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INCOME GENERATION AND ACCESS TO ECONOMIC OPPORTUNITIES IN A TRANSITIONAL ECONOMY: A COMPARATIVE ANALYSIS OF FIVE CHINESE VILLAGES*

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Abstract

This paper examines the mechanism of household income generation, and the determinants of access to economic opportunities after the economic reform, using household surveys in five administrative villages in China. It was found that in the process of marketization in rural China, both the "redistributive mechanism" and market coordination work in mixed ways. It is essential to examine the transitional processes in specific regional/historical contexts.

I. *Introduction*

Purpose

The purpose of this paper is to study the mechanism of household income generation and the determinants of access to economic opportunities at village level, using the data gathered from farm household surveys in five administrative villages in China.

Official statistics show that, in rural China, the overall distribution of household income has worsened since economic reforms. However, until now, only a few studies have analyzed the realities of household income generation based on detailed data from household surveys covering a specific region. In rural areas of China, due to certain institutional and political factors, such as land holding or household registration systems, it is expected that, at village level, the economic differentiation among households is not so clear at the present time. However, I believe that it is possible to derive some meaningful conclusions from a comparative analysis on several villages with differing socioeconomic backgrounds.

Concerning the above subject, the author is interested in the following points: 1) The comparative regional analysis of household income generation and income distribution, 2) the comparative regional analysis of determinants of access to lucrative or socially desirable opportunities, 3) examination of the long- term change in income generation and income distribution focusing on a specific region, and 4) the comparative regional analysis of

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TABLE 1. EMPLOYMENT STRUCTURE OF THE SURVEY VILLAGES

(1) By Days Labor (per cent)	Anqiu	Yongxing	Guiding	Tianchang	Haining
Mainly Farming activities	18.5	77.8	47.2	29.5	47.6
Farming and non-farm activities	32.0	18.9	40.8	40.0	15.4
Mainly non-farm activities	49.5	3.3	12.0	30.5	37.0
Total	100.0 (n=287)	100.0 (n=243)	100.0 (n=324)	100.0 (n=315)	100.0 (n=330)

(2) By Economic Sector (number)	Anqiu	Yongxing	Guiding	Tianchang	Haining
Collective	122	3	7	80	92
State	6	17	12	6	10
Self Employment/Private business	3	7	10	40	15

Source: All Tables in this paper are besed on household survey data by the author.

Note: Regarding (1), "mainly farming activities" means the days labor in farming activities is more than 200 days/year "mainly non-farm activities" means the days labor in non-farm activities is more than 200 days/year. (2) contains clearly identifiable individuals only.

interdependency between economic change and socio-political change. The first two issues will be discussed in this paper, while other issues were covered in my previous papers and/or forthcoming papers.

The Survey Villages

The five survey villages respectively located in the following five counties: Anqiu (Shandong Province), Yongxing (Hunan Province), Guiding (Guizhou Province), Tianchang (Anhui Province), and Haining (Zhejiang Province)[for survey design and characteristics of data collected, see Sato (1994), Sato (1997a), Sato (1997b), Sato (1998)]. Table 1 summarizes the economic structure of the survey villages.

In Anqiu, a considerable part of the male key labor force falls into the collective category. Collective category here means the township and village enterprises (TVEs), which are directly under the management of the party-administrative apparatuses on the village or township level. On the other hand, very few are employed by the individual and private sector, and there is not one single case of employment outside the township.

As a pure agricultural region in inland China, Yongxing has the highest proportion of labor force involved mainly in farming activities. Although there are some people working in the state sector and some of them are holders of non-agricultural household registrations, most of them are working for the county-run fry hatchery. Also, very few are in the collective sector. This reflects the fact that TVEs in Yongxing are still in the process of developing compared with other regions. Although Yongxing County is considered to be a source of out-migrant workers to Guangdong Province, little outside-township employment was observed in the village covered by the survey.

Compared to Yongxing, Guiding has a higher proportion of part-time farmers or people mainly involved in non-farm activities. The non-agricultural sector mainly contains small scale traditional, commercial and industrial activities such as agricultural product processing,

farming tool manufacturing or meat processing. Although some are employed under the state sector, all of them are part-time or seasonal workers of the factories in the county seat or the provincial capital Guiyang. Very few have jobs outside the province.

Unlike Anqiu, the urban unskilled labor markets have played a major role in forming Tianchang's employment structure. Many villagers are working in Yangzhou, Yizheng or other large cities in Jiangsu Province. On the other hand, compared with those in Anqiu, the TVEs in Tianchang bear the characteristics of a private business. Many so-called "collective" enterprises are actually operated by individuals. In the survey village, there are over forty small private enterprises. However, it is necessary to note that a village-run toy factory, which is a subcontractor of a joint venture in Yangzhou, opened right after the survey. The results of this study do not make allowances for the changes in the employment structure caused by the opening of this new collective factory.

