonus at all. If the company goes bankrupt, the investors may suffer from the loss of principle sum to the different degrees. Secondly, participability. The stockholders have the rights to participate in policy-making. For example, they have rights to present at stockholders' conference, to make the management principles to elect or change the trustees and the supervisors, to examine and approve the yearly budget and final accounts of the company. The participability of stock can arouse the holders' zeal to supervise the business administration. The business policy-making is under the stockholders' supervision and control. It guarantees the democratic management of fund. The right to participate is determined by

the share of stock. Thirdly, permanence. The investigators who purchase stock cannot withdraw share. It is a permanent investment. But they can sell stock in stock-trading market when they want to get money back.

2.3. Financial Controlling System

The central banks perform financial controlling throughout the world. In China, the function is performed by People's Bank of China. Monetary policy is the key and comprehensive reflection of the macro-economic control. By making and performing monetary policy, People's Bank of China controls monetary sum and composition, and maintains money supply-and-demand equilibrium and structural balance, and achieves the social market equilibrium, and further guarantees the development of national economy. Therefore, monetary policy plays a crucial role in our socialistic market system. At present, we can basically use monetary policy to control the operation and development of national economy.

Monetary policy, an important part of macro-economic policy, refers to all the principles, policies and measures of controlling and regulating monetary supply and credit, which are made by central bank to achieve its particular economic and financial objectives. In a narrow sense, traditional monetary policy includes ultimate goal, intermediary goal, policy instrument and conductive mechanism. The general monetary policy refers to all the aforesaid concepts and all the policies measures, management systems and codes related to money or banks. Our current monetary policy refers to the former one, which is characterized by four points. First, it is a macro-economy policy. Monetary policy cannot influence directly on micro- economic entity like a bank or an enterprise, but it influences greatly on micro-economy and finance activities. Secondly, it is the regulation of the social aggregate demand. By regulating social requirement to affect social supply indirectly, the policy achieves the balance of social supply and demand. Thirdly, it is the means of economic regulation. Monetary policy regulates economic and financial activities by instrument of monetary policy, instead of administrative orders. Fourthly, it is a long-term policy. The four goals of monetary policy: stability of prices, full employment, economic development, balance of international revenue and expenditure are the results of long-term economic operation.

Another financial category closely related to monetary policy is basic money. In the foreign countries, basic money means the sum of cash in

circulation and banking reserve of commercial banks. Due to different economic system and operating mechanism, the composition of basic money in China is different, including financial deposits, deposits of office bodies and troops, postal deposits, legal requirements of banks, excess bank reserves of financial institution and monetary circulation.

1) Ultimate goal of monetary policy

Ultimate goal is the final result that the policy-maker expects to achieve by putting monetary policy into effect. Traditional monetary policy has four key ultimate goals: economic development, full employment, stability of prices and balance of international revenue and expenditure. The four goals can harmonize with each other, but they can also be contradictory. Therefore, it is different to achieve the four goals at the same time. When a nation makes its goal of monetary policy, it must consider fully the practical requirement and contradiction of different goals. Different country performs different goals of monetary policy. Some countries have multi-objective monetary policy, including economic development, full employment, stability of prices and balance of international revenue and expenditure. Some have single goal according to their practical situation. Some policies aim at stability of prices or monetary unit stability or exchange rate. Since the foundation of new China, monetary policy has experienced a special phase of development. From 1953 to 1978 under the highly centralized planned system, national planning controls money issuing, credit and prices. The bank, though its operating function, is an administrative division of the Treasury. In fact, monetary policy is only a part of financial policy. Since the reform and opening, with the establishment of institution of central bank, People's Bank of China performs its function of regulating macro-economy. It aims at stability of monetary unit and economic development. Sometimes it may have different stress. But stability of monetary unit and economic development are not always harmonious. They are usually contradictory, especially in economic field. When social economy grows in a rapid speed, there is usually obvious inflation. On the other hand, when credit is squeezing and prices are relatively stable, the speed of economic growth tends to slow down. Years of practices prove it different to focus on two objectives in the practical operation. In 1993, *Decision on Reform of financial system of the State Council* points

out that ultimate goal of monetary policy is to maintain the stability of currency and to promote economic growth. In March 1995, People's Representative Committee passed and enacted *bank law of People's Republic of China*, which determines ultimate goal in the form of law. It is the sum-up of past experience and lessons. Stability of monetary unit is the most fundamental aspect including internal monetary unit (stability of prices) and external monetary unit (stability of exchange rate). Economic development is the long-term task of China. Stability of monetary and economic development is unified. The former is the premise and the latter is the basis and result. Unstability of monetary unit can be represented by inflation or deflation. Past experience tells us that both are harmful to social stability and economic development.

2). Intermediary goal of monetary policy

In order to realize monetary policy, the central bank adopts kinds of measures, means and regulations of intermediary variables and operating targets, which can be called intermediary goal. It is the important norm to supervise the effect of monetary policy for it supplies numerical measures. Exact choice and operation of intermediary goal is the essential link of realization of ultimate goal. Intermediary goal should meet three requirements. i) Relativity. The goal should have a stable and close relationship with ultimate goal. ii) Controllability. The central bank can control it by all kinds of monetary instruments. iii) Measurability. The central bank can have business accounting regularly. According to above requirements, intermediary goal chose at present is basic money and monetary supply. First, basic money is total indebtedness of People's Bank of China, that is sum of cash in circulation and various deposits in banks. Since basic money can be controlled by People's Bank of China and it is the basis of credit creation of commercial banks, People's Bank can make commercial banks and public adjust the capital component to change the social requirement and further influence interest rate, prices and all the social economic activities. In general, if the sum of basic money increases, monetary supply will increase, so will the social requirement. Vice versa. Secondly, monetary supply refers to all the currency, which is served as the medium of circulation and paying at a certain time. Its change can reflect change of social purchasing power. Cash in circulation, private deposits and deposits of enterprise and

institution are concrete representation of monetary supply. In the practice of controlling currency circulation, according to their mobility, monetary can be supervised, analyzed and controlled from different levels (M0, M1, M2, M3). Nowadays, we divide monetary supply into three levels (M0, M1, M3). M0 stands for cash in circulation, that is cash circulating outside bank system; M1 stands for currency in a narrow sense, that is M0 + current deposits of enterprise and institution which can pay by the check; M2 stands for currency in a wide sense, that is M1 + fixed deposits of enterprise and institution + residents' deposits + customers' deposits of security company. Among three levels of monetary supply, M0, the most active currency, is closely related to the change of consumer prices. M1, the leading index of economic cyclical changes, reflects the tightness of capital of residents and enterprises. Its mobility is second to M0. M2 circulates slowly, but it can reflect the change of total social requirements and future pressure of inflation. In China, monetary supply mainly refers to M2. People's Bank of China began to announce monetary supply to public from October 1994. In July 2001, the first revision put the customers' deposit of Securities Company into M2. Furthermore, credit limit once acted as an intermediary goal by People's Bank.

3). Instruments of monetary policy

The instruments refer to all measures, means and principles performed by the central bank. In order to achieve the final goal of monetary policy, the central bank adjusts its intermediary goal by adopting monetary policy instruments. The current policy instruments includes deposit reserves, payment reserves, central bank loans, open market operations, rates of interest, guided credit plans and so on.

- Deposit Reserve. Deposit reserve refers to the partial deposits among the total deposits in commercial banks and other financial institutions based on a certain proportion. The proportion between reserves and deposits is called legal deposit reserve rate. Suppose the rate is 10 percent, and the financial institutions absorb 10 million Yuan, they must pay the central bank one million Yuan as deposit reserves and the rest is used to grant loans. Therefore, if the central bank increases its deposit reserve rate, the financial institutions will hand over more deposit reserves, which will

restrict the grants of loans. And accordingly the monetary supply will decrease. Conversely, it will increase. As long as financial institutions run deposit business, they must pay deposit reserves. Establishing the system of deposit reserves will bring about the following advantages.

- a) It will guarantee the successful payment to customers. And it is helpful to avoid payment risks, to defend not only the legitimate rights of depositors but also the credit reputations of the financial institutions.
 - b) It will meet the needs of smooth clearing among the financial institutions. The claims settlement and debts clearing are carried out based on the deposit accounts in the central bank. Deposit reserves can be used to clear, and the central bank provides such a service. By doing so, the social funds will turn over more smoothly and will be used more efficiently.
 - c) It is crucial to implement monetary policy. The central bank is able to reduce or increase loans and money supply by increasing or reducing legal deposit reserves respectively. For example, in order to control the overhead economic growth and preventing inflation, People's Bank of China raised the rate from six percent to seven percent since Sept 21st, 2003. On April 25th, 2004, it raised the rate again to 7.5 percent.
- Payment Reserve Payment reserve refers to the funds retained by commercial banks and non-bank financial institutions for guaranteeing the payment of deposit and bill clearing. Payment reserve is composed of cash in vaults, and deposits in PBC. The deposit reserves in commercial banks and non-bank financial institutions can be divided into three parts:
- a) Cash in vaults;
 - b) Deposits paid to PBC according to a certain proportion between deposits and the total sum of debts, which is called legal reserve;
 - c) The part that exceeds the legal reserves in the deposits of PBC is called payment reserve. For the third part, the reserve that surpasses normal proportion in the payment reserves is called excess reserve. The increase of excess reserve means that the bank has a strong capacity in potential grants and investments. However, before excess reserve is put into use, the larger it is, the greater the

potential loss will be.

- The Central Bank Loans. The loans provided by PBC to commercial banks are normally called re-loans, which is the general designation of various means by which PBC circulates funds for the government-owned commercial banks and other commercial banks and financial institutions. As far as the ways of circulating funds is concerned, there are credit loans, mortgage loans and bill discounts. As far as time limits are concerned, it can be divided into four grades: 20 days, three months, half a year and one year. By adjusting the rate and amount of re-loans, PBC regulates and controls money supply to achieve the goal of loosening or tightening money.
- Rediscount. Rediscount is the process of transferring papers to PBC made by commercial banks and financial institutions by discounting the undue eligible papers of industrial and commercial enterprises. By adopting discount instruments to adjust rediscount rate, PBC will increase their funds circulation from PBC and finally get money supplies reduced or increased.
- Open Market Business. Open market business refers to a kind of monetary policy means carried out by the central bank by flexibly buying and selling bonds to expand money supply and interest rate when participating in open market activities. Its immediate goal is to influence the liquidity of banking funds. The direct goal is to influence the credit activities of commercial banks and financial institutions by influencing the changes of interest rates. The central bank has the right to take initiative in open market business. According to whether money is stringent or not, the central bank will buy bonds from market to make funds flow into market when expansion policy is needed. And it will sell bonds to market to reduce funds in circulation when deflation policy is needed. The central bank aims to influence the amount of payment reserves in commercial banks and financial institutions by buying and selling bonds in open market order to influence their capacity in credit expansion or contraction. Currently, PBC's open market business is in its starting stage and needs further development and improvement.
- Rate of Interest. Rate of interest refers to the price of funds. Interest refers to the reward got from debtors after creditors

(money-owners) transfer their rights to use money. In China, the interest rate system includes rediscount rate, which refers to the discount rate in transferring papers to PBC made by commercial banks and financial institutions by discounting the undue eligible papers of industrial and commercial enterprises; benchmark rate, which refers to the rate of re-loans made by PBC to commercial banks; inter-bank offer rate; rate of loans made by commercial banks or financial institutions to industrial and commercial enterprises. According to the nature of debtors and creditors and time limits, etc, it can be divided into legal rate, market rate, short-term rate, medium-term and long-term rate, fixed rate and floating rate and so on, which make up a closely related rate system. The rate of interest is a means of GDP re-allotment. The certainty and adjustment of it is, in essence, the adjustment of interest of various aspects. Therefore, in China, the following factors should be taken into consideration.

The Comprehensive Level of the Price. If the interest rate is higher than the rate of price rise of the corresponding period, the actual yield of depositors can be guaranteed. As for whether rate level is high or not, whether nominal rate is high or low should be taken into consideration. And what is more important is to consider whether the interest rate is plus or minus.

Interest Burdens Carried by Large and Medium-sized State-owned Enterprises. In a long run, the funds needed to develop these enterprises mainly come from bank loans, so the change of interest rates has a direct and important influence on the costs and profits of the enterprises. Therefore, when rate is fixed or adjusted, the enterprises' endurance capacity should be considered. From 1996 to 1999, the rates of deposits and loans are successively reduced seven times in China and according to statistics; the total volume of reduced enterprise loan rate reached over 260 billion Yuan.

Interests of State Finance and Banks. The influence on financial revenues and expenditures mainly relies on the increase or decrease of financial tax revenues handed over by enterprises and banks. The influences on enterprises have been discussed above. And the influence on banks is mainly to make banks have an appropriate interest rate differential between deposits and loans to guarantee the smooth operation of the banks.

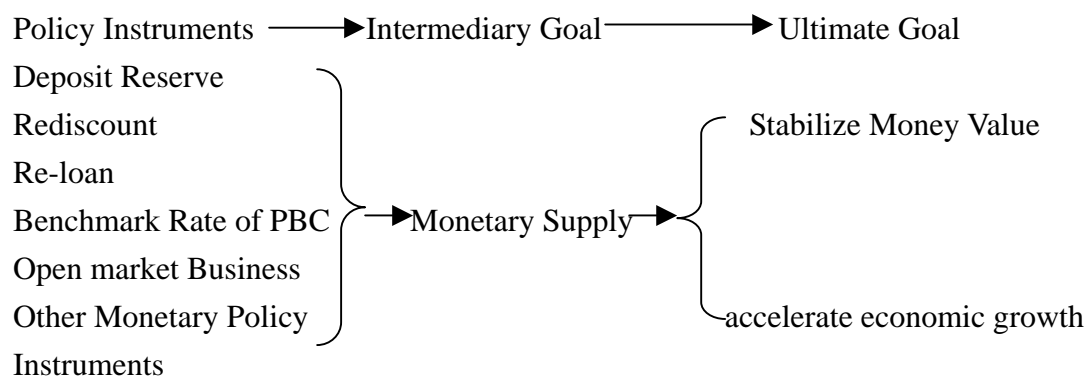
State Policy and the Condition of Supply and Demand of Social Funds. The formulation of rate policy not only indicates different requirements of the state policy at different periods but also needs to take the law and the condition of supply and demand of social funds into consideration.

Some factors such as time limits, risks, etc should also be considered. These factors are important basis of fixing and adjusting interest rate. Generally speaking, the larger the loan is, the higher the rate will be; the bigger the risk is, the higher the rate will be. And at the same time, when rate of interest is fixed or adjusted, the international rate policy and its level should be referred to.

There are also some other monetary policy instruments such as the guided credit plans, the loan quota that has been cancelled since 1998 and so on.

4) The Transmission Mechanism of Monetary Policy

In the process of implementing monetary policy, how to bring about some changes in social and economic life by applying a certain monetary policy instruments to achieve its fixed goal is called transmission mechanism of monetary policy. On the analysis of the mechanism abroad, there are two kinds of theories of transmission mechanism held by Keynesian school and monetary school. The character of the former is that it pays special attention on rate links. And the later emphasizes more on the direct effects brought about by money supply in the whole mechanism. In China, according to the direction of financial reform and some regulations in Bank Law of People's Republic of China, money supply is more emphasized. The transmission mechanism of monetary policy in China can be illustrated as following:



2.4. The Financial Supervision System in China

Since 1990s, financial crisis have occurred in many countries and regions all over the world. In 1991, the International Commercial Credit Bank went bankrupt. In February 1995, Berlin Bank in England with a long history of 233 years was bought because of its bankruptcy. In 1994, financial crisis occurred in Mexico. In July 1997, a series of financial crisis began from Thailand and swept Southeast Asia, East Asia and Russia. Brazil was also involved. The frequent occurrences of financial crisis make financial risks and financial supervisions deserve unprecedented concerns around the whole world. Especially because of the occurrences and spread of Asian financial crisis, the problems in strengthening financial supervisions, in preventing and dissolving financial risks throughout the world become more obvious and urgent. Currently, the framework of financial supervision system has been established in China and includes the following basic contents:

1) The regulations of the financial supervisions in China and the International Laws

A perfect legal system is the premise or base of carrying out financial supervisions. The legal framework for the supervisions in China includes the following aspects:

The basic laws were passed in National People's Congress and its standing committee. They include *the Bank Law of People's Republic of China* (Revised in 2003), which is Chinese central bank law. It entrusts the right to formulate and implement money policy and to supervise run financial business to PBC. It also makes clear the basic duties PBC should fulfill and the basic legal responsibilities it should take; *The Commercial Bank Law of People's Republic of China* (Revised in 2003) was the basic regulation in commercial banks. And it also clearly provides the commercial bank's establishment, its organizational institutions, its scope of business, its plan on business, its financial accounting and means of punishment and so on. The other laws include the *Guarantee Law of People's Republic of China*, the *Enterprise Law of People's Republic of China*, the *Paper law of People's Republic of China*, the *Insurance Law of People's Republic of China*, the *Banking Supervision and Management Law of People's Republic of China* and so on.

The regulations promulgated by the State Council include the *Regulations on the Foreign Financial Institutions Management of People's Republic of China*, the *Foreign Exchange Management Regu-*

lations of People's Republic of China, the Regulations on Punishment for Financial Irregularities and so on.

The rules and regulations formulated and issued by the Ministry of Finance and the ministries and commissions such as PBC. They include the General Rules on Loans, the Financial System of Financial Enterprises and so on.

Certainly, being a member of international financial organizations, China participates in formulating and revising the international standards, and also abides by these general international laws. Therefore, China will refer to the following international laws when overseeing finance:

The Report on Standardizing International Banking Capital Ratios and Capital Regulations. It is set forth in July 1988 by Basle Committee on Banking Supervision, which is abbreviated as Basle Accord.

The Core Principle of Efficient Banking Supervision. It is set forth by Basle Accord in September 1997 and is abbreviated as Core Principle.

The New Capital Sufficiency Framework, Basle Accord sets it forth in June 1999, abbreviated as New Framework. It is still in discussion. After it is laid down and issued, China will actively consult and follow it.

2) The main content of financial supervision in China. It includes the whole process involving the market entrance of financial institutions; their business operation and market withdraw.

i) The Supervision on Market Entrance. The supervision on market entrance refers to the process in which the financial supervision institutions investigate and approve the qualified institutions on their financial market, their financial products operation. The goal is to meet the needs of the economic, financial development plan and market in the aspects of quantity, quality, structure, scale and distribution, etc, through effectively controlling the whole financial system in investigating and approving the financial institutions.

To set up the financial institution can not be done without the regulations in conformity with the law, the floor value of the registered capital according with the set rules, the qualified professionals and experienced high-ranking managers, the perfect organizations and rules and regulations, places business and security protection measures and other requirements associated business according with the demands. The fundamental requirements mentioned above are the floor value of the registered capital, the qualification of the high-ranking managers and the scope of business, etc. At the same time, all the following should be

stipulated correspondingly: the legal procedure through which the Bank Law of the People's Republic of China examines and approves the financial institution, the examination and approval of break-up or merger of the financial institution, alternation of the institution's name and registered capital, locations of the head bank and the branches, the scope of business, amending regulations, etc.

ii) Supervise the financial business operation.

Supervision of the financial business operation goes as follows: a). Supervise the compliance of the business operation. b). Supervise the capital adequacy ratio. In recent years, China has put the assets-liabilities ratio into the management of the commercial bank; the financial trust investment institution and the urban credit cooperation, stipulating that the capital adequacy ratio should be no less than 8%. c). Supervise the capital quality. The bad loan in Chinese commercial bank consists of arrears (debts unpaid after the term of repayment or a certain time of prolongation), dead loan (which is one year overdue) and the bad debts (which is really lost). The quota of the supervisory control of People's Bank of China stipulates that the proportion of the bad loan to total loan surplus should be no more than 15%, in which the proportion of the arrears should be no more than 8%, the proportion of the dead loan no more than 5%, and the proportion of the bad debts no more than 2%, etc. d). Supervise the mobility of capital. The ratio of the mobility of capital in the commercial bank is stipulated no less than 25%. e). Supervise the profitability. The main content of the quota system for supervising the profitability comprises profit ratio of capital, profit ratio of asset and the ratio of interest rebate, etc. f). Supervise the internal controls. The internal controls of the financial institution comprise the control of internal organization structure of the financial institution, the control of the crisis of the internal capital transaction, the control of derivative instrumental trade, the control of the crisis of the credit capital, the control of accounting system, the control of authorized credit and the control of the computer business system. Moreover, it's made clear of the two main means of the on-the-spot inspection and off-the-spot inspections of supervising the financial operation.

iii) Supervise the withdrawal from the financial market. During the process of the business operation of the financial institution, a few financial institutions can't afford to pay the due debt because of breach of operation rules and regulations, causing the gross loss due to the

ill-management, injuring the interests of the depositors and investors, capable of shaking the public's confidence which would result in credit crisis, even the regional or industry-wide financial crisis. Therefore, the central bank supervises the financial institutions particularly, which have a considerable potential crisis. To some special financial institutions, which have difficulty in liquidity temporarily, emergency assistance should be carried out as far as possible through coordination and industry rescue or providing temporary salvage loan, etc. To those which a variety of assistance measures are still, have no avail; their business license should be cancelled to force them to withdraw from the market in order to forestall the spreading of crisis.

Dissolution, revocation (closing) and bankruptcy are three forms of the financial institutions withdrawing from the market. The revocation and legal bankruptcy of the financial intuitions may result in the negative influence such as a certain social turmoil, so it should be carefully dealt with. In a normal situation, the financial institution in plight should be assisted as possible or withdrawn in a way with less turmoil, for example, being procured or merged by the strong one.

3. Prevent and Dissolve the Financial Crisis in China

At present the problem of financial crisis exists in different levels in the countries all over the world. China is now just in the process of the transformation of economic structure, and the task to prevent and dissolve the financial crisis seems crucial. As far as the crisis in China's finance operation concerned, the main problems go as follows:

- The capital quality in the financial institution, especially in commercial banks is poor. For instance, the proportion of the bad loan is high, business debit interest is increasing and the hiding credit crisis is quite big.
- Some financial institutions have quite a few problems left over by history. For instance, some trust institutions credit association have insufficient capital, unable to pay the due debt, confronted with a considerable crisis of liquidity.
- The illegal financial institutions are set up arbitrarily. Some units or individuals are engaged illegally or covertly in the financial business, and multitudinous illegal capital raising leading to latent payment crisis.
- The financial crimes are rampant. A few financial institutions or their

employees are engaged in the financial crime such as illegal operations, employment of trickery, out-of-book activity, unfair competition, financial fraud by collusion between internal and external, etc. Big and vital cases constantly happen.

- A great number of activities against the law or rules exist in the stock and futures market. For instance, part of listed companies are low in quality and many companies have a big latent crisis because of their listing by packing, not publishing the real situation of the internal listed company, big traders playing the market, setting up stock exchanges without authorization in some places. vi). Float an external loan without authorization. Some financial institutions or enterprises float an external loan against the regulations or in a disguised form, or guarantee the floated loan, etc, bringing out the great crisis of external loan payment, etc.

The problems left over by the planned economic period, as well as the ones appearing in the transformation period of the economic system and the ones accumulated for years in the financial field itself form our country's financial crisis and all the problems together become the deep causes for the financial crisis. The main problems go as follows.

The government-owned banks are too much interfered by the government, which delays the transition to the modern commercial banks. The main manifestations are: the corporate governing institution in some financial institutions is not perfect and weak in the internal control. Lax in management, with the illegal business operation constantly happening after prohibition, and the lack of self-control, some financial institutions don't choose the right person for the job, with employee of poor quality or an unprincipled person at the key post, causing lots of pernicious cases; the problem of everybody eating from the same big pot, that means indiscrimination is still rather prominent and the short-term conduct is widespread and the responsibility, right and interest don't match up, lacking the internal incentive mechanism or the internal motive force of self-development in the long run.

2) Problems existing in the process of economic transition. Under the economic construction, some projects are launched blindly and establishment is put up rashly. The unsatisfying economic structure, low benefit and high indebtedness of enterprises force some credit capital into financial disbursement. The zeal for real estate and development area has lasted for years. These problems cause much bad credit capital, a

considerable part of which become bad debts.

3) Direct financing and capital market is lagging. Credit risks are centralized in the banks. The debt ratio is high. The turnover of fund is slow. In 1998, the ratio of general money to gross domestic product (M2/GDP) is 0.5 in India; 0.6 in South Korea; 0.67 in the United States; 1.2 in Japan, while 1.31 in 1998 and 1.46 in 1999 in China. We depend mainly on indirect financing. The development of direct financing and capital market is lagging. Too much credit is centralized in the banks. The turnover of fund of state-owned enterprises is slow. Economic performance is poor. The risk of too much bad loan will be centralized in the banks, so the banks are at the risk.

4). No sound legal system of finance.

There is no law to obey, or no strict execution of law. Sometimes, it is difficult to execute the law. The market economy is in the phase of perfecting, so the laws and regulations of economic activities need improving step by step. At present, economic activities are lack of protection of laws to a certain degree. Some economic cases finally get the verdicts. For example, the banks resort to laws to demand loan repayment, but they seldom can succeed. Meanwhile, the financial supervision is too weak to satisfy the new situation of rapid development of financial industry.

According to the major causes of financial risk, the prevention and resolving of financial risk should pay attention to six aspects.

Deepening the reform of financial system and realizing the financial standardization and development. Further deepening the reform of financial system can make finance industry consistent with market economy system and promote the development of market system. First, we should quicken the speed of transformation of share holding system in state-owned commercial banks. The transformation program should be made on the basis of "one bank has one policy". In 2003, the State Council decided to perform pilot project of share holding system in Bank of China and China Construction Bank. The foreign exchange reserves of 45 billion dollars are used as complementary fund of two banks. By strict supervision and internal reform the ratio of bad loan begins to decline. By the end of 2003, the bad loan amounted to 2,400 billion Yuan, reduced by 157.4 billion Yuan over the beginning of the year. The ratio of bad loan is 15.1%, down by 4.69% over the beginning of year. Secondly, the development of Security Company needs further opening and regulating.

By the end of 2003, ten qualified overseas investors are permitted to invest in China. The opening of the joint –venture security company enables the foreign capital to enter Chinese security industry. We need to regulate issue-and audit system of security and strengthen the supervision of security market. By the end of 2003, the number of the listed companies of A-share and B-share is 1278, increasing 63 over the same period of last year. Stock amounts to 642.846 billion Yuan. It values at 4245.771 billion Yuan. The value in circulation is 1317.871 billion Yuan. The capital sum of 133 security companies is 561.8 billion Yuan. There are 34 capital management companies, 95 fund of portfolio investment. The net value is 174.431 billion Yuan. The investors use 702.541 billion Yuan to open the account. Thirdly, the speed of reform and development of insurance industry need quickening especially for the state-owned insurance companies. In 2003, three major state-owned insurance companies in China finished the restructuring of share holding. The three companies are Insurance Company of People's Property, Life Insurance Corporation and Reinsurance Corporation. Insurance Company of People's Property is the first Chinese financial institution, which becomes a listed company overseas. Life Insurance Corporation succeeded in financing of 3.5 billion dollars. Meanwhile, to develop Insurance Corporation of share holding system, great effect should be made to attract private or foreign capital. The investment forces can be various. China is trying to protect the structure of corporate management. Then, we should promote the development of Insurance Corporation of private cortical. Fourthly, China should quicken the reform of credit cooperative in the countryside. In 2003, the State Council enacts *the pilot program of deepening the reform of credit cooperative*. The program plans to change credit cooperative in local financial institution that is managed by farmers, rural businessmen and various economic forces. The pilot program has been launched in Jilin, Zhejiang, Shanxi, Jiangxi, Guizhou, Shaanxi, Chongqing and Jiangsu, trying to perfect the system of property right, to disentangle the management system, to transfer operating mechanism and to strengthen the service function.

2) Treat and dispose the existing risks respectively. Based on specified analysis and judgment of various financial risks, the corresponding disposal plans should be made according to different causes and degrees of risks. To some institutions whose problems are not very serious, we can help them by more investment, acquisition and transformation from

debt to equity. As for some financial institutions that debt is greater than capital and cannot pay due debt, they need reorganizing, reconstructing, revoking or going bankrupt.

3) To protect the legal right of creditors. When we reorganize some financial institution of high risk, all possible measures should be taken to secure the residents' deposits and legal interests. For example, we can establish reinsurance system, or system of salvation.

4) To prevent financial crime and moral risks. We must give severe sentence to various financial crimes. For example, the external cheating of loan, remittance and interest, the internal malfeasance, neglect ion or misappropriation. All possible measures should be made to preserve, the capital sum in order to lessen the loss of the capital.

5) To regulate by law and to strengthen the supervision. The sound financial regulation make the enter operation, and exit of the market standard and legal. On 28th April 2003, the banking supervision committee announced its establishment. It oversees the banks, capital management companies, credit investment companies and other financial institutions likewise. So far, the supervision model of the cooperation of banking supervision committee, securities supervision committee and insurance supervision committee begins to take shape. In 2003, the nation enacted *banking law of supervision and management* and *law of securities investment*, and revised *law of People's bank* and *law of commercial bank*. These laws and regulations perfect the legal system of financial supervision. These laws mainly concern about three points. First, the cooperate management structure in the financial institution need perfecting. The system of modern enterprises demands modern financial system in accordance with the development of market economy, and developing mechanism of self-control, self-stimulate in state-owned financial institution. It further enables to strengthen the construction of internal control system, to perfect internal management structure of supervised institution and perfection of internal control. Secondly, not only legal means and economic means, but also administrative, educational and organizational means are used to support financial supervision and evaluation. Thirdly, strict laws and regulations should be made to strengthen the supervision and execution.

6) To resolve the risks in development. Development is the key point. The accumulated financial field must resort to development for resolution. Thus, under the circumstances of rapid, constant development of the

national economy, the financial industry should broaden the service field, quicken financial creation, improve quality of service, and promote economic profit. It should try hard to prevent and resolve financial risks in the phase of development.

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On the Leading Functions of China Government in the Development of Infrastructure Industries

Hu Lijun, Zheng Yan, Wu Yingna

1. The Proposition of the Question

An authoritative definition of *infrastructure* from World Bank in *World Development Report 1994* shows there is a broad sense and a narrow sense about infrastructure. Infrastructure of the narrow sense refers to *economic infrastructure*, namely permanent construction, facilities, installations, and the services they provide for residents and economic production. The related industries and departments include public utilities (electric powers, post, telecommunications, conduit system, piped gases, water supplies, environmental sanitations, etc), public projects (dams, canals and roads) and communications and transportation industries (railway, urban traffic, seaport, water transportation and airport). Infrastructures of broad sense includes *social infrastructure* too, which refers to such departments, besides the economic infrastructure, that offer the intangible products as culture, education, scientific research, medical treatment and health protection and so on¹. What is discussed in this paper is the infrastructure of narrow sense, namely *economic infrastructure*. For the convenience of statement, the authors only use *infrastructure* in the following discussion.

Infrastructure industries and *natural monopoly industries* have something in common as to their meanings and extensions. Infrastructure industries are defined in the perspective of their roles in national economy, and the natural monopoly industries are defined in the perspective of market structure. But most infrastructure industries are monopoly industries, that is to say that it is more cost-efficient to have only one player in the market than two or more to provide products or service. Such as industries of water supply, gas or heat supply, electric power, telecommunications, railway, water transportation and aviation, and so forth.

¹ Wu Qing. 2001. Public Quality of Infrastructures and Enlightening on Its Policy. *China Economy Times*, February 12.

Network is a distinguish feature of infrastructure industries, namely manufacturers have to provide offerings through all kinds of network system of transmission, and consumers have to accept these products and service with the aid of such network. That's why infrastructure industries are also called network industries.² For instance, network of railway, highway and rivers, network of running water, gas pipe, and network of electric power distribution and TV transmission, etc.

This feature of network makes high barriers to entry or withdrawal for players. As a kind of fixed assets, these networks have a long economic life and need heavy investments, and they are usually built up for some specific purposes. Therefore, there are high barriers for new comers to enter into these industries. And the enterprises that want to move out of the market also have to bear huge sinking cost and face some serious obstacles.

Furthermore, infrastructure industries generally have externalities. That's to say, economic behaviors of enterprises or individuals from the industries could exert an influence on the outside of the industries, which will lead to some difference between private cost (the cost of enterprises or individuals) and the social cost. If such influence can result in an increase of others' income and a decrease of their cost, we call them positive externalities. Vice versa, we say there exist some negative externalities. For instance, some generating plants generate power by burning coal, the environment pollution caused by them is a kind of negative externality.

In addition, the infrastructure industries are public welfare services³, because these industries impact greatly on the development of other industries in national economy and people's life as well. A research of G. Ingram, an expert of World Bank, indicates that, generally speaking, a country's output grows at the same speed as infrastructure. One percent growth in infrastructure stock will lead to one percent growth of GDP. Take China for example, the development of infrastructure industries play a vital role in its industrialization and modernization.

These characteristics stated above imply that it is necessary for the government to guide and interfere in infrastructure industries rationally.

² Zhang Xinzhu, R.Laffont, Aniestash. 2001. *Network Industry: Regulation and Competition Theory*, Social Scientific Literature Publishing House, Page 2.

³ Publicness means the rivalry of consumption and exclusivity of technique. The rivalry of consumption means that the consumption of other consumers is not increased by the consumption of a certain consumer. And exclusivity of technique means one of the following situation: the first is that no one can service to some consumers alternatively and get rid of other consumers outside (such as the consumer not paying the expenses) in the course of consumption; second, it is uneconomical that get rid consumers of who refuse to pay outside although it will be feasible on technology.

From the macro perspective, proper industry policies should be carried out to promote their development. From the micro perspective, government should introduce necessary regulation to improve the enterprises' efficiency in these industries. At the meantime, being an investor, the government should fulfill its obligations as well as enjoy its rights in the enterprises.

The central issue of this paper is to study government's functions in the development of infrastructure industries and how to effectively perform. The paper begins with a discussion and summary of the government's directing function in infrastructure industries development since the reform and opening from the perspectives of industry investment policy and regulation measures. Secondly, the paper analyzes the current issues in China's infrastructure industries, government's performance and their future objectives and tasks in development. Furthermore, the paper moves forward to explore what roles government should play in industry regulation, monopoly elimination and regulation department reform to achieve the above-mentioned objectives. The authors also put forward some detailed suggestions on government's directing function in several key infrastructure industries.

2. Achievements and the government's function in the infrastructure industries in China

2.1. Development of the infrastructure industries in China

Before the reform and opening, China's government put emphasis on developing heavy industries and spent no enough effort on infrastructure. As a result, infrastructure industries have been left behind in the national economy for a long time, and have become the "bottleneck" which limited the development of the whole economy and society.

Only since the reform and opening, has the government increased the investment in infrastructure industries and promoted actively the institutional reform inside the industries, all of which brought enormous achievements. The specific statistics work is presented in table 1 and table 2.

Table 1: A comparison of the Capacity of Chinese Infrastructure Industries in 1949 and 2001

| Industry | Capacity | 1949 | 2001 |
|-----------------|---|--------|-------|
| Energy industry | Output of raw coal (a hundred million tons) | 0.3243 | 11.07 |
| | Output of crude oil (ten thousand tons) | 12.08 | 16500 |

| | | | |
|-----------------------------|--|-------|-------|
| | Output of electricity (a hundred million kilowatt-hour (KWh) s) | 43 | 14780 |
| Transportation industry | Course of development of railway (ten thousand kilometers) | 2.18 | 7.01 |
| | Mileage of highway (ten thousand kilometers) | 8.07 | 169.8 |
| | Course of development of inland river transportation (ten thousand kilometers) | 7.36 | 12.2 |
| | Mileage of pipeline of oil (ten thousand kilometers) | 0.12 | 2.8 |
| Telecom. industry | Total capacity of the telephone exchange (ten thousand) | 31.17 | 20600 |
| | Number of Mobile communication users (families) | — | 14522 |
| Urban construction industry | Water supply (ten thousand cubic meter /day) | 267 | 22900 |

Source: State Statistics Bureau. 2002. *Analysis Reports for the Sixteenth National Congress, No.8: The Development of Infrastructures Industries in China*. <http://www.stats.gov.cn>.

Table 2: The Capacity Increment of Infrastructure Industries in China From 1978 to 2001

| Industry Name | Capacity Increment | 1978 ~ 2001 |
|-----------------------------|---|-------------|
| Water conservancy industry | Total capacity of reservoir (hundred million m ³) | 5420 |
| | Number of reservoirs (seats) | 97000 |
| | Number of sluices (seats) | 38000 |
| | Newly-built dyke (kilometers) | 274000 |
| Energy industry | Raw coal (ten thousand tons) | 46672 |
| | Crude oil (ten thousand tons) | 29331 |
| | Natural gas (hundred million cubic meters) | 378 |
| | Installed gross capacity of generators (ten thousand kilowatts) | 25417 |
| Transportation industry | Course of development of railway (kilometers) | 18167 |
| | Mileage of highway (kilometers) | 160937 |
| | Harbor capacity (ten thousand tons) | 57661 |
| Telecom. industry | Distance of cable (kilometers of the cover) | 161056 |
| Urban construction industry | Water supply (ten thousand tons /day) | 12952 |
| | City gases (ten thousand cubic meters /annual) | 84475 |
| | City liquefied gases (ten thousand tons /annual) | 140 |

Note: The newly increased capacity of water conservancy industry in Table 2 is from 1978 to 2000.

Source: Statistics Bureau. 2002. *The Analysis Reports for the Sixteenth National Congress, No.8: The Development of Infrastructures Industries in China*. <http://www.stats.gov.cn/>.

2.2. The Function of the government in the infrastructure industries in the past more than 20 years

Without effective support from the government, China would not have made such great progress in infrastructure industries. There is no doubt that it is the series of related industry policies and reform measures made by the government that have promoted the development of infrastructure industries since the reform and opening.

2.2.1. Guidance of the industry policies

During the period of *The Seventh Five-Year Plan*, the key points of China's industrial-structure policy included that *the development of transportation industry and telecommunication industry should be give a priority*. And during the period of *the Eighth Five-Year Plan*, it is also mentioned in the government's industry policy that *a close attention should be paid to the strengthening of basic industries and infrastructures y*. And it is made clear that more investment would go to the industries of energy, transportation, post and telecommunication, important materials and so on⁴. Moreover, the government has implemented positive financial policy and issued more long-term national debts, all these are measures to increase input in infrastructure construction since 1998. From 1998 to 2001, 52.5 billion yuan, 25.9 billion yuan and 4.73 billion yuan raised from national debts had been invested in arterial highway construction, railway construction and civil aviation industry respectively. Among these projects, focuses are the main line airports and by-line airports in Midwest. Besides, 76.6 billion yuan raised from national debts had been spent on infrastructure construction in 967 cities. Till the year 2001, a great deal of key projects in the infrastructure industries had been completed and put into production, which have improved the infrastructure and provided the economic development with sound material foundation. The accumulative total capital invested in infrastructure industries from 1953 to 2001 in China is shown as below in table 3.

⁴ Wu YiJun, Qiu Jun. 2001. *Industrial Economics*, China's Statistics Press, Page 509~515.

Table 3: The total capital construction investment in the infrastructure industries in China from 1953 to 2001 (a hundred million Yuan)

| Industry | 1953~1977 | 1978~1988 | | 1989~2001 | |
|--|---------------------------------------|---------------------------------------|-----------------|---------------------------------------|-----------------|
| | Total capital construction investment | Total capital construction investment | Annual rate (%) | Total capital construction investment | Annual rate (%) |
| Infrastructure industries | 3583 | 5277 | 10.4 | 62516 | 25.4 |
| Farming, forestry, fishery, and water conservancy industry | — | 461 | 0.1 | 4955 | 27.5 |
| Energy industry | — | 2052 | 13.9 | 22038 | 18.9 |
| Raw & processed materials industries | — | 1107 | 4.9 | 5244 | 9.8 |
| Communication industry | — | 1232 | 12.9 | 22998 | 27.7 |
| Public service industry | — | 423 | 24.3 | 7281 | 39.4 |

Source: State Statistics Bureau. 2002. *The 8th of Analysis Reports for the Sixteenth National Congress: The Development of Infrastructures Industries in China*. <http://www.stats.gov.cn>.

2.2.2. Reforms and Introduction of new Regulations

For the natural monopoly characteristic, the market mechanism can hardly work effectively in the infrastructure industries, which required the government to perform regulations to direct business's behavior and control the market structure and to solve the problem of how to maintain competitiveness while enjoy the scale of economies for the enterprises. The reform measures taken by the government in the infrastructure industries in the past two decades can be summarized as the following:

Price Regulation. The government has carried on a series of adjustment and reform measures regarding the price system of infrastructures since the 1980s. There are generally two stages of the adjustment and reform: The first step was price push up in the infrastructure industries, which is popularly known as *From the planned price to market price*. It has eliminated substantial subsidy from the service price and corrected distortion caused by the subsidy. Then the price began to reflect the real cost of products and service. For instance, in the electric power industry, the highly centralized electricity price was changed into a system of different prices in order to cut down cost for enterprises and encourage more

investment. The second step was price falling down. With price mechanism moves towards perfection, price begun to reflect the cost that had already been cut down through technology progress and efficiency that resulted from enterprises internal reform and regulation reform. Telecommunication industry is a good case in point too. In February 2001, a significant reform had been carried out by China Telecom Company that long-distance call was to be charged by second instead of minute.

Operating mechanism reform in enterprises. To promote enterprises' profit, the government has taken a series of actions in infrastructure industries that aimed at operating mechanism transformation and establishment of modern system of enterprise. As a result, in some industries, enterprises were separated from their administrative authorities. That is to say these enterprises' administrative authorities would no longer participate in their management directly. As for those state holding enterprises, the role of owner began to be played by the management organization of state-run assets. So the enterprises could become the real players in market. For example, in 1998, the government cancelled Ministry of Electric Power Industry and set up national Utilities Electric Company, therefore, the enterprise were separated from the government regarding the management system, which is the prelude to the reform of electric power industry.

Introducing market competition mechanism to infrastructure industries. In order to encourage enterprises to further improve their operation efficiency, the government introduced competition mechanism to the infrastructure industries and carried on industrial recombination step by step. Take telecommunication industry for example, China United Telecommunications Corporation (China Unicom) was formally established in 1994, and began its competition with China Telecom in the market. Till earlier 2003, there have already been several players like China Telecom, China Mobiles, China Unicom, China Netcom and China Railcom in the telecommunication market. This has much weakened the monopoly force in the market. In electric power industry, the set up of some enterprises that raised their fund by BOT or other methods has brought competition pressure to the existing state-run electric power business.

