

**Rural Income and Wealth Inequality in China---**  
**A Study of Anhui and Sichuan Provinces, 1994-1995**

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### **(ABSTRACT)**

China has been experiencing a great transition from a socialist collective economy to a market economy since 1978. Before the transition started, the Communist Party had established a socialist collective system with very low levels of income and wealth inequality. With the deepening of the rural reform and the development of rural industry, a large number of people were lifted out of poverty. However, as the people's living standards are rising, disparities in income and wealth are also being accentuated. This thesis's main purpose is to study the extent and determinants of income and wealth inequality in rural China. Based on a sample survey data from Anhui and Sichuan provinces, the thesis answers the following five questions: 1. How much income and wealth inequality is there in rural China in 1994-1995? 2. How has inequality in rural China changed since the reform of 1978? 3. How do the components of income and wealth in China affect the income and wealth distributions? 4. What social and economic factors are most responsible for influencing income and wealth in rural China? 5. How much of the inequality in income and wealth can be accounted for by the factors that predict income and wealth?

The main findings of the study are, first, rural income inequality was low in the two provinces in 1994-1995 and wealth inequality was higher than income inequality. Second, in the industrialized Sichuan province, nonagricultural income made a big contribution to income inequality, while in the agricultural Anhui province, agricultural income played an important role in increasing income inequality. Third, education, good land, sufficient labor, and better communication resources are positively related to income and wealth.

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# Table of Contents

ABSTRACT .....	ii
Acknowledgements .....	iii
Table of Contents .....	iv
List of Tables.....	v
Chapter 1: Literature Review and Problem Statement.....	1
1.1 Introduction .....	1
1.2 Review of Literature.....	3
1.2.1 Historical Background of Rural Reforms in China.....	3
1.2.2 Current Studies on Income and Wealth Inequality in Rural China.....	4
1.2.3 Modern Western Theories on Social Stratification.....	10
1.3 Statement of Problem .....	11
Chapter 2: Data and Methods.....	13
2.1 Data Description.....	13
2.2 Methodological Issues.....	13
2.3 Analysis Process.....	14
2.3.1 Four Step Analysis .....	14
2.3.2 Components of Annual Total Income .....	15
2.3.3 Components of Wealth.....	15
2.3.4 Independent Variables in the Regression Analysis .....	16
Chapter 3: Findings .....	18
3.1 Level of Income and Wealth Inequality in Anhui and Sichuan .....	18
3.2 Decomposition of Income and Wealth Inequality.....	20
3.3 Income and Wealth Regression Analysis.....	25
3.4 Gini on Regression Residuals .....	34
Chapter 4: Conclusions .....	36
4.1 Summary .....	36
4.2 Discussion and Conclusions.....	38
4.3 Limitations and Suggestions for Future Research.....	40
Bibliography.....	42
Vita.....	44

## List of Tables

Table 1 (i). Total Income Ginis for Anhui and Sichuan in 1994 and 1995.....	18
Table 1 (ii). Total Wealth Ginis for Anhui and Sichuan in 1994 and 1995 .....	18
Table 2. Rural Gini Coefficients (per capital net income) .....	19
Table 3 (i). Rural Income Inequality and its Sources (Anhui 1994).....	21
Table 3 (ii). Rural Income Inequality and its Sources (Anhui 1995).....	21
Table 3 (iii). Rural Income Inequality and its Sources (Sichuan 1994).....	22
Table 3 (iv). Rural Income Inequality and its Sources (Sichuan 1995).....	22
Table 4 (i). Rural Wealth Inequality and its Sources (Anhui 1994) .....	23
Table 4 (ii). Rural Wealth Inequality and its Sources (Anhui 1995) .....	24
Table 4 (iii). Rural Wealth Inequality and its Sources (Sichuan 1994) .....	24
Table 4 (iv). Rural Wealth Inequality and its Sources (Sichuan 1995).....	24
Table 5 (i). Anhui 1994 Income Regressions.....	26
Table 5 (ii). Anhui 1995 Income Regressions.....	27
Table 5 (iii). Sichuan 1994 Income Regressions.....	29
Table 5 (iv). Sichuan 1995 Income Regressions.....	30
Table 6 (i). Anhui 1994 Wealth Regressions .....	31
Table 6 (ii). Anhui 1995 Wealth Regressions .....	32
Table 6 (iii). Sichuan 1994 Wealth Regressions .....	33
Table 6 (iv). Sichuan 1995 Wealth Regressions .....	34
Table 7. Gini for Income Regression Residuals in Comparison with Gini for Total Income.....	35
Table 8. Gini for Wealth Regression Residuals in Comparison with Gini for Total Wealth .....	35

# **Chapter 1: Literature Review and Problem Statement**

## **1.1 Introduction**

The purpose of this study is to investigate the extent and determinants of income and wealth inequality in rural China in the mid-1990s. Many studies have been done concerning income and wealth inequalities in western countries. In the US, where income inequality has been found to be increasing sharply since about 1975 (Gilbert, 1998:20), there is a more unequal distribution of wealth. This leads to my attention to research into China's income and wealth inequality.

As is well known, modern China was founded as a socialist country in 1949. One thing the government and the Communist Party stressed before reform in 1978 was equality among all. The commune was the dominant unit of rural economic organization during that time. Peasants belonging to the same commune worked together and were paid equally. The Family Production Responsibility System was introduced when the reform started in 1978 from the countryside. Rural production changed from the collective level to household level. Individual families were allowed to contract land from the commune and also allowed to lease land for farm production. The family agreed to a quota for agricultural produce levied by the collective and could keep the surplus beyond the quota. Therefore, peasants became more motivated and overall agricultural production increased rapidly. In addition, before 1979, central planning and government regulations bound the Chinese peasants tightly to the land, and cultivation, particularly grain production, had priority over all other activities. Although non-agricultural activities were not prohibited, they served the function of supporting agriculture by providing it with modern material inputs. In the early 1980s, the policy toward rural nonagricultural activities changed and they were regarded as a means of generating employment opportunities. As the reform deepened and widened, inequality increased and complaints could be heard about the increasing income gap between rich and poor even though the overall income level was increasing: rural per capita income increased from Ren Min Bi (RMB) 134 (about US\$ 16) in 1978 to RMB 1926 (about US\$ 232) in 1996 (adjusted for inflation to 1996 consumer prices from China Annual Statistics Book, 1997). China's farmers have gone from the shared poverty to current uneven wealth.

China is a big country and consists of provinces that are diverse in terms of land resources and economic opportunities. So it can provide more detailed contextual information to focus on specific provinces in studying income and wealth inequality. The present study focuses on two rural provinces. My initial questions are: How different are the two provinces studied (Sichuan in the southwest part of China and Anhui in the southeast part of China) in inequality? To what extent can they represent the whole picture of rural China? I will then investigate five research questions:

1. How much income and wealth inequality is there in rural China in 1994-1995? I plan to investigate this by calculating the Gini coefficients for income and wealth in the two provinces (The Gini index is a measure of inequality ranging from 0 (absolute equality) to 1 (absolute inequality) with values in between indicating different levels of inequality).
2. How has inequality in rural China changed since the reform of 1978? I will investigate this by comparing the Gini coefficients over time.
3. How do the components of income and wealth in China affect the income and wealth distributions? To answer this question, I will decompose the differences in Gini coefficients and find out which sources of income and wealth distributions show the highest levels of inequality and which most account for the Gini score for the overall income or wealth inequality.
4. What social and economic factors are most responsible for influencing income and wealth in rural China? I will investigate this by regressing income and wealth on relevant variables [characteristics of the villages investigated; size of family; number of laborers in the household; number of staff and workers; number of children at the age of 15 to 17; number of people working at township enterprises; number of people going outside the village to work (A29); level of education of laborers; original value of year-end fixed assets for production (for income regression analysis only); land, water, and hilly areas under household's cultivation]. I expect that each of these factors will have a positive impact on income and wealth.
5. How much of the inequality in income and wealth can be accounted for by the factors that predict income and wealth? Will income and wealth inequality be

reduced by controlling those factors? I plan to investigate this by calculating Gini indices on income and wealth regression residuals? I expect that the Gini on residuals will be reduced proportionally according to how much social and economic factors can explain income/wealth?