Haining is a typical sericulture area in Northern Zhejiang (Zhebei) Plain. Although Haining has high proportion of non-farm labor forces, it is not a front-runner in the rural-industrialization in the Sunan-Zhebei area, which is one of the most developed areas in rural China. The pillar of TVEs there is the automobile industry (an automaker and several firms of automobile accessories and parts). At the same time, many villagers of Haining have various types of temporary jobs. Some of them work away from home.

Let us have a look at the structure of this paper. First, I will present an overview of some previous research. Second, I will attempt to find the economic factors that determine the level of household income, as well as clarify the structure of income distribution in each village in the survey (in this part, due to some inconsistency in the data sets prepared, I omit the data on Haining). Third, I will examine the factors that give peasants opportunities for non-agricultural income.

II. *Review of Previous Literature*

Previous research concerning household income distribution in rural China after the economic reform can be roughly divided into the following two groups.

First, studies using systematic, nationwide sample surveys. The official rural household sample survey is conducted by the State Statistical Bureau (SSB). Recently, Chen and Ravallion (1996), Ravallion and Chen (1998) made a close examination of the SSB sample survey by reprocessing the primary data for four southern provinces over 1985–90. They suggest that the income inequality in rural areas is lower than was considered. There also are several systematic researches conducted by international teams. Among them, the one having the largest scale is the sample survey of urban/rural household conducted by the joint research team of the Institute of Economics, Chinese Academy of Social Sciences (IE/CASS) and Western scholars headed by Keith Griffin. The IE/CASS survey conducted twice, first in 1988 and second in 1995, studied the economic activities and the state of income of 10,258 households in 28 provinces at the time of 1988. The research papers using the 1988 data have been published as Griffin and Zhao (1993) and Zhao and Griffin (1994). Khan and Riskin (1998), Zhao and Li (1997), Li, Zhao and Zhang (1998) are the analyses of the 1995 data. Another example of relatively systematic survey is the CERU/MoA survey conducted by the Ministry of Agriculture and the University of Adelaide. Cheng (1996) discusses the extent of

and sources of inequality in rural area.

Second, there are semi-microscopic or microscopic researches based on surveys of specific rural regions. One of the representative works of Chinese scholars is Zhu (1991). Also, the following studies have shown us some original analyses of great interest about household income generation and income distribution at local/community levels. Putterman (1993) focuses on economic diversification at household level or village small group level in Dahe Township in Hebei Province. Hare (1992) and Hare (1994) study several villages in Guangdong Province. Cook (1996) and Cook (1998) examine Zouping County, Shandong Province. Nee (1989), Nee (1991a), Nee (1991b), and Nee (1996) are a series of sociological studies focusing on "market transition" in rural China, using original farm household surveys in several Provinces.

This paper and my previous papers are a comparative village study based on household surveys, so it falls into the same category as the second group.

III. *The Level and Structure of Household Income*

Estimation of Household Income

The total household income described in this paper is defined as the sum of agricultural income, wage income, non-farm self-employment income and other miscellaneous sources of income. The data I collected was that of the year before the survey was conducted, which means 1991 for Anqiu, Yongxing and Guiding and 1992 for Tianchang. Each component of income refers to cash income and excludes self-consumption (mainly non-marketed home production of grain), outstanding debt, rental value of housing and income from properties. Also, I made no allowance for taxes and depreciation of agricultural facilities. The household is defined as the sum of the family members who economically depend on each other. That is to say, it includes those who are not living with the family but who make remittances, such as immigrant workers, and excludes those who are economically independent, such as students or those in military service. The following are definitions and estimating methods of each component of household income.

1) Agricultural Income: Agricultural income is defined as the gross agricultural revenue less material costs, while the gross agricultural revenue is defined as the gross value of cash income derived from agricultural activities in a broad sense, which includes cultivation, livestock husbandry, forestry and fishery.

The revenue from agricultural sales is divided into two parts, one is cultivation, and the other is livestock husbandry, forestry and fishery. With regard to the first part, cultivation, the net income ratio (agricultural income/ gross agricultural revenue) is put at 0.7 with reference to the national or provincial average in 1991. Based on some comprehensive cost information derived from questionnaires, the net income ratios of pig-breeding and fish-raising in Yongxing is figured respectively to be at an average of 0.6 and 0.8, which appears to be appropriate compared with the findings of the official provincial production cost survey. The income estimate is obtained from sales less total costs reported on the questionnaires. However, in Anqiu, Guiding and Tianchang, the income ratios of both pig breeding and poultry are placed

at 0.55 in reference to the provincial production cost survey.

2) Wage Income: Wage income is defined as the sum of wages, bonus and allowances received from SOE, TVE, private enterprises and public institutions and remittances from immigrant workers outside the county. It also includes service allowances for public officers of village, township and county regardless of whether or not they are full-time cadres.

