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**Practicum Report**  
Rural Industrialization in China  
Xiaojian Wang

*A practicum report submitted to the IDS Programme in fulfillment of  
Master of Arts Degree  
September, 2001*

*Saint Mary's University*

Date: September 2001

  
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Xiaojian Wang  
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September 2001

**Practicum Report**  
**Rural Industrialization in China**  
**Xiaojian Wang**

**Abstract**

The concept of rural industrialization has now been seen as an important element in the policy formulation of developing countries. Rural industry is the most dynamic sector in China today. The rural reform carried out in 1978 has opened a new chapter for China's rural areas. In accordance, rural industrialization has embarked on a fast track to success. The major power of the rural industrialization in China are rural enterprises (REs). After more than twenty years of growth, REs have changed the economic landscape in China's rural areas.

As every province in China is equivalent to a medium or large country in terms of both territory and population, tremendous variations exist among them. This provides a good opportunity to conduct the research.

As a research assistant in China Development Bank, I attend one project with the objective of providing better transportation facilities to the inland rural areas and furthermore making these areas one of the key areas for rural industrialization. During my practicum, I was mainly be tasked to work with a research team from Ministry of Agriculture to examine the main features characterized with rural industrialization. This work is the preliminary market research. The objective of this research is to provide the complexities and dynamics of China's rural industrialization as well as to explore the determinants of the rapid development of rural industrialization. As the quantitative analysis correlate with the rural industrialization is wanting, the research is based on the documentary analysis.

The analysis has reached the following conclusions:

First, much of the capital supporting RE development came initially from agricultural surplus and later from the accumulation of REs themselves, credits provided by the formal banking system are minimal.

Second, REs have been overwhelmingly concentrated in labor and resource intensive industries although those in the coastal areas have recently begun to enter capital intensive and sophisticated consumer product industries.

Third, Chinese REs are characterized by a variety of ownership that encompasses almost all the ownership types existing in the world.

Fourth, RE development is unevenly distributed across the country, and there is a call inside China for government interventions aiming at a more balanced regional development program.

***Xiaojian Wang***  
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September, 2001

**Introduction:**

The concept of rural industrialization has now been seen as an important element in the policy formulations of developing countries. Rural industry is the most dynamic sector in China today. Industrialization did not reach China's rural hinterland until the second half of the 20th century.

During the 1980s and early 1990s there has been steady growth in the rural-based industries, many of which have become an integral part of much larger industrial networks of manufacturing, processing, assemblage and supply chains involving other urban-based and even foreign-based industrial enterprises. Currently, the rural area-based enterprises account for nearly one-fourth of the total industrial production of China providing off-farm jobs to more than 100 million people. (State Statistical Bureau, 1998)

One remarkable feature of China's economic development in the last twenty years is this rapid rural industrialization centered at the development of numerous small rural enterprises (REs).

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1. REs is used hereafter to refer to the "rural enterprises".

In Chinese literature and statistics, rural enterprises include all the enterprises at or below township level, regardless of their ownership types. These enterprises include not only those operating in industrial

sectors, but also those in construction, transportation, commerce, and food services.

### **Literature Review**

There have been many studies addressing the rural industrialization experiences in the developing world, especially in the East Asian countries. There are two schools emerging from the literature. The neoclassical school treats the East Asian success as the triumph of the free market with a limited government intervention, the structuralist school emphasizes the role of government intervention. The first school ignores the heavy government interventions presented in the East Asian economies, the second school downplayed the role of markets in development process. There are some theorists (Lin, 1996) tried to reconcile the neoclassical and structural schools by arguing that the East Asian experience has been brought about by the alignment of the comparative advantage in each economy. To further this argument, the empirical studies present a selective comparison by examining two development strategies adopted by the East Asian countries, taking Taiwan and China as the representatives for the indigenous strategy and Korea and Thailand as the representatives for the push strategy.

The contrast between Taiwan and Korea has received especially strong attention, partly because they are among the first East Asian economies that attained the status of newly industrialized economies in a short period of time. While the neoclassical school emphasizes the

function of the free market and a limited government in the two countries' rapid growth, the structural school emphasizes their commonalities in successful government interventions. However, besides export-orientation, the two economies differ more than they share.

Although both economies experienced a period of import substitution in the fifties when both of them adopted very similar policies, i.e., low interest rate, overvalued currency, taxation on agriculture, etc., government interventions in the subsequent years diverged widely in the two economies. In Korea, the government maintained a very active industrial policy. The government never hesitated to direct private investment to certain industries that it thought were vital for the whole economy. While acknowledging Korea's gradual move from labor-intensive industries to capital-intensive industries (Amsden, 1989), large conglomerates were encouraged in steel, shipbuilding, heavy chemicals, and auto industries. To ensure that these large firms received enough capital, the government tightly controlled the financial system. As a result, the Korean industrialization was overwhelmingly concentrated in and around two cities, Seoul and Pusan, and the development of the rural areas were retarded.

In contrast to Korea, Taiwan took a much decentralized strategy. Although it also used selective policies to promote certain industries, government interventions were much less than, and the form was much different from, those adopted by the Korean government. Instead of

economy-wide control of private investment, the Taiwanese government adopted government ownership in key industries such as heavy chemicals and steel. The private sector was largely left intact. This created ample room for rural indigenous industrialization.

Why the two economies adopted different strategies to industrialization? Saith (1987) provided an answer by tracing to the initial conditions faced by the two economies. Both were colonies of Japan before the Second World War, but Taiwan enjoyed a much higher level of rural infrastructure development than Korea. This had much to do with Japan's strategy to develop Taiwan as an agricultural colony complementary to its own industrial development. In addition, Taiwan also enjoyed a favorable agro-climate that allowed it to have a much diversified and profitable agriculture whose surplus provide vital initial capital for rural industrialization. Korea had not such a good agro-climate. It maintained a mono-agriculture centered on expensive rice production. Lastly, although both had land reform, Taiwan gave many more incentives to the local population than Korea did. However, while these factors definitely played a role in setting the two countries' initial development paths, the discussion above shows that subsequent government policies in Korea have aggravated the problem and created new problems. A comparison of China and Thailand can put forward some new insights on the government's role as well as to further Saith's arguments.

Both China and Thailand are still initiating rural industrialization, yet their approaches are quite different. While China largely takes the indigenous strategy, Thailand takes the push strategy. Both China and Thailand were predominantly agricultural at the outset of their rural industrialization in the sixties and seventies. Rural population accounted for 80% of China's total population for a long period of time before the eighties. In 1960, rural employment accounted for 90% of the national total. (Krongkaew, 1995) However, two significant factors differentiated the two countries.

China had more favorable initial conditions in terms of infrastructure and initial accumulation. This had much to do with more than twenty years of collective economy in rural China. The collective economy, despite its well-documented inefficiency, had accumulated a considerable size of public goods in roads, electricity, and basic health care. In addition, the commune and brigade enterprises that thrived in the seventies laid a firm foundation in parts of rural China. Lastly, the existence of a large state sector, especially in provinces with weaker industrial infrastructure, has provided the rural industrial sector with needed technologies and human capital. In Thailand, even the import-substitution strategy pursued in the sixties did not improve the situation in the rural area. This contrast of initial conditions is parallel to that between Taiwan and Korea as suggested by Saith (1987).

The other factor is that China and Thailand have are different land endowments. While China is well known for its tight land

endowment, land is relatively abundant in Thailand. Until the mid-eighties, the average area cultivated per farm household in Thailand was increasing because of land abundance. Most of the new land came from claims of forest land which nominally belong to the king, but was de facto open land until very recently. The abundance of land sets Thailand's comparative advantage in agricultural production, especially in its traditional product, rice. This largely explains why Thailand remains a major rice exporter in the world market. Land abundance holds up labor force. In addition, because private claim of the marginal land was illegal, the squatters had to stay on their newly claimed land by building a household. This further retarded the development of the rural industry.

The different development strategies adopted in China and Thailand are largely consistent with their different initial conditions and land endowments that we have just discussed. In China, land is scarce relative to labor in almost every province, establishing incentives for them to develop nonagricultural activities varies depending on their relative land scarcity with comparabler provinces. In addition, relatively favorable initial conditions in the rural areas facilitated the establishment of indigenous industrial firms. Together, these two factors made the decentralized rural industrialization possible in China.

### **Development history of China's Rural Industrialization**

China was a poor and agricultural country before 1949 with only a few handicraft workshops in the rural areas. In 1949, the output of these

workshops and other household sideline production was about 1.16 billion yuan. After the founding of the People's Republic of China, sideline production rose rapidly. By 1954, more than 10 million Chinese farmers were involved in handicraft industry, and the total output value reached 2.2 billion yuan. (Byrd, 1990) In the period of 1955-57, individual handicraftsmen were encouraged to form cooperatives. However, as a result of the excessive emphasis put on agriculture, the growth was slowed down.