## **1.2 Review of Literature**

### **1.2.1 Historical Background of Rural Reforms in China**

Before 1949, old China had a relatively high level of inequality compared to other Asian countries. After the Communist Party took control of China in 1949, the government attached much importance to egalitarianism. The production and distribution model under Chairman Mao from the 1950s to the mid-1970s depended upon a socialist collective system for production, capital for growth of output, and a central planning system for distribution. Considerations of local sufficiency usually exerted influence on production decisions. In order to produce sufficient supplies of grain and other agricultural produce, each region channeled its natural, financial and human resources to agricultural production. Although distribution was based on a work-point allocation system, it was very egalitarian. Everyone got his/her equal share from the collective “iron pot”. The administrative structure at that time was ranked down as communes, brigades, and production teams. Egalitarianism didn’t bring much growth to the rural economy. It stifled individuals’ initiative for production because rewards were not linked to performance.

From 1979 to 1984, the first phase of reform focused on decollectivizing agriculture by introducing the household responsibility system. In terms of administrative structures, the communes were gradually replaced by township administrations. Land was allocated to households on a very equal basis and farmers were allowed to keep the rest of agricultural output after paying the quotas and taxes to the state. The household responsibility system allowed some farmers to become rich as their efforts were directly linked to production performance. Grain production and rural incomes increased rapidly in most regions of the country. The average annual income growth rate during this period was 12.7 percent (Yao and Zhu, 1998).

The second phase of the reform started from 1985 with a changed focus away from the agricultural sector to the rural industrial sector. The structure of state taxes and prices was reformed and an attempt was made to build a marketing and trading network. Efforts were made to develop non-farm enterprises---township and village enterprises (TVEs). TVEs are owned and operated by villages or townships and financed initially from surpluses generated within the community. Managers have usually been the township and village leaders. The new policy was interpreted as “leave the land but not the countryside; enter the factory but not the city.” Chinese farmers responded to this policy with great enthusiasm. Therefore farm production slowed down substantially. Millions of workers were transferred out of agriculture. Between 1978 and 1987, rural non-agricultural employment increased by 50.3 million---an average rate of 15.5 percent per year (Ho, 1995). The share of TVE income as a proportion of rural per capita income grew from 7 percent in 1978 to almost 40 percent in 1992. Although poverty had been greatly reduced in rural China since reform, increasing disparity in rural income persisted. Before reform, China was one of the most egalitarian countries in the world. After two decades of reform, China had moved dramatically toward levels of inequality of some of its neighboring Asian countries. Based on Yao and Zhu’s paper on inequality in China (1998), China has the Gini scores of 0.288 and 0.388 for 1981 and 1995 respectively, while South Asia’s Ginis are 0.350 and 0.318, and East Asia have Ginis of 0.387 and 0.381 for the same period.

### **1.2.2 Current Studies on Income and Wealth Inequality in Rural China**

Inequalities of income and wealth are of great social importance because income and wealth serve the function of providing the basic necessities of life. Income is defined as “money, wages, and payments that periodically are received as returns from an occupation or investments” (Kerbo, 1996: 19); and “wealth is accumulated assets in the form of various types of valued goods, such as real estate, stocks, bonds, or money held in reserve” (Kerbo, 1996: 19).

### **1.2.2.1 Rural Income Inequality in China**

#### *i. Pre-reform period (1949-1978)*

Relying on the data on the distribution of collective income in the rural areas of Hebei and Guangdong provinces, Griffin and Saith (1982) measured rural income inequality and the determinants of inequality before the decollectivization period of China began in **1979**. They first explained that their data had an upward bias on inequality because they used collective income and outside employment opportunities were rationed more favorably for the poorer households. They found out that there was little inequality in per capita incomes in production brigades and teams and larger inequality across communes due to the structural factors of the quantity and quality of land.

#### *ii. First phase of reform (1978-1984) and second phase of reform (1984 and later)*

Rozelle (1994) analyzed the data from Jiangsu province during the period of **1984 through 1989** to get the result that evolving patterns of inequality were closely related with changing economic structures in rural China. In addition to finding a significant increase in inequality from 1984 to 1989, he found that policies stressing importance of agriculture reduced inequality while policies promoting rural industry increased it. The interregional inequality was increasing in large part due to the expansion of rural industry. Because serious impediments slowed the free flow of products and beneficial factors such as easy access to resources in rural China, many regions still relied heavily on local capital and resources to develop. As a result, the rich get richer and the poor get poorer. So, Rozelle suggested that in order to reduce inequality, policy makers should try to find ways of breaking the barriers that kept large part of rural society from enjoying the benefits of the success in the rapidly growing areas.

Drawing on a survey of 10,000 households done by the Chinese Academy of Social Sciences in **1986**, Hussain et al. (1994) confirmed that at that time rural income inequality in China was very low by international standards [with rural Gini coefficients ranging from 0.195 (Anhui) to 0.281 (Guangdong)]. Moreover, nonfarming income was more unevenly distributed than farming income, and the implication was that rural

income inequality would rise with a shift in labor from farming activities to nonfarming activities.

A sample survey was done in **1986** from 249 households in one county in central Guangdong province. Using the survey data, Hare (1994) computed the Gini index of per capita total income to be 0.31. Among his findings, non-agricultural income was less equally distributed than agricultural income. Among non-agricultural income, the distribution of wage income was more egalitarian than that of self-employment income. Personal characteristics such as age and marital status were strong determinants of wage employment. Specifically, young men and young single women were the most likely to engage in wage employment. Self-employment was strongly related to the household's connections and class background, i.e. those who had connections with political leadership or who were of wealthy class background were more likely to be self-employed.

Using an alternative data set from a joint survey carried out in the late **1984** and early **1985** by the Rural Policy Research Unit and the Rural Development Research Center of the State Council, Bramall and Jones (1993) concluded that there was a sharp increase in rural income inequality and found that the rural Gini index was around 0.40 in 1984 (1993: 65). They also found out that farm sector income had remained remarkably equal and non-farm sector incomes were very unequal. They criticized the data collected by the State Statistical Bureau for its under-representing of the households at the top and bottom ends of the income scale which would certainly reduce the Gini. They believed the alternative data set consisted of a broadened income definition and sampled a wider range of households. Hence they came up with a much higher Gini compared with the figure of 0.258 obtained by the State Statistical Bureau.

Khan et al. (Griffin and Zhao: 1993) calculated the Gini index to be 0.338 for the rural China in their research on household income and distribution in China. They carried out the survey in **1988** investigating 10,258 households in 28 provinces. They found that income inequality had increased since the early 1980s. However, after comparing their findings with other developing countries in Asia such as India (the Gini of 0.42 for year 1975/76), Indonesia (the Gini of 0.321 for year 1987), and Philippines (the Gini of 0.43

for year 1985), they concluded that the degree of rural income inequality in China was less than that in many of its developing neighbors.

Khan et al. (Griffin and Zhao: 1993) also derived the following findings from their research on income inequality in China. Income from family production activities contributed most to total income and reduced inequality on the income distribution. Wages were the most important factor in increasing income inequality. The rental value of owner-occupied housing had an effect of alleviating inequality. The remaining sources of income such as property income were insignificant and had a disequalizing effect on income distribution. So, the rich people in rural China obtained a larger proportion of income from wage employment, nonwage income from enterprises and property income. They received about average proportion of income from sales of farm and nonfarm produce and in the form of rental value of housing. They got much less than the average proportion of income from family production. Finally, they paid much less than the average rate of net taxes. On the contrary, the poor got a larger part of their income from family production and used a high proportion of it for self-consumption. They received little from wage employment, property income, and all other income sources, while paying a higher than average rate of taxes.

Cheng (1996) used the household survey data collected from five provinces among grain-producing areas of China covering the period from 1993 to 1995. The **1994** data were used for analysis. They got a Gini index of 0.36 for grain producing areas which was somewhat higher than the official Gini coefficient of 0.32 for all rural areas in China.

Khan and Riskin (1998) analyzed the income distribution in China based on a **1995** survey drawn from the national rural and urban household sample surveys. They found that household production activities still contributed most to total rural income while its share of total income decreased from 74 percent in 1988 to 56 percent in 1995. Wages were the second largest component of income and their share among total income increased sharply from 9 percent to over 22 percent in 1995. They calculated the Gini coefficient for 1995 to be 0.416. The main income sources for the wealthy were wages, non-farm entrepreneurship and transfers from the state and collectives, while the main income sources for the poor were farming and rental value of housing.

