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Erklärung

Hiermit versichere ich, die Dissertation „**Returns to Education in Market Transition during the Reform Period 1988-2002, China**“ selbstständig verfasst zu haben. Alle verwendeten Hilfsmittel und Hilfen sind angegeben. Die Dissertation ist in keinem früheren Promotionsverfahren angenommen oder abgelehnt worden.

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Jifa Xiang

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Chapter 1 General Introduction

1.1 Issue

One of the most significant developments in the People's Republic of China (PRC) over the past 30 years has been the large increase of rural-urban migrant population. China's Reform and Opening Policy implemented under Deng Xiaoping ignited a huge population mobility of rural labourers from rural areas to towns and cities seeking non-agricultural jobs. Although no exact figures are available, it has been estimated that as many as 200 million migrants flow into towns and cities annually in recent years[1].

During 2012, as a part of China's *Lianghui*, which are the two annual sessions of the National People's Congress (NPC) and the National Committee of Chinese People's Political Consultative Conference (CPPCC), 15 academicians from the Chinese Academy of Science and the Chinese Academy of Engineering presented a joint proposal on "Who will feed China?" This proposal generated widespread concern and discussion with a 'laudable' premise: With a large number of young labourers from rural China pouring into cities, China's agriculture would become the responsibility of the elderly; and the dramatic increase in out-migration would cause a shortage of labour in the agricultural areas. Because the young generation labourers have a strong desire to leave agriculture work and find non-agricultural job in cities, the 15 academicians concluded that, within one decade, China's agricultural job sector would have fewer, and unskilled, and elderly labourers than it required. Naturally, 'Who will feed China?' is 'apparently' going to be a problem. Accordingly, worries about the future of China's agricultural production permeated throughout the public media. Even in the official mainstream media like *Xinhua*, public opinions reached a consensus that 'Who will feed China?' is a pressing and very 'real' problem and out-migration from agricultural life in the rural areas is the main cause of this problem.

Does rural-urban migration really threaten China's future agriculture? He (2012) gives an optimistic view by elaborating the unique advantages of household production. In He's view, a significant feature of Chinese peasant families' labour allocation is an interwoven model of agricultural and non-agricultural activities based on the

[1] For example, the National Bureau of Statistics of China reports that there are 263.17 million people migrate out from their original residence place in 2011 (NBS, 2012).

intergenerational labour-division in which young labourers out-migrate to seek non-agricultural jobs in cities, while the middle-aged and elderly stay to engage in left-behind farming. In this way, a peasant family can have income both from agricultural and non-agricultural labour. The out-migrants are able to move forward and backward according to their employment prospects in cities: the young labour force strives to stay and work in cities with their young age advantage, and then once the employment opportunities decrease, they can choose to return to their homes for agricultural work even in their age of 40s' and 50s'. With the assistance of agricultural mechanization, it is not difficult to resume agricultural activities. An obvious fact is that not all of the out-migrants can stay and work in cities and spontaneously become city residents, regardless of out-migrants' real willingness to do so. If only one-third of out-migrants return to the rural areas, they can still make a significant contribution to the labour force in agriculture. Therefore, as according to He's logic, the concerns about food security are unwarranted.

The rural-urban interaction under China's dualistic system has for a long time presented an 'urban bias' (Hu and Ma 1993), namely, an unfair relationship between urban and rural sector because of the policy's overprotection to urban sector. Rural areas have provided necessary capitals for primitive accumulation of urban development, but in turn, urbanization failed to push rural development.

China is a populous country with wide-ranging development levels, and there is a large economic gap between western and eastern regions of the country. The differential occurs even within the same province. In the less economic-developed central and western regions, the rural population accounts for a large proportion of the population. The long-established dualistic system results in the urban population receiving a much greater investments in human capital than the rural population. The educational levels of the rural population has been a bottleneck for central and western China social and economic development. The improvement of both the quality and the level of education for rural people is crucial for China's future development. Fertility rates of the urban population declined due to the long-practiced family policy, and in the coming decades, almost all of the net increase of labourers will be in the rural areas. Obviously, the average number of schooling years complete by rural labourers is far lower than their counterparts in urban areas. Therefore, the educational level of China's future labourers will decrease unless the situation of rural China's education significantly improved.

The past three decades have witnessed an unprecedented growth in the number of rural-urban migrants in China. The economic prosperity wound not be the way it is today without the huge contribution from rural-urban migrants. When interpreting the origins and dynamic of the Chinese ascent (Chinese economic growth), Giovanni Arrighi (2007: 351) traces the source of greater foreign capital investments as compared to other Asian countries based on "high quality of those reserves" of labour. Although Arrighi does not directly address the term of 'human capital', he does emphasize those reserves in terms of the health, education and self-management of a population. The chief competitive advantage of China over other countries around the world in attracting foreign investment is the "inexpensive educated labour instead of expensive machines and managers" (Arrighi 2007: 365). As Arrighi states:

> "Government policies in the field of education have endowed China with a pool of human resources which, along with a huge supply of literate and industrious labourers, includes a large and rapidly expanding supply of engineers, scientists, and technicians. This expanding supply of knowledge-workers facilitates, not only the substitution of inexpensive educated labour for expensive machines and managers, but also-as Smith advocated-the upgrading of the social division of labour towards knowledge-intensive production and innovations." (Arrighi 2007: 367)

One of China's future development goals is to reduce the number of famers, and the only option is to transfer the surplus rural labour out of the agricultural sector. Therefore, in the coming decades, it is expected that this same population mobility will continue to occur. This research is about the massive population movement in contemporary China. The over 200 million migrants that left home in order to better their socio-economic status are changing the destiny of themselves and the whole nation as well. Rural-to-urban migration is a pervasive feature of the developing world (Kasarda and Crenshaw 1991). The stock of rural-urban migrants in China is influenced both by the China's relatively good economic performance and also by national policies on agriculture and farmers. The composition of earlier waves of migrant workers, which occurred after the rural reform in the late 1970s and the introduction of the Household Responsibility System (HRS), was greatly influenced by the prosperous development of Township and Village Enterprises (TVEs). Before China's rural reform was implemented, free migration of the rural population was highly restricted.

At that time, the existing *commune*[2] system was extended to all of the rural population in China from 1950s until the early 1980s.

In their book, *Exceptional People: How Migration Shaped Our World and Will Define Our Future,* Goldin and his colleagues (Goldin, Cameron and Balarajan 2011) open their narrative by addressing migration as "a key driver of human and economic development and that our future will be strongly influenced by policies regarding migration". This book charts migration in an international context covering the history of migration, the contemporary process and the future trends, so as to convey the idea that migration shaped the way the world is today, socially and economically, and will define the future world as the book's title indicates.

China's current macroeconomic policy is to encourage the cities to loosen the household registration restrictions, thereby allowing free movement of labourers between urban and rural areas. Some provinces and municipalities have already tried to implement household registration system (HRS) reforms, releasing the long-term institutional identity constraints. Although the life in cities is attractive for rural labourers, for any individual rural people, it is a difficult decision as to whether or not work in the urban areas, especially when taking into account migration with their families into the cities. Therefore, it is not a rational choice for all rural people to migrate into the cities. The high costs of living makes living in cities more impossible. Johnson D. Gale (2002) identified housing as an indicator to explain the high cost of urban living. He pointed out that: "in any case, an enormous investment would be required if the workers in the new non-farm jobs moved from the villages to any urban areas." The implicit reason for rural labourers working in cities is that they are likely to earn higher incomes than they would from agricultural work. However, with the high cost of living in the cities, the migrant workers have to become flexible by offering themselves as 'floating labours'. Although a portion of migrates who are no longer working in farming, have become actual industrial workers, they have not received the same treatment as urban workers. Therefore, many rural labourers have changed their occupations; however, they maintain their identity as a farmer[3] as before. This can be seen as the primary reason for rural labourers as having 'moved but not migrated'. Rural labourers' transformation relies on

[2] See more about the history of communes in the session of "Household Responsibility System" in next Chapter.

[3] "Farmer" and "peasant" are used alternatively in this dissertation.

both the occupational change and the fair treatment in income and other parameters of social status.

More than two decades ago, in their review of conceptual approaches to migration, Douglas Massey and his colleagues remarked:

> "At present, there is no single, coherent theory of international migration, only a fragmented set of theories that have developed largely in isolation from one another, sometimes but not always segmented by disciplinary boundaries. Current patterns and trends in immigration, however, suggest that a full understanding of contemporary migratory processes will not be achieved by relying on the tools of one discipline alone, or by focusing on a single level of analysis. Rather, their complex, multifaceted nature requires a sophisticated theory that incorporates a variety of perspectives, levels, and assumptions." (Massey et al. 1993: 432)

Education in contemporary societies, regardless of its formation based on socialism or capitalism, has become a fundamental vehicle for upward mobility in the social hierarchy. Researches on education returns present a desired research arena to explore and evaluate the changes in mechanisms of resource allocation in the process of social transformation. In particularly, it offers a perspective to observe the ups-and-downs of the lives of migrants. The studies in this dissertation address two main concerns: one is to explore how economic transition and social change are connected by investigating how human social mobility is embedded in processes of social transformation. Migration is part of the transformation process of social structures and institutions; migration both shapes social transformation and is shaped by such fundamental change; the other perspective is to examine the effect of human capital on migration decision on both the individual and household level. To fulfil these concerns, the migratory phenomena need to be well-understood in a national context.

The conventional interpretation models of educational returns are based on human capital theory from an economic perspective. Economists, in general, focus mainly on the labour market determining mechanism through an individual's marginal productivity. Human capital theory begins with the premise that individuals are the main actors of economic transaction, and they are rewarded through labour market competition. For a long time, institutions and organizations in which individuals are embedded have been neglected. Nevertheless, institutions and organizations shape the earnings mechanism fundamentally within a social context such as in China where markets emerged from the socialist redistributive economy in which wage setting is highly associated with institutions and

organizations. Institutions form the environmental contexts of social order such as in the superiority of public sectors, and organizations categorise individuals into different sub-sectors. Institutions are the formal and informal regimes or mechanisms of social order that guide the actors' appropriate behaviour within a given field. The term, institution, is applied in social science as one of the principal objects (see, for example, Durkheim 1985) and became a central concern for sociology research focusing on the changes of social interaction and social construction over time. The social function of individuals is embedded in a given institution and is executed by individuals through their personal roles (e.g., husband-father, wife-mother, owner-employee, manager-worker, male-female, native-immigrant, etc.) fulfilment. Such roles become part of individuals' identities, and they can be used to make the categorical distinctions that generate status expectation. In social science, an organization is a purposeful social entity/structure and is linked to an external social context. One of the most important purposes of organizations is resource allocation and labour division to its belonged elements (e.g., working employees). Organizational settings are naturally the central agency for individual income returns and therefore, the possible emergence of inequality. Institutional evolution and organizational reconstruction, on the one hand, become the driving power of income distribution, and on the other hand, determine the rules of economic transactions and mechanisms of economic actors' reaction. Actors translate their legitimacy of earning returns according to organizational environments which differentiate hugely among organizations under a given institution.

Alternatively, human capital theory recognizes those institutional and organizational distinctions as similar to other individual status distinctions. Human capital was defined as the intrinsic productive capabilities of human beings, so human capital theory translate the earning returns as an outcome from marginal productivity in an externally competitive labour market. Human capital theory begins with the premise that the labour market is the central site for the emergence of earning inequality, losing sight of the distinctions of workplaces where organizations vary enormously. It is undeniable that market (as a pricing indicator) is the macro wage setting force, but still, various organizations with distinctive organizational conventions and practices, not the labour market, distribute income. An alternative theoretical framework is adopted in this dissertation centring on organizations and households, rather than individuals.

1.2 Overview of the Contents

This dissertation itself falls into three major parts in addition to the Introduction (Chapter 1): Chapter 2 begins with a long-running controversial issue on the topic — who wins in the market transition — launched by Victor Nee's (1989) market transition theory which follows the basic human capital model with a distinction of the markets-redistribution dichotomy. The market transition theory and its underlying income distribution mechanism have been empirically convenient and concise but theoretically unconscionable. Chapter 2 proposes a central mechanism for generating wage distribution as an institutional evolution in organizations. This alternative model is useful partly because it is consistent with findings from the market transition model. What is more distinctive about this model is that in contrast to the human capital framework the basic unit of analysis is not the individual embedded in a hypothetical competitive labour market, but the social relationship binding and individual and the organizational context. Based on this model, chapter 2 studies the long-term trends in wage inequality using the urban samples from the cross-sectional Chinese Household Income Project (CHIP) survey data of the surveyed year 1988, 1995, and 2002, and suggests a change in organizations embedded in institutional evolution and market penetration in the post-reform period of China. This model also goes beyond the frameworks of human capital and occupational analyses on the generation of wage inequality, shifting the focus to dynamics of organizations and their contexts. This chapter focuses on social stratification research to observable organizations in continual economic development processes and the socio-economical contexts that shape those processes.

Chapter 3 focuses upon the household income inequality by categorising rural households into (a) households with out-migrants, and (b) households without out-migrants. I deliberately extend the sites for the historical backgrounds of the emergence of rural-urban migration in China. The backgrounds contain three main aspects: the Household Responsibility System (HRS), Township and Village Enterprises (TVEs), and policy loosening of population mobility, all of which constitute the context of the unfolding scenario of huge population mobility. The chapter also addresses the unique characteristics of rural households as basic production units and name the households, relative to the individual, as the core unit of analysis. In this chapter, I follow the new structural economic model to investigate the households' income inequality generated by factor endowments. Human capital and other factor endowments, such as land and both financial and physical assets are included in the analytic model. This model highlights the effect of human capital, especially education on household income. I differentiate the households with and without out-migrants from CHIP data sets of 1995 and 2002, both of which have information on

working outside their hometowns. Unfortunately, the CHIP 1988 data does not present information on out-migration because the large wave of rural-urban population mobility had not occurred in the 1980s before the expansion of the market economy.

Chapter 4 turns to the discussion of wage inequality between urban native workers and immigrant workers who are without a local registered permanent residence. I conduct the comparison only within the data sets of CHIP 2002, since the CHIP 2002 data contains an urban-migrants sample for the first time in these three waves (CHIP 1988, 1995 and 2002). However, due to the shortcomings of the data itself (discussed more in Chapter 4), the cases included in the urban migrants sample are those 'successful' ones that keep a foothold in their urban livelihoods. In Chapter 4, the private returns to education are first addressed by the reference of the human capital model, the signalling model, and the labour market segmentation model. Following this is a discussion of the probability of research methods of cross-sectional study and longitudinal study, particularly, the applications of trend study and cohort study in a comparison of migrant workers and native workers on the returns to education, and, the trends of change of returns to education of urban workers in market transition period as presented in Chapter 2.

The main contents of this dissertation are constituted by three seemingly separate parts which narrate unconnected stories covering different target individuals/groups (individual workers and rural households). Nonetheless, these three stories present the social panorama on social stratification in social transformation using different analytic units. Furthermore, due to the restricted data construction, it is impossible to conduct trend analyses referring to each analytic unit through the three waves of surveyed years. Alternatively, a differentiated method has been adopted in this dissertation. I expand the discussion on cohort study in Chapter 4.