In the communization and Great Leap Forward period of 1958-59, consistent with the heavy industry development strategy, large scale commune and brigade enterprises were established, and many of them were engaged in the production of steel with rudimentary technology. These enterprises employed 18 million people by the end of 1958, but their results were catastrophic and triggered the readjustment campaign started in 1960. In subsequent years, the output value of commune and brigade enterprises nose-dived and reached 410 million yuan in 1963. The number of workers employed by these enterprises was also reduced drastically. During the following six years, the development of these enterprises was in stagnation.

The emphasis on speeding up agricultural mechanization in the North China Agricultural Conference held in August to October 1970 provided a new chance for the development of commune and brigade enterprises. Acting to respond to the spirit of the conference, some rural areas began to set up factories manufacturing agricultural machinery

and repairing tools. As the urban factories were paralyzed by fractional fights during the Cultural Revolution, a large market was open for the products of rural enterprises. As a result, their output value was increased from 9.25 billion yuan in 1970 to 27.2 billion yuan in 1976, with an average annual growth rate of 25.7%. By 1978, their output value reached 49.3 billion yuan in 1970 constant prices, with an employment size of 28.3 million. In terms of shares, however, the output value of commune and brigade enterprises only accounted for 21.2% of the total value of rural social gross output, and their employment only 9.5% of total agricultural labor (Table 1).

The stagnation of rural industry in most of the pre-reform period was a consequence of the catch-up development strategy adopted by the Chinese government. Heavily influenced by the Soviet model of industrialization and the state of art of the development economics in the 50s, China adopted a strategy to industrialization by developing capital intensive heavy industries. This development strategy deviated from China's comparative advantage associated with its resource endowments, namely, abundant labor force and scarce capital. To mobilize resources for the heavy industry development strategy, prices of agricultural products were artificially suppressed in order to lower the living costs of the industrial labor force; interest rates were kept at a low level in order to make heavy industrial investment worthwhile. As a result, capital accumulation in rural areas was low.

In addition, the commune system severely dampened farmers' work incentives and hampered the improvement of agricultural productivity, leaving agriculture with no significant surplus. To aggravate the situation, various restrictions were placed on rural enterprises to avoid the diversion of resources flowing to heavy industries, although often in the disguise of cutting "the capitalist tail". The high growth rate of the 70s was only achieved when urban industries were in bankruptcy and the heavy industry development strategy was counterweighed by the government's will to mechanize agriculture, an unwise policy itself by deviating from China's comparative advantage. In fact, the fast development of the commune and brigade enterprises in the 70s was made possible by these enterprises' alignment with China's comparative advantage in labor intensive industries. The development of the commune and brigade enterprises in the 70s laid a solid foundation for the RE development in the 80s. In fact, the many publicly owned REs that have attracted wide academic interests were a continuum of these firms (Putterman, 1997).

### **Rural Reform Period**

The rural reform carried out in 1978 has opened a new chapter for China's rural areas. In accordance, rural industrialization has embarked on a fast track to success. From 1978 onward, the Chinese rural industrialization can be divided into four periods.

The first period was from 1978 to 1984. In this period, the family farming system abandoned for 20 years was restored. Although rural industry was no longer regarded as the tail of capitalism, the speed of rural industrialization was not impressive. In this period, China's rural areas were occupied by the institutional reform that restored the family farming system. As a result of the reform, the real value of agricultural output was increased by an annual rate of 6% in this period. The fast growth of agricultural output, although occupying the major efforts of the rural areas, had accumulated crucial initial capital for REs' takeoff. (The Third National Industrial Census, 1991)

The second period was from 1984 to 1988. This period was the takeoff period of China's rural industrialization and witnessed the fastest growth of REs. Two factors contributed to the fast growth in this period. First, the remarkable agricultural growth in the last period has accumulated considerable initial capital. Secondly, the reforms carried out in the cities also facilitated the growth.

The third period of RE development was from 1989 to 1991. After the Tian'anmen Square event in 1989, the government economic policy became quite conservative. REs were accused of being inefficient, wasting resources, pirating products of state firms, and ultimately, hurting the development of the state sector. With this perception, several nationwide programs were carried out to restrict the development of the REs. As a result, the number, employment, and the share of output of the REs all declined in 1989 and 1990. The trend was not reversed until

1992 when the former leader Deng Xiaoping paid a visit to the south and made a speech there calling for continuing the reform and open-door policy.

Then the RE development entered the fourth period that began in 1992 and stretches to the present. This period was characterized by steady expansion of the REs although in recent two years the number of firms declined. The decline has raised concerns that, because of their technical incompetence, REs are falling behind in a much more mature market where consumer demand has become sophisticated and competition has been intensified (Wang and Yao, 1998). However, the decline may be only a correction to the over-investment made after Deng's 1992 speech, and is a temporary phenomenon. Indeed, unlike the number of firms, the REs' employment and output share have kept an increasing trend throughout the whole period (Table 1). This may be an indicator that there has been a structural adjustment of the REs by which inefficient firms are eliminated or consolidated by efficient firms.

The worry that the Chinese rural industry is in trouble is partly induced by the high expectation based on the rural industry's marvelous growth reached in the last two decades. Probably, it is time to view rural industry as nothing different from urban industry in terms of growth and to be contended by a growth rate of the teens or a single digit. There has been a strong trend for REs, those in developed regions in particular, to converge with urban industry in terms of industrial and capital/labor structures. Many REs have departed, rightly, we should

emphasize, from the labor intensive origin and entered capital intensive and high-tech industries. As consumer demand becomes more sophisticated, this trend will be rectified in the developed regions where REs have merged into the urban industry. In the meantime, REs in the inland areas will continue to catch up in terms of both development and capital/labor structure. Due to China's huge regional diversity, the regional catch-up process will likely to sustain China's economic growth in a long period of time.

### **Policy Review**

Industrial policies, in the developing countries are generally geared to growth objectives, in output creation and employment generation. The policies aimed at rural industrialization have to be integrated with the strategies of rural development by creating new focal points of industrial growth in rural areas.

In several of the countries the problems are quite common, though the institutional interventions differ. The common problems are;

- lack of rural industrial policy
- shortages of capital,
- inadequate infrastructural facilities,
- lack of promotional and extensional programmes,
- lack of government support

A brief description about one or two innovative aspects of rural industrialization attempted by countries is given below, which would be useful as a policy guide:

### **Egypt**

Apart from Government playing its role through trading exhibitions, provision of soft loans etc., the cooperatives have taken a facilitators role in the promotion of rural industries. The role of the ministry of social affairs in rural industrialization of Egypt through conversion of homes into centers of small enterprises and handicrafts is very important.

### **Republic of Korea**

Since the 1960's, rural industrialization policy is considered as an important income policy for small farmers, and an instrument to disperse economic activity and control concentration. Thus it has changed from individual project oriented policy programme to diversified and comprehensive policy programme. It includes, industrial location policy, farm household side business programme, off-farm income sources development policy etc. Related strategies are also important (incentives, better credit conditions and welfare services in rural factories and general rural development efforts) for attracting modern industries into rural sectors.

## **Indonesia**

The system of using nucleus industries to lead and guide small holder industries, particularly in solving problems to obtain basic materials, has turned out to be very effective. This system has been called into being in the context of industrial development to create healthy cooperation between small, medium and big enterprises. Also the concept of cottage industries village (CIV) and integrated cottage industrial estate (ICIE) and cottage industries guidance center etc., are innovative concepts in promoting the rural industries sector.

## **China**

The major power of the rural industrialization in China was REs. Government policy, to a great extent, significantly determined the raise and decline of the REs. In the regulation, the most important policies benefiting the REs are: (1) to permit and encourage the growth of REs; (2) to give REs more autonomy in production and marketing decisions; and (3) to reduce or abolish taxation of REs. Under the encouraging policies, REs grew rapidly. Their growth performance is outstanding by world historical standards.

Every province in China is equivalent to a medium or large country in terms of both territory and population, and tremendous variations exist among them. This provides a good opportunity to conduct the research.

## **Methodology**

China Development Bank was established in 1994 as a policy bank under a Special Decree of the State Council, the highest institution in the Chinese Government. As the only policy-oriented bank with ministry status, it reports directly to the State Council and its operations are subject to the regulation and supervision of the People's Bank of China, the Central bank of China. The Bank implements the government's economic development policy under the guidance of the State Development and Planning Commission, the State Economic and Trade Commission and the Ministry of Finance.

The Bank's primary function is to foster economic development of China through direct and indirect financing of key projects and initiatives in the Government's national economic development plan and industry policies. In this role, the Bank directs its lending activities at construction and technological renovation projects involving infrastructure facilities, basic industries and heavy industries in China. It is also a key player in the efforts to develop inland China.

*In terms of the main issues currently undergoing in inland China, the bank must address:*

First, to help this region to catch up, authorities expect the region to exploit its rich natural resources. However, lying in remote areas, the west will have to bear high transportation costs.