Reform of investment system. In order to change the situation that the government was the sole investor in infrastructure industries and relieve the government's fiscal burden, some reforms of investment system have been carried out, including letting the lower levels of government invest in infrastructure industries, simplifying approval process of investment, and encouraging local government and private organizations to invest in

infrastructure industries. As a result, a new investment pattern in infrastructure industries has come into being. In this new pattern, the government, organizations and even individual can all become investors in infrastructure industries. And foreign fund has been involved in more and more business and projects in infrastructure construction, which is particularly the case in power generating business and transportation business. Furthermore, a key characteristic of this reform is that the central government has transferred its investment power to local governments. The principle of *who invest, who benefit from it* promotes their enthusiasm to invest in infrastructures. In fact, local governments have already become the main investors of infrastructure industries. Being well aware of the demand of local economy, they know how to improve the benefit of the investment.

In the first half year of 2003, 147.4 billion yuan of fixed assets were invested in city public infrastructure in 31 provinces in China. Statistics of 20 of them shows that most of the investments were self-raised fund, domestic loan and local financial allocations from different organizations, which accounted for 31 percent, 22.8 percent, and 15.4 percent of the total investment respectively⁵.

3. Issues and perspectives of China's infrastructure industries

3.1. Actual problems in China's infrastructure industries

After two decades of reform and construction, especially due to the rapid growth since 1990's, great progresses have been made in China's infrastructure industries and the problem of supply shortage has been solved to some extent. However, infrastructure industries are still facing many problems. If no proper ways have been found out, they will restrict the infrastructure's development. Therefore, it is necessary to make these problems clear before objectives and tasks are decided.

3.1.1. Inconsistency between supply shortage per capita the arising demand because of rapid economy growth

Though in some infrastructure industries, such as energy, transportation and communications, the supply has met the demand, this is just a temporary

⁵ Source: *Investment in Fixed Assets of Urban Construction in the First Half of 2003*. <http://www.cin.gov.cn/>, 20 provinces (including municipalities directly under the Central Government) are Tianjin, Hebei, Shanxi, Liaoning, Heilongjiang, Shanghai, Jiangsu, Zhejiang, Anhui, Fujian, Jiangxi, Shandong, Henan, Guangdong, Guangxi, Hainan, Yunnan, Ningxia, Qinghai, Xinjiang.

equilibrium at a low-level, and the growing demand is still difficult to be satisfied. Since *the Ninth Five-Year Plan*, there has been an accelerative increasing demand for energy, transportation and communications. When it comes to supply, per capita indexes in infrastructure are still low. For example, installation capacity of dynamos per capita is only 0.27 kilowatts and generated energy per capita is 1278 kilowatt-hours, both of which are less than a half of the world average level and the average level of developing countries. The average length of highways every sq km is only 0.12 km, and 0.18 km after deducting the mountain areas. Even in the most developed coastal area, the length is 0.3 km while the world average length is 0.5 km. In addition, the capacity of heavy and medium-sized airports to accommodate passengers is insufficient in the civil aviation industry. For instance, as national standard stipulated, the ratio of the capacity that airport lounge holds the passengers annually to its area should be 100:1. But at present, there are 22 airports of main lines among 32 are under the standard. This ratio of Beijing Capital Airport is 229:1, Guangzhou White Cloud Airport is 259:1 and Chengdu double-current airport is 400:1⁶.

Compared with energy, transportation and communication, the supply of water conservancy and the infrastructure in cities even can hardly meet the demand of low-level. For example, the situation of water shortage in north China has not been improved, the standards of flood prevention of main rivers and lakes in the south can only meet the requirement of controlling the most serious flood in recent two decades. And soil-erosion area is 1,790,000 square kilometers and the total quantity that soil runs off is 5 billion tons annually nationwide. What's more, one third of the reservoirs under service need repairing. And the infrastructures in cities are lagged behind. Among all 666 cities, 330 of them cannot supply water sufficiently and 60 cities have a serious water shortage. Nearly all of these cities are large-and-medium-size ones⁷.

3.1.2. Antagonism of production structure and inequality of regional development in infrastructure industries

The production structure is unreasonable in many infrastructure industries. Taking electric power industry for example, thermoelectricity plants depend too much on burning coal to generate power. The proportion of coal-driven generators is up to 75 percent, which has led to very serious environment

⁶ Investigations Group, 2002. *Chinese Infrastructure Construction*, <http://www.cnnc.info/>.

⁷ Investigations Group. 2002. *Chinese Infrastructure Construction*, <http://www.cnnc.info/>.

pollution. Among these thermoelectricity plants, the proportion of small-and-medium-sized ones is too high. For example, 49.5% of thermal power generators are those energy-consuming ones under 200,000 kilowatts⁸. Such situation has resulted in serious waste of energy resources and pollution. As to waterpower, heavy demand in some areas leads to a serious power shortage in low water seasons.

In the year 2002, all over the country electricity consumption limit was carried out in twelve areas in low water season of winter and high electricity-consuming season of summer. For instance, the supply of East China electric-transmitting network could hardly satisfy the demand, therefore, Zhejiang, Jiangsu and Shanghai limited their electricity consumption in summer which is the peak season of electricity consumption. And Henan, Hubei Sichuan and Chongqing limited their electricity consumption in the low water season of winter. Structural problem of electric power supply became more serious in 2003 and 19 provinces limited their electricity consumption in the first three quarters⁹.

Moreover, the long-term supply is not stable in the coal industry. On the one hand, the capacity of the key state-run enterprises is decreasing; they only account for less than 50 percent of coal production at present. On the other hand, the number of small-size local collieries is increasing excessively to 70,000. With an average annual production of only 7900 tons, these small-size local collieries already account for more than 40 percent of the country's coal production¹⁰.

In China's communications and transportation industries, little has been changed as to the situation of underdeveloped highway network. The mileage of expressway and highways designed for automobile is only 2 percent of the total mileage of highways. And the roads of grade four and below are 240,000 kilometers, whose share in the highway network is as high as 20 percent¹¹.

In addition, the regional structure of infrastructures in China is unbalance. On the one hand, infrastructures in Midwest are generally getting much behind those in coastal areas; it is especially the case when it comes to transportation and infrastructure in cities. For example, with 86.3% of the national area, the Midwest only have 60% of the highways and less than

⁸ Investigations Group. 2002. *Chinese Infrastructure Construction*, <http://www.cnncc.info/>.

⁹ Ouyang Changyu. 2003. *Why Tighten Suddenly the Supply of Electric Power*, Fortnightly Comment, Number 16th, Page 33~35.

¹⁰ Investigations Group. 2002. *Chinese Infrastructure Construction*, <http://www.cnncc.info/>.

¹¹ Investigations Group. 2002. *Chinese Infrastructure Construction*, <http://www.cnncc.info/>.

70% of railways in the country¹². The reasons lie in underdeveloped economy and capital shortage in city construction. In some Midwest cities, even the garbage and waste water are not properly disposed. And all of the 15 towns that have no electricity are in the Midwest. On the other hand, infrastructures are excessively and repeatedly constructed in some areas and industries. For example, there is a high density of airports and airport lounges in coastal areas, and the ports in lower reaches of Yangtze River and coastal areas.

3.1.3. Deficiencies of management systems

These institutional problems in infrastructure industries include the following: there is no clear division of functions between government and enterprises, the administrative monopoly is serious, price mechanism is unreasonable and the competition mechanism in the market is not perfect and so forth.

No clear division of functions between the government and enterprises and serious administrative monopoly are shared by most infrastructure industries. Planning economic system that had existed for a long time in China led to the state monopoly in infrastructure industries. Some other features of infrastructure industries made government become the leading power involved in these industries. At present, the government and authorities at all levels are still running some enterprises. This is the main reason of the low efficiency in infrastructure industries, and makes a negative impact on their market-oriented process.

Unreasonable price mechanism is another problem the reform in infrastructure industries is faced with. Before the reform and opening, the planning price of the products and service was on the low side and led to a serious supply shortage. Some primary reform had already been carried out in infrastructure industries. But when the monopoly had not been broken yet, there appeared an excessive increase in price, which stimulated repeat construction and reduced demands. Such as discount competition in the civil aviation industry, violation of competition between some local telecommunications and CATV (Community antenna television) and the dispute of whether the customers could be charged more by the railway transportation during spring festival period. Fortunately, some laws and regulations have already been made and the *hearing system of the price* has been introduced to solve these problems.

¹²Investigations Group, 2002. *Chinese Infrastructure Construction*, <http://www.cnni.info/>.

3.1.4. Retardation of regulation reform on the part of government

Because of the nature of natural monopoly of most infrastructure industries, market mechanism fails to restrict the enterprises effectively. Therefore, the government needs to regulate the players' behavior. At current stage, government regulation is also facing many problems, such as product price regulation, unreasonable regulation on entry, legislation lags behind and no independent regulation department and so on.

For example, the current price of water is still based on the cost and expenses that quoted by local water plants, which does not stimulate the enterprises to promote their efficiency. It is obvious that the cost quoted by a specific plant from a specific area is only the monopoly business's cost in this area, cannot be taken as a reasonable average social cost. Such operation gives no pressure on the plants to cut down their cost and better their management. To be even worse, some enterprises will exploit the opportunity to quote a higher cost to the regulation authorities. This, in the end, leads to their low efficiency and loss. What's more, the loss of most water plants is made up by local governments' fiscal subsidy. It is no wonder why their employees can still have a raise in salary and fringe benefits while they are suffering from losses.

The reform of the infrastructure industries in China follows the tradition of *reform first and legislation afterwards*, which has led to the situation that legal system lagging behind the reform and leaves government's regulation little legal restriction. Now, except electric power industry, no regulation department has been set up in other infrastructure industries. Those laws and rules promulgated in some industries are executed and made by the same governing departments or departments that playing the role of owners. So it is difficult to guarantee the objectivity and fairness of the regulation behavior.

In those industries that have no independent regulation departments, the regulators are the service departments or governing departments, and sometimes even investors or decision-makers of the state-owned enterprises. When the *sportsman* is the *referee* at the same time, no effective regulation could be guaranteed. For one thing, the regulator will not really treat all the players equally. Discrimination against the new comers and non state-owned enterprises is popular. For another, it is very likely to appear *regulation captive* phenomenon, which means that the government is controlled by the enterprises in the industry, serve for the interests of these enterprises and their own, and finally deviate from the goal of *promoting consumers'*

welfare.

In addition, there is no unification and coordination in the regulation system in many infrastructure industries, the regulation authority is overly decentralized. For instance, Ministry of Transportations only supervises highways and water transportation, whereas railage is supervised by Ministry of Railways and the civil aviation by CAAC (Civil Aviation Administration of China). And regulation power of investment approval, , pricing, standard-making and investigation of anti-monopoly are shared by different departments, such as planning department, financial department, the administration for industry and commerce, pricing department, technical supervision department and some other departments. That's why it is like troubled water in regulation.

3.2. Goals and tasks of infrastructure industries' development

To deal with the above-discussed issues and to realize China's goal of a well-off society, infrastructure industries need further developing. The goals and tasks of infrastructure industries' future development can be summarized as following:

3.2.1. Improving the ability of supply in infrastructure industries

In the *bottleneck* industries with great gaps of supply and demand, such as water conservancy, city water supplying and city road industries, extensive construction and reconstruction should be carried out to solve the problems of water shortage, water pollution and heavy traffic in cities. And in other infrastructure industries like energy and communication, reasonable investment is required to satisfy the fast increasing demand. A good case in point is power industry. Because there was an overly supply during *the Ninth Five-Year Plan* period, ever since then the government had slowed down and cut down the investment in new electricity projects. But the demand for electricity was on a dramatic rise and serious power shortage appeared in 2002. More and more provinces have introduced electricity consumption limit since the second half of 2002. It was the same story in the year 2003 and 2004. In order to better the situation, the government adjusted investment plan of electricity industry, and the number and scale of projects that will start and be put into production will both become larger. Equilibrium is hopefully to be achieved during *the Tenth Five-Year Plan* period. As the case indicates that the government should not just be content with what it is now, but should predict future trends and adjust the supply

accordingly. Therefore, the overall ability of supply could be improved.

3.2.2. Rationalization of the production structure in the infrastructure industries and convergence of regional development

In the communications and transportation industries, intelligent traffic should be developed based on information and network. And the technological innovation of railways should be carried out and the train should be sped up. It should strengthen large-scale containerized transport system, specialized bulk cargoes transporting system and the sea channels construction of the main ports in the coastal areas.

In energy industry, the structure of energy should be optimized. Higher proportion of high-quality coal should be produced in coal industry. Large-size colliery restructuring should be encouraged, high-productive and high-efficient mines should be set up and gas resources should be developed from coal levels. And the researches and development of clean coal technology should be put into a wider use through demonstration. In addition, further adjustment in electricity structure should make better use of the current power capacity and encourage the development of water power, large-size power plants and encourage proper development of nuclear power, reduce the number of small-size thermoelectricity plants. Moreover, some substitute products for oil, such as alcoholic fuel, should be developed to save oil resource. Also, wind energy, solar energy, geothermal power and some other new energy and renewable energy should be encouraged in production. The technology of energy-saving and combination use of different powers should be promoted.

When it comes to regional structure, the government should increase input in infrastructures in the Midwest. For instance, it should speed up the preparatory work of the *Transferring Southern Water to the North* project, stress on the expansion of railway network and focus on building more by-line airports in western area. A national wide electricity network should be built up, and in order to achieve this, the government should construct some and reconstruct the existing electricity network in both rural and urban areas as well as establishing three passages of north, middle and south to send western electricity to the east.

3.2.3. Further reform of the management systems

Due to different stage of reform in different industry, the institutional reform in infrastructure industries should also be carried out step by step. As

to the industries of railway, aviation and post, the first step should be the division of functions between enterprises and government. Therefore, the enterprises could manage their business independently and have profit and loss to their own and develop, discipline themselves, and become corporation entity and market principals. Being the owner of state-owned enterprises, performing the function of investor, its relationship with state-owned enterprises could be shown through the establishment of an effective system of state-owned assets supervision, management and operation. Being the industry regulator, the government should keep its independence and behave on the position of the third party. And it should not interfere with the daily business of the enterprises directly.

In the industries, such as the telecommunications and electric power, in which the work of division of functions between government and enterprises have been finished, the natural monopoly business should be separated from the competitive business; competition mechanism could be introduced through industry reconstruction; and property right should be reformed step by step to realize the pluralism of the share holders.

3.2.4. Strengthening governmental governess for improving of enterprises' operation efficiency

The regulation system reform in infrastructure industries lags behind at present. To improve such situation, the government should accelerate the legislation in the industries, set up independent regulation authorities and implement effective supervision.

Telecommunications law and antimonopoly law need to be legislated urgently in China at present. At the same time, the laws of railway and electric power need to be revised imminently as well as the local rules of city planning and public utility. Additionally, it should pay attention to the coordination of the antimonopoly law, price law and the wrongful competition law.

Independent regulation departments should be set up in the industries of telecommunications and transportation and so. Independence and fairness are the features of this type of organizations. To be more specific, at first, they should be independent from the enterprises and have no interest in them; secondly, they are free from political pressure and have enough autonomy; thirdly, they have an independent and strong professional authentication competence; and lastly they have great flexibility in finance.

4. Outlook of the development of governmental function in the infrastructure industries

With the progress of the reform in investment system, the operating mechanism of state-owned enterprise and competition mechanism of the market of China's infrastructure industries, the government's main tasks in the coming year include effective industry regulation, standardize enterprise behavior and maintain a normal and positive market order. Meanwhile, as the main investor in infrastructure industries, the government should still play its role and promote the development of infrastructure industries by making proper macroeconomic policies.

4.1. Creating competition as the eternal theme

Effective competition refers to the ideal state that scale economies stay harmoniously with active competition. The feature of natural monopoly has decided that on the one hand, the scale economies could only be achieved when there is only one or a very small number of players in the market; on the other hand low efficiency appears when there are not many players and no efficient competition. Only effective competition can lead to a better satisfactory of consumers' needs and bring consumers more benefits.

4.1.1. Distinguished regulating natural monopoly and competitive businesses

To introduce the effective competitions to infrastructure industries, the first task is to distinguish competitive business and natural monopoly business. Competition mechanism should be introduced to competitive business and incentive regulation introduced to natural monopoly business, so that efficiency is to be improved and development promoted.

Most infrastructure industries link the producer with consumers through physical network, and such physical network involves huge investment. This cost is not only the source of scale economies but also the barrier for the new comers to enter into the industry. So in infrastructure industries natural monopoly business is the business that relies on physical network, such as networks of electric powers and gases, pipeline of running waters, railway and so forth. The other business in these industries that require no network is competitive business.

Government regulation is still needed in natural monopoly business. This kind of business is monopolized by enterprises with licenses. But incentive

regulation and some competition mechanism are necessary. For example, equity participation, licensing bidding or ceiling price may all encourage enterprises to improve their efficiency and realize scale economies while meet social needs. In other competitive business, there should be less control to encourage the folk capital flow in infrastructure industries. Enterprises of different ownership can all enter into the industries and compete with each other. Therefore, market process will be promoted and the market mechanism will urge the enterprises to improve their efficiency, cut down their cost and improve their service, and effective competition will be realized. In recent years, the mode of BOT has been used successfully in expressway, bridge and electric power projects in China. And it can be popularized to other infrastructure industries like water supplying in cities, wastewater disposal, and traffic and so on.

4.1.2. Seeking after effective competition way with reference to Porter's competition theory

According to Michael. Porter's competition model (see chart 1), the intra-industrial competition is the result of the interaction of five powers. Besides the current price, quality and service competition among enterprises, these powers also include the threat from potential new comers that impact on the existing enterprises' investment decision-making; sellers' competitiveness influence the existing enterprises' input cost, and then influence their profit and competitiveness; buyers' requirement of price, quality and service promote enterprises to innovate; threat from substitute products urge them to improve product quality and keep innovating. So effective competition in China's infrastructure industries not only calls for government regulation of enterprises in the industries, but also requires influence from the potential new comers, substitute products, sellers and buyers. Only by this, can these enterprises improve their efficiency and be involved in more active competition.

(1) Making different regulation policy for different infrastructure industries according to their products' attributes.

The products offered by infrastructure enterprises can be divided into two kinds: one is used to satisfy the basic living demand, and the other is used to satisfy demands of development and enjoyment¹³. Generally speaking, when

¹³ Hu Lijun. 2000. "The Analysis and Application of the Model of Effective Competition in the Natural Monopoly Industry" in *Study on Industry Economics Theory and Practice Issues*. Economic Management Press, Page 346.

other conditions stay unchanged, the demand elasticity of the product that satisfies basic demand is small, because the consumers have to buy them, despite the high price, inferior quality and bad service. In the competition with the consumers, the producers of this kind of products enjoy an advantage over the consumers. However, consumers of those non-basic products could make a choice after they make a comparison of price, quality and service. The producers of such products have no advantage over their consumers.

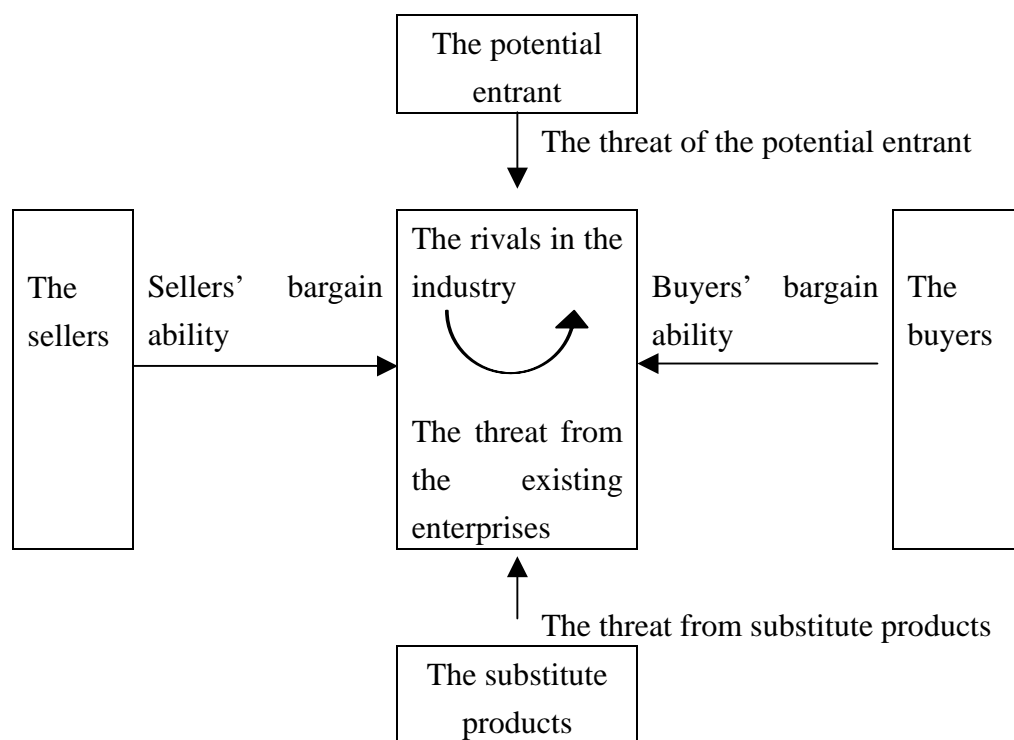


Chart 1: Porter's competition model¹⁴

So the government can make different regulation policy according to different product attributes. In the infrastructure industries whose products satisfy the basic needs, market mechanism alone is not able to limit monopoly. The government should lower the entry barrier, control the price and quality standards strictly to reduce the consumer welfare losses. As to the infrastructure industries, whose products satisfy non-basic needs, government just need to introduce strict entry limit and less price and quality regulation in them.

Taking electric power industry for example, in China's cities and towns,

¹⁴ Hu Lijun. 2000. "The Analysis and Application of the Model of Effective Competition in the Natural Monopoly Industry" in *Study on Industry Economics Theory and Practice Issues*. Economic Management Press, Page 341.

consumers are at the inferior position in the competition to the power enterprises, because electric power is the basic necessities. Therefore, it is essential for government to introduce competition to the business of electricity generating and supplying, meanwhile, to strengthen the regulation of electricity distribution, in order to impel them reducing price and improving service.

(2) Strengthening consumers' competitiveness to restrict the monopoly behavior in the infrastructure industries.

Besides products attributes, factors of entry barriers and withdrawal barrier for consumers also have impact on consumer behavior and consumer competitiveness. The consumer entry barrier refers to consumption-product initial investment. The more the investment is, the higher the consumer entry barrier is. Consumer withdrawal barrier means the cost consumers have to bear if they want to give up the product. Generally speaking, the narrower the product's use is, the higher the sinking cost is and the higher the consumer withdrawal barrier is. And that is to say consumers will suffer much loss from the ceasing of consumption. If we simply divide the barriers into high and low ones, there are four combinations (see chart 2).

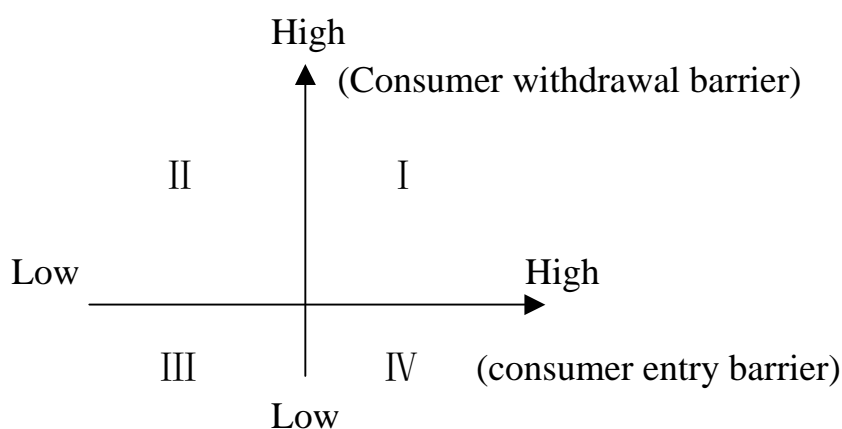


Chart 2: Combinations of consumer entry barrier and withdraw barrier¹⁵

As shown in the chart, Combination III is the most favorable one to consumers because low consumer entry barrier and withdrawal barrier. Combination II is the most favorable one to monopoly enterprise because the entry barrier is low and withdrawal barrier is high. Therefore, the maximized consumer welfare means the government's regulation policy should aim at Combination III to lower both consumer entry and withdrawal

¹⁵ Hu Lijun. 2000. "The Analysis and Application of the Model of Effective Competition in the Natural Monopoly Industry" in *Study on Industry Economics Theory and Practice Issues*. Economic Management Press, Page 342.

barriers to improve consumers' competitiveness. In addition, the government can protect consumers' interests by legislating and perfecting the existing regulation.

For example, in the telecommunications industry, the government can lower the consumer entry and withdrawal barrier by such ways as reducing initial installation fee of fixed telephone, and network fee of the mobile telephones, or free installation, to improve consumers' competitiveness and weaken telecommunication enterprises' monopoly status in market.

(3) Strengthening the threat from substitute products to weaken the infrastructure enterprises' monopoly status

Though natural monopoly is the typical characteristic of infrastructure industries, when there is substitute product, there is competition pressure. And there is motivation for the enterprises to improve efficiency and to innovation. For example, the enterprises in railway industry are facing great pressure because the development of highway, water transportation and aviation industries. And they are the powerful substitute for railway transportation. To win back its status of *big brother* in transportation, enterprises in railway industry begin to take a series of reform measures, such as speeding up trains and improve service quality, which can promote the efficiency of railway transportation and benefit consumers.

Therefore, when the government has technological and economic difficulties in lowering entry barriers of the substitute directly, a roundabout strategy could be employed: lowering the entry barrier for substitute products to weaken the monopoly force.

(4) Fostering potential new comers to force the infrastructure enterprises giving up some monopoly interests

In the infrastructure industries, if the capital, policy and law obstacles are not serious, the potential new comers outside the industry will threat greatly to the existing enterprises inside the industries. The existing monopoly enterprise have to reduce the super profit and increase entry cost by reducing prices, improving quality and upgrading technology, which can send out a signal of profitless and entry difficulty to the potential entrant, so as to maintain their monopoly position.

That is to say that the government could clear some policy and law obstacles to provide potential new comers with opportunities to enter into the market. This kind of external pressure can push infrastructure enterprises to give up some monopoly interests, and as a result, fair competition is promoted and consumers' benefits are protected.

For example, network of cable TVs is the potential entrant of the

telephone network in the telecommunications industry. So the government can loosen the entry policy of telecommunications to some extent to let the department of radio and television broadcast enter into the local call and other business and become a new competitor in the market. This will for sure be a threat to the existing telecommunication enterprises and weaken their monopoly status.

(5) Supporting sellers and make them powerful rivals whom cannot be neglected by infrastructure enterprises

As the supplier of the infrastructure enterprises, the sellers can exert pressure on the monopoly enterprises of low reaches if they are strong enough to fight against them. For instance, the sellers' market is highly centralized or the industry has the feature of monopoly. Or the sellers' offerings are the key input for buyers, and there is no substitute product. All of these can improve the seller's competitiveness and promote infrastructure enterprises' efficiency.

From this perspective, the government can strengthen sellers' competitiveness by making proper industry policies to urge monopoly enterprises to make innovation to preserve their high level of profit.

A good case in point is the price competition between coal and electric power in the coal industry and electric power industry in 2003, which indicates that since the government introduced some policies to limit production and close some small-size coal mines and get rid of the guiding coal price, the competitiveness of coal enterprises has been improved a lot as the fuel supplier to thermoelectricity enterprises.

4.2. Eliminating monopolies as the most urgent issue

4.2.1. Penetrating the serious administrative monopoly

China is still in the transitional period from central planned economy to socialist market economy, which decides that besides economic monopoly, what is more serious is the administrative monopoly exists in infrastructure industries.

The administrative monopoly is defined as that the government and its functional department abuse their administrative power, and their behaviors of limiting, interfering with and stopping the normal competition in business. It is the product of planned economy. And the economic monopoly means that the enterprises limit and hinder the competition in an economic ways by using economic forces. The main difference between the above two is that

the main body of the former is government or organizations that are delegated administrative power while the main body of the latter is enterprises. The former's basis is administrative means and the latter's is economic ones¹⁶.

In China, some monopoly structures in many infrastructure industries are not based on the economies of scale or technological progress; neither do they grow from a fair competition. On the contrary, such centralization is artificially formed when the centralization level of market is low. During the transition of economic institution, because the market mechanism was not right, many administrative department and local government exploit their administrative power to exclusively control commodity production, price, quantity and market supply and demand to make super profit. That's how administrative monopoly came into being. Due to the existence of such administrative monopoly, there was no function division between government and enterprises, the efficiency was low, market process progressed slowly and the developments of these industries were limited.

The administrative monopoly typically includes department monopoly and territory monopoly. These two types of monopoly have mixed up and made an intersected situation. View horizontally, the administrative monopoly is shown as territory monopoly, which means that the local government resist non-local goods, limit the export of local goods and price local products high in order to protect local enterprises. The vertical administrative monopoly, the department monopoly, which means that the governing department approve to set up some administrative enterprises and delegate them some privilege that are not available to many other companies. This has led to an artificial monopoly in production, supply and marketing and an unfair limitation of competition. Besides, because there are no clear understanding of identities of governors and traders, and no clear division of functions between government and enterprises, free development of the enterprises cannot be realized.

Therefore, when making regulation policies, the government should not only prevent the economic monopoly from resulting in low efficiency and doing harm to consumer's benefits, but also eliminate the administrative monopoly. First of all, governments of all levels should interfere less with enterprises, make the function division clear between them and the enterprises and encourage different economic entities to development. Secondly, there should be a reasonable authority limitation of governments

¹⁶ Qi Yudong. 2001. Talking about Chinese Monopoly Regulation and Antimonopoly legislation. *Economy Comment*, Number 1st.

of all levels. The government should encourage inter-regional cooperation, abandon local protectionism and set up a unified and open competitive market. Moreover, the reform of central government and local government organization structure should be accelerated. Legislation could not rely that much on administrative department any longer. Meanwhile, supervision on legislation and law execution should be enhanced to guard market competition order.

4.2.2. Differentiated Regulation for monopoly behavior in the competitive industries and monopoly structure in the infrastructure industries

Economic monopoly can be examined from two perspectives, monopoly structure and monopoly behavior. Monopoly structure means that the number of players is small in a certain market and their size is large, the majority input or output of the whole market is controlled by only a few players. Monopoly behavior means that the enterprise exploits its advantage or united with others to control product development, pricing, distribution channel and promotion, or to carry out vertical, horizontal or mixed expansion. The purpose of this kind of behavior is to limit competition, charge high price or arrange disadvantageous trade terms for others. Such behavior includes pricing agreements, price discrimination, tying, full line forcing, quotas in production and sales, unreasonable trade terms and so forth.

In the competitive market structure in China, there appeared some monopoly behaviors like agreements on pricing, tying and signal. Take color TV industry for example, the manufacturers set up alliance of prices since 1997, which is the monopoly behavior of fixing price. The government needs to carry on the antitrust regulation because all of these monopoly behaviors will lead to unfair competition and destroy the competition mechanism of the market, bring inefficiency and damage consumer's welfare.

However, monopoly structure should be regulated mainly in the infrastructure industries. That is to say competitive market structure should be set up first, and then merge be carried out to achieve scale economies. The reason is that China's central and local governments have monopolized the infrastructure industries for a long time, and there has been no division of function between the government and enterprises. This has harmed competition. Now the primary task is to break the market structure of state

monopoly, rebuild independent market main body and competition market structure.

Besides, it cannot be ignored that there are still a great deal of monopoly behaviors existing in the infrastructure industries with monopoly structure. For example, postal systems raised the issue expenses standard of newspapers and periodicals from 20 percent to 40 percent of total yards per year due to its monopoly status¹⁷. And all newspapers and periodicals have no choice but accepting it. This kind of monopoly behavior should also become the government's regulation focus.

4.3. Suggestions for future reform and regulation policies in the key infrastructure industries in China

Infrastructure industries include many departments and trades. We will mainly discuss and make a comparison of the reform practice and characteristics of telecommunication, electric power and railway industries. And then their future development and the directions for government regulation will be explored.

4.3.1. Differing the natural monopoly and competitiveness in the three major infrastructures industries of telecommunication, electricity and railway

There are not only natural monopoly businesses but also competitive businesses in most infrastructure industries. So the government should make different regulation policy for different business. The division of natural monopoly business and competitive business in the three major infrastructures industries is shown as in Table 4.

4.3.2. The comparison of the current reform in the three major infrastructure industries of telecommunications, electric power and railway

Generally, the market-oriented reform and opening of China's infrastructure industries are just at the start-up stage. Reform in infrastructure industries includes the function division of government and enterprises, separation government from investment, industry reconstruction,

¹⁷ Zhang Qunqun. 2003. *The Administration Monopoly: The Essence, Origin and Influence to Market Construction and Development of Service Industry*, <http://scjss.mofcom.gov.cn/article/>.

the reform of property right, opening of industry and regulation reform. And the key point is to separate natural monopoly business from the competitiveness business by industry reconstruction and introduce competition mechanism to market, and then set up a right regulation system. At present, the industry reconstruction in most infrastructure industries is not finished yet and the establishment of regulation system also has a long way to go (see Table 5). Telecommunication industry and electricity power industry have made a significant progress in reform, but the railway transportation is progressing more slowly.

Table 4: Natural monopoly and competitive business

| Industry name | Natural monopoly business | Competitiveness business |
|-----------------------------|--|--|
| Telecommunications industry | Local access network | Long-distance call, mobile telephone, data propagation, value-added service and wireless seeking |
| Electric power industry | The transmission network of high pressure and local distribution network | Generation and supply of electricity |
| Railway industry | Network of rails (including rails and signal facilities) | Freight transportation, passenger transport, transportation of large goods and communication service |

Source: Hu Angang, Guo Yong. 2002. From the Monopoly Market to Competitive Market: The Deep Society Reforms, reform, Number 1st, Page 22.

Table 5: The progress of reform and regulation in three major infrastructure industries

| Industry | Relation between Government and Enterprises | Industrial Reconstruction | Reform of Property Right | The Opening of Industry |
|----------------------------|---|---------------------------|--------------------------|---|
| Telecommunication industry | separated | Almost finished | Going on | Open stage by stage in different business |
| Electric power industry | separated | Going on | Going on | partially |
| Railway industry | none | none | none | none |

Source: He Xia. 2003. Where the Reform of Chinese Basic Industries Go, <http://www.cnii.com.cn/>, November 19.

The first step of the reform is to divide the functions of government and enterprises. Namely, the government no longer gets a hand in the

enterprises' management directly. And the role of the owner of the state-run enterprise is executed by the management organization of state-owned assets. This reform has been accomplished in two of the industries except the railway industry.

The objective of the industry reconstruction is to reconstruct those vertical integrated business according to the industry characteristic and prepare for the introduction of competition and regulation. So far, several reconstructions have been carried out in telecommunication, and the electric power industry is working on it.

The reform of property right is to bring some changes to the situation that all the dominating enterprises are exclusive proprietorship of state-owned ones in these industries. The enterprises could be strengthened in capital through introducing pluralism to share holders. A usual operation is reform the enterprise's ownership system and get it listed. For instance, the telecommunications enterprises have become listed after reconstruction and reform in ownership system.

The opening of the industry includes two aspects: one is the opening to the domestic capital including private capital; the other is opening to the outside world. Some industries promise the timetable of opening after China's accession to WTO, such as the telecommunications. And in some industries, there are no restrictions on foreign capitals.

4.2.3. The trends of the reform in the three major infrastructure industries

In the telecommunications industry, the independent regulation department should be set up as soon as possible; therefore, government could be separated from the investment. And the next focus of the reform will be to introduce the competition to the local access network. In the competition among networks, with the policy of interconnection, every network is able to bring their advantages into play.

In the electric power industry, the industry reconstruction of network enterprises, distribution enterprises and power generating enterprises should be completed to form a market structure with effective competition. For example, as to the network enterprises, the National Electric Network Company could work as the holding company in the industry to operate and manage the state-owned assets of local electric networks. And the original provincial electric companies could be reconstructed and transited to local electric network companies with limited liabilities, and have the national

company as their holding company. They are responsible for local business of electricity distribution and transmission, and to carry out inter-network cooperation and prepare to establish a national wide network.

The first step of the reform in railway transportations is separating the function of government from that of enterprises. Functions of the Ministry of Railways need dividing, and regulation department and national network company should be set up. The railway regulation department should take up the administrative functions that are originally taken up by the Ministry of Railways, and the national network company should be responsible for the business of state-owned trunk lines and by-lines. At the meantime, the monopoly network should be separated from the competitive transportation business. Transportation business could be pushed to market by setting up network companies and transportation companies.

4.4. The coordination and unification of governance institution and legislations

The reform and development of China's infrastructure industries is a systematic work. This decides that the function division and coordination of relevant laws, supervising agency of state-owned assets, industry regulation departments and trade unions are very important and cannot be ignored.

4.4.1. Accelerating legislating and revising the relevant laws and rules, and identifying the laws and rules' responsibilities and rights

At present, the establishment of the independent regulation departments is not carried out according to the stipulations in certain laws or follows certain legal processes. These regulation departments are usually the products of some periodic administration reform. Such operation has led to some problems concerning the regulation departments, such as no enough authority, stability and consistency in their work, poor performance in regulation and coordination. That's because there is no clear function and legal status stipulated, no effective legal restriction and function mixed-up.

So it is an urgent task to legislate and revise relevant laws and rules to supervise regulation activities. Certain regulation departments should be set up according to some certain laws, and their responsibilities, authorities and working processes should be stipulated clearly. Only in this way can their legal status and authority be improved and their independent and consistent work can be enhanced. And also the functions of different regulation department can be coordinated. For instance, the government should

institute antimonopoly laws as soon as possible and modify the inconsistent items in the price law and anti-illegitimate competition law.

4.4.2. Delegating controlling power and coordinating the functions between different authorities

Authority delegation, no matter vertically (between central and local departments) or horizontally (among different regulation department), is too scattered. On the one hand, the industries with important linkage are regulated by different department. For example, Ministries of Transportation only regulates highway and water transport industries, while railways are regulated by Ministry of Railways and civil aviation by CAAC. On the other hand, several main regulation responsibilities, such as investment approval, pricing, standards setting and antimonopoly investigation are taken up by many different departments of planning, public finance, price, technological supervision and so on. This is the origin of chaos in regulation order.

Therefore, regulation departments should be set up rationally and their authority delegation should be coordinated. One kind of plan is to set up some comprehensive regulation departments and re-delegate their authorities¹⁸. The industries of railway, water transport, highway and civil aviation could be regulated by transportation regulation department; electric power and coal industries could be regulated by energy regulation department; and telecommunications, broadcast and TVS could be regulated by communication regulation department.

4.4.3. Coordinating the function distribution between the managing authorities of state-owned assets and the institutions of industry regulation

State-owned Assets Supervision and Administration Commission of the State Council (SASAC) is set up and *Interim Regulations on Supervision and Management of State-owned Assets of Enterprises* is enacted in 2003, which was an important step forward to the system reform of Chinese state-owned assets. However, the status, functions and authority of SASAC are still not defined clearly. It seems that SASAC is still playing double roles of both *sportsman* and *referee* at present. It is a *sportsman* because it is the representative of the owner of the state-owned assets, the agent of State Council, it should work hard to maintain and add value to the state-owned

¹⁸ Gao Shangquan, Yin Zhu. 2003. "Accelerating the Reform of Monopoly Industries" *Management World*, Number 10, Page 17.

assets. But it is also the *referee*, because it is also the state-owned enterprises' principle and it should supervise their operation. The conflict between their two functions is bound to make negative impact on SASAC's future work. To work this out, these two functions should be separated from each other. SASAC should just work as an agency of state-owned enterprises and leave professional regulation departments to supervise enterprises' performance.

After identify the responsibility of SASAC, its function should also be coordinated with that of industry regulation department. Take infrastructure industries for example, many state-owned enterprises are supervised by both SASAC and industry regulation department. Since there are no relevant laws or policies to coordinate such repeat supervision, there are a lot of function conflicts and repeat. Such as in the electricity power industry, there is a conflict between SASAC's authority of examination and approval investment and the entry regulation. of the Supervision and Regulation Committee of Electricity. So the government should distribute the supervision authority to the above tow parties as soon as possible and coordinate their work.

4.4.4. Division of responsibilities between industrial associations and the institutions of industry regulation

A lot of trade unions in China are semi-official (quasi-official) due to some historical and system reasons. Their origins are some former departments in government before the reform. As the subordinates to government, most trade union leaders are officials. If the trade union is to be expected to function well, they should be separated from government first. They should be run by local people instead of governments, and their employees should be recruited by advertising or sent by enterprises. This is how the objective of *for business's sake* going to be met.

As for the relationship between the trade union and the regulation department, the trade unions can take up some functions that were performed by the industry regulation department, and the industry regulation department should supervise and give some policy guidance to them. For instance, some trade service standards and regulations could be stipulated, executed and supervised by trade unions, and the regulation department gives some directions on these jobs.

4.5. The main role of the government for investment infrastructure construction and macro policy guiding

Besides the function of regulation to drive the market-oriented process in infrastructure industries' future development, the government should continue to play the leading role in the investment of China's infrastructure construction, and make some macro industrial policies rationally to promote their development.

4.5.1. Planning a right investment structure of the government

Since it is impossible to take on all the investment in infrastructure, the government should optimize investment structure in infrastructure industries and play a better role of the main investor to promote national economy modernization. Generally speaking, it should follow several principles: firstly, it can promote technological progress and upgrade industrial structure; secondly, it can promote the coordination of regional economy; lastly, it can coordinate the development in urban and rural areas.

For instance, the government should invest in large projects like transferring southern water to the North and western electricity to the east, keeps supporting the development of the West Regions and the transformation of old industrial bases, such as Northeast China, etc. And more should be inputted to rural infrastructures to better the living conditions and deal with the problems of agriculture, rural areas and farmers.