1.3 Data

In this research, I use data from the Chinese Household Income Project (hereafter, CHIP) surveys, a longitudinal data source which covers the surveyed years of 1988, 1995, and 2002, and is uniquely situated to interpret the collateral consequences of income inequality, and to examine how market transition has altered the socio-economic status of both individuals and households. The CHIP surveys which provide the best data currently available to address the income distribution picture in China as a whole, was conducted by the Institute of Economics, the Chinese Academy of Social Science (CASS) in cooperation with several foreign research institutions in 1989, 1996, and 2003 for the reference years

1988, 1995, and 2002. The year 1978 marked the beginning of China's rural reforms. From 1978 onward, urban reforms were applied gradually in urban areas: in 1983, a tax-for-profit system was installed in the urban reform, which entitled enterprises to retain a portion from their profits and was partly rewarded to workers as bonuses. In 1988, managers of the state-owned enterprises were given greater autonomy over the use of retained profits by the newly-released 'State-owned Enterprise Law' which ushered in the reforms of state-owned enterprises. Since then, governments' redistributive function in regulating the use of retained profits and controlling fiscal plan, production material, and labour, were further reduced. In the late 1980s, the private sector participated more in the market activities; the year 1992 marked the peak of a sweeping reform after Deng Xiaoping's '*Southern Talks*'[4] in spring 1992. Therefore, the 1988, 1995, and 2002 surveys portray well the trend of market progression.

The 1988, 1995, and 2002 surveys used representative samples drawn from the sampling frame of the official household survey conducted by the National Bureau of Statistics of China (hereafter, NBS). These surveys include national urban and rural samples in all three surveyed years, and CHIP 2002 data also has a rural-urban migrant's sample. The surveys of urban and rural China were kept separate because of the very different institutional organization of the two population segments and therefore, the need for different questionnaires. Unfortunately, the CHIP data did not include a panel element since the entire sample was changed within the fourteen years separating these three surveys.

The structure of the three surveys is showed in Table 1.1 below. The coverage of the rural sample in 1988 included all but two provinces, Tibet and Xinjiang, including 28 provinces, whereas in 1995 the sample scaled back and nine others were also excluded. The 2002 survey added two new provinces than, Guangxi and Xinjiang. Also, Chongqing separated from Sichuan after 1995. Consequently, the number of provinces in the rural survey increased to 22. The urban sample kept all of its 1988 provinces and gained one, Sichuan, in 1995. Due to Chongqing's separation, the number of provinces in the urban survey in 2002 increased to 12. To maintain comparability, in provinces that were covered in

[4] Deng Xiaoping's '*Southern Journey*' (南方谈话 *nanfang tanhua*) in 1992 to Wuhan, Shenzhen, Zhuhai, and Shanghai and a series of talks during his journey successfully lit the fire for further market opening and faster growth. The main point of Deng's talks on reform emphasized the need for further opening and faster growth to quicken the pace of reform. Deng's talks and messages received widespread support as an emancipation of the mind, even the conservative officials (who were cautious about whether the reforms were called capitalist or socialist) later in this year had to implement Deng's policies due to the changed atmosphere. Jiang Zemin, who was the successor to Deng, elevated Deng's view into the term "socialist market economy".

all 1988, 1995 and 2002, the three waves of survey selected almost the same cities and counties.

Table 1.1 *1988, 1995 and 2002 CHIP Surveys: Details of Samples*

	1988	1995	2002
Urban			
Households	9,009	6,934	6,835
Individuals	31,827	21,696	20,632
Provinces-total	10	11	12
-common to all 3 years	10*	10*	10*
Rural			
Households	10,258	7,998	9,200
Individuals	51,352	34,719	37,969
Provinces-total	28	19	22
-common to all 3 years	19**	19**	19**

* The Urban sample included the following 10 provinces (and province-level municipalities) in all 3 years: Beijing, Shanxi, Liaoning, Jiangsu, Anhui, Henan, Guangdong, Yunnan, Gansu, and Hubei
** The rural sample included the following 19 provinces (and province-level municipalities) in all 3 years: Beijing, Hebei, Shanxi, Liaoning, Jilin, Jiangsu, Zhejiang, Anhui, Jiangxi, Shandong, Henan, Hubei, Hunan, Guangdong, Sichuan, Guizhou, Yunnan, Shaanxi, and Gansu.

Sources: Griffin, K and R. Zhao (1993); Gustafsson, B. A., S. Li, and T. Sicular (2008) and the data sets of the CHIP surveys.

The rural and urban samples in the 1988, 1995, and 2002 were drawn from the large sample used by the NBS in its annual household survey. The CHIP 1995 and 2002 surveys adopted slightly different sampling procedures from the 1988 survey for the both rural and urban surveys. The CHIP 1988 survey follows the NBS practice of drawing its sample of households from the non-agricultural population, which constitutes the fraction of the population holding urban household registrations (*hukou*). In CHIP 1988 surveys, the respondent urban households are selected using a two-stage stratified systematic random sampling scheme. In the first stage, cities and county towns are selected; in the second stage households within the selected cities and county towns are chosen. The cities and county towns are chosen through the classifications on the basis of population size (5 categories: extremely large cities, large cities, medium-sized cities, small cities, and county towns) and geographical regions (6 groups: Northeast, North, East, Center, Northwest, and Southwest). At the second stage, the households are selected in each sample city by a multiphase sampling scheme ranging from sub-districts, to resident committees (*jumin weiyuan hui*), to sample households in each of the resident committees. The rural household survey follows a slightly different procedure from the urban surveys. The sampling procedure consists of two steps. First, representative sample villages are selected directly from county towns in each province, and second, households are drawn from each sample village. But to date, the rural

sampling methodology is not formally documented as to how these villages and households are selected.

The CHIP 1995 survey adopted different sampling procedures and different instruments from the 1988 survey. The surveyed size in rural samples was reduced in CHIP 1995 from 28 provinces in 1985 to 19 in 1995. The 19 provinces selected in the rural survey are supposed to be representative of the economic characteristics of various regions. Under this scheme, Beijing was selected to represent the three large metropolitan cities (the other two being Shanghai and Tianjin); Liaoning, Jiangsu, Zhejiang, Shandong, and Guangdong represented the coastal region; Hebei, Shanxi, Jilin, Anhui, Jiangxi, Henan, Hubei, and Hunan represented the central region; and Sichuan, Guizhou, Yunnan, Shaanxi, and Gansu represented the western region. The total number of households sampled was distributed among the 19 provinces in a manner roughly consistent with their populations, and the selection of counties and villages was based on their income levels. The number of provinces in the urban survey was increased to 11, one more than in 1988. And following the same principle of the economic characteristics of the rural sample, the 1995 urban survey chose Beijing to represent the three large metropolitan cities; Liaoning, Jiangsu, and Guangdong to represent the coastal areas; Anhui, Henan, and Hubei the central region; Sichuan and Yunnan the southwestern region, and Shanxi and Gansu the northwestern region.

The numbers of both selected households and provinces in the 2002 rural survey increased to 9,200 and 22 respectively due to the two new entries of Guangxi and Xinjiang, and Chongqing's separation from Sichuan. Similarly, the number of provinces in the urban survey also increased to 12, but the sample size of households in the urban survey remained almost the same as in the 1995 survey. In CHIP 2002, 2000 rural-urban migrant households were also surveyed. These households were selected from all of the 12 provinces, but not from all of the cities, in the urban survey. "Within cities, because of sampling frame limitations, rural-urban migrant households were selected from resident committees. In other words, migrant workers living in construction sites and factories were not included in the sampling selection. Consequently, most of the migrants selected had families with them" (Li, Luo, Wei and Yue 2008). So, the rural-urban migrants sample was more representative of permanent migrants who were working and living with their families in cities much longer. Table 1.A, Table 1.B, Table 1.C, and Table 1.D in the Appendix give information on the composition of the samples in the three surveyed years.

Chapter 2 Human Capital Return in Transitions: Trend Analysis on Individual Human Capital Returns in 1988, 1995, and 2002

In the last half century, important theoretical arguments[5] have been developed to explain modes of redistribution and socioeconomic attainment under state socialism, among which, the social equality — who benefits from the social institution — has been the focal point. Building on a huge volume of existing literature, this research has as its primary goal to relate the theoretical ideas in the existing literature to the empirical evidence, and by doing so, provides a systematic examination of the multiple channels of the redistribution of income in three different years, namely, 1988, 1995, and 2002 based on the CHIP data sets. This research compares and contrasts modes of redistribution for the aforementioned years within different economic sectors, and highlights the various returns to education and work experience for the given periods and societal contexts.

2.1 Previous Scholarship on Market Transition

2.1.1 *Market Transition Theory: Early Version*

In 1989, Victor Nee (1989) presented a new theory of social inequality in his article, "A Theory of Market Transition", and applied it to the research of the transition from a state socialist redistributive economy to market capitalism. This theory considered the state socialist redistributive economy and market capitalism as a dichotomy of social-economic formation. Nee claimed that this transition had unexpected consequences on social stratification. The main principles of social stratification in pre-reform China (or, more precisely, in the Maoist era) were a unitized society, redistribution, and clientelism (Kraus 1981; Oi 1985; 1989; Schurmann 1960; 1968; Shue 1980; Unger 1984;Whyte 1973; 1980; 1985; Zhou 2001). The sub-societal units of population were organized by the socialist state via working units in towns and cities, and the *People's commune*[6] in rural areas, and the redistribution occurred within those sub-units. In the urban units, the distribution occurred in accordance with a hierarchical salary system of bureaucratic rankings; in the rural area, salaries and annual production were distributed according to personal work-points[7]. In

[5] See more in the following discussion.

[6] See more in the section of *Household Responsibility System* in chapter 3.

[7] See more in the description of *People's Cummune* in Chapter 3.

addition to these dual-structured distribution mechanisms, class status[8] and clientelism[9] also dominated the distribution of resources. The redistributive mechanisms that operate in state socialism "fundamentally involve a vertical relationship between redistributor and producer, in which a multilevel bureaucratic hierarchy allocates resources and redistributes income" (Nee 1989: 663).

Economic reforms and social transitions in the former socialist Eastern European countries, the USSR (Union of Soviet Socialist Republics), and the People's Republic of China (PRC), provide a historic opportunity to explore the changing mechanisms of income distribution and socioeconomic attainment. Starting in the 1980s, many researchers have focused on the transition of a state socialist redistributive economy to a market-like economy and its related issues as inequality and institutional change in former socialist countries in Eastern Europe and China (Kornai 1986; Lin and Bian 1991; Perry and Wong 1985; Stark 1986). Nee (1989) proposed in his 1989 paper, *A theory of market transition: From redistribution to markets in state socialism*, that the transition from socialist redistributive economies to market-based economies shifts the sources of power and privilege to favour direct producers rather than redistributors, triggering a continuous academic debate. The primary concern of Nee's theory of transition is the mode of allocating and distributing resources, in other words, who wins from the transition. Nee assumed that a redistributive economy is completely different from a market economy, and accordingly, the social stratification mechanisms also vary reciprocally. Nee drew his assumptions based on Polanyi's typologies of the modes of human economic production, namely, market economies, redistributive economies, and reciprocity economies (Polanyi 1957a; 1957b). Market economies are characterized by distributing income and goods through mechanism of a horizontal relationship between legally equal buyers and sellers at prices based upon mutual agreement; redistributive economies in state socialism collect and distribute goods

[8] *Jieji chengfen* (class status) was classified in the time of Land Reform as poor peasant or landless (*pin/gu nong*), lower middle-peasant (*xia/zhong nong*), rich-middle peasant (*fuyu zhongnong*), rich peasant (*funong*), and landlord (*dizhu*), and In rural China during the Maoist era, rich peasant and landlord became the subjects of the dictatorship of the proletariat because of their owning land and collecting rent. In urban China, manual worker (*gongren*), office worker (*zhiyuan*), enterprise owner (*qiyezhu*), petty proprietor (*xiaoyezhu*), revolutionary cadre (*geming ganbu*), and revolutionary armyman (*geming junren*) were the "good" classes, while landlord and comprador/bureaucratic bourgeoisie had always been the target of the revolution.

[9] In his paper "Communism and Clientelism: Rural Politics in China", Oi identified clientelism as a type of elite-mass linkage through which the state and the party exercised control at the local level, and through which individuals participated in the political system. In Oi's clientelist perspective, power is routinely exercised through the allocation of opportunities, goods, and various other resources over which the elite have monopolistic control and on which the non-elite are dependent.

through centralized decision making (Nee 1989; Polanyi 1957a) based on the mechanisms that involve a vertical relationship between redistributor and the producer, in which a multilevel bureaucratic hierarchy allocates resources and redistributes income (Nee 1989; Kornai 1989). Reciprocity economies refer to the non-market exchange of goods or labour based on gifts and trust (Mauss 1970; Polanyi 1957b; Sahlins 1972; Weiner 1992) rather than market prices and currencies. Nee focused more on the transition from a redistributive economy to a market economy in China, therefore, his investigations centred on the disparity of the social stratification of these two economies.

State redistributive socialism — the allocation of resources through a centralized authority — has been a distinctive mode of economic institutions since the early archaic economies (Zhou and Suhomlinova 2001). As a redistributive economy, socialism has a distinct social stratification mechanism which is compatible with a redistributive economy. As Szelényi highlighted, redistributive economies are seemingly equated with egalitarianism, however, the de facto distribution of public goods has been absolutely unequal (Szelényi 1978). The elites, mostly bureaucratic cadres that compose the privileged class, hold the decision-making regarding redistribution. Accordingly, political power and loyalty played a critical role in redistribution. Based on the theoretical foundation established by Polanyi and Szelényi, Nee proposed that the shift from hierarchies to markets in a socialist economy changes the determinants of socioeconomic attainment and therefore the sources of power and privilege (Nee 1989). Nee has attributed this change mainly to the relationship between direct producers and redistributors in the process of market transition. In a market economy, the producers and consumers could deal directly in the market without interference from redistributors as in a redistributive economy. This ensures that, even if the interference of redistributors was not completely absent, the market became increasingly prominent in the redistribution mechanism. The resources allocation and income redistribution occurred in a market economy no longer through the institutions of central planning with a multilevel bureaucratic hierarchy, but in a horizontal relationship between legally equal buyers and sellers at process upon mutual agreement (Nee 1989). On the basis of Szelényi's analysis of the redistributive mechanism in state socialism, Nee investigated further why the shift from redistributive to market coordination would benefit immediate direct producers, and how political power and privilege would transfer expectedly. Nee extended the logic of Polanyi's and Szelényi's analyses of the redistributive economy to a reforming socialist economy by proposing the theory of market transition in three

interrelated thesis, namely, *the market power thesis*, *the market incentive thesis*, and *The market opportunity thesis*.

(1) *The market power thesis* which asserts a transfer of power favouring direct producers relative to redistributors during the transition from redistributive to market economy by the preference that the production surplus "is no longer monopolized by the redistributive sector, and more is allocated and distributed through market-like exchanges" (Nee 1989: 666). Under this situation, the market, overtaking redistributive planning, became the main scheme of resources and goods distribution. Therefore, without the control over resources and goods, the power of the redistributive sector would get undermined.

(2) *The market incentive thesis* which highlights the power of the market in igniting "incentives for immediate producers whereas redistributive economies depress incentives" (Nee 1989: 666). In market economies, direct producers "have the right to withhold their product or labour power until a mutually agreed upon price is set" (Nee 1989: 666). Furthermore, according to the human capital theory, an individual producer's rewards are closely related to his own productivity which is presented as education and skills (Mincer 1958; Schultz 1963; Becker 1993), and therefore, human capital would receive higher returns in market rather than in redistributive economies.

(3) *The market opportunity thesis* which indicates a new socioeconomic mobility mechanism different from that under state socialism redistributive economies. "Rather than focusing exclusively on access to and mobility within the redistributive sector, market opportunities open up alternative avenues of socioeconomic mobility" (Nee 1989: 667). In other words, the pathway of upward mobility would not be confined to becoming part of the bureaucratic cadres. Entrepreneurship, as an alternative, rose up to overturn the monopoly of the redistributive sector, so that social prestige and an elite status became no longer exclusive to the bureaucratic cadres.