Ho (1995) in his research on income distribution in China found out that there was a sharp rise in inter-regional income inequality caused primarily by different regional growth rates of rural non-agricultural activities. Non-agricultural activities in rural areas are distributed unevenly because the environment for rural industrialization varies significantly by region. The regions endowed with better infrastructure, greater resources, more developed non-agricultural activities, and closer proximity to urban areas will continue to grow more rapidly than poorly endowed regions and the inter-regional inequality will increase.

### iii. Analysis of the inequality trend

Yao and Zhu (1998) looked at income inequality from a variety of perspectives in their research based on household survey data by State Statistical Bureau and other relevant studies. They summarized three main features for income distribution in China. First, they found that rural per capita incomes quadrupled from 1978 to 1996. However, overall rural income inequality also increased significantly with this rapid income growth. The rural Gini index rose from 0.212 in 1978 to 0.32 in 1994. Second, much of rural income inequality can be indirectly explained by uneven development of township and village enterprises. The TVEs obtain most development in the eastern regions of China, moderate development in the central regions, and little development in the western regions.

The 1997 World Bank report (1997) concluded that the Gini coefficient for overall inequality increased from 0.288 in 1981 to 0.388 in 1995. Employment and education were found to be two important factors influencing inequality in rural China. Increased opportunities for off-farm employment not only boosted income growth but also contributed to rising inequality. The share of off-farm incomes in total income rose from 7 percent in 1978 to 33 percent in 1994, as farm incomes fell from 78 percent in 1980 to 60 percent in 1995. By 1990, off-farm employment had become the largest source of inequality, while transfers and migration opportunities played roles in reducing inequality. However, only a small portion (20%-30%) of income inequality and one-third or one half of increases in inequality were accounted for by income determinant variables. Education explained 2.5 - 3.0 percent of income inequality and 8 percent of the

increase in inequality from 1985 to 1990. Among all levels of education, only primary education reduced inequality and all others increased it. Due to the nearly equal distribution of land, land ownership had little effect on inequality.

#### *iv. Determinants of Household Income*

Using the 1988 survey data referred to before, Khan (Griffin and Zhao: 1993) analyzed the determinants of rural household income in China. In terms of the composition of total disposable rural income, 74 percent was obtained from household production of farm and non-farm goods and services, 10 percent from rental value of owner-occupied housing, 9 percent from wages, and the remaining 7 percent from miscellaneous receipts such as private transfers. After regressing different explanatory variables on total disposable household income, he got the following results. In terms of different categories of household labor endowment, technical workers contributed most to household income, followed by ordinary and temporary workers, workers in township enterprises, cadres, owners/managers of private enterprises, officials and farm workers. The education index was highly significant. Communist Party membership also had a highly significant coefficient. Coefficients of fixed productive assets and other assets were also significant. However, the coefficient of land was not significant. The family size variable, which was explained to be reflective of dependency ratio, was highly significant. But the returns to family size were diminishing because one member increase in family size increased household income by RMB239---31 percent of the per capita rural household income instead of 100 percent.

#### **1.2.2.2 Rural Wealth Inequality in China**

Mckinley (Griffin and Zhao: 1993) analyzed rural wealth inequality in China in 1988. He found that there was a relatively lower wealth inequality in rural China with a Gini index of 0.311 compared to 0.338 for income inequality. Among the four major components of wealth, land and fixed productive assets reduce inequality while housing and financial assets increased inequality. The reason why the Gini for wealth is lower than the Gini for income is because land is the most important and most equally distributed component of wealth. Land occupied 58.8 percent of total wealth, leaving the

rest three components of wealth taking only less than 50 percent. Since land is equally distributed in China, it has the effect of reducing the total wealth inequality. However in other developing countries, a large proportion of rural households are landless or nearly landless and have very few other assets, which results in a higher wealth inequality than income inequality.

### **1.2.3 Modern Western Theories on Social Stratification**

#### **1.2.3.1 Functional Theories of Social Stratification**

Two dominant modern functional theories of social stratification are Davis and Moore theory, and Parsons theory. The Davis and Moore theory argues that social stratification and inequality serve the purpose of meeting the needs of complex social systems. “Among the needs is for the most important positions or jobs in the society to be staffed by the most qualified and competent people” (Kerbo,1996: 119). Therefore, social inequality is believed to be positively functional and inevitable in any society. Parsons’ theory of social stratification argues, “the common value system helps ensure that the functionally most important roles are filled by competent people through their status striving” (Kerbo, 1996:123). According to Parsons, people who best live up to the ideas or values that are given primary stress in the society will receive high income and wealth.

On the individual level, dimensions of functional theory are things like human capital and productivity. If a person has more human capital and more resources to improve productivity, his/her work can be more important and can contribute more to society. Hence, according to functional theory, he/she should make more money and inequality will appear.

#### **1.2.3.2 Conflict Theory of Social Stratification**

Ralf Dahrendorf is one of the most influential conflict theorists of social stratification. He incorporates the strong points of both Marx and Weber in his theory. According to him, societies must be viewed from the perspective of conflict and differing interests. Power or party acts as the main dimension of social stratification. And political power or formalized bureaucratic power and authority are often used to explain social

inequality and stratification in industrial societies. “The *haves* get what they want because they are on top in the social organization, while the *have-nots* find it in their interests to challenge the status quo that assign them low positions and low rewards” (Kerbo, 1996:140).

The major difference between conflict theory and functional theory is that conflict theory focuses on power while functional theory focuses on ability and productivity. For conflict theorists, a person has more human capital and more resources because the person has more power to help him/her get more. So income and wealth is connected to power. Inequality exists because people in power positions can get the society to work for them. Therefore, they receive higher incomes and accumulate greater wealth.

### **1.3 Statement of Problem**

A common view can be derived from the above literature on China that income inequality in rural China has been increasing since 1978, although various studies result in different Gini coefficients based on different data sets. The major reason for the increased inequality is the rapid and uneven growth of rural industry, especially township and village enterprises. One explanation for the uneven development of rural industry is that regions are unequally endowed in terms of resources (e.g. infrastructure), location (e.g. closer proximity to urban areas) and regional characteristics (e.g. development of rural industry).

Pervasively confirmed by various studies on rural China is the fact that non-agricultural income is more unequally distributed than agricultural income. In terms of rural income composition, income from family production contributes most to total income although its share is decreasing; wages rank second and its share is increasing; rental value of housing takes the third position regarding its contribution to income.

After comparing the two provinces with each other and with other provinces in China, I will investigate to what extent the two provinces can represent the whole picture of China. I will compute the Gini coefficients for each province in both 1994 and 1995. Through comparing these Ginis and those from the literature, I will be able to analyze the trend of income and wealth inequality in both provinces.

Second, I will investigate what effect each source of income/wealth has on income/wealth inequality. I will decompose the Gini index into sources of income/wealth to find the result. Those sources which have a higher concentration ratio than the overall Gini will increase inequality more than sources with lower Gini index scores.

Third, I will do a regression analysis to find out what variables are statistically significant in determining income and wealth and how much they account for income and wealth. The variables I will use include family size, number of laborers in the household, number of children at the age of 15 to 17 in the household, characteristics of the village investigated, the number of workers in state owned enterprises, township and village enterprises, and other towns, education, value of productive fixed assets (for income regression analysis only), and various kinds of cultivation area.

Fourth, I will investigate how my income/wealth determinant variables have an effect on impacting inequality. I will calculate Gini coefficients on income/wealth regression residuals and see if the Gini indices will be reduced after taking into account those variables.

Due to the fact that current studies on income and wealth inequality in rural China haven't really provided any theoretical explanations of the issue, my study will try to develop some theory of social stratification on rural China. Based on the previous discussion of western theories of social stratification, my analysis will explore the following three possibilities.

If the functional theory is true, factors such as education and resources (e.g. labor, land) will explain all the inequality. If conflict theory is true, the previous factors will explain none of the inequality. If those factors explain some portion of inequality, it means either some conflict processes may be operating, or not every social functional process is adequately measured, or luck may be one important element to explain inequality.

## **Chapter 2: Data and Methods**

### **2.1 Data Description**

The data were collected by a rural survey group of the Chinese State Statistical Bureau in 1994 and 1995 in the two provinces Anhui and Sichuan. Altogether 28 counties, 280 administrative villages, and 2820 households (1820 in Sichuan and 1000 in Anhui) were surveyed. All counties in each province were ranked by either income per capita or grain output per Mu (1 Mu = 1/6 acre). A subset of counties was selected based on a systematic sampling method. A similar sampling method was used to select villages in each selected county and rural households in each selected village. The household is the basic income recipient. Household income is measured by the earnings of each individual member as well as the collective earnings of the household. The annual total income of the household is composed of basic income (income from payments and family business), transferred income, and property income.