4.5.2. Strengthening the controlling of the financial investment and improving capital efficiency

Investment from the central government in infrastructures is mainly raised by issuing national debts. Firstly, it should optimize the structure of national debt fund first in order to strengthen the financial investment supervision. For instance, the government can issue more long-term national debts to better the term structure; or it can issue national debt for some specific large projects to diversify the variety of the national debt.

Secondly, the government should supervise the whole process of financial investment. Before investment, it should make the planning of national debts investment and scientific appraisal of the projects, and make proper choice among the projects, and make sure that no repeated construction and jerry-built project appear. Furthermore, auditing and accounting should be

carried out to control the expending of capital.

4.5.3. Coordinating the authorities, responsibilities and benefits of central and local government in the investment in infrastructure construction

There are different emphasis for state and the local finance investment. That is to say, the central government is responsible for the construction of national communication, post, electricity power, large water conservancy projects, large-scale energy sources projects, etc. And the local governments are responsible for local residency, public utility, regional traffic and energy sources projects, etc.

As to the coordination of the authorities, responsibility and benefits of the central government and local governments in the investment in infrastructures, on the one hand, the local government could be given some authority to carry out market financing according to the characteristic of the construction projects. For example, local government may issue bond of infrastructure construction directly after central government's approval, which enables local government to raise money they need urgently. On the other hand, it should divide the responsibility among the central government and local government rationally. To the project that central and local governments invest together, different operation could be introduced according to different developing level.

4.5.4. Changing the macro controlling ways for improving performance

As *reform scheme of investment system* will be published soon, there will be a great change in government macro controlling of infrastructure industries. This means that it will guide the social investment and control disorderly competition and over-repeated construction mainly by carrying out holistic planning, policy guiding, project approvals filing and standard market entry policies.

Whereas the enterprises and local governments are not capable of overall planning, the central government should forecast the demand of infrastructures and make the holistic arrangement. Meanwhile, it should make middle-and-long-term plan of infrastructure construction to avoid the blindness of market mechanism, and improve the efficiency of infrastructure investment.

Besides, the government should change the system of examination and approval to checking and approval and filing system. That's to say, system

of checking and approval can be applied to large projects, which will influence the national economic security, overall economic layout and resources, and which involve government investment, and which should be limited. And the filing system can be applied to the common projects that are encouraged. The government will no longer interfere with their cost, revenue and market prospects, and all the investors are the decision makers.

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The Nature and Organizational Forms of China's Township and Village Enterprises *

Yu Li,¹ Jiang Chunhai , Li Shu

1. Introduction

After the reform of China's economic system to a market-economy-orientation in 1978, the "Commune and Brigade Enterprises" (CBEs) mushroomed in China's rural areas,² and formally changed their name to "Township and Village Enterprises"(TVEs) in 1984.³ Table 1 provides a current status of the development of China's TVEs. As shown in Table 1, from 1978 to 2002, the annual growth rate of the value added of China's TVEs was 17.2%, and the annual growth rate of employment of TVEs was 6.7%. The annual growth rate of China's GDP during the corresponding period was 9.1%, and the annual growth rate of China's national employment was only 2.6%. Between 1990 and 2002, the annual growth rate of gross exports of TVEs was 11.7%; while during the same period, the annual growth rate of China's national gross exports was only 7.3%. In addition, taking year 2002 as example, according to the prices of that year, the value added realized by China's TVEs was 3.24 trillion Yuan, accounted for 31.6% of that year's GDP and 65% by rural areas. The value added by township and village industries was 2.2 trillion Yuan, accounting for 48.0% of China's national industry value added for that year. Exports totaled 1.05 trillion Yuan, which was 42.9% of China's national exports of that year. Total profits realized were 0.72 trillion Yuan;

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² "Commune and brigade enterprises" refer to the small-sized collectively-owned enterprises set up by the "people's commune" and its affiliated "production team" and "small production brigade" in Chinese rural areas with an objective of directly serving agricultural production within the commune. The explanation of the "people's commune" system is given below in note 4.

³ The specific definition of TVEs is explained in detail in Section 2.

and the tax paid was 0.25 trillion Yuan, up to 13.1% of China's national fiscal revenue for that year. The surplus labor absorbed by TVEs was 13.288 million people, about 27.0% of China's labor in rural areas of that year and 17.9% of that of the entire labor force.

Based on these economic statistics, it is evident that from many perspectives, China's TVEs have been an astounding success. China's TVEs play an indispensable role in promoting China's economic growth, increasing fiscal revenue, sustaining agrarian growth, gradually accomplishing the industrialization and urbanization of rural areas, and generating foreign exchange earnings. It is also evident that the development of TVEs continues to hold promise for the industrialization, urbanization, and modernization of rural areas in China.

From the beginning of 1990s, scholars have offered various economic interpretations to explain China's TVE miracle. For example, the "theory of ambiguous property rights" (Daokui Li, 1995; Smyth,1997) holds that the ambiguous property right of China's TVEs is somewhat efficient under the prevailing circumstances; the "theory of Chinese tradition and culture" (Nee, 1992; Weitzman & Xu, 1994) argues that the cooperative ideas and hidden rules in Chinese tradition and culture are keys to the success of TVEs; and the "theory of policy difference" (Perotti,1999) insists that in contrast to state-owned enterprises (SOEs), Chinese government of all levels place less regulation on TVEs. These interpretations are rational from a traditional economic perspective. However, these theories ignore the structural elements and motivations inherent in the success of TVEs. We interpret the emergence, growth and efficiency of China's TVEs from the perspective of the nature of the firm and its organizational form.

Table 1: Value Added, Exports and Employment of China's TVEs in Typical Years

| Year | Value Added by TVEs (hundred million Yuan) | GDP (hundred million Yuan) | Exports by TVEs (hundred million Yuan) | National Exports (hundred million Yuan) | Employment in TVEs (ten thousand people) | National Employment (ten thousand people) | Value Added by TVEs/GDP (%) | Exports by TVEs/National Exports (%) | Employment in TVEs / National Employment (%) |
|------|--|----------------------------|--|---|--|---|-----------------------------|--------------------------------------|--|
| 1978 | 208.30 | 3624.10 | — | 167.60 | 2827 | 39856 | 5.7 | — | 7.1 |
| 1980 | 263.92 | 4179.28 | — | 250.88 | 3000 | 41896 | 6.3 | — | 7.2 |
| 1985 | 602.88 | 6997.97 | — | 631.46 | 6979 | 49873 | 8.6 | — | 14.0 |
| 1990 | 1205.58 | 8930.19 | 233.80 | 1437.55 | 9262 | 64749 | 13.5 | 16.3 | 14.3 |
| 1995 | 4093.97 | 16403.39 | 1513.18 | 3492.79 | 12861 | 68065 | 24.9 | 43.3 | 18.9 |
| 2000 | 7662.53 | 25237.64 | 2502.65 | 5822.57 | 12820 | 72085 | 30.4 | 42.9 | 17.8 |
| 2002 | 9333.14 | 29509.51 | 3332.39 | 7759.97 | 13288 | 74432 | 31.6 | 42.9 | 17.9 |

NOTE: Except for employment, each index in the table is calculated, taking 1978 as the base year.

SOURCE: Statistical Yearbook of China (2003), and Statistical Yearbook of China's TVEs (2003).

2. The Nature of TVEs

China's TVE is a specific type of company — different from general companies in a market economy, and from other particular companies such as SOEs. Their emergence, development and future are to a large extent closely connected to the features of China's transitional economic system, which can be clearly seen from the analysis of the nature of TVEs.

2.1. The Origin of TVEs

The emergence of TVEs was hastened by China's specific historical environment, economic and social systems and unique national conditions, which at the same time decided the fundamental nature of TVEs. Before 1978, China's collectively-owned land system and national citizenship policy within its command economy system divided the Chinese economy into two independent and sealed economic systems—urban and rural—forming a dual economic structure. The desire for wealth, the hope to be lifted out of poverty, and the inherent quality of diligence long conceived by Chinese farmers were the original driving forces of TVEs. The reform of the Chinese economic system was initiated first in the rural areas in 1978. With its focus on the family contracted responsibility system with remuneration linked to output, Chinese farmers gained autonomous power and personal freedom to engage in production under different circumstances on the basis of respective economic benefit. This reform stimulated the farmer's working enthusiasm, initiative and creativeness, which had been repressed for a long time. It also broke through the isolated and sealed dual economic system, made factors of production flow between urban and rural areas progressively in the light of market mechanisms. Simultaneously, farming narrowly interpreted could neither absorb hundreds of millions of surplus labor in rural areas, nor could it bring more income for farmers. Thereafter, it followed that the rational option for township and village governments (TVGs) and farmers were to set up firms.⁴ Moreover, it was

⁴ In countries that have realized industrialization, there was an influx of the rural population into cities. Theoretically, to gradually absorb a mass of surplus labor separated from traditional agriculture in the process of the growth of cities is a natural and ideal approach for rural population to shift into urban areas. Nevertheless, in China, even though the rural areas have accumulated large amounts of capital for the growth of urban areas for decades, urban areas cannot provide more employment opportunities for the mass or surplus labor from the rural areas.

before 1996 that the quantity demanded for means of production and subsistence exceeded the quantity supplied due to the rapid economic growth and the steady improvement of people's living standards. Meanwhile, the operation mechanism of SOEs was so rigid that it could not meet the needs of economic growth and people's living standards. Thus it was indispensable for other types of enterprises including TVEs to bridge the gap between supply and demand.

Under precisely these circumstances, TVEs came into being and expanded by leaps and bounds.

2.2. The Definition and the Nature of TVEs

The predecessors to TVEs were “commune and brigade enterprises” (CBEs). On the whole, before 1978, the government imposed stringent restrictions on CBEs. From 1978 onwards, CBEs grew steadily. After the “People's Commune” system was abolished in 1984,⁵ CBEs changed their name to TVEs. *The TVEs Law of the People's Republic of China* enacted on Jan 1st, 1997 gave a clear definition to TVEs—namely, rural collective economic organizations or all sorts of enterprises whose investments are mainly from farmers in townships and villages (including jurisdictional villages) whose responsibilities are to support farming. There are three essentials in the legal definition of TVEs: (1) the investors of TVEs are rural collective economic organizations or individual farmers; (2) the location of TVEs is in the community of townships or villages or

Furthermore, the urban areas themselves are overcrowded. Even if certain industries in cities are able to provide employment opportunities for rural surplus labor, insurmountable barriers to cities for farmers restricted the opportunities, which forced the mass or rural surplus labor to look for jobs beyond agriculture only in the rural areas. Thus TVEs logically become the main choice. It should also be pointed out that township and village government (TVGs) are the lowest basic levels of Chinese political organization, Chinese villages are autonomously run by the villagers, and in fact there is no village government. However, due to the impact of the command economic system long practiced in China, the “administration” is relatively dense in the autonomous organization. Therefore, we will call TVGs and autonomous organizations TVEs.

⁵ In 1958, the campaign of mutual aid and cooperation was staged on a large scale in the rural areas throughout the country, and finally the “people's commune” system was established on the collectively owned land system. As the lowest basic level of Chinese political organization, the “people's commune” not only had a common administrative function, but also the obvious property of “combining government and commune functions in one”, and was the basic level of the organization of production and operation (mainly engaged in agriculture) in Chinese rural areas. In order to facilitate production activities, the “people's commune” has several subordinated collective organizations of peasants: “production team”, which has several small-sized subordinated collective organizations of peasants; “production brigade”, which is the basis for the “people's commune”; “production team” and “production brigade”; and “three-level ownership, and on brigade basis”—ownership system and production system.

jurisdictional villages; and (3) the responsibilities are to support farming.

These three essentials correspond to the problems of “farmers, rural areas and farming”, and embody three additional aspects of the nature of TVEs: (1) “blood relationship”—the citizenship policy in close relation to the collectively-owned land system determines that the investors’ “farmer” status cannot change. Thus the investors, managers and employees are mainly farmers from within the same community, and this forms the “blood relationship” of TVEs. (2) “location relationship”—the collectively-owned land system makes it impossible for land and other natural resources which are key factors of production to be transferred or transacted freely. This ensures that TVEs can be established only in the community of townships and villages (including jurisdictional villages) and forms the “location relationship”. Moreover, the citizenship policy reinforces the “location relationship” of TVEs. (3) “agrarian industry relationship” shouldering the responsibility of supporting farming.

Although TVEs and SOEs are all enterprises of particular types, they have entirely different intrinsic natures. Li Yu et al proposed that the key of SOEs is state-owned ownership of capital. From this other characteristics follow, namely, the coexistence of the “enterprise attribute” (mainly embodied in “autonomous right” and “profit attribute”) and the “public attribute” (mainly embodied in the “state-owned extent” and the “regulation extent”). Furthermore, the stronger the “public attribute,” the weaker the “enterprise attribute” (Li Yu、Jun Ma, 2000). The key to TVEs, however, lies in the land attribute of factors of production. It can even be said that were it not for China’s specific land system and corresponding citizenship policy, TVEs would not have emerged.

Strictly speaking, only those enterprises having the above-mentioned three essentials simultaneously are genuine TVEs. It was difficult for TVEs at the beginning, but soon after great changes took place. With the changes of environment, the three aspects of the nature of China’s TVEs - the “blood relationship” of employees, the “location relationship” and the “agrarian industry relationship” fundamentally changed. At the beginning of the 21st century, the “agrarian industry relationship” had generally disappeared, and the “blood relationship” and the “location relationship” had also diminished.

2.3. The Reasons for the Change in the Nature of China's TVEs

The fundamental reason for the change in the nature of China's TVEs is that the changes of external environment make the three essentials in the legal definition of TVEs no longer true. The changes can be illustrated as follows:

First, the investors and managers of TVEs are no longer limited to rural collective economic organizations or farmers. Now they can include urban investors, foreign investors and those from Hong Kong, Macao and Taiwan, who are neither rural economic organizations nor individual farmers. According to the general law of development, it is inevitable that a nation's industrialization is accompanied by 'de-agriculturalization' of the rural population. However, the strict population status system, long practiced in China, results in a distinct contrast between the national economic growth rate and the rate of 'de-agriculturalization' of the rural population: the former is much faster than the latter. This particular phenomenon cannot continue. With the reform in citizenship policy and population policy, the "blood relationship" and the "location relationship" will eventually decline step by step. Second, the location of TVEs is no longer confined to the traditional rural areas. Now, there is a growing tendency of urbanization of TVEs, which have or have had a less relation to the original rural communities. Third, as the main body of earlier TVEs and rural collective economic organizations, it is reasonable and necessary for collective TVEs, with their responsibility for supporting farming, to aim at "maximizing communal revenues", "absorbing surplus labor of the communities" and "substituting industry for farming". Nevertheless, after individually owned and privately-owned enterprises became the main body of TVEs, it would run counter to the basic law of a market economy for TVEs to continue to bear the responsibility of supporting farming. In the initial stage of TVEs, the proportion engaged in food processing was not that great, as a result of the "price scissors" policy⁶ between industrial products and agricultural produce, long practiced in China. Under a market economy, firms will voluntarily choose their own industry to engage in according to the rates of return. Hence, the "agrarian industry relationship" of TVEs was relatively weak

⁶ "Price scissors" refers mainly to the price difference between industrial products and agricultural produce. The objective of this dual price policy was to accumulate capital for industries by bringing down the prices of agricultural produce and raising the prices of industrial products. Usually, peasants were 'overtaxed' except the common taxes under "price scissors" policy.

at the beginning, whereas now it has basically disappeared.

Thus, the nature of TVEs and the reasons for the change of their characteristics have been explained. On the whole, with economic growth, the reform of the economic system and policy adjustment, the nature of TVEs will continue to vary. The original “blood relationship,” the “location relationship” and the “agrarian industry relationship” will gradually weaken. The “specific characteristics” are disappearing while the “general characteristics” are becoming stronger and stronger. With the reform in the Chinese land system and citizenship policy, TVEs of the original type will become fewer and fewer. *The TVEs Law of the People’s Republic of China* will in the end lose its meaning, and TVEs will automatically die out little by little, having fulfilled their historical mission. (Li Yu、Zuo Yu, 2003) .

3. Property Right Basis for TVEs Organizational Forms

The property rights system is the basis for the change of China’s TVEs nature and organizational form. The property rights system of China’s TVEs is different from that of the SOEs and ordinary enterprises, and varies with the economic system that is changing from a command economy to a market economy. Simultaneously, the nature, structure and pattern of property rights are all changing constantly, reflecting the evolution of China’s economic and social system.

3.1. Characteristics of the Property Rights of TVEs

The Chinese government divides TVEs into collective TVEs and private TVEs on the basis of ownership,⁷ which actually does not summarize the real situation. Pure collective property right corresponds to pure collective TVEs, while pure private property right corresponds to proprietorship enterprises (including private business household). In addition, collective property right and private property right overlap to a large extent, thus forming TVEs with mixed property rights. These enterprises with mixed property rights are neither pure collective TVEs nor pure private TVEs. There are several specific forms such as Chinese-foreign joint venture, Chinese-foreign co-operative enterprise, joint stock cooperative enterprise, allied company, limited-liability Company and limited company, and so on. (Table 2)

⁷ The concepts of property rights and ownership have different meanings. For historical reasons, China attaches great importance to ownership. In fact, ownership is not that important, whereas property rights have a more specific and practical meaning.

Table2: Organizational Forms and Legal Fundamentals of the Property Rights of China's TVEs

| The Nature of the Firm | | Type of the Firm | Laws or Regulations | Characteristics of Property Right |
|------------------------|--------------|---|---|-----------------------------------|
| Collective TVEs | Private TVEs | Pure Collective TVE | <i>Regulations on TVEs Proprietorship System of the People's Republic of China</i> (1990, the State Council) | Pure Collective Property Right |
| | | Joint Stock Cooperative Enterprises | <i>Provisional Regulations on Peasants' Joint Stock Cooperative Enterprises</i> (1990, Ministry of Agriculture); <i>Notice on Carrying Out and Perfecting Joint Stock Cooperative Enterprises of TVEs</i> (1992, Ministry of Agriculture) | Mixed Property Right |
| | | Chinese-foreign Joint Venture | <i>Joint Venture Law of the People's Republic of China</i> (enacted in 1979, revised in 1990 for the first time, and in 2001 for the second time) | |
| | | Chinese-foreign Co-operative Enterprise | <i>Law of Co-operative Enterprise of the People's Republic of China</i> (1988) | |
| | | Limited Company | <i>Corporate Law of the People's Republic of China</i> (enacted in 1993, and revised in 1999) | |
| | | Limited -liability Company | <i>Provisional Regulation on Privately-owned Enterprises of the People's Republic of China</i> (1988, the State Council); <i>Corporate Law of the People's Republic of China</i> (enacted in 1993, and revised in 1999) | |
| | | Allied Company | <i>Provisional Regulation on Township and Village Allied Companies</i> (1992, Ministry of Agriculture) | |
| | | Allied Household Company | | |
| | | Partnership Enterprise | <i>Provisional Regulation on Privately-owned Enterprises of the People's Republic of China</i> (1988, the State Council); <i>Law of Partnership Enterprises of the People's Republic of China</i> (1997) | |
| | | Proprietorship Enterprise | <i>Provisional Regulation on Privately-owned Enterprises of the People's Republic of China</i> (1988, the State Council); <i>Law of Proprietorship Enterprises of the People's Republic of China</i> (1999) | |
| | | Private Business Household | <i>Provisional Regulation on Private Business Households in the Urban and Rural Areas</i> (1987, the State Council) | Pure Private Property Right |

NOTES: National People's Congress and its Standing Committee draft all the formal laws listed in the table.

EXPLANATIONS: Joint Stock Cooperative Enterprise—a particular organizational form of China's TVEs, whose basic characteristic is the combination of allied capital and allied labor, which can be manifested as follows: 1) Carrying out employee stock ownership plan, where employees are both labor suppliers and owners; 2) practicing combined distribution system according to work and distribution according to stock; 3) equalitarian ownership of employees' stocks, but the stocks cannot be transferred to the outside, and so on. The joint stock cooperative system is a transitory system with a tendency towards a corporation system.

Sino-foreign Joint Venture—companies within Chinese borders, approved by the Chinese government, joint venture by foreign firms or individuals and Chinese firms or individuals.

Sino-foreign Co-operative Enterprise—contracted cooperative enterprises by Chinese and foreign parties through cooperation contracts specifying their respective rights and duties, which can either be a legal person through registration or a non-legal person.

Allied Company—companies funded and operated jointly by multi-enterprises, assuming joint responsibilities for their profits and losses. Actually, the property right of allied companies is almost the same as that of

limited-liability companies; the only difference is that the stockholders of allied companies are enterprises. After the enactment and implementation of *The Corporate Law of People's Republic of China*, the majority of joint operation companies were registered as limited-liability companies or limited companies.

Allied Household Company—an economic organizational form, or so-called economic alliance, where several farming households pool capital to become shareholders, jointly venture and jointly work. This form is the embryo of limited companies and limited-liability companies. After the enforcement of *Provisional Regulation on Privately-owned Enterprises of the People's Republic of China* in 1988 and *Provisional Regulations on Peasants' Joint Stock Cooperative Enterprises* in 1990, many allied household companies changed to privately-owned enterprises or joint stock cooperative enterprises, and the concept of allied household company was no longer used.

Private Business Household—invested by individuals or households, mainly consisting of individual or family members, operated by individuals or families, whose revenues belong to individuals or families, which can receive business licenses according to law.

According to the type of property right, we divide TVEs into three categories with distinct property right characteristics—collective, mixed and private TVEs.

First, the property right of collective TVEs is a public property right, belongs to the rural community, and on behalf of the community the TVGs have residual claims and residual controls on the enterprises. The managers of this kind of enterprises are designated as TVGs. Second, the property rights of the mixed TVEs are the combination of public and private property rights in differing degrees. Their property right can be divided and traded, but are restricted to some extent, and their structures are complex and vary. Some are allied private property rights; some are collective holding companies, while others are foreign holding companies. There are many organizational forms of enterprises such as limited companies, limited-liability companies, and joint stock cooperative enterprises, and so on. Collective shares in the mixed TVEs are held by TVGs, enterprises whose shares are mainly collective have many of the characteristics of TVEs. However, mixed TVEs have the features of separation between ownership and residual claims. Third, the property rights characteristics of private TVEs are almost the same, and there are more distinctions in family-business organizations.

3.2. Evolutions of the Property Rights of TVEs

The preceding discussion analyzed property rights from a static perspective. Now we discuss the evolution of TVEs property rights from a dynamic perspective.

3.2.1 General Trends of the Evolution of China's TVEs Property Rights

The general trend in the evolution of China's TVEs property rights has

been to progress from collective to private property rights, which includes not only the transition from pure collective property rights to pure private, but also a combination of collective and private property rights. And the proportion of private expands greatly. The original property rights of TVEs were purely collective. Thereafter, although private property rights came to expand step by step, it was not until the mid-1990s that collective TVEs enjoyed great dominance. With the marketization of TVEs, nation-wide reforms in TVE property rights have taken place since 1995, and in 2000 private property rights became the principal property rights for TVEs.

3.2.2 Evolution from Collective to Mixed and Private Property Rights

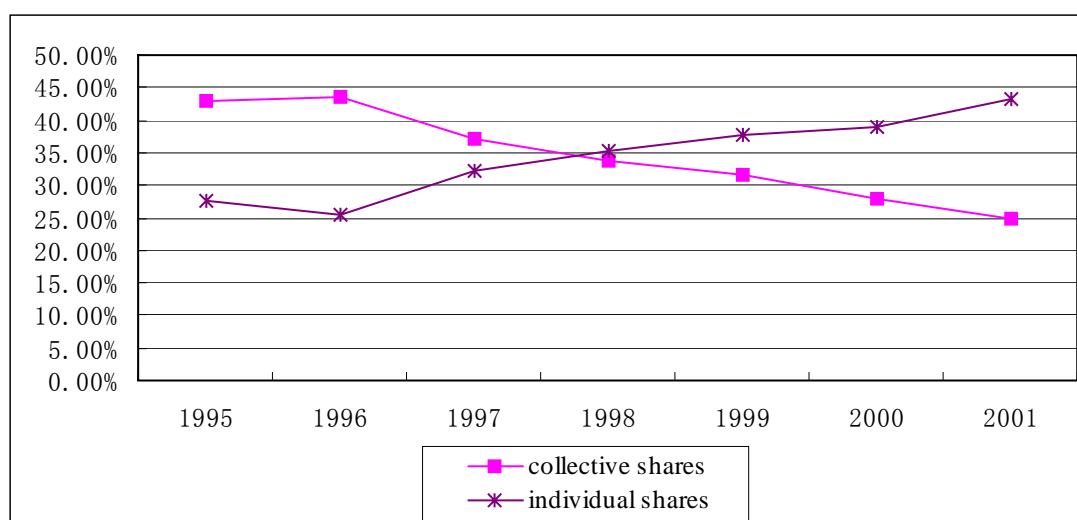
The evolution from collective to mixed and private property rights is the main content of the evolution of TVEs property rights. In the early stages of TVEs, collective property rights played a positive role in the development of collective TVEs. Soon afterwards, however, the collective property rights led to increasingly serious problems such as insiders' control and unclearly specified duties and rights, which became more and more unsuitable for the growth of these enterprises. In the middle of the 1990s, against the background of profound reforms of the Chinese economic system and SOE reforms, collective TVEs started property rights reform by privatization. By the end of 2000, the property rights reform of collective TVEs was nearly completed, including the transition from collective to private and "red-capped" enterprises returned to original private enterprises.⁸ The specific situations are as follows:

First, the number and proportion of collective TVEs has decreased rapidly. The number of collective TVEs declined from 2.72 million Yuan in 1993 to 0.71 million Yuan in 2001(73%). During the same period, the proportion of collective TVEs to total decreased from 11.1% to 3.9%. With the reduction in the number of pure collective TVEs, the number of TVEs with mixed property rights such as joint stock and joint stock cooperative companies increased quickly. Second, the structures of TVEs property rights become many-faceted. After 1995, total collective shares and proportions of TVEs decreased substantially, while individual shares

⁸ "Red-capped" enterprises are pseudo collective enterprises. Before the collective TVEs property rights reform, many private TVEs, in order to gain more beneficial policies, reduced their apportionments so that they could register in the name of collective TVEs, which were the "red-capped" enterprises. For example, in 1997, there were over 520 "red-capped" TVEs in Dalian, Liaoning Province alone, and after 1998, these enterprises resumed the status of private TVEs.

and legal person shares increased, with the main body of property right showing a tendency towards diversification. Individual shares, especially, are increasing so much that a typical ‘X’ shape evolutionary trend was presented in contrast with the large-scale decrease of collective shares, as demonstrated in Figure 1.⁹ In 2001, non-collective shares in the total capital stock of joint stock and joint stock cooperative enterprises totaled up to 70%, while the collective shares fell from 43% in 1996 to 25% in 2001. Individual shares rose from 25% in 1996 to 43% in 2001. Third, the relationship between government and enterprises has been separated. For a long time, TVGs had ownership and control right over collective TVEs, and there existed a serious phenomenon of “combined functions of government and enterprises”. Ever since 1995, through reforms in property right, most of assets of the collective TVEs realized “personification” - direct management of enterprises by TVGs transformed into indirect management. Fourth, in the process of the evolution of TVEs property rights reform, there existed a special process converting from SOEs to TVEs. Chinese SOEs, especially SOEs operated by counties who have many branches in the rural areas, ‘stuck in the mud’. State-owned shares may disappear and be forced to convert from state-owned property rights to collective property rights or mixed or private rights, and finally to TVEs (Chunhai Jiang, 2002). In Liaoning Province alone, from 1984~2003, almost 600 SOEs evolved into TVEs.

Figure 1: Evolutionary Tendency of an “X” Shaped Stock Structure of Collective Shares Vs. Individual Shares of China’s TVEs



⁹ From 1995 to 2001, a peak period for property right reform of China’s collective TVEs, there is an increasing tendency towards an “X” shape evolutionary situation. It should be pointed out that a part of a legal person’s shares of collective TVEs are individual shares, and thus much higher shares than real shares described in graph 1. In addition, due to direct aids to their finances, there exists a small portion of state-owned shares in collective TVEs property rights, but the proportion is always less than 5%.

3.2.3 The main approach to TVEs property right's evolution - Management Buy-Outs

No matter whether it is from SOEs to TVEs or from collective TVEs to non-collective TVEs, management buy-outs (MBO) is the main approach to TVEs property rights evolution. Managers of the firms become the owners through buying all or the majority of the property right. In this process, managers of the firms are transformed into entrepreneurs; the nature of the property rights is also changed from collective to mixed or private. If the manager of the firm bought all the shares, collective TVEs would change to proprietorship companies; if the manager of the firm bought part of the shares with the rest in the hands of other employees, other legal persons or natural persons, collective TVEs change into corporations or joint stock cooperative companies. Generally speaking, property rights reforms through management buy-out have characteristics of family business and “managers with larger shares”.

Why is it common to have the phenomenon of management buy-outs in the reform of China's collective TVE property right? First, although the ownership of collective TVEs belongs to the commune and in name all the residents in rural areas, the controlling right belongs to TVGs, managers of firm in fact possess the control right through “insider's control”. Next, due to the “location relationship” of TVEs, it is hard to get investment from other companies or other legal persons. The former manager of collective TVEs possesses management talent, grasps the inside story, and establishes a better relationship with co-ops, government and the public to a certain degree, which becomes an advantage of monopoly. As a result, they can easily get support from government in property rights reform, as well as beneficiary policies of “selling at a low price” and “endorsement”. On the other hand, however, there must exist equality in the process of management buy-out. On the whole, MBO plays a positive role in guaranteeing the efficiency of TVEs property rights reform and production.

4. Efficiency Analysis of the Organizational Forms of TVEs

As is shown in Table 2, the diversification of China's TVE property rights

also causes the flexibility and diversification of its organizational forms. These organizational forms have distinctive Chinese features, which fully embody the creativeness of Chinese peasants. In a strict sense, some organizational forms are not that standard, yet in fact they are efficient, which to a certain degree explains the miracle of China's TVEs (Li Yu, Tao Meng, 2003). A brief classification of the organizational forms of China's TVEs is illustrated in Table 3.

Table 3 Organizational Forms of China's TVEs

| Firm Type | | Organizational Forms of Firms | |
|-----------|----------------------------|---|--------------------|
| I | Proprietorship | Proprietorship Firms (private business household) | Family Distinction |
| II | Intermediate (partnership) | Partnership Firms (with limited-liability) | |
| | | Joint Stock Cooperative | |
| III | Corporation | Limited-liability Companies | |
| | | Limited Companies | |

4.1. Private Business Household

From a legal perspective, the private business household is not a real enterprise and has no qualification of a legal person, but it can be registered and have a business license, legal representative and fixed business address.¹⁰ It can open accounts at financial institutions and apply for loans under its business license. Thus it belongs to the category of "quasi-enterprises". At the same time, private business households tend to be the seed for TVEs. Previously it has been totally neglected. For this reason, we make a thorough analysis of private business households.

In 1978, with the opening-up policy in China, private business households came into being in the rural areas. They exist in large numbers, although all of them are small-sized. In 2002, there were 1215 households in the rural areas, which accounts for 51% of the national total. In 1981, the State Council affirmed the position and role of private business household. In 1987, the State Council enacted *Provisional Regulation on Private Business Households in the Urban and Rural Areas*, formally establishing the legal law for private business

¹⁰ "Legal representative" is different from "legal person". The former has no corporate organization, while the latter has corporate organization.

households.

The basic characteristics of private business households are as follow: 1) small sized with large numbers of individual units, 2) created in large numbers, and die out in large numbers, with a relatively short lifecycle. As an example, in Dalian of Liaoning Province, there were 40 thousand households registered in 2003, in contrast, there were 20 thousand households who cancelled their registration. 3) flexible operation and convenient to enter and exit, and competitive: where there is survival room and a profitable opportunity, there will be private business household. 4) practicing “fixed amount of taxes” to pay for tax quota.

Private business households are easily confused with other private enterprises, especially with proprietorship enterprises, but in fact they are very different. Under the *Provisional Regulations on Privately-owned Enterprises of the People's Republic of China* enacted in 1988, the State Council specified three forms of private enterprises, including proprietorships, partnerships and limited-liability companies.¹¹ Private business households can be operated by individuals, or by families. As for those run by individuals, civil liability is assumed on the basis of one's assets. As for those run by families, civil liability is assumed on the basis of all the assets of the family. Civil liability is specified, but whether it is limited-liability or unlimited-liability is not made clearly, which is also one of the features of private business household. In contrast, proprietorship companies must assume civil duties with unlimited-liability. From the restrictions on the number of employees, there is no ceiling on the number for private enterprises, whereas there is for the private business households. The specific regulation is as follows: “normally the total number employed cannot exceed 7 people. In some situations, it can employ one or two assistants and sometimes three to five apprentices”.¹² In reality, the number of people employed is far from 8, and some may have over one hundred people employed. This phenomenon should warrant attention. From the aspect of taxation, private enterprises are required to open an account with a bank to pay

¹¹ Actually, at that time there were no laws or regulations of the three organizational forms of the firm. *Corporate Law of the People's Republic of China* enacted in 1993 and revised in 1999; *Law of partnership companies of People's Republic of China* enacted in 1997, *Law of Proprietorship companies of People's Republic of China* enacted in 1999. The order of the enforcement of three laws also has Chinese distinguishing features. Furthermore, it is controversial to incorporate partnership companies and corporations into private enterprises.

¹² This is an interesting stipulation, which is similar to that of *Provisional regulation on private enterprises of People's Republic of China* (1987) stipulating that “private enterprises in this clause are those whose capital belongs to an individual, profitable economic organization with over 8 employees”. It is said that the theoretical basis for this clause is the argument in *Das Capita* by Karl Marx.

taxes, whereas private households of industry and commerce normally do not need to open an account, but need to pay taxes. Only when they reach a specific size do they need to open an account.

These features of private business households are naturally suitable for scattered township and villages and also for the status quo of Chinese peasants, providing effective organizational forms for peasants to engage in economic activities. Hence, private business households are a quasi-enterprise form and meet the needs of the peasants. It also forms the basis for the proprietorship company, partnership company and corporation, contributing to the realization of economic boom and social steadiness in rural areas. This kind of organizational form will persist in China rural areas for a long time. Thus it is unnecessary to force changes upon other enterprises.

4.2. Partnerships with Limited Liability

The enactment of the *Law of Partnership Enterprises of the People's Republic of China* in 1997, has had little effect on TVEs because peasants are not interested in partnerships. Partnership enterprises are joint venture and are jointly managed by partners and assume unlimited liability. Although peasants can pool capital and share the returns, it is hard for them to manage jointly, nor will they assume unlimited liability jointly. Thus, partnerships are rarely seen in China's TVEs.

Nevertheless, China's peasants spontaneously created an organizational form of partnership with limited liability, i.e., a partner as the principal supervisor or executive supervisor, in charge of the daily management with unlimited liability, while others do not participate in the daily management. Neither do they make decisions on big events—the others only share the surplus returns according to their investment, and assume limited liability according to their invested capital. In estimation, some areas practicing partnership with limited liability account for one third of all the TVEs.

Partnerships with limited liability of China's TVEs can satisfy the common needs for two kinds of people. One kind is those who have management talents but is short of capital, or unwilling to invest more; while the other kind is those who only have a small amount of capital but is short of management talent, or unwilling to assume responsibility. The first group of people can obtain control through a small investment, but the prerequisite is to assume unlimited liability. The second group of

people does not participate in management and assume only limited liability.

Partnership enterprises with limited liability lay between partnership enterprises and limited-liability companies, whose system better resolves the conflict and limitations of proprietorship, control right and duties intrinsic in partnership enterprises, and meet the needs of founding an undertaking. This organizational form is an example of spontaneous original behavior that broke through the existing legislative framework, and although it doesn't accord with the present law and regulations, it works well in reality with high efficiency. Of course, because of the lack of laws and regulations on partnership with limited liability, it is not easy to resolve controversies in practice. Fortunately, some provincial Ways to Manage Partnerships with Limited Liability in some areas (such as Beijing and Hangzhou) have been drafted.

4.3. Joint Stock Cooperatives

Joint stock cooperatives are another initiative by Chinese peasants. TVEs of this kind arose in the mid-to-late 1980s. *Provisional Regulations on Peasants' Joint Stock Cooperative Enterprises* and *Demonstration Procedures on Peasant's Joint Stock Cooperative Enterprises* in 1990 both enacted by the Ministry of Agriculture, acknowledged the legal status of joint stock cooperatives, and standardized and directed them. *Notice on Carrying Out and Perfecting Joint Stock Cooperative Enterprises of TVEs* was enforced in 1992 also by the Ministry of Agriculture, thus making it possible for joint stock cooperatives to become a significant organizational form for TVEs.

In the 1980s, although individual and private economic growth was allowed according to the law in China, some people generally hold prudent attitudes towards individual and private economy. In fact, the stipulations and procedures of the Ministry of Agriculture incorporate joint stock cooperatives into collective socialist economic organization belonging to the public ownership category. Against that social background, therefore, it is more acceptable to adopt this kind of organizational form of the firm especially in the areas and industries sensitive to private ownership. This kind of organizational form can shrewdly avoid conflict this respect.

In the given period, the benefits from practicing as a joint stock cooperative are as follows:

First, the natural characteristic of joint stock cooperatives is to realize “labor cooperation” and “capital cooperation” simultaneously, and employees are either investors or laborers, thus jointly venturing capital, jointly laboring and jointly assuming risks. To implement joint stock cooperatives, on one hand, can mobilize the enthusiasm of the employees producing “effective behavior on the part of owners”; on the other hand, they can meet the needs of funding, thus resolving the capital shortage and absorbing employees capital. Second, joint stock cooperatives set up individual shares convertible adapted to individual needs for property rights, which is highly efficient. Moreover, the even distribution of shares can guarantee a high employment rate. For this, it has been the first choice of organizational form of TVEs property rights reform. Third, through joint stock cooperative, TVEs can eliminate the heavy burden of collective TVEs with a bad performance. Moreover, managers of collectives can also shake off the control and constraints from TVEs and create advantages for management buy-outs.

Under specific historical conditions, joint stock cooperatives promoted the reform and development of China’s TVEs, but because of the incompatible mechanisms between “one person one vote” and “one share for one vote,” and also because of the contradictions between “distribution according to work” and “distribution according to share (capital),” it can only be a transitory organizational form. By this, companies can change to corporation or partnership. From the practice of the growth of joint stock cooperative TVEs, this development will become clearer and clearer.

4.4. Family Businesses

Family businesses are not a single organizational form, but an integration of property rights organization and operations management - family-based ownership and family-based management. Family-based businesses are universal in market economies, and they have the most distinctive common characteristics among different organizational forms of TVEs. Stated differently, no matter what kind of organizational form the TVE is, it more or less has the characteristics of a family-based business. Even some listed companies are similarly structured.

On the basis of family member’s different controls on ownership and management rights of the firm, family-based businesses can fall into three categories, namely, family-owned, family-managed, and family-owned-

and-managed (Li Yu、Libo Ma, 2003). In the light of this classification and our survey, most of China's TVEs are family-based businesses. The great majority of China's TVEs have strong family-business-based features. The main reasons for this are as follows:

First, townships and villages are precisely where one big family or several big families live. Additionally, Chinese peasants have a strong sense of family and tradition. Therefore, it is natural for them to have the family at the foundation of the business. And with uncertain profit prospects, it is rather hard for them to get capital, technology and management from beyond the family. It is easier for them to get capital from family members and also to solve problems as to capital, management, revenue distribution and sustainable development. Second, with the aid of family-based belief and organization, TVEs may easily promote mutual trust and get rid of the disadvantages caused by asymmetries and form a tacit division of labor and cooperation. Simultaneously, to set up an organizational structure on the basis of family can greatly reduce organizational costs. Third, less friction inside the family business means family members have consistent objectives with little bargaining, and in most cases no need for formal contracts, thus simplifying the mechanism for incentive and constraint and saving the transaction and management costs so as to realize better the optimal objectives of the firm. Fourth, based on the blood, religious and village relationship, family-based businesses form a tight inner alliance that can protect more effectively their properties and interests from others' intrusion.

Evidence shows that the family-business-based TVEs (including all three categories) is a relatively efficient organizational form of property rights and management system, the combination of family businesses and TVEs is the source for efficiency. Certainly, there exist many disadvantages of family-business-based TVEs, especially with the expansion of the firm size and changes of environment. However, at some time family businesses may check the growth of TVEs. With respect to other organizational forms of TVEs, such as proprietorship, partnership and limited-liability companies and limited companies, all to some extent have the features of TVEs, yet, their features are not as distinctive as those of the above-mentioned four specific types of organizational forms.

5. Conclusions

We suggest that China's TVE miracle is the result of the combination of many factors, and the process was not designed in advance—it was merely the natural development of the TVEs itself. Perhaps the effect of some important factors has not been precisely analyzed so far. Thus our present conclusions are as follows:

First, China's TVE miracle is not the result of government's voluntary support and encouragement, but the result of policy failure and interaction of and surrounded by the land system, citizenship policy, pricing policy, fiscal policy and financial policy. Of course, some later policies were framed to a large extent to comply with the objective laws,¹³ which is of significant to discern accurately the functions of government.

Second, the nature, property right and organizational forms are in a close relationship with each other. The nature of TVE determines the emergence and disappearance of TVEs, and the property rights system forms the basis for all kinds of organizational forms. However, the variety of specific organizational forms is the source for efficiency. With gradual changes in the nature of TVEs and the evolution from collective property rights to mixed and private property rights, and also the standardization of organizational forms of TVEs, the specific characteristics will disappear step by step, while the common characteristics will become stronger and stronger. As for efficiency, TVEs were born to be adaptive to specific situations and so will continue to be in the future.

Third, family businesses have a particular significance for TVEs. In contrast with TVEs or urban enterprises, the integration of family businesses and TVEs is a natural growth process. From now on, it also should be left to take its own course and progress naturally.

Fourth, the flexibility and diversification of TVEs organizational forms are the driving force and source of their efficiency, which is also a miniature of the Chinese economic transition process. As a result, some answers to the miracle of China's TVEs growth can be found now.

Last but not least, with China's further economic reforms, especially

¹³ The Central Government of China has issued "first class" documents several times to show its great concern about the problem of "farmers, rural areas, and farming". Under the circumstances—with little reform in the land system and citizenship policy, many policies may achieve half the result with twice the effort.

with the reforms in citizenship policy and land system, TVEs will automatically disappear. From this perspective, *The TVEs Law of the People's Republic of China* will gradually lose its significance.