Based on the combination of the three theses above, Nee has constituted a theory of market transition in state socialist societies. With data collected in 1985 from 624 peasant households in 30 villages in Fujian, China, Nee has derived 10 hypotheses from the three market transition theses, in which two general hypotheses closely linked to individual wage returns must be mentioned: (*H1*) the transition from a state socialist redistributive economy decreases the return of political power; and alternatively, (*H2*) the transition from a state socialist redistributive economy increases the return to education. These two hypotheses later became the targets of criticism from other researchers. Regarding the hypotheses of the

devaluation of political power, Nee found that under the consistent education and household composition, the income in the households with incumbent cadres were lower than those without cadres; and compared to the households with entrepreneurs, those households with incumbent or departing cadres received much less income. In a comparison of pre-and-post reform period (beginning of 1980s as the dividing line) income, the mean income of households with cadres was slightly higher those households without cadres; however, the rate of income increase were much lower than the households with entrepreneurs. In the analysis of the returns to education, Nee found that the sum education of a spouse had a significantly positive effect on household income in the post-reform market economy of China, while the effect of the sum education of a spouse in pre-reform period (in the year 1975) was negative, although not statistically significant.

2.1.2 *The Theoretical Logic of Redistribution Under Social Transition: Nee's Amendment and Theoretical Arguments from Others*

First Amendment

The core argument in Nee's 'market transition theory' is that administrative cadre advantages shall decline to the extent that markets replace redistribution as the dominant mechanism of economic allocation. In his successive publications, Nee has altered his judgment about "how far the market transition has proceeded in rural China, and whether his theory does predict a decline of cadre privilege" (Walder 1996: 1060). Nee (1991) extended his market transition theory to an analysis of inequality under the conditions of *partial reform* in China in his 1991 paper. The viewpoint of *partial reform* emphasized that in the early stages of market reform, political power (being cadres) would not devalue overnight because of the continuous function of the redistributive mechanism. Under *partial reform*, Nee concluded, "markets have not replaced hierarchies as the main integrative mechanism of the economy" (Nee 1991: 279). Therefore, in the process of *partial reform*, still, political power could get considerable economic returns. Nee used survey data collected in rural Fujian, China in 1985, which offered the household income information in three different timeframes, namely, 1975, 1980, and 1985, and these three timeframes represented the periods of redistributive, early stage of market reform, and further evolution of market transition, respectively. According to the quintiles of household income, Nee contrasted the social mobility of the households with cadres, households with entrepreneurs, and households without either cadres or entrepreneurs. With the shift to a market economy, the market transition theory predicts a favourable status to direct producers rather than

redistributors with the tilts of power, incentive, and opportunities being toward the producers. This means that, the income levels of households with entrepreneurs should trend upward, as should the households without either cadres or entrepreneurs; by contrast, the households with cadres should trend downward. Inconsistent with the prediction of the market transition theory, as Nee found in his 1991 paper, households with cadre backgrounds also had an upward social mobility surprisingly, with an upward trend in income levels. This indicates that although entrepreneurs come from varied backgrounds, many come from cadre backgrounds. This goes beyond the indication of the market transition theory. Nee explained this disparity as resulting from the redistributive mechanism, and along with market mechanism, working simultaneously on social stratification in the slow progress on market reform.

In his 1996 paper, Nee (1996) further amended his theory by emphasizing the changing mechanisms of stratification stemming from the expansion of opportunities for gain and profit centring on market institutions during the redistribution-to-markets transition which spurs the growth of opportunities for those "groups and individuals who were formerly barred from advancement in the state socialist bureaucracy and economy gain chances for social mobility" (Nee 1996: 911). The expansion of opportunities subverted the previous power structure maintained by the established elite, most of who held or had access to political power; in turn, the formerly excluded groups gained power through emergent labour markets and private entrepreneurship. Importantly, however, such shifts in power, as Nee emphatically stressed[10], do not entail a direct handover of power from the former administrative elite to emerging entrepreneurs but "do occur as an unintended by-product of institutional change" (Nee 1996: 911). Changes in the mechanism of stratification in the transitions from state socialism the markets, Nee claimed, were caused by changing institutions, among which changes in the structure of property rights was the most critical. Using the larger-scale national survey data of 138 administrative townships, 138 villages and 7,950 households in rural China during 1989-90, Nee examined the household income changes from 1978 to 1989 based on four-types of regional classification: *Inland*, *Redistributive*, *Corporatist*, and *Laissez-Faire*. The empirical findings indicated that both the local redistributive power and the privilege of the administrative elite were persistent.

[10] In Nee's representation, "such shifts in power do not entail a direct transfer of power as in a regime change but do occur as an unintended by-product of institutional change" (Nee 1996:911).The power shifts do not mark that the former cadres cede the benefits from their political power, instead, they could become private entrepreneurs resting on their political power.

However, as Nee stated, these findings did not dispute his previous market transition theory, since in a market economy, the redistributive power and privilege was much less relatively to that in a socialist redistributive economy as a function of the shift to markets. Correspondingly, there was a declining significance in the political power of the administrative elite with regard to income returns. This result is explainable because, in an economically booming China, it is a matter-of-course that there is a rising trend of income of all social class including administrative cadres although they have a relatively slower rate of income growth. Other findings include that, (1) the administrative elite continued to enjoy positive returns on political power in local government in accordance with the application of the market transition theory — the less marketized inland provinces experienced less change compared to the more marketized coastal provinces; (2) cadres lacked a statistically significant advantage in household income for the coastal provinces, however, the interaction between cadre status and entrepreneur showed a net positive return. This means that only those who are both cadre and entrepreneurs simultaneously could enjoy a higher return than others.

First Round Theoretical Arguments

By 1996, Nee's market transition theory attracted great attention in academia, and many researchers published new theories that disagreed with Nee. The centre of the debates was how to evaluate the changes in the redistributive sector and its income returns. Rona-Tas (1994) first raised questions about the credibility of Nee's market transition theory using panel survey data (for the years 1989 and 1991, with a sample of 1,000 people over age 18) from Hungary to show that "during the transition, ex-communist cadres maintain their advantageous position and do especially well in the more dynamic corporate segment" (Rona-Tas 1994: 40). Unlike Nee's market transition theory, Rona-Tas found that the cadres, instead of withdrawing from the arena of history, convert their past political power to economic advantages, quite different from Nee's prediction that "not only are the direct controllers of the redistributive mechanism likely to experience a relative loss, but the value of their political capital accumulated through prior experience as cadres is likely to diminish as well" (Nee 1989: 671). Rona-Tas noted that Nee's market transition theory and its extension in 1991 were formulated on two assumptions: (1) compensating advantages, and (2) structural determination. The assumption of compensating advantages postulates that bureaucratic and market are two mutually exclusive economic coordinators of income distribution, and each of them will favour only one set of positions; the assumption of structural determination claims that the system of economic coordination allocates individual

and household' positions. Therefore, "a change in the form of coordination will result in a change in the remuneration of positions" because of the exclusiveness of economic coordination (Rona-Tas 1994: 43). Rona-Tas's *theory of power conversion* was built upon the emergence of a private sector which formed via a profound change in property relations and a new set of economic institutions in the transition from a socialist to a capitalist economy in Hungary in 1989 when the transition to a market economy started. Rona-Tas's *theory of power conversion* has double implications: first, the conversion of political power to a social network through which these former cadres could construct their solid social network; second, the conversion from social network to private property in the process of privatization. Relying on these two implications, the cadres, despite their political downfall, still hold the advantageous position in the transition from socialism to capitalism in Hungary. The conversion of political capital as described by Rona-Tas (1994) is parallel to Nee's (1991) extension of political capital in the progress of *partial reform*, and the former relies on an informal social network, the latter on technical skills[11]. However, the interaction of political status with market activity remains unclear, that is, it is not known whether the returns of engaging in market activity will be greater for cadres or ex-cadres.

The persistence of power proposed by Bian and Logan (1996) has explored trends in income inequality of the socialist transition in Tianjin, China starting with the market-oriented reforms during 1978 to 1993, with a 15-year lag[12]. The theses of *persistence of power* are based on China's two central institutions of political control as background: one is the Communist party and, the other is the work unit. The latter continues to have significant impact on the urban stratification system during the reform period even to the present, acting as the agent of redistribution due to its control over the key sectors of the national economy. The persistence of political power was embodied in both the redistributive and market system. In the redistributive system, the distribution of remuneration was constrained by the political power in organizations such as governmental agencies, public institutions, and state-owned enterprises. In the market system, those holding political power could get prioritized access to tangible benefits in market institutions, thereby maintaining their political power. Differentiating from Nee's mutual exclusiveness of redistributive and market mechanism, the theses of *persistence of power*

[11] Nee (1991) found the households with cadre backgrounds had an upward social mobility with an upward income flow. The political capital did not withdraw.

[12] Selected years are 1978, 1983, 1988, and 1993.

states that the market mechanism tends to grow and mature in the confines of the redistributive mechanism. For example, the floating wages, and bonuses which are highly related to individual efficiency in state-owned enterprises, were proceeded with the principle of market incentive (Bian and Logan 1996). Therefore, the market that developed inside the redistribution system favours those individuals and social classes who hold political power, and their economic rewards will not decrease as a result of the progress of market reforms; conversely, they will be preserved and increase. Bian and Rogan designed two sets of measuring indicators to test the change of redistributive power on an organizational level and an individual level. The bureaucratic hierarchies and ownerships of the work unit, namely, state-owned and non-state-owned, are the indicators on an organizational level. Using these two indicators, Bian and Logan hypothesised the power persistence model and predicted that there is no significance change in the work unit bureaucratic hierarchies and state ownerships. On an individual level, Communist Party membership and occupation status become the indicators to test personal political power. Further, occupations have been categorized into three groups: (1) those with a high degree of redistributive power, (2) those with a high degree of market connectedness, and (3) those with neither. Bian and Logan's analyses of income determinants show that, on the organizational level, the institutional power of work units, indicated by their bureaucratic rank, persists. On an individual level, those who are Communist Party members or those with a high degree of redistributive power continue to yield an income advantage. Besides the disagreement, Bian and Logan also found some evidence to support Nee's market transition theory. Firstly, age has declined in its significance regarding income return, which reflects that the effect of seniority in a redistributive economy has been weakened. Secondly, education has become more important during the reform period. Correspondingly, market connectedness has become as privileged as redistributive power as a predictor of income. Thirdly, marketized or quasi-marketized work units have higher rewards than other non-market units. All these results reflect that, the city of Tianjin, which was the case study in Bian and Logan's research, was a dual-system economy, and both political power and market were the upward mobility channels.

Parish and Michelson's (1996) *dual transformations* theory advanced the analytic framework of Nee's econometric approach to political markets by highlighting the role of political market. The *dual transformations theory* suggests that liberalization of political markets is often as important as the liberalization of economic markets in the transition. Parish and Michelson suggested a plurality of causal chain: (*a*) the background conditions that shape market outcomes, (*b*) market outcomes, and (*c*) the power and income

consequences of markets. This causal chain was more comprehensive than Nee's concern which only emphasized the transition from market outcomes to the power and income consequences of market. The political markets were attuned to three types of politics: (1) formal and informal bargaining[13] between workers and managers and between managers and the state bureaucracy, (2) the continuing need to have linkages with state bureaucrats and state-run enterprises, and (3) electoral politics. All three of these types of politics affect the distribution of economic profits, as well as the running of economic markets. As a result, political resources and power will not depreciate in the process of market transition.

Walder (1995) extended the discussion of market transition with a specific perspective on the changing incentives and constraints facing enterprises and governments, addressing explicitly the relationship between government and enterprise by reviewing three broad explanations[14] to account for China's transition to the market. Walder (1995: 267-268) advocated an assumption that the local governments, as industrial firms, participated in market[15] due to two fundamental background reasons. The first is that "there potentially are as many owners of public enterprises (in the economy) as there are government jurisdictions". The second, following directly from the first, is that the organizational characteristics in firms "vary widely according to the scale and organizational characteristics of government jurisdictions and their industrial bases" (Walder 1995: 268). The thesis of local governments as industrial firms offers the explanations of: (1) why the power of government, as the essential forms of political power, has persisted in market transition; (2) what is the various forms of incentives and abilities are for the different hierarchical regional governments. To the first point, Walder referred to the persistence of government power as the government's direct and indirect participation in market activities

[13] Parish and Michelson build their political markets on Stark's themes about bargaining and path dependence. See more in Sabel, Charles F., and David Stark. 1982. Planning, Politics and Shop-Floor Power: Hidden Forms of Bargaining in Soviet-imposed State-socialist Societies, *Politics and Society*, 11: 439-75; Stark, David. 1992. Path Dependence and Privatization Strategies in East Central Europe, *East European Politics and Societies*, 6: 17-54.

[14] These three explanations are the subject of intense interest among economists, political scientists, and sociologists, see more in Walder, Andrew G. 1995. "Local Governments as Industrial Firms: An Organizational Analysis of China's Transitional Economy." *American Journal of Sociology*, 101(2): 264. The first is that the rural public sector is a *different ownership form* than the state enterprises that dominate the economies of large cities; the second explanation emphasizes the spread of market mechanisms that create *incentives for firms*; the third explanation emphasizes the changing incentives that bear upon the *incentives for government official*.

[15] In addition to his strong critique of the lack of understanding of the relationship between government and enterprises, Walder (1995: 266-268) suggested that the relationships between governments and enterprises "are viewed as analogous to relations within an industrial firm, or corporation". Accordingly, government, the owner, is analogous to the principal in a corporate structure, and enterprise managers are analogous to division chiefs or plant heads within a corporate firm.

which governments seek profits for governmental agencies and officials through direct participation and indirect power-running. To the second point, Walder suggested that, "corporate hierarchies, often on a very large scale, are of course pervasive in any market economy, and the presumption is that such hierarchies exist because they have advantages over market coordination of the same activities" (Walder 1995: 269). In Walder's organizational analysis, the variation in the organizational characteristics of local governments was embodied as the closeness to central government according to the different levels of hierarchy of governments: "the large-scale corporate hierarchies of higher level government jurisdictions have responded more slowly to these same incentives than the smaller corporations represented by county, township, and village government" (Walder 1995: 269). Because of this, these local governments are less close to central government can more easily become corporations due to the greater autonomies they hold. Walder used as his empirical samples Tianjin City which is more close to the central government and Zouping County in Shandong province which is less close to the central government in order to verify his thesis above. As expected, the indicators of *Local governments as firms or corporations* in Zouping exceeded those in Tianjin. In his 1992 paper, Walder (1992) sketched an institutional theory of stratification anchored in a conception of "*property rights* — the right to derive income from productive assets" (Walder 1992: 524). Property rights, in Walder's analysis, are dispersed across a hierarchy of government jurisdictions, which in turn, creates a variation of organizational abilities to provide benefits to work organizations and employees through revenues extraction. In the Symposium on Market Transition in 1996 hosted by the *American Journal of Sociology*[16], Walder noted that Nee has not altered the core claim about market allocation — markets, replacing redistribution, — as the dominant mechanism of economic allocation in promoting entrepreneur advantages over cadre. He warned that the variable institutions and conditions that define markets, but not market per se, are the centre of theory and research (Walder 1996: 1061), and suggested that "the shift to market allocation per se has no inherent consequences for the allocation of power and income" (Walder 1996: 1061) due to the different way in which property is reallocated. Walder criticized Nee's definition of 'market transition', drawn from Karl Polanyi (1957a; 1957b) and Iván Szelényi (1978), as simply a restriction on the balance of power between redistribution and markets because it focuses on the allocation of goods and services.

[16] Symposium on Market Transition has included 8 papers ushering by Nee's *The Emergence of a Market Society: Changing Mechanism of Stratification in China*. See more in *American Journal of Sociology*, 101(4), 1996.

Therefore, it "causes serious mischief in the analysis of transitional economies" (Walder 1996: 1062) by evading the central empirical question — the underlying fate and fortune beyond the seeming decline of redistributive power — the possible twists of former 'redistributors' engaging in markets as other social actors, for instance, "regulators of markets and private enterprises, brokers and middlemen for market transactions, managers or consultants in public, market-oriented enterprise" (Walder 1996: 1063).