Anhui is among one of China's smallest provinces with a population of 57.6 million and an area of 139,400 km<sup>2</sup>. It has China's seasonal monsoon climate. The predominant winter crop is wheat, and summer crops include rice, soybeans, sweet potatoes and other agricultural products. Its main commercial crops are vegetable oilseeds, cotton, fibers, and tobacco. Fish farming is common along the Yangtze River. Anhui possesses abundant agricultural resources and products, occupying 427 million acres of farmland, 414 million acres of forestland, and 53 million acres of aquatic farm.

Sichuan, situated in the southwest part of China, covers 570,000 km<sup>2</sup> and has a population of 110.84 million. It is among one of the biggest provinces in China. Its land can be divided into plain, hill, plateau, swamp, forest and grassland with all types of climate. Sichuan has a long history of developed agriculture and is the biggest producer of grain in China. The economic development of the province is also stimulated by the fast growing township and village enterprises.

### **2.2 Methodological Issues**

Various methods exist for measuring inequality. There are simple methods such as distribution among population tenths and ratios of average incomes of different decile

groups. In addition to them, the most popular four among the others are the Gini index, Squared Coefficient of Variation, Theil's index, and Variance of Logarithms. The Gini index is based on the Lorenz curve plotting the share of population against the share of income or wealth. I have chosen to use that method due to the following reasons. First, most of the previous inequality studies done in China and in other countries employed this method. So it is convenient for comparison purposes to use this method in my research. Second, the Gini index is good at measuring inequality of a less extreme form, as is the case with inequality in China. Third, the Gini index enables us to decompose overall inequality into its constitutive sources. This can be demonstrated by the formula (Griffin and Zhao, 1993:37):

$$G = \sum (U_i * C_i) \text{ where}$$

**G**: the Gini index of total income/wealth

**U<sub>i</sub>**: the share of *i*th source of income/wealth.

**C<sub>i</sub>**: the concentration ratio of the *i*th source of income/wealth, i.e. the Gini index within the *i*th source of income/wealth.

In this formula, the Gini index is actually the weighted average of the concentration ratios of various sources of income/wealth, the weights being the shares of these sources in total income/wealth. If the concentration ratio is higher (lower) than the overall Gini index, a rise in the share of the corresponding source of income/wealth will increase (reduce) the overall Gini ratio.

## **2.3 Analysis Process**

### **2.3.1 Four Step Analysis**

The first step in my analysis is to compute the overall Gini index for both income and wealth for the two provinces in 1994 and 1995.

The second step is to decompose the overall income/wealth inequality into its component sources and try to find out what share each source occupies in terms of overall income/wealth, what increasing or decreasing effect on inequality each source has, and the contribution of each source to overall inequality.

The third step in my analysis is to run income and wealth regressions and investigate how the selected independent variables affect income/wealth.

The fourth step is to calculate the Gini index for income and wealth regression residuals. Because residuals are variability not explained by my independent variables, the Gini on residuals will show the inequality left over after independent variables explain everything they can. In that way, I can see how the independent variables affect levels of inequality.

### 2.3.2 Components of Annual Total Income

The components of annual total income are as follows:

- (i) Income from payment (**wages and salary**), including payment from collective organizations and enterprises, payment from individual, private, and township and village enterprises, and payment from other work units.
- (ii) Income from **family business**, including income from family-run agricultural businesses and nonagricultural businesses. Income from agricultural businesses is composed of income from planting, forestry, stock raising, fishery, and hunting. Income from nonagricultural businesses is composed of income from handicraft industry, industry, construction industry, transport industry, commerce, catering trade, service industry, and other family businesses.
- (iii) Income from **transfers**, including welfare and relief payments, various subsidies, pensions, remittances from relatives and friends, rewards, compensations, and other transfers.
- (iv) Income from **property**, including interest income, rent income, and other property income.

### 2.3.3 Components of Wealth

The components of wealth are as follows:

- (i) **Original value of fixed productive assets**
- (ii) **Year-end value of houses**
- (iii) **Ending cash balance**
- (iv) **Ending savings balance**

I haven't added land value to the total wealth, because land is not individually

owned and the data available does not provide enough information to calculate the value of land.

### **2.3.4 Independent Variables in the Regression Analysis**

The independent variables in my regression analysis are grouped into four sections. The first section is **Education**, consisting of five educational indices: primary school, middle school, high school, technical school, college and higher education. These indices are constructed by dividing the number of people in each category of education by the number of laborers in the household. The second group of predictor variables is **Family Structure**. This group is composed of six different variables: family size (number of people in the household), number of laborers, children at 15-17 (number of children 15 to 17 years old), staff and workers (number of people working for the government or collective organizations and enterprises), workers in TVEs (number of people working at township and village enterprises), workers going outside the village (number of people going outside the village to work). The third group of the independent variables is **Resource Factors**. It includes land area (the area of farmland occupied by the household), hilly area (area of hills occupied by the household), water area (area of water occupied by the household), and original value of fixed productive assets. The unit used to measure the area is Chinese Mu (1 Mu = 1/6 acre). The last group is **Context variables**. It has nine variables listed as follows:

- plain (whether the place where the household lives is flat)
- hills (whether the place where the household lives is hilly)
- phone (whether the household has phone at home: 1 is Yes and 0 is No)
- highway (whether there is highway in the village where the household lives: 1 is Yes and 0 is No)
- school (whether there is school in the village where the household live: 1 is Yes and 0 is No)
- clinic (whether there is clinic in the village where the household lives: 1 is Yes and 0 is No)

- old liberated area (whether the place where the household lives is an area which was among the first few liberated by the Communist Party during the civil war in the 1940s: 1 is Yes and 0 is No)
- post office (whether there is a post office in the village where the household lives: 1 is Yes and 0 is No)
- radio (whether there are radio programs in the village where the household lives: 1 is Yes and 0 is No).

## Chapter 3: Findings

### 3.1 Level of Income and Wealth Inequality in Anhui and Sichuan

From Table 1-(i), we can see that income Ginis for both provinces decreased slightly from 1994 to 1995. In Anhui, the Gini index was 0.234 in 1994 and 0.229 in 1995, while in Sichuan the income Gini was 0.236 in 1994 and 0.233 in 1995. The decrease in Gini in Anhui province may be explained by the increase in the share of wage income and the decrease in the share of property income, because wage income has an effect of reducing inequality and property income has an effect of increasing inequality. The slight decrease in Gini in Sichuan province may be attributed to the increase in the share of agricultural income and the decrease in the share of nonagricultural income in total income.

The wealth inequality shown in Table 1-(ii) is much higher than the income inequality. In Anhui, the wealth Gini increased from 0.346 in 1994 to 0.349 in 1995, and in Sichuan, it increased sharply from 0.368 in 1994 to 0.385 in 1995. One study (Griffin and Zhao: 1993) discussed in the literature review arrived at a lower wealth inequality than income inequality because land was included as a component of wealth. The wealth in my study does not include land for the reason that land is not individually owned, so the wealth inequality resulting from my study is higher than the income inequality.

**Table 1-(i). Total INCOME Ginis for Anhui and Sichuan in 1994 and 1995**

	<i>Anhui</i>	<i>Sichuan</i>
1994	0.234	0.236
1995	0.229	0.233

**Table 1-(ii). Total WEALTH Ginis for Anhui and Sichuan in 1994 and 1995**

	<i>Anhui</i>	<i>Sichuan</i>
1994	0.346	0.368
1995	0.349	0.385

From the literature I have reviewed, some results can be pulled out for a comparison with 1994-1995 income Ginis in the two provinces. These comparisons can be made by using the following table of overtime Ginis for rural per capita net income in

China. The data were based on annual household survey done by the State Statistical Bureau.

**Table 2. Rural Gini Coefficients (per capita net income)**

<b>Year</b>	<b>Gini</b>	<b>Households surveyed</b>
1978	0.212	6,095
1980	0.237	15,914
1986	0.280	66,836
1987	0.300	66,912
1988	0.300	67,186
1989	0.316	66,906
1990	0.315	66,478
1991	0.310	67,410

Sources: State Statistical Bureau, China, 1978-1991

We can see a generally increasing trend of Gini coefficients from the above table. The paper of Yao and Zhu (1998) provided some data on inequality in the 1990s in other countries: the Gini score of 0.380 for Middle East and North Africa, 0.493 for Latin America and the Caribbean, 0.381 for East Asia and the Pacific, 0.318 for South Asia, 0.338 for high-income countries, 0.289 for Eastern Europe. By comparing the Ginis in the table with those of other countries, we can see that China is having a moderate level of inequality.