3) Non-farm self-employment income: Non-farm self-employment income is defined to be the total value of net cash income (sales less material costs) from all kinds of non-farm self-employment or private business activities such as manufacturing, transportation, construction and commerce, etc.

4) Other miscellaneous sources of income: This includes cash income from state or collective, such as social welfare payments to poor families or old age households. It also includes other cash income, such as gifts from relatives and friends.

Based on the estimates of income with definitions described above, Table 2 summarizes the level and structure of household income in each village by using the Gini coefficient and the pseudo-Gini coefficient. It reveals to us the following regional characteristics.

The Level of Household Income

Anqiu has the highest per capita household income among four villages, followed by Tianchang, Yongxing and Guiding. The large difference between Anqiu and Guiding is convincing evidence of the great interregional inequality in rural China. According to the SSB sample survey, the national average per capita rural household net income (*chunshouru*) is 709 yuan (RMB) in 1991 and 784 yuan in 1992, the provincial average is 764 yuan in Shangdong, 689 yuan in Guizhou in 1991 and 574 yuan in Anhui in 1992. It should be noted that because the net income estimated by the SSB includes income-in-kind, it can not be simply compared with the findings of our study, even if the difference of the accuracy between the two sets of estimates is not taken into consideration. Nevertheless, I can still reach the conclusion that the income level of the villages covered by this study is higher than the provincial average, because the retention ratio of consumer durables is above the provincial average. On the other hand, the four villages of the study can be divided into two groups based on their income level. The group including Anqiu and Tianchang has a higher income level than the group that includes Yongxing and Guiding.

Let us divide household income into two parts, the agricultural part and the non-agricultural part. In Anqiu, the structure of household income is very non-agricultural. Agricultural income accounts for only 19% of the total income. Meanwhile, in Yongxing, agricultural income contributes a large part to the total income, reaching 74%. The percentages of the other two villages lie between Anqiu and Yongxing, with 43% in Tingchang and 38% in Guiding, both below 50%. It should be noted that income-in-kind has been excluded in the process of accounting for agricultural income, which may have greater influence on the estimates in Guiding than in the other three villages. On the other hand, the structures of non-agricultural income are also different among the four villages. In Anqiu, non-agricultural income is mainly formed by wages earned within the township. In Guiding, most non-agricultural income is from traditional sidelines. In Tianchang, income earned from employment outside the township is important to households there.

TABLE 2. STRUCTURE OF HOUSEHOLD INCOME

	Per capita income (yuan)	Proportion of each income component to total income	Pseudo-Gini coefficient of income components	Contribution to the Gini coefficient of total income
Anqiu (n=95)				
Agricultural income	227	18.9	0.020	2.4
Wage income	832	69.2	0.197	86.9
Income from non-farm self employment	103	8.6	0.181	9.9
Other income	40	3.3	0.036	0.8
Total income	1,202	100.0	0.157	100.0
the Gini coefficient of total income	0.157			
Yongxing (n=98)				
Agricultural income	485	73.9	0.265	58.9
Wage income	50	7.6	0.536	12.2
Income from non-farm self employment	98	14.9	0.589	26.4
Other income	23	3.6	0.242	2.5
Total income	656	100.0	0.329	100.0
the Gini coefficient of total income	0.329			
Guiding (n=93)				
Agricultural income	157	37.8	0.268	23.3
Wage income	63	15.2	0.479	16.8
Income from non-farm self employment	168	40.6	0.577	53.8
Other income	27	6.4	0.412	6.1
Total income	415	100.0	0.434	100.0
the Gini coefficient of total income	0.434			
Tianchang (n=99)				
Agricultural income	384	42.8	0.061	10.0
Wage income	372	41.5	0.372	61.4
Income from non-farm self employment	107	11.9	0.613	28.3
Other income	34	3.8	0.029	0.3
Total income	897	100.0	0.258	100.0
the Gini coefficient of total income	0.258			

Decomposition of Household Income

As well as summarizing the level and structure of income in each village, Table 2 also shows us the following features of household income distribution in each village.

First, the Gini coefficient of per capita household income in Anqiu is the smallest while Guiding's is the largest. Between them are Tianchang and Yongxing. The Gini coefficient of per capita net income based on SSB sample survey is 0.317 in 1992 and 0.322 in 1993. Here I do not mean to simply compare village level data with other nationwide estimates, but it is not totally unreasonable to say that the distribution of household income in Anqiu is fairly equal, while that of Guiding is comparatively much more unequal.

Second, according to the decomposition analysis using the pseudo-Gini coefficient, the components of total income have the following characteristics. In all four villages, the pseudo-Gini coefficient of non-agricultural income (including both wage income and non-farm self-employment income) is higher than that of agricultural income. This means that non-agricultural income has much more influence on the inequality of income as a whole. In fact, even including Yongxing, the percentage contribution of non-agricultural income to the overall Gini coefficient is higher than the percentage of non-agricultural income to total income. Thus, it is necessary to study the influence of non-agricultural income generation upon household income distribution as a whole.