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The Strategic Restructuring of State Owned Enterprises:^{*}

- The Analysis and Proposal toward Wuhan's Reform

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1. Introduction

The reform of State Owned Enterprises (SOEs) has all the while been the key point in the process of building up market economic system. China government has been making a package of plans in strategic restructuring and efficiently operating the SOEs in order to make the giant and complex state owned assets play a dominant role in economy. The breakthrough occurred in 1999 that the resolution adopted by the 4th Plenum of the 15th Central Committee of the Communist Party of China (CPC), and these documents figuring out the means of deepening SOEs reform comprise of nine aspects as follows:

(1) To adjust ideas concerning the reform of state-owned enterprises; (2) To separate the functions of government from those of the enterprises; (3) To adjust the layout of the national economy in a strategic sense; (4) To push forward corporate system reform and establish a standardized corporate management structure in corporations; (5) To carry out strategic reorganization of state-owned enterprises and do a good job in managing key enterprises and enlivening minor ones; (6) To cut down redundant staff so as to raise efficiency; to increase capital investment so as to reduce debt; (7) To practice merger and bankruptcy, so that enterprises losing their competitiveness can retreat from the market; (8) To foster a team of enterprise administrators; (9) To speed up the supporting reforms.

Under the guidance of this resolution, Wuhan, one of the old industrial bases and the capital of Hubei province in southern middle of China, bravely explored and innovated the novel road of SOEs restructuring and created “Wuhan Mode”, which presented an example to other cities and brought great business enlightenment and chances to private enterprises, public corporations and foreign investors as well. In

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the following years, Wuhan municipal administration was puzzled how to deepen further the SOEs reform and upgrade the competitiveness of Wuhan economy. For example, the SOEs have been emerging too much trouble in reality, such as irrationality in sectors structure layout, regional iterated investment and lack of scale economy, excessively liabilities, unreasonable governance structure, and all of these made the SOEs competitiveness increasingly weak.

In this paper we examine several issues on Wuhan's SOEs restructuring and state economy regrouping, particularly on how to utilize foreign capital and private capital restructuring SOEs, how to develop mixed ownership economy, how to cope with the barriers to exit, etc.

This paper is organized as follows: after the introduction, we empirically analyze the realities and difficulties of Wuhan's SOEs in section two; and we bring forward a package of strategies for SOEs restructuring and state economy regrouping in section three; in particular, we propose some constructive advice in section four to municipal administration upon developing mixed ownership economy by foreign investment enterprises (FIEs), domestic private enterprises, management buyout (MBO), employee buyout (EBO) as well as employee stock ownership plans (ESOP); at the end of this paper, we point out the main barriers to Wuhan's SOEs restructuring and state economy regrouping.

2. Wuhan's State Owned Enterprise: A Perspective

2.1. The reality of SOEs in Wuhan

According to the information by the Office of Wuhan's State-owned Assets Administration, the whole productive state owned assets was 23 billion RMB by the end of June 2002, thereinto, city owned assets was 21 billion RMB and accounted for 91.16%, increased 3.1 billion RMB than those at the beginning of the same year, and district owned assets was 2.9 billion RMB. It reveals the ownership, scale, organization and industrial structure of SOEs in table 1 and shows the features of state owned assets in Wuhan.

Observing the data in table 1, we find that too many SOEs were owned by district other than by city, and SOEs are too small in scale. There are 374 SOEs owned by city and 329 by district, but the former

owned about ten times assets as the latter. Meanwhile, the organization form of SOEs is rather unitary, for example, there are 211 state owned ventures in city owned SOEs, which result in state owned assets lacking of capabilities in controlling and manipulating other economic resources.

Viewing from the SOEs operation status at the end of June 2002, the whole SOEs completed income in sales 13.92 billion RMB, thereinto, city owned SOEs contributed 13.01 billion RMB , occupied 93.5%. In a whole 374 SOEs were owned by city, 128 enterprises won 5470 million RMB , 248 lost 5920 million RMB , and net deficit was 450 million RMB in balance. The average ratio of SOEs assets to debt is 72%, which is 15 point above in percentage comparing with national ones in the same period. Hence, we discovered that SOEs in Wuhan have not gotten rid of mess and suffered from heavy debt burden. It shows the operative efficiency in table 2 about the authorized state owned assets management agencies in Wuhan, which also reveals the high deficit range.

Table 1: State Owned Assets Distribution in SOEs(Holding Corporation) of Wuhan

| Index Classification | Firms | State Owned Assets | Total Assets | Total Liabilities | Net Assets | Total Profit |
|-------------------------|-------|--------------------------|-----------------|----------------------|------------|-----------------|
| Total | 703 | 23,043 | 106,848 | 78,05 | 28,798 | -175 |
| By Ownership | | | | | | |
| City | 374 | 21,007 | 95,627 | 69,098 | 26,529 | -45 |
| District | 329 | 2,036 | 11,221 | 8,952 | 2,269 | -130 |
| By Scale | | | | | | |
| Large | 74 | 12,064 | 39,057 | 22,206 | 16,851 | 69 |
| Medium | 142 | 2,979 | 20,690 | 16,984 | 3,706 | -92 |
| Small | 132 | 1,112 | 5,904 | 6,567 | -663 | -62 |
| Others | 26 | 4,852 | 29,976 | 23,341 | 6,635 | 4 |
| By Organization | | | | | | |
| State Owned Ventures | 211 | 5,418 | 28,755 | 23,312 | 5,443 | -222 |
| Share Corporations | 37 | 5,352 | 41,261 | 31,501 | 9,76 | 248 |
| Limited Corporations | 83 | 8,740 | 20,281 | 10,934 | 9,347 | -15 |
| Joint Ventures | 6 | 168 | 1,394 | 1,158 | 236 | -2 |
| Collaborative Ventures | 16 | 70 | 1,299 | 940 | 359 | -20 |
| Others | 21 | 1,259 | 2,637 | 1,253 | 1,384 | -34 |
| By Industry | | | | | | |
| Manufacturing | 180 | 6,409 | 30,344 | 21,602 | 8,742 | -1,450 |
| Real Estate | 46 | 1,381 | 7,910 | 6,035 | 1,875 | -160 |

| | | | | | | |
|----------------------|----|--------|--------|--------|--------|--------|
| Commercial & Service | 82 | 754 | 6,858 | 6,924 | -66 | -240 |
| Transportation | 8 | 1,101 | 3,609 | 2,614 | 995 | -1,230 |
| Farm & Forest | 7 | 215 | 424 | 209 | 215 | -50 |
| Finance | 4 | 123 | 20,317 | 18,816 | 1,501 | 640 |
| Miscellaneous | 47 | 11,024 | 26,165 | 12,898 | 13,267 | 2,040 |

Data Source: *The Outline of State Owned Assets of Wuhan* Collected by The Office of Wuhan's State-owned Assets Administration, June 2002. Currency Unit=million RMB Yuan.

Analyzing from the layout of SOEs in the economy, we find that the distribution of SOEs is too broad and the total quality is bad. The excessive decentralization in layout and participation in too many fields resulted in a disadvantage in building up fair and sound market environment. Taking the state owned industries as an instance, in 37 industries of national classification, the state owned assets amount not only dominated as a whole, but also the proportion exceeded half in more than 70% industries. Observing the top 10 firms in assets scale of Wuhan state owned and holding company, the state economy is primarily distributed in commercial & trade, real estate, transportation etc competitive and general manufacturing industries. For instance, Wuhan Commercial Group, Zhongnan Commercial Group, and Zhongbai Commercial Group all belong to trade and service industries, which occupied an important position in Wuhan national economy. Obviously, the extensive coverage of state owned assets in industries not only disadvantaged the leading function of SOEs, but also deterred the market mechanism from working in competitive fields, in addition, that prevented the private and foreign capital from investing in Wuhan.

Table 2 The State Owned Assets Managed by Authorized Agencies in Wuhan

| Agencies | Firms | Total Assets | Total Liabilities | Sales Revenue | Total Profit |
|----------------------|-------|--------------|-------------------|---------------|--------------|
| Wuhan State Owned | 26 | 14481.50 | 8185.82 | 5321.25 | 164.58 |
| Wuhan zhengxin State | 6 | 8131.74 | 5648.82 | 94.34 | 53.45 |
| Wuhan Boiler Group | 13 | 2588.82 | 1765.84 | 311.32 | 9.36 |
| Wuhan heavy machine | 1 | 1141.68 | 644.33 | 64.93 | -0.21 |
| Wuhan Gedian | 7 | 2205.66 | 1155.90 | 547.41 | -24.61 |
| Wuhan High-tech | 9 | 2051.20 | 1328.34 | 39.49 | 12.87 |

| | | | | | | |
|-------|--------------------|----|---------|---------|--------|--------|
| Wuhan | Construction | 15 | 4304.19 | 3338.85 | 664.25 | 3.96 |
| Wuhan | Machine & | 31 | 2631.74 | 2354.75 | 54.30 | -37.09 |
| Wuhan | Transportation | 15 | 1639.09 | 1219.37 | 201.49 | -14.00 |
| Wuhan | City | 10 | 874.95 | 675.68 | 230.91 | 21.54 |
| China | Changjiang | 6 | 1384.29 | 1124.61 | 193.93 | 6.31 |
| Wuhan | Tourism Group | 4 | 102.11 | 36.08 | 19.65 | 0.26 |
| Wuhan | Huaxin Group | 11 | 2042.71 | 1593.73 | 98.81 | -16.28 |
| Wuhan | Products Group | 19 | 1653.90 | 1536.01 | 137.94 | -10.07 |
| Wuhan | Commercial and | 35 | 2668.97 | 3009.70 | 695.88 | -12.19 |
| Wuhan | Light, Textile and | 42 | 5019.18 | 5797.60 | 664.69 | -73.05 |
| Wuhan | New Buotai | 8 | 468.66 | 238.81 | 4.54 | -4.94 |

Data Source: *The Outline of State Owned Assets of Wuhan* Collected by The Office of Wuhan's State-owned Assets Administration, June 2002. Currency Unit=million RMB Yuan.

2. 2. Wuhan's History and Experience in SOEs Restructuring

As an advanced city in the experience of state owned assets operation mechanism reform, Wuhan created a "Wuhan Mode" that had found an efficient mode to realize the exit and restructuring of state owned assets by stock market. The specific case was the manipulation of Wuhan State Owned Assets Management Corporation that set up in 1994 to manage and operate the state owned shares in more than 30 public corporations. To integrate state owned assets and foster large scale and competitive SOEs, Wuhan State Owned Assets Committee decided to exit from conventional manufacturing industries by M&A in capital market and enter into second and third sectors, especially into high-tech, energy, transportation, telecommunication and public utilities. From June 1995 to June 1998, Wuhan State Owned Assets Management Corporation successively sold whole state owned shares of 6 holding public corporations, respectively namely Mayinglong Medical, Xidao Refrigerator, Double Tiger Paint, Wuhan Cable, Wuhan Electronics, Changyin Printing, by contracts with other corporate bodies.^[1]

Analyzing the features of these 6 corporations, we could easily find

^[1] In China stock market up to now, state and corporate owned shares are prohibited in direct selling in security exchange system, and only permitted exchange among corporate agencies.

that, in one hand, they were relatively concentrated in capital structure and state owned assets had much high proportion, the exact proportions were respectively 100%, 87%, 39.91%, 43.18%, 65.09%, 27.96%, in other hand, they were bad in financial data and had very heavy burden of employee, therefore, they were the most typical and necessary objects for state owned assets exit. Moreover, analyzing the result and performance of the capital restructuring, it optimized the layout of state owned assets, activated the deposit state owned assets, promoted the increase of SOEs profits, push forward the switch of SOEs operation mechanism, and maintained the social tranquilization.

But in the following years, the step of SOEs restructuring stagnated and was surpassed by “Shanghai Mode”, “Zhejiang Mode”, “Shenzhen Mode”. The rapid development of SOEs reforming waves in the whole country also drives Wuhan municipal administration to innovate and further explore the new road of SOEs restructuring.

3. The Strategies for Wuhan’s SOEs Restructuring

3.1. The Principles for SOEs Restructuring

(1). Adhering to New State Owned Assets Management Systems

In the past two decades, to remold market principals of microeconomic activities, adjust the equity relationship of state owned assets, fulfill the separateness of managerial rights and ownership, China had carried through a package of reform that had manifested some progress in gradual reduction of transaction costs and inspiring of entrepreneur incentives. But in essential, the conventional state owned assets management systems and other institutions still had a lot of faults that restricted the process of state owned assets restructuring.

Firstly, the conventional state owned assets management systems resulted in the illegibility of SOEs equity relationship. The clearness of equity relationship is the basic premise for firms to carry through capital restructuring, however, the equity relationship of SOEs are quite definite and clear nominally and legally, but they are unclear in specific manipulation and benefits distribution. Exactly, the ultimate owner of SOEs is central government, therefore, both parties of M&A are state, like a person’s right and left hand, the restructuring process is meaningless and without essential distinctions. As a result, the SOEs managers couldn’t understand the necessity of assets restructuring in the

condition of lacking genuine corporate property rights, and were naturally unwilling to actively push forward the efficient restructuring.

Secondly, government played an illegible role in the SOEs restructuring. In current market mechanism dominant economic system, the SOEs restructuring process ought to be implemented by relevant corporations independently, and the government just ought to do some work to organize and harmonize relevant parties. In other words, corporations are the subjects and governments are managers, conductors and supervisors in the process of restructuring. But actually, a large number of local governments played a multiple and confusing role in the restructuring process, acting as both referees and players in a game, and both parties of restructuring didn't have the right to make a decision. To clarify its position in SOEs restructuring, the government should build up a sound environment by constructing capital equity transaction market, constituting law and regulations on SOEs restructuring, holding the policies preference in M&A, supervising the manipulating criterion in order that the restructuring could carry out normally.

Thirdly, equity market is still incomplete. Corporate restructuring is mainly carried out relying on equity market, if without perfect equity one, capital regrouping could hardly carry through and impossibly developed. In western counties, the reason why corporations can efficiently regroup is that there are developed market systems. In contrast, there is an incomplete equity transaction market, and the corporations can hardly find an object even if they want to allocate resources by regrouping. In reality, the majority of SOEs restructuring programs were thoroughly arranged by government officials, even not lacking of black box manipulation in some M&A.

Fourthly, the evolution of social security system goes forward too slowly. The social security systems, comprising of social insurance, social remedy, social welfare and social healthcare, aren't competent for supporting the capital regrouping according to market system, for instance, many of the SOEs restructuring strategies in practice didn't succeed only because of employees' being laid off issues. In specific, the social security systems in the past years were still based on planning economic system, which mainly validated in the whole state owned firms and its coverage caught hardly up with the pace of market economic development.

Fifthly, the legislation systems are still imperfect. As it has been

know, the normal, orderly and efficient corporate re-organizations need a package of sound law, regulations and valid policies to match the whole process, however, the regulations and policies on corporate capital regrouping in the past decades just scattered in *The Corporation Law*, *The Temporary Methods on Corporate Merger*, *The Anti-Injustice Competition Law*, *The Security Law*, *The Insurance Law*, and *The Bankruptcy Law*, and these laws and regulations didn't harmonize not only in the whole but also in various administrative levels that resulted in some omitting and gaps among the law which brought the criminals a lot of chance. In the meantime, since the SOEs managers were at large short of legal consciousness, especially indifferent to economic regulations, and the executing and supervising departments didn't beat the economic crimes thoroughly, these made the speculators broke the law repeatedly which extremely harmed the justice and legalization in SOEs restructuring process.

Summing up, the past experiences and emerged issues warned us that the SOEs strategic restructuring in Wuhan should have an uniform state owned assets management agency who combine right and obligations to deal with the entrance into or exit from some industries. In 2002, Mr. Jiang Zemin, former Chinese president and the general secretary of Chinese Communist Party, proposed a new style state owned assets management systems in the Party's 16th National Congress, which commented:

Continuing to adjust the layout and structure of the state sector and reform the state property management system is a major task for deepening economic restructuring. We should give full play to the initiative of both the central and local authorities on the precondition of upholding state ownership. The state should make laws and regulations and establish a state property management system under which the Central Government and local governments perform the responsibilities of investor on behalf of the state respectively, enjoying owner's equity, combining rights with obligations and duties and administering assets, personnel and other affairs. The Central Government should represent the state in performing the functions as investor in large state-owned enterprises, infrastructure and important natural resources that have a vital bearing on the lifeline of the national economy and state security while local governments should represent the state in performing the functions as investors with regard to other state property. The Central

Government and the provincial and municipal (prefectural) governments should set up state property management organizations. We should continue to explore systems and modes for managing state property effectively. Governments at all levels must strictly abide by the laws and regulations concerning the management of state property, persisting in the separation of government functions from enterprise management and separation of ownership from management so that enterprises can operate independently, assume sole responsibility for their profits or losses and preserve and increase the value of state property.

Obviously, the framework of new state owned assets management systems conformed to the realistic demands and indicated that the managerial, supervising and operative mechanism of state owned assets entered into a new era, which primarily embodied in three transformations.

The main transformation of new system manifested that the equity systems would switch from solely ownership mode by central government to multiple one by both central and local governments, which made the central and local governments are equal as an equity body to respectively execute the function of proprietor on behalf of state, furthermore, which endowed the local governments with ultimate rights of state owned assets management that sufficiently activated their incentives. The new systems also realized that the state owned assets management agencies transformed from administrators to capital owners that benefited to achieve the separation of ownership and management. In addition, the new systems transformed that the state owned assets controlled by various local departments to a uniform and specialized agency, which achieved the separation of administration to capital in the level of organization and the separation of administration to business in the essence of governance. The new state owned assets management agent combining up the managerial rights of assets, personnel and business concentrated government rights to a corporate body, which altered the past systems that various departments segmented the ownership and management rights and formed a transparent corporate body both in rights and responsibilities.

Therefore, the establishment of new systems of state owned assets management not only brought forward new demand to state owned assets transactions in Wuhan, but also created better conditions to SOEs

merger and acquisitions.

(2). Sticking to the objective of structural optimization

The economy in Wuhan has been emerging serious structural issues in the past years, for instance, too many state owned assets resulted in unreasonable ownership structure, too many SOEs in general competitive industries led to the unbalance in industrial sector distribution, too many medium and small SOEs made the market structure over-competitive, and the SOEs were short of competitiveness as a whole inducing the weakness of regional economy. Therefore, the goal of current SOEs regrouping in Wuhan should be oriented in providing the substantial foundations for industrial structural adjustment and regional economic structural optimizing and upgrading by means of reconstructing SOEs, such as building up various necessary styles of organization such as share corporations, limited corporations, state solely owned corporations, and state owned holding corporations etc to meet the demand of market economy.

The first objective of SOEs restructuring in Wuhan is to optimize the ownership structure since that is the foundations of all production relationship. Since capital regrouping is a kind of transaction behavior for equity exchange, pushing forward capital regrouping, in the perspective of whole society, would definitely impact on ownership structure. Meanwhile, in view of the reality that China is in the historic period of switch from planning systems to market systems, the corporate ownership is going through a great adjustment and transform, advancing capital regrouping actively, reliably and orderly would absolutely generate positive promoting effects to the optimization of ownership structure.

The primary task of current reform in China as well as Wuhan is to adjust and perfect the ownership structure in order to gradually form a system that state economy keeps the dominant position and private economy involves in as a key part. To achieve this complex and systematic goal, two measures must be implemented comprising of the capital regrouping in the whole society and the strategic restructuring of state economy, and obviously the latter is the most important and practical path in view of China's reality. The strategic restructuring of state economy is exactly to improve the layout of state assets and the organizational structure of SOEs, by means of M&A and in the premise of moderately contracting the fields of state economy, and to focus the

resources in order to develop and strengthen the key industries and enterprises.

In specific, there are two facets of capital regrouping. One facet of capital regrouping rests with contracting fields, strengthening key point, and optimizing the layout of state economy. In other words, contracting the scope of state economy and carrying out non-state ownership to some extent would not only develop more investing opportunities for private and foreign enterprises but also gradually change the scattered status of state economy. The specific regrouping measures include concentrating state owned assets from medium and small enterprises to large and giant groups, from poorer performance firms to higher one, from general competitive industries to strategic fields which is related to national safety and infrastructure. Anyway, moderately decreasing the state owned economy involved industries and enterprises to achieve the objective of concentrating strength, ensuring keystone, advancing efficiency, and enhancing competitiveness. Another facet of capital regrouping rests with diversifying the equity structure of SOEs. On one hand, reforming the state solely owned corporations into state holding corporations or state sharing corporations by means of attracting a large number of non-state shareholders that involve corporate and private ones, as a result, the large deal of citizens creditor debts to SOEs which was formed in the past by financial agencies would be transformed into share equities which were hold directly by private or indirectly by financial agencies. On the other hand, transforming current solely state shareholders into multiple state corporate ones, which would be helpful to overcome the variety of disadvantages resulting from owner absence, and to build up a valid inner governance structure.

In a word, Catching hold of the strategic regrouping of state economy means fastening the key and core points of perfecting China's ownership structure, which would certainly drive and speed up the effective capital regrouping in the whole society, in this way, it would be possible to successfully carry out the adjusting and reforming task for China's ownership structure within a not too long time, sequentially, establishing a most important institutional foundations for the lasting and sound operation of social market economy in China.

Wuhan, as an old industrial base in China, is confronted with severe contradictions of the disharmony in ownership structure. Taking the industrial sectors in table 3 and table 4 as an example, it is easily made

out that too many SOEs subsist in general competitive industries that isn't in accord with the thought of state owned economic layout in Wuhan, the ownership structure must be optimized by this round of state owned capital regrouping as well.

Table 3: The Distribution of Industrial Enterprises in Wuhan Classified by Ownership

| Enterprises beyond Scale | The Number of Enterprises | | The Percentage of Enterprises % | |
|---|---------------------------|------|---------------------------------|------|
| | 2000 | 2001 | 2000 | 2001 |
| SOEs | 445 | 320 | 36 | 24.4 |
| Collective Enterprises | 272 | 204 | 22 | 15.6 |
| Private Enterprises | 122 | 247 | 10 | 18.9 |
| Pool Enterprises | 18 | 14 | 1 | 1.1 |
| Share Corporation Ltd | 86 | 119 | 7 | 9.1 |
| Foreign Invested ventures | 70 | 82 | 6 | 6.3 |
| Hong Kong, Macao and Taiwan Invested ventures | 67 | 60 | 6 | 4.6 |
| Corporation Ltd | 101 | 206 | 8 | 15.7 |
| Share Collective Firms | 41 | 53 | 3 | 4.0 |
| Others | 2 | 4 | 1 | 0.3 |

Data Source: *Wuhan Statistic Annual* version 2002, published by Statistic Publisher of China. The Enterprises beyond Scale indicates all SOEs and Non-SOEs whose annual revenue of sales is over 5 million RMB Yuan(Also The Next).

Table 4: The Distribution of Industrial Production in Wuhan Classified by Ownership

| Enterprises beyond Scale | Total Industrial Production (Accounting by variable price of year, Mio. RMB Yuan) | | Accounting by invariable price of 1990, (Mio. RMB Yuan) | | |
|---|---|---------|---|---------|-----------------|
| | 2000 | 2001 | 2000 | 2001 | Increase Rate % |
| SOEs | 411,990 | 423,470 | 291,750 | 300,860 | 3.10 |
| Collective Enterprises | 51,280 | 54,840 | 46,230 | 51,990 | 12.50 |
| Private Enterprises | 36,540 | 64,830 | 35,220 | 61,770 | 75.40 |
| Pool Enterprises | 3,430 | 3,430 | 3,010 | 3,170 | 5.30 |
| Share Corporation Ltd | 118,50 | 129,320 | 102,310 | 120,970 | 18.20 |
| Foreign Invested ventures | 145,040 | 170,180 | 172,810 | 192,260 | 11.30 |
| Hong Kong, Macao and Taiwan Invested ventures | 43,460 | 36,090 | 43,510 | 38,030 | -12.60 |
| Corporation Ltd | 86,060 | 123,530 | 73,920 | 111,820 | 51.30 |
| Share Collective Firms | 11,120 | 13,590 | 10,670 | 13,190 | 23.60 |

The second objective of SOEs restructuring in Wuhan is to optimize the industrial sectors structure for the reason that is the substantial manner of productive organizational structure which outstandingly reflects the distribution and interaction of inner labor, capital and other resources in a variety of industries. According to the theory of industrial sector upgrading and economic development, the capital, labor's quantity and quality, technical level, as well as the productive efficiency are great different among a variety of industrial sectors, which will give birth to different economic efficiency as a result. In order to sufficiently inspire the potential power of economic growth, we must constantly transfer productive resources and capital investment, in accord with the reality of economic and technological development, from low technical level, poor productive efficiency, or waning industries to advanced technology, high efficiency and broad developing ones, which is well-known as the process of industrial sectors adjustment and optimization. Obviously, this process is closely related to the capital flow and regrouping in the whole society.

The experience by other provinces or cities also drives Wuhan to take steps in the optimization of industrial sectors structure by SOEs restructuring. For example, Shanghai, a well-known metropolis in China, has adopted a package of measures in order to optimize its industrial sectors structure and layout at the present time. According to Shanghai's principles that state owned assets must balance entering and exiting strategies to develop mixed economy. It was estimated that Shanghai would exit state owned assets about 180 to 200 billion RMB from a variety of industries and strive for concentrate 80% state owned assets into three kinds of industries and two types of enterprises by 2008, which is namely relevant to national safety, resource monopoly, public utilities industries, core enterprises in the mainstream industries and key enterprises in the emerging industries.

To analyze Wuhan's reality in industrial sectors optimization, we take the state owned (holding) corporations in table 5 as an instance. Observing the industrial sectors layout from those of top 20 in scale, we could easily find that there were too many general competitive enterprises, particularly trade and commercial ones, instead of advanced manufacturing and high-tech ones. Therefore, the strategic layout of Wuhan state economy, from now on, should primarily enter into strategic, resource control, fundamental, emerging, and public utilities

industries, in the meantime exit from general competitive ones, specifically speaking, concentrating the state owned capital to develop advanced manufacturing, logistics foundations, and high-tech industries.

Taking Wuhan's reality into account, the following issues deserve attention in the process that promotes the optimization of sector structure by state owned capital regrouping. Firstly, the regrouping should promote the sector structure matching the resource structure in Wuhan in order to utilize the relative advantages of various resources, for example, utilizing ample intellectual resources in Wuhan developing high-tech industries and service industries of high added value. Secondly, the regrouping should pay attention to the balance of supply structure and demand in Wuhan in order to suffice the demand in quantity, species and structure. In other words, the regrouping in context of social market economy should constantly induce, in light of market-oriented rule, resource to the high demand and high margin profit sectors, meanwhile, keep an eye on market failure and control the demand by local government intervention. Thirdly, the regrouping should aim to keep the balance relationship of input and output among a variety of sectors, particularly keeping the harmonic proportion among the first, second and third sectors. Fourthly, the regrouping should guarantee that the local economy in Wuhan has a high level of international involvement in order to achieve higher comparative benefits by external divisions of labor. Obviously, the key point of sectors optimization in Wuhan is to speed up the sectors advance and keep up with the rapid change of international market. In this process, regrouping should consciously upgrade the goal of sectors advance and prior guarantee those sectors and enterprises with intensive technology, high extroversion in order that Wuhan has advantages in the domestic and international division of labors.

The third objective of SOEs restructuring in Wuhan is to optimize the market structure. Briefly speaking, the market structure, determined by products concentration, differentiated products, entry and exit barriers, the rate of demand increase, the price elasticity of demand, the proportion of fixed costs to variable expenses in a short term, is an important index reflecting competition and allocative efficiency of economic resource. In conventional systems, the organizational structure of SOEs in Wuhan wasn't reasonable and unable to form specialized production and scale economy, as a result, which became an

influential factor to SOEs competitiveness. To solve the comprehensive issues that state economy have to meet with, it is undoubted to group up some aircraft carrier-like corporations by SOEs restructuring that have strong competitiveness in international competition.

Table 5: The Financial Status of The State Owned (Holding) Corporations in Wuhan

| Corporations | Total Assets | Total Liabilities | Net Assets | Sales Revenue | Total Profit |
|--|--------------|-------------------|------------|---------------|--------------|
| Wuhan Commercial Bank Corporation Ltd. | 14944 | 14492 | 452 | 351 | 25 |
| Wuhan Commercial Group Ltd. | 3294 | 2314 | 980 | 1230 | 34 |
| Wuhan Construction Group Ltd. | 2189 | 1098 | 1091 | 21 | -8 |
| Wuhan Developing Investment Group Ltd. | 1904 | 250 | 1654 | 17 | -2 |
| Wuhan Zhongnan Commercial Group Ltd. | 1793 | 1240 | 553 | 948 | 21 |
| Wuhan Zhongxin Department Store Group Ltd. | 1715 | 926 | 789 | 1021 | 21 |
| Wuhan Tap Water Group Ltd | 1713 | 731 | 982 | 207 | 9 |
| Wuhan Construction Engineering Corporation Ltd | 1580 | 1114 | 466 | 481 | 23 |
| Wuhan Gedian Chemistry Corporation Ltd | 1441 | 752 | 689 | 198 | -31 |
| Wuhan Industrial Holding Corporation Ltd. | 1434 | 85 | 1349 | 107 | 51 |
| Wuhan Steam Machine Corporation Ltd. | 1226 | 959 | 267 | 190 | 7 |
| Wuhan Airline Corporation Ltd. | 1156 | 1064 | 92 | 323 | -109 |
| Wuhan Machine Tools Corporation Ltd. | 1141 | 644 | 497 | 64 | -2 |
| Wuhan Baishazhou Bridge Corporation Ltd. | 1100 | 692 | 408 | 26 | -16 |
| Wuhan Infrastructure Corporation Ltd. | 1086 | 879 | 207 | 202 | -4 |
| Wuhan Economic Investment Corporation Ltd. | 1071 | 415 | 656 | 18 | 1 |
| Wuhan General Developing Corporation Ltd. | 874 | 675 | 199 | 230 | 21 |
| Wuhan Construction and Development Group | 777 | 616 | 161 | 79 | 29 |
| Wuhan Bus Corporation Ltd. | 685 | 271 | 414 | 287 | -2 |
| Wuhan No.1 Textile Group Ltd. | 633 | 388 | 245 | 264 | 7 |

Source: *The Outline of State Owned Assets of Wuhan Collected* by The Office of Wuhan's State-owned Assets Administration, June 2002. Unit=mio. RMB Yuan.

Currently, the state owned capital in Wuhan is almost distributed in all industries and sectors, including natural monopoly and various competitive ones. The goal of this round of state owned capital regrouping is to make the market structure of natural monopoly more open, more diversified and more transparent, to make the SOEs in competitive industries more concentrated. For example, the managerial agencies of state owned capital in Wuhan should consciously grant some SOEs assets to those formal state owned groups that have horizontal or vertical economic and technological relationship in order to optimize the market structure by holding governance and closed equity relationship.

Actually, in the context of China entering into WTO, there emerged a tendency to optimize market structure by state owned capital regrouping in the past few years. Taking the state owned capital regroupings in automobile industry as an exact case, the First Automobile Manufacturing Corporation contracted with Tianjin Automobile Manufacturing Corporation which gave birth to the largest acquisition in the China's automobile history, it signed joint venture contracts with Toyota then which took a great step in involving international divisions. Meanwhile, Dongfeng Automobile Manufacturing Corporation built up an entire partnership with Nissan by joint venturing Dongfeng Automobile Corporation Ltd. In China, it enlarged the cooperative scale with Citroën as well. In addition, Shanghai Automobile Corporation acquisition Liuzhou Wulin and built up a joint venture with General Motor. In comparison with the past M&A, these capital regrouping in automobile industry focused on domestic top 3 automobile group and involved famous foreign corporations, their incentives were market-oriented other than planning-oriented. The practical performance demonstrated that these M&A brought SOEs chances to gain necessary capital, technologies and high concentration that are vital to further development of automobile enterprises. Not only automobile industries, the regrouping in Airline industries, telecommunication industries recently as well inducted competitive mechanism into natural monopoly industries, breaking up "hard ice" in the SOEs reform. Additionally, grouping in electricity industry, gold exploring industry, and tobacco industry also make great progress.

The fourth objective of SOEs restructuring in Wuhan is to optimize the regional economic structure. Wuhan as the unique metropolis in the

central region of China and the important industrial base plays an essential role in the gradient exploitation strategy of China and has infinite potentials of economic growth, which was predicted by many experts as “the fourth pole” of China’s economic growth. Therefore, Wuhan should catch hold of the chance of state owned capital regrouping to optimize its regional economic structure.

In China, there have been several regional economic groups among cities, for instance, Guangzhou-Shenzhen industrial corridor in Guangdong province mainly develop home electronic appliance, computer hardware, telecommunication, textile and clothes industries, Shanghai-Suzhou-Nanjing industrial corridor is growing rapidly as well.

Wuhan should have a right recognition of its position and function in the regional economic optimization. Firstly, Wuhan should give birth to cluster effects in optic-electronic, medicine, and automobile industries. Secondly, Wuhan should construct an open-style city and emphasize on service industries that has high added value. In the medium and lower region of Changjiang river, there is none city but Wuhan that is capable to take on the role of personnel center, financial center, information center, education center, trade center, and transportation hinge. Consequently, Wuhan has high demand in information service, products R&D, human resource exploitation, capital exchange, trade and exhibition, logistic service, legalistic service, accounting service, etc.

3.2. The Approaches for SOEs Restructuring

(1) Adjusting Wuhan’s State Economy in Macro Level.

By the above analysis to the reality of Wuhan’s state economy, we could conclude that the current layout of Wuhan’s state economy is rather unreasonable, in specific, the proportion of state economy is too high, the distribution is too extensive, the involved fields is excessive, the equity structure is unreasonable, the dominant and inductive role is unobvious. To solve the comprehensive issues in the layout of Wuhan’s state economy, we should adopt following approaches.

Firstly, private economy enters and state economy exits as a whole, and state economy occupies some critical fields instead of general competitive ones. In specific, Wuhan’s state economy should enter into three fields: the industries relevant to the national safety, namely military and marine manufacturing industries; national monopoly

industries, namely, tobacco industries; natural monopoly industries, namely city infrastructure industries; little even non-profit industries necessary to social service, namely public healthcare industries; other industries that private incapable or unwilling to enter into, namely high-tech and fundamental research investment. Meanwhile, Wuhan's state economy should entirely exit from general competitive industries, namely trade and commercial industries, general manufacturing industries, and general service industries.

In the entering and exiting process, Wuhan must pay attention how to choose the standard and objects, which should be determined by whether these SOEs benefit to develop state economy's controlling, impacting and driving capabilities instead of their current performance. It is undoubted that some SOEs in the general manufacturing and service industries are well run presently, and make conservatives confused if letting them exit. The key issue is adjusting our thinking that SOEs restructuring is considering the overall layout of the state economy other than the short term strategies of shaking off mess. We must clarify to exit the SOEs from the general manufacturing and service industries when they are in the growing stage other than when they enter into mess even the border of bankruptcy, this is so called "Marry off your beautiful daughter first".

Secondly, state economy should choose high-tech industry as one of the dominant industries, since high-tech is the most potential growth point of Wuhan's economy in the future. We have to emphasize that this strategy doesn't mean Wuhan's local government is to build up a large number of solely ownership of SOEs, instead, state economy should support and participate in the high-tech development as a strategic investment. In specific, on one hand state economy dedicates to foster up sound external environment for high-tech development by means of grouping venture capital fund and establishing high-tech industrial zone; on the other hand it chooses some investing project that could rapidly upgrade Wuhan's industries and technological competitiveness in order to exit some years latter when the second board security market comes into being, and then on, the state economy invest to other new projects, as a result, state economy forms a sound circulation.

Thirdly, state economy should actively bring forward the development of advanced manufacturing and logistic industries. In accord with its programming, Wuhan will primarily build up a

self-featured national-wide advanced manufacturing bases with five pillar industries within the following 10 to 15 years. Wuhan as an old industrial base has a large number of SOEs in manufacturing industries, if based on these enterprises, it is practical inducing foreign capital and private one to organize groups and enlarge enterprises' scale, as a result, which would definitely devoted to Wuhan's economic growth. Taking Wuhan's reality into account, state economy should mainly enter into 5 manufacturing industries as follows: optic-electronics and information; steel and new materials; bioengineering and new medicine; automobile and machine manufacturing; environmental protection.

Meanwhile, the development of advanced manufacturing industries as well as Wuhan's unusual geographic position will give rise to logistics industries advantaged competitiveness, therefore, state economy should also find an appropriate entering point, particularly entering into the logistic infrastructure industries.

(2). Adjusting SOEs Ownership and Governance Structure in Micro Level.

Along with state economy's strategic regrouping, contrasting involved fields, focusing on national guaranteed sectors and enterprises, perfecting state owned capital's structure of resource allocation, and adjusting the layout of industrial structure, the regrouping will achieve the expected effect in macro level. Therefore, the following task is to design an efficient organizational structure in micro level in order to meet the demand of state owned assets management, without doubt, promoting mixed equity structure or multiple ownership structure is a practical approach.

Firstly, the mixed ownership is the inevitable result of state economic reform. All the while, state economic reform persisted in adjusting its layout and governance structure, and this process also involves that state owned capital exits, in the mean time, private capital enters, as a result, the mixed ownership structure forms in various regions and various industries. Secondly, the mixed ownership benefits to realize the genuine detachment of administration and enterprise. If SOEs are intended to implement independent operation, the primary premise is to have a clear equity structure, particularly in a multiple structure of ownership. In the solely owned or one dimension ownership SOEs, the local government owned SOEs entirely, which induces local government inevitable impose on SOEs the social objective by

administrative power, in fact these responsibilities and obligations attribute to the macro economy managers should take on. By means of multiple ownership structure, local government's behavior to utilize SOEs realizing its administrative goals will be rejected by other equity owners. Consequently, the detachment of administration and enterprise will be push forward. In addition, multiple ownerships could guarantee to give rise to the necessary mechanism for SOEs' efficient running. There is no way but implementing co-shareholding by a variety of owners, co-concerning enterprises development, co-taking on operative risks could generate efficient incentive mechanism, restrictive mechanism, and decreasing transaction cost. In the mode of state one dimension ownership, there are common in SOEs that right owners are irresponsible, by contrast, the equity owners are rightless. There are two categories of multiple ownership in Wuhan's SOEs, the first is to set two dimension ownership of central government and local government in solely ownership structure of SOEs; the second is to set mixed ownership with state owned equity and non-state owned equity, the latter respectively comprises of employees' share, collective share, private share, and foreign share.

Of course, the mixed ownership reform process in Wuhan should push forward orderly. The industries that belong to being absolutely controlled by state economy, namely national monopoly industry, natural monopoly industry, must be solely owned by state. The industries that belong to being dominated by state economy, should implement absolute or majority holding equity governance structure. The industries that belong to state economy mostly exiting, should implement shareholding governance structure. The industries that belong to state economy entirely exiting, should encourage private capital, foreign capital, and collective capital actively enter. In this way, state economy adopt a variety of governance structure, namely solely state ownership, absolutely holding, majority holding, and shareholding, that induct and affiliate much more capital in the society, enlarge its influence, broaden its function, strengthen the total capital of whole society, play more dominant role in the economy.

Currently, the most important and practical issues for developing mixed economy in Wuhan is to exit state economy from the district owned enterprises and SMEs, for the reason that these issues are relatively more urgent and easy to deal with.

As to the ownership reform in the district owned enterprises, government should take measures for thorough privatization. Briefly speaking, the less SOEs and the more private enterprises , the better economy; the less the district owned enterprises and the more enterprises in the district, the better economy; the less formal employees and the more informal employees, the better economy. In fact, the “1+X” program implemented in Xiantao city of Hubei province is a valuable reference to Wuhan. So called “1+X” means reserving only one SOE and privatizing all others.

Currently, there are 329 district owned SOEs in Wuhan which have total assets over 112 million RMB , but their financial status are deficit 135 million RMB (See Table 6). If these SOEs exit and private capital enter, the market structure of state economy will be much improved.

Table 6: The District Owned SOEs and Holdings in Wuhan

| District | Enterprises | Total Assets | Total Debts | Net Assets | Sales Revenue | Total Profit | Taxation |
|----------|-------------|--------------|-------------|------------|---------------|--------------|----------|
| Total | 329 | 11220 | 8952 | 2268 | 909 | -142 | 26 |
| Jiangan | 6 | 78 | 68 | 10 | 2 | -1 | 0 |
| Jiangnan | 13 | 88 | 89 | -1 | 11 | -2 | 1 |
| Qiaokou | 20 | 1069 | 834 | 235 | 20 | -22 | 0 |
| Hanyang | 69 | 1559 | 1071 | 488 | 254 | -22 | 11 |
| Wuchang | 45 | 697 | 690 | 7 | 16 | -13 | 0 |
| qingshan | 7 | 337 | 170 | 167 | 28 | 0 | 2 |
| Hongshan | 18 | 192 | 127 | 65 | 6 | -6 | 0 |
| Dongxihu | 26 | 3749 | 2599 | 1150 | 171 | -32 | |
| Hannan | 6 | 322 | 305 | 17 | 13 | -7 | 1 |
| Caidian | 37 | 690 | 755 | -65 | 87 | -7 | 4 |
| Jiangxia | 65 | 1519 | 1363 | 156 | 153 | -24 | 6 |
| Huangpi | 4 | 475 | 580 | -105 | 42 | -8 | 0 |
| Xinzhong | 13 | 439 | 293 | 146 | 101 | 14 | 1 |

Data Source: *The Outline of State Owned Assets of Wuhan* Collected by The Office of Wuhan's State-owned Assets Administration, June 2002. Unit=million RMB Yuan.

4. The Proposals for Wuhan's SOEs Restructuring

4.1. Foster up advantageous enterprises in Wuhan by M&A

The advantageous enterprises are competitive and growing in the drastic market competition, which are perhaps state solely owned, state shareholding, or private corporations. The reason why advantageous

enterprises are important in local economy is that these enterprises have a steady developing tendency in the long run, which have a sound governance structure and managerial system, consequently, which could create more job opportunities and productive financial performance, which are also vital to Wuhan's economic development and social stabilization. In order to foster up advantageous enterprises in Wuhan, we could adopt a variety of restructuring measures.