Using a 1986 income inequality study of 10,000 households in China, Hussain et al. (1994) calculated the Gini index of 0.195 for Anhui and 0.228 for Sichuan. From Table 2, we know that 1986 Gini was 0.288 for the whole China. Hence, due to the fact that a large proportion of rural income inequality in China comes from inter-provincial inequality (Yao and Zhu, 1998:140), the provincial level Gini indices cannot represent the overall inequality for China. Because Anhui and Sichuan are two provinces with low income inequality, it is reasonable to predict that the Gini coefficient for all of rural China in 1994 and 1995 will be much higher than those shown in Table 1.

## **3.2 Decomposition of Income and Wealth Inequality**

### **3.2.1 Income Inequality Decomposition**

The four parts of Table 3 present the decomposition of income inequality. As shown in the table, agricultural income takes up a predominant proportion of the total income in both provinces. Ranking the second is wage income (except for the case of 1994 Sichuan in which wage income ranks the third), but far behind the share of agricultural income. Income from nonagricultural activities ranks the third in terms of its share in total income, followed by transfer income and property income. Looking at the concentration ratios, I find that in both provinces, transfer income and property income have a disequalizing effect on overall income distribution. However, due to their small proportions in total income, their contributions to overall inequality remain small. Wage income in both provinces has the effect of decreasing overall inequality, which is the opposite of the patterns in earlier research (Khan et al., 1993). However, the proportion of wage income in total income increased from 1994 to 1995 in both provinces and its contribution to overall income inequality increased as well. This may indicate a trend toward what was described in the literature, i.e., wage income will become an important component of total income and a disequalizing factor for income inequality.

For the Anhui province, the concentration ratio for income from agricultural activities is a little higher than the overall Gini index, while the concentration ratio for nonagricultural income is much lower than the overall Gini. However, the opposite situation is found in Sichuan province, where nonagricultural income has the effect of increasing income inequality and agricultural income has the effect of reducing it. I think the different effects of agricultural income and nonagricultural income in the two provinces can be explained by the different levels of industrial development in these provinces: Sichuan is a well-developed industrial base, while Anhui is a relatively agriculture dominant province. Consequently, nonagricultural income is more important in Sichuan whereas agricultural income matters more in Anhui.

The income profiles of rich and poor people in Anhui and Sichuan provinces are. In Anhui, the rich people get a higher than average proportion of income from agricultural activities, transfers, and property income, while they receive a lower than average proportion of income from wages and non-agricultural activities. This can be a

typical profile of a middle-to-lower level income province where agricultural activities dominate other types of production and income engendering activities. In Sichuan, the picture is different. The rich people there get a higher than average proportion of income from nonagricultural activities, transfers and property income. They receive a close to average proportion of income from agricultural activities, and a lower than average proportion of income from wages. In this highly developed industrial province, nonagricultural activities play a very important role in increasing the gap between the rich and the poor.

**Table 3-(i). Rural INCOME inequality and its sources (ANHUI 1994)**

<b>Income and its Components</b>	<b>Share of Total Income (%)</b>	<b>Gini or Concentration Ratio</b>	<b>Contribution of Income Component to Overall Inequality (%)</b>
Income from payment (wages)	8.97	0.178	6.81
Income from agricultural activities	80.41	0.245	84.24
Income from non-agricultural activities	6.48	0.148	4.11
Income from transfers	1.91	0.255	2.08
Property income	2.22	0.291	2.76
<i>Total Income</i>	100.00	0.234	100.00

**Table 3-(ii). Rural INCOME inequality and its sources (ANHUI 1995)**

<b>Income and its Components</b>	<b>Share of Total Income (%)</b>	<b>Gini or Concentration Ratio</b>	<b>Contribution of Income Component to Overall Inequality (%)</b>
Income from payment (wages)	9.56	0.182	7.61
Income from agricultural activities	81.22	0.241	85.48
Income from non-agricultural activities	5.64	0.110	2.71
Income from transfers	2.20	0.288	2.76
Property income	1.38	0.240	1.45
<i>Total Income</i>	100.00	0.229	100.00

**Table 3-(iii). Rural INCOME inequality and its sources (SICHUAN 1994)**

<b>Income and its Components</b>	<b>Share of Total Income (%)</b>	<b>Gini or Concentration Ratio</b>	<b>Contribution of Income Component to Overall Inequality (%)</b>
Income from payment (wages)	8.79	0.199	7.41
Income from agricultural activities	77.30	0.216	70.95
Income from non-agricultural activities	9.01	0.399	15.25
Income from transfers	3.85	0.313	5.12
Property income	1.05	0.011	1.26
<i>Total Income</i>	100.00	0.236	100.00

**Table 3-(iv). Rural INCOME inequality and its sources (SICHUAN 1995)**

<b>Income and its Components</b>	<b>Share of Total Income (%)</b>	<b>Gini or Concentration Ratio</b>	<b>Contribution of Income Component to Overall Inequality (%)</b>
Income from payment(wages)	10.12	0.198	8.59
Income from agricultural activities	76.46	0.223	73.33
Income from non-agricultural activities	8.20	0.343	12.06
Income from transfers	4.04	0.267	4.63
Property income	1.18	0.275	1.40
<i>Total Income</i>	100.00	0.233	100.00

Note: For the above four parts of table 3 (1) Column I is 100 U<sub>i</sub>. (2) Column II is the index of inequality, i.e. the Gini ratio for total income and the concentration ratios for income components. (3) Column III is  $100(U_i C_i)/G$ .

### 3.2.2 Wealth Inequality Decomposition

From the decomposition of wealth inequality in Table 4, we can see that in both provinces, housing value occupies more than half of total wealth and also makes the

largest contribution to wealth inequality. That is very understandable because farmers in China give their first priority to build new houses or improve existing houses when their income increases. It is still many Chinese's belief that stocks and bonds have some degree of risk taking and uncertainty. Housing is attractive as a less risky form of accumulating wealth. However, there has been no real market for houses in rural China, for farmers build houses on their own with the help of their friends and relatives; also, almost all housing is private and for self-use.

Original value of fixed productive assets ranks second in terms of its proportion in overall wealth, followed by ending cash balance and ending savings balance. In Anhui province, except housing, all other components of wealth have a reducing effect on wealth inequality. In Sichuan province, ending savings balance has a concentration ratio much higher than the overall Gini and hence accentuates wealth inequality. Original value of fixed productive assets and ending cash balance all have the effect of reducing wealth inequality due to their lower concentration ratios.

In both provinces, we see a trend of increasing share of ending savings balance in total wealth, accompanied consistently by an increased contribution of ending savings balance to total wealth inequality. In Anhui where this phenomenon is sharper, the proportion of ending savings balance in total wealth increased from 2.24 percent to 3.24 percent, a 45 percent increase from 1994 to 1995 while the contribution of ending savings balance to overall wealth inequality increased 52 percent. This finding may suggest that saving money in the bank is becoming a new way of accumulating wealth and possibly a new factor of increasing inequality.

**Table 4-(i): Rural WEALTH Inequality and its Sources (ANHUI 1994)**

<b>Wealth and its Components</b>	<b>Share of Total Wealth (%)</b>	<b>Gini or Concentration Ratio</b>	<b>Contribution of Wealth Component to Overall Inequality (%)</b>
Fixed productive assets	21.98	0.287	18.20
Housing	60.39	0.396	69.12
Ending cash balance	15.39	0.237	10.55
Ending savings balance	2.24	0.329	2.13
<i>Total Wealth</i>	100.00	0.346	100.00

**Table 4-(ii): Rural WEALTH Inequality and its Sources (ANHUI 1995)**

<b>Wealth and its Components</b>	<b>Share of Total Wealth (%)</b>	<b>Gini or Concentration Ratio</b>	<b>Contribution of Wealth Component to Overall Inequality (%)</b>
Fixed productive assets	22.96	0.314	20.66
Housing	55.95	0.408	65.35
Ending cash balance	17.85	0.211	10.76
Ending savings balance	3.24	0.348	3.23
<i>Total Wealth</i>	100.00	0.349	100.00

**Table 4-(iii): Rural WEALTH Inequality and its Sources (SICHUAN 1994)**

<b>Wealth and its Components</b>	<b>Share of Total Wealth (%)</b>	<b>Gini or Concentration Ratio</b>	<b>Contribution of Wealth Component to Overall Inequality (%)</b>
Fixed productive assets	24.94	0.299	20.21
Housing	55.58	0.390	58.91
Ending cash balance	13.20	0.315	11.29
Ending savings balance	6.29	0.562	9.59
<i>Total Wealth</i>	100.00	0.368	100.00

**Table 4-(iv): Rural WEALTH Inequality and its Sources (SICHUAN 1995)**

<b>Wealth and its Components</b>	<b>Share of Total Wealth (%)</b>	<b>Gini or Concentration Ratio</b>	<b>Contribution of Wealth Component to Overall Inequality (%)</b>
Fixed productive assets	24.93	0.336	21.74
Housing	53.37	0.415	57.55
Ending cash balance	13.75	0.286	10.19
Ending savings balance	7.96	0.509	10.52
<i>Total Wealth</i>	100.00	0.385	100.00

Note: For the above four parts of table 4 (1) Column I is 100 U<sub>i</sub>. (2) Column II is the index of inequality, i.e. the Gini ratio for total wealth and the concentration ratios for wealth components. (3) Column III is  $100(U_i C_i)/G$ .