Second, owing to their better infrastructure and proximity to overseas markets, China's coastal regions promise higher returns on investment. The bank will have to walk a fine line deciding what role it should play in balancing rural and urban interests in a market economy.

Third, rural enterprises have been overwhelmingly concentrated in labor and resource intensive industries. This pattern of industrial distribution is consistent with the comparative advantage of rural China compared with urban China in particular. In order to boost efficiency, the rural enterprises are keen in adopting suitable technologies.

China's Development Bank has also recently opened five more branches in inland China, bringing the total to 14, more than half of its 27 nationwide. Since the bank was established in 1994, it has granted more than \$45.8 billion in loans to the inland region, accounting for 56 percent of all loans. In the future, the bank also should make special guiding goals and policies for some advantaged industries and projects, and should encourage foreign investor partner who have invested in the East to invest again to the inland for better tax policy.

### **Financial Support and Incentives**

Financial support given by the Development Bank to the development of inland China mainly includes the following:

1. Following the World Bank and Asian Development Bank models,

the Development Bank may provide technical assistance loans to the inland region for use in preliminary preparations and feasibility studies for development projects.

2. The economic benefits and funds generated in the east will be used to give better support to the inland.
3. A system of joint working sessions will be established between the Development Bank and the provincial governments in inland China. This will include meetings between the leadership and the working levels at least once a year to exchange opinions and solve problems.

As a research assistant in China Development Bank, I attend one project the objective of which is to provide better transportation facilities to the inland rural areas therefore making these areas one of the key areas for rural industrialization.

During my practicum, I was mainly tasked to work with a research team from Ministry of Agriculture to examine the main features characterized with rural industrialization. This work is the preliminary market research. The objective of this research is to provide the complexities and dynamics of China's rural industrialization as well as to explore the determinants of the fast development of rural industrialization. As the quantitative analysis correlate with the rural industrialization is wanting, the research is based on the documentary analysis.

According to our research, several salient features characterize the RE development in the reform era.

### **Capital Accumulation of the REs**

In the initial stage of the reform period, two factors contributed to the initial capital accumulation of the REs in rural China. First, the heavy industry oriented development strategy was gradually weakened and the price scissors against agricultural products were reduced in relative terms. By one estimation (Feng and Li, 1993), the value of the transfer due to price scissors was 25.4 billion yuan, or 23.3% of the total national savings in 1978. Although the value of the transfer in constant prices remained almost unchanged until 1990 (compared with 1978, it was increased by 4.3% in 1990), its share in total national savings was reduced to 14.8%. Second, the household responsibility system (HRS) reform carried out in the rural areas restored farmers' work incentives and drastically raised agricultural outputs and income in the first half of the 1980s (Lin, 1992).

These two factors combined have resulted in large increases in rural savings. Table 4 shows the deposits received by the rural credit cooperatives between 1978 and 1993. Rural credit cooperatives are the only type of financial institute that is officially allowed to exist below the county level, so the amount of the deposits received by them is a good a proxy for the total amount of savings in the rural areas. As the table

shows, the total amount of deposits made by households was expanded the fastest. In 1978, deposits made by households accounted for 34% of the total deposits, but the ratio was increased to 83% in 1993. In contrast, the share of the deposits made by the collectives was dropped from 57% to merely 6%. The collectives played a significant role in the initial stage of capital accumulation before the reform took place and in the initial stage of the reform.

However, as the surplus held by individual farm households was increased in an unprecedented pace, especially after private and cooperative enterprises were formally sanctioned by the central government in 1984, the development of private and cooperative enterprises took momentum.

The initial growth and capital accumulation of the REs was also facilitated by a large market for basic consumer goods left unfilled as a result of the catch-up development strategy pursued before 1978. The Chinese industrial structure was strongly heavy industry oriented at the outset of the reform. Table 5 shows the amount of fixed capital investment allocated to light and heavy industries and their shares out of the industrial total in different periods from 1952 to 1978. As less than ten percent of the investment was directed to light industry in most of the periods, shortage of consumer goods was evident, symbolized by the various rationing coupons covering products ranging from basic foods to the three luxuries at that time, namely, watches, bicycles, and sewing machines.

With the adoption of the reform and open-door policy in late 1970s and early 1980s, income in both urban and rural areas was raised. In the period of 1978 to 1992, rural and urban consumption expenditure kept an average annual growth rate of 6.5% and 5.8%, respectively, much higher than their counterparts in the period of 1952 to 1977 which were only 1.8% and 3.0%, respectively. The high growth rates of the demand for consumer goods after two decades of stagnation created a perfect opportunity for rural industry to take the lynch of labor intensive consumer goods left over by the heavy industry oriented state-run enterprises.

As for the channels of finance, rural enterprises (REs) rely heavily on household savings and borrowing from the informal financial market, credits in the form of formal bank loans are limited. Table 6 compares the amounts of formal bank loans REs and state owned enterprises (SOEs) obtained in recent years. It is clear that the state banks (including the rural credit cooperatives) overwhelmingly favor the SOEs when they make loans as nearly 90% of their loans were issued to SOEs through 1993 to 1996.

The exclusion of the REs from formal bank borrowing forces them to engage in self-financing or to resort to informal markets to get necessary funds. Informal financial markets are risky and hard to regulate. Under this situation, local governments created semi-formal credit unions and local stock markets that tremendously facilitated REs' finance. The semi-formal financial organization have two merits.

First, they are comprised of local people who know each other well, so the asymmetry of information that plagues formal financial institutes is overcome.

Second, they are easier to regulate than informal credit markets as most of them are sanctioned and monitored by local governments. In terms of stock exchanges, China only has two of them in Shanghai and Shenzhen that are sanctioned by the central government but only provide accesses to large firms with national reputations. Under this circumstance, regional stock exchanges become important financial intermediaries for smaller firms to finance their expansions. However, the central government, triggered by the recent turmoil in the rural financial sectors, decided to close all the credit unions and local stock markets. This action will suppress the illegal activities temporarily, but will also drive legal transactions underground, which in turn will increase the number of illegal activities.

The recent bank reform requires commercial banks to meet their own ends in credit lending. This measure makes banks prudent in making their loans. With an already disadvantageous position created by informal asymmetry, REs are hit more than urban enterprises. The central government is aware of the problem. Recently, banks are allowed to issue loans to small firms with interest rates that can be 20% higher or 10% lower than the official rates which currently are 6% to 7%. Small firms are less credible than large firms either because they really have higher default rates, or because banks are not familiar with them

as a result of the credit rationing favoring large firms in the past. With some right to price actual or perceived risks, banks will have more incentives to provide loans to small firms, including REs. However, the new official interest rates for small firms are still much below the market rates on the informal market which are around 20% per year. Although the opening-up of the formal financial institutions could lower the market rates, it is hard to conceive that the risk shouldered by small firms is comparable with an interest rate in the range of 7% to 8%. As a result, it is unlikely that the current lending policy would turn out significant results. In addition, the new policy has only given some freedom to the lending side, but not to the savings side. With savings rates capped, it is hard for the state banking system to draw more savings, and rural savings will still flow into the informal financial markets whose interest rates are 2 to 3 times of the official rates.

It is noteworthy that FDI (foreign direct investment) has been playing an increasingly important role in financing China's rural industrialization. In 1978, the amount of realized FDI was only 263 million US dollars. By 1997, it reached 64.4 billion US dollars. Although data on the amount of FDI received by rural firms are not available, it is believed that a large part of the FDI has gone to the firms in the rural areas in the coastal provinces. This assessment is especially pertinent to capital from the Great China regions, namely, Hong Kong, Taiwan, Macao, and Singapore. Studies show that FDI from this group of investors is more likely to enter labor-intensive sectors that are

dominated by REs (Wang, 1997). In 1995, 28.1% of the output of firms at the township and village level was created by FDI firms.

### **Industrial Structure**

REs' industrial structure reflects the comparative advantage of China's rural areas. At the international level, comparative advantage in international trade are still dominated by each country's factor endowment (Song, 1993). With abundant labor and limited land, natural resources and capital, China's comparative advantage clearly rest in labor intensive industries. Table 7 compares China with several developed and Asian developing countries in their non-residential capital stocks per worker in 1975 and 1990. In a dynamic framework, capital stock is an indicator of a country's current comparative advantage as well as the outcome of the choices made by it based on its past comparative advantage. As shown by the table, China was at the very lower end of per worker capital endowment in both years (only higher than India), making clear that its comparative advantage in international labor division have been resting in labor intensive industries.

Inside China, its rural areas are obviously endowed with far less capital and far more labor and resources than its cities. However, this comparative advantage was made available to the RE development only after the reforms took place. In the planning era, farmers were tied to the land because of the emphasis put on grain production; and the right to natural resources was monopolized by the central government. The

establishment of the HRS (household responsibility system) not only raised farmers' production incentives, but also granted them with the right of labor allocation. The enhanced labor productivity released a huge amount of rural labor from agricultural production. In addition, the decentralization process allowed local people to get control of some of the local resources. All these changes induced REs to start in labor and resource intensive industries.