(1) Selling the SOEs. This measure is the best way to transfer state owned capital into cash, which makes us conveniently utilize the exited state owned capital into other more valuable purposes.

(2) Transferring state solely owned enterprises into holding companies or shareholdings. There are in specific two measures. One is to enlarge the total capital, in this process the incremental capital are partially or whole non-state capital, as a result, the former solely owned equity structure is optimized with the downsizing of state owned capital and formation of holding companies or shareholding equity structure. This mode will be easily implemented in the process of listed companies share enlargement planning. Another is to sell a part of state owned shares of listed companies to non-state owned shares in the security market, which was as well named the planning to decrease state owned shares.

(3) The advantageous listed company M&A non-listed one. Relatively, the listed companies are plentiful of money as well as the advantages in production, R&D, quality guarantee, marketing, brand management. By choosing supplementary objective enterprises to M&A, the listed companies could combine the production operation with capital operation, and make latter have reliable industrial foundation. As a result, the advantageous enterprises could activate other deposited assets in accord with their developing road and realize the rapid spread, which ultimately achieve the goal of combining the brand enterprises, advantageous one, and listed one together.

(4) The advantageous non-listed enterprises M&A listed companies. For the realistic reason, some of the listed companies weren't advantageous and were made up into security market as hard and supportive objects. If these inferior listed companies couldn't be improved in systems and essentials, neither they could efficiently use the accumulated capital in the first time, nor do they have the qualifications to enlarge shares, and even be driven out of security

market. Therefore, it is necessary to let those advantageous non-listed enterprises which need enlarge capital M&A these inferior listed ones, which is also called borrowing or buying shells in the security market.

(5) The advantageous enterprises take over the objective one by trusteeship. The features of trusteeship are keeping the equity structure of objective enterprises unchanged and the advantageous enterprises acquiring the actual control right of objective's resource. The advantageous enterprises export software like managerial skills, technologies, marketing and sales channels, trade market and brand etc, instead of hardware like capital. On one hand, it reduces the enlarging cost of advantageous enterprises; on the other hand, it decreases the trustee's abrasion in the process of equity change. As to most of SOEs in Wuhan, they are genuinely short of a sound operative mechanism instead of capital, and the trusteeship matches the demand closely.

(6) The M&A that takes on the objective enterprises debts. Over-debt burden are universal issues in SOEs, if merger enterprises could take on the objectives debts in order to acquire the whole equity, the acquired SOEs and the debtees are willing to accept this mode. Of course, this mode must pay attention to the indirect debts that includes the aftercare fee for laid-off workers and relevant social security issues.

(7) Wuhan government organizes holding companies, and then finances from security market by Wuhan's advantageous SOEs. This mode has been practiced by Beijing and Shanghai.

4.2. Encourage Wuhan's private capital participating in SOEs restructuring

In recent years, the private enterprises in Wuhan have been rapidly developed and formed a large deal of assets, which made them be competent to M&A SOEs (See Table 7). Therefore, encouraging private enterprises acquire SOEs by various means would definitely realize the win-win between private enterprises and SOEs.

Certainly, to speed up the private economy and realize the interaction with state economy, we think that Wuhan should focus on the following issues

Firstly, we should improve the developing environment of private economy. In specific, local government gives the private enterprises permission to enter into a part of sectors of public utilities, for example, local government grants private enterprises to invest in Wuhan's

infrastructure projects which have stable revenue. Meanwhile, local government encourages and inducts private enterprises to invest in growing industries like education, environment protection, tourism, market medium-agency, community service, etc. In addition, we should reform and simplify the register process of new private enterprises.

Table 7. The Distribution and Development of Private Enterprises in Wuhan

| District | 1998 | 1999 | 2000 | 2001 | 2002 |
|---------------------------|------|------|------|------|------|
| Total | 1534 | 1722 | 1975 | 2275 | 2800 |
| Donghu High-Tech District | 602 | 722 | 837 | 1120 | 1444 |
| Jiangan | 160 | 190 | 152 | 152 | 196 |
| Jiangnan | 71 | 71 | 71 | 60 | 90 |
| Qiaokou | 32 | 34 | 45 | 60 | 71 |
| Hanyang | 62 | 67 | 65 | 63 | 74 |
| Wuchang | 123 | 157 | 166 | 161 | 214 |
| qingshan | 88 | 107 | 123 | 105 | 115 |
| Hongshan | 96 | 120 | 137 | 179 | 282 |
| Dongxihu | 7 | 14 | 15 | 19 | 22 |
| Hannan | 6 | 6 | 7 | 8 | 8 |
| Caidian | 10 | 0 | 13 | 15 | 21 |
| Jiangxia | 10 | 12 | 13 | 19 | 26 |
| Huangpi | 5 | 4 | 22 | 27 | 27 |
| Xinzhou | 2 | 1 | 5 | 6 | 10 |
| Others | 260 | 217 | 304 | 281 | 200 |

Data Source: *Wuhan Statistic Annual* published by Statistic Publisher of China, Beijing, Version 2003.

Secondly, local government actively encourages private high-tech enterprises to participate in the regroup of state economy. The private high-tech enterprises spread over almost every industry in Wuhan, which is mainly distributed in, taking turns by the proportion of enterprises, manufacturing, social service, technological development and service, agriculture-forest –herd-fishery. Thereinto, the proportion of manufacturing is 57.86% in 2002, which concentrated in electronics and telecommunication, medicine, biological engineering, and computer industries. The proportion of total revenue is 68.9% in the same period, which concentrated in electronic and information, optic-electronic parts, laser, telecommunication system, medicine, biological engineering, and high-tech farming industries. Observing the distribution of SOEs in Wuhan, the SOEs mostly concentrated in traditional mechanical manufacturing, mining, petroleum and chemical industry, and textile industry, which formed a supplementary relationship to private economy.

Consequently, it is practical for Wuhan that encourage private high-tech enterprises to participate in SOEs equity reform by means of acquiring, purchasing, lease holding, jointing venture, collective venture, and share holding.

Thirdly, we should improve financial service for private enterprises and broaden their financial channel to acquire SOEs. For example, local government actively supports large private enterprises and high-tech private ones acquiring Wuhan's listed companies.

4.3. Attracting Foreign Capital and Outside Private Capital to participate in SOEs Restructuring

China has recently unveiled a new framework governing M&A of SOEs and other domestic enterprises (excluding foreign investment enterprises, or "FIEs") by foreign investors. A host of new regulations at least in principle provide foreign investors with broader opportunities to acquire shares in SOEs, domestic enterprises, state-owned and corporate shares of listed companies, and in very exceptional circumstances, foreign investors accredited as "Qualified Foreign Institutional Investors" ("QFII") are even permitted to invest in shares A.

There are two important new regulations in particular governing the acquisition of assets and or shares of Chinese domestic enterprises by foreign investors. While these new regulations offer a lot of new opportunities with respect to the acquisition of assets by foreign investors, they do provide regulatory guidance for foreign investors to acquire shares in domestic enterprises now. The *Provisional Regulations on Utilizing Foreign Investment In Restructuring State-owned Enterprises* (the "State Restructuring Regulations") set forth a framework for foreign investors to restructure SOEs using foreign capital in a manner consistent with government policy. The *Provisional Regulations on the Merger and Acquisition of Domestic Enterprises* (the "M&A Regulations") govern only the acquisition of private domestic enterprises by foreign investors, and may be viewed as an effort by the Ministry of Foreign Trade and Economic Cooperation ("MOFTEC") to reassert its approval and regulatory authority following the promulgation of the State Restructuring Regulations.

Wuhan has made a great performance in attracting foreign capital. There were 82 FIEs and over 60 HMTIEs(Hong Kong, Macao, and

Taiwan Investment Enterprises) in the scale industrial enterprises, and the proportion was rapidly increasing. Particularly, the performance of FIEs, namely total assets contribution rates, assets added value rates, productivity rates, product sales rates, profit and taxation rates, are much better than SOEs that revealed the competitive advantages in market economy. Thus, Wuhan's SOEs restructuring should implement in virtue of foreign capital's power.

Of course, foreign capital participating in SOEs restructuring must obey the State Restructuring Regulations as follows:

(1) SOE Restructuring Regulations. The State Restructuring Regulations were issued jointly by the SETC, the Ministry of Finance ("MOF"), the State Administration of Industry and Commerce ("SAIC") and the State Administration for Foreign Exchange ("SAFE"), and became effective since January 1, 2003. The State Restructuring Regulations set forth the requirements and procedures for the approval of the restructuring of SOEs into FIEs. Pursuant to these regulations, foreign investors may participate in the restructuring of SOEs, other than financial institutions or listed companies, provided that such SOEs do not fall within the prohibited category of the *Catalogue for Guiding Foreign Investment in Industries*. In addition, if the SOE's target involves that the Chinese party must have a controlling interest, the Chinese party must maintain a controlling interest after the acquisition in the FIE.

(2) Applicability and Scope. The State Restructuring Regulations contemplate the following five methods of restructuring SOEs using foreign capital: (i) foreign investors may restructure a SOE into a FIE by acquiring all or part of the State interest in a SOE; (ii) foreign investors may restructure a "company with state interests" into a FIE by acquiring all or part of the State shares in a "company with state interests"; (iii) foreign investors may acquire from domestic creditors debt owed to them by the SOE and restructure such enterprise into a FIE; and (iv) foreign investors may acquire all or the majority of the assets of a SOE and subsequently establish a FIE; and (v) foreign investors may purchase an equity stake and become shareholders in a SOE and convert such SOE into a FIE.

(3) Foreign Investor Qualifications. Foreign investors wishing to take part in the restructuring of a SOE must meet the following criteria: (i) they must have the business qualifications and technical expertise

required by the SOE; (ii) they should be in a similar line of business as the SOE being restructured; (iii) they must have a sound business reputation and management capabilities; (iv) they must have a solid financial position; (v) they must introduce advanced technology and management expertise; and (vi) they must possess the capability to introduce corporate governance practices. As is often the case with foreign investor qualifications set out in PRC legislation, these qualifications are highly subjective, and it is unclear from the State Restructuring Regulations how or by whom such conditions will be defined.

(4) Required Reorganization Plan. A reorganization plan, which is in many respects similar to the “feasibility study report” required for all FIEs, must be submitted by the reorganizing party of the SOE, highlighting information about the foreign investor, its financial status, its business scope and equity structure, and plan for settlement of staff. In addition, it appears from the State Restructuring Regulations that, in permitting foreign investment in the restructuring of SOEs, one of the State’s main requirements is the introduction of sound corporate governance into the target SOE. Article 5 of the State Restructuring Regulations specifically requires foreign investors to provide plans to improve the enterprise’s corporate governance structure and promote sustained growth of the SOE. Such a restructuring plan must also include measures for strengthening corporate management and a plan of investment, and provide for the introduction and development of new products and technology. The submission of a reorganization plan is a new requirement for foreign investors.

(5) Employee Protection. The State Restructuring Regulations specifically impose requirements for ensuring the welfare of SOE employees. Specifically, the State Restructuring Regulations require the SOE being reorganized to first seek the opinions of the staff and worker’s congress of the SOE. Also, in the event that the controlling interest in the SOE will pass to the foreign investor upon acquisition, or if all or the main business assets of the SOE will be sold to the foreign investor, the reorganizing party of the SOE must formulate a plan for settling the staff, and such plan is subject to the staff’s approval. While these specific employee protection requirements are new to foreign investors, the absorption of, and responsibility for, the staff of their Chinese partners is not. However, the effect of these new requirements

may be that SOEs will have more leverage in negotiations with foreign investors over the number of employees to be absorbed by a FIE after completion of an acquisition.

(6) Approvals. The approval thresholds and procedures under the State Restructuring Regulations mirror in many respects existed in foreign investment rules. The reorganization plan must be submitted to the relevant department of the SDRC for examination (and in some cases, depending upon the nature of SOE, the SASAC as well). The SDRC and SASAC are now responsible for these functions as a result of the dissolution of the SETC. The same US\$30 million threshold used in establishing a FIE is used for determining the level of approval required under the State Restructuring Regulations. Upon receipt of official reply from the SDRC regarding the reorganization plan, an acquisition agreement entered into by the reorganizing party of the SOE and the foreign investor must be submitted to the MOF for approval. Several documents are required to be submitted along with the acquisition agreement, including but not limited to: (i) an audit and asset appraisal report of the SOE; (ii) a staff and worker settlement program; (iii) an agreement for settling claims and debts; (iv) a restructuring plan; (v) resolutions of the reorganizing party of the SOE; and (vi) the opinions or resolution of the congress of the staff and workers of the SOE.

Upon receipt of approval from the MOF, the reorganizing party of the SOE must then proceed with the examination and approval procedures for FIEs in accordance with the relevant FIE rules and the PRC Company Law. While it is not explicitly stated in the State Restructuring Regulations, MOFCOM has confirmed its jurisdiction over this examination and approval for the establishment of FIEs, and as such it will be the final authority for approval after the SDRC and the MOF. Upon completion of these approval procedures, registration procedures must be followed in accordance with the Catalogue for Guiding Foreign Investment in Industries and other applicable laws, and foreign investors must pay for the acquisitions in freely convertible currency from abroad. However, similar to other acquisitions in China by foreign investors, foreign investors may use their RMB profits derived from their existing operations in China to purchase their interests.

On account of the great gap between state economy and private one,

it is impossible for Wuhan's private enterprises to take on the exited SOEs, therefore, Wuhan must pay attention to importing private capital of other provinces besides importing foreign capital, which is also called "Not requesting own the enterprises but exist in Wuhan".

In March 2002, Junyao Group share held Wuhan Airline Corporation was an exact example that private capital participated in state capital regrouping. Currently, Eastern Airline, Wuhan Airline, Shanghai Junyao Group, and Wuhan High-tech Corporation jointly invested building up Eastern Airline (Wuhan) Corporation Ltd and got the approval from China Civil Aviation Bureau, in which Eastern Airline occupied 40% of total shares, Wuhan Airline Group occupied 40%, Junyao Group occupied 18%, and Wuhan High-tech Corporation occupied 2%.

4.4. MBO/EBO/ESOP Restructuring Wuhan's SOEs

Management Buyout (MBO), Employee buyout (EBO) as well as Employee Stock Ownership Plans (ESOP) financing have become the most widely adopted application for acquiring large blocks of state-owned shares by domestic parties. In recent years, many provinces and cities practiced these modes in restructuring SOEs, particularly listed companies. We think it is also necessary for Wuhan to innovate in MBO/EBO/ESOP projects so as to restructure SOEs successfully.

Actually, the emergence of MBO/EBO/ESOP in the early 1990s had attracted great attention of many analysts and decision-makers in industries, governments and academics. In the last decade, MBO/EBO/ESOP has been widely experimented in SOEs, from the coastal areas to interior provinces, accompanying the transition of the Chinese economy from the planned system to a market-oriented one. The reform of the SOEs has also witnessed the focus change from the adjustment of the relations between governments and enterprises to that of the structure of property rights. Recently, the establishment of a long-term incentive mechanism in companies has been emphasized, in particular with information-technology firms. MBO/EBO/ESOP is believed to be the right choice.

The development of MBO/EBO/ESOP can be traced to the introduction of stock system in 1984 in China. But the widespread adoption of MBO/EBO/ESOP in the reform of SOEs and collectively enterprises started in 1992. The around ten-years' development can

roughly be examined in the following three stages:

The 1st stage: from the end of 1992 to 1995. In the stage, the employees were motivated to invest out of their own pockets in the small-sized SOEs and collective companies that they were working for. These enterprises were restructured to be cooperative companies. Workers in the mid and large-sized enterprises bought some shares of their own companies when these companies were undergoing share-based reforms.

The 2nd stage: from 1995 to 1998. In the stage, employees were encouraged to buy out all the assets of small SOEs, which were restructured to be collective companies or stock companies afterwards. In the case of mid and large-sized enterprises, employees bought part of the net assets of the companies collectively in the names of Employees Stock Ownership Association. These enterprises were then been reformed to the limited companies owned the state and Employees Stock Ownership Association.

The 3rd stage: from 1998 to the present. In the stage, employees are encouraged to hold the majority shares of their companies. Big differences of share held by managers and ordinary workers are allowed as well.

Up to now, MBO/EBO/ESOP has become a widely applied instrument in SOEs reform with respect to property rights diversification. More than 30 provincial, municipal and county governments have drawn up the regulations or rules over MBO/EBO/ESOP. Although comprehensive evaluation cannot be made right now, it is fair to say that MBO/EBO/ESOP is a reform instrument full of vigor and vitality from the fact that it is widely recognized and adopted by SOEs and local governments in their efforts of enterprises reform.

There are also a lot of typical and successful experiences that deserves Wuhan studying in order to restructure SOEs by MBO/EBO/ESOP.

Case 1: Hainan Coconut Group, a leading soft drink producer in Chinese market, is an example to study. Presently, it is owned entirely by its employees. An Employees' Stock Ownership Association (ESOA) was set up to manage all shares. The detailed key elements are the following:

Share distribution: ESOP 80%, reserve 20% for share bonus. Within the ESOP, top managers 20%, mid managers 20%, workers 60%.

Capital sourcing: investment from employees' own saving (20%), compensation to the employees (17%), company balance of the salary and bonus (8%), discount (20%), borrowing (35%).

Marketability: ordinary workers, after retiring, can sell their shares within the company with the approval of ESOA. The new employees have the priority. The ESOA will have a guiding price for the shares based on the net assets of the company. Employees leaving the company before retiring can only sell part of their shares including shares obtained with their own investment and government compensation. The top managers and key technicians are not allowed to transfer their shares but to be inherited by their next generation, unless the company board gives a special approval.

Case 2: Dazhong Taxi, ESOPs control two listed companies, China's Taxi giant: East Dazhong (Pudong Dazhong) and West Dazhong (Dazhong Communication) were two listed taxi companies in Shanghai city. West Dazhong was the biggest shareholder of East Dazhong. Before 1997, these two companies were competitors in the taxi market of the city. In 1997, around 2,800 employees from the two Dazhong decided to set up an Employees' Stock Ownership Association (ESOA) under the Labors Union of the companies. According to their plans, the top managers should invest 200,000RMB, mid managers 100,000RMB , and ordinary employees (taxi drivers) 10,000 RMB to 30,000RMB . With the total investment of 70 million RMB from all the employees, their ESOA controlled 95.71% shares of Dazhong Enterprise Management Limited (Dazhong EM). Subsequently, Dazhong EM took over 20.08% shares of the East Dazhong from West Dazhong at the price of 111.8 million RMB with the help of bank loans and became the biggest share-holder of the East Dazhong. The Dazhong ESOA went further. In 1999, with the approval of the China Securities Supervision Commission, East Dazhong invested in West Dazhong with a package of 1,000 taxies, shares of the other companies and more than 37 million RMB, equivalent to 465 million RMB of investment. In this way, Dazhong ESOA controlled two listed companies with total assets of 4.4 billion RMB. In Dazhong ESOA, ordinary employees are allowed to transact their share within ESOA, by selling shares at the price of the net assets per share of the company to ESOA, who in turn sells these shares to those who want hold more. As the value of shares has got an annual increase of 20%, there has been a shortage of shares

transacted. But managers are obliged to keep a certain volume of the shares when at position.

Case 3: MBO in Nanjing Chengguang Manufacturing Factory (Chengguang MF), a mid-sized SOE in Nanjing, capital city of Jiangsu Province, one of the most developed coastal provinces in China. In 2000, the factory had total assets of over 50 million RMB and net assets of 23 million RMB, with an employment of around 300. The local government decided to use ESOP/EO to reform the SOE. At that time, there was a hot discussion on the technical elements of ESOPs. The key issue was that how the shares should be distributed among the employees, in particular the difference between managers and ordinary workers. Another issue that caused much attention was that how the ESOPs should be financed. Nanjing municipal government was trying to restructure the ESOPs in the city. It requested that ESOPs in the small and mid-sized companies be the biggest shareholder and in the ESOPs the managers hold dominated shares. Thus, it decided to go further and use MBO in the reform of Chengguang MF. The factory was finally in 2001 sold to the five top managers at the price of 23 million RMB. The managers were required to pay around 8 million RMB, deducting 15 million RMB of the government compensation to every employee while they were obliged to keep the life jobs of all the employees. The government also provided the financing support to them by offering loan guarantees.

5. The Barriers to Wuhan's SOEs Restructuring

SOEs restructuring means that some enterprises alternatively exit from a variety of industries so as to optimize resource allocation and advance economic efficiency. However, when enterprises plan to exit from their running industries, there definitely are a great deal of barriers, for example, incomplete market, immature private economy, government protection to SOEs, etc. Taking Wuhan's specific realities into account, we think we should pay more attention to the following issues.

(1) Assets Specificity and Sunk Cost. In industrial economics, machine, instruments, devices and industrial workshop belong to specific assets whose functions and uses are unchangeable, if enterprises exit from former industries and enter into another irrelevant one, their invested specific assets will value nothing and become the

sunk cost, which is the biggest barriers for enterprises to exit from an industry. In reality, according to the main economic index of Wuhan's state owned holding industrial enterprises in 2002, the SOEs fixed assets occupy more than 50% of total assests in majority of industries, these workshop houses and equipments would lose their value in virtue of assets specificity, as a result, the SOEs' exit would be hard to put forward.

(2) The High Liabilities by SOEs. The formation of SOEs liabilities has various causes, for instance, poor operation and disordered management; furthermore, the institutional transition is a primary fact as well. In specific, the financing manner changing from governmental finance-oriented to commercial bank-oriented one in advance of enterprises property right reform which result in SOEs original capital becoming liabilities. As a result, most of SOEs in Wuhan are of high liabilities but lacks of capabilities for payment. According to the survey to 320 scaled SOEs in 2002, in their total liabilities, there is 71.78% current one and 28.33% long term one, and 60% creditors are commercial banks and other financial agencies, particularly top four state owned commercial banks. Although SOEs deficits in capital are the best excuses to exit or bankruptcy, these SOEs could apply for bankruptcy protection for the reason that commerce could permit so as to keep the quality of credits. Briefly speaking, if SOEs bankrupted, the commercial banks would be hard to withdraw credits. Thus, in order to ostensibly keep the credit quality, commercial banks prefer to maintain current status to permit SOEs bankruptcy; meanwhile, in order not to cause the financial crisis in a short time , government is also willing to do so. As a result, SOEs giant liabilities become the barriers to exit.

(3) The Aftercare of Laid off Workers. The SOEs exiting from traditional industries benefits undoubtedly to capital transferring to efficient one, yet it goes with a great deal of layoffs and reemployment. According to Wuhan's statistics in 2002, there are almost 3 million employees in SOEs, only 330,000 in private enterprises, 220,000 in FIEs, 110,000 in Hong Kong etc investment enterprises. In case SOEs exit from general manufacturing industries, these issues possibly bring about severe outcomes.

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Joint-stock System Transformation and China's Accounting Reform

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1. Characteristics of Social and Economic Environments in China

China is a socialist country, whose fundamental task is to develop the productivity, and finally achieve the common prosperity. However, how to achieve this goal? China has tried to find out the answer for many years in practice. Before the reform and opening, China had been pursuing the single state ownership system, believing that only this system could realize the above goals. And the government adopted a strict center planned system that rejected the function of market economy, which was believed to be an *unordered economy*. The experience has proved that it is impractical to use a simple state-owned development model with a planned economy. Since the Third Plenary Session of the Eleventh Central committee of Communist Party of China (CPC) in 1978, China has begun a new exploration of socialist economic development model. And socialist market economy was regarded as the goal of China's economic system reform on the 14th National Congress of CPC in 1992. The congress also put forward thoughts of the development model of socialist market economy and defined the direction of national economic development.

It is a milestone to propose and try to establish socialist market economy in China's economic development history, which undoubtedly played a unique and important role in China's economic development. However, the decision to set up the development model of market economy does not mean that China has already set up a perfect socialist market economy system. On the contrary. It only marks the beginning of China's socialist market economic system construction. Therefore, the socialist market economy in China is in its primary stage of socialism, and is making her way to the perfect stage gradually. This is shown as follows:

(1). Various kinds of productive factor markets are required in socialist market economy. However, the Chinese security market, human

resources market and intellectual property rights market are still in their early phase, and the scientific and standard market operating mechanisms have not yet been set up. We still can find country intervention or government domination phenomenon in some consumer markets and capital goods markets. The functions of markets allocating economic resources haven't been given full play yet.

(2). Modern enterprise system according to common norms in market economies are required in socialist market economy. However, although China's state-run economy reform has its definition and direction, and has taken the road of a joint-stock system and share cooperation, it is still in the process of further expansion and deepening reform. A modern enterprise system, both in its form and in its operating mechanism, has not led the national economy yet.

(3). Scientific and standard market operating mechanisms are required in socialist market economy. However, the construction of China's economic legal system, the reform of the political structure and the government's reorganization has not yet been finished. And the social security system is in the course of setting up and perfecting. All these lead to the difficulty of fair competition and separation of the government function from enterprise management.

(4). The economic reform, with the setting up of a socialist market economy system as its goal, is a systemic process. This should be formed as a complete set in a proper order coordinately. But it is very difficult to accomplish under China's peculiar national conditions. Therefore, such phenomenon as reform measures cannot be formed a complete set, even in a contradictory way may appear in the course of reforming.

2. Theoretic Discussion of China Enterprise Joint-Stock System Transformation

(1). The property system reform is the core reason of the joint-stock system transformation

Chinese economy has been growing by a high speed in the past twenty years, with reform and opening-up policy. At mean time, China has tentatively formed the system frame that gives full incentives to all kinds of economic organizations, among which non-state-owned economic organizations show their vitality. Also, in order to encourage state owned enterprises to improve efficiency, and make them possess the ability to participate in market competition progressively, the government

moved management right from planned center to them on the premise of the country ownership. Thus, China has implemented measures at different stages such as *granting enterprise power and allowing enterprises to keep a bigger share of profits, switching from profit delivery to tax payment, operation responsibility system, changing the enterprises management mechanism* and a *pilot project of modern enterprise system*, etc. However, with the management power was given to state owned enterprise, insider control has been formed instead of giving incentives to the operators and workers of state owned enterprises. Enterprises have not seen the obvious improvement of management performance, Instead, state owned enterprises have fallen into the management predicament on a large scale. In 1996 all state-run industrial enterprises gain lost heavily. In 1997 the central government therefore proposed that it would take measures to make most large and medium-sized state-run leading enterprises out of predicament by reform, reorganization, and strengthening management within 3 years; and establish modern enterprise system tentatively by the end of the 20th century.

The 20-year experience of China shows that moving operation right to enterprises without changing ownership of state-owned enterprises will be problematic. First of all, as an abstract concept, a country has to choose an agent to exercise the ownership right which may be the government at all level in China society. So the government becomes both principal and agent at same time. Thus, the function of an enterprise is hard to tell from its administrative function. Furthermore, this situation results in another problem. In the case of omission of ultimate owner, who should restrain the actual principal (namely the governments at all levels)? As a result, when there are no supervision for the principal and no incentives for the agent (the enterprise's operator), it becomes common that principals are careless to their assets, and try to seek rent by their authorized power as their *compensation* to supervision cost. When the principal's interests are not coincident with the agent's, the former often undertakes all sorts of interventions to the agent for pursuing political achievements. Also this might reduce management performance because of insufficient powers of agent. In turn, the agent constantly expands his own interests and *conspires* with his staff to damage the owner's rights and interests while the principal is not *present* by asymmetric information. The implicit reason is that both the principal and the agent do not have the material

base in case of failure in operation, which reduces the carefulness for the principal-agent assets. So, under this situation poor efficiency and a constant loss of state-run assets become an inevitable result¹.

Therefore, in practice of China SOE reform, we have not answer a key question that cannot be avoided, namely the reform of property right system of state-run enterprises. With the problem unsolved, we are not able to separate the function of enterprises from government completely, and can not stop government officials from *seeking rent* by ownership power. And we can not form effective restraints on enterprise operators, and can not creat economic organizations suitable to a market economy.

Why can the joint-stock system be a solution to China state owned enterprises reform?

The development of a market economy requires solving the contradiction that funds are dispersed while demand for it is concentrated. Compared to other fund-raising forms, the joint-stock system has the advantages that it utilizes funds for a long time and shares risks, which is helpful to improve the utilization benefits of the fund. The core issue of the enterprise management mechanism transformation is how to define and separate the function of an enterprises and of government. The joint-stock system is exactly a right way to solve this problem. It is sufficient for joint-stock enterprises to repel the government's administrative interference with double property relations, ownership separation from management, and enterprise organization principles. In the double property relations, enterprises obtain corporation's property, while the government only has ultimate ownership of some state-owned stocks indirectly. So corporation property right becomes foundation of enterprise management independency. The property relation in the joint-stock enterprise is well defined with every investor having his own stock rights, bearing limited responsibility with the investment amount. Enterprise investment is no longer limited on the state, but open to all shareholders. The enterprise's director and board of directors must be responsible for all shareholders. Under the center planned economy with enterprises as *operators*, and the government as the representative of owners, the enterprise had to take sole responsibility for its profits or losses. But the assets ownership is the prerequisites of its sole responsibility for profits or losses. Thus, it is necessary that enterprises must also be owners, not

¹ Yang Ruilong. 1995. The theory thinking of joint-stock system transformation of state-owned enterprise, *Economic research*, the 2nd issue.

merely operators. Under joint-stock system, the management should work for the value of all share holders instead of just output.

The contradiction between responsibility of an enterprise and property right system can be solved based on ownership separation principle. By joint-stock incorporating, the state-owned enterprise becomes the joint-stock company with corporation's ownership, and assumes sole responsibility for its profits or losses by assets. The government exercises shareholder's rights in the name of the ultimate owner, and it restrains operators and laborers behavior from outside. The board of directors is the representative of the joint-stock company owners. In this way, the balancing mechanism among owners, operator and laborers is constructed inside an enterprise.

Also a joint-stock system is the need of optimizing resource allocation, adjusting economy structure. A joint-stock system is a simple and convenient way to make productive factors flow rationally. The supply-demand relationship in the stock markets and the fluctuation of all kinds of stock prices spontaneously regulate the allocation proportion of productive factors in every department and in every enterprise like an invisible hand, which improves the capital allocation efficiency greatly.

In fact, a joint-stock system strengthens the state-owned economy. As the biggest share holder in a joint-stock system, the government can control an enterprise easily. And the marketability of state-owned shares becomes a way of state-run assets appreciation if the stock price rises. Therefore, the joint-stock system provides conditions for state-owned economy to grow.

(2). A joint-stock system transformation is feasible in China.

First of all, the financial system reform and security market development have provided condition for joint-stock system economy. Since the financial system reform in 1986, the financial market, including the security market, has already tentatively taken shape. Central bank system and various financial institutions were established. And there are legislation on financial market such as *Law on People's Bank of China*. Second, the financing pattern with just banking channel was changed into that of various channels. Bond market and stock market were developed, which created conditions for a joint-stock system. Third, diversified financial instruments were developed in the markets. There are various kinds of commercial papers, financial bonds, corporate bonds, treasury bills and enterprise stocks.

Secondly, the large amount of social surplus fund offers the capital source for the development of a joint-stock system. The savings of urban and rural residents are switched by issuing stocks, bonds. We obtain the important condition for implementing the joint-stock system.

Thirdly, the structural adjustment of state-owned enterprise provides the material conditions for running a joint-stock system. There are a lot of small and middle-sized state owned enterprises in China, which should owned by private sector. So the joint-stock system is needed to transfer the property rights from state to the collective and individuals. The part of state-owned enterprise that transferred the property right becomes the material conditions for implementing the joint-stock system.

Finally, the adjusting of industrial structures is a good chance for the joint-stock system development. Under a market economy, it is more effective with a joint-stock system, grouping intersectional link and merger, which provides the chance of setting up trans-regional and trans-departmental full-fledged corporation.

Theoretical study and practice of many years have proved that joint-stock system is an effective way of improving enterprise and capital operation efficiency. As a kind of typical form of modern enterprise system, the core and foundation of joint-stock system is property relations, which is a difficult problem that China SOEs reform can't be avoided. It can be believed that the efficiency and progress of property relations reform have decisive effect on the joint-stock system transformation, which is the key that the state owned enterprise obtain the independent property right and market economy subject position to improve the ability of making decisions on one's own, and improve the efficiency of enterprises and capital operation.

3. Historical Retrospect of Joint-Stock System Transformation

China began to try joint-stock system under the tide of constantly deepening reform and opening, and relevant regulation was imperfect in early 1980s., China resumed national debt system In 1981. And stocks of first joint-stock company (the Feile Stereo Set Limited Company of Shanghai) of new China was issued in November 1984. From then on China joint-stock system transformation has been going on an uneven road. The full process can be divided as follows:

(1). From 1984 to later 1986. In the tide of deepening reform, some enterprises were chosen to carry on the pilot project of joint-stock system

in some places according to the arrangement of central government. A few enterprises issued stocks to the public, and most enterprises issued stocks and bonds to their staff. By raising funds through shares and bonds, enterprises expanded their production and operation. With Guangdong Province especially outstanding. There was new progress in August to September of 1986. Shenyang opened the securities trading counter in August, allowing treasury bill to be listed and traded. On September 26, Shanghai Jing'an securities department opened. Shares of two companies, *Feile* and *Yanzhong* were listed and traded. Stock and stock market, which had disappeared in mainland for more than 30 years, went on the stage then. Shanghai opening stock market caused sensation both at home and abroad. 158 Japanese newspaper made reports and pointed out: the direction of China *opening-up can be seen from the stock market opening in Shanghai*.

(2). From the end of 1986 to the second half of 1987. In order to improve financial situation in 1986, the central government proposed the contract system nation-wide. The contract system was propagated in the national newspapers and periodicals. Some people were sensitive to the *climate*, thinking that contract system might mean abandoning the joint-stock system. Some even argued that joint-stock system was private ownership; state-owned enterprise implementing joint-stock system was the privatization. In this case, the plan of joint-stock system was stranded. And enterprises that had already launched joint-stock system were in a dilemma.

(3). From the second half of 1987 to May of 1989. The situation of the joint-stock system saw a favorable turn in October of 1987 which was the convocation of 13th National Congress of CPC. The pilot project of joint-stock system was written into the report of 13th National Congress: *Joint-stock system form that appears in the process of reform, including country, department, area, enterprises participating in by shares and individual becoming a shareholder, is a kind of organizational way of socialist enterprise property, which can be carried on*. Thus, joint-stock system pilot project expanded and developed in depth.

Standard independent joint-stock enterprise appeared, which issued shares to the public in the whole country, and professional securities organizations that contacted with secondary market of the stock, such as securities broker company, property appraisal companies, securities rating company. There was an actual progress in the pilot project of the

joint-stock system and the cultivation of the security market.

(4). From June of 1989 to the first half of 1990. Joint-stock system and security markets were the most flexible warning systems of social politics and economic situation. Because of the well-known reason, prices in the securities market dropped down, and joint-stock system and security market were baffled. Joint-stock system pilot project moved towards low tide twice. In September of 1989, while criticizing the ideological trend of the privatization, some people linked the joint-stock system and security market with bourgeois liberalization and privatization. The future of Joint-stock system and security market was difficult to forecast, which made share holders uncomfortable. And the stock prices dropped again. Some stock fell under face amount in September (face amount of Feile stock was 100 Yuan, its price was 110 Yuan in April, 103 Yuan in June, and 89 Yuan in September). When the measures took effect stock market began to *get hot* again with the political, economic stability. The stock market became hot fiercely in March to April of 1990. In July, August and September of 1990, Shanghai stock market began to be active too. The hot tide of stocks market somehow meant the activity of speculation in the market, which caused some suspicions and resistance. Someone plead that “*speculating in shares market leads to nothing but empty room left*” and argued against the open stock market. The destiny of joint-stock system and security market met the real crisis.

(5). From December of 1990 to present. The Seventh Plenary Session of Central Committee of 13th National Congress of CPC brought the sunshine for the joint-stock system. The decision on the plenary session reaffirmed the socialist goods economic theory, expounded again that continually carrying on the pilot project of joint-stock system, and confirmed Shanghai and Shenzhen as stock model regions. The outstanding incident that happened in this period of time was that: Shanghai Stock Exchange was opened as the supplementary measure of Pudong development, on December 19, 1990; Shenzhen Stock Exchange also opened on July 3, 1991; and corresponding local securities regulation was issued; joint-stock system pilot project entered large-scale and standardized new stage from small-scale, little paces stage. On the first 8 years, there were only 8 Shanghai enterprises that were all small enterprises except Bank of Communications, Vacuum Electron. The amount of share capital was only 880 million Yuan. But by the end of 1991, the number of pilot enterprises rose to 20, the amount of share

capital was 2,015 million Yuan and the listing stocks increased from 8 to 15. Joint-stock system pilot project broke through forbidden zone that issuing stocks only to domestic corporations and individuals. On November 30, 1991, China companies issued *B share* to foreign corporations and non-residents to form Chinese-foreign joint ventures, which meant the first step of international for Chinese markets.

In the Spring of 1992, Deng Xiaoping repeatedly put emphasis on emancipating the mind, seeking truth from facts and opening up the new way in his south inspection speech. Under the push of this speech, the paces of reform and opening-up are accelerated; joint-stock system pilot project reached a new stage.

Under the new situation of reform and opening-up, the 15th National Congress of the CPC made a clear exposition to the joint-stock system: *“The joint-stock system is a kind of capital organizational form of modern enterprises, favorable to ownership separated from management. And it is helpful to improve the operation efficiency of the capital; it can be used not only by the capitalism, but also by socialism”*. Since then, pilot project of China joint-stock system was over, a new period began to develop steadily. By the end of 2001, there were more than 1200 listed companies in two security exchange of Shanghai and Shenzhen. Share capital of listed company was up to more than 400 billion stocks and corresponding market value is up to more than 4,000 billion Yuan. There were more than 1000 of various listed stocks. Two stock exchanges in Shanghai and Shenzhen had 712 member units, 4054 seats and 132 seats of B-share.

Reviewing the uneven historical process of pilot project of joint-stock system and security market opening, we get two revelations. First, as the reform is a revolution and the real reform won't be put forward smoothly, such sensitive problem as joint-stock system touches questions with profound social economy can not be put forward smoothly in its development. Even though there were twists, we have made breakthrough progresses. Second, social effect of tentative joint-stock system and security market prove that joint-stock system is a kind of scientific economic form. There exists room for its development in socialist market economy. The experience of the joint-stock system in China proves that what society needed with good social effect had its strong vitality.

4. Basic Experience of Joint-Stock System Practice

China has explored in many aspects at joint-stock system and security market for over 10 years. China has made great success and accumulated abundant experience.

(1). China mainly reforms its the state-owned enterprise by three ways. First, the value of asset stock of SOEs can be turned to shares.. Through assets assessment, we convert state-run assets into the shares with the majority held by the state as country's share. A few others can be sold to corporations and individuals at a reasonable price. As a result, the state may sell the assets to gain cash. So former country proprietorship is turned into the joint-stock company consisting of state share, corporate share and individual share. Second, the increment of the assets of SOEs can be turned into shares. Original state-run assets are assessed as country share. The increased funds for expand scale and technological transformation is turned in the form of share and these enterprises combine the corporations and individual investment to establish a joint-stock company. Company assets are formed by country's share, corporate share and individual share, with state owned share as the biggest share holder. Third, a new joint-stock company is established by state share, corporate share, and individual share.²

(2). China has carried on the exploration on the stock issuing target and range in six respects.

First, there exist joint-stock companies with shares held by the staffs. State-run assets are assessed and ratified into shares. And enterprises raise certain number of share from the staff and then the enterprises are reorganized into joint-stock companies.

Second, there exist joint-stock companies with shares held by entities, individual not included.

Third, there exist public companies with shares held by all kinds of economic bodies. And individual shares are listed and traded on exchanges.

Fourth, there exist joint-stock companies that raises capital by issuing shares to the public, with their stocks not listed temporarily.

Fifth, there exist Chinese-foreign joint ventures. This kind of companies usually reorganize on the basis of state-run enterprises by

² Hao Dejun, Liu Xun. 2003. Joint-stock System Transformation of State-owned Enterprise and Thinking of Development, *Northern economy*, the 11th issues.

issuing shares to foreign economic bodies, including entities and individuals. Such companies can also be reconstructed on the basis of Sino- foreign joint ventures.

Sixth, there exist cooperation enterprises. This is a kind of joint-stock enterprises that decide investment by its staff. The staff are both laborers and shareholders. They get the salaries and share bonus according to their invested money. This form of enterprises is suitable for small enterprises, villages and town's enterprises and neighborhood enterprises. They do not print stocks, but send the stock right cards that are not listed on exchanges.³

(3). China has made three kinds of exploration on fostering and developing security markets. Firstly, Shanghai Stock Exchange mainly relied on bonds (includes the national debt) at first, and progressively accomplished the security market that did business on bond and stock equally. Whereas Shenzhen Stock Exchange is a security market relying mainly on stocks exchange. More than 20 securities trade centers, such as thoes in Wuhan, Shenyang, Hainan, Chengdu, Guangzhou, Qingdao, Dalian, etc., are security markets trading bonds with no stocks. Shares of listed companies on Shanghai and Shenzhen stocks exchanges can be traded through network.

(4). Omni-directional tests were carried out in joint-stock system pilot in a few industries. China's joint-stock system pilot began with industry and commerce, and most of the enterprises were small enterprises. For instance, the Feile Stereo Set Limited Company only had 50 workers originally, with capital 500,000 Yuan, and only issued 10,000 stocks (3,500 corporate shares, 6,500 individual shares), which might be called as a real test. And then the joint-stock system pilot has been expanded to the fields of finance, real estate, traffic, trade, securities, science and technology, culture, education, quay, shipment progressively, and is becoming a nation-wide omni-directional test. Enterprises chosen shifted from small, med-sized ones to large-scale ones, and many enterprises had capital more than 1 billion.

(5). The models of the joint-stock enterprises have particular characteristics and emphasis in the city and countryside respectively. The main form recommended in the city was limited company. Whereas the ones mainly recommended in the countryside was cooperative form.

³ Du Hui. 1998.The Difficult PointS of Joint-stock System Transformation of State-owned Enterprise and Train of Thought of Operation, *Contemporary economic research*, the 3rd issues.