### **3.3 Income and Wealth Regression Analysis**

#### **3.3.1 Income Regression Analysis**

From Anhui 1994 and 1995 income regressions (Table 5), we can see that education explains about 10 percent of the variance in total income. Due to the relatively small percentage of people in higher education categories, we don't get many significant coefficients for education. But we can tell that returns to education increase with the level of education. Family structure factors alone can account for about 13 percent to 15 percent of income. Among family structure variables, family size, number of laborers, children at the age of 15 to 17, and workers at TVEs are all significantly positively associated with income in either 1994 or 1995 or both. Going outside the village for work has a negative, but nonsignificant, effect on income. For this province, farmers who migrate to other villages or cities don't seem to do well compared with their fellow workers who stay in the village. All the resource factors, except hilly area, have a significant positive effect on total income. Context variables explain only a small part of income. Among them, plain, phone, and old liberated area have a significant positive impact on income. In the 1995 regression, school and post office are having a negative effect on income. This could possibly be due to random sampling errors. In sum, 24.4 percent of income is explained by independent variables in 1994 and the figure goes up to 34.6 percent in 1995. The increased explanation of the variance in income can be possibly explained by the increasing power of education, family structure, land water and hilly area, and context variables; or the increase can be explained by nonrandom sampling errors.

**Table 5-(i). ANHUI 1994 INCOME regressions**

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<b>Education</b>						
Primary school	-396.39					-247.93
Middle school	441.79					693.92
High school	2384.73*					1967.77*
Technical school	3085.69					2666.01
College and higher education	3672.83					4522.92
<b>Family Structure</b>						
Family size		707.68*				221.25
Number of laborers		606.45*				507.60*
Children at 15-17		1048.86*				1156.36*
Staff and workers		735.00				455.38
Workers at TVEs		932.82*				1155.35*
Workers going outside the village		-644.15*				-497.38
<b>Resource factors</b>						
<b>Land, Water, Hilly Area</b>						
Land area			3.35*			2.04*
Hilly area			-0.11*			-0.09
Water area			6.31*			4.69*
<b>Fixed productive assets</b>				0.50*		0.31*
<b>Context Variables</b>						
plain					501.79	-621.28
hills					580.12	-710.83
phone					-246.30	119.40
highway					-313.56	7.38
school					460.51	-506.44
clinic					492.26	788.65*
Old liberated area					1175.81*	1665.34*
Post office					-72.77	-42.89
radio					125.10	153.37
<b>R<sup>2</sup></b>	0.101*	0.132*	0.125*	0.101*	0.016	0.244*

\* P<0.05

**Table 5-(ii). ANHUI 1995 INCOME regressions**

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<b>Education</b>						
Primary school	-563.18					232.09
Middle school	1015.94					1009.07
High school	2183.95*					1726.08*
Technical school	3857.79					3298.01
College and higher education	7078.61					8684.89*
<b>Family Structure</b>						
Family size		999.92*				452.60*
Number of laborers		456.74*				408.29*
Children at 15-17		263.42				385.13
Staff and workers		1236.75*				869.94
Workers at TVEs		295.43				608.23
Workers going outside the village		-377.49				-53.97
<b>Resource factors</b>						
<b>Land, Water, Hilly Area</b>						
Land area			3.55*			2.69*
Hilly area			-0.14*			-0.10
Water area			4.08*			3.22*
<b>Fixed productive assets</b>				0.36*		0.18*
<b>Context Variables</b>						
plain					2374.42*	1039.04*
hills					1840.25*	143.80
phone					274.01	593.01*
highway					695.59	448.93
school					-1494.50*	-1439.42*
clinic					458.58	235.57
Old liberated area					693.41	1332.37*
Post office					-1157.57*	-863.89*
radio					-351.79	-912.06
<b>R<sup>2</sup></b>	0.117*	0.156*	0.193*	0.106*	0.070*	0.346*

\* P<0.05

In Sichuan, education alone explains slightly less than 10 percent of total income. All indices of education have a positive effect on income although only high school is significant in both years. The reason why technical school, and college and higher education indices don't have a significant impact is because that they don't have large enough sample size. We also see from Table 5-(iii and iv) that returns to education increase with the level of education except technical school index. Its contribution to income is less than middle school and high school education.

Family structure variables alone account for about 10 percent of total income. Family size, number of laborers, and children at the age of 15 to 17 have a significant positive impact on income in either year 1994 or 1995 or both. Resource factors all have a significant positive relationship with total income except hilly area. Context variables explain about 13 percent of income, with plain and phone having a significant positive effect on income in both years. In sum, 36.8 percent of the variance in total income is explained by the predictor variables in 1994 and 29.3 percent in 1995. Comparing the separate regressions, we can see that R square for land, water and hilly area changed from 0.133 to 0.012, a decrease of about 91 percent. In addition, the explaining power for fixed productive assets also decreased almost 36 percent from 0.128 to 0.082. So most part of the decrease in the overall R square can be attributed to the decreasing force of explaining income by resource factors. Because Sichuan is a rapidly industrializing province, factors affecting rural income (e.g. resource factors) may matter less in explaining the overall income as Sichuan develops its industry at a fast pace.

**Table 5-(iii). SICHUAN 1994 INCOME regressions**

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<b>Education</b>						
Primary school	896.98*					425.37
Middle school	1618.50*					667.59*
High school	2083.28*					1289.54*
Technical school	933.97					693.68
College and higher education	2067.08					2701.66
<b>Family Structure</b>						
Family size		460.22*				449.52*
Number of laborers		439.23*				186.38*
Children at 15-17		411.19*				400.89*
Staff and workers		250.39				248.51
Workers at TVEs		836.75*				322.87
Workers going outside the village		-94.18				157.19
<b>Resource factors</b>						
<b>Land, Water, Hilly Area</b>						
Land area			4.58*			2.52*
Hilly area			-1.47*			-0.31
Water area			11.94*			10.38*
<b>Fixed productive assets</b>				0.52*		0.35*
<b>Context Variables</b>						
plain					2463.31*	2083.35*
hills					157.07	87.49
phone					1125.36*	1307.27*
highway					-58.13	-386.62
school					-285.90	-350.29*
clinic					-86.23	-181.14
Old liberated area					-310.53*	-220.09
Post office					-267.90	-304.71*
radio					896.26*	1233.41*
<b>R<sup>2</sup></b>	0.097*	0.108*	0.133*	0.128*	0.124*	0.368*

\* P<0.05

**Table 5-(iv). SICHUAN 1995 INCOME regressions**

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<b>Education</b>						
Primary school	671.16*					179.22
Middle school	1431.18*					427.32
High school	1883.87*					1078.22*
Technical school	1266.91					377.10
College and higher education	4557.85					4158.20
<b>Family Structure</b>						
Family size		525.08*				595.40*
Number of laborers		564.52*				362.43*
Children at 15-17		232.83				290.25
Staff and workers		556.42				356.44
Workers at TVEs		524.41				75.17
Workers going outside the village		-493.64*				-157.76
<b>Resource factors</b>						
<b>Land, Water, Hilly Area</b>						
Land area			0.07*			0.06*
Hilly area			-0.02			0.01
Water area			6.17*			3.37*
<b>Fixed productive assets</b>				0.36*		0.27*
<b>Context Variables</b>						
plain					2988.09*	3163.24*
hills					319.34	569.65*
phone					583.05*	751.84*
highway					438.30	576.26*
school					-167.23	-152.16
clinic					449.55*	185.33
Old liberated area					-765.53*	-616.51*
<b>R<sup>2</sup></b>	0.087*	0.105*	0.012*	0.082*	0.133*	0.293*

\* P<0.05

Note: No post office and radio variables exist in this year of the data.