Table 8 shows the industrial structure of township and village owned enterprises from 1978 to 1996. At the early stage of development, these enterprises were heavily resource based. In 1978, 61.2% of their light industrial output and 93.1% of their heavy industrial output were generated by resource based enterprises. In 1996, these enterprises are still largely resource based, but for light industries, the trend of departing away from this pattern has also been clear over the years. In 1996, the share of resource based output was dropped to 52.9% of the light industrial total. This trend is consistent with the changed factor endowment proportions that we will soon discuss. In addition, Lu (1998) showed that China is losing comparative advantage in grain production. Therefore, it is unwise for the REs to stick to food and related industries whose relative input prices are rising.

Compared with SOEs in the cities, REs use much more labor and much less capital. Table 9 compares the capital intensities of REs and SOEs from 1978 to 1996. Two indicators are listed in the table. One is per worker net capital stock, the other is the number of workers hired

per million yuan of output. The per worker net capital stock of the REs has never passed 20% of that of SOEs, and the number of workers hired by the REs per 10,000 yuan of output has been several times of the number hired by SOEs for most the years. Keeping lower capital intensity provides REs with two advantages. First, it allows them to lower their production costs significantly as labor is much cheaper than capital. Second, it permits the REs to enter industries with low technological thresholds, saving their costs of technical innovations. Technical innovations are linked with capital accumulation that REs are short of. Therefore, it is rational for them to choose the technology that requires less capital.

However, Table 9 also shows that the gaps between SOEs and REs in their capital intensities have been narrowed through the years. Per worker capital stock of the REs was raised from 9% of the SOEs' in 1978 to 18% in 1996, and the gap between the numbers of workers hired by 10,000 yuan of output of the two kinds of firms was narrowed from 6.2 times to only 1.3 times in the same period. The REs catch-up in capital intensity can be explained by their adjustment to the changed factor endowments (and thus the comparative advantage) in the economy. One indicator of this change is that the gap between the average annual wage per worker of the REs and that of the SOEs has been narrowed. The RE wage as percentage of the SOE wage had been raised from 45% in 1978 to 56% in 1996, and eleven percent increase.

The labor-intensive nature of the Chinese REs has enhanced their position in China's exports. As Table 2 shows, the REs' share of China's export was only 9.2% in 1986; but after that year, it had kept an average annual growth rate of 20.6% in the next ten years and reached 47.9% in 1996. In the period of 1986 to 1995, the percentage of the REs' exports in their total output was raised from 3% to 8%, a 1.6 times increase. The enlarged shares of their exports in total exports, therefore, were realized by their shift from domestic to international markets as well as by their high growth rates of output that have outpaced the national average over the years.

### **Ownership and Its Dynamics**

Unlike its urban industry that is dominated by public ownership, China's rural industry is characterized by a plurality of ownership. Noticeable, there is a heavy presence of local government ownership among the REs. This, together with the extraordinary performance of the Chinese REs, has spurred wide academic interests as to the relationship between the local government ownership and the success of the REs.

Before 1978, non-private firms existed in China. In the early stage of the rural reform, although private firms were not encouraged by the government, their number still increased drastically. The official abolishment of the commune system and the beginning of the urban reform in 1984 further accelerated the development of private REs.

Table 10 shows the development of private REs from 1984 to 1997. In 1984, 69.3% of the REs were privately owned. In 1997, that figure became 93.6%, that is, private firms have become the vast majority of the REs. In terms of employment and output, private firms accounted for 59.2% of the total RE employment and 51.2% of the total RE output in 1997. Therefore, although individual private firms are generally smaller than public owned firms, they have nevertheless become equally important as the public firms. Overly emphasizing the functions of publicly owned firms is misleading because the majority of the REs are actually privately owned and they account for more than half of the total RE employment and output.

After the fifteenth congress of the Chinese Communist Party held at the end of 1997, privatization programs have widely spread all over the country. Although there are problems similar to what have happened in East Europe and Russia where embezzlement of public equity has been widely observed, the demand for clarifying the property rights in the REs is high. This is especially urgent in the so-called "red-cap" firms that are registered as public firms, but are operated exactly the same as private firms except paying the authority a certain amount of fee. These firms are established for various reasons. In addition to the potential benefits listed by Zhao (1997), an important reason is that the local political environment did not accommodate private firms when the firms were established. In a "red cap" firm, the private entrepreneur regards the firm as his own, but the local government regards the firm

as public. If the official in charge in the government happens to be open-minded or a friend of the entrepreneur, things may not go wrong. However, if there is no such an official, or such an official is gone, things are very likely to go sour. Therefore, as markets become more sophisticated and government policy more transparent, the entrepreneurs of the “red cap” firms are eager to rectify their ownership of their firms.

### **Regional Diversity**

China's RE development is quite uneven across regions. As Table 3 shows, the share of the RE output in total rural social output varied from 86% in Shanghai to 4% in Tibet, and the average of the first group with higher shares was 35% more than that of the second group with lower shares. Several factors may have contributed to the huge regional diversity in China's RE development. Here I discuss three most important of them, initial conditions, location, and factor endowments.

Among them, initial conditions are critical for a country's future development. This has much to do with the positive externalities possessed by some factors (such as human capital) that are unevenly distributed across countries at the initial stage. China's coastal provinces had two advantages over their counterparts in inland areas in the later 1970s. One is that commercialization in these provinces was much earlier than other provinces in recent history following their partial colonization by the world powers in the later nineteenth century. Before

1949, the economy of the coastal regions was centered at several large commercial cities such as Tianjin, Shanghai, and Guangzhou through which China was linked with the rest of the world. In the Yangtze River delta, the rural economy was closely tied with Shanghai, rural non-farm income, coming mostly from raising silkworms, and to a less extent, from other sideline activities and local silk factory jobs, surpassed farm income even in the 1930s (Cao, 1996). This long history of engagement in commercial activities nurtured entrepreneurship that is vital in the RE development in the late stage.

The other advantage that many of the coastal provinces had over other provinces was that they had a lighter industrial structure in the late 1970s. In the planning era, a large proportion of the national investment was placed in central and west regions (the so called second and third fronts) due to the consideration of balanced development and, more importantly, of preparation for war. Most of the factories thus established were in heavy industry. As a result, the industrial structure of the inland areas was heavy industry-biased compared with the coastal areas. A lighter industrial structure, however, was more consistent with China's comparative advantage and made the diffusion of technology to the REs much easier in the coastal areas. A lighter industrial structure, however, was more consistent with China's comparative advantage and made the diffusion of technology to the REs much easier in the coastal areas.

A good location means better access to markets, information, and foreign capital. In this regard, the coastal provinces have an overwhelmingly advantage over the inland provinces. The most prominent example is Guangdong whose proximity to Hong Kong and Macao gives it a big lift to its RE development. The development of the REs in Guangdong generally experienced two stages (Zhe, 1997). In the first stage, local villages used their access to land to build standard factory buildings to provide Hong Kong and Macao businesses with a production base. The combination of outside markets and cheap local labor, local economy flourished quickly. With the rent collected on the buildings and income from employment in the factories and related services, local villages completed the initial capital accumulation. Then, in the second stage, they began to use the capital accumulated to establish their own factories, some of which have been quite successful and are producing brand products with national and even international reputations.

Factor endowments may be the most significant element in explaining the regional diversity of RE development in China. The provinces that started earlier and have been taking the lead in RE development are those located in the coastal area where labor is much more abundant relative to land and other natural resources than the inland areas. The last three columns of Table 11 show the amount of per capita arable land of all the provinces in 1987 and 1995 and their changes. Specifically, the provinces are divided into two groups, one

consists of the coastal provinces and municipalities, the other consists of the rest. The average per capita arable land of the first group was only 54% of that of the second group in 1987. In 1995, the average per capita arable land of the latter group was increased by 6.2% due to new claim of waste land, and that of the former group was decreased by 4.6%, so the gap between the two averages was enlarged (with the former being 51% of latter). The division of labor based on regional comparative advantage thus requires that the inland areas specialize in agriculture and resource related industries, and the coastal areas specialize in labor intensive industries in which the REs have considerable comparative advantage. This largely explains why the provinces in the coastal areas had more successful REs. In addition, for the three inland provinces that are in the group of higher shares of non-agricultural output, Shanxi and Shandong are rich in coal reservation and many of their REs are small miners; and Sichuan is China's most populous province whose per capita arable land is around 0.08 hectares, even less than many coastal provinces (Table 11).