Some enterprises could set up limited company and joint-stock company when they met the requirements.⁴

(6). Regulation and management rules of joint-stock system and security market are in the process of constant construction. Joint-stock systems and security markets are a kind of high culture, high legal system and high-efficient economy. Sound law and strict management are the fundamental for the joint-stock system to run and develop healthily and orderly. Therefore, some relative authoritative regulations were issued.e.g. *securities trading management method in Shanghai* (November 27, 1990); *trial rules of trade market business of Shanghai Stock Exchange* (November 26, 1990); *temporary means of Shenzhen stock issue and swap management* (May 15, 1991); *(inside) administrative rules of joint-stock company in Shenzhen* (May 6, 1991); *temporary provisions of Shenzhen investment management in the trust fund* (June 29, 1992). During June to August 1992, 15 relevant nation-wide regulations were issued, such as, *Pilot project rules of joint-stock enterprise*, *Joint-stock Company standardization suggestion*, *Limited Company standardization suggestion*, *regulation of accounting system of joint-stock enterprise*, *provision on land assets management of the trial joint-stock enterprise*, etc.. *Company Law of the People's Republic of China* was issued formally in the December of 1993. *Securities Law of the People's Republic of China* was issued formally on December 29, 1998; more than 250 laws and regulations about securities were made in the past few years.

To strengthen management of security market, organizational construction has started. On August 28 1991, *China association of securities business* — China self-disciplining securities management organization(with 123 members) was established. And *China Securities Regulatory Commission* were established on September 26, 1992. Each province and municipality established its own securities supervision and administration organizations in succession.

5. The present shortcomings and contradictions of joint-stock system economy in China

It is only more than 10 years that China tried to apply the joint-stock system in the socialist economic system reform. We are in a beginning phase of trying joint-stock system in the collective ownership enterprises

⁴ Liu Guoguang.1998. Joint-stock System Transformation of the State-owned Enterprise, *Macroeconomic Research*, 4th issue.

and state-owned enterprises and developing joint-stock system economy. The joint-stock enterprise is just in an embryonic form and is a kind of very substandard, unripe joint-stock enterprise. The following are some existing shortcomings and problems.

(1). The regulations and legislation about joint-stock system remain imperfect after 10 years of pilot work,. Joint-stock system economy is a kind of economy of high culture and legal system. Without perfect and unified regulation, a lot of difficulties have been brought to pilot work. There are no laws to abide by and no chapter to follow. Such stock market, with no regulations or imperfect regulations , is a dangerous market, which makes it difficult to protect interests of investor effectively. And imperfect regulations render investment risk to increase. Foreign investors are still waiting even though they would like to invest in China, because of imperfect law environment.

(2). Quite a few joint-stock enterprises are substandard and do not handle affairs according to basic principles of the joint-stock enterprises. These enterprises do not change their mechanisms completely. The distinction between the functions of the government and those of enterprises is still unclear. Capital of enterprise and that of government are not verified clearly. Assets, human recourses and financial affairs have not been divided between listed company and holding company. Abnormal phenomena including same stock with different right, same stock with different price and different profit, the state share not listed, stock market function twisted, the financial accounting system not according with the international practice.

(3). Stock structure of joint-stock company is unreasonable. The proportion of state-owned stock is too high and cannot be circulated. There generally exists such situation that *state-owned stock is bulk in the stock structure*. Big shareholder encroaching on company's and minority stockholder's interests is a normal phenomenon. The corporate governance structure is difficult to set up. The state-owned stock does not circulate, and the function of the market is twisted.

(4). Some joint-stock enterprises in the pilot project do not assess their assets objectively. Some enterprises calculate stock only with ledger assets, without calculating land fee and considering replacement value of factory building and equipment; some have not considered the intangible assets. Even some assess assets and calculate value carelessly. All of these cause the losses of assets or encroachment of country interests.

Some enterprises tend to estimate assets falsely so as to cause unreal assets, even become *informal voucher shareholders*.

(5). The organizational structure and the leadership system of the joint-stock enterprise are substandard. The top management teams of many listed companies are still appointed by the department of the government. Some joint-stock enterprises remain the system of directors assuming responsibilities for production and administration under the leadership of the Party committees, instead of shareholders' meeting, board of directors, board of supervisors, general manager responsibility system. Some enterprises shareholders' meeting, board of directors of enterprise practically perform no function, or are very imperfect. The directors, such as the president, director, general manager, etc. are still appointed by the responsible higher level institution, or are still served as by the director of former enterprise. Substandard organizational structure and leadership system influence the forming of restriction mechanism and the improving of efficiency.

(6). The stock market is substandard. There lacks of openness and fairness in the stock market. The number of products concerning stocks is too small and supply-demand relationship is out-of-balance. Stock prices fluctuating heavily causes stocks system full of speculation. We lack experience on supervision in issuing market and trading market as well as law concepts and sense of responsibility. The phenomena of failure to observe the law, no strict law enforcing and refraining from punishing law-breakers exist, which makes fake become a common practice and credit crisis.

Such substandard joint-stock enterprises produce a series of contradictions in the economic life. There are three principal contradictions. (1) Joint-stock system, the scientific property system and superiority of enterprise organizational form can not give full play. Positive role and superiority of joint-stock system were greatly discounted. The original intention can not be realized. (2), joint-stock system met a lot of contradictions difficult to solve in its development road, because it is substandard. (3)The existing joint-stock system is a bit out of shape, some ways of doing business are substandard, and the positive factors can not be brought into play, while negative consequences behave.

6. Joint-Stock System Transformation Calls For Accounting Reform

With development and perfecting of the capital market, and constant innovation and development of financial instrument, the flow of capital circulation and diversification of investment and finance are greatly promoted, which becomes an important force to promote modern social economy development. With China constantly deepening reform and opening-up, the security markets of China is further perfecting and developing. By March of 2003, 1,238 companies were listed in Shenzhen and Shanghai exchanges, total share capital reached 594,272 million Yuan, and total market value was 4,272,913 million Yuan.⁵ With the fund inflowing into enterprises, financial situation of listed state-owned enterprises is improved effectively, which makes the state-owned enterprise participate in the market competition with a light burden.

The further development and perfecting of the capital market, and the constant innovation and development of financial instruments, will certainly change financing investment environment that financial accounting faced, and produce strong impact on traditional key element, principle, procedure and method of financial accounting.

China is in the period of economic transition, restructuring and pattern shifting of economic growth. China's economy is changing from quantitative way to the qualitative way in a lot of economic fields. Chinese enterprises generally face the situation of further market openness, fiercer competition. And the markets are full of opportunity and risk.

Ever since 1978, China's economic system reform has passed its most difficult phase and has made its historical achievement. At present, the socialist market economy system is in the course of perfecting. And establishing modern enterprise system is the direction of enterprise's reform. Through system innovation, the separation of enterprise ownership from management power, corporation property system, scientific corporate governance structure, and independent enterprise management could really be realized. And independent corporation assume sole responsibility for its profits or losses. While setting up modern enterprise system, the government also implements the strategic reorganization to the state-owned enterprises, carries on enterprise structural adjustment, cultivates a number of large-scale enterprises and

⁵ Relative materials issued on the websites of www.szse.cn and www.sse.com.cn .

enterprise groups in certain important fields supporting key industries and key fields, leading factors of economic restructuring, representatives participating in international competition, and leading strength of economic adjustment and control of China. As to a large amount of small and medium-sized state-run enterprises, the government takes use of various forms to make them choose suitable enterprise property organizational form and compete in the market independently. With market competition becoming fiercer, extensive operation of economic growth increased by quantity and speed is hard to carry on. Therefore, in order to guarantee China national economy growth at a sustained, fast and sound manner, the 3rd Plenary Session of the 14th Party Central Committee of CPC put forward two basic transition strategic policies on economic reform and development. Economic system should be changed from planned economy to market economy, and pattern economic growth, from extensive growth to intensive one. So enterprises must depend on science and technology to develop the productivity, stress investment benefit and take the road of intensive expanded reproduction on the premise of not adding money or adding money as little as possible. Under the circumstances of the economic system transition, restructure of the economic and change of economic growth style, what enterprises face is such living environment as the further open market, fiercer competition and abundant opportunity and risk, which will inevitably influence and restrict theory and practice of China's financial accounting.⁶

Since reform and opening-up, Chinese government has paid close attention to accounting work. In order to rectify accounting working order, standardize the accounting behavior, improve the accounting working quality and improve the transparency of accounting information, measures have been taken from many aspects:

(1). Strengthen legal construction of accounting

The legal system of accounting in China includes accounting law, accounting administrative statute and accounting rule. *Accounting Law of People Republic of China* is the most high-level legal norm of Chinese accounting legal system, the basis of making other accounting regulation and supreme criterion of instructing accounting work. The *Accounting Law* began to work formally in 1985. The first revision was carried on in 1993 according to the needs of reform and opening-up and economic

⁶ Guo Daoyang, 1999. The China Accounting Reform in the 20th Century, *Commercial Sccounting*, 10th issue.

development. And the second one in 1999 in order to make it meet the needs of socialist market economic development better. The second revised *Accounting Law* was approved by the 12th session of the ninth National People's Congress on October 31 1999, and went into effect since July 1, 2000. While finishing “*Accounting Law*” revision, China has also strengthened the construction of accounting administrative statute and accounting rule, tentatively setting up accounting legal system that take “*Accounting Law*” as the centre. These make the accounting activity go on the track of legal system and guarantee the quality accounting working.

(2). Accelerate the construction of accounting standards

In order to meet the need of China socialist market economy development, unify accounting checking standard and guarantee accounting information quality, Ministry of Finance developed and issued “Accounting Standards for Business Enterprises” in 1992, which was implemented since July 1, 1993. Thereafter, Ministry of Finance carried on the formulation and issue of specific accounting standards. By the March of 2003, China has successively issued 16 items of specific accounting standards, and tentatively formed comparatively integrated China accounting standards system.

(3). Develop and issue *Enterprise Accounting System*

The *Enterprise Accounting System* was issued by Ministry of Finance on December 29, 2000. It is not only the milestone of China accounting reform, but also the basic criterion of financial accounting treatment of enterprises. It is not only the important step of carrying out and implementing *Accounting Law* and *Enterprise Financial Accounting Report Regulations*, but also an effective measure that perfects China enterprise accounting checking system, unifying enterprise accounting checking standard and raising quality of accounting information.⁷

China is a developing country with socialist market economy, whose social and economy operation is obviously different from that of developed countries. So China's financial accounting environment has its particularity.

China accounting reform is carried out under the background of great international reform environment. So it will certainly be influenced by international environment. However, we should be aware that China is

⁷ Liu Yuting. 2001. Seize the Opportunity, Consolidate the Achievement, Advancing China Accounting Reform in an All-round Ways, *Accounting Research*, 12th issue.

still a developing country. We can't compare its economic development extent, maturity of market rules, scale and maturity of capital market with those in developed countries. And China is a transition country with a lot of economic phenomena in obvious Chinese way. For example, assets rearrangement, assets replacement, stock exchange of listed company cannot briefly correspond with similar economic phenomena of developed countries.⁸

The difference of environment causes the difference between the financial accounting of China and that of foreign countries in some aspects. For example, compared with developed countries, there is a large economic gap between China and developed countries at present. And there are different requirements by the accounting information users. These differences reflect in two aspects. First, the composition of the accounting information user is different. the government department should exceed other information user in the utilization frequency of accounting information In China. Second, demands for the information content are different. Some information (such as some current value information) may be very useful in the developed countries, but in China, the dependence of accounting information users' decision on such information is not big, and the requirement of accounting information user is simple. In addition, because the market economy of China is at its early stage, some markets (such as the capital markets) are not active enough, which makes it more difficult to obtain fair value.

7. Main Contents and Characteristics of China Financial Accounting

(1). The goal and characteristic of financial accounting

In market economy the main goal of financial accounting is to provide useful accounting information for the external users (including investors, creditors, etc.) to make decision. At present the goal of China financial accounting has the following characteristics.(1) The government is the main user of accounting information, because China insists on the leading position of state ownership and keeps macro adjustments and controls on the market. (2) the main use of accounting information is to check the operator performance because capital market in China is still very undeveloped, The accounting information offered by financial accounting mainly reflects “accountability information” of enterprise operators. (3)

⁸ Guo Daoyang. 2000. New Visual Angle of the Accounting Reform in the Economic Globalization, *Finance and Tax of Hubei*, 16th issue.

Accounting information is considering to satisfy the need of the economic benefits bodies besides the country because non-state sector, such as individual sector, private sector, etc., has been becoming an important component of socialist market economy,

(2). Financial accounting criteria, basic principles and their characteristics

Financial accounting criteria and principles are standard of financial accounting. Both the general requirements of market economy and the characteristics of China socialist market economy should be considered by China accounting criteria and principles. The basic accounting criteria system of China is formed by the accounting law, accounting standards for business enterprises (which is generally regarded as basic accounting standards of China), specific accounting standards, and enterprise accounting system. Accounting law is the basis of China accounting system and it applies to all enterprises, undertaking, department and unit. Accounting law regulates on the accounting personnel duty, accounting item and basic demand of accounting checking. Accounting standards for business enterprises regulates on the basic principles of enterprises including thirteen basic principles such as objectivity, dependence, comparability, consistency, timeliness, clarity, accrual basis, matching principle, prudent principle, actual cost principle, division of revenue charge and capital expenditure principle, importance principle, substance over form principle. Specific accounting standards that have not been fully established at present are made according to Basic Standard (Basic Standard is issued in July 1993), and instruct enterprise accounting checking behavior. China current enterprise accounting system is formed by present economic situation and past habits of Chinese accounting, There are following characteristics of accounting criteria and accounting principles. (1) The accounting criteria take the form of combination with law and standards, considering both the need of economic legal system construction and the flexibility requirement of accounting standards. (2) As far as accounting criteria of business guidance is concerned, China adopts international current accounting standards form while keeping traditional form of China accounting system. It considers actual conditions of enterprise accounting in the present stage, which provides the possibility of transition to the single accounting standards form afterwards. (3) Market economy requires “fair competition” between enterprises, which requires enterprises to carry out the same accounting

standards. However, in accounting system, China still has enterprise accounting system and foreign-investment enterprise accounting system separately. There is remarkable difference in carrying out accounting standards, which reflects characteristic of coordination and development between accounting reform and market economy setting-up. (4) In order to strengthen the abilities of risk resistance, *prudent principle* has been adopted in China accounting principles, which is popular in the financial accounting of market economy. But there exist a lot of limits on this principle in China because of political reasons. (5) When treating the relationship between reliability and relevance in accounting principle, reliability is always placed above the other things all the time, which has a heavy relationship with the requirements that financial accounting mainly offers accountability information.

(3). Financial accounting elements and their characteristics

In planned economy era, China accounting employed two concepts as usage of capital and source of capital instead of accounting elements, such as “assets”, “liabilities” and “owner’s equity”, etc.. Sources of capital only reflected the state-supply funds, and was unable to distinguish property right of investor (because of comparatively simple public ownership, it didn’t need to distinguish the property right either). In order to meet the needs of establishing socialist market economy in China, Chinese accounting operators also set up the financial accounting element system at the foundation drawing lessons from capitalist financial accounting. China’s financial accounting elements are mainly three balance sheet elements of “assets”, “liabilities” and “owner’s equity”; and three income statement elements of “revenue”, “expenses” and “profit”. The main characteristics of China’s accounting elements are as follows: (1) They have international norms. In the process of structuring new financial accounting system, China mainly took use of experience of U.S.A. and International Accounting Organization. (2) They Have certain Chinese characteristics. New financial accounting system is transformed from original accounting checking system that was fit to planned economy. In the definition of financial accounting elements and concrete content, new system has kept or created the characteristics of China financial accounting. (3) There is difference between actual content reflected by element and definition of accounting elements, which has certain relation with present economic environment and accounting standards in China.

(4). Financial statements and their characteristics

Financial statements are basic tools for enterprise to offer accounting information to the outside. Financial statements are required by China financial accounting standards at present, and also formulated and submitted by enterprises. Financial statements mainly consist of balance sheet, income statement, and cash flow statement, footnote of financial statements and explanations included. The characteristics of China's financial statements are as following. (1) Basic financial accounting report system, such as balance sheet, income statement, cash flow statement, and footnote of financial statements has already been unanimous basically with the international convention. (2) China financial accounting report still has characteristics of planned economy, that is, there is differentiation of ownership. For example, there is great difference in accounting report between state-owned enterprises, foreign-investment enterprises and joint-stock companies. Those joint-stock companies that are listed or raise funds overseas and Hong Kong, disclose most abundant accounting report information, while state-owned enterprises' accounting report keep the contents that are required in planned economy in many aspects. Especially in accounting practice, some financial departments still require enterprises to offer "detailed statement of sales revenue, selling cost, profit from sales of enterprise staple product" to reflect different profit information of the products. China's present financial accounting, not according to ownership, is classified on the basis of setting-up and perfection situation of enterprise modern system, and is different from planned economy in essence. However, it is undeniable that China's financial accounting is still strongly influenced by ownership. (3) Except listed company, there lack unify and normal regulations in accounting report revealing content. Because of government attention on security market, efforts of stock supervisory committee, and the requests of public share holders, China's listed companies have made great progress in accounting report and information announcing in recent years. Company has already got on the track of regulation and further perfection gradually. But the other kinds of enterprises still carry out basic accounting statement that is stipulated by the accounting system, lacking abundant and norm disclosure of enterprise accounting information.

8. Direction of Accounting Reform of China

(1). Building Chinese accounting management system

Chinese accounting management system is set up according to national relevant accounting law. According to *Accounting Law*, Ministry of Finance administers the national accounting work. Local financial departments above county level administer accounting work of this administrative division. Such an accounting management system fully reflects the principle of *unified leadership and management in grades*.

What financial department manages on accounting work mainly involves as follow:

a. Constitute and announce country's unified accounting system

“Unified accounting system” generally refers to a series of systems constituted by Ministry of Finance according to Accounting Law, such as accounting checking, accounting supervision, accounting body, accounting personnel and accounting working management system. Among them, accounting checking system refers to system, standards or criteria that should be followed when enterprise or non-enterprise accounting subject carry on accounting, checking, such as accounting standards for business enterprises, enterprise accounting system, public institution accounting system, government budget accounting system, etc. The accounting checking system forms an important component of country's unified accounting system.

b. Supervise and inspect the implementation of country's unified accounting system

The contents of the government's supervising includes check if the accounting book is set up in accordance with the law, check if accounting materials are true and intact, check if accounting check is in accordance with accounting law and the country's unified accounting system, and check if accounting personnel are qualified, etc. Those units and individuals that are illegally in violation of rules and regulations should be carried on administrative penalty or transferred to judicial authority for punishment.

c. Manage daily accounting affairs

The management system of certified public accountant system is set up according to “Certified Public Accountants Law of the People's Republic of China”. The supervision and guidance which the financial department carries on to certified public accountant, accounting firm and

association of chartered accountants mainly include:

- constituting national unified examination of certified public accountant (Ministry of Finance is responsible for concrete work),
- taking responsible for handling and reconsidering such issues as recording certified accountant, registering or refusing and canceling the qualification of the association of chartered accountants if the applicant has the objection,
- approving the establishment of the accounting firm,
- approving the operation criteria and rules that are worked out by the Chinese Association of Certified Public Accountants,
- carrying on punishment to the noncompliance of the certified accountants and accounting firms,
- carrying on punishment to the illegal operation organization,
- examine and approve the branch of foreign accounting firms (examination and approval authority is only limited to Ministry of Finance).

(2). Building and perfecting China's accounting regulation system

In order to effectively guarantee the sound development of market economy, Chinese government pay great attention to accounting regulation system construction. Since reform and opening-up, Chinese government has made success in accounting regulation system with *Accounting Law* as core. This system can roughly be divided into three levels: The first level is *Accounting Law*; the second level is the regulations released by the State Council, such as *Enterprise's Financial Accounting Report Regulations*, etc; the third level is accounting standards for business enterprises and accounting system issued by Ministry of Finance.⁹

Accounting Law regulates the enterprises accounting checking basically. This law requires enterprises confirm, measure and record the assets, liabilities, owner's equity, revenue, expense, cost and profit according to the regulations. Meanwhile, the law also makes prohibitive regulation to the distorted enterprise accounting information. For example, *Accounting Law* regulates that enterprises can't arrange assets, liabilities and owner's equity timidly, few or more, can't timidly arrange or conceal revenues, can't postpone or confirm revenues ahead of time; can't work out the false profit or conceal profits; can't change the affirmation

⁹ Xiang Huaicheng. 2000. Propagate and Carry out the Accounting Law, Advance the Accounting Reform and Development, *Accounting Research*, 4th issue.

standards or measuring method at will of the expenses and cost.

Regulations on Enterprise Financial Statements issued by the State Council is to make detailed criteria for financial statements. The regulations require an enterprise's director to be responsible for authenticity and integrity of his enterprise' financial statements; emphasize that any organization or individual can't inspire, instigate or force enterprises to work out and offer false financial accounting report or report with important facts hidden; stipulate that the relevant departments or organizations must ask for enterprise's financial accounting report according to the laws and regulations. In addition, these regulations also have set the clear provisions to the legal liability that the unlawful practice should bear.

Accounting standard and institution derived from *Accounting Law* and *Regulations on Enterprise Financial statements* are used to standardize enterprise's accounting and checking work, which is made and announced by Ministry of Finance. In China accounting standards for business enterprises and accounting institution belong to the components of the accounting laws and regulations. So enterprises applicable should use unconditionally. This is different from the situations of a lot of countries.

In order to meet the needs of economic development in the Chinese markets and rapid development of the world economic integration, China pays much attention to referring from International Accounting Standards in the course of making and perfecting accounting standards and accounting system. Until now, China has already made and announced basic enterprise standards and 16 items of specific accounting standards, involving such the projects as revealing connected transaction, accounting policy change, fixed assets and cash flow statement, etc. Through these reforms, the construction of China accounting standards takes great paces in a shorter time, agreeing or coordinating with International Accounting Standards in many aspects.

a. The goal of accounting statement is defined, namely to offer accounting items that can reflect enterprise financial situation, management performance and cash flow in order to help decision making by its users., This is unanimous with financial statements goal put forward by conceptual framework of International Accounting Standards.

b. The quality level of accounting information is defined, which include relevance, reliability, comparability, etc. Also these accounting information quality indicators are unanimous with that put forward by the

conceptual framework of International Accounting Standard.

c. Basic accounting element are verified, such as assets, liabilities, owner's equity, revenue, expenses and profit. For example, assets is defined as “*Assets are economic resources, which are measurable by money value and owned or controlled by an enterprise, including all property rights as a creditor to others, and other rights*”. In liabilities definition: “A liability is a debt borne by an enterprise, measurable by money value, which will be paid to a creditor using assets, or services”; Revenue is defined as “*the financial inflows to an enterprise as a result of the sale of goods and services, and other business activities of the enterprise, including basic operating revenue and other operating revenue*”. The conten of these concepts are unanimous with those by International Accounting Standards too.

d. The priciples of affirming, measuring assets, liabilities and revenues are classified. For example, when assets is to be confirmed, two basic standards must be met, namely this assets will probably cause the economic benefits to flow into enterprises, and the cost of obtaining this assets can be measured reliably. Moreover, while confirming revenues, enterprises should consider whether the risk and remuneration related to goods are already shifted to the purchaser. This is unanimous with No. 18 principle of revenue confirming by International Accounting Standards.

e. Financial statements system are set up, including balance sheet, income statement, cash flow statement and supporting statement. China accounting standards require the financial statements, from the form to actual content, keep the same with requests of International Accounting Standards. For example, the form and content of the cash flow statement are designed in accordance with from International Accounting Standard No. 7.

f. The concept of “fair value” is defined prudently. First of all, China is still in economic transition period. Different enterprises may have the same parent company and related transactions are common. So the price of transaction may be apparently “unfair”. Secondly, although state-owned stock and corporate share are biggest ones, these shares can't trade publicly on the exchanges. In addition, besides capital market, other element markets remain far to be perfect. Just because the market-based degree is low, China has adopted the prudent method in using fair value as the measurement foundation of the accounting element. For example, in 1999, by referring to the International Accounting Standard No. 16, we

formulate standard of non-monetary transactions. The standard requires to process accounting work by distinguishing similar and non-similar non-monetary trade. However, it is difficult to acquire the fair value of non-monetary assets. In addition, most transactions take place between the related parties, which give a few listed companies opportunities to gloss over the financial statements. Facing this kind of situation, we have to revise the standard of non-monetary transaction, require enterprises to treat all non-similar non-monetary transaction as similar monetary transactions. There is similar situation in the treatment of debt restructuring transaction.

g. Corporate governance plays an important role in accounting system. From the view of accounting information providers, Chinese government keeps urging enterprises to strengthen the corporation governance. But the corporate governance has not really been set up yet. Corporate governance is difficult to really function effectively even in those which have corporate governance. Lacking of effective corporate governance will have an unfavorable influence on smoothly practice of accounting standards.

h. From the view of accounting information user, the government is both the important investors and the important user of the accounting information in China. Meanwhile the institutional investors of China can't totally meet market demand on the scale and experience, which requires further standardization and development. Moreover, the experienced financial analyst is still scarce in China. Difference in the accounting information user's composition and experience leads to difference in the sensitive degree to the market signals and requirements for accounting information. This influences the formulation of accounting standards and standards implementation effectively.

i. From the view of quality supervision of accounting information, we overweight the supervision of company's past achievement. Also the appraisal of a company is also mainly based on its profit. For example, if a company issues new shares, it has to make profits within most recent three years in succession. After a company is listed, if it wants to issue additional new shares, its average weighted average return on net assets in recent three period of fiscal year must be no lower than 10%, and weighted average return on net assets of a recent fiscal year is no lower than 10%. After a company is listed, if it keeps suffering from a loss for three years in succession, its shares can not trade on exchanges. In the

first half a year if the company does not make up deficits, the stock exchange will delist the company share directly. And if the company makes profits, its stocks can resume listed according to the procedure. As profit becomes the essential factor of listed company appraisal, accounting information users and providers will very naturally turn attention to the scale of the profit. A few companies may make a desperate move while getting into management trouble in a certain fiscal year, making use of various kinds of tools to handle profits. As the foundation of accounting treatment and accounting information supply, accounting standards naturally turn the focus to the income statement instead of balance sheet.¹⁰

These are problems when China tries to coordinate with international accounting standards. China has transition economy with some special features, so it natural to have problems. In fact these problems may happen even in developing countries. Current International Accounting Standards is mainly formulated based on developed market economy environment. The best choice for China is not to copy International Accounting Standards simply.

In 2001, China's entry to the WTO indicates the beginning of China entering a new stage. China will cooperate internationally in a big range and at a deep degree. Base on the actual conditions of Chinese accounting reform, taking a broad view of the bright prospect of international accounting coordination development, we will adapt to the economic development process of Chinese market, accelerate the formulation paces of accounting standards, and set up and perfect China's accounting standards system in about three years. While accounting standards is formulated, we will continue referring from International Accounting Standards. Unless relevant International Accounting Standards have conflict with Chinese laws and regulations or is obviously not suitable to reality of China, we will keep agreement with International Accounting Standards. Further consistent with International Accounting Standards, China's accounting standards will help external investors to better understand the true financial situation of Chinese enterprises and business performance. Meanwhile, it will help the external certified accountant to operate in China.

¹⁰ Wang Yuetang., Sun Zheng, Chen Shimin. 2001.The Accounting Reform and Accounting Information Quality — Evidence from China Securities Market, *Accounting Research*, 7th issue.

(3). Further opening of accounting service market of China

The opening of accounting service market of China keeps in pace with China's accounting reform and development. Following the reform, opening-up and economic development, Chinese accounting service market comes into a new progressively developing market. As one of the early opening service market, accounting service market of China has already demonstrated the pattern of omni-bearing opening to the outside world. China has taken following ways to the opening of the accounting service market.¹¹

a. Foreign accounting firms are allowed to open representative offices in China. China began to approve foreign accounting firms to have formal representative offices in China in 1981. Eleven international or foreign accounting firms have already opened seventeen representative offices in seven cities of China at present, such as Beijing, Shanghai, Shenzhen, Guangzhou, Dalian, Xiamen, Tianjin, etc.

b. International accounting firms are allowed to develop Chinese members. Eleven international accounting firms have already developed twenty-six members in fourteen cities of China at present.

c. Foreign accounting firms are allowed to do business of auditing temporarily in China. Those foreign accounting companies that have no organization in China are allowed to apply for interim operation license when auditing the subsidiary in China for meeting parent companies' need of consolidated financial statement. Thus they can temporarily do the business of auditing in China., China has already granted more than 600 interim operation licenses Since 1994

d. foreign personnels are allowed to take Chinese examination for certified accountant qualification. A foreigner who passes the examination can apply to become a member of the Chinese association of Certified Public Accountants.

e. Foreign member of the Chinese Institute of Certified Public Accountants is allowed to apply for the registration and become a Chinese certified public accountant.

Current open policy of accounting service market of China facilitate those foreign accounting firms and accountants to provide professional accounting, audit relevant service in China, which will build fair operation environment for China's accounting organizations and foreign

¹¹ Liu Yuting. 2001. Seize the Opportunity, Consolidate the Achievement, Advancing China Accounting Reform in An All-round Ways, *Accounting Research*, 12th issue.

accounting companies.

Those who possesses diplomas approved by certified public accountant examination committee of Ministry of Finance of China, or has qualified certification as a public accountant in other country can apply to take China's certified accountant examination. An individual, who obtains complete certificate, can apply to become a member of the Chinese Institute of Certified Public Accountants. The members are divided into two kinds, namely operation members and non-operation ones. Foreign non-operation member can apply for the registration and become a Chinese certified accountant if he accords with the conditions, and he can transfer from a non-operation member to an operation member. Registered foreign Chinese certified accountant can enjoy the corresponding right and undertake the corresponding obligation according to "Law on Certified Public Accountants of China" and regulation. In the course of operation, he must accept the supervision of financial department of China and Chinese certified accountant organization. In addition, the foreign Chinese certified accountant should work at least half a year in China every year; if it is insufficient, the Chinese Institute of Certified Public Accountants will cancel his operation qualification at the time of annual check.

Both foreign and native Chinese certified accountants should obey Chinese laws and regulations and China Independent Auditing Standards in China. Independent Auditing Standards is the authoritative standard of standardizing certified accountant's operation. And it is also the standard to value the quality of certified accountant's business, which directly concerning his existence and development. China pays much attention to the formulation of Independent Auditing Standards, and regards it as important means of certified accountant's trade management. In the course of formulating Independent Auditing Standards, China gives much attention to reference from International Auditing Standards.

Since 1995 when the first Independent Auditing Standards were announced, China has successively made five batches of Independent Auditing Standards up to March of 2002, including preliminary remarks of Independent Auditing Standards, Independent Auditing Standards: Basic Standard and three pieces of relevant basic standards (Namely Basic Statement of professional Ethics, Basic Statement of Quality Control and Basic Statement of Continuing Education), twenty-seven specific standards, ten Practice Announcements and four pieces of

Practice Guideline, add up to 46 projects. Independent Auditing Standards system that keeps according with International Auditing Standards basically in all important respects has been tentatively established in China.

On the base of issuing “Chinese certified accountant vocational ethics demonstration movement instruction”, according to code of professional ethics, the next step is to accelerate making the specific statements of professional ethics and guidelines of professional ethics code, strengthen the certified accountant's professional ethics consciousness, guide and standardize the operation behavior of the certified accountant. Meanwhile, with the rapid development of China's market economy and constant innovation of the auditing practice, China will continue referring from the International Auditing Standards, further investigate, supplement, revise, subdivide and perfect Independent Audit Standards, perfect Independent Audit Standards system of China as soon as possible.

Practice of contemporary China proves that reform and opening-up is strong power of make China's economy develop sustainable, stably and coordinately. After joining WTO, according to setting up and perfecting the general requirement for socialist market economy, China will continue advancing the reforms in various fields. The reform and opening-up of China shows a wide and bright prospect for the Chinese accounting market opening. Looking forward to the new century, while accelerating the coordination of Chinese accounting standards with International Accounting Standard, China will fulfill commitment on accounting service business when China entered to the WTO. The accounting service market of China will open further.

a. From the view of market entrance, China allow foreign persons who get licenses to open their own operation organizations in China, and allow foreign accounting firms to develop their members in China.

b. From view of national treatment, foreigners except those who are limited to access and resides in China, national treatment is granted in all other respects. This means that foreign personnel who obtained Chinese certified accountant qualification may be treated like domestic Chinese certified accountant. So he can carry out auditing legally. And his auditing report has equal legal effect in China, and his operation is protected by Chinese law.

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The State Asset Management System of Petroleum Industry in China

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Preface

In the past fifty years, China's petroleum industry management system has been changed for several times. During the planned economy and the early 10 years of adopting the policy of opening up to the outside world, the country set up the industry administration department specialized in managing petroleum industry¹. From 1988 to 1998, it was handed over to semi-administrative petroleum and natural gas head office and petrochemical head office. In July 1998, the State Council restructured the petroleum industry and reorganized the two head offices into China National Petroleum Corporation (CNPC) and China Petrochemical Corporation (SINOPEC). After the establishment of China National Offshore Oil Corporation (CNOOC) in 1982, the three giants of petroleum corporations came into being. Currently, the three corporations boast a total asset of more than 2000 billion RMB, and have accumulated enormous state-owned assets. Besides, the three giants got listed on the stock market in Shanghai, Hongkong Special Administrative Region, New York and London, etc.. Additionally, CNPC and SINOPEC have ranked World's Top 500 (Table 1).

The remarkable difference than before is the whole company was divided by the upstream and downstream of petroleum production and processing. But now they are divided by regions: in the north is CNPC, while in the south is SINOPEC. These two corporations have become investment institutions authorized by the state. After the assets have been allocated, the registered capital of CNPC and SINOPEC amounts to 114.9 billion Yuan RMB and 104.9 billion Yuan RMB respectively. After this

¹ 1950~1955: the General Bureau of Petroleum Administration subordinate to the Fuel Industry Ministry; 1955~1970: Petroleum Industry Ministry; 1970~1975: Petroleum and Chemical Industry Ministry; 1975~1978: Petroleum and Chemical Industry Ministry; 1978~1988: The Ministry of Petroleum Industry

reorganization, these two corporations extend industry chains and enhance the corporations' risk-resistant abilities.

Table 1 CNPC, SINOPEC and CNOOC Profile (Year 2001)

| | CNPC | | SINOPEC | | CNOOC | |
|--|--------------------|---------|--------------------------------------|---------|--------------------|---------|
| | Group | Co. Ltd | Group | Co. Ltd | Group | Co. Ltd |
| Registered Capital (billion RMB) | 114.9 | | 104.9 | | 50 | |
| Total asset (billion RMB) | 686.5 | 460.9 | 561.3 | 360.3 | 73.3 | 44.3 |
| Employees (1,000) | 1540 | 423 | 940 | 440 | 21 | 1 |
| Rank (in 2003 World's Top 500 according to operating income) | 69 | | 70 | | | |
| Sales Income (billion Yuan RMB) | 343.5 | 238.9 | 370 | 304.3 | 27.6 | 20.8 |
| Net Profit (billion Yuan RMB) | 43.4 | 46.8 | 12.8 | 14 | 9.6 | 7.9 |
| Listing markets | Hongkong, New York | | Shanghai, Hongkong, New York, London | | Hongkong, New York | |

Source: rearranged according to the published financial statements of the three corporations and their listed companies.

In 1999, CNPC, SINOPEC and CNOOC carried out internal reorganizations, and in addition, allocated the assets of good quality to establish new stock companies, which succeeded in getting listed in the stock market in 2000 and 2001 consecutively. The restructuring drive helped the three corporations to establish stock companies by separating the main business activities into different segments, such as oil exploration, oil refining chemical engineering, piping conveyance and sales, etc.. This is not only beneficial to the financing of remarkable funds for further development, but also to the radical changes of the corporation system.

On the other hand, while about one third of the staff carried two thirds of good-quality assets to pursue development by getting listed in the stock market, the rest of the staff and assets of the three corporations came into being “*Cunxu* enterprise”, distributed in all regions of China and in all the sectors of the first, second and tertiary industry and most of them are in profit loss.

From the view of the state assets management, petroleum and petrochemical industries are indispensable to the national economy and they are special basic industries. First, petroleum and petrochemical

industries are related to a country's rise and fall. Their total assets are immense, of which above 90% and 80% are state owned respectively. Consequently, how to improve the operating of state assets efficient and how to maintain and increase their value are very crucial to improve the dominance and influence of state-owned economy and consolidate the material foundation of the socialism system. Second, since petroleum and natural gas are important strategic natural resources for a nation, their exploration (including international oil gas exploration), protection and reservation, etc. should be included in the state assets management.

Since 1993 China has become a net petroleum import country and the demand for imported petroleum is growing increasingly. So improving the management system is especially crucial to the better utilization of imported petrol. Third, after reorganizations, the above-mentioned three corporations are extra big ones whose controlling stakes are owned by the state. Meanwhile, the *Cunxu* enterprises also have a large number of state assets with the basic objective of securing the realization of maintaining and increasing the value of state assets.

At last, while the assets of good quality were separated to get listed on the stock market, how to manage the state assets in the *Cunxu* enterprises and how to get out of trouble are becoming big problems facing the three corporations. The challenge of the *Cunxu* enterprises lies in the heavy burden of long history. Their assets structure and industrial structure are not reasonable. The staff is redundant and social burden is heavy. Their existence and development are facing new challenges. If the *Cunxu* enterprises were not managed well, to a large extent, the reform of petroleum state assets will finally be a failure. Therefore, the research of the state assets system is concerned with a variety of problems and intricate relations between state-owned assets supervision and administration commissions as well as governments at all levels including national, provincial, municipal and other levels. The challenging research is of theoretical importance, and of urging practical value.

1. Objectives of the state assets management in petroleum and petrochemical industry

The state assets management is a universally difficult problem in the world. While, the petroleum and petrochemical industry has some special problems. The first is how to define objectives of the state assets management of petroleum industry.

In principle, objectives for the state assets management of petroleum industry cannot be simply concluded as “the maintenance and increase of the value”. In fact, the range of the state assets is very extensive, including profitable (also known as operating) state assets with the state owned corporations included, as well as non-profitable state assets, and some natural resources of state assets. In terms of profitable state assets, the objective can be summarized as “to maintain and increase the value”. While non-profitable state assets and some natural resources of state assets are generally called non-operating assets, whose objectives can not simply be concluded as “the maintenances and increase of the value”, but should be concerned with their benefits to the macro-economic and social development. The complexity of the problems also lies in the fact that the profitable state-owned (state controlling) corporations are not only confined to the first kind of the state assets, but also include quite a few the latter two kinds of the state assets. It is a momentum task to define the objectives of state assets management with a suitable management system, and an evaluation system of state assets. We consider the objectives of the state assets management of China’s petroleum corporations as the followings:

1.1. The maintenance and increase of the value of operating state assets

Obviously, the corporations listed on the stock market should take on this task, because they control most of operating state assets in the petroleum corporations. But for the *Cunxu* enterprises also possess a certain amount of operating state assets, to some extent they also have the responsibilities to maintain and increase the value of operating state assets. Take the example of CNPC, after reorganization it absorbed 60% of the assets of good quality, while the *Cunxu* enterprise kept 40% of the assets, 40% of which were non-operating assets. But considering the huge amount of the total state assets in it, the amount of operating assets in its *Cunxu* enterprises is comparatively considerable. SINOPEC and CNOOC also have the similar experience.

In order to keep the value, first, the corporations should strengthen the management of existing assets. This refers to the routine management activities, such as strengthening the registration, and delimitation of property rights, the asset evaluation, statistical report and profit collection, etc. These efforts mainly aim to prevent the loss of the assets. To increase

the value, the corporations should extend their scales to improve the operating efficiency of the state assets. In 1998, the original China petroleum and natural gas head office and China petrochemical head office were reshuffled to CNPC and SINOPEC and subsequently the three petroleum corporations reorganized the *Cunxu* enterprises, which all reflect the basic idea of extending scale and improving the efficiency of state assets.

1.2. High-efficient operation of the state assets

As to the petroleum corporations, the key to realize high efficient operation of the state assets is to improve the vitality of petroleum, natural gas and the petrochemical corporations on the upstream, midstream and downstream. The important steps are to extend the economic scale and increase profit. To the industry with scale economy and complementary assets or operating chains, the strategy of extending the scale will save the cost, expand the corporations' market share and lower the market risks. In this case, a bigger scale leads to a fatter profit. Otherwise, consolidating the corporations will increase the coordination cost and cause diseconomies of scale. Of the three petroleum corporations, although the scale of CNOOC is the smallest, it is regarded as the most competitive. Take the example of its stock price, on January 28 2003, the stock price of CNOOC in Hongkong Stock Exchanges was HKD 9.8 per share, while CNPC 1.63 and SINOPEC 1.41. Compared with the price of IPO, the stock price of CNOOC has risen by 65%, with the highest increase rate up to 100%, CNPC by 27%, with the highest 66.4%, while SINOPEC still keeps a price lower than that of IPO and its highest increase rate is only 8%. But in terms of total assets and the number of staff, CNPC and SINOPEC are far larger than CNOOC.

From this viewpoint, reorganizations of the three petroleum corporations went on the right way in recent years. As an example, the lowering cost of financial management characterized the good situation of the corporations' management and operation. In 1998, the total cost of CNPC's financial management amounted to RMB 11.9 billion. In 2001, its financial cost lowered by approximately RMB 10 billion, compared with that of 1998. Apart from the influence caused by the country's lowering lending rate, it is self-evident that tightening the financial cost and improving the management skill are the main reasons for achieving such performance.

1.3. Helping the *Cunxu* enterprises step out of the difficulties

The problems of *Cunxu* enterprises faced by the petroleum and petrochemical industry are extremely serious, although these problems of *Cunxu* enterprises also exist in other industries. In the decades of planned economy system, petroleum and petrochemical corporations has become the typical bureaucracy organization structure with many social functions. They assumes heavy social responsibility, which leads to problems such as self-served system, repetitious construction and low efficiency. From 1999, CNPC and SINOPEC have disintegrated and rearranged the whole body. They divided the assets, management and staff into the core business, such as oil exploration, development, refining oil chemistry, sales and piping transportation and the non-core business, such as engineering technical service, non-oil products and social service. The core business as the main body was reorganized and got listed in foreign stock markets, while the non-core business composed the *Cunxu* enterprises. Take the example of CNPC, after the reorganization in 1999 the number of registered staff was 1.06 million in its *Cunxu* enterprises, accounting for 70% of the total staff in the corporation. The total amount of assets is RMB 227.3 billion, about 40% of which are non-operating assets. Unreasonable industry structure, low efficient assets shared per capita and redundant staff increased the social burden. So how to strip its heavy social function off successfully to help the *Cunxu* enterprises step out of the difficulties and realize its stable development is not only an important strategic task, but also a decisive issue for the success of state-owned enterprises. If the *Cunxu* enterprises cannot find solution to problems of survival and development, they will be doomed to go bankruptcy. In this way, the stable development of the separated corporation will also be affected; hence the reform of the corporations will be trapped in a failure situation.