Parish and Michelson (1996) reconstructed parts of Nee's analysis for rural China using a different data set, which was from the Chinese Household Income Project (CHIP) 1988, and included 9026 households spanning 244 counties in 27 provinces. Parish and Michelson assumed that most rural labour markets continue to be confined to a single county. Accordingly, they classified the 244 sample counties by the average characteristics of labour in each county as premarket or marketized. Premarket counties are those whose nonfarm workers constitute no more than one-fifth of the total labour force, whereas marketized or coastal counties are those with more than one-fifth of the labour force in nonfarm employment. The marketized or coastal counties are subdivided into three groups: (1) laissez-faire group, which includes counties where more nonfarm labour is employed in the private sector than in collective or local state-owned enterprises; (2) 'corporatist' group of 'coastal' counties, which includes non-suburban counties where more nonfarm labour is in collective or local state work units than private-sector work units; (3) 'suburban' group, which includes counties abutting major cities[17]. These three sub-categories, along with premarket, or, in Nee's classification[18], 'inland', constitute a sequence of regions following a regular order from the 'inland' to suburban regions. Parish and Michelson proposed that the 'suburban' regions demand more labour than the 'inland' regions, and accordingly, "the most open market for labour not in the laissez-faire but in the suburban regions" (Parish and Michelson 1996: 1050). Parish and Michelson also redefined the content of 'administrator' differently than Nee; they restricted the 'administrator' as being the top leaders of townships and villages, rather than the general civil servants who "have jobs as postal clerks and as other kinds of government clerical and service workers"(Parish and Michelson 1996: 1050).

[17] Parish and Michelson's terminology, "suburban" group, is the substitution for Nee's "redistributive" region. The speciality of these places lies in "not only high levels of collective and state ownership but also in opportunities for villagers to commute to work in cities". See more in, Parish, William L. and Ethan Michelson. 1996. "Politics and Markets: Dual Transformations." *American Journal of Sociology*, 101(4): 1049.

[18] Nee has categorized his sampled regions as a four-typed regional classification: *Inland, Redistributive, Corporatist, and Laissez-Faire*. See, Nee, Victor. 1996. "The Emergence of a Market Society: Changing Mechanisms of Stratification in China." *American Journal of Sociology*, 101(4): 908-949.

With the new categories of regions and restriction of 'administrators', Parish and Michelson reanalysed the CHIP 1988 data which was also used by Nee. They found that the economic rewards for administrators was positive in all four regions, and after controlling other indicators, households with 'administrators' have a 40 percent higher average annual income than other households. In terms of the absolute amount of income, 'administrators' still hold their advantageous position; in addition, the income of 'administrators' in the more marketized regions did not have a downward trend. Parish and Michelson concluded that "in the countryside, local administrators will adapt flexibly, adapting their own and their families' efforts to new endeavours with the highest rewards" (Parish and Michelson 1996: 1057). These 'administrators' could size up the immediate situation in both the economic and political markets to bargain for their own advantages. Parish and Michelson's "somewhat revisionist 'market transition' perspective" suggests that, "for at least as much political as economic reasons", local administrators will "continue to hold onto considerable local power — not only despite, but because of marketization" (Parish and Michelson 1996: 1045).

Nan Lin's *Local market socialism theory* built on his research in Daqiuzhuang, Tianjin in a socio-cultural perspective, illustrated that the local political power structure has not necessarily changed on the basis of market transition, because the institutions are embedded in the "family-kinship-village social network" (Lin 1995: 322). The rural reform in China experienced several phases of socialism and therefore, there was a huge local variation reflecting the simultaneous existence of multiple forms of local command structures economically, politically, and socio-culturally. The local variation ranged from a "continued centralized command system to the disappearance of a centralized command system at the local level" (Lin 1995: 308), with variations in between. Thus, this situation cannot be reasonably explained by a socialism-or-market dichotomy mechanism, and, neither by Nee's 'market transition theory'. Lin advanced his theoretical perspective underlining the socio-cultural forces — embedded in the local networks which "allow the simultaneous and coordinated incorporation of market and collective mechanisms" (Lin 1995: 301) on the basis of two other perspectives, but are beyond Nee's 'Market transition theory' and Oi's 'Local state corporatism'[19]. Lin conceptualized the term 'local market

[19] Oi used the fiscal reforms in decentralization to illustrate how the local government maintains the control of property rights resources allocations, bureaucratic processes, fiscal control, investment, and credit decisions. See, Oi, Jean C. 1992. "Fiscal Reform and the Economic Foundations of Local State Corporatism." *World Politics* 45(1): 663-681.

socialism' as the empirical manifestation of 'local corporatism' which is defined as "an institutional arrangement that consists of a hierarchically ordered set of organizations, a central authority, a functional unity, with local (territorial and network) imperatives and the duality of internal (coordination)-external (competitiveness) dependence" (Lin 1995: 340). The 'market' in 'local market socialism' refers to the market principle (principle of price, principle of competition, and so forth) of the local economy coordination mechanism; the 'socialism' defines the organizational model of local the economy as a collective, which is manifested in the management of property rights — run by the community rather than the private sector. In Lin's Daqiuzhuang case, the political power structure based on 'family-kinship-village social network' has transcended market mechanism due to the intergeneration persistence and continuity of 'family-kinship-village social network'. Although it remains unclear as to the stability of the continuity of power persistence, the 'family-kinship-village social network', has emerged as a new phenomenon in market transition, has challenged Nee's theory.

Theoretical Discrimination on First Round Arguments

Nee's 'market transition theory' has offered a clear theoretical framework and testable hypotheses, and ushered in a specific direction of follow-up researchers, although it received highly critical reviews. The primary criticism was centred on the ambiguity of the concept of 'market transition'.

Market and inequality: necessary correlation? (market versus institutions)

The core argument of Nee's 'market transition theory' is that market mechanisms have predictable implications for inequality to the extent that markets replace redistribution as the dominant mode of economic allocation in the reference of the two ideal-typical economies — 'redistributive' and 'market' — as proposed by Polanyi (1957a). A transitional economy in the shade of Nee's 'market transition theory' is one in which a market economy gradually replaces a redistributive one in a different manner of allocating goods and services; the former is based on an administrative command or plan, the latter is based on "direct bargaining between buyers and sellers over price" (Walder 1996: 1062). Studies of China, the USSR and other former Eastern European communist states have shown that those market economies (or post-transition economies) were surely not consistently manifested as the image of central command or a redistributive economy (Prout 1985; Shue 1988; Oi 1989; Szelényi 1989; Berend 1990; Åslund 1992; Kornai 1992). Rather, they varied widely in their

patterns of power and privilege. Furthermore, the outcomes of transition varied among countries (Stark 1990; 1994; 1996). As Walder remarked:

> "Market economies vary widely in their patterns of power and privilege, in ways unrelated to the *extent to which* a market economy has been established. The variability of market economies warns against attempts to predict changes in inequality without first specifying the kinds of enterprises and other institutions that characterize the emerging market economy-or even the characteristics of markets themselves…
>
> "General claims about the impact of markets should be viewed sceptically, for the impact of markets works through the allocation of assets, the characteristics of emerging markets, and the political processes by which market economies are established. Markets per se are not the issue. What matters are the variable institutions and conditions that define markets, and our theory and research must put them at centre stage." (Walder 1996: 1060-1061)

Walder argued that the two ideal-typical economies — redistributive and market — as proposed by Polanyi, offered a poor research agenda because of the absence of institutional specificity[20]. Redistributive economy, in Polanyi's ideal-types, was virtually a synonym for state property, and the following proposition was, the redistributors who hold property rights over assets would concede the rights to markets in the market transition. These redistributors who enjoyed power and economic advantage in the past, in Polanyi's argument, would lose their superiority. In other words, the decline of distributive power was an inevitable consequence in the market transition. Or, in Nee's interpretation, markets eroded the advantages of redistributors. Therefore, market and redistribution shaped a counter-balance relationship with a degradation or absence of their counterpart mutually. "This causes serious mischief in the analysis of transitional economies" (Walder 1996: 1063)

[20] Rona-Tas's "theory of power conversion", the "persistence of power theory" by Bian and Logan, Walder's "local governments as firms or corporations theory", along with Lin's "local market socialism theory" discussed above, all raised doubts to the validity of the clear-cut distribution-market transition. See, Rona-Tas, Akos. 1994. "The First Shall Be Last? Entrepreneurship and Communist Cadres in the Transition from Socialism." *American Journal of Sociology* 100(1): 40-69; Bian, Yanjie and John R. Logan. 1996. "Market Transition and the Persistence of Power: The Changing Stratification System in Urban China." *American Sociological Review* 61(5): 739-58; Walder, Andrew G. 1995. "Local Governments as Industrial Firms: An Organizational Analysis of China's Transitional Economy." *American Journal of Sociology* 101(2): 263-301; Lin, Nan. 1995. "Local Market Socialism: Local Corporation in Action in Rural China." *Theory and Society* 24(3): 301-354. In the same issue on "Symposium on Market Transition", Xie and Hannum also questioned Nee and Polanyi's ideal dichotomy using the example of regional variation in reform-era urban China. See, Xie, Yu and Emily Hannum. 1996. "Regional Variation in Earnings Inequality in Reform-Era Urban China." *American Journal of Sociology* 101(4): 950-992.

because this proposition of the counter-balance relationship between market and redistribution simplified the complexity of transition as a narrow scheme as to whether the redistributive power declined or not, simultaneously, and evaded the genuine empirical question — how the fortune of redistributors was altered. The interpretation of redistributive power should be considered within the context of redistributive and markets economies, since it has a specific connotation. Under redistributive economies, redistributive power refers to the power of goods and services allocation guided by a command plan. Under markets economies, redistributive power may derive multiple functions — as "regulators of markets and private enterprises, brokers and middlemen for market transactions, managers or consultants in public, market-oriented enterprise" (Walder 1996: 1063). In addition, transitional economies vary enormously in the pace and nature of changes in property rights nationally and internationally. Changes in property rights and other institutional arrangements have further confirmed the complexity of reform — but not as an overnight drastic change (e.g., the 'shock therapy' in some former socialist states).

Instead of disputing the ambiguities of markets, one should as Walder suggested, one should, put the institutions at the centre of research. In developing testable theories, Walder advocated specifying variable processes, such as cadre power on property rights (i.e., the distribution of control over assets), cadre's sources of capital and credit, characteristics of enterprises (i.e., the entry barriers to different kinds of enterprise), path dependence (e.g., the political rules through which a planned economy is dismantled), economic growth (i.e., rates of growth in different economic sectors), and state policy (Walder 1996: 1069-1071). Property rights arrangements and path dependence should be given more attention to identify the possible relationships between power and income in differently structured market economies. Property rights arrangements are less likely to affect whether or not the economic operation is marketized, but rather, they may affect who will benefit from an economic surplus, and in what ways. Path dependence claims the foci on diverse local characteristics at the time of decollectivization as an important cause of the extent to which "cadre power is maintained in a local economy" (Walder 1996: 1070). Paths of change may be influenced decisively by historical factors (e.g., politic, culture, and locality). The local autonomies varied widely at the time of decollectivization even in Mao era, and local governments were given more autonomy at the time of reform. Therefore, the local variation of property rights arrangements often brings about different stratification mechanisms on goods and income allocation. The analysis of property rights and path dependence yields different patterns opportunities and inequalities in market transition.

Market reforms: periodization?

In the same issue on 'Symposium on Market Transition', Szelényi and Kostello offered a positive answer to the question — does the market penetration progress in a periodic form? (Szelényi and Kostello 1996). Drawing from Stark's rejection of the notion of transition as teleological, since it assumes a linear or evolutionary process for those post-socialist societies towards a well-defined, market-like capitalism (Stark 1992), Szelényi and Kostello proposed a scheme about *types* (but not *stages*) of market penetration: (*a*) local markets in redistributive economies, (*b*) socialist mixed economies that feature the coexistence of market and redistributive system under the hegemony of redistribution, and (*c*) capitalist-oriented economies with the stated aim of the establishment of market capitalism and the elimination of the state socialism (Szelényi and Kostello 1996: 1086-1087). Szelényi and Kostello presented this typology of market penetration to answer these non-vague, but empirically useful questions:

> "Which types of *markets* and *market penetration* are likely to have compensatory effects on inequalities? Under *what circumstances* will certain social actors be the winners or losers? What are the *institutional* arrangements of markets and redistribution? What are the *class capacities* of actors who are the likely winners or losers?" (Szelényi and Kostello 1996: 1086).

All of the questions above foster empirical testable research hypotheses by emphasising the meta-narrative of macro-institutional extension. Szelényi and Kostello cautiously evaded the question — whether or not these three types "can be arranged in some necessary evolutionary sequence", and they did not "assume that progress from one stage to the next is inevitable, necessary, or desirable" (Szelényi and Kostello 1996: 1087), nevertheless, their immediately following elaboration on *commodity markets*, *labour markets*, and *capital markets*, aroused suspicion on their assumption. Following Polányi (1957a), Szelényi and Kostello called "an economy *market integrated*, or capitalist, when labour and capital markets are the *dominant* allocative mechanisms", and "if labour and capital are primarily redistributively allocated, commodity markets only constitute what Polányi called *local markets*" (Szelényi and Kostello 1996: 1087). Development of the markets for those post-socialist states commonly undergoes a process of loosening states' redistributive controls over *commodity*, *labo*ur, and *capital*, correspondingly, the allocation of *commodity*, *labo*ur, and *capital* rest increasingly on markets mechanisms due to, internally, inherent demand of sustainable economic development, and externally, inevitable

competition and cooperation in this age of globalization. Thus, although Szelényi and Kostello have eschewed any hint of subtlety in affirming that the three types of market penetration be arranged in some necessary evolutionary sequence, one can still detect an 'evolutionary' terminated end: (as Szelényi and Kostello named) *market integrated*, or capitalist economy. Nevertheless, Szelényi and Kostello do state that the first 'type' of market penetration—*local market in redistributively integrated economies* — can be observed in China between 1977 and the mid-1980s, and the second 'type' — socialist mixed economies — emerged in China after 1985. These two types both emerged in Eastern Europe and China; the third — *capitalist-oriented economies*, however, as Szelényi and Kostello claimed, only emerged in Eastern Europe, and did not appear in China[21]. The unique feature of East European countries in the capitalist-oriented period after 1989 was privatization under state policy, which is quite different from China where the public sector was maintained. Szelényi and Kostello made a distinction between the bureaucracy and the technocracy, and added that members of the former technocratic elite are the big winners of market penetration because they primarily converted into the new corporate bourgeoisie combining their old privileges into privatization, while the bureaucratic elite become the big loser, along with the poor, and most workers. In their conclusions, Szelényi and Kostello highlighted the role of *local markets* which reshape social inequality in the interpretation of the market transition — market is the effect, but not the cause of inequality or social stratification. However, to what extent the market penetration differently affects the rise and fall of groups and individuals remains unclear, and more empirical research should focus on time transformation.