The different factor endowment ratios of the coastal and inland provinces resulted in the different capital intensities of their REs. Table 12 lists data of two years to show the differences. The average per worker capital stock of the inland provinces was 65% of that of the coastal provinces in 1987. Between 1987 and 1995, capital stocks of the coastal provinces increased by 154% on average, but those of the inland provinces increased only by 108% on average. As a result, per

worker capital stock of the inland provinces as percentage of that of the coastal provinces was reduced to 54%. This change was consistent with the dynamic changes of the comparative advantage in these two regions. As what I have discussed, per capita arable land decreased in the coastal regions, but increased in inland regions in the period of 1987 to 1995. Also shown in table 11, GDP per capita increased much faster in the coastal provinces than in the inland GDP itself. In a dynamic framework, per capita GDP is a good proxy for the endowment ratio between labor and capital as the increase of per capita GDP means that either capital has increased more than proportional to the increase of labor force, or there have been technological changes that are brought about by the increase of capital stock. Therefore, the difference between the growth rates of the capital intensities in the coastal and inland provinces was consistent with the changes that happened to their factor endowments of labor and capital.

### **Conclusion**

After more than twenty years of growth, REs have changed the economic landscape in China's rural areas. In the period of 1978-1996, the number of REs increased from 1.52 millions to 23.36 millions; and the number of workers hired increased from 28.27 millions to 135.08 millions, or in terms of percentage of total rural labor force, increased from 9.5% to 29.8%. The share of the REs in the total value of gross rural output increased more remarkably. In 1978, only 21.2% of the total

gross rural output was created by the REs; by 1995, the percentage was raised to 77.2% (Table 1).

Equally remarkably, REs have become one of the major forces behind China's overall sustained growth. The output value of the REs in the industrial sectors accounted for only 9.1% of the national total in 1978. After twenty years, this figure became 57.9% in 1997 (Table 1). Rural industry is no longer merely a supplement to the agricultural production, but has become an indispensable source of growth nationwide. It is widely acknowledged that export has been one of the leading factors contributing to China's recent success. REs have done equally well in exporting, especially in the last ten years, a period when RE exports have been increasing much faster than the national average. In 1986, REs' share of exports in total exports was only 9.2%; by 1997, the figure reached 45.8% (Table 2).

The analysis has reached the following conclusions:

First, much of the capital supporting RE development came initially from agricultural surplus and later from the accumulation of REs themselves, credits provided by the formal banking system are minimal. The rural reform carried out in late 1970s and early 1980s drastically increased rural income, and the shift-away from the heavy industry oriented development strategy reduced the deprivation of agricultural surplus, both contributing to enhancing rural savings. In the meantime, the heavy industry oriented development strategy in the planning era left China with a serious shortage of consumer goods amidst sheer poverty

at the outset of the reform period, creating a huge market for low cost labor intensive products that are suitable for RE production. In the early stage of rural industrialization, this unfilled large market was critical in helping REs' fast capital accumulation. The lack of formal bank loans is surely a disadvantage of REs, but also puts a hard budget constraint on the REs, which in turn, rather ironically, improves REs' efficiency.

Second, REs have been overwhelmingly concentrated in labor and resource intensive industries although those in the coastal areas have recently begun to enter capital intensive and sophisticated consumer product industries. This pattern of industrial distribution is consistent with the comparative advantage of China in international labor division in general, and of rural China compared with urban China in particular. In accordance, REs are keen in adopting middle and suitable technologies.

Thirdly, Chinese REs are characterized by a variety of ownership that encompasses almost all the ownership types existing in the world. A major observation that has spurred heated debate in the literature is that many of the REs maintain vaguely defined property rights arrangements within which local governments play a significant role. Quite a few authors have attributed the success of the REs to their vaguely defined property rights by arguing that the involvement of local governments has helped REs in getting access to resources, information, and government supports. The vaguely defined property rights, therefore, are seen as a rational choice made by the

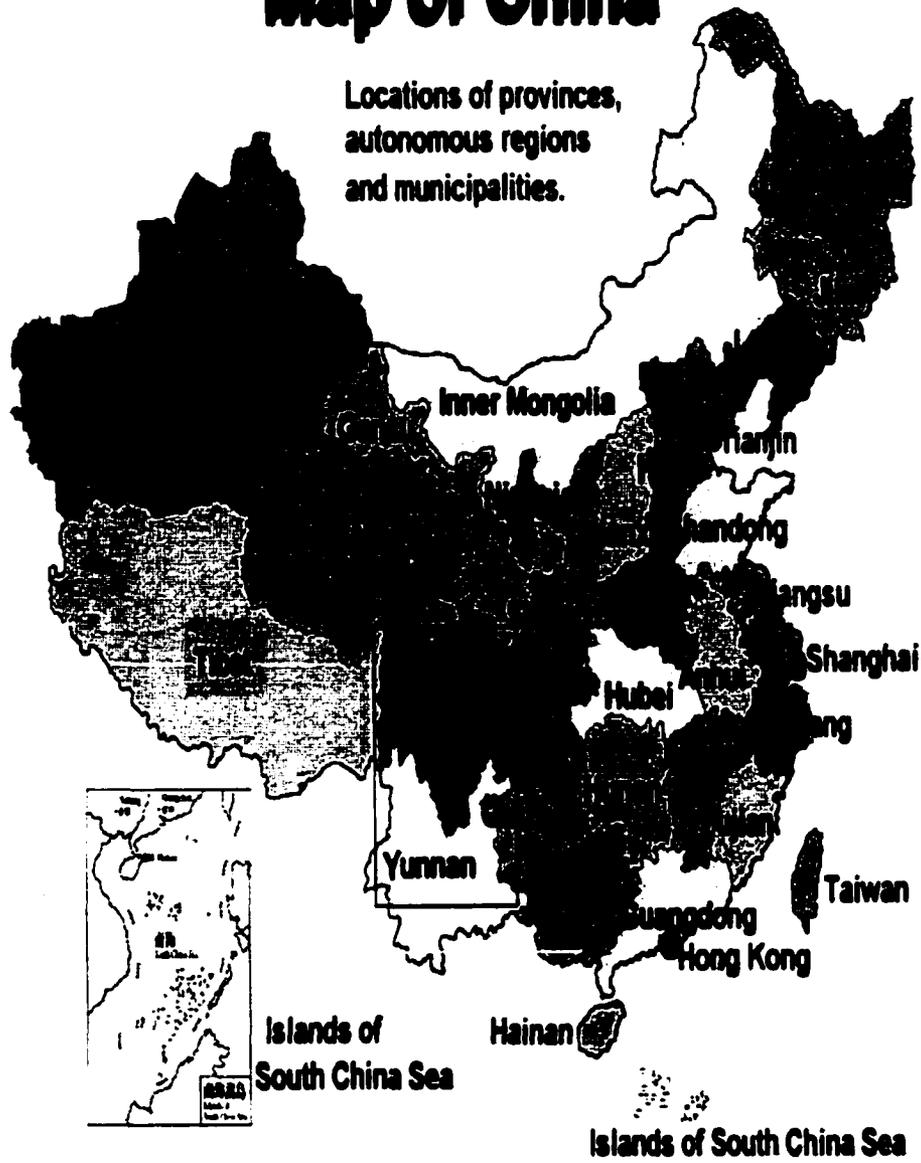
entrepreneurs. Although this view might be applicable to the early stage of the RE development, the supporting evidence is weak. In addition, there has been a strong trend in recent years that the REs' vaguely property rights are being transformed into either some form of shareholding or purely private ownership.

Lastly, RE development is unevenly distributed across the country, and there is a call inside China for government interventions aiming at a more balanced regional development program. However, the regional diversity can be mostly explained by the different initial conditions, location, and factor endowments possessed by different regions. In addition, the regional ladder of economic development itself is part of the engine for China's sustainable long-run development because a stream of cheaper labor and technological flow can be maintained.

As provinces differ widely in their levels of rural industrialization. Provinces differ in terms of natural endowments, historical heritage, provincial government policies, access to overseas investment, levels of urbanization and etc. Therefore, different provinces have different starting points and different paces for rural industrialization. I believe that all the above analysis can provide the theory and research basis for conducting the following work within the whole project.

# Map of China

Locations of provinces,  
autonomous regions  
and municipalities.