First, the state assets should not be regarded as the assets of poor quality in general. Besides, we should not hold the belief that no matter how to reform we cannot change the fate of the loss. In fact, after a few years' hard work, the three petroleum corporations have achieved a lot of significant results in terms of the reorganization and reform of the *Cunxu* enterprises. As a case in point, in 2002, CNOOC stripped its seven technical sectors off, including the exploration of earth and physics, offshore drilling, shipping support and transportation service and oil field technical service to be rearranged as China Oilfield Services Limited.

After the reorganization, the “7 in 1” corporation owns the total asset of nearly RMB 6 billion Yuan and has become the biggest oilfield service supplier in the Pacific-Asian regions. It took only 7 months for the corporation to rearrange to get listed on the stock market. During only two months of the international roadshow in the Hongkong stock market and the international stock market, the stock price in Hongkong rose 18.6 times as much as the original price and in the international market 15 times. In the first day of the stock issuance, the price increased by 12.5%. Take the example of reorganization of the *Cunxu* enterprises of CNPC, in November 2002, in order to form scale advantage and improve the professional service level, CNPC founded a company of geophysical prospecting for petroleum owning the assets of 7.3 billion RMB and a well logging company owning the assets of 1.03 billion RMB. CNPC is also considering separating the business of land well drilling which holds the most assets to form a specialized well drilling company.

In addition, unlike the core business sector of the listed company in the stock market, the management objectives of the state assets of *Cunxu* enterprises consist more than one. On the one hand, with respect to the profitable state assets, the maintenance and increase of the state assets’ value should be achieved. To achieve this objective, a variety of measures should be taken, among which reorganization and getting listed on the stock market is a very effective way. While with respect to the non-profitable state owned assets, we should regard the revival of the *Cunxu* enterprises as a target, instead of the maintenance and increase of the state assets’ value. To realize this objective, we should study how to separate the superfluous social function of the *Cunxu* enterprises. For example, the assets whose original objective is to provide the staff with welfare (schools, hospitals, all kinds of service facilities, etc.) should be transferred to the local government, meanwhile allocating the extra staff. Owing to existing relation of non-zero-sum game theory between the *Cunxu* enterprises and the listed companies, we should prevent the *Cunxu* enterprises from transferring the financing capital and extra profits of the listed companies, and from violating the original investment direction promised to the stock shareholders. At the same time, we should prohibit the listed companies from cutting down the staff by paying compensation fees lower than the market price, although this would increase the efficiency by distributing them to the *Cunxu* enterprises when they cannot guarantee the profits. This problem will be discussed further in the later

monographic study.

1.4. Helpful to the sustainable utilization of oil and gas resources

From the view of the state assets management, the sustainable utilization of petroleum and natural gas mainly depends on how to deal with the relationship between resources exploration and preservation, namely, how to take steps to seal and preserve some explored or developed oil and gas fields as the strategic preservation resources. In the planned economy and the early period of reform and opening up to the outside world, the administrative petroleum industry department or the semi-administrative petroleum and oil natural gas head office served this function of planning and dealing with the relationship between resource exploration and preservation. But after a new round of reform of the state assets management system, it needs further research on whether the State-owned Assets Supervision and Administration Commission or the three petroleum corporations should serve the function of the sustainable utilization of oil and natural gases resources.

On the other hand, China has become one of the countries whose demand for the petroleum resources increases most rapidly in the world by the stimulation of its fast growing economy. Increasingly depending on the foreign petroleum resources, China has to face up to the resources security problem, which is concerned with China's national policy making. Currently, imported petroleum accounts for 30% of China's total petroleum consumption, and furthermore, the imported petroleum from mid-east amounts to 56.2% of the total imported petroleum. By the year 2010, China's petroleum output will show a sign of declining. The gap between supply and demand will be up to 0.15 billion tons, accounting for 40% of the total petroleum consumption. In 2020, the gap will increase to 0.3 billion tons, accounting for 50% of the total petroleum consumption.

From the view of the state assets management, the petroleum security problem is concerned with three aspects: how to strengthen the back-up resources exploration and development, how to compete in the world, and how to deal with the imported resources.

First, the three petroleum corporations should allocate capitals, talents and technologies to the best advantage and strengthen resources exploration and development. The key point here lies in how to establish exploration technology together with innovative and competitive system

in the exploration field to bring down the high cost of the domestic crude oil production.

Second, the three petroleum corporations should go global to compete in the world market, take part in the exploration of the foreign oil and gas fields, establish stable foreign petroleum production and supply bases, and share the international oil and gas resources.

Third, according to the related agreement of WTO, China will open up the retail business of finished oil products in three years after joining WTO; in five years, China will open the whole sale of finished oil products, and lower the tariff of crude oil, natural gas and fuel oil to 6%. So the three corporations should respond to the competition vigorously, introducing the capital and technology of foreign petroleum corporations and enhancing the corporations' competitiveness.

2. Research on state assets management system of petroleum and petrochemical industry in other countries

Since Edwin L. Drake drilled the first commercial oil well¹ in Titusville, Pennsylvania, the world's petroleum industry has developed rapidly. Before World War I, the developed western countries, such as USA, UK, Holland succeeded in transforming from coal predominant energy resources mechanism to petroleum predominant mechanism, and consequently, petroleum has become their basic energy resource. Meanwhile, big petroleum corporations represented by "seven sisters of petroleum family"² are in the monopoly position.

In the 1920s, the petroleum industry became not only an indispensable basic industry of the industrial countries but also a strategic industry related to the country's security. Countries spared no efforts to develop domestic petroleum industry. TOTAL, a French state-owned petroleum corporation, was founded in this period. After World War II, the world petroleum industry was prosperous. The traditional petroleum production countries, such as USA and UK consolidated their competitive position in the world, while the national petroleum industries of developing countries sprang up rapidly. And most of all, OPEC³ played a vital role in the

¹ Some material records that the earliest oil well explored industrially is Romanian Ploiesti originated in 1857.

² Exxon Corporation, Shell Corporation, Mobil Corporation, Texaco Incorporation, British Petroleum Corporation, Standard Oil Company of California, Gulf Oil Corporation.

³ OPEC was founded in September 1960. Its members include Libya, Nigeria, United Arab

international petroleum market, as well as the international politics and economy. Currently the exploration, production, supply and demand of the world petroleum are affected by a lot of contradictions. Among these contradictions, some important factors are the contradiction between OPEC oil production countries and non-OPEC oil production ones, and the contradiction between oil production countries, mainly developing countries and petroleum consumption countries, mainly developed countries (IEA¹ can be regarded as their interest representative), etc. After the war, the world petroleum market has experienced several fluctuations and the assets management of other countries has changed a lot and formed several patterns.

2.1. Assets management patterns of oversea's petroleum corporations

From the macro angle, currently the state assets of other countries' petroleum corporations can be classified into three categories:

2.1.1. Market predominant style

The representatives of these countries are USA and Australia. Their basic features are: the domestic petroleum industry is controlled completely by the private capital and is managed according to the market economy principle. The government only interferes the corporations' daily management activities when they violate the law and/or the constitution.

2.1.2. Government participating style

The representatives of these countries are UK, France and Canada. Their basic features are: the domestic petroleum industry is jointly managed by the state capital and the private capital. There are two kinds of approaches. One is that the state is one of the private enterprises' shareholders. Another is that apart from the private enterprises, the state invests to establish the state-owned petroleum corporation to stimulate the market competition and guarantee the domestic petroleum supply in

Emirates, Qatar, Saudi Arabia, Venezuela, Algeria, Iraq, Indonesia, Kuwait, Iran, etc.

¹ IEA (International Energy Agency) was founded in November 1974 and consists of twenty three oil consumption countries such as USA, UK, Japan, France, Germany, Italy, Canada, Denmark, Belgium, Luxembourg, Spain, Portuguese, Austria, Ireland, etc. Its objective is to draw up cooperative policies according to the change of supply and demand of the world petroleum market.

the critical stage.

2.1.3. Government dominating style

The representatives of these countries are Japan, Italy, Austria and Norway, etc. “Chinese Petroleum Corp.” in Taiwan China also belongs to this category. Their common features are: the state-owned petroleum corporations monopolize the domestic petroleum production and business activities, while the government owns 100% of these corporation’ shares.

To summarize, except a few countries, such as USA, most governments are to some degree involved in the domestic petroleum industries’ production and business activities, and control them directly. Even in USA, in 1980 the government established Syntroleum Fuel Corporation (SFC), providing up to 75% of project cost guarantee for the suitable fuel industry project. In addition, the American government assists the private sectors’ petroleum production by means of allowance, preferential loans, technical and financial assistance.

2.2. Assets management patterns of oversea’s petroleum corporations from the micro angle

From the micro angle, the assets’ management patterns of other countries’ petroleum corporations mainly include equity management and operation management.

2.2.1. The equity management

Other countries’ petroleum corporations are mainly listed corporations in the stock market. Getting listed in the stock market is an effective way for the modern enterprises to adjust the capital structure, expand the assets’ scale and improve the assets’ operation efficiency. They have some main features as following:

(1) The assets scale is very huge. The total assets of most listed parent corporations amounts to more than 20 billion US dollars, and the assets of the top ten petroleum corporations according to the rank of total income amount to up to 50 billion dollars. So these corporations have abundant capacity and strong risk-resistant abilities.

(2) The investing body is internationalized. Because the big petroleum corporations are mainly multi-national corporations, and their business extends to many countries in the world, and their demand for

funds is huge, the corporations implement a variety of means to absorb the foreign capitals so that the capital scale could be expanded and the investment risks could be diversified.

(3) The asset reorganization is frequent. The petroleum corporations attach more importance to the capital operation efficiency and the capital operation expertise. As to the idle and low efficient assets, the capital structure is normally adjusted by transferring the equities and selling the stocks so that it could liquidize remnant assets in time and expand the capital scale by means of merger and acquisition, etc. targeting the familiar and prospective main business.

(4) The financial status of the listed corporations is good. The capital structure of foreign countries' listed corporations is rational and their liability/asset ratio is about 25% and their return on investment is about 10%.

To a large extent, the equity management of other countries' petroleum corporations' assets is embodied in the ways of being listed in the stock market and its equity structure.

2.2.2. The way of being listed in the stock market

The management system of many petroleum corporations is that the parent corporations control the subsidiaries. The way of IPO is also diversified. According to the listed body, there are mainly three categories:

(1) The parent corporations get listed in the stock market, but the subsidiaries don't do so, such as French oil corporation Elf Aquitaine and American oil corporation Exxon.

(2) The subsidiaries get listed, but their parent corporations don't. The controlling stake of this kind of listed corporations is owned by the state, such as Italian Eni and Spanish Ini.

(3) Both of the parent corporations and their subsidiaries get listed in the stock market. Most of the listed corporations in this category are managed by decentralized system.

2.2.3. The way of stock issuance

As to the approach of issuing the stocks, there are a lot of categories in other countries' petroleum corporations. There are mainly three kinds:

(1) American Depositary Receipt. The stocks of the listed

corporations in New York Stock Exchange are issued by the Bank of New York and by the means of general inscribed securities funded beforehand.

(2) Special Stocks (Golden stocks). When they are listed in the stock market, petroleum corporations often regard the state-owned stocks and fixed shareholders' stocks as special stocks. Special stocks have the characteristics of veto rights. When the foreign cooperation affects the national industrial development and form a monopoly domestically, the state-owned stocks can put veto right into effect.

(3) Preferred Stocks. To attract the employees' investment in their corporations' stocks, the corporations sell the preferred stocks by 10% to 20% of the market price as preferential price. All of employees in both the parent corporations and the subsidiaries (including the foreign subsidiaries) can buy them. They should pay 50% of them in cash and the rest of them are paid off within a year. Preferred stocks only have the rights of allocating dividends, without voting rights.

2.2.4. The ownership structure

The ownership structure of other countries' listed petroleum corporations is complex. As far as their common features are concerned, there are some features as following:

(1) High decentralization of share ownership. The petroleum corporations issue stocks in the international capital market. The shareholders come from a variety of countries all over the world. The number of the shareholders is enormous. The stock ownership is highly decentralized. Some big petroleum corporations own hundreds of thousands of shareholders. The equities possessed by big shareholders are below 10% of the total amount.

(2) The proportion of the state-owned stocks decreases sharply. With the progress of privatization of the petroleum corporations, the state-owned stocks are sold in public. The proportion of the state-owned stocks in the listed corporations decreases dramatically, and it has decreased to below 20% in some of the corporations whose controlling stocks are owned by the state.

(3) Comparative centralization of the big shareholders. The big shareholders of other countries' petroleum corporations are mainly composed of banks, insurance companies, industrial companies and other investment funds. The petroleum corporations take these investors as fixed shareholders and maintain the ownership relations by holding

stocks mutually. To centralize the stock ownership, the insurance companies and the investment funds have organized unions to unify the implementation of the shareholders' rights.

(4) The parent corporations control highly the subsidiaries' stocks. In listed petroleum corporations, the parent corporations always own the subsidiaries' controlling stocks, no matter which is listed in the stock market. The parent corporations unify the decision-making rights of the affiliated subsidiaries' major investment, the personnel appointment and financial budgets. Through owning the controlling stocks of the subsidiaries, the parent corporations can bring their advantages into play as a whole and concentrate on the development and management strategies of the corporations so that the corporations can achieve economies of scale.

2.3 The operation management of oversea's petroleum assets

Most of other countries' petroleum corporations are stock holding corporations. They mainly carry out a management system of the parent and subsidiaries corporations. The corporation run strictly with three managerial centers: decision-making center, profit center and cost control center. According to different stock holding degree of the parent corporations, their capital operation systems and patterns vary.

2.3.1. The management system

There are mainly two types of management system in foreign petroleum corporations.

(1) Three-leveled legal person's management system. So-called three-leveled legal organization management system means that petroleum corporations are composed of three-leveled legal organization, including the parent corporations, the subsidiaries and sub subsidiaries, such as Shell Group, Eni Corporation, British Petroleum and Brazil Petroleum Corporation, etc.

The parent corporations focus on the assets and financial management of their subsidiaries. The subsidiaries carry out financial settlements according to the equity method decided by the board of directors. The dividends' allocation rules of the subsidiaries are similar to that of the parent corporations. The parent corporations exert an influence on the subsidiaries' operation management by making long-term plan and

controlling the investment directions, and etc.. The production, sales and other business activities are all managed by the subsidiaries themselves. What's more, the subsidiaries determine their annual plan, the construction projects and technique improvement projects within a certain investment capital, the production plan and the sales directions.

(2) Two-leveled legal person's management system. It is composed of two levels, including the parent corporations and the subsidiaries, such as Exxon Corporation, Spanish Ini Corporation. The organization structure of these petroleum corporations can be divided into two categories:

The first is purely a type of parent and subsidiary corporations. The parent corporations directly control and manage the subsidiaries.

The second is a type of indirect parent and subsidiary corporations. The parent corporations do not directly control and manage the subsidiaries, but instead establish several professional branch companies according to the division of different professions or regions.

2.3.2 Management patterns

Owing to the differences in the business strategies, business fields, business scale, development history and management style, the management styles of other countries' petroleum corporations vary. In terms of their common features, there are mainly three kinds of management styles:

(1) Centralization. The core of centralization is decision-making which is used to regulate the spreading business activities. The centralization management is carried out in the aspects such as project investment, planning, finance and personnel, etc.. And through the functional departments, such as planning, investment, finance, personnel, auditing, environment, safety, etc. the decisions of the board of directors can be executed in the subsidiaries, while the functional departments provide suggestions to the decision-making of the corporations.

(2) Decentralization. The core of decentralization is that the parent corporations have the major decision-making power, while the subsidiaries enjoy the operation autonomy. To develop their business and expand their strength, some big corporations adopt this style.

(3) Combination of centralization and decentralization of power. Centralization of power is advantageous to control the affiliated subsidiaries, while it is disadvantageous to stimulate the initiatives of the

subsidiaries. Decentralization of power is beneficial to expand the subsidiaries' development space, while their management tends to be out of control. Consequently, many foreign petroleum corporations gradually adopt a management style of combination of centralization and decentralization of power. While implementing, the pros and cons of difference management styles must be taken into account.

3. Operation management and reform of the *Cunxu* Enterprises

Since 1998, the state assets management reform of petroleum and petrochemical industry has been carried out through the following two aspects. First, the core business should be rearranged to establish stock company and list it in the overseas stock market. This reform aims to enhance the corporations' core competitiveness and improve the corporations' technology innovation ability, market competition ability and market risk-resistant ability.

Second, it is a critical strategic task for petroleum corporations' assets reorganization to take appropriate measures to solve reform and development problems of the *Cunxu*, and to eliminate losses widely existing in them for gaining overall profits. It is also critical to the success of being listed in the oversea stock market.

3.1. Concept and emergence of the *Cunxu* enterprises

“*Cunxu* enterprises” is a new concept coined during reorganization of big state-owned enterprises listed in the stock market. The general definition of “*Cunxu*” has not been commonly agreed. In general, they are regarded as the assets of the corporations not listed in the stock market, that is, the assets stripped off after getting listed in the stock market. In this paper, if not specially explained, “*Cunxu* enterprises” refer to the rest of the assets of the three petroleum corporations stripped off after getting listed in the stock market. In 2000 and 2001, the three petroleum corporations — CNPC, SINOPEC and CNOOC rearranged their assets respectively and packed up the core business listed in the stock market. Hence, they become a kind of pattern like “corporation=listed company limited + *Cunxu* enterprises”.

On a whole, *Cunxu* enterprises consist of relatively small-scaled enterprises, service sectors and social functional departments in corporations.

3.2. Problems facing the *Cunxu* enterprises

With the deepening of the state-owned enterprises' reform, especially the *Cunxu* enterprises have prominently shown some deep-rooted contradictions and problems accumulated for several years in the aspects such as the system, mechanism, staff, debts, structure and social functions. Among them there are four key problems:

3.2.1. The weakness of ability earning profit by large non-operating assets.

This is caused by history to a large extent. Previously, in order to meet the standards of listing in the overseas stock market, the petroleum corporations put the assets with strong profits earning ability into the listed corporations, while the majority of assets of the *Cunxu* enterprises are those with weak profits earning abilities or non-operating assets. Except a few medium and small sized manufacturing companies, most business activities in the *Cunxu* enterprises are some supplementary business attached to the main business, such as exploration department, engineering construction services department and maintenance department, etc. and other departments providing social services, such as health care, education, communication services, etc., which has caused up to billions of the losses per year. The other reason for losses lies in poor management, which is a common problem in many state-owned enterprises. Our research indicates that in the process of reorganization, to ensure the enterprises' future survival and further development and meet the needs of interest conveyance,¹ the corporations have left or transferred through listed corporations a considerable amount of good quality assets in their *Cunxu* enterprises.

In the process of research, we have also found out that in some developed areas, some *Cunxu* enterprises have achieved profits. But owing to some preferential policies provided before 2005, such as tax reduction and exemption, with which the country aims at helping these *Cunxu* enterprises out of losses, the petroleum corporations and their

¹ Property and interest of a certain enterprise are conveyed to other beneficiaries outside this enterprise by contribution, presentation, mortgage, guarantee, related transaction. Interest conveyance is normally controlled by big shareholders and high-level managers. But it does harm to legal interests of small shareholders and creditors. Interest conveyance is an important topic in theories of modern enterprises. In real life this phenomenon is also overwhelming. Chapter four will be focuses on this topic later.

Cunxu enterprises intend to enjoy these benefits by digesting bad assets and other means to whitewash their financial statements.

3.2. The redundant staffing of the *Cunxu* enterprises

The statistical data in Table 1 indicate that the staff in the *Cunxu* enterprises is far more than those in the listed companies, which is the main reason for the low profits of *Cunxu* enterprises. When the corporations stripped off a number of assets and got listed in the stock market, in principle, the staff should go where the relevant assets go. However, on account of listed standards that the number of staff is strictly controlled, the corporations were forced to transfer some staff from the listed companies to the *Cunxu* enterprises. Hence, it added more difficulties to the *Cunxu* enterprises management. In addition, for some historical reasons, these enterprises in general have to carry their staff's relatives whose number is twice as much as that of their staff. Only one item, social welfare, costs billions of RMB. Such heavy staff burdens are the biggest barrier for the reform and further development of the *Cunxu* enterprises.

3.2.3. The enterprises' social burden

For some historical reasons, the situation that the big petroleum corporations function as society is prevailing. In such cities as Daqing, Dongying, Kelamayi, etc. it is difficult for people to distinguish between government and enterprise. Currently, SINOPEC possesses more than 300 primary and high schools, more than 300 hospitals and clinics and 50 community service institutions. CNPC is also similar. CNOOC's situation is better because of its short history. So how to choose appropriate opportunity to gradually separate the function of society from that of enterprise is the main point in turning losses to profits

3.2.4. Illegal connected transactions between the *Cunxu* enterprise and the listed company

Conveyances of resources and obligations between connected parties are called "connected transaction".¹ When three corporations reorganized and transformed the core business to establish the listed companies, they

¹ Finance ministry: "Business Accounting Regulation", May 22, 1997

adopted so-called “Magang mode”¹ by domestic scholars. This mode is embodied in the corporate governance structure, and specifically, the operation of the corporation and the listed company overlapped each other, which is known as “one group, two brands”. Consequently, while this kind of ownership structure guarantees that the corporations own the controlling stake of the listed companies, it has also provided a convenient path leading to illegal connected transactions. Although there are strict Chinese laws on connected transactions, the illegal connected transactions are still popular, especially under the following two conditions: the first one is that the listed companies become “pumps” of the *Cunxu* enterprises. The second one is that the *Cunxu* enterprises become “dustbins” of the listed companies.

The first one is the parent and subsidiaries structure of “corporations—listed companies”, and their operation overlap each other so that the *Cunxu* enterprises are likely to control the major decisions made by the listed companies through the corporations. By doing this and to a large extent, the *Cunxu* enterprises are nurtured by the listed companies, making full use of them, to make a living. So we can vividly describe it as “pumps”. As a matter of fact, as a part of the corporations, the *Cunxu* enterprises execute the shareholder rights of the state in the listed companies. Hence, the corporations are the biggest shareholders of the listed companies, in fact which means that the *Cunxu* enterprises are the biggest ones instead; the corporations own the controlling stake of the listed companies, in fact which means that the *Cunxu* enterprises have instead. So to relieve the heavy burden of the *Cunxu* enterprises, the corporations can make full use of the controlling power for the listed companies to convey their financing and extra profits or intentionally lower the price of good-quality assets and transfer them to the *Cunxu* enterprises. But in this way the competitiveness will be lower and the other shareholders’ interests will be greatly damaged. Of course, while the *Cunxu* enterprises corrupt the interests of the listed companies, it seems “reasonable”: previously, in order to guarantee the companies to be listed in the stock market, the good-quality assets with strong profits earning capacity were converged into the listed companies, while the non-operating assets with weak profits earning capacity, retired workers and the redundant staff stayed in the *Cunxu* enterprises. After the

¹ Zhang Chengyao, et al.: “Study of modernization and scientific of enterprises’ management problems”, Economic management press, 1999.

realization of getting listed and financing the funds in the stock market, the sacrifices of the *Cunxu* enterprises should be compensated naturally. Interest conveyance from the listed companies to the *Cunxu* enterprises becomes an “obligation of supporting them”. At the same time, the *Cunxu* enterprises will take the listed companies as their main funds sources providing funds needed for their further development. After the foundation of the new State-owned Assets Supervision and Administration Commission, one strategy to prevent this phenomenon is that the *Cunxu* enterprises become the brothers of the listed companies, which requires that the corporations turn in their stake holding right of the listed companies to the State-owned Assets Supervision and Administration Commission.

The second one is that the corporations are likely to cut down the staff by means of paying compensation fees lower than the market price for the sake of increasing the efficiency or distributing them to the *Cunxu* enterprises when they cannot guarantee the profits. Of course, they can also sell the poor-quality assets to the *Cunxu* enterprises at a higher price. Hence, the *Cunxu* enterprises become “dustbins” of the listed companies and they can never get rid of the low efficiency and losses.

The above-mentioned two phenomena seem “reasonable” in combination with some tricks in the financial accounting. So in order to improve the listed companies and the *Cunxu* enterprises, such behaviors must be forbidden.

3.3. The discussion of reform plan of the *Cunxu* enterprises

In comparison with the listed companies, the *Cunxu* enterprises’ assets are of poorer quality and their operation does not conform to the rules. So their reform task is very severe, owing to a large proportion of the state’s assets in the *Cunxu* enterprises, as well as heavy social responsibilities. The outcome of the *Cunxu* enterprises’ restructuring and development directly affects the overall reform of the state assets reform and the development of the national economy. So its meaning is profound. According to our research, concerning different situations of the *Cunxu* enterprises’ assets, several kinds of reform plans are put forward for discussion.

3.3.1. Transferring to the local government

There exist a large number of functional departments assuming the social responsibilities, such as education, medical health, community services, etc. So it is difficult for the *Cunxu* enterprises to become the modern enterprises with competitiveness. For example, currently SINOPEC possesses over 3000 primary and high schools, more than 300 hospitals (clinics), more than 50 community service institutions, etc. An easy solution is to transfer these departments to the local government, relieving the *Cunxu* enterprises' burden. But a key in the real practice is that the local government can afford to shoulder so much cost. Generally speaking, in the developed areas, the local government has sufficient funds so that it can easily adopt this plan. But in the developing areas, it is difficult for them to carry out this plan due to lack of funds. So to solve the difficulties, we can consider that when transferring these departments to the local government, the provincial or central government provides appropriate allowances within several years according to the degree of the local economic development. These allowances can be included in the local financial budget and allocated as the conventional financial outlay.

There are several advantages of transferring these departments to the local government. Firstly, the *Cunxu* enterprises can release heavy burden to develop themselves better, while the development of the enterprises will stimulate the development of the local economy and strengthen the local government's finance. Secondly, after the local government takes over these functional departments, which can be improved to transform their operation mechanism, and achieve the transference from welfare style to service business, they will gradually become real economic entities that make their own management decisions and take full responsibility for their own profits and losses so as to reduce the financial pressure.

When the staff was transferred with these functional departments, they should break off the relations with the petroleum corporations. They should be arranged as professionals or institutional staff, etc. Not only the functional departments assuming social service responsibilities but also some small-sized enterprises with little relation with the main business can be transferred to the local government to release the management pressure of the State-owned Assets Supervision and Administration Commission at all levels.

3.3.2. Reorganizing the part of competitive assets to professional companies

The business attached to the main one is reorganized to form professional companies that should be managed according to market economy rules of independent financial accounting and taking full responsibility for their own profits and losses, becoming the growing modern enterprises. In this way, this part of the state assets can realize not only the maintenance and increase of their value but also the standardization of connected transactions. As an illustration, in December 6, 2002 both Oriental Geophysical Exploration Company Limited, CNPC, and Well logging Company Limited, CNPC were founded in Beijing.

As should be noted, after the professional reorganization of the companies, their business cannot be separated from the main business of the listed companies. Previously, in order to conform to the standard of listing in the stock market, the petroleum corporations intentionally separated the core business from the minor business. Of course, the professional companies themselves need to find other business not attached to the business of the listed companies so as to expand the outside business to make a living as well as common companies. At the same time, the government should provide some preferential policies in the aspects such as taxation, finance, land, construction, etc. to encourage the growth of them.

3.3.3. Listing the extra good-quality assets in the stock market

China Oilfield Services Limited (COSL) succeeded in being listed in the Hongkong stock market in 2002. COSL is composed of seven independent professional companies originally affiliated with CNOOC. COSL has been reorganized and merged twice. The first is that in 2000 five professional companies, including paleontology, well logging, two well drilling companies and technical services were merged into COSL and two shipping corporations were organized to China Oilfield Shipping Corporation. The second is that in June 2002 COSL and Shipping Corporation were merged again to form the current COSL. COSL mainly provides comprehensive services for offshore oil exploration and production enterprises, including well logging as core business, paleontology, oilfield services (well measuring, well fixing, well

maintenance, etc.) and sea transportation. Getting listed in the stock market is a good way for the development of *Cunxu* enterprises. But there is big limitation in this solution. Firstly, it requires good-quality assets. Secondly, it subjects to the development of the capital market. For instance, if the stock market is in recession, it is difficult to adopt this solution. In recent two years, China's stock market has been in recession because of the decrease of state-owned stake in listed companies and the rapid expansion of the stock market. The capital market is not mature enough to afford unreasonably large number of companies being listed. Moreover, getting listed in the stock market costs too much, which it is not suitable to all companies. Secondly, getting listed has also side effects. Because the standard of being listed is so strict that the good-quality assets in the *Cunxu* enterprises have to be peeled off, and listed companies can only absorb a small part of the staff, while most staff have to stay with assets of much poorer quality. Consequently, the remained part of *Cunxu* enterprises cannot be developed well, and in this vicious circle it is more difficult for the *Cunxu* enterprises to allocate a large part of staff. This solution abides by the principle of selecting the superior and eliminating the inferior. To support the superior will definitely lead to a group of people bearing the cost of reform ultimately.

3.3.4. Selling to the private enterprises

The entry of private funds can relieve the pressure of the country and is a good way to solve the *Cunxu* enterprises' problems in a large scale. As to the enterprises owning some properties in losses due to poor management, their assets can be assessed and sold to private enterprises by preferential price for attracting investors and digesting the staff as much as they can. With the development of China's economy, a multitude of individually-run enterprises have begun to grow increasingly. There are a great number of mature entrepreneurs who have good management experiences and a sense of responsibility. To some degree, they have the abilities to rescue some enterprises under deficit.

According to German experiences that the German state-owned enterprises custodian office handled Deutsch Democratic Republic's state-owned enterprises after the German Unification, they sold a part of the *Cunxu* enterprises to the private enterprises, which must guarantee the fair and open transaction, and the staff allocation is a condition for selling the enterprises with preferential price. In fact, there is such a case in

German: an enterprise was sold only 1 DEM as a symbolic price and also given necessary loan and debt exemption only on the condition that the purchaser must guarantee the running of the enterprise and the employment of the original staff. So we must hold such belief that a good enterprise, whether it is private or state-owned, can stimulate the economy of a region. The added value of the private enterprises should also be included in GDP.

3.3.5. Assigning to the staff

Some small-sized *Cunxu* enterprises can convert the assets into equities assigned to the staff according to their seniority and positions at the cost of breaking off their relations with the corporations. The staff elects the representatives, make their own management decisions and take full responsibilities for their own profits and losses. The country will not provide allowances any longer but offer some preferential policies within a certain period of time. In South Jiangsu province the original collectively-run enterprises were bought out by the staff. These enterprises are running quite well now, which stimulates the overall development of South Jiangsu's economy. In doing so, we inevitably touch one sensitive point, disappearance of the so-called "state assets". In fact it is feasible to let the competent staff run those enterprises rather than make the staff become the country's heavy burden. The richness of people equals to the richness of a country. This solution conforms to the policy that encourages a group of people to get rich first. Of course, the whole process must strictly conform to related regulations and be carried out justly, fairly and openly.

3.3.6. Closure

The problems existing in some *Cunxu* enterprises include excessive non-operating assets, the heavy debt burden, the serious loss, the out-dated production technology, and the slim chance of reform. Nobody would like to buy these enterprises, whose survival must depend on other organizations. The way of handling these enterprises is significantly meaningful to the reform of state assets management system. And the emphasis lies in how to deal with the staff allocation and debt. Currently, to close them with resolution is the solution to the problems of such enterprises. While the biggest obstacle is the strong opposition from the

staff. So the closure is a temporary solution to the problems and it must be supplemented by re-employment programs.

4. Studies on connected transactions of the three petroleum corporations

4.1. General discussion about connected transactions

4.1.1 Concept of connected transactions

Before discussing the problems of connected transactions of the three petroleum corporations, we should first of all define the concept of connected transactions. The connected transaction can be explained from a narrow and a broad sense. The connected transaction from the narrow sense often refers to the one defined in accounting, “Resources or obligations are transferred between connected parties, no matter whether they have received payments or not.”¹ In other words, it means that one party involved in the transaction can directly or indirectly control, jointly control or significantly influence the other party. So in the transaction, some measures, such as transfer pricing, were taken to maximize the interests of capital flows. The so-called “connected transaction” mainly includes the following relationships:

(1) Between the parent corporation and their subsidiaries, and between all subsidiaries controlled by the same parent corporation;

(2) Between the controlling enterprise and its controlled ones, if there is no investment between them;

(3) Between the enterprise and its joint-managed ones.

(4) Between the enterprise and its associated ones.

(5) Between the enterprises and its major investing individuals, key related administrative personnel and their close family members. Specifically, it includes the relationship between enterprises and their major investing individuals or other enterprises directly controlled by their major investing individuals; between enterprises and their key related administrative personnel or other enterprises directly controlled by their key related administrative personnel; between enterprises and close family members of their major investing individuals and other enterprises directly controlled by their close family members; between enterprises

¹“Business Accounting Regulation—disclosure of information of relationship and transaction between related parties” issued by Finance Ministry

and close family members of their key related administrative personnel or other enterprises directly controlled by their close family members.

4.1.2. Classification of the connected transaction

There are several classification methods from different perspectives of understanding.

(1) From the perspective of the transaction body, the connected transaction of the three petroleum corporations can be divided into two categories: the first category includes those among the three petroleum corporations. No matter what economic classifications of the specific transactions parties are, transferring of resources and obligations among the three petroleum corporations belongs to the connected transaction. The second category is transferring of resources and obligations between two different transaction bodies within one petroleum corporation. Specifically, it includes: transactions transferring resources and obligations between its branches (subsidiaries) and the corporation, or the part of corporation not listed in the stock market (including the joint-stock company above 30% of which are owned by the corporation, the entire non-listed enterprises and *Cunxu* enterprises), between branches (subsidiaries) and its enterprises listed in the foreign stock market. Because of lack of specific regulations of connected parties in accounting regulations, definition of the first category is still a controversial issue. We do not think that all the state-owned enterprises are connected parties. Considering the facts that the relationship of the three petroleum corporations in history were very close, all of them are involved in similar business activities of the same industry, and the country exerts great influence on them for national security, the first category is regarded as connected transaction for the academic discussion.¹

(2) From the perspective of contents involved in connected transactions and according to 《Business Accounting Regulation》 issued by Finance Ministry, connected transactions can be divided according to different transaction styles:

- * Purchasing or selling commodities
- * Purchasing or selling assets except commodities
- * Providing or accepting labor service
- * Agency

¹ Of course, disclosure is not required in Hongkong Stock Exchanges.

- * Leasing
- * Providing capitals (including loans in form of cash or goods or equity)
- * Guarantee and mortgage
- * Management contracts
- * Research and development project
- * License agreement
- * Key administrative personnel rewarding

While the definition of the connected transaction in a broad sense is that in a market economy system, every economic body takes the flow of capital, goods, information and other related resources as transaction object, exchanges and allocates them to maximize the profit or utility of every rational economic body ultimately. The connected transaction in a broad sense not only exists in connected enterprises, but also extends to all kinds of bodies in our economic life. In this research we are only concerned with connected transactions from a narrow sense.

4.1.3. Reasons for the connected transaction

The drive for the emergence of connected transactions is that enterprises hope to avoid tax in a legal way and relieve their tax burdens. To minimize tax burden is one of the most widely used applications of connected transactions domestically and abroad. It includes: transfer pricing¹, expanding costs², linking with the other enterprises³, movement of staff⁴, choosing appropriate time for technique improvement, financing, leasing, trusts and so on. Connected transactions among the three petroleum corporations or within one of them are also conducted in order to avoid tax legally and relieve their tax burdens. But there are also other purposes, such as supporting *Cunxu* enterprises and transferring the

¹ It means that in the economic activities, all parties having economic ties do not conform to market purchasing and selling rules to practice trading but pursue their common interests or maintain their incomes to a maximum degree in order to even or transfer their profits. The transferring price can be agreed according to all parties' wishes; higher or lower than the market price decided by supply and demand so that they can pay less even avoid tax. From the angle of laws, transferring price or profits among enterprises is legal.

² It means that when calculating costs, the enterprises adopt the method, which is most advantageous to maximize the costs. The purpose is to reduce profits in financial statements to relieve tax burden.

³ It means that the enterprises manage to enjoy preferential policies by linking with the other enterprises so that they can act as hitch hikers to enjoy these policies to avoid tax.

⁴ Targeting related laws, taxpayers can avoid tax payment duty or enjoy preferential policies or exempt from tax by means of changing natural and legal person's address.

listed enterprises' burden, etc. The following part is the further discussion on this issue.

4.2. Background and Necessities of the three petroleum corporations' connected transactions

4.2.1. Background of the three petroleum corporations' connected transactions

Only by fully understanding the background of the three petroleum corporations' connected transactions can we further know necessities of connected transactions among the three petroleum corporations and within one of them.

Basically, their connected transactions are resulted from overall reorganization of the petroleum industry's assets. The central government has carried out three critical asset reorganizations to promote competitiveness of China's petroleum industry in the world, to stimulate the integration of domestic and international petroleum industry, to adjust the strategy for the nation's energy, and to integrate the petroleum industry based on regional advantages. The three critical reorganizations are also the necessary result of China's strategic adjustment of the state-owned economy structure. The first reorganization began in March 1998. The structure was adjusted and enterprises were separated from administration. China National Petroleum Corporation (CNPC) and China Petrochemical Corporation (SINOPEC) were founded to realize the integration of upstream and downstream operation, domestic and foreign trade, as well as production, supply and sales. Until the two corporations were founded on July 27 1998, the total rearranged assets amount to more than 850 billion RMB, involving above 27 million staff movement. The second reorganization lasted from August 1998 to early 2001, when the three petroleum corporations carried out the internal strategic reorganization, and separated oil and gases business and assets of good quality. In this way, they became the three giants complied with international practices and standards of modern enterprise system. They succeeded in getting listed in the domestic and oversea stock markets in 2000 and 2001 successively. The controlling stakes of the three corporations are owned by the state. The third reorganization has been going on since the corporations were listed in the stock market, when the reorganization of corporations and *Cunxu* enterprises are gradually making further

progress.

After the three reorganizations, China's petroleum and petrochemical corporations realized four transitions: transition from planned economy to market economy; transition from production operation to capital operation; transition from administrative industry management to modern enterprise system; transition from old business operation style to operation mechanism conforming to international practices.

4.2.3. Historical necessities of connected transactions of the three petroleum corporations

The emergence of connected transactions of the three petroleum corporations is not accidental, but inevitable. Considering the world's petroleum industry development, merger and acquisition as well as reorganization are a trend. Take the example of the year of 1998, there are 8 merger and acquisition cases totaling above 4 billion US dollars. Among them Exxon Corporation merged Mobil Corporation, involving up to 77 billion US dollars. BP merged Amoco Corporation, involving 53.9 billion US dollars and Atlantic Richfield Company was established after a merger involving 26.6 billion US dollars. The purpose of merger and acquisition of the world's petroleum industry is to enhance their strength and face up to the competition. It optimizes the allocation and flow of production factors in the world to form scale economy, and it is also helpful to improve products as well as break market barrier. China's government rearranged the petroleum industry by establishing the three petroleum corporations to catch up with this worldwide trend. Several years' practices prove that by founding three petroleum corporations, the domestic management structure conforming to the market economy is basically established. While the most competitive parts of three corporations are integrated to be listed in the foreign stock market, funds are raised in the international capital market. In recent years, three corporations have made full use of the raised funds to introduce new technology and improve their technology and competitiveness gradually. Meanwhile they are engaged in merger and acquisition activities in the world's petroleum industry and playing increasingly important role in the world's energy competition field. When the listed companies are developing their core business and improving the core competitiveness of the petroleum and petrochemical industry, they will also help *Cunxu*

enterprises that are not listed to achieve technological progress and thus improve their competitiveness through connected transactions. Consequently, connected transactions among the three petroleum corporations and within one of them are necessary, vital, and in line with the general principle of economic development.

In fact, *Cunxu* enterprises not only obtain living space but also gain opportunities of further development through connected transactions between them and listed corporations in commodities, labor force, funds and technology. So taking the whole situation into account, listed companies of the three petroleum corporations drive the faster development of *Cunxu* enterprises and companies not listed in the stock market by means of connected transactions instead of by helping them directly, which has become a strategically significant event and conformed to the strategy for national petroleum industry development. Generally speaking, the *Cunxu* enterprises accounting for one fifth of the total assets in CNPC can achieve good business operation. The *Cunxu* enterprises in SINOPEC can be improved within a short period of time and some rearranged enterprises conforming to listing standards have been listed in the stock market. Connected transaction plays an important role in these improvements.

4.3. Features and forms of connected transactions

On a whole, law violation phenomenon in connected transactions of the three petroleum corporations is very rare. The reasons are:

Firstly, their controlling stake is owned by the state. The state will not manipulate them to take advantage of illegal connected transactions to earn profits. The state will not violate laws stipulated on its own. The state energy strategy is to maintain safety of the state strategic resources, stabilize and promote the country's economic development.

Secondly, connected transactions will not bring any direct benefit to related parties, unless the aim of connected transactions is to improve the existing corporations' profits to obtain the qualifications of allotment of shares and IPO to raise funds indirectly. But both their monopoly situation in the country and their strategic significance to the country determine that they meet the qualifications of allotment of shares. So they have no need to violate laws in connected transactions. Their main barriers to raise funds are that the volume of the capital market is not sufficient and the state needs to control the elasticity of equity proportion

change of the three corporations. Take the example of CNPC, currently its total assets amount to about 750 billion RMB. The assets of listed corporation account for about four fifths and the state holds 90% of equities. Earnings before tax have reached about 70 billion RMB in the consecutive three years, which totally conforms to conditions of allotment of shares and issuing IPO. But even if the state is willing to give up 10% of shares allotment right, that is, issuing shares by par value, it will expand the capital circulation market's volume by several billion US dollars, which will be a big impact on the foreign capital market. Furthermore, the corporations with annual earnings of more than 70 billion RMB are more suitable to develop themselves in an accumulative way.