Market transition: China's context

The participants in the *market transition* debate as discussed in the first round have reached the following agreements: (*a*) market penetration is a major source of social

[21] The discussion on socialism or capitalism is beyond my knowledge and will not be conducted in this chapter. I would contend that decollectivization and privatization which bring about property reform are only a few of the dimensions to label socialism or capitalism. The concept of Chinese state capitalism, has emerged as a controversial characteristic of China's market economy. Huang (2008) argues that, although the growth of decentralized market enterprises is tremendous, China's economy remains much more state driven than other East Asian developmental states, e.g., Japan, South Korea in the heyday of industrial policy and high-speed development since its state intervention in the economy. See, Huang, Yasheng. 2008. *Capitalism with Chinese Characteristics: Entrepreneurship and the State*. Cambridge: Cambridge University Press. Li, Li, and Zhang (2000) develop a theory of institutional change on the perspective of product market competition between, (1) bureaucrats and managers in regional government-controlled economies, (2) cross-regional production to analyse China's transition toward capitalism. See, Li, Shaomin, Shuhe Li, and Weiying Zhang. 2000. The Road to Capitalism: Competition and Institutional Change in China, *Journal of Comparative Economics*, 28: 269-292.

inequality; (*b*) 'direct producers' benefit more from market penetration under the condition of local markets; and (*c*) the technocratic fraction of the cadre elite is the main beneficiary of the post-communist transformation in East European countries by using the policy of privatization as a mechanism of 'primitive accumulation' of capital (Szelényi and Kostello 1996: 1094). To what extent the country of China corresponds to the comments made by Szelényi and Walder needs a more in-depth study. This is a question, however, beyond the scope of this empirical social research. At this point of the discussion, I suggest the following: putting the theoretical frameworks of Walder and Szelényi aside, the follow-up studies should centre on the realities of the historical situation and the reform process of China, and by doing so, a thorough documentation of the de facto social-economic situation can help to construct indigenous theories, which in turn, may contribute to a global understanding of market penetration. Aside from the debate on the characteristics of China's reform (i.e., socialism vs. capitalism), there is little disagreement on the following points: (*a*) compared with the drastic 'shock therapy' in USSR and East European socialist countries, China has undergone a *partial reform*; (*b*) the public sector and the private sector of the economy co-exist and penetrate into each other; (*c*) local governments participate in market as both 'referee' and 'player'; (*d*) unbalanced inter-regional development is paralleling with market diversification and particular economic zone specialization; (*e*) unit system in state-owned enterprises has been weakened along with the deepening reforms highlighting on the separation of ownership and operation[22]; (*f*) dual labour market has formed to channel individual labour into different stratifications[23]; (*g*) monopoly industries keep abreast with non-monopoly ones, meanwhile, market competition mechanism has started to be less tolerant of power control. All these points represent the current characteristics of China' market reform in which macro-control by the central government plays an essential role. Unlike the former East European socialist countries, the communist party system safeguards the consistent policies on reform.

[22] The separation of ownership and operation is the primary means of the reform of state-owned enterprises. The problem that follows is the information dissymmetry between owner and operator (manager), because the former does not directly take part in business, therefore, they often fail to have an in-depth knowledge of costs and benefits, as well as the necessary expenses. So, for the state-owned-enterprises, the operator (manager) may infringe on the interests of owner using their managerial authority and information advantage. Certainly, the owner of the state-owned-enterprises is the "state", and the infringement on the interests of the "state" causes corruption triggered by moral failures.

[23] Chapter 4 presents the topic of rural-urban migration and further discussion of dual labour market segmentation in China.

The leading part of China's reform is the 'state' which decentralizes power and shifts some benefits to market partially from the redistributive mechanism due to the concerns about political stability and social cost minimization. This is different from Szelényi's idea that markets penetration progresses as a way of a stepped-up aggression by markets against redistribution from peripheral economic sectors. The logical frame of Szelényi's markets penetration is a successive precedence which establishes links from the *commodity* market, then via the *labo*ur market, to the *capital* market, which is a process of loosening states' redistributive controls. This frame stems from an ideal conception of "what the transition process ought to be" rather than the reality of "what it was and where to go". The patterns of social stratification in China under market transition are inherently embedded in its unique national conditions. Firstly, property right reform is not an absolute prerequisite for China's transition, especially in the case of land ownership. There is a conflict regarding China's land policy. One school of thought holds that land privatization is an essential part of property right reform; advocating privatization of woodland, arable land, and homesteads is the prescription for curing mass disturbances triggered by land disputes[24], and therapy solution to the problem of overcoming the inferior position of household farming which may contribute to China's potential future food security crisis[25]. This idea extends much further than stating that the market economy would be imperfect without land privatization. The Household Responsibility System (HRS) divided land in accordance with household size based on the agrarianism principle which is contrary to the principle of economic benefit maximization. Nevertheless, this system has more historical reasons that extend beyond economic concerns, among which, the social function of land — which ensures a household's subsistence and its undertaking the responsibility of social security. Therefore, any utopian policy, or economically perfect solution — such as the privatization of property rights, will lead to economic disaster[26]. The other thought, which is more practical and

[24] The mass disturbances are often triggered by disagreement about compensation to the "holder" (not the "owner") from the developer who often can receive assistance from the local government. The mass disturbances are the reflections of the game of interests' redistribution, all three parties' deadlock over the reasonable quotient.

[25] The prediction of China's food security crisis or food shortage is based on the presupposition that, (1) household small-scaled farming is less efficient than large-scaled ranch production; (2) the younger generation of the household are unwilling to engage in agriculture, and will migrate into towns and cities for non-agricultural jobs. Therefore, the following deduction is that China's agriculture may become endangered as a result of labour shortages.

[26] If, land privatization were implemented in China, that is to say, a household (and individual farmers in a household) owns the land and has disposition power over the land including selling it, there will be a huge number of floating people who would lose their land because of the pressures of urbanization. Once this population becomes landless, they would lose their basic livelihood. A possible scenario would be that large

reality-oriented, supports the current land policy based on the foundational characteristics of China's agricultural system which is household production from which half of the national population gains its subsistence.

Secondly, the interpretation of 'state' is the key to understanding Chinese society. In Chinese, the word *guojia* (国家 'state') is a compound word whose etymology indicates: *guo* (国), as the 'state' or the 'sovereign state'; and *jia* (家), as the household or home. Still, the word 'state' is not the accurate corresponding translation of *guojia*. Historically, *guojia* represents a fundamental organizational scheme: *guo*, is the centralized bureaucratic state (or nation); and *jia*, is the peasant household. They are linked with taxation — and levied by *guo* from *jia* according to household peasant farming. Since the time of Qin and Han dynasties[27], the plural patterns in an integral whole of the Chinese nation have been basically formed, and the central governments of the succeeding dynasties have developed and consolidated to become a united multi-ethnic entity. The elementary organizational policy of registering households and equalising civilian individuals[28] (*bianhu qimin* 编户齐民), has been implemented in each dynasty till now[29], and the essential elements of this policy are: (1)

numbers of land-lost labourers flock into towns and cities for non-agricultural work. Naturally, towns and cities could not provide sufficient jobs, and the new-coming labourers would have been deprived of their means of subsistence, so urban slums will emerge. China's reform first occurred in rural areas, launched by land reforms which contracted down land to households in order to maintain their subsistence. The Household Responsibility System (HRS) has been implemented over the past four decades and has resulted in no major change to rural households. The "First Central Document" (a synonym for the first central government document on agriculture, rural areas, and farmers) of 2014, Several Guiding Opinions from the CPC Central Committee and the State Council on Comprehensively Deepen Rural Reform and Accelerating Agricultural Modernization (*zhonggong zhongyang, guowuyuan yinfa "guanyu quanmian shenhua nongcun gaige jiakuai tuijin nongye xiandaihua de ruogan yijian"* 中共中央、国务院印发《关于全面深化农村改革加快推进农业现代化的若干意见》. Xinhuanet. http://news.xinhuanet.com/2014-01/19/c_119033371.htm. [2014-01-24].) states clearly that, under the premise of establishing the household contracting system and maintaining this for a long-time would invariably, give farmers a sense of entitlement in possessing, using, gaining, and transferring ownership of their contracted land, and they can also hypothecate their contract or use their contract for property guarantee. This is an innovative step in deepening rural economic reform, since it segregates management rights from contract-management rights. By doing so, the rural land policy has a clearer structure of three breaches: collective ownership, household contract, and household management.

[27] Qin dynasty can be traced back to the year of 221 B.C. Then Han dynasty spanned from 202 B.C to 220 A.D.

[28] The nobility class died out by degrees, and the literati and officialdom, farmers, artisans (or craftsmen) and merchants re-formed the social stratum's structure for nearly 2000 years until the 20th century. The emergence of the bureaucrat-landlord strata in Chinese history has not destroyed the solid production model—household farming.

[29] Since the 1st of January in 2006, China has totally abolished agricultural taxes. This marks the demise of a system of agricultural taxes that lasted for over 2000 years has now been consigned to history. Communist China re-established the system of agricultural taxes in 1958 after the land reforms, so the farmers and their households had been levied for all kinds of agricultural taxes for almost half a century in the People's Republic of China.

empowering households with a certain amount of arable land to maintain their sustenance or livelihoods; (2) levying taxation from households to the central government. From a macro historical perspective, the system of registering households and equalising civilian individuals (*bianhu qimin* 编户齐民) has solidified the peasant household farming objective[30]. In pre-reform China, the basic social organization in urban areas was the work unit which varied widely according to its hierarchy and administrative affiliation; the effects of the work unit have diminished in the post-reform period. While in rural China, the *People's Commune system* had been promoted for more than two decades in the pre-reform period China for both agricultural production and social organization[31], the household had been restored as the basic unit after the abolishment of the *People's Commune system* in the post-reform time. The relationship between *guo* and *jia* returned to its original form as it was during the past two thousand years in the rural sector. In urban China, the impact of *guo* (the 'state') remains in effect, though not as pronounced as during the pre-reform redistributive period. This impact reshapes the social stratification using an invisible mechanism — *tizhi* (institution 体制) which segments the social groups and individuals into two different circles: (1) in the institution, and (2) out the institution, according to the intensity of the impact of the 'state'. *Tizhi* (institution), from the perspective of management, refers to the system of organization structure and demarcation as a jurisdiction of government agencies and other public entities and enterprises. The *Tizhi* (institution) in China is often related to a massive bureaucracy and hierarchy, both of which shield the groups and individuals within it by *guojia* (state) power and state-owned property, creating a distinct way of gaining profit and rewards from those out of the circle — the marginal population. As the fundamental message from Huang's book says that the key to getting the China story rightly is to recognize the existence of two Chinas – an entrepreneurial rural China and a state-controlled urban China (Huang 2008). China's economic take-off during the last three decades since the early 1980s in the rural areas and later in the urban areas, has been reinforced by a strong, intrusive and effective impact from *guojia* (state). This is also the very meaning of market economy with China's characteristics.

Thirdly, central-local relations are the core issues in China's reform process in both economic and political views. Economically, under the redistributive economy, the central

[30] The subjective root for China's historical peasant household farming in an intensive and structured way is due to the continuous population pressure.

[31] See more in Chapter 3—Background of Rural-Urban Migration Emergence, which includes a section on the household responsibility system and gives detailed description of the People's commune system.

government control, plan, and balanced goods and resources allocation between the centre and the localities[32] was due to the absence of market mechanisms. And the bureaucratic administration played a critical role in "determining the chains of command and sources of instructions for enterprise operations" (Huang 1996: 655-656). Enterprises were controlled by central administrative agencies through: (*a*) product planning — assigned to enterprises as a responsibility hierarchically (i.e., the level of administrative supervision)[33], (*b*) investment planning — approved and authorized by the central administration on investment, (*c*) taxation — the core of the central-local relations — regulated and implemented by the state council, (*d*) credit controls — manipulated banks as the 'cashier' of government's development programs and 'monitor' enterprises' spending and earning, and (*e*) interregional trade policies — regulated and conducted under the central command of the economic activities such as interregional trade flows due to the variation of geographical distribution of the industries at the local level[34]. During the reform period, the centre's control over enterprises shifted to local governments along with the progression of decentralization, but still, some enterprises, such as the petrochemical industries are under the central control of the central government. One of the key elements of the state-owned-enterprise reform is to disaggregate governments' interference, thereby returning autonomy to enterprises. Additionally, non-public enterprises spring up in the process of marketization, and as a result, both the central and local administrative roles in goods allocation have been weakened. Politically, centralization and decentralization are the basic types of relationships between central and local governments in modern nations, and

[32] Centre, here refers to the central administrative government; the locality applies to provinces (and also autonomous regions and municipalities), prefectures, and counties in the Chinese administrative system. The local government, in this section, specifies the province.

[33] In the operation of the central command planning, central ministries (in the central administrative level, the State Planning Commission (*guojia jihua jingji weiyuanhui* 国家计划经济委员会) makes overall plans) divide the production responsibilities to enterprises hierarchically. In reality, there is a considerable degree of overlapping of administrative control among the central and local authorities due to the confusion and chaos in enterprise production and management which is caused by the difficulty of scientific decision-making. The command planning system hinders the scientific decision-making because of: (1) deficiency of information transparency brought from statistical lag combining with subjective decision from the planners and exaggeration from producers; (2) suppression of to democracy by command—bureaucracy and force command hold the decision-making right; (3) excessive infiltration of political struggle and ideology into economic activities; (4) non-consecutiveness of production caused by bargaining between the central ministries and localities on production responsibility and investment.

[34] The geographical distribution of the industries under a redistributive economy was appointed due to the natural resources endowment which provides industrial raw materials and planned command. Some industrial bases and cities were constructed and developed in the state planed period, such as Baotou (steel city), Wuhan (steel city), Daqing (petroleum city), etc. The industries of these cities were uni-structured and had to rely on interprovincial trade. However, in the reform period, local provinces have developed similar industrial structures—industrial convergence, leading to a decline of interprovincial trade.

the central-local relation is a long-term goal for most countries with bureaucratic characteristics. Unlike federalism, China's political system is of a unitary nature in that the centre (the central government) has firm administrative control over the localities in terms of administrative (particularly in terms of personnel control), fiscal, and taxation control. Appropriate divisions between national and local governments are a core concern in political structure reform internationally. However, division and decentralization do not necessarily mean that the political control of the centre is reduced, rather it results in a reciprocal relationship. "The economic decentralization has been accompanied by a modest increase in the administrative capabilities of the central government" (Huang 1996: 665). One the one hand, as a unitary nation state, China divides its public power over socio-economic management down to the local level, and encourages local governments to become the major agencies offering public service and management. On the other hand, the division expansion of the functions of the local government does not weaken the centralisation; on the contrary, the centralised authority is also strengthened on a certain level. Further impacting the central-local relationship is a continual process of improvement with the progression of market reforms.

Fourthly, regional variations represent unbalanced rates of development. Eastern and coastal regions take the lead in developing industries on the basis of location specific advantages and preferential policy support in the process of the Reform and Opening-up. China's industrial layout is mainly concentrated within the Eastern and coastal regions which attract capital investments (both physical and human capital) and labourers. In particular, with the progression of the formation of a unified labour market, mobility of labourers from Central and Western China to Eastern and coastal regions will continue for the long term. The alternative of capital mobility to Central and Western China is ideal but is an impractical option because the seemingly 'unlimited supply of labour' bears the cost of their inter-regional mobility, while the enterprises in Eastern and coastal regions can reduce the cost burden. Therefore, in the long run, the situation of inter-regional mobility of labourers who are from less industrialized but more labour abundant areas to well-developed areas will be maintained. The non-synchronized economic development in China in the coming decades will maintain the status quo of regional variations unless the government launches some national projects to boost economic development and upgrade the industrial base in Central and Western China to attract the labourers locally.

Considering all of these unique characteristics of China, one should exam more clearly the concept of 'transition' in China's context. Transition is an often-mentioned but

also ambiguous concept due to different frameworks of interpretation. In the non-mainstream definition, 'transition' is often regarded as (Cao 2010): (*a*) the transformation[35] of social formation from an agrarian society to an industrial and commercial society, or from an agrarian society to a modern society; (*b*) the shift from a redistributive economy to a market economy[36]; (*c*) moving from the rule of man towards the rule of law; (*d*) transformation from a status society to a contract society[37]; (*e*) shift from a peasant society to a civil society. The centre of all these definition of 'transition' is the shift from an agrarian society to an industrial and commercial society and the corresponding changing social order. The mainstream definition of 'transition' centres on industrialization and urbanization in the transformation from an agrarian society to an industrial and commercial society. The process of industrialization and urbanization in China is bound to be a lengthy one due to a fundamental fact: China is a country with a huge number of agricultural populations who are severely limited by land resources.