\* The marked area is the location of the project

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**Appendix ----- Acronym**

REs (Rural Enterprises)

SOEs (State Owned Enterprises)

Table 1 : The Development of the REs in China from 1978 to 1996 (current prices)

| Year | No. of firms | Labor Force           | % of total rural labor | Gross Output          | % of total rural output | Industrial Output     | % of national output | Rural Income      |                         |
|------|--------------|-----------------------|------------------------|-----------------------|-------------------------|-----------------------|----------------------|-------------------|-------------------------|
|      |              | Amount (mil. Persons) |                        | Value (100 mil. Yuan) |                         | Value (100 mil. Yuan) |                      | Per capita Income | Contribution of REs (%) |
| 1978 | 1.52         | 28.27                 | 9.2                    | 495.1                 | 24.2                    | 385.3                 | 9.1                  | 122.90            | 7.6                     |
| 1979 | 1.48         | 29.09                 | 9.4                    | 552.3                 | n.a.                    | 425.3                 | 9.1                  | n.a.              | n.a.                    |
| 1980 | 1.42         | 30.00                 | 9.4                    | 656.9                 | 23.5                    | 515.1                 | 10.0                 | 166.40            | 10.1                    |
| 1981 | 1.34         | 29.70                 | 9.1                    | 736.7                 | n.a.                    | 567.9                 | 10.5                 | 194.50            | n.a.                    |
| 1982 | 1.36         | 31.13                 | 9.2                    | 846.3                 | 30.4                    | 636.0                 | 12.0                 | n.a.              | n.a.                    |
| 1983 | 1.35         | 32.35                 | 9.3                    | 1007.9                | 24.4                    | 744.3                 | 11.5                 | 272.91            | n.a.                    |
| 1984 | 6.07         | 52.08                 | 14.5                   | 1697.8                | 33.7                    | 1240.0                | 16.3                 | 315.06            | n.a.                    |
| 1985 | 12.22        | 69.79                 | 18.8                   | 2755.0                | 43.5                    | 1845.9                | 19.0                 | 350.10            | 24.6                    |
| 1986 | 15.15        | 79.37                 | 20.9                   | 3583.3                | 47.7                    | 2443.5                | 21.8                 | 374.68            | n.a.                    |
| 1987 | 17.50        | 88.05                 | 22.6                   | 4947.7                | 52.4                    | 3412.4                | 24.7                 | 418.40            | 28.1                    |
| 1988 | 18.88        | 95.45                 | 23.8                   | 7017.8                | 56.0                    | 4992.9                | 27.4                 | 494.00            | 30.0                    |
| 1989 | 18.69        | 93.67                 | 22.9                   | 8401.8                | 58.0                    | 6144.7                | 27.9                 | 540.30            | 31.2                    |
| 1990 | 18.50        | 92.65                 | 22.1                   | 9581.1                | 57.7                    | 7097.1                | 29.7                 | 623.10            | 26.8                    |
| 1991 | 19.08        | 96.09                 | 22.3                   | 11611.7               | 61.1                    | 8708.6                | 32.7                 | 638.90            | 27.9                    |
| 1992 | 20.92        | 106.25                | 24.2                   | 17695.7               | 69.7                    | 13193.4               | 38.1                 | 746.00            | 27.1                    |
| 1993 | 24.53        | 123.45                | 27.9                   | 31776.9               | 74.3                    | 23558.6               | 48.7                 | 873.00            | 32.5                    |
| 1994 | 24.95        | 120.18                | 26.9                   | 45378.5               | 74.2                    | 34688.0               | 49.4                 | 1144.80           | 31.8                    |
| 1995 | 22.03        | 128.61                | 28.6                   | 68915.2               | 77.2                    | 51259.2               | 55.8                 | 1479.50           | 32.6                    |
| 1996 | 23.36        | 135.08                | 29.8                   | 77903.5               | 76.9                    | 55901.1               | 56.1                 | 1813.30           | 34.2                    |
| 1997 | 20.15        | 130.50                | 28.4                   | 89900.6               | 78.5                    | 65851.5               | 57.9                 | 1987.27           | n.a.                    |

\* Gross output is the total of all kinds of REs

Sources: China Statistical Yearbook, 1997, 1998, The Yearbook of Chinese Township and Village Enterprises, 1995, 1997, 1998, China Economic Yearbook, 1997, 1998.

**Table 2. Export Performance of the REs (100 mil. US dollars, current prices)**

| <b>Year</b> | <b>Total exports</b> | <b>RE exports</b> | <b>RE exports/total exports</b> | <b>RE exports/total output</b> |
|-------------|----------------------|-------------------|---------------------------------|--------------------------------|
| 1986        | 309.42               | 28.45             | 9.19                            | 0.03                           |
| 1987        | 394.37               | 43.45             | 11.02                           | 0.03                           |
| 1988        | 475.40               | 72.31             | 15.21                           | 0.04                           |
| 1989        | 525.38               | 99.77             | 18.99                           | 0.04                           |
| 1990        | 620.91               | 96.07             | 15.47                           | 0.05                           |
| 1991        | 719.10               | 148.27            | 20.62                           | 0.07                           |
| 1992        | 849.40               | 216.66            | 25.51                           | 0.07                           |
| 1993        | 917.44               | 380.70            | 41.50                           | 0.07                           |
| 1994        | 1210.38              | 394.64            | 32.60                           | 0.07                           |
| 1995        | 1487.70              | 644.58            | 43.33                           | 0.08                           |
| 1996        | 1510.66              | 723.86            | 47.92                           | 0.08                           |
| 1997        | 1827.00              | 836.93            | 45.81                           | 0.08                           |

Source: China Statistical Yearbook, 1995, 1997, 1998,  
The Yearbook of Chinese Township and Village Enterprises, 1995, 1997, 1998

Table 3 : Share of Non-agricultural Output and Income Disparity of China's Provinces in 1992

| Region         | Non-agr. Output<br>/total output | Gini coefficient |            |
|----------------|----------------------------------|------------------|------------|
|                |                                  | Whole region     | Rural area |
| Whole Country  | 0.60                             | 0.35             | 0.20       |
| Shanghai       | 0.86                             | 0.12             | 0.09       |
| Tianjin        | 0.85                             | 0.14             | 0.03       |
| Beijing        | 0.78                             | 0.04             | 0.13       |
| Jiangsu        | 0.76                             | 0.30             | 0.16       |
| Zhejiang       | 0.76                             | 0.30             | 0.23       |
| Shandong       | 0.67                             | 0.31             | 0.13       |
| Shanxi         | 0.66                             | 0.32             | 0.15       |
| Hebei          | 0.63                             | 0.30             | 0.17       |
| Liaonin        | 0.63                             | 0.24             | 0.15       |
| Guangdong      | 0.61                             | 0.40             | 0.12       |
| Henan          | 0.59                             | 0.25             | 0.13       |
| Fujian         | 0.54                             | 0.24             | 0.10       |
| Sichuan        | 0.49                             | 0.30             | 0.18       |
| Anhui          | 0.48                             | 0.26             | 0.13       |
| Shannxi        | 0.47                             | 0.30             | 0.13       |
| Submean        | 0.65                             | 0.25             | 0.14       |
| Hubei          | 0.46                             | 0.31             | 0.16       |
| Jiangxi        | 0.44                             | 0.22             | 0.16       |
| Hunan          | 0.43                             | 0.23             | 0.12       |
| Jilin          | 0.43                             | 0.20             | 0.05       |
| Gansu          | 0.42                             | 0.38             | 0.24       |
| Heilongjiang   | 0.38                             | 0.21             | 0.12       |
| Ninxia         | 0.35                             | 0.43             | 0.30       |
| Guangxi        | 0.30                             | 0.25             | 0.17       |
| Guizhou        | 0.27                             | 0.34             | 0.18       |
| Inner Mongolia | 0.27                             | 0.23             | 0.13       |
| Yunnan         | 0.27                             | 0.39             | 0.25       |
| Qinhai         | 0.21                             | 0.31             | 0.15       |
| Xingjiang      | 0.15                             | 0.31             | 0.15       |
| Hainan         | 0.14                             | 0.29             | 0.08       |
| Tibet          | 0.04                             | 0.16             | 0.16       |
| Submean        | 0.30                             | 0.28             | 0.16       |

Sources: Figures of the shares of non-agricultural income are from Rural Statistical Yearbook of China. Gini coefficients are from Lin, Cai and Li (1997)

Table 4 : Deposits Received by Rural Credit Cooperatives (100 mil. Yuan, current prices)

| Year | Total  | By collective |       | By REs |       | By households |       | Other |
|------|--------|---------------|-------|--------|-------|---------------|-------|-------|
|      |        | Amount        | Share | Amount | Share | Amount        | Share |       |
| 1978 | 166.0  | 93.8          | 0.57  | n.a.   |       | 55.7          | 0.34  | 16.5  |
| 1979 | 215.9  | 98.3          | 0.46  | 21.9   | 0.10  | 78.4          | 0.36  | 17.3  |
| 1980 | 272.3  | 105.5         | 0.39  | 29.5   | 0.11  | 117.0         | 0.43  | 20.3  |
| 1981 | 319.6  | 113.2         | 0.35  | 29.7   | 0.09  | 169.6         | 0.53  | 7.1   |
| 1982 | 389.9  | 121.1         | 0.31  | 33.7   | 0.09  | 228.1         | 0.59  | 7.0   |
| 1983 | 487.4  | 91.8          | 0.19  | 62.3   | 0.13  | 319.9         | 0.66  | 13.4  |
| 1984 | 624.9  | 89.9          | 0.14  | 81.1   | 0.13  | 438.1         | 0.70  | 15.8  |
| 1985 | 724.9  | 71.9          | 0.10  | 72.1   | 0.10  | 564.8         | 0.78  | 16.1  |
| 1986 | 962.3  | 83.9          | 0.09  | 91.7   | 0.10  | 766.1         | 0.80  | 20.6  |
| 1987 | 1225.2 | 89.9          | 0.07  | 104.7  | 0.09  | 1005.7        | 0.82  | 24.9  |
| 1988 | 1399.8 | 98.4          | 0.07  | 128.3  | 0.09  | 1142.3        | 0.82  | 30.8  |
| 1989 | 1669.5 | 92.3          | 0.06  | 126.2  | 0.08  | 1412.1        | 0.85  | 38.9  |
| 1990 | 2144.5 | 106.5         | 0.05  | 149.9  | 0.07  | 1841.6        | 0.86  | 47.0  |
| 1991 | 2709.5 | 135.9         | 0.05  | 191.7  | 0.07  | 2316.7        | 0.86  | 65.2  |
| 1992 | 3477.7 | 215.2         | 0.06  | 301.8  | 0.09  | 2867.3        | 0.82  | 93.4  |
| 1993 | 4297.3 | 245.8         | 0.06  | 362.1  | 0.08  | 3576.2        | 0.83  | 113.2 |

Source: The Chinese Financial Yearbook: 1994.