Third, the background of the equity in the distribution of agricultural income is the basic structure of Chinese agriculture: homogeneous small-scale farm-household, which is a result of the collective ownership of land and egalitarianism in the distribution of landholdings. Although a few large-scale farmers can be found in the livestock husbandry and fishery sectors of Yongxing and cultivation sector of Guiding, the diversification of agriculture is still not enough to affect the entire region's distribution of household income.

Fourth, some regional features can be derived from Table 2. It is very important to note that Anqiu has a very equal distribution of wage income. The reason for it is that there is not many wage differentials in the village-run enterprise, which employs many of the villagers. Most of the enterprises in Anqiu are community-oriented; that is to say, they provide employment opportunities to local people and have an egalitarian wage structure. Meanwhile, in Anqiu, both the share of agricultural income in total income and the inequality of agricultural income are considerably small. This reveals the fact that agriculture has already become a self-sufficient and supplementary economic sector in Anqiu.

The Determinants of Household Income

In order to study the economic determinants of household income, a combination data set of the four villages is prepared. Factors relate to the income per capita are broken down into four quantitative indicators and one qualitative indicator. The four quantitative indicators are: 1) household structure, 2) employment structure, 3) land and fixed productive assets, and 4) the marketization of household economic activities. The qualitative indicator is the regional factor, using a village dummy comprised of Anqiu, Guiding and Tianchang. Table 3 shows the result of a multiple regression analysis of the determinant of total income per capita.

1) Household structure: The regression coefficient on dependency ratio (number of household members/total labor force) is negative and significantly so. This was the expected result. On the other hand, the age structure (mean age) of the labor force and the masculinity ratio appeared not to be significant explanatory factors. Khan (1993) also found that the masculinity ratio is not one of significance in rural China as a whole.

2) Employment structure: Some previous researchers such as Putterman (1993) and Khan (1993) have indicated that those families who have shifted their labor forces to non-agricultural sectors have higher incomes. In our survey, the percentage of non-agricultural employment is a positive and highly significant determinant, which is a typical result, as I can see from previous research.

3) Land and fixed productive assets: Land holding (in mu) has almost no relationship to total household income. It reflects the fact that land distribution is very equal. In all four

TABLE 3. ECONOMIC DETERMINANT OF HOUSEHOLD INCOME (COMBINATION DATA SET OF 4 VILLAGES)

Dependent Variable: Total income per capita (yuan)

Explanatory variables	Coefficient	t-statistics
Dependency ratio (household member/total labor forces)	−156.441	−4.098 **
Mean age of labor forces	0.693	0.236
Masculinity ratio (male labor forces/total labor forces)	−42.064	−0.266
Employment structure (mainly non-farm activities/total labor forces)	655.456	7.274 **
Fixed productive assets (number of tractors)	95.559	1.227
Level of diversification in agricultural production (livestock and fishery income/total agricultural income)	22.462	0.371
Cultivated land (mu)	−9.384	−0.961
[Village dummy]		
Anqiu	238.629	3.446 **
Guiding	−309.926	−5.104 **
Tianchang	87.512	0.993
Constant	904.984	5.932 **
Adjusted R^2	0.420	
n=385		

Notes: ** means significant at 1% level, and * means significant at 5% level.

villages, the land distribution method was an egalitarian one when the household production responsibility system was first introduced. Also, land adjustment according to the change of population has been done, more or less, by all four-village administrations. Therefore, although a few large-scale farmers can be found in Guiding, the distribution of land holding is remarkably equal. Regarding fixed production assets, due to the limitation of data collected, the number of tractors kept by the household is used as a proxy, which appears not to be a significant explanatory variable.

4) The marketization of household economic activities: Khan (1993) also analyzed the relationship between the level of marketization of household economic activities and household income through a multiple regression model. In his model, the dependent variable is the total household income, while the two explanatory variables are (a) the overall level of marketization (total sales/total production), and (b) the level of non-farm development (sales of industry and sideline business/agricultural sales). The regression coefficients of both explanatory variables are positive, with the former being statistically significant and the latter insignificant. This result suggests that, because many rural households still rely on agricultural income, the overall level of marketization (including agriculture) seems to be a much more important determinant of household income than the non-farm development. In this paper only the effect of the level of diversification in the agricultural production (defined as the ratio of income from livestock and fishery to total agricultural income) has been analyzed as the proxy of the marketization of agriculture. The result shows us a positive but not statistically significant coefficient. I then turn to Yongxing, as it has the highest percentage of agricultural income to be analyzed through the same regression model. I did find that the regression coefficient of its level of agriculture marketing was higher than that of the 4-village combination data set, but it still did not reach the 5% significance level.