Thirdly, no corporation will allow the other one to take its profits to lower its achievement.

Fourthly, in the course of establishing listed corporations respectively, the three petroleum corporations peeled off a certain amount of low efficient assets or assets not meeting the standards of being listed in the stock market, which have formed a large number of *Cunxu* enterprises. In addition, the rest of the assets have formed the whole enterprises not listed in the stock market. A considerable proportion of these two kinds are the necessary accessories of these corporations and their productions depend on these corporations to a great extent. So most connected transactions are internal and their aim is to provide certain living conditions for *Cunxu* enterprises and non-listed enterprises.

Fifthly, the three petroleum corporations adopt multi-level authorization and one-level legal personal system. The subsidiaries adopt multi-level authorization management style. Except the subsidiaries, main micro business bodies have no financial decision rights. In the operation, they adopt unification of plan, sales and products. All main micro business bodies become "workshop style". Hence, to a certain degree it has reduced the behaviors of seeking profits outside the corporations.

As far as connected transactions between the internal three petroleum corporations are concerned, their features mainly show in the following aspects:

Firstly, connected transactions between the internal three petroleum corporations are "regional". Because the *Cunxu* enterprises and the non-listed enterprises are highly dependent on the listed companies in production, meanwhile the production of the listed companies relies on

the local *Cunxu* enterprises to a considerable degree. Therefore, connected transactions between the authorized companies of the three corporations and the local *Cunxu* enterprises cannot be avoided. In 2002, connected transactions in the listed company of SINOPEC amount to 87.156 billion RMB, among which the purchase amount is 50.672 billion RMB and the selling 36.484 billion RMB. The gap between them is 14.188 billion RMB, which shows that the listed companies are net purchasing parties, while the *Cunxu* enterprises and the non-listed enterprises are net selling parties of products and labor.

Secondly, connected transactions between the internal three petroleum corporations become an important way to assets reorganization, labor division and cooperation as well as efficiency improvement. In 2002, SINOPEC traded a part of gas-stations, oil warehouse (including a part of related liabilities) and equities for its listed company's assets including water plant, repair and maintenance and paleontology (including a part of related liabilities) as assets replacement. Its listed company paid 21.321 million RMB to SINOPEC by cash as value difference. The replaced assets of the listed company are assistant and service assets belonging to the business scope of SINOPEC. This solution is not only advantageous to reduce the competition in this business field between the listed company and its corporation, but also beneficial to the development of the corporation and improvement of its profit.

Thirdly, connected transactions between the three petroleum corporations has become an effective way to reorganize their resources and assets to be in a new state of regional or overall division of labor, cooperation and virtuous competition. CNPC and SINOPEC were established based on different regions, with the Great Wall as their dividing line. Its north was called the north company, and its south was called the south company. The north company and the south one were gradually reorganized to form CNPC and SINOPEC. In terms of management, it is reasonable to divide the assets according to different regions. But with the development of information economy, the establishment of new information platform, the economic globalization and the rapid growth of traffic facilities, people are confident to believe that to take the close economic relation as the assets' division standard is more suitable to meet the demand of market economy. Considering that these two corporations have already formed their own systems, to carry out the new reorganization must conform to the market principle, that is,

fair, standard and efficient connected transactions between these two corporations.

Currently there are several categories of connected transactions among the three corporations:

A. Commodity and labor. This category is dominant in most connected transactions, reflecting the close economic relation and reliance among the three corporations.

B. Assets replacement. The proportion of this category is just second to the first one, reflecting the continuous reorganization process of production resources and assets with the development of market

C. Leasing. This category reflects the coordination of contradictions between ownership and usage rights of assets, which cannot be reorganized.

4.4. The problems existing in current connected transactions and their solutions

Generally speaking, the current connected transactions of these three petroleum corporations are healthy and positive. But there are still problems to be regulated and solved to meet the requirement of fairness, high efficiency and standardization.

4.4.1. The core features of a normal connected transaction

How to define normal connected transactions is a very important question. Once we know the core features of connected transactions, there is a most convenient way to judge a normal connected transaction, and to find out abnormal ones. We think that normal connected transactions should show the following core features:

(1) Fair and reasonable price. Price is the core concerning connected transactions. Whether the two parties can carry out connected transactions at a fair and reasonable price is the key issue to judge whether it is a normal connected transaction. Because the core feature of illegal connected transactions is to manipulate the trading price. To realize the fair and reasonable price, it is imperative to establish sound price formation mechanism.

(2) Standard operation. So-called standard operation is to standardize the daily operation of the connected transactions from system level. Only by establishing a complete system and defining all kinds of connected

transactions specifically can illegal connected transactions be reduced to guarantee a fair and reasonable price and healthy and efficient operation of connected transactions.

(3) Efficient operation. The so-called efficient operation does not mean that we must propel the operation of connected transactions whenever they can be applied to solve problems, and instead it means that when it is necessary to stimulate the operation of connected transactions because of subjective conditions, a good environment must be created to operate them efficiently and prevent them from interfering with the normal production of relevant companies. The reason is that most connected transactions will encounter much more barriers than the other daily transactions.

4.4.2. Price is the biggest problem in connected transactions of the three petroleum corporations.

(1) Price formation mechanism of connected transactions in the three petroleum corporations. The basic economic principle indicates that the fairest price is the market price formed in the market mechanism. The process of forming the market price is price competition. No matter whose individual labor time is less than or equal to the socially necessary labor time, he will be eliminated. If market barriers exist, the fair market price cannot be achieved.

Not long ago the listed companies and the *Cunxu* enterprises of the three petroleum corporations were operated as a whole. Only after the internal reorganization and reform, the assets, institutions and staff of the listed companies and the *Cunxu* enterprises have been separated from each other. But due to the long-term close relationship based on labor division and cooperation, the relationship of the two parties hasn't and will not be cut completely. Hence it will cause a series of deep-level structure contradictions that will restrict their mutual development. When the petroleum corporations established the listed companies, production factors were mainly divided according to the core business and the profitability principle in order to meet the listing standards, while the market mechanism to allocate production factors can not be realized completely, which was inevitable due to the specific situation at that time. And this is also the reason why the *Cunxu* enterprises and the non-listed companies have been reorganized continually after the establishment of the listed companies.

It is the close relationship between the *Cunxu* enterprises, the non-listed companies and the listed companies that leads to some market barriers and the natural market monopoly of these two parties to a certain degree. The barrier has strong internal power of self-sustaining and development. Because the production of the *Cunxu* enterprises is dependent heavily on the listed companies and they shouldered comparatively heavy burden during the process of peeling off the their assets, so they need to apply connected transactions with the listed companies to readjust their production structure and to form their own advantageous industries. In this way, the *Cunxu* enterprises can step out of the difficulties and further their development. Obviously this takes time.

However, the characteristic of the market economy is competition, which will lower interdependence of the transaction parties. But if interdependence of the *Cunxu* enterprises and the listed companies is lowered quickly, the industry adjustment of the *Cunxu* enterprises and the formation of the advantageous industry cannot be achieved in time. Certainly the *Cunxu* enterprises' situation varies from enterprise to enterprise. For example, CNOOC has a comparatively short history and it has less *Cunxu* enterprises. After CNPC peeled off good-quality assets of its *Cunxu* enterprises, it pulled through from the difficulties and within three years it has reduced 8 billion RMB losses, allocated more than 0.3 million staff and the business has been growing better. But the proportion of SINOPEC's *Cunxu* enterprises is larger and the overall efficiency is lower. So SINOPEC is the next focus of the adjustment efforts of the corporation and the country.

The key to solve this problem is to speed up the process of merging into the market for the *Cunxu* enterprises and the non-listed enterprises. On the one hand, the listed petroleum companies should be engaged in the world petroleum industry competition as soon as possible to enhance their competitiveness. On the other hand, the *Cunxu* enterprises should grasp the historical opportunity of the reorganization of the world petroleum industry. By the economic communication with the listed companies they can improve themselves gradually and be reorganized to form new competitive advantage. If they missed this opportunity, then after a certain period of time the *Cunxu* enterprises would face pressures of their own and the listed companies caused by the market competitive price. Once their products and the price of their labor lose all regional

advantages, the possibility of illegal connected transactions will be increased, while the country and the open market will not allow such illegal connected transactions. So basically the *Cunxu* enterprises can be transformed from the overall inferior situation to superior one, which also means that connected transactions are increasingly fairer and natural monopoly barrier resistance is less.

(2) The construction of price formation mechanism and price system of the three petroleum corporations' connected transaction should be further improved. The problem of asymmetric information exists in the price formation mechanism of connected transactions between the *Cunxu* enterprises or the non-listed companies and the listed companies. On the whole, the products that the listed companies provide to the *Cunxu* enterprises are mainly crude oil, finished oil products, natural gases, and a series of oil processed products, etc. Normally their prices are guided by the government or market, so that there are fewer problems. While the *Cunxu* enterprises or the non-listed companies mainly provide various kinds of labor and services, only a few of them are traded by the price guided by government or market and instead most prices are decided by internal settlement, which is not transparent and causes illegal connected transactions easily. Thus, the next step should focus on improving transparency in the *Cunxu* enterprises providing all kinds of labor and services as well as products for the listed companies.

To improve price transparency involves the establishment of the price system of connected transaction between the two parties. The petroleum industry is concerned with a series of business activities, including design, exploitation, transport, process (the process chain is very long) and sales. It concerns a lot of price factors and the market is not open enough. To establish a fair and reasonable price system, we must set up various price systems according to specific oil fields or areas in combination with regional characteristics. Gradually a uniform price system is established, which is more suitable to the current situation. Currently except a small number of items, a large majority of labor and services items do not have price standard and quota based on the country, region or industry. Therefore, we should establish labor and services price system for each oilfield as soon as possible, including design or technical services, well drilling engineering, construction engineering, living services, etc. When establishing the price system, we should adopt appropriate pricing methods, such as those decided by the market or by

cost added a certain profit rate, to achieve fairness as possible as we could. Meanwhile, as to the existing price and quota we should check whether they suit the current real situation or not. We should be determined to adjust those unreasonable ones and make them rationalized. In this way, regional barriers existing in the connected transactions of the petroleum corporations could be eliminated gradually to strengthen the function of market.

4.4.3. Coordination and Standardizing Regulations for the Connected Transaction

Connected transactions call for efficiency as well as fairness. Currently connected transactions are very important to the *Cunxu* enterprises, the non-listed companies and the listed companies. So to a certain extent, they are a uniform strategic body and their connected transactions have a direct influence on their production efficiency. So we should redouble our efforts in operating normal connected transactions efficiently and stop abnormal ones resolutely. Consequently we advocate that coordination institutions of connected transactions should be established in charge of daily management and coordination of connected transactions. The establishment should adopt a vertical style, that is, connected transaction supervision committees at all levels are affiliated with the corporations to control and manage connected transactions and prevent illegal ones and to improve the management efficiency. The members of the supervision committees at any specific level are composed of the corresponding staff in the finance and production management departments of the same level of the listed companies, the *Cunxu* enterprises and the non-listed companies. Besides, the representatives from local price regulation department and the connected transaction supervision committee at the above level should be engaged. The main task of the coordination institutions is to establish standard regulations for connected transactions, to supervise and examine whether they are legal, reasonable and feasible and at the same time to be responsible for the coordination of all parties' controversies to guarantee the price is reasonable. Meanwhile, from the angle of influence on production, we should avoid low efficient connected transactions and make reasonable ones get approved in time. In addition, standardizing connected transactions can lower interdependence between the *Cunxu* enterprises or the non-listed companies and the listed companies, which is

beneficial to their long-term development.

In conclusion, because of special historical factor the three petroleum corporations' connected transactions are the result of China's petroleum and petrochemical industries' reorganization, and their existence is inevitable and necessary. Although on the whole, the connected transaction, as a tie between the *Cunxu* enterprises or the non-listed companies and the listed companies, plays a positive and healthy role. But from a long-term view, many aspects, such as regulating trading price and enhancing standard management, must be improved as the market competition goes higher.

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Review and Expectation on China's energy resources reform

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Energy resources are the crucial material basis for China to develop its national economy and improve people's living standard. In order to fulfill China's development goal of its energy resources in this new era, we need to base on the present practical situation of the production and consumption of energy resources and analyze the development and strategies of energy resources in this new epoch from a strategic angle of macro-economic development. It's also needed to guide the construction of energy resources and to guarantee and promote the sustainable, fast and healthy development of the national economy.

1. Historical review

Around the time of the establishment of People's Republic of China, the industrial production had completely recovered to the normal status, due to a large sum of military expenditure, an excessive issue of RMB and a decrease of agricultural production caused by the Natural Disaster. Material supplies such as grain, cloth, coal and petrol were in short, causing severe inflation. Based on the situation of China at that time, the central government had adopted a series of solutions to keep the inflation under control and to recover the industrial production. During the First Five-Year Topical Plan (Year 1953-1957), the recovery stage of China's national economy had successfully ended and the agricultural and industrial production had reached the best level ever in history with every major economic index reaching or surpassing the expected aim. From 1953, China began to conduct its economic construction in large scale and imitated the management way of the Pre-Soviet Union's planned economy. In the First Five-Year Topical Plan, coal was the main energy resource in China, and it counted to a ratio of 90% in both the total energy production and energy consumption of the whole country. The coal industry was in fast development and its production thereby reached

the highest record ever in China's history. However, it still could not fully meet the demands. For the sake of a stable political environment, the coal price always stayed at the previous level, while with the increase of the cost, the lack of in-time adjustment of coal prices had caused a decrease in corporate profits and thereby aroused virtual loss. 1961 to 1965, was a period of China's adjustment of its economy. In order to overcome the severe troubles in economy brought about by China's Great Leap Forward Campaign, the Chinese government took 2-3 years' time to adjust its national economy and led the national economy onto the right way, but it was not an overall turnover. Therefore, China planned another 3 years' time to proceed with the adjustment work of the national economy. By 1965, the national economy had finally been successfully recovered.

The Cultural Revolution had caused China severe disasters in its economic constructions, which had caused great loss suffered for the national economy, social development and people's lives. In this period, people's overall obedience towards the Cultural Revolution had badly impacted on the national normal economic order. In 1976, the ten years long Cultural Revolution had come to an end and China's economic development had stepped into a critical turning point. From the year 1976 to 1996, China accelerated the basic construction of its energy resources, especially the coal industry and electrical power industry. During this period, thanks to the opening up and reform of China and its expansion of international exchanges, the coal industry and electrical power industry had introduced a large amount of advanced technology and equipment, which had formed the stable basis for China's sustainable and stable increase of economy. China's coal production had made its way into the world's number one coal producing country ever since.

During the Ninth Five-Year Topical Plan (1996-2000), China's energy production and consumption had both come to a decreased status. The total production of primary energy resources in China was 1.09 billion tons standard coal equivalent (SCE), and electricity generation reached 1355.6 billion kWh; the total consumption of energy resources was 1.28 billion tons of SCE and consumption of electric power was 1346.6 billion kWh; the structure of production and consumption of the primary energy resources was: coal 67.2~67%, petrol 21.4~23.6%, natural gas 3.4~2.5%, water power 8.0~6.9%.

Table 1: China's Primary Energy Production in Recent Years

| Year | Total energy production (10 000 t SCE) | Raw coal (10 000 t) | Raw petrol (10 000 t) | Natural gas (100 million m ³) | water power (100 mio. kWh) |
|------|---|---------------------|-----------------------|---|----------------------------|
| 1990 | 103922 | 107988 | 13831 | 152.98 | 1267 |
| 1991 | 104844 | 108741 | 14099 | 160.73 | 1247 |
| 1992 | 107256 | 111638 | 14210 | 157.88 | 1307 |
| 1993 | 111059 | 115067 | 14524 | 167.65 | 1518 |
| 1994 | 118729 | 123990 | 14608 | 175.59 | 1674 |
| 1995 | 129034 | 136073 | 15005 | 179.47 | 1906 |
| 1996 | 132616 | 129670 | 15733 | 201.14 | 1880 |
| 1997 | 132410 | 137300 | 16074 | 227.03 | 1960 |
| 1998 | 124250 | 125000 | 16100 | 232.80 | 1989 |
| 1999 | 109126 | 104500 | 16000 | 252.00 | 1966 |
| 2000 | 109000 | 99800 | 16300 | 277.30 | 2224 |

Source: National Bureau of Statistics, *China Statistical Abstract 2001*.

Table 1-2: China's Energy Production and Mix in Recent Years

| Year | Total energy prod. (10 000 t SCE) | Mix (total energy production is 100) | | | |
|------|-----------------------------------|--------------------------------------|------------|-------------|-------------|
| | | Raw Coal | Raw Petrol | Natural Gas | water power |
| 1990 | 103922 | 74.23 | 19.01 | 1.96 | 4.80 |
| 1991 | 104844 | 74.10 | 19.20 | 2.00 | 4.70 |
| 1992 | 107256 | 74.30 | 18.90 | 2.00 | 4.80 |
| 1993 | 111059 | 74.00 | 18.70 | 2.00 | 5.30 |
| 1994 | 118729 | 74.60 | 17.60 | 1.90 | 5.90 |
| 1995 | 129034 | 75.30 | 16.60 | 1.90 | 6.20 |
| 1996 | 132616 | 75.20 | 17.00 | 2.00 | 5.80 |
| 1997 | 132410 | 74.10 | 17.30 | 2.10 | 6.50 |
| 1998 | 124250 | 71.90 | 18.50 | 2.50 | 7.10 |
| 1999 | 109126 | 68.30 | 21.00 | 3.10 | 7.60 |
| 2000 | 109000 | 67.20 | 21.40 | 3.40 | 8.00 |

Note: The coefficient for conversion of each energy into SCE (standard coal equivalent): coal 0.7143, petrol 1.4286, natural gas 13.3; Water power is calculated based on SCE Consumption for Power Generation of the year, 404 grams after year 1980.

Source: National Bureau of Statistics, *China Statistical Abstract 2001*.

Table 1-3 China's Primary Energy Consumption in Recent Years

| Year | Total Energy Consumption (10 000 tons SCE) | Coal (10 000 tons) | Petrol (10 000 tons) | Natural Gas (100 million cubic meter) | Water Power (100 million kWh) |
|------|--|--------------------|----------------------|---------------------------------------|-------------------------------|
| 1990 | 98703 | 105523 | 11486 | 152.98 | 1267 |
| 1991 | 103783 | 110432 | 12384 | 160.73 | 1247 |
| 1992 | 109170 | 114085 | 13354 | 157.88 | 1307 |
| 1993 | 115993 | 120920 | 14721 | 167.65 | 1518 |
| 1994 | 122737 | 128532 | 14956 | 175.59 | 1674 |
| 1995 | 131176 | 137677 | 16065 | 179.47 | 1906 |
| 1996 | 138948 | 144734 | 17436 | 201.14 | 1880 |
| 1997 | 138173 | 139248 | 19692 | 227.03 | 1960 |
| 1998 | 132214 | 129492 | 19818 | 232.80 | 1989 |
| 1999 | 130119 | 123871 | 21131 | 252.00 | 1966 |
| 2000 | 128000 | 120062 | 21145 | 277.30 | 2224 |

Source: National Bureau of Statistics, *China Statistical Abstract 2001*.

Table 1-4 China's Energy Consumption and Mix in Recent Years

| Year | Energy Consumption (10 000 t SCE) | Mix (total energy production is 100) | | | |
|------|-----------------------------------|--------------------------------------|--------|-------------|-------------|
| | | Coal | Petrol | Natural Gas | Water Power |
| 1990 | 98703 | 76.19 | 16.62 | 2.05 | 5.14 |
| 1991 | 103783 | 76.10 | 17.10 | 2.00 | 4.80 |
| 1992 | 109170 | 75.70 | 17.50 | 1.90 | 4.90 |
| 1993 | 115993 | 74.70 | 18.20 | 1.90 | 5.20 |
| 1994 | 122737 | 75.00 | 17.40 | 1.90 | 5.70 |
| 1995 | 131176 | 74.60 | 17.50 | 1.80 | 6.10 |
| 1996 | 138948 | 74.70 | 18.00 | 1.80 | 5.50 |
| 1997 | 138173 | 71.50 | 20.40 | 1.80 | 6.30 |
| 1998 | 132214 | 69.60 | 21.50 | 2.20 | 6.70 |
| 1999 | 130119 | 68.00 | 23.20 | 2.20 | 6.60 |
| 2000 | 128000 | 67.00 | 23.60 | 2.50 | 6.90 |

Note: The coefficient for conversion of electric power into SCE (standard coal equivalent): coal 0.7143, petrol 1.4286, natural gas 13.3; Water power is calculated based on SCE Consumption for Power Generation of the year, 404 grams after year 1980.

Source: National Bureau of Statistics, *China Statistical Abstract 2001*.

In the Ninth Five-Year Topical Plan, the major achievements of China's energy development were: a basic balance of demand and supply,

an optimized structure and a big relief of the energy confinement obsessing economic and social development, which had basically adapted to the need of national economic and social development. In this period, the government had adopted a policy of shutting down the coal mines and driving down the coal production, especially for those small coal mines, which has largely brought down the coal production and its ratio in the mix of energy production.

In the Ninth Five-Year Topical Plan, the pace of the basic construction of China's coal industry, though slowed down compared to that of the Eighth Five-Year Topical Plan, still saw establishment of a series of coal mines such as the 15 million tons large Anjailing open coal mine of Pingsu Coal Industrial Corporation in Shanxi province, and the construction of natural gas mended its pace to build up the 13-1 gas fields in Yacheng town of the South Sea and its pipe lined to HongKong and the gas fields in Shan-Gan-Ning boundary district and its pipe lined to Beijing, Xian, Yinchuan and other projects. Electric power also enjoyed its fast increase: the water power station of Three Gorges are under smooth construction, the water power station of Ertan in Sichuan province has been put into construction, the scale of nuclear power construction is temperately expanded, and the construction and reform of town and countryside electric networks is largely conducted. What's more, the "Wind Development Plan", supported by large wind power driven generator sets with an increasing proportion of domestic manufacture, and the "lighting Engineering Project", aiming at solving the electricity using problems of people in remote regions, have both gained primary progresses. The basic energy construction and technical reform programs are underway and have provided China with fundamental support for balancing its energy demand and supply.

Over the past few decades, the Chinese government had, from time to time, made annual plans or Five-Year Plans of energy production and utilization based on the developing trend of national economy. In the 1980s and 1990s, the major problem lay in coal supply (the frequent electric power shortage was mainly and closely related to the short supply of coal). The Government had in consequence put in huge human-, material- and financial support to build up energy resources (coal) bases, to construct energy (coal) transportation channels and to encourage development of countryside and town coal mines. Since the late 1980s, electric power shortage problems have become the focus of energy

decision-makers' jobs. The main practice included: encouragement of raising funds to operate electricity and the implementation of different electricity prices, the issue of Priority Construction Treasury, key corporation bonds and construction funds on collecting electric power. Meanwhile, there was also a broad opening up and expansion in actively making use of foreign capitals to operate electricity as well as researching foreign financing ways. These methods had all contributed quite importantly to the raising of electric power construction funds and acceleration of electric power construction. The shortage of electric power was fully settled as a result.

Therefore, this shows the previous energy programming or policies are basically used to settle the balance of energy demand and supply.

2. The significance and purpose of constituting the sustainable development policy of energy resources

At the beginning of the 21st century, China sees the severe situation inside and outside China in terms of energy resources development: 1) There was a long-term extensive energy growth and utilization of easy-consumed and high-polluted mineral energies. It's hard to meet the requirements of environmental protection, adjustment of strategic structure and sustainable development of energy resources. 2) After entering the World Trade Organization (WTO), meeting the tough competition domestically and abroad, how can the energy industry perform effective reform, restructure and alteration, so as to ensure survival and development as well as to continuously improve the market competitive competence of energy products and corporations. 3) The world economic integration will certainly accelerate the improvement of China's social productivity, hasten and promote new energy development technology and generate the main sustainable energy resources in the 21st century. These are all directly related to big issues of China's energy sustainable development, which need the Chinese government's careful choices based on surveys and evaluations of previous energy policies. These critical adjustments on policy will help China's energy industry to gradually transform from the traditional energy to the burgeoning energy and contribute to the social advances and economic development in the new century.

Table 1-5: Prediction of China's Energy Demand in 2005

| Item | Unit | Project 1 | | Project 2 | |
|---|-------------------------|---------------|---------|---------------|---------|
| | | Energy Demand | Mix (%) | Energy Demand | Mix (%) |
| Energy Production | 10 000 tons SCE | 144467 | 100.0 | 146952 | 100.0 |
| Coal | 10 000 tons | 120339 | 59.5 | 122409 | 59.5 |
| Petrol | 10 000 tons | 26293 | 26.0 | 26745 | 26.0 |
| Natural Gas | 100 million cubic meter | 500 | 4.6 | 500 | 4.6 |
| Water Power | 100 million kWh | 3558 | 9.9 | 3558 | 9.9 |
| Electric Power | 100 million kWh | 17300 | | 17736 | |
| GDP (100 Mio. Yuan) | | | | 125393 | |
| Energy Consumption in 10 Thousand Production (T SCE) | | 1.152 | | 1.172 | |
| Electricity Consumption in 10 Thousand Production (kWh) | | 1380 | | 1414 | |
| The Tenth Five-Year Topical Plan | | | | | |
| Modulus of Elasticity | | | | | |
| Energy | | 0.350 | | 0.400 | |
| Electric Power | | 0.725 | | 0.800 | |
| Average Annual Energy Saving Ratio (%) | | 4.25 | | 3.93 | |
| Average Annual Electricity Saving Ratio (%) | | 1.80 | | 1.31 | |

Note: GDP and Energy Consumption of ten thousand production are both calculated at comparable prices of year 2000.

Sources: *China Energy Development Report*, 2001.

Table 1-6 Balance Sheet of China's Energy Supply and Demand in 2005

| Item | Unit | Energy Production | | Energy Demand | |
|-------------------|-------------------|-------------------|-----------|---------------|-----------|
| | | Productio | Mix (%) | Consumption | Mix (%) |
| Energy Production | 10 000 t SCE | 132000 | 100.0 | 144467~146952 | 100.0 |
| Coal | 10 000 tons | 117200 | 63.4 | 120339~122409 | 59.5 |
| Petrol | 10 000 tons | 16500 | 17.9 | 26293~26745 | 26.0 |
| Natural Gas | 100 million cubic | 500 | 5.0 | 500 | 4.6 |
| Water Power | 100 million kWh | 3558 | 10.8 | 3558 | 9.9 |
| Others | 10 000 tons SCE | 3830 | 2.9 | | |
| Net Energy Import | 10 000 tons SCE | | | 12467~14952 | |
| Net Petrol Import | 10 000 tons | | | 9793~10245 | |

Note: Energy production data comes from *The Tenth Five-Year Plan of Programming Energy Advances Emphases for National Economic and Social Development*, China Economic Herald, 671st periodical, Aug. 23rd, 2001; Energy Demand Data comes from Table 1-5.

Sources: *China Energy Development Report*, 2001.

At present, China is low in the average energy possession and consumption per person, which is lower than 1/2 of the world's average level. The energy efficiency is also low, about 10% lower than that of developed countries. Besides, high-quality petrol energy and natural gas are relatively in short, and the energy mix is not yet fundamentally improved. And the energy corporations are not good in investment effectiveness and operational efficiencies with a lack of market competitive competence. What is worse, the emission of greenhouse gases produced by burning the mineral fuels ranks the 2nd place in the world, which has had extremely bad effects on China's environmental

quality and people's health. According to the forecast of R&D institutes and authority departments, in early 21st century, China's economy will keep its fast pace of development, energy consumption will keep growing, the domestic high-quality primary energy supply will become more and more in lack with the increasing demand of economy. The confinement that environment has imposed on economy and energy development are big issues which are not ignored.

The constitution of the energy sustainable development policy is based on a macro-angle, a readjustment and programming of the energy industry policy. Its aim is: firstly, by implementing the governmental policy, we can utilize the clean energy such as the natural gas, water power and nuclear power to its most. We can accelerate the development and utilization of the new energy and re-generable energy. Still, we can reduce the direct coal consumption as much as possible, enhance R&D of clean utilization of coal fuels and improve the ratio that coal transforms to secondary energy sources, in order to speedup the fundamental adjustment of China's energy mix; secondly, we can realize the priority of energy savings and effectively improve energy utilized quality, so as to decrease the augment of energy consumption and help improving the environment; thirdly, we can alter the confinement on energy consumption and adopt a policy of encouraging rational consumption. These are for an advanced activation of the energy market and an expansion of domestic demands, in order to promote economic development and improve industrialization and the quality of people's lives; fourthly, we can protect the environment and realize sustainable development to its maximum through energy exploitation and utilization.

3. The strategic goal in energy sustainable development and basic principles of constituting policies

- (1) Adjusting energy mix, improving energy effectiveness and the environment.

Based on the economy and domestic energy situation, China's energy exploitation and utilization are mainly supported by coal. The clean and effective high-quality petrol energy, gas and water power are of low ratio in the energy mix. The consumption mix, mainly based on bad-quality energy, will certainly cause the low efficiency of energy utilization and a

large sum of energy devotion and thereby induce the increase of the emission of deleterious materials. The effective way of realizing energy-economy-environment sustainable development is to improve the energy utilized efficiency by improving the energy mix, especially a gradual optimization of the terminal consumption mix and to control and decrease the over-increasing speed of energy consumption.

Since the 1980s, China has gained a fast growth in its economy and improved average per capita GDP, especially the implementation of sustainable development strategy has promoted the adjustment of China's industrial mix and improved the quality of energy consumption. However, domestic supply of petrol and natural gas, especially petrol supply confined by energy development, could not be supplied with more augment. Meanwhile, the investment on pipelines for long-distance transportation of petrol and gas is comparatively large, with a high comparative cost, which some industrial clients could not bear. As a result, the demand could not produce a virtual market. Therefore, we can foresee that China's adjustment and alternation on its primary energy mix will present a feature of rigidity to some extent in a certain period of time. On the other hand, expanding the import of high-quality energy and improving electricity consumption standards will change the terminal energy mix, improve energy efficiency and protect the environment at a comparative fast speed. Therefore, the adjustment of energy mix is first of all an adjustment of the terminal energy consumption mix, and the supply mix will have a correspondent adjustment with the expansion of petrol and gas import and enhanced exploitation of high-quality energy resources such as nuclear power, water power, etc. Therefore, we should perform our policy with more efforts in promoting the exploitation of petrol and gas, improving the resources discover ratio and increasing the backup resources storage, so as to make full use of the petrol and natural gas resources; we should jointly make policies to support and develop potential goal gas to make it industrialized and commercialized so that it can make up the shortage of natural gas production; we should adjust the energy mix which does not mean coal fuels has to retreat from the consumption field, rather, it's better developed with advanced electricity generation technology to reduce the unite consumption of coal and emission of deleterious materials. Like those developed countries with coal production transforming large parts of the coal into electricity, we should make China's coal-to-electricity ratio reach 50%-60% or even

higher; we should alter the mode of coal rough machining and develop clean coal utilization technology such as the gasification and liquefaction of coal. Especially finding the proper coal origins and making it directly liquefied, will help adjusting China's energy mix, reduce the pressure of a shortage of petrol and lessen the cost of importing petrol products; still we should develop the high-quality energy resources such as water power and wind power with full efforts and moderately develop the nuclear power, say, to import liquefied Natural Gas (LNG) and introduce into Russian and other neighbor countries' petrol and gas energy resources in the south east coast area featured by a energy resources shortage and a fast development of economy, so as to make up the lack of high-quality energy resources in China. China should obtain the safe and stable energy supply from both the domestic and abroad energy resources markets, in order to realize the strategic adjustment of China's energy mix. This is the crucial starting point when China makes its energy sustainable development policy for the early 21st century.

(2) Making use of the two markets and two resources domestically and internationally, to ensure a safe energy supply.

In recent years, China's demand for petrol has been increasing year by year and the import of petrol has been increasing accordingly. Limited by the supply capability of domestic petrol resources, the gap between demand and supply in China's 21st century will become larger and larger. According to the forecast, by the year 2010, China will have 40% of its petrol sales coming from the overseas market; year 2020, around 50% will rely on overseas resources. Therefore, to exploit and utilize abroad petrol and gas resources is the strategic key point to solve China's medium and long term stable petrol supply in the future. After China's entry into the WTO, it will integrate into the trend of world economic integration and free trade with even faster pace, which is in favor of taking advantage of the two markets and two resources inside and outside China to solve the energy supply problem in the future.

To exploit and utilize the overseas market and resources, will make the energy supply internationalized, but the risk in termination of supply comes as well, which will have great impact on China's social and economic development as well as the national security. Seeing this, we should apply multiple and safe strategies and constitute corresponding

policy, regulations and measures.

- (3) Economization coming first is still the basic strategy of energy sustainable development.

Since the 1980s, China has adhered to the energy development policy of “paying equal attention to both exploitation and economization with a priority for economization”. As a result, it has slowed down the energy consumption and supported the fast development of the gross economy.

The direct effect of economization is its effective improvement of the efficient utilization of energy resources, which has further improved the economization of energy usage. It is the critical measure and step for China’s economic growing mode to transform from extensive economy to intensive economy. Its indirect function are the advantages towards environmental protection because of the reduction of energy consumption under the effect of economization, especially the reduction of the mineral fuels such as coal and petrol which easily produce lots of pollution. This is why every country in the world, in performing the sustainable development strategy and lessening the emission of greenhouse gases, has paid equal attention to both the economization and substitution of the energy. In the early 21st century, China and the world are both facing the social economic development and the pressure of further increasing demand for energy. But the fossil energy is hard to be quitted in a short term and the new environmental situation will keep going worse with the increase of energy consumption. Therefore, we should keep persisting in and strengthening the economization of energy and utilize the energy rationally and effectively, in order to restrain the fast increase of fossil energy.

China’s energy economization mechanism has to be correspondently transformed to accompany the realization of market economic system. We have to make better use of the market factors such as price, taxes, finance and regulations to conduct macro-adjustment and control. Corporations and citizens should choose the method of economization voluntarily and turn the economization goal of the country to the conscious actions of all the corporations and social staff members. Meanwhile, the government should mainly encourage and support the technical improvement of economization under the market economization

mechanism and policies.

(4) Cleaning utilization of coal fuels and promoting development of substituted energy resources

The utilization of substituted energy and clean coal have evident effects on the environment which have shown an appealing future of energy utilization harmonized with environmental development for human beings of the 21st century. Thanks to the various and abundant substituted energy resources which are easy to obtain and regenerate, it has therefore lessened the anxiety of humans towards the fear of energy exhaustion. Much of the secondary energy transform technology for substituted energy and clean utilization technology of coal are becoming mature and stepping into a commercialized exploitation stage. The major problem at present is the high economic cost of the present technology for energy exploitation and utilization. The reason is mainly due to the feature of the energy resources, such as the low density of energy resources, the strong seasonal or time limit, or the low efficiency of energy transformation and high requirement for the materials of arts and crafts. These all have resulted in a higher investment cost than the conventional fossil energy which have led to a lack of competitive competence in the operational cost and pose a certain obstacle for the market, especially in developing countries. Though for the sake of environmental improvement, substituted energy and clean coal utilization are promoted; still it's on a slow progress because of the un-advanced technology and equipments lacking in import, investment and governmental policy support as well as a lack of financial support. In this sense, China is not an exception.

China possesses abundant new energy resources and re-generable energy resources. In order to fundamentally settle the long-term energy supply and environmental improvement, China has constituted the *New and Renewable Energy Development Compendium (1996-2000)* and made certain of the exploitation goal of the new energy and regenerated energy in year 2010. It can be foreseen that, accompanied with the gradual rise of energy exploitation and utilization, the substitution for the conventional fossil energy will become more and more evident.

Coals are the most abundant fuels in China's energy resources, ranking at the third place in the world. Thanks to the low cost of

exploitation and vast and various usages, exerting the advantages of coal resources is still the basic starting point of the energy policy in a rather long term. Although there is a big issue about environmental pollution in its exploitation and utilization, in the early next century, the proportion of coal in China's primary energy mix will still stay high. And this suits China's national situation and national power.

China's coal economy has gone into a high-increase stage, which is decided by China's strategic goal in its third step of development and the primary energy resources distribution and storage mix. Modernization should be based on industrialization, while industrialization is featured by the boom of manufacturing with high consumption of energy and raw materials. Since China has little petrol and gas but more coals in its primary energy resources distribution and storage, it turns out that the energy supply mainly relies on coals. According to the experts' forecast, by the year 2020, China's primary energy consumption will exceed 2.9 billion tons SCE, twice as much as that of year 2000, and the demand for primary coal is around 2.5 billion tons.

The implementation of a sustainable development strategy is not to induce the overall shrink of the coal industry, but to strengthen the national policy support and affirmatively develop the clean coal technology and clean utilization of coals, so as to improve the coal using environment, to add some new vigor and vitality to China's coal exploitation and utilization and to contribute to China's economic growth and social prosperity. Therefore, the sustainable development of coal fuels is facing the severe confinement of environmental situation as well as new developing opportunities. The substituted energy and clean coal utilization should be the especially devoted career in the early century of China.

(5) Reform, restructure and alteration will help promoting the healthy development of energy industry.

As the resources allocated industry, the energy industry plays an extremely important role in performing a sustainable development strategy. Firstly, it is required by the industry itself for sustainable development in the future; secondly, as the fundamental industry of resources, its development can support the entire social economic sustainable development while China's energy industry is just facing

severe challenges in early this new century: 1) the environmental pollutions brought about by energy exploitation and utilization, which are one of the major factors that affect energy industrial sustainable development; 2) after China's entry into WTO, the open market will certainly result in foreign energy products and corporations swarming into China, which will enhance the pressure of China's energy industrial competitions; 3) the economic and social development has put forward higher qualitative requirements for energy services. Then there comes a critical discussion issue: will China's energy industry keep on surviving and developing or shrinking and falling backward? Obviously, development is the only outlet. However, when analyzing and evaluating China's energy industrial actuality, no matter if it's for technology or equipment, or for investment effectiveness and operational efficiency, or for product quality and service, it has a great disparity with the international standard.

The energy industry is a relatively capital and technology dense industry. Due to the scattered distribution of capital, the technological equipment and scale are led to miniaturization which induces the high consumption of energy and raw materials and a failure in improving invalid incremental cost as well as technological and economic index. Although with comparatively less capital input, it has gained an increase in products with high consumption and low quality, which doesn't help with economic benefits and social benefits.

China's energy industry needs reform, restructure and alteration. And a structural strategy adjustment should be conducted for the energy industry. By recombining capitals, practicing corporate bankruptcy and annex, and adjusting corporate sizes and centralizing capitals, we can make the industrial upgrade and momentous reform of technology and equipments. Through restructure and alteration, we can activate corporate operational mechanism and make it adapt to the rules of market economy operations. Through market-oriented system reform, we can separate the government from enterprises, operate the capital and promote anti-risk ability. The government should have its correspondent policy to guide the reform, restructure and alteration of energy corporations and meet the strategic goal of healthy development.

(6) Making full use of market-oriented resources allocation.

In the planned economy period, energy industry played the role of basic industry as well as the role of commonweal career. It had gained encouragement, support and even protection from the national industrial policy and it had become an industry with stable profits and comparatively better payment and welfare for the employees. In the period that macro-economic system fully turned to market-oriented economy, the inherent characteristic of energy industry has shown its strong feature of revert and maladjustment. This had imposed a counter force towards the energy marketization and the resources allocation function of market optimization had suffered great confinement.

The biggest feature of China's energy is the abundant resources, but its mix is irrational with few high qualities and many low qualities, and the resources are far from the consuming place in distribution. The vast western area contains over 70% exploitable water power resources and hold in store 39% of the discovered coal storage in the whole country. The government has put forward the strategic deploy of "delivering west gas to east" and "delivering west electric power to east", in order to allocate energy resources in a vaster area and create chances of forming the national universal electricity networks.

One of the marketization reform goals of energy industry is the full exertion of market mechanism and rational allocation of resources to make it to the best beneficial allocation. On the other hand, in order to fulfill the goal, we must adhere to market-oriented system reform and abandon the self-balance of regional energy left behind by the old system and the concept of building the coal mine, electric station and refinery all by the house gate, and we have to base ourselves on the national and overall angle, by practicing market rules and means to realize integration and flowage of energy and capitals in broader space. In doing so, we have to adopt precise policy orientations to promote the momentous energy allocation project of the energy industry — the actualization of "delivering west gas to east" and "delivering west electric power to east" projects, and the optimization and utilization of coal and petrol as well.

(7) The energy consumption policy must suit the national situation.

To understand the new features of China's national situation and timely adjust the policy of confining energy consumption and irrational retraining energy consumption is required to support energy strategic

adjustment and promote energy sustainable development. In the past, China's gross economic production was relatively small and was in want of accumulation. In order to overcome the short energy supply in lacking economic status, we had adopted some policies of confining energy consumption which had well released the contradiction of energy demand and supply, especially the reduction of energy waste had gained the effects of supporting economic effective growth. At present, the energy market has taken place great changes: the supply capability exceeds the demand, a change of the energy mix is in bad need and market exploration becomes more important. The energy development needs to activate market demands.

The energy consumption policy in this new era should be rectified with great adjustment. We have to affirmatively encourage consumption based on persisting in rational utilization and economization of energy resources and thereby to improve the 能效. This is the re-positioning under the new features of national situation which will regulate a series of policies and guidelines of steering market demands, and make for adjustment of energy mix and energy sustainable development.

Early this century, the design of the framework of energy sustainable development policy is based on the harmonized relationship among economy, energy resources and environment, devoted to ensure a healthy and sustainable development of the energy industry and suit the international political and economic requirement. The basic thoughts on programming the policy of energy sustainable development are: based on the fundamental changes in energy mix, especially the adjustment for terminal structure, we need to accelerate the exploitation and utilization of petrol and gas resources domestically and abroad, to affirmatively develop the technology of clean coal utilization, to support the exploitation of new energy resources and re-generable energy, to practice energy economization in priority and to improve energy efficiency with full strength, to deepen the market-oriented reform, reconstitution, restructure and alteration for energy industry, to establish petrol storage and ensure energy safety, and to adjust the energy consumption policy.

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