Table 5: Industrial Fixed Capital Investment from 1952 to 1978 (bil. Yuan in current prices)

| Period                            | Light Industry |          | Heavy Industry |          |
|-----------------------------------|----------------|----------|----------------|----------|
|                                   | Amount         | Share(%) | Amount         | Share(%) |
| First Five-Year Plan (1952-1957)  | 3.75           | 15.0     | 21.28          | 85.0     |
| Second Five-year Plan (1957-1962) | 7.66           | 10.1     | 65.17          | 89.9     |
| Adjustment Period (1963-1965)     | 1.65           | 7.8      | 19.37          | 92.2     |
| Third Five-Year Plan (1966-1970)  | 4.26           | 7.9      | 49.89          | 92.1     |
| Fourth Five-Year Plan (1971-1975) | 10.30          | 10.5     | 87.49          | 89.5     |
| 1976-1978                         | 7.48           | 10.6     | 62.45          | 89.4     |

Source: Lin, Cai, and Li (1994)

Table 6: Comparison of the REs and SOEs in Their Access to Formal Bank Loans (bil. Yuan, Current prices)\*

| Year | REs                 |              |                       | SOEs                |              |                       |
|------|---------------------|--------------|-----------------------|---------------------|--------------|-----------------------|
|      | Loan<br>(bil. Yuan) | Share<br>(%) | loan/profit<br>(yuan) | Loan<br>(bil. Yuan) | Share<br>(%) | loan/profit<br>(yuan) |
| 1993 | 2198.00             | 9.08         | 1.2                   | 22014.00            | 90.02        | 9.0                   |
| 1994 | 3686.00             | 12.37        | 1.6                   | 26104.00            | 87.63        | 9.1                   |
| 1995 | 4823.00             | 13.41        | 1.5                   | 31149.00            | 86.59        | 10.8                  |
| 1996 | 5191.00             | 13.14        | 1.3                   | 34324.00            | 86.86        | 12.5                  |

\* Loan is the total liability at the end of each year. Profit is measured in pre-tax terms.

Sources: China Statistical Year Book, 1995, 1997; The Yearbook of Chinese Township and Village Enterprises, 1995, 1997.

**Table7: International Comparison of Non-Residential Capital Stocks Per Worker (US dollars in 1985 international prices)**

| <u>Country</u> | <u>U.S.A.</u> | <u>U.K.</u> | <u>France</u> | <u>Japan</u> | <u>Korea</u> | <u>Taiwan</u> | <u>Thailand</u> | <u>Philippines</u> | <u>India</u> | <u>China</u> |
|----------------|---------------|-------------|---------------|--------------|--------------|---------------|-----------------|--------------------|--------------|--------------|
| 1975           | 26,109        | 14,618      | 24,242        | 16,400       | 6,533        | 8,451         | 2,385           | 3,314              | 1,259        | 1,869        |
| 1990           | 34,705        | 21,179      | 35,600        | 36,480       | 17,995       | 25,722        | 4,912           | 3,698              | 1,946        | 3,260        |

**Sources: The Statistical Yearbook of Chinese Industries: 1991**

Table 8. Output Distribution of Township and Village Owned Enterprises (bil. Yuan, current prices; %)

| Year | Light Industries |                        |                            | Heavy Industries |                          |                          |
|------|------------------|------------------------|----------------------------|------------------|--------------------------|--------------------------|
|      | Total value      | Perc Of<br>agri. Based | Perc Of<br>non-agri. Based | Total value      | Perc Of<br>raw materials | Perc Of<br>manufacturing |
| 1987 | 134.93           | 61.21                  | 38.79                      | 126.09           | 93.10                    | 6.90                     |
| 1988 | 182.69           | 58.39                  | 41.61                      | 161.09           | 92.88                    | 7.12                     |
| 1989 | 237.98           | 59.93                  | 40.07                      | 223.47           | 93.19                    | 6.81                     |
| 1990 | 282.17           | 59.93                  | 40.07                      | 241.85           | 93.31                    | 6.69                     |
| 1991 | 354.49           | 59.47                  | 40.53                      | 297.34           | 93.36                    | 6.64                     |
| 1992 | 523.17           | 57.34                  | 42.66                      | 462.11           | 93.20                    | 6.80                     |
| 1993 | 864.00           | 56.05                  | 43.95                      | 832.23           | 93.16                    | 6.84                     |
| 1994 | 1292.40          | 57.43                  | 42.57                      | 1260.08          | 93.22                    | 6.78                     |
| 1995 | 1846.11          | 55.95                  | 44.05                      | 1628.26          | 93.33                    | 6.67                     |
| 1996 | 1851.75          | 52.91                  | 47.09                      | 1702.12          | 93.47                    | 6.53                     |

Sources: China Statistical Year Book 1995, 1997; The Yearbook of Chinese Township and Village Enterprises 1995, 1997

Table 9. Comparisons of SOEs and REs in Their Capital Intensities and Wages\*

| Year | Capital/worker (yuan) |      |          | Workers/10,000 yuan output |      |          | Annual wage (yuan) |      |          |
|------|-----------------------|------|----------|----------------------------|------|----------|--------------------|------|----------|
|      | SOEs                  | REs  | REs/SOEs | SOEs                       | REs  | REs/SOEs | SOEs               | REs  | REs/SOEs |
| 1978 | 7090                  | 643  | 0.09     | 0.92                       | 5.71 | 6.21     | 681                | 307  | 0.45     |
| 1979 | n.a.                  | 777  | n.a.     | 0.86                       | 5.27 | 6.11     | 755                | 357  | 0.47     |
| 1980 | 7582                  | 887  | 0.12     | 0.85                       | 4.57 | 5.38     | 852                | 398  | 0.47     |
| 1981 | n.a.                  | 1024 | n.a.     | 0.86                       | 4.03 | 4.69     | 851                | 440  | 0.52     |
| 1982 | n.a.                  | 1100 | n.a.     | 0.83                       | 3.68 | 4.46     | 863                | 493  | 0.57     |
| 1983 | n.a.                  | 1153 | n.a.     | 0.76                       | 3.21 | 4.20     | 877                | 544  | 0.62     |
| 1984 | 9255                  | 856  | 0.09     | 0.71                       | 3.07 | 4.32     | 1070               | 601  | 0.56     |
| 1985 | 10435                 | n.a. | n.a.     | 0.65                       | 2.53 | 3.88     | 1239               | 676  | 0.55     |
| 1986 | 11489                 | n.a. | n.a.     | 0.64                       | 2.22 | 3.47     | 1448               | 738  | 0.51     |
| 1987 | 12830                 | n.a. | n.a.     | 0.50                       | 1.78 | 3.59     | 1601               | 836  | 0.52     |
| 1988 | 14283                 | n.a. | n.a.     | 0.41                       | 1.36 | 3.33     | 1931               | 1009 | 0.52     |
| 1989 | 16460                 | n.a. | n.a.     | 0.35                       | 1.11 | 3.22     | 2177               | 1126 | 0.52     |
| 1990 | 18534                 | 2254 | 0.12     | 0.33                       | 0.97 | 2.89     | 2409               | 1219 | 0.51     |
| 1991 | 21259                 | 2484 | 0.12     | 0.30                       | 0.83 | 2.77     | 2627               | 1358 | 0.52     |
| 1992 | 24293                 | 2964 | 0.12     | 0.25                       | 0.60 | 2.37     | 3161               | 1445 | 0.46     |
| 1993 | 29578                 | 4164 | 0.14     | 0.20                       | 0.39 | 1.96     | 3912               | 1898 | 0.49     |
| 1994 | 31282                 | 5539 | 0.18     | 0.17                       | 0.26 | 1.59     | 5165               | 2499 | 0.48     |
| 1995 | 39741                 | 7933 | 0.20     | 0.14                       | 0.19 | 1.33     | 6343               | 3406 | 0.54     |
| 1996 | 51767                 | 9254 | 0.18     | 0.15                       | n.a. | n.a.     | 7069               | 3957 | 0.56     |