Second Amendment

Based on a series of interpretation of market transition theory (Nee 1989; 1991; 1996), Nee presents a new statement on institutional change to defend his position against

[35] Transition and transformation are two often apt to confused issues. In Polanyi's *The Great Transformation*, transformation refers to the rise of the self-regulation market of what Polanyi also calls "market society" in the nineteenth-century Europe. Following Polanyi, Nee's *market transition theory* centred on a one-dimension transition. However, along with the singular *market transition*, three equally important transformations accompanied: (1) an *economic transformation* of the means of production; (2) a *social transformation* that involves the expansion of society to counter the commodification of labour; (3) a *political transformation* required for the national consolidation of a money economy (Burawoy 2001). There is no causal link between transition and transformation, i.e., transition not only does lead to transformation, but it also stimulates involution like the case in Russia. See, Burawoy, Michael. 2001. Transition without Transformation: Russia's Involutionary Road to Capitalism, *East European Politics and Societies*, 15(2): 269-290. Stark rejects the notion of transition as teleological, since it assumes that post-socialist societies are progressing towards a well-defined end—ideal market capitalism and therefore suggests that socioeconomic change under postsocialism should be understood as a path-dependent transformation, a process of readjusting existing institutions to the changing socioeconomic environment (Start 1992; cited in Szelényi and Kostello 1996). The question of whether to assume transition or transformation of post-communist or late socialist socioeconomic change is an issue of regarding the change as involutionary or evolutionary characteristics. This question, as Szelényi and Kostello point out, is a metatheoretical issue, not testable by the means of empirical social science. Therefore, Szelényi and Kostello insist on their involutionary framework by resisting Stark's evolutionary framework. See, Stark, David. 1992. Path Dependence and Privatization Strategies in East Central Europe, *East European Politics and Societies*, 6: 17-51; Szelényi, Iván and Eric Kostello. 1996. The Market Transition Debate: Toward a Synthesis? *American Journal of Sociology*, 101(4): 1082-1096.

[36] This interpretation is the starting point of Nee's theoretical logic in his "market transition theory".

[37] Maine outlined the famous thesis in *Ancient Law* that law and society developed "from status to contract". See, Maine, Henry. 1861. *The Ancient Law, Its Connection with the Early History of Society, and Its Relation to Modern Ideas* (1st Ed.). London: John Murray.

other competing theoretical explanations. In response to Zhou's[38] (2000) paper, Cao and Nee (2000) write a comment on the controversies and evidence in the market transition debate to "identify the central issues in the controversy and provide an overall assessment of existing empirical evidence" (Cao and Nee 2000: 1175). In this comment, they point out that the ongoing debate has inspired more controversy than consensus, let along resolution. They are consistent with their own perspective on the declining significance of redistributive power[39] based on two propositions: (*a*) to the extent economic transactions "are *no longer* governed by redistribution but by markets" (Cao and Nee 2000: 1176), new emerging structures, replacing political actors, allocate goods and services; (*b*) economic actors retain a greater share of the surplus in the exchanges with the state at least partially coordinated by market principles. Concerning the research model, Cao and Nee resist Zhou's 'substantive institutional analysis', in turn, highlighting the systematic linkages between specific institutional arrangements and specific stratification outcomes to answer to the crucial question — "in what specific ways do states limit and shape market processes in a manner that provides political actors with significant advantages over economic actors?" (Cao and Nee 2000: 1182) Nee and his co-workers focus their framework of market transition theory on the role of markets "in shaping the paths of institutional change and stratification order" (Cao and Nee 2000: 1187), while their critics pay more attention to the interactions between existing political and economic institutions (e.g., Róna-Tas 1994; Bian and Logan 1996; Parish and Michelson 1996; Stark 1996; Walder 1996).

Nee and Cao try to further "identify the type of disagreement the debate has generated, conceptually and empirically" (2002: 4) on market transition theory to show that market transition theory is not tautological. They admit the complexity of market transition, and claim that the controversy over institutional change and the following corresponding changes in mechanisms shaping the stratification order is not against the market transition theory. For example, Nee and Cao state that, in the redistributive economy, the privileges and advantages of the political elite (cadres) were enormous in relative terms; while in the market transition period, the returns to human capital are expected to increase and, correspondingly, the relative advantage of the political elite decline. Nevertheless, the

[38] See more details on the following pages on Zhou's *coevolution of political and market thesis* in the section of "Second Round Theoretical Arguments". Zhou, Xueguang. 2000. "Economic Transformation and Income Inequality in Urban China: Evidence from Panel Data." *American Journal of Sociology* 105(4): 1135-1174.

[39] The role of redistributive power and its interaction with markets become the center of the second round debate, see more in the discussion on "Second Round Theoretical Arguments" in the following pages.

redistributive elite, though they could not convert their political capital into private wealth, they could *monetize* their political capital in the progression of the expansion of the market (Nee and Cao 2002: 6). Although this paper serves as a supplement in a patchy way, it explicitly acknowledges for the first time that there is a continuity and simultaneous discontinuity in the transformation of the stratification order. The continuity is likely to occur in the public sectors of the transition economy, while the discontinuity concentrates in the hybrid/private economy. Therefore, the research models, as Nee and Cao suggest, should give consideration to both the causal processes of continuity and discontinuity, rather than "as a binary set of opposing claims about whether the shift to market coordination in departures from central planning augments or diminishes the advantages of the political elite, which formerly held monopoly control over the allocation of surplus" (Nee and Cao 2002: 7). The former "is spontaneously reproduced through self-reinforcing processes of interest and identity rooted in the informal rules of the game under state socialism and long-standing networks of the communist political elite" (Nee and Cao 2002: 9); the latter is caused by the transition to a market economy from an economy in which markets were suppressed and eradicated by the state. Supportive evidences of discontinuity, for instance, the increases of returns to human capital, new opportunity structures beyond the reach of the state, and economic mobility through private entrepreneurship and labour market, are all distinct with the core mechanisms of stratification in centrally planned economies in which the political elite hold their advantage. Nee and Cao are convinced of the role of labour market in the income stratification in urban China, and shift their research centre on the mechanism of occupational attainment relative to the description on income allocation. They conducted an analysis using data collected from an urban China survey (Chinese Household Income Project 1995) with 11,470 cases, and found a significant continuity of occupational attainment, particularly, the communist membership which is still one of the most important prerequisites to hold a high-rank occupation. The changes of discontinuity induced by market transition do not have empirical proofs. Nevertheless, they insist that discontinuous change in the stratification order is in progress but has not yet reached a tipping point (Nee and Cao 2002: 35). The theoretical amendment in their 2002 paper highlights the causes of continuity and discontinuity arising from a non-linear and non-radical process of change, and this inspires additional new ideas on the understanding of a multifaceted transformation of social stratification, meanwhile, and promotes a new round debate.

Second Round of Theoretical Arguments

The second round of debate on market transition theory commence from Zhou's (2000) dispute to Nee. This is the second round of debate[40] in the studies of the transformation of the former state socialist economies centres on how to interpret (or predict) the changing mechanisms and their implications for social stratification. Two years later, Volume 19 of *Research in Social Stratification and Mobility* hosted another symposium on '*The Future of Market Transition*' where many of the participants in this special issue were participants in the earlier exchange in the 1996 issue of the *American Journal of Sociology*. These participating authors offer new analyses and lead new directions of research mainly focusing on East European countries and China after a decade of social development. Among this scholarship, much research still centres on the tenets of market transition theory and debates in different contexts throughout China, offering a complex interpretation of the effects of markets and political changes to China's social stratification.

Zhou (2000) develops his *coevolution of political and market thesis* to synthesize theoretical ideas about the debate on transformation of state socialist societies. Zhou shows, pointedly, the theoretical demerit of Nee's *market transition theory* and its opposing ideas. On the one hand, Nee's *market transition theory* emphasizes the role of emerging markets in reshaping the stratification order[41]; on the other hand, other scholars disagreeing with Nee emphasize political and institutional impacts on economic transformation. But, all of these theoretical frameworks are far from the reality of the "complexities and transitional characteristics of the transformation processes that evolve over time" because "the transformation of state socialism involves multifaceted processes, in which the expansion of market is one, albeit a very important one, of many" (Zhou 2000: 1136). The focus of the market transition debate is the role of institutions in forming and pushing social changes, and the resulting disagreement on the interactions between existing political and economic institutions becomes the central criticisms from other scholars to Nee (e.g., Róna-Tas 1994; Bian and Logan 1996; Parish and Michelson 1996; Stark 1996; Walder 1996). In his paper, Zhou proposes a conceptual model of the *coevolution of political and market* which is the interplay between politics and markets as a *coevolutionary* process, and advocates a focus on the *processes* of institutional change for a theoretical synthesis. Zhou defines *politics* and

[40] The majority of scholarship papers of the first round debate were presented in the "Symposium on Market Transition" in *American Journal of Sociology*, vol. 101, no. 4.

[41] See more criticism on Nee's market transition theory by Zhou in the section of "The Theoretical Debate" (pp. 1137-1139) in "Economic Transformation and Income Inequality in Urban China: Evidence from Panel Data" (*American Journal of Sociology*, 105(4): 1135-1174.)

markets with greater precision. By *politics*, he refers to "patterns of interest articulation in the political arena associated with both current and emerging political and economic institutions"; by *markets*, he refers to "the modes of resource allocation and economic transactions that take place through price systems and involve 'autonomous' economic agents" (Zhou 2000: 1139). Zhou intents to portray the image of *coevolutionary* as a process of reinforcing, competing with and constraining, adapting to and transforming each other mutually based on the understandings of: (*a*) the expansion of markets is embedded in and constrained by the social context and historical path of change, rather than a self-evolving process; (*b*) the state plays a active role with its own interests and preferences in the coevolution of politics and markets. Therefore, as a result, "changes in economic institutions inevitably reflect a compromise between competing interests and institutions" (Zhou 2000: 1140). The mechanisms govern the *coevolutionary* process, in Zhou's statement, unlike Nee's — the competition between existing and new economic institutions, emphasizes the central role of the state which has its own interests which heavily influence China's economic transformation. On the one hand, market activities in the newly emerging markets are shaped by politics: "private enterprises are disguised as 'collective' firms; all kinds of economic agents cultivate relations with political authorities and engage in rent-seeking behavior; and economic transactions, even when they operate through the price system, are often brokered by political authorities" (Zhou 2000: 1141-1142). On the other hand, the state also perceives the positive benefits (e.g., revenue contribution) from the non-state sector, therefore, they encourage market expansion and push state-owned enterprises into market competition; meanwhile, the role of governmental agencies are gradually adapted from redistrubutors to regulators. The outcome of this *coevolutionary* process can been assessed by "substantive *institutional analyses* of how these causal processes interact and exert their impacts in the specific institutional context" in order to "reduce model indeterminacy[42] and improve the power of theory" (Zhou 2000: 1142).

Utilizing a panel data[43] of 5,000 urban residents drawn from 20 cities in China through a stratified random sample method and a more distinguishable specification on

[42] Zhou suggests that the theoretical models (both the coevolutionary model proposed by Zhou and other models from other scholars) have an important implication—indeterminacy—with the respect to its power of empirical predictions.

[43] The major difference between Zhou's research and others' is the quality of data. Almost all of the studies have used cross-sectional research designs which fail to take a closer look of the change over time. Zhou's data is based on life histories of a sample of 5,000 residents in six provinces, each of which represents a conventional geographic region in China. This data covers income information for a series of years: 1995, 1960, 1965, 1975, 1978, 1984, 1987, 1991, 1992, 1993, and 1994.

variable operationalization[44], Zhou has some striking findings on the changes in income determinants in the pre-and-post reform periods based on a mixed model: an important evidence that is consistent with the market transition theory is the significant effect of private/hybrid enterprises in income allocation. These new-emerging organizations in the post-reform period have a close connection with market transaction, reflecting an institutional transformation from the redistributive economy in urban China. Meanwhile, the increase on the return of education can be partly attributed to the formation of the labour market which values human capital more than in the pre-reform period. However, Zhou also finds that the 'old' institutions maintain a strong persistence by referencing that: (*a*) there was no significant proof of the decreased returns of Communist party membership and cadre status. Compared with the 'producer', the returns of 'redistributor' do not show an obvious change; (*b*) there were also no significant changes in the organizational hierarchy across the two periods. The income of employees in the state sector had not decreased relative to those in the collective firms which were closer to market activities (Zhou 2000: 1166). Zhou indicates that all of the findings above and his interpretations by no means imply that there were no significant changes in urban China in the two decades the data covered, rather, "changes have been both fundamental and widespread", and also "multifaceted" (Zhou 2000: 1167). Zhou takes the increasing returns to education in the reform time as an example to illustrate the interaction between markets and politics. On the one hand, "increasing returns to education clearly reflected the increasing importance of human capital in market transactions"; on the other hand, this increasing trend is also "consistent with state policies in personnel management in the reform era" (Zhou 2000: 1167). Similarly, the sources of the observable benefits associated with the state ("governmental agencies and positional power of cadres", in Zhou's phrase) may be partly related to market transactions. Therefore, in this sense, as Zhou concludes, "although the observed patterns of income determinants may appear to have not changed in significance across the two periods, the processes that generate the apparent continuity may have changed substantively" (Zhou 2000: 1167). Based on these interpretations, Zhou points out that a good understanding of institutional changes in China claims a specific study of "to what extent the observed economic transactions or 'new' institutional phenomena (e.g., business groups, subcontracting) are governed by

[44] In his variable operationalization, Zhou uses specifics particularly on cadres' status and professionals. In the former, Zhou distinguishes cadres in government and public organizations (the public sector) from those in production/service organizations (the economic sector); in the latter, he distinguishes professionals in public and economic sectors. See more in, Zhou, Xueguang. 2000. "Economic Transformation and Income Inequality in Urban China: Evidence from Panel Data." *American Journal of Sociology* 105(4): 1149.

market or political principles and in what ways they erode, reinforce, or transform markets and politics"? Furthermore, the close relation between the continual and even increasing income inequality and the role of work organizations can be regarded as a good example of the impact of institutional mechanisms on income inequality and social stratification. Finally and more importantly, "the retreat of the redistributive state does not necessarily imply an advance of markets" (Zhou 2000: 1168). This is diametrically opposed with Nee's interpretation of market transition theory. Zhou advocates the need for substantive institutional analyses that emphasize the historical and institutional contexts to provide more satisfactory theoretical models and empirical implications.

In a debate dialogue with Nee and Cao in 2000 in the same issue of the *American Journal of Sociology*[45], Zhou (2000b) sharply criticizes the theoretical frameworks proposed by both Cao and Nee's critics. Zhou compliments the parsimony in theoretical logic and explicit empirical implications of Nee's (1989; 1991) early formulation[46] of *market transition theory* which inspired a large number of studies to seek empirical evidence, both consistent and inconsistent with Nee's theory. However, Nee amended his theory repeatedly by "incorporating new concepts and mechanism (e.g., social networks, nonmarket institutions, path dependency, etc.)" from critics into his own theoretical framework. Unfortunately, as Nee claims other conceptualizations of mechanisms into his framework, the indeterminacy of his theoretical framework increase, and correspondingly a weakened logic of explanation followed. Moreover, Nee invariably tended to emphasize the empirical evidence which was largely consistent with *market transition theory*. For instance, as Zhou illustrates, Nee regards rising returns to human capital in China's reform period as evidence supportive of his theory "without a substantive understanding of how human capital is allocated in the specific institutional context"(Zhou 2000: 1192). Now that large-scale institutional changes involve multiple causal mechanisms, Zhou advocates that the research

[45] The issue of vol. 105, No. 4, 2000 of the *American Journal of Sociology* hosted Zhou's paper (Zhou, Xueguang. 2000. "Economic Transformation and Income Inequality in Urban China: Evidence from Panel Data." *American Journal of Sociology* 105(4): 1135-1174.), followed by a comment from Cao and Nee (Cao, Yang, and Victor G. Nee. 2000. "Comment: Controversies and Evidence in the Market Transition Debate." *American Journal of Sociology* 105(4): 1175-1189.), and successively a reply from Zhou to Cao and Nee (Zhou, Xueguang. 2000. "Reply: Beyond the Debate and Toward Substantive Institutional Analysis." *American Journal of Sociology* 105(4): 1190-1195.).