5) Regional factor: The village dummy of Anqiu is positive and significant while that of Guiding is negative and significant. This result reflects the relative geographical advantages of each village compared with Yongxing, and clearly shows us the great income inequality among the four villages. Khan (1993) has shown that great interregional differentials of rural income can be generalized as distinct characteristics in rural China.

From the above discussion, it can be found that in the four villages the most important economic determinant of total household income is the development of non-farm activity, or to be more exact, the degree of by-employment in the household economic activities. Therefore, the next step is to find the factors that will enable household labor forces to obtain opportunities for non-agricultural income. In rural China, generally speaking, it will be important to consider socio-political factors as well as economic factors. This will be discussed in the next part of this paper.

IV. *Access to Non-farm Wage Employment Opportunity*

The Market Transition Debate

To understand a transitional economy, it is essential to examine the effects of human capital and political capital on the accessibility to lucrative or socially desirable opportunities. Concerning this issue, Nee presents "Theory of Market Transition" [see Nee (1989), Nee (1991), and Nee (1996)]. Nee argues that, in the process of a transition from "redistribution" to "market" in rural China, the more market exchange replaces the redistributive mechanism, the less the value of political capital, and that "redistributors" have little advantage in a shift from bureaucratic to market coordination.

By contrast, some scholars oppose Nee's idea and claim that rural cadres can control and develop local economic resources, such as collective enterprises and other rural economic organizations in the process of economic transition [for example, see Oi (1989), Oi (1992)]. According to them, under the scarcity of good economic opportunities, it is quite possible that the politically elite still have economic advantages in communities, and political connections could be the cheaper channel to find a profitable opportunity. Recently, using a household survey in Zouping County, Shandong Province, Cook examined not only the relationship between political connections and accessibility to non-farm employment opportunities but also comparative return per unit of labor between the politically connected and ordinary villagers [Cook (1996), Cook (1998)]. Cook's study clearly suggests that political status provides a channel to get out of unprofitable agricultural labor.

My task here is to conduct a comparative regional analysis to get some implications for this debate. With regard to the "market transition debate", the basic hypotheses to be tested are as follows: 1) In villages which have a lower degree of market development, the socio-political connection has a much stronger influence, and 2) by contrast, the effect of human capital is positively correlated with the development level of market relations.

It is convenient to arrange the five villages according to the overall level of economic development. I introduce two criteria of the economic development: 1) diversification of employment structure(see Table 1), and 2) per capita income. Haining is the highest in per

TABLE 4. CHANNELS OF ACCESS TO NON-FARM WAGE EMPLOYMENT OPPORTUNITIES

	Anqiu	Yongxing	Guiding	Tianchang	Haining
Arrangement by collective/introduction by cadres	89.3	20.8	7.2	26.1	21.5
Introduction by relatives, neighbors, and friends	6.9	45.8	57.1	52.2	48.6
Others (taking examination etc.)	3.8	33.4	35.7	21.7	29.9
Total (per cent)	100.0 (n=131)	100.0 (n=24)	100.0 (n=28)	100.0 (n=115)	100.0 (n=107)

capita income (1460 yuan in 1993). The income level of four other villages is described in Table 2. The latter criterion is almost proportional to the former.

Using these two indicators, the survey villages can be classified into two groups: 1) Haining, Anqiu and Tianchang as the relatively developed villages. 2) Yongxing and Guiding as the underdeveloped villages, which have a lower degree of marketization. However, indicators of economic development do not automatically represent the level of marketization in rural China, which is in the process of dualistic transition—from a redistributional economy to a market economy as a socialist state on the one hand, and market development process as a developing economy on the other hand —. It is essential to distinguish types of market development before examining the data.

The types of market can be turned into the degree of openness of the local labor market. By this criterion, the survey villages are classified into two groups: 1) Anqiu as a closed village. 2) Tianchang, Haining, Guiding, and Yongxing as relatively open villages. Table 4 summarizes the channels by which an individual gains non-farm wage employment opportunities. In Anqiu, most of the job opportunities in collectively owned/operated enterprises are arranged by the party-administrative apparatuses at the village level. To borrow an argument from Oi, Anqiu can be labeled as the "local state corporatism" [see Oi (1997), Oi (1998)]. By contrast, in Tianchang, in the process of finding wage employment little direct influence from grass roots party-administrative apparatuses have been found. The situation in Haining is rather mixed. Concerning the job openings in collective enterprises, both arrangement by party-administrative apparatuses and taking jobs through personal networks are important. At the same time, many villagers of Haining have various types of temporary jobs. Some of them work away from home temporarily. No direct influence from the grass roots (*jiceng*) party-administrative apparatuses have been found in these cases. In Yongxing and Guiding, personal networks are the most popular way to obtain employment opportunities. The openness of the local labor market overlaps considerably with the slackness of the relationship between party-administrative apparatuses at village/township level and peasants, in other words, the degree of peasants' dependence on rural cadres [for details, see Sato (1997b)].