### 3.3.2 Wealth Regression Analysis

Looking at wealth regressions for Anhui province, we see that 23.8 percent of the variance in total wealth is explained by the independent variables in 1994 and only 17.6 percent in 1995. Education explains about 9 percent of the variance in total wealth. Only high school has a significant positive impact on total wealth. Family structure variables account for about 10 percent of wealth with family size, number of laborers, and workers at TVEs having a significant positive effect in both years. Area of farmland owned by the household also significantly increases wealth. Context variables explain less than 10

percent of wealth with phone, highway, clinic, and school having a significant positive impact on wealth in either 1994 or 1995 or both. The overall R square decreased about one-fourth from 0.238 to 0.176 in Anhui province. This can be explained by the declining explanatory ability in resource factors and family structure.

**Table 6-(i). ANHUI 1994 WEALTH regressions**

	Model 1	Model 2	Model 3	Model 4	Model 5
<b>Education</b>					
Primary school	-106.67				181.88
Middle school	1898.24				1449.16
High school	3758.88*				2921.26*
Technical school	5362.62				3100.31
College and higher education	4488.22				5918.41
<b>Family Structure</b>					
Family size		1193.88*			606.62*
Number of laborers		858.13*			706.48*
Children at 15-17		1313.90*			1105.62
Staff and workers		1534.40			1119.01
Workers at TVEs		4473.45*			3907.12*
Workers going outside the village		-771.69			-151.04
<b>Resource Factor</b>					
<b>Land, Water, Hilly Area</b>					
Land area			5.05*		5.24*
Hilly area			-0.08		-0.23
Water area			5.56*		2.46
<b>Context Variables</b>					
plain				2690.47*	1227.88
hills				106.34	-2523.61*
phone				2072.00*	2420.52*
highway				-1608.58*	-763.42
school				4291.74*	3079.48*
clinic				-1171.93	-948.69
Old liberated area				-884.00	-515.89
Post office				-986.08	-1028.47
radio				-362.50	-308.38
<b>R<sup>2</sup></b>	0.086*	0.135*	0.089*	0.044*	0.238*

\* P<0.05

**Table 6-(ii). ANHUI 1995 WEALTH regressions**

	Model 1	Model 2	Model 3	Model 4	Model 5
<b>Education</b>					
Primary school	-453.27				-653.45
Middle school	3371.36*				2443.45
High school	6822.90*				5807.55*
Technical school	-1521.60				-3873.97
College and higher education	-5566.52				-4726.87
<b>Family Structure</b>					
Family size		1448.42*			1098.32*
Number of laborers		845.02*			1018.04*
Children at 15-17		-206.01			322.36
Staff and workers		-316.03			-717.64
Workers at TVEs		4116.50*			3459.77*
Workers going outside the village		-467.16			-424.59
<b>Resource Factor</b>					
<b>Land, Water, Hilly Area</b>					
Land area			2.75*		2.11*
Hilly area			0.09		0.01
Water area			4.42		1.12
<b>Context Variables</b>					
plain				2748.92*	1446.71
hills				343.11	-1215.33
phone				1171.50	1078.17
highway				4179.91*	4083.93*
school				3856.45*	4054.68*
clinic				-2913.43*	-3183.60*
Old liberated area				-1392.11	-626.52
Post office				634.02	726.24
radio				284.50	-374.65
<b>R<sup>2</sup></b>	0.080*	0.093*	0.024*	0.058*	0.176*

\* P&lt;0.05

The wealth regression analysis for Sichuan province explains 12.1 percent of the variance in wealth in 1994 and 12.5 percent in 1995. Education alone explains about 5 percent of the variance in wealth. Middle school, high school, and college education have a significantly positive effect in either of the years. Family structure variables account for about 5 percent of the variance in wealth. Family size, number of laborers, and staff and workers significantly influence wealth in a positive direction. Resource factors explain very little of the variance in wealth and do so not significantly in Model 5, which is the model including all predictor variables. Context variables account for about 6 percent of wealth with plain and phone having a significant positive impact on wealth in both years.

**Table 6-(iii). SICHUAN 1994 WEALTH regressions**

	Model 1	Model 2	Model 3	Model 4	Model 5
<b>Education</b>					
Primary school	630.62				-87.32
Middle school	2518.20*				1310.23*
High school	3427.25*				2192.32*
Technical school	4392.94				3436.96
College and higher education	12282.29				13504.66
<b>Family Structure</b>					
Family size		538.61*			751.08*
Number of laborers		390.85*			371.91*
Children at 15-17		368.22			496.04
Staff and workers		1243.84			425.12
Workers at TVEs		1385.53*			557.13
Workers going outside the village		-147.65			-273.30
<b>Resource Factor</b>					
<b>Land, Water, Hilly Area</b>					
Land area			1.96*		-0.33
Hilly area			-1.23*		0.29
Water area			1.04		-0.24
<b>Context Variables</b>					
Plain				3665.14*	3923.28*
Hills				360.96	378.39
Phone				1120.51*	1204.39*
Highway				514.55	513.70
School				106.44	102.02
Clinic				650.25*	488.79
Old liberated area				120.91	377.61
Post office				606.72	451.10
Radio				541.39	759.17
<b>R<sup>2</sup></b>	0.041*	0.038*	0.007*	0.066*	0.121*

\* P<0.05

**Table 6-(iv). SICHUAN 1995 WEALTH regressions**

	Model 1	Model 2	Model 3	Model 4	Model 5
<b>Education</b>					
Primary school	305.29				-372.28
Middle school	2214.64*				909.57
High school	4092.98*				2835.18*
Technical school	3621.56				788.84
College and higher education	24429.23*				22278.41*
<b>Family Structure</b>					
Family size		492.88*			656.81*
Number of laborers		801.95*			761.58*
Children at 15-17		523.51			741.99
Staff and workers		3117.40*			2579.49*
Workers at TVEs		967.50			188.03
Workers going outside the village		-229.42			-243.57
<b>Resource Factor</b>					
<b>Land, Water, Hilly Area</b>					
Land area			0.01		0.01
Hilly area			-0.07		-0.04
Water area			3.94		0.74
<b>Context Variables</b>					
Plain				3689.59*	3797.25*
Hills				863.57*	888.30*
Phone				2585.02*	2802.02*
Highway				422.93	604.32
School				699.08	621.97
Clinic				979.00*	673.31
Old liberated area				530.44	823.46*
<b>R<sup>2</sup></b>	0.054*	0.052*	0.002	0.059*	0.125*

\* P&lt;0.05

### 3.4 Gini on regression residuals

Table 7 and 8 show the Gini on income and wealth regression residuals. By comparing those Ginis with the calculated Ginis for total income and wealth, we can see that both income and wealth Ginis are reduced. Therefore, we can conclude that the independent variables in income/wealth regression analysis affect income/wealth distribution.

**Table 7. Gini for INCOME regression residuals in comparison with Gini for total income**

<i>Anhui</i>		<i>Sichuan</i>	
<b>Gini on regression residuals</b>	Gini for total income	<b>Gini on regression residuals</b>	Gini for total income
1994	<b>0.190</b>	0.234	<b>0.188</b>
1995	<b>0.181</b>	0.229	<b>0.196</b>

**Table 8. Gini for WEALTH regression residuals in comparison with Gini for total wealth**

<i>Anhui</i>		<i>Sichuan</i>	
<b>Gini on regression residuals</b>	Gini for total wealth	<b>Gini on regression residuals</b>	Gini for total wealth
1994	<b>0.304</b>	0.346	<b>0.357</b>
1995	<b>0.312</b>	0.349	<b>0.374</b>

## Chapter 4: Conclusions

### 4.1 Summary

Using the household survey data gathered by the Rural Survey Group of State Statistical Bureau, this study investigates levels of and factors contributing to income and wealth inequality in two provinces in rural China. Income inequality is at a moderate level in both provinces as shown by the low scores of Gini coefficients: 0.234 and 0.229 for Anhui province in 1994 and 1995, and 0.236 and 0.233 for Sichuan province in the two respective years. I found a slight decrease in income inequality in the two provinces from 1994 to 1995. This can be explained by the cooling economic policy during that period (e.g. raising interest rates, and reducing loans to enterprises). As expected, wealth inequality is much higher than the income inequality in the two provinces. It was found out that in Anhui, the Ginis for wealth in 1994 and 1995 were respectively 0.346 and 0.349, and in Sichuan they were 0.368 and 0.385. Wealth inequality is increasing although income inequality appears to be decreasing. Increased wealth inequality is understandable because rich people will continue to accumulate more wealth than poor people do even if the income remains at a constant level.