\* Capital is the average net fixed capital stock in each year. Figures are measured in current prices. Figures of REs before 1984 do not account for private firms.  
Sources: China Statistical Year Book: 1995, 1997; The Yearbook of Chinese Township and Village Enterprises: 1995, 1997

**Table 10. The Development of Private REs\***

| Year | Number of Firms |              | Labor Force   |                      | Gross Output          |                       |
|------|-----------------|--------------|---------------|----------------------|-----------------------|-----------------------|
|      | Amount (mil.)   | % of all REs | Amount (mil.) | % of total REs labor | Value (100 mil. Yuan) | % of total REs output |
| 1984 | 4.20            | 69.28        | 12.26         | 23.54                | 244.01                | 14.37                 |
| 1985 | 10.37           | 84.87        | 26.52         | 38.00                | 681.41                | 24.73                 |
| 1986 | 13.43           | 88.60        | 33.96         | 42.78                | 1026.98               | 28.66                 |
| 1987 | 15.92           | 90.95        | 40.87         | 46.42                | 1587.95               | 32.11                 |
| 1988 | 17.29           | 91.58        | 46.52         | 48.73                | 2282.94               | 32.53                 |
| 1989 | 17.15           | 91.78        | 46.47         | 49.61                | 2819.55               | 33.56                 |
| 1990 | 17.05           | 92.14        | 46.72         | 50.43                | 3327.34               | 34.73                 |
| 1991 | 17.64           | 92.44        | 48.42         | 50.39                | 3901.87               | 33.57                 |
| 1992 | 19.39           | 92.70        | 54.49         | 51.28                | 5883.15               | 33.31                 |
| 1993 | 22.84           | 93.13        | 65.78         | 53.28                | 11355.42              | 35.73                 |
| 1994 | 23.29           | 93.38        | 61.19         | 50.91                | 14712.41              | 32.42                 |
| 1995 | 20.41           | 92.65        | 68.01         | 52.88                | 5236.00               | 35.88                 |
| 1996 | 21.81           | 93.37        | 75.55         | 55.93                | 7401.00               | 41.91                 |
| 1997 | 18.86           | 93.59        | 77.24         | 59.19                | 46056.46              | 51.23                 |

\* Private firms include solely individual owned and shareholding firms.

Sources: China Statistical Yearbook, 1997, The Yearbook of Chinese Township and Village Enterprises, 1995, 1998, China Economic Yearbook, 1998.

Table 11. Per Capita GDP and Arable Land of China's Provinces in 1987 and 1995

| Region         | GDP/capital (1990 yuan) |       |           | Arable Land/capital (hectares) |          |           |
|----------------|-------------------------|-------|-----------|--------------------------------|----------|-----------|
|                | 1987                    | 1995  | Change(%) | 1987.000                       | 1995.000 | Change(%) |
| Whole country  | 1741                    | 3010  | 72.9      | 0.154                          | 0.161    | 4.3       |
| Liaonin        | 2511                    | 3959  | 57.7      | 0.179                          | 0.183    | 1.9       |
| Tianjin        | 3795                    | 5665  | 49.3      | 0.119                          | 0.125    | 4.5       |
| Beijing        | 4730                    | 6467  | 36.7      | 0.077                          | 0.062    | -19.1     |
| Hebei          | 1307                    | 2568  | 96.4      | 0.147                          | 0.135    | -8.6      |
| Shandong       | 1491                    | 3333  | 123.6     | 0.103                          | 0.093    | -10.3     |
| Jiangsu        | 2011                    | 4232  | 110.4     | 0.096                          | 0.087    | -9.0      |
| Shanghai       | 6243                    | 10094 | 61.7      | 0.077                          | 0.069    | -10.3     |
| Zhejiang       | 1990                    | 4733  | 137.9     | 0.060                          | 0.061    | 1.1       |
| Fujian         | 1322                    | 3871  | 192.8     | 0.065                          | 0.057    | -12.4     |
| Guangdong      | 1980                    | 4842  | 144.5     | 0.070                          | 0.077    | 10.5      |
| Submean        | 2738                    | 4976  | 81.8      | 0.099                          | 0.095    | -4.6      |
| Heilongjiang   | 1838                    | 3157  | 71.8      | 0.447                          | 0.539    | 20.6      |
| Jilin          | 1729                    | 2527  | 46.2      | 0.320                          | 0.372    | 16.3      |
| Inner Mongolia | 1228                    | 2115  | 72.2      | 0.439                          | 0.487    | 11.1      |
| Shanxi         | 1296                    | 2059  | 58.9      | 0.199                          | 0.208    | 4.7       |
| Henan          | 1094                    | 1914  | 75.0      | 0.109                          | 0.103    | -5.5      |
| Anhui          | 1122                    | 1933  | 72.2      | 0.106                          | 0.097    | -8.2      |
| Hubei          | 1464                    | 2403  | 64.2      | 0.099                          | 0.103    | 3.4       |
| Jiangxi        | 1052                    | 1777  | 69.0      | 0.091                          | 0.132    | 45.6      |
| Hunan          | 1161                    | 1992  | 71.6      | 0.079                          | 0.083    | 5.9       |
| Guanxi         | 860                     | 2051  | 138.4     | 0.079                          | 0.080    | 1.7       |
| Hainan         |                         | 2917  |           |                                | 0.087    |           |
| Shannxi        | 1080                    | 1642  | 52.0      | 0.199                          | 0.187    | -6.0      |
| Gansu          | 1085                    | 1316  | 21.4      | 0.217                          | 0.214    | -1.5      |
| Ninxia         | 1249                    | 1919  | 53.7      | 0.221                          | 0.274    | 23.8      |
| Qinhai         | 1449                    | 1993  | 37.5      | 0.182                          | 0.166    | -8.8      |
| Xingjiang      | 1493                    | 2881  | 93.0      | 0.265                          | 0.305    | 14.8      |
| Sichuan        | 1007                    | 1810  | 79.8      | 0.076                          | 0.083    | 9.6       |
| Guizhou        | 776                     | 1010  | 30.2      | 0.081                          | 0.079    | -3.3      |
| Yunnan         | 858                     | 1754  | 104.4     | 0.099                          | 0.117    | 18.9      |
| Tibet          | 1274                    | 1353  | 6.2       | 0.157                          | 0.158    | 0.0       |
| Submean        | 1217                    | 2026  | 66.6      | 0.182                          | 0.194    | 6.2       |

Sources: China Statistical Yearbook: 1988, 1996

Table 12. Per Worker Capital Stocks of REs in 1987 and 1995(Original value at 1990 prices)

| Region         | 1987 | 1995  | Change(%) |
|----------------|------|-------|-----------|
| Whole country  | 2604 | 5790  | 122.3     |
| Liaonin        | 3445 | 5942  | 72.5      |
| Tianjin        | 4119 | 11071 | 168.8     |
| Beijing        | 5299 | 11033 | 108.2     |
| Hebei          | 1972 | 5704  | 189.3     |
| Shandong       | 3007 | 6464  | 115.0     |
| Jiangsu        | 3086 | 9341  | 202.7     |
| Shanghai       | 5463 | 14523 | 165.9     |
| Zhejiang       | 3175 | 9112  | 187.0     |
| Fujian         | 2396 | 6644  | 177.3     |
| Guangdong      | 3129 | 7814  | 149.7     |
| Submean        | 3509 | 8765  | 153.6     |
| Heilongjiang   | 3222 | 4786  | 48.5      |
| Jilin          | 2926 | 3644  | 24.6      |
| Inner Mongolia | 2577 | 3430  | 33.1      |
| Shanxi         | 3256 | 4562  | 40.1      |
| Henan          | 1801 | 5117  | 184.1     |
| Anhui          | 1590 | 4977  | 213.0     |
| Hubei          | 2563 | 4142  | 61.6      |
| Jiangxi        | 1828 | 2881  | 57.6      |
| Hunan          | 2154 | 3237  | 50.2      |
| Guanxi         | 1546 | 6399  | 313.8     |
| Hainan         |      | 9417  |           |
| Shannxi        | 2067 | 3121  | 51.0      |
| Gansu          | 1894 | 2673  | 41.1      |
| Ninxia         | 2682 | 7269  | 171.0     |
| Qinhai         | 2221 | 5842  | 163.1     |
| Xingjiang      | 3115 | 7014  | 125.2     |
| Sichuan        | 1980 | 3041  | 53.6      |
| Guizhou        | 1330 | 4571  | 243.6     |
| Yunnan         | 2517 | 4260  | 69.2      |
| Submean        | 2293 | 4757  | 108.0     |

Sources: China Statistical Yearbook: 1988, 1996