Data and Estimation

Let us examine the determinants of access to non-farm wage employment opportunities (hereafter employment opportunities) by combining the above two criteria, the economic development level and the types of market development. An individual data set, which includes

TABLE 5. SUMMARY OF VARIABLES

Variable	Survey village				
	Anqiu	Yongxing	Guiding	Tianchang	Haining
Gender male (number)	132	122	146	147	164
female (number)	155	121	177	168	166
Age (mean)	35.3	34.4	34.8	34.8	40.1
Education (above middle school %)	58.9	44.9	33.3	31.4	40.3
Party membership (number)	34	13	12	19	13
Present cadre status (number)	11	4	7	7	4
Labor forces who have non-farm employment opportunities (number, % of total labor forces)	128(44.6)	18(7.4)	29(9.0)	119(37.8)	199(60.3)
Labor forces who have stable or highly-paid employment opportunities (number, % of total labor forces)	64(22.7)	6(2.5)	11(3.4)	41(13.0)	50(15.2)

all labor forces (over 15 years old) is prepared. Those who have urban (non-agricultural) household registration status are excluded from the data set.

The simple discussion framework is as follows. Factors related to employment opportunities can be classified into three groups: 1) individual characteristics (gender, age, education, and political status etc.). 2) household characteristics (demographic structure, occupation and political status of other members, structure of agricultural production, and productive assets endowment etc.). 3) regional characteristics (degree of economic development, labor market structure, socio-cultural characteristics etc.). Employment opportunity is described by two dummy variables: 1) either having (=1) or not having (=0) employment opportunities [hereafter *access1*]. 2) either having (=1) or not having (=0) stable or highly-paid employment opportunities (more than the median of wage income in each village) [hereafter *access 2*]. Using logit estimations, I will try to analyze the relationships between these factors and accessibility to employment opportunities, with special reference to the specific regional contexts. Since the political status is one of the explanatory variables, the work as part-time township/village cadre is not included in employment opportunities. For simplification, and due to space limitations, I omit the demographic and economic characteristics of household (this will be analyzed in my forthcoming paper).

The variables used here are summarized in Table 5. The two most basic characteristics of an individual are gender (1=male, 0=female) and age (years). These two can be considered as the indicators of shadow wage in agriculture. Education (5=college level or above, 4=high school or vocational school level, 3=middle school level, 2=primary school level, 1=below primary school level) is the proxy of human capital. Regarding political status, party membership and present cadre status (at township and administrative village level, cadres under village small group or natural village are not included) are used as indicators to represent formal political status in the community. Former cadre status represents both political status and occupational background. Regarding the household characteristics, I introduce party member household (either having=1 or not having=0 a party member in the family) as a indicator of household's political status, former cadre household (either having=1 or not having=0 a former cadre in the family) as a indicator of a household's political status

and occupational background.

Human versus Political Capital

Table 6 shows the results of logit estimation of access to employment opportunities. Let us consider the effects of human capital, political capital, and informal personal networks in the survey villages. Several points can be made from the estimation.

(1) Three relatively developed Villages: Anqiu, Tianchang, and Haining

In the equations regarding *access1*, education, the proxy of human capital, has a positive effect, and is significant in Anqiu, but is not significant in Haining. The effect of party membership, the proxy of political capital, is positive and significant in Haining, while positive but insignificant in Anqiu. As for *access2*, both education and party membership are significant in Anqiu as well as in Haining. This dissimilarity in Anqiu and Haining is explained by the difference in development level and the types of market development (in this case, the characteristics of the TVE sector).

In Anqiu, most of the male key labor forces have already been absorbed into collective enterprises (mainly into village-run enterprises). In addition, TVE sector in Anqiu is rather community welfare oriented, so the job opportunities are arranged in a rather egalitarian manner. For these reasons, party membership does not influence accessibility to employment opportunities as a whole [*access1*]. However, taking the factor of job status and wages into consideration, political status does have a positive effect [*access2*]. In sum, the community-oriented arrangement of job opportunities and the control of collective economic resources by the political elite coexist in Anqiu.

Since wage employment in Haining contains various kinds of jobs, let us consider *access 2* as the proxy of employment opportunity in TVEs. Then, we can conclude that both human capital and political capital have positive effects on the accessibility to TVEs. Haining's TVE sector is mainly formed by township-run enterprises, and its capacity to absorb local labor forces is limited, so the community welfare principle is not so strong there [for details see Sato (1998)]. It is safe to say that the effect of political status in Haining means direct personal connection rather than accessibility to positions mediated by grass roots party-administrative apparatuses.