The decomposition of income inequality shows a detailed breakdown of the inequality by income sources. Wage income diminishes inequality in both provinces, while property income and transfer income accentuates inequality. We see an increase in the share of wage income in total income from 1994 to 1995 and an increased contribution to total income inequality by wage income. These findings suggest that wage income may become an important factor in total income and in income inequality. The roles of agricultural income and nonagricultural income on inequality differ in the two provinces due to differences in industrial development of these provinces. In Anhui where agricultural production still dominates, agricultural income has the effect of increasing income inequality while nonagricultural income reduces inequality. Sichuan is a province where industrial development is very advanced. Hence, in the province, nonagricultural income is the main factor of increasing income inequality, but agricultural income plays a role of balancing the inequality.

Housing is the biggest component in wealth. In both provinces, it occupies more than half of total wealth and makes the largest contribution to wealth inequality. It is the

main method of accumulating wealth for the Chinese farmers. Original value of fixed productive assets ranks second in terms of its share in total wealth, followed by ending cash balance and ending savings balance. In Anhui, except for housing, all other measured components of wealth decrease wealth inequality. In Sichuan, along with housing, ending savings balance is another factor that increases wealth inequality. A pattern is detected in both provinces about an increased share of ending savings balance in total wealth and an increased contribution to wealth inequality by ending savings balance. That may become a new form of stocking up wealth and increasing wealth inequality.

In Anhui, 24.4 percent of the variance in income can be accounted for by the predictor variables in 1994 and 34.6 percent in 1995. The figure increased almost forty-two percent possibly because education, family structure, land, water and hilly area, and context variables are all increasing their share of explained income significantly. In Sichuan, the independent variables explain 36.8 percent of income in 1994 but only 29.3 percent in 1995. The decline can be attributed to the decreasing power of resource factors to explain income. In both provinces, education explains about less than 10 percent of total income and returns to education increase with the level of education. Family structure account for at least 10 percent of total income with family size, number of laborers, and children at 15-17 positively associated with income. Owing to the difficulties of growing crops on irregular terrain, "hilly area" has a negative impact on total income. All other indicators of resources have a positive effect on total income. Among context variables, plain and phone consistently show a positive relationship with income in both provinces.

The independent variables explain a smaller proportion of wealth than they do in income regressions. In 1994, 23.8 percent of the variance in total wealth was explained and only 17.6 percent in 1995 was accounted for by the predictor variables. The decrease in the explanatory power of the independent variables is probably due to the declining explanatory ability in resource factors and family structure. In Sichuan, 12.1 percent of wealth is explained in 1994 and the figure goes up slightly to 12.5 in 1995. In both provinces and both years (altogether four cases), returns to education increase with the level of education in three out of four cases, with the fourth exception possibly resulting

from the small sample size in special and higher education categories. Among the family structure variables, family size and number of laborers have a significant positive effect on wealth. Land area is also positively associated with wealth. Among the context variables, only telephone has a positive effect on wealth in both provinces.

The Ginis on regression residuals confirm the expectation that the independent variables would have an effect in changing income/wealth distribution. The Ginis on regression residuals are reduced from the original Ginis for income and wealth. So we can conclude that after controlling those independent variables, income and wealth inequality will be reduced to a certain degree.

## **4.2 Discussion and Conclusion**

After two decades of reform, China has moved from a highly egalitarian country (with the income Gini of 0.212 for the overall China) to a country with moderate levels of income and wealth inequality (with the income Gini of 0.310 in 1991 for the overall China). What accounts for these changes?

The functional theory of social stratification argues that the society is like an organism with many needs to be met in order to remain healthy. One of the needs is to staff the most important positions or jobs with the most qualified and competent people. Social stratification has the function of making sure the need is met. The functional theory was derived from the model of industrial societies. As China is moving toward an industrial society through its various reforms, the functional theory can be applied after appropriate modification. First, based on the functionalist theory, we can assume that education, and sufficient labor and arable land resources are among the factors to increase inequality. Because China is still developing an economy with market forces and government controls working together, the overall political and economic environment (e.g. beneficial economic policy for coastal areas) will matter in impacting the distribution of income and wealth. Hence the modified theory would be like this: the combination of the political and economic environment, and people's own abilities and resources they have are working together to change inequality. A more testable form of the modified theory is: education, resources (e.g. labor, land, and phone), and access to opportunities and markets are factors to change income and wealth distribution.

In the transition period, the social and economic structures of the country are experiencing great changes, hence creating new opportunities for most suitable people. Since the transition is from a planned, and agriculture-dominant economy into a market, industrial economy, education, technical skills and entrepreneurial spirit are given high value for obtaining the opportunities. The previous system in China didn't allow much space for people to sharply increase their income and wealth, because "class" was not a welcome word in China. After the government decided to boost its economy and improve its GDP, the rope used for binding people was released. Those who have the initiative and ability to run the fastest will win. Therefore, the newly developed system leaves much room so that people can have more freedom in striving toward power and material wealth. As a result, people with more education and more resources (e.g. good land and owning a phone in the household) will be able to use the opportunities more easily.

Adding to the above part of theory is another factor that will help create inequality---different levels of access to opportunities. Not everyone has the same opportunity to go to school or get a job he/she wants, because cities are not endowed with the same level of infrastructure, resources, and economic development, and are not provided with the same economic policies. One example of restraints to impede access to opportunities is the household registration system. In China, the household registration system is very strict. People moving out of their registered province to find jobs in other places will lose many benefits from the government (e.g. food subsidy). The policy draws a line between registered and unregistered people in one province and hence results in an unfair competition and inequality.

Another major theory in social stratification research is conflict theory. Conflict theory argues that inequality follows power structures. China is a country in which the feudal system was uprooted in 1949 and a capitalist system doesn't have a strong base for the time being. The only legitimate political power is from the Communist Party. According to conflict theory, inequality in China should serve the interests of the Communist Party. However, it is well known that the Communist Party in China promotes equality and only tolerates moderate inequality for the purpose of boosting economy. It is one of the limitations of this study that there isn't any measure of Communist Party membership in the data and hence conflict theory cannot be tested by

the study. However, it will be interesting if future research can add more data in this aspect.

In sum, inequality has increased in China since 1978 due to a combined working mechanism of social function and social environment. From the Gini on the regression residuals, we can also see that at most about 20 percent of inequality is explained by the predictor variables. As noted in the Statement of Problem, if variables associated with the functional theory of stratification can only explain some of the inequality, it indicates three possibilities. Here, I think all three work for my study: i) not all social functional processes are adequately measured, ii) some conflict processes may be working, iii) people with more luck may make more. Hence, it is suggested that future research tap into those not adequately measured social functional processes and not measured conflict processes.

This study is of value to sociology because it sheds light on the issue of income and wealth inequality in a postsocialist country, where no current western theories can be applied without any modifications. With some projections and assumptions, the study ends with a modified version of the western theory of social stratification for the current rural China inequality research. Hopefully, it may inspire more research in this area so that a more reliable and comprehensive theory can be developed.

### **4.3 Limitations and Suggestions for Future Research**

First, my study focuses on two provinces and provides detailed analysis about them. It would be very helpful if the data on the whole country of China were available so that we can sketch an overall picture of China and make reasonable comparisons with other countries. In addition, it would also be helpful if we have more comparable overtime data on China so that we can see a trend of income and wealth inequality.

Second, it would be better if the data can provide information on power structures in rural China, such as how many people in the household belong to Communist Party or serve as any kind of positions in the government. In this way, research can be done about whether having any kind of political power will help people to make more money.

In addition, only a small percentage of wealth is explained in the wealth regression analysis. In future study, it is worthwhile to find out whether other variables

such as being a Communist Party member or being from an originally wealth family background may have an impact on wealth. Also, it will be interesting if future data will include variables reflecting people's entrepreneurial ability, because it can be one important factor in differentiating people and creating inequality.

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## **Vita**

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