[46] The beginning setting-up of the market transition theory in Nee's first two papers in 1989 and 1991. See, Nee, Victor. 1989. "A Theory of Market Transition: From Redistribution to Markets in State Socialism." *American Sociological Review* 54: 663-681; Nee, Victor. 1991. "Social Inequalities in Reforming State Socialism: Between Redistribution and Markets in State Socialism." *American Sociological Review* 56: 267-282.

foci should switch toward substantive institutional analysis of the processes of transformation.

Bian and Zhang's (2002) *markets-state interaction thesis* conceptualizes China's course of *marketization* — a central and controversial term in the market transition debate — as: (*a*) the process through which the mode of resource allocation is shifted from redistribution to market domination; (*b*) a dual transformation of political and economic institutions; and (*c*) a process of property rights reassignments (Bian and Zhang 2002: 378-379), interpreting market transition as an interactive process of market growth and state transformation. In Nee's theoretical logic, markets were referred to as a resource allocation mechanism qualitatively, or, regarded "as the agent of change" (Bian and Zhang 2002: 379), and market transition spontaneously involves a transfer of power on resource allocation. Nee's critics (e.g., Walder 1995; 1999; Bian and Logan 1996; Parish and Michelson 1996; Zhou 2000) regard marketization as a dual transformation of political and economic institutions[47]. Building on the views from Nee's critics, Bian and Zhang emphasize two features of China's market and state interactive process: (*a*) "marketization is a multifaceted, historical process of market expansion and penetration into product, labour, and capital markets"; (*b*) "along the growth of different kinds of markets, the Communist party-state transforms itself in order to protect its interest and retain its influence in the growing market economies" (Bian and Zhang 2002: 380). Bian and Zhang have conducted a review of the historical process commodity markets, labour markets, and capital markets. They also illustrate the state transformation on economic functions from administrative commanding (redistributive) to macro-regulation (regulative) along with the market progression. With the decline of the planned economy and the penetration of market economy, though which the governmental system gradually loses the function of redistribution, the state, is not entirely

[47] For example, Walder refers the role of local governments as both referee and players in the market-like economies in his early 1995 paper, and in the later year he redefines the marketization in reference to property rights reassignments; Bian and Logan find out the persistence of political power in the market reform era; Parish and Michelson propose the emergence of political markets accompanying economic markets; and to Zhou, the expansion of markets is a co-evolutionary transformation governed by both market forces and interest politics simultaneously. See more, Walder, A. G. 1995. "Local Governments as Industrial Firms: An Organizational Analysis of China's Transitional Economy." *American Journal of Sociology* 101: 1060-1073; Walder, A. G. 1996. "Markets and Inequality in Transitional Economies: Toward Testable Theories." *American Journal of Sociology* 101: 1060-1073; Walder, A. G., and J. C. Oi. 1999. "Property rights in the Chinese Economy: Contours of the Process of China." In: J. C. Oi and A. G. Walder (Eds), *Property Rights and Economic Reform in China* (pp. 1-24). Stanford, California: Stanford University Press; Bian, Yanjie, and J. R. Logan. 1996. "Market Transition and the Persistence of Power: The Changing Stratification System in Urban China." *American Sociological Review* 61: 739-758; Parish, W. L., and E. Michelson. 1996. "Politics and Markets: Dual Transformations." *American Journal of Sociology* 101: 1042-1059; Zhou, Xueguang. 2000. "Economic Transformation and Income Inequality in Urban China: Evidence from a Panel Data." *American Journal of Sociology* 105: 1135-1174.

out of economic activity; instead, it plays different roles: (*a*) governments (mainly the central government) alter their management from administrative coordination-orientation to market intervention-orientation in the process of governmental structural reform which downsizes the competent authorities directing economies; (*b*) the state maintains its monopoly over highly profitable industries, segmenting the economy into monopoly and open sectors; (*c*) the state delegates power to state-owned enterprises and administrative institution, allowing these agencies to get extra-budgetary revenue. Bian and Zhang's study focuses on how *markets-state interaction* affects income distribution in the reference of labour markets, capital markets, and economic organization segmentation. Using the data of Chinese Household Income Project (CHIP, the surveyed year of 1988 and 1995)[48], they conducted a trend analysis of income inequality among urban wage earners in the CHIP surveys between 1988 and 1995, and also assessed the city-level effects of marketization on income returns to positional power and human capital. They found that both the returns of human capital and positional power will increase with the growing degrees of labour markets or capital markets. Apart from the concerns about positional power and human capital, economic segmentation also has a significant impact on an individual's income. For the cadres with positional power and state employees in the monopoly sector, their income is greatly affected by the hierarchies in the working organizations and profitability. All of these findings suggest that income inequality is a complicated phenomenon due to the inherent logic that is evolving on both the political and economic fronts.

Wu and Xie's (2003) *selective mobility thesis* goes beyond the previous debate on the market transition in the reform period, focusing directly on the link between wage earner's labour market history and labour market outcome. They develop a new typology of workers flowing from the state sector to the market sector based on an individual's labour market history as recent market entrants and early market entrants. They find that the higher earning returns to education are only significant to the recent market entrants, and that for the early entrants, they resemble state workers in earning returns of education. They criticize that even though labour market is considered to be the core mechanism which is directly responsible for the generation of income inequality, the labour market itself, as an institutional background for income inequality generation, does not attract extensive discussion. They further point out that "in addressing the central question in the debate on who wins and who

[48] Nee and Cao's paper in 2002 also use the same data. Nee, Victor, and Yang Cao. 2002. "Postsocialist Inequalities: the Causes of Continuity and Discontinuity." *Research in Social Stratification and Mobility* 19: 3-39.

loses in the market transition, the conception of social actors remains largely static" (Wu and Xie 2003: 428). Scholars in the debate place more emphasis more on which groups have profited at the expense of other groups, realizing less the possibilities of an individual's change in social status over time. In the process of marketization, workers in the market sector include both the early and later entrants, whereas the state sector includes the initial 'stayers' and 'market losers'[49]. Wu and Xie commence their study by questioning the prevailing wisdom that marketization per se causes higher returns to human capital for individuals in the market sector than in the state sector. They also propose that the institutional structure is extremely important in shaping social stratification although the differentials in earning returns on human capital from different sectors may be caused by the sorting mechanisms on workers in different sectors, not the institutional characteristics per se in the sectors. In support of this idea, they propose a typology of workers based on their work histories (see, footnote below), and building on this, they develop a selective mobility model for the workers from the state sector to market sector. Based on an empirical analysis using the 1996 survey of "Life Histories and Social Change in Contemporary China", Wu and Xie have verified the prevailing wisdom that the market sector rewards higher returns of human capital than in the state sector, nevertheless, they do not find significant differences on earnings returns of human capital for the early entrants in the market sector and the stayers in the state sector, and the earnings relative advantage of market sector is limited to the later entrants only. That is, "the higher return to education is not caused by the market per se, but is associated with the characteristics of workers in the market sector" (Wu and Xie 2003: 439). The sorting mechanisms through which workers are sorted in the market sector present the heterogeneity of workers in the progression of marketization, in this context, a better understanding of the dynamic processes of social actors during market transition within the state sector or the market sector is much more crucial than a presumed state/market sectoral dichotomy.

Recent Progress in Research on Market Transition

The centre of the market transition debate is the returns of political power and human capital. The former reflects the redistributive logic, interpreted by loyalty, and the latter the logic of the market, interpreted by competence; these two exist at the opposite ends in the

[49] Besides the two types of early entrants and later entrants in market sector, Wu and Xie also defined two types of workers in the state sectors: (1) the "stayers" as those who were in the state sector initially and have stayed there during the market reform era, and (2) the "market losers" as those who initially were in the market sector but later returned to the state sector.

post-socialism stratification research. The recent advance of research focuses on the long-term incompatible relation between political loyalty and personal competence. Walder, Li and Treiman (2000) investigate the roles of party membership and education on career mobility under communism in China using life history data from a 1996 urban survey. They found that an even greater contrast exists between the career paths for the elite administrators and the elite professionals from 1949 to 1996. The impact of education, particularly a college education, has improved for both elite administrators and elite professionals; party membership, once a prerequisite for an elite administrator, has lost its impact on becoming an elite administrator and has never increased its impact on becoming an elite professional. Although the differences between these dual career paths have evolved over the past five decades, they remain sharp. Walder *et al* (2000) suggest that career mobility in China is influenced by a hybrid mobility regime which "has created two segmented 'markets' for elites in which educational credentials are paramount for the attainment of elite professions while political credentials are paramount for the attainment of elite administrative positions" (Walder *et al* 2000: 206). Even during Mao period, a college education plays an irreplaceable role in social stratification (except during the period of the Cultural Revolution), while ideology and political loyalty have never been a criterion for the attainment of professional positions; both of these findings fit the predictions of market transition theory. In interpreting this finding, Walder *et al* attribute the reason as being a shortage of college graduates and an aversion among intellectuals to party membership, rather than changes in the recent transformation of market.

The *dual career mobility paths thesis* by Walder, Li and Treiman in 2000 regards party membership as the screening result of political loyalty although, it does not analyse the evolution of the screening process of political loyalty. Bian, Shu and Logan's (2001) *screening of political loyalty thesis* examined how the criteria of political screening and educational credentials evolved in the attainment of Chinese Communist Party membership during the period between 1949 and 1993 (which is almost an overlap of time period of the study by Walder, Li and Treiman in 2000) and how the party membership, in turn, influenced individual mobility into elite political and managerial positions. Based on event history analyses using data from surveys in two cities in 1993 in China, Bian *et al* found that the screening of political loyalty is a persistently significant predictor of party membership attainment in all post-1949 periods, though with a historical variation. And party membership is positively associated with mobility into positions of political and managerial authority. Education had a negative effect on Communist party membership during the

Cultural Revolution, but emerged to be a positive predictor in the reform period. Within the state sector during the reform period through 1993, party membership had positive effects on mobility into elite positions of political and managerial authority, and college education increased party members' chances of moving into positions of political authority but not into managerial positions. However, within the non-state sector, the managerial positions are more likely to be held by nonparty members. These findings indicate that China has made historical shifts to recruit among the educated to create technocratic elite[50] that is both occupationally competent and politically screened (Bian, Shu and Logan 2001).

Walder's (2003) *elite opportunity in transitional economies thesis* serves as a means to study how the previous communist-period elites obtained ownership or control of privatized assets, use political resource to extract larger incomes, moved into salaried elite occupations, or fell out of the elite altogether in the processes of markets and privatization, both of which offered opportunities and constraints in changing political and economic circumstances with the decline of bureaucratic allocation. In his theory of elite opportunity, Walder pinpoints that "the decline of bureaucratic allocation in the face of market reform does not imply a reduction of elite opportunity" (Walder 2003: 900), instead, the move toward a market economy provides new opportunities for elite enrichment due to "the ending of political constraints on the accumulation of personal wealth, the creation of new market value for access to or trading in existing public property, and the creation of new market value for official discretion in regulatory decisions and networks of influence in the bureaucracy" (Walder 2003: 901). Walder calls for attempts to develop a general theory of elite mobility that focus on the variable features of the transitional periods in which opportunities for asset appropriation and extraction are different during the times of political and economic transition.

As early as 1995, Walder pinpointed that China's transition to the market has been gradual rather than abrupt "confounded the widespread and deeply held belief that gradual reform[51] and public ownership simply cannot work, not even as a transitional strategy" (Walder 1995: 963). China's transitional economy, therefore, has important policy and

[50] A representative extended study on the dual elite in China was conducted by Zang (2001). See, Zang, Xiaowei. 2001. "Educational Credentials, Elite Dualism, and Elite Stratification in China." *Sociological Perspectives* 44(2): 189-205; and status inheritance of party elites from Walder and Hu (2009). See, Walder, Andrew G., and Songhua Hu. 2009. "Revolution, Reform, and Status Inheritance: Urban China, 1949-1996." *American Journal of Sociology* 114(5): 1395-1427.

[51] A vivid metaphor of this gradual reform process is what the reform leader Xiaoping Deng referred as "touching stones to cross the river".

theoretical implications that contrast with the 'big bang' and 'shock therapy' approaches advocated so often in the researches on former Eastern Europe socialist countries. The most important consensus so far, is that a transitional economy must alter incentives and constraints for social actors, because it is "defined as one undergoing profound institutional change, and institutional change involves changing incentives and constraints facing all actors whose behaviour has economic consequences" (Walder 1995: 978). This, then, suggests a more in-depth institutional research on the changes reshaping social stratification. Nee and Cao's (2004) direct their research to institutional change stemming from the transition to a market economy which "redefines the rules governing economic activities and effects on earnings inequality" (Nee and Cao 2004: 23). Nee and Cao acknowledge that institutions which co-evolve in the multiple pathways have effects in shaping social actors' interests, although they hold to their opinion that it is the growth of a market economy that brings the structural alteration of incentives for social actors. They identify three causal mechanisms that reshape the structure of incentives and hence the new patterns of earnings differentiation in the transitional period: (*a*) the higher marginal productivity of private enterprise relative to state-owned enterprises; (*b*) labour-market competition by firms for skilled workers following the demise of a state monopoly on labour allocation; (*c*) the expansion of merit-based reward systems in firms in response to increased competition between firms for market share and profits (Nee and Cao 2004: 24). Using two survey data sets (CHIP 1995 and 1994-1995 Shanghai and Guangzhou survey) from urban China, they conducted an analysis to test how these three causal mechanisms contributed to new patterns of earnings differentiation that increase income returns to human capital and private-sector entrepreneurship. In the analysis of the CHIP national data, they found that both human capital and political capital play significant roles in determining income. With regard to employer ownership, workers in state sectors still had a considerable advantage over those both in collective sectors and private/hybrid sector, though the latter were better off than the former. Regarding the impact of labour marketization, they found that the return to human capital increased with the growing market competition. With regard to employment affiliations (government agencies and non-profit organizations, public firms, and private/hybrid ownership organizations), they found that human capital variables tend to have greater effects in the private/hybrid sector than in the other two. However, they remained cautious in rushing to any definitive conclusions due to the under-representativeness of the CHIP 1995 data which accounts for only 4% of the workers in private/hybrid ownership organizations. Comparatively, in the analysis of 1994-1995

Shanghai and Guangzhou survey data, they found some differences between two cities. Firstly, on the return to human capital, workers in Guangzhou have merely 1% more return to education than those in Shanghai, although both cities reflect an overwhelming dominance of seniority rule over experience-based skill and expertise. Secondly, occupational categories associated with political or positional power were rewarded more in Guangzhou than in Shanghai. Thirdly, among public ownership organizations, public firm employees in Guangzhou were considerably better off than those in governmental agencies and non-profit organizations, whereas in Shanghai, the persistence of the state-collective dichotomy still exists. To this, Nee and Cao suggest that this finding is consistent with market transition theory's prediction of greater bargaining power to economic agents as producers. Finally, with regard to employment affiliations (government agencies and non-profit organizations, public firms, and private/hybrid ownership organizations), they found that, in Shanghai, returns to human capital (education, work experience and occupational expertise) were similar in the two public sectors but considerably higher in the private/hybrid sector; on the other hand, in Guangzhou, human capital played a greater role in determining income in the public for-profit and private/hybrid sectors than in government agencies and non-profit organizations, in which only formal education had a significant effect on income. Comparing these two data sets, the survey data for these two cities provides stronger evidence for the impacts of market expansion on income inequality than the CHIP national data, for the latter suggests a slight disadvantage to those in private/hybrid sector. Concerning the labour marketization, both data sets provide evidence to confirm the higher return to human capital. As to the returns to political capital, both data sets suggest a declining trend. They conclude that the institutional environment is much more heterogeneous and that the structure of incentives differs across discrete sectors. They also advocate that future research is needed to "go beyond the analysis of relative earnings to gain a better understanding of the relationship between institutional change and the incentive structure of society" (Nee and Cao 2004: 49).