It is interesting to compare the effect of former cadre status of household as an indicator of a household's political and occupational background (equation 6)). This factor has significant positive effects in Haining, but is insignificant in Anqiu. It is reasonable to suppose that this fact reflects the different historical paths of the TVE sector in the two villages. The TVE sector in Haining had built the foundation in the 1970s. In spite of some mergers or restructuring over the 1980s and 1990s, there is continuity in the TVE sector development in Haining. By contrast, in Anqiu, the TVE sector began to develop after the 1980s. The TVE sector is a rather new source of political capital accumulation in Anqiu. This will be the reason why having former cadre in the family has a positive influence on non- cadre members in Haining, but not in Anqiu.

As opposed to Anqiu and Haining, political status has no significant effect on access to employment opportunities in Tianchang. This is because the urban labor markets in the neighboring large cities are open to Tianchang's peasants. At the same time, it is notable that education has no significant effect on employment opportunities. This reflects the essential fact

TABLE 6. LOGIT ESTIMATION OF ACCESS TO NON-FARM WAGE EMPLOYMENT OPPORTUNITIES

1. Anqiu	1) [*access1*]	2) [*access1*]	3) [*access2*]	4) [*access2*]	5) [*access2*]	6) [*access2*]
Gender	1.937	1.979	2.798	2.896	2.698	2.800
	(6.338)**	(6.600)**	(5.522)**	(5.711)**	(5.287)**	(5.569)**
Age	−0.021	−0.016	0.002	0.012	0.021	0.012
	(−1.468)	(−1.211)	(0.148)	(0.749)	(1.131)	(0.745)
Education	0.560	0.566	0.883	0.845	0.699	0.797
	(2.565)*	(2.575)*	(3.108)**	(2.941)**	(2.349)*	(2.748)**
Party membership	0.692		1.198			
	(1.411)		(2.473)*			
Present cadre status		2.122		3.757		
		(1.739)		(2.456)*		
Former cadre status						
Party member household					−0.139	
					(−0.256)	
Former cadre household						−0.635
						(−0.762)
Constant	−2.011	−2.167	−5.907	−6.113	−5.861	−5.860
	(−2.179)*	(−2.361)*	(−4.711)**	(−4.876)**	(−4.381)**	(−4.627)**
Pseudo-R square	0.224	0.230	0.324	0.344	0.266	0.276
Log likelihood	−152.647	−151.476	−103.557	−100.614	−86.747	−99.703
	n=286	n=286	n=286	n=286	n=252	n=275

2. Yongxing	1) [*access1*]	2) [*access1*]	3) [*access2*]
Gender	1.452	1.420	1.804
	(2.434)*	(2.385)*	(1.580)
Age	0.003	−0.001	0.062
	(0.155)	(−0.072)	(1.806)
Education	−0.304	−0.364	0.415
	(−0.865)	(−1.021)	(0.753)
Party membership	−0.284		——
	(−0.249)		
Present cadre status		1.381	
		(1.116)	
Former cadre status			
Party member household			
Former cadre household			
Constant	−2.815	−2.551	−8.193
	(−2.032)*	(−1.867)	(−3.107)**
Pseudo-R square	0.058	0.066	0.118
Log likelihood	−60.426	−59.951	−24.517
	n=243	n=243	n=230

3. Guiding	1) [*access1*]	2) [*access1*]	3) [*access2*]
Gender	−0.183	−0.181	−0.830
	(−0.436)	(−0.433)	(−1.195)
Age	−0.033	−0.034	0.007
	(−1.767)	(−1.829)	(0.261)
Education	0.331	0.311	0.627
	(1.143)	(0.286)	(1.418)
Party membership	0.259		
	(0.231)		
Present cadre status		0.735	
		(0.527)	
Former cadre status			
Party member household			
Former cadre household			
Constant	−2.037	−1.974	−4.667
	(−1.983)	(−1.930)	(−2.825)**
Pseudo-R square	0.042	0.044	0.037
Log likelihood	−88.739	−88.589	−45.747
	n=321	n=321	n=309

4. Tianchang	1) [*access1*]	2) [*access1*]	3) [*access2*]	4) [*access2*]
Gender	1.064	1.066	1.205	1.239
	(3.362)**	(3.375)**	(2.945)**	(3.007)**
Age	−0.099	−0.099	−0.064	−0.069
	(−6.115)**	(−6.274)**	(−3.074)**	(−3.362)**
Education	0.099	0.087	0.047	−0.100
	(0.449)	(0.383)	(0.165)	(−0.332)
Party membership	0.062		0.557	
	(0.100)		(0.751)	
Present cadre status		0.234		1.786
		(0.267)		(1.984)*
Former cadre status				
Party member household				
Former cadre household				
Constant	1.965	2.001	−0.710	−0.258
	(2.478)*	(2.519)*	(−0.695)	(−0.246)
Pseudo-R square	0.207	0.207	0.104	0.116
Log likelihood	−165.583	−165.553	−109.193	−107.649
	n=315	n=315	n=315	n=315

5. Haining	1) [*access1*]	2) [*access1*]	3) [*access2*]	4) [*access2*]	5) [*access2*]	6) [*access2*]
Gender	1.465	1.516	0.914	0.995	0.941	0.884
	(4.832)**	(5.038)**	(2.524)*	(2.778)**	(2.577)*	(2.398)*
Age	−0.105	−0.098	−0.020	−0.014	−0.016	−0.021
	(−6.782)**	(−6.615)**	(−1.176)	(−0.860)	(−0.940)	(−1.183)
Education	0.240	0.298	1.183	1.217	1.213	1.211
	(0.918)	(1.167)	(4.024)**	(4.227)**	(4.057)**	(3.959)**
Party membership	3.078		1.777			
	(2.679)**		(2.608)**			
Present cadre status		——		1.804		
				(1.579)		
Former cadre status						
Party member household					0.463	
					(0.885)	
Former cadre household						1.519
						(2.540)*
Constant	3.389	2.998	−4.681	−4.959	−4.766	−4.975
	(3.293)**	(3.023)**	(−3.790)**	(−4.136)**	(−3.688)**	(−3.973)**
Pseudo-R square	0.309	0.288	0.181	0.166	0.166	0.184
Log likelihood	−152.867	−156.004	−114.835	−116.874	−106.360	−111.069
	n=329	n=325	n=329	n=329	n=316	n=325

Notes: The values in parentheses are z-statistics. ** means significant at 1% level, and * means significant at 5% level. In equation 5), individuals who are themselves have party membership are excluded. In equation 6), individuals who are themselves have former cadre status are excluded.

that, due to institutional restrictions (household registration system, housing and social welfare system in urban area etc.), urban labor market is segmented and Tianchang's peasants can only enter into the unskilled labor market. It was almost impossible for young, educated peasants to get a stable job in the urban formal sector at the beginning of 1990s.

(2) Two underdeveloped villages: Yongxing and Guiding

The estimation results show that human capital and employment opportunities have no significant relationship in the two underdeveloped villages. This seems to support Nee's market transition hypotheses. However, the estimation also reveals that political status also has little effect on access to employment opportunities.

In the process of the debate described above, Nee revised his original thesis and accepted the claim that, under the "partial reform", political resources can be transformed into market resources. So, concerning empirical analyses on a relatively developed area, the gap between the two sides of the debate has narrowed. However, it seems to me that the interpretation of underdeveloped areas, which experience little development of market relations is not so clear on both sides. Yongxing and Guiding are the cases. Regarding the two villages, the following points can be made.

First, from the standpoint of the market transition hypotheses, the cases in Yongxing and Guiding can be described as having a declining redistribution mechanism, without a substantial development of market coordination. The ability to redistribute scarce resources of grass roots party-administrative apparatuses has been weakened. However, market opportunities

have not been increased. An implicit assumption of the theory of market transition is that once the redistributive mechanism has declined, market coordination will begin to grow. This is not relevant to the transitional process of an underdeveloped economy such as rural China (especially inland, a purely agricultural area).

Second, under these circumstances, an informal personal connection seems to be the main mechanism of rationing the scarce resources there. Evidence of this statement can be seen in the out-migration in Yongxing. As described above, in our survey village, out-migration is not common. According to my field research, however, in neighboring villages, which have almost the same economic structure as our survey village, there is a considerable amount of the labor force that works away from home (mostly in Guangdong Province). It is difficult to explain the difference between the survey village and neighboring villages by economic or political factors. It seems reasonable to think that whether or not the village has a certain social network with the outside is the critical factor of access to emerging job opportunities in the coastal area.

Third, to take non-farm self employment into consideration, however, the role of political connections should be examined carefully. During my field trip to Yongxing, I found that several grass roots cadres had gotten coal mining right. It is necessary to examine the factors related to the access of lucrative non-farm self-employment. This task will be done in my forthcoming papers.

V. *Conclusion*

The main points of this paper are as follows.

1) Although the economic structures and income levels of the survey villages are very different from each other, there are still common characteristics concerning household income distribution among them. First, the distributions of agricultural income are fairly equal and have very limited contributions to the inequality of the distribution of total household income. Second, as a result, the distribution of total household income is largely defined by the distribution of non-agricultural income.

2) The economic determinants of household income, which had been found by previous researches, can be confirmed by this study. First, the non-agricultural development (or by-employment development) of the employment structure is the strongest determinant of household income within the region. Second, the comparative geographical advantage is another important factor.

3) With regard to the role of individual and household capital (human capital and political capital) in getting non-farm employment opportunities, and the relationship between the redistribution mechanism and market coordination, the findings are quite varied. Differences in the determinant of access to non-farm employment opportunities are due to the type or structure of the market development as well as the level of economic development. In other words, it is essential to examine the changes in economic and socio-political attainments within a specific regional/historical context.

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