An alternation emerges in the first decade of the twenty-first century with a goal of debating the 'right' or 'wrong' of market transition theory which generated more thorough and meticulous research frameworks. Walder and Nguyen (2008) surveyed the scale of economic enterprise and the allocation of property rights shaping social structures and influencing income distribution in Vietnam as compared to China. Their analysis found that the scale and ownership of firms differed radically between rural Vietnam and China during the first two decades of rural market reform; the former was dominated by small family enterprises, whereas larger firms which were initially established by rural governments

dominated the latter. In terms of cadre income, cadres in China still held income advantages that kept pace with private entrepreneurs, while in Vietnam, the income return of cadres declined rapidly. Walder and Hu's (2009) studied the status inheritance of party elites in China comparing pre-, and market transition periods, and found that the intergeneration mobility of party elites had been enforced regardless of the regime change and market reform, that is, status inheritance continued. Nevertheless, Walder and Hu did not boldly claim their findings regarding patterns of social change stimulated by market transition, instead, they concentrated more on the particularities of the communist regime in China which included: (*a*) China is the only socialist regime that experienced a prolonged and massive assault on existing political elites in the decade immediately prior to market reform; (*b*) it is also the only communist regime to survive intact and to direct the process of market reform, with the exception of Vietnam (Walder and Hu 2009: 1421). These differentiate China from other transitional economies which experienced a variety of more dramatic regime changes. Any further researches on the patterns of elite inheritance in other socialist states demands meticulous examination "on the impact of politics on social structure and the impact of revolution and reform in the long run" (Walder and Hu 2009: 1422). Walder (2010) examined the changing patterns of ownership and control of China's corporate sector which shifted from bureaucratic administration to the impact on firm performance in the evolution of China's social structure and political future. In this paper, Walder divided the corporate sector into four sub-sectors: a state-owned sector, a privatized sector, a transactional sector, and an entrepreneurial sector. Building on this division, he sketches a descriptive and factual prospect on the emergence of the new corporate elite, its social backgrounds, its wealth generation patterns, its relation with Communist Party and government, its cohesiveness, and its domestic and international interconnection through formal organizations or kinship ties. These changes of managerial revolution, as Walder referred, had of course an impact on the performance of firms, but the key research question is about their impact on China's social structure, especially its economic and political elites. Therefore, the research agenda of Walder's research is to "identify who the owners are and through what mechanisms they control corporate assets" (Walder 2010: 27). The future of China's managerial revolution, Walder concludes, depends on the mixture of the change within each of the four sub-sectors and the relative balance between them. The inferential is: "If the state-owned sector is consolidated and grows along with the transactional sector, China will evolve into a highly statist form of corporate capitalism in which wealth and political power are closely linked. If, on the other hand, the privatized and entrepreneurial

sectors grow to dominate economic activity and if these sectors manage to carve out and preserve a serious degree of autonomy, power and wealth may become less closely linked and more dispersed" (Walder 2010: 35).

Wu (2002) analysed the effect of marketization on personal income inequality in various *danwei* (work units) during the market transition period in urban China for emphasizing on: (*a*) the core question of whether the influence of redistributive power has declined and meanwhile, the returns to human capital increased; (*b*) the institutional analysis by demonstrating the role of work units in individuals' income allocation. Work units, as a crucial social institution in pre-reform urban China, though various in categories, was an extension of the state organization which allocates resources and rewards, therefore, determines individual employee's wage returns[52], and also provides state goods and social services. Any individual employee's wage and in-kinds rewards were closely related with the hierarchy of the work units' structural position and closeness to the state which holds the redistributive power. In addition, state-owned work units had priority over non-state-owned units due to the accessibility in resource distribution. Whereas in the reform period, the expanding market sector altered the redistribution scheme with the gradual retreat of bureaucratic coordination in the non-state-owned sector. Meanwhile, work units in the state sector obtained some autonomy in the process of decentralization. Market plays a more and more important role in income allocation though, some state-owned work units still continue to take advantage of redistributive mechanisms. Based on the extent of exposure to the market, Wu categorized work units as three types: low-profit state firms (LPFs), high-profit state firms (HPFs), and market firm (MFs). Based on two survey data sets in 1993 in urban China, Wu's findings confirmed the pattern differences in income determination between state and market firms; returns to human capital did not monotonically increase along with the decline of redistributive power (party membership, administrative position, and work-unit hierarchy) as a firm more proximate to the market. Although returns to human capital were higher in the market sector than in the state sector, and this partially confirmed

[52] Wu (2002) provides a more detailed illustration of organizational characteristics of work units. First, all work units were affiliated with and supervised by government at various levels. Second, manager in work units were appointed and promoted by their supervisory government offices, thus, they were de facto government bureaucrats. Third, there existed no labour market and all employees were assigned to work units by government labour or personnel bureaus. The number of employees and the wage allocation for a work unit were rigidly regulated by government's annual plans. Finally, activities including production and allocation of profits of work units were also controlled and commanded by government offices. See more in, Wu, Xiaogang. 2002. "Work Units and Income Inequality: The Effect of Market Transition in Urban China." *Social Forces* 2002(3): 1073.

Nee's market transition theory[53], the returns to education in HPEs were less than in LPFs. That is, higher returns to education are not limited to the market sector, instead, the state sector is also favourable to educational credential[54]. Wu finalizes his paper by proposing a substantive institutional analysis[55] of social stratification in transitional China concerning the controversies on both theoretical and empirical implications.

Xie and Wu (2008) made a further effort in the direction of substantive institutional analysis. Departing from the discussion on the importance of human capital and political capital on the distributional question of 'who wins and won loses', Xie and Wu focused more on *danwei* (work units) which, they argued, is a main agent of social stratification in contemporary China. Employed workers in urban China were dependent on their *danwei* in an organized way in the pre-reform period socially, economically and politically[56]. In the reform period, the role of *danwei* has changed[57] but continued to play an important role in determining an individual's earnings. Using survey data from three cities (Wuhan, Shanghai, and Xi'an) in China in 1999, Xie and Wu assessed the link between the profitability of *danwei* and worker's earning in these *danwei*. They found that the profitability of *danwei* is one of the most important determinants of earnings in today's urban China in the late 1990s. Their results also shows that the importance of *danwei* profitability does not vary by city or by employment sector. These results reveal the persistence of the *danwei* in the social

[53] Wu's finding only supports partially Nee's market transition theory on the higher returns to human capital in market sector. But concerning the returns in the state sector, Wu pointed out that Nee has been ambiguous on the increase of human capital and decline of political capital with the retreat of the redistributive system.

[54] A Confucian slogan for education goes like this, *he who excels in learning can be an official* (学而优则仕 *xue er you ze shi*), which has been the conventional wisdom by intellectuals for generations in pre-modern China. Education, in a long historical period, plays a key role in personal social mobility. According to Walder (1995) and Zhou (2000), the role of educational credential is important in income inequality and social mobility even in the preform period under socialism redistributive mechanism. See, Walder, Andrew G. 1995. "Career Mobility and the Communist Political Order." *American Sociological Review* 60: 309-327; Zhou, Xueguang. 2000. "Economic Transformation and Income Inequality in Urban China." *American Journal of Sociology* 105: 1135-1174.

[55] In a reply to Nee's market transition theory, Zhou (2000) has called for substantive institutional analyses of the actual process of social change in the former state socialist economies. See, Zhou, Xueguang. 2000. "Reply: Beyond the Debate and toward Substantive Institutional Analysis." *American Journal of Sociology* 105: 1190-1195.

[56] Socially, individual worker's social membership was regarded by their *danwei* affiliation; economically, *danwei* determined a worker's wage earning and other public welfare; politically, workers with political capital may have advantage on wage returns.

[57] The role changes of *danwei* from the branches of state's command economy to participants of markets leads to a scheme of earning return. See the change of *danwei* in, Xie, Yu, and Xiaogang Wu. 2008. "Danwei Profitability and Earnings Inequality in Urban China." *The China Quarterly* 195: pp.560-567; Wu, Xiaogang. "Social Change." (pp. 51-90) In, Tay, William S., and Alvin Y So (eds.) *Handbook of Contemporary China*, Singapore: World Scientific Publishing Co. Pte. Ltd.

stratification regime of post-reform China. The reason for this persistence, Xie and Wu conjectured, is because the "Chinese economy is not necessarily moving to a true capitalist-market economy, which indeed does not exist even in the West" (Xie and Wu 2008:579). Some pre-existing institutions such as *danwei* continue to shape the market reform.

Theoretical Discrimination on the Second Round and Recent Arguments

The centre of debate on the second round and recent arguments has shifted from the controversy on the dichotomization of redistribution and market in determining individual's income earning and shaping social stratification to the debate on the framework of market transition or path dependency. Building on this shift, more and more scholars emphasize the multifaceted dimensions of market transition relative to the increase and decrease of the importance of human capital and political capital, shedding light on institutional change and the following corresponding changes in mechanisms shaping the stratification order. As with economic institutions, redistribution and market are embedded in specific institutional arrangements, rather than representing as abstract dichotomous ambiguity. These institutional arrangements like *danwei* system, employment status (cadres, workers, and farmers, etc.), employment sectors (state-owned, hybrid/private), are the keystones to understanding social stratification in the pre-reform era and even reform period. Substantive institutional analysis, promoted by Walder (1995; 1996) to Zhou (2000a; 2000b), asks for a fuller understanding of the continuing changes of these institutions, through which individual's opportunities and material returns is yet to be determined.

The research scope concerning the market transition debate has spanned from the weight of distribution and market, through the mechanisms of market or institution, to divisions of institutions economically and politically. In the first phase, namely, the weight of redistribution and market, the debate center lies in whether the market transition necessarily indicate the retreat of redistribution and emergence of market in resources allocation, and the following accompanied increase of the returns to human capital and decrease of returns to political capital. In the second phase of the debate on market or institution, critics of the market transition theory criticize the ambiguity of market and its idealistic typology on distribution-market division; instead, they claim institutional analysis. In the third phase, scholars refine their studies on the economic and political institutions in which, they assess how the economic institution (for instance, *danwei*) and political institution (for instance, political elites) shape an individual's social position. However, the

question of which institution(s) is the key determinant still remains open. So far, property rights and economic sectors (for example, the division of the state sector and private sector) are the two main schools of analytical frameworks. The former emphasizes the role of property rights reform on the resources reallocation; the latter focuses on how the subordinate economic institution affects an individual's social position and wage returns.

Market transition theory has being heavily criticized also for its state-market antithetic view. It now appears that the state and market interact mutually, especially in China where the state plays a rather influential role in economic and political activities. Bian and Logan's (1996) *theses of persistence of power* points out the coexistence of redistribution and market reform. Parish and Michelson (1996) *dual transformations theory* suggests that not only the economic market but the political market has developed in the process of marketization. Zhou's (2000b) *market-politics coevolution model* pinpoints the key role of the state in regulating market operation. Bian and Zhang's (2002) *markets-state interaction thesis* underlines two aspects of the interaction. On the one hand, "marketization is a multifaceted, historical process of market expansion and penetration into product, labor, and capital markets"; on the other hand, "along the growth of different kinds of markets, the Communist party-state transforms itself in order to protect its interest and retain its influence in the growing market economies" (Bian and Zhang 2002: 380). Wu and Xie (2003) conduct a more concrete analysis on a micro level to define the mobility between the state and market sector. China's partial reform exactly manifests the role of the state in regulating the rules of market operation concerning its own interests. The state, however, safeguards the functions of the market economy which runs by a competitive logic, restricts the market activities to progress in a restrictive scale by political authority for some special needs, such as political stability, legitimacy, and socialist tradition. Therefore, the frameworks based on a one-sided emphasis on either the market or the state are not helpful in understanding the de facto evolution of market.

The follow-up research wittingly shifts the focus to work organizations and social actors. Work organization had an unparalleled effect on an individual's well-being in redistributive period for its guarantee of a relatively comfortable life. In turn, individuals and their households' livelihood relied heavily on the profitability and the hierarchy of the work organizations. Walder (1992) suggests that work organizations differed widely in the compensation they provided employees. Based on a conception of property rights, Walder classified the work organization according to budgetary rank, workplace size, and economic sectors into various types, then sketched an institutional analysis on social stratification.

Zhou (2000a) categorized work organizations into government agencies, public organizations, central government-owned firms, local government-owned firms, collective and hybrid/private firms in his coevolution of politics and markets theory. Wu (2002) and Xie and Wu (2008) state that the *danwei* (work units) remains a primary agent of social stratification in contemporary China. Institutional analysis goes in a more meticulous and operable direction on a meso-level to test the concrete effect of these institutional arrangements on social stratification. In terms of social actors, the scholarship on social actors concerning market transition has evolved from a redistributor/producer-dichotomy to a more refined and multi-dimensional illustration. Both redistributors and direct producers are composed of various social groups, and the heterogeneity of these groups causes different fortune changes. Nee's *market transition theory* (1989; 1991) at the outset keeps an eye on cadres, private entrepreneurs, and peasants in rural China. The following research reclassifies the social actors basically along two paths: the political elites and the administrative hierarchy. Walder and his colleagues (2000) assess the dual career mobility paths of political elites by differentiating elite professions and elite administrative positions according to education credentials and political credentials respectively. Walder's (2003; 2009) studies claim that the mobility opportunity and the status inheritance of the previous communist-era elites follow the first path. Parish and Michelson (1996) restrict the definition of 'administrator' from other clerical personnel because only the former holds redistributive power. Zhou (2000b) claims that the definition of 'redistributors' as those who have bureaucratic power became reasonable in the transformation process compared with in the ideal-type of state socialist redistribution, because "it is both conceptually and empirically uncertain to what extent and in what ways his or her observed income is derived from the affiliation with the political authorities" (Zhou 2000b: 1194). Similarly, the notion of 'direct producers' also became ambiguous considering the differentials of economic sectors. In addition to his classification on work organization, Zhou (2000a) further classifies occupations based on hierarchical ranks[58] as the following categories: high-rank cadre, low-rank cadre, high-rank professional, low-rank professional, clerk, service worker, skilled worker, and unskilled worker. Zang (2001) names the elite dualism on a division of

[58] As Zhou commentates, the Chinese bureaucratic hierarchy has mainly four levels: 部 (*bu*, ministry), 局 (*ju*, department), 处 (*chu*, division), and 科 (*ke*, section). Accordingly, he classifies those holding ranks at or above *chu* level as high-rank cadres and those at or below *ke* level as low-rank cadres. Similarly, in the Chinese professional system, there is also a hierarchy that ranks the professions as senior engineer, engineer, assistant engineer, and technician levels (or equivalent levels in other professional occupations). He classifies those at or above engineer level as high-rank professionals and those at or below assistant engineer level as low-rank professionals.

technocracy and elite dualism. Nee and Cao (2002) define the occupational status as government/party cadres, administrators, managers, professionals, entrepreneurs, ordinary white-collar workers, manual workers. “There are a whole series of institutions that market economies produce that (presumably) transition economies will need”, as Leicht writes in the *Introduction* of a special issue on *The Future of Market Transition* in volume 19 of *the Research in Social Stratification and Mobility*, though “most of these institutions are under-researched” (2002: xiv), market transition research has incorporated more and more institutions analysis in order to understand how individuals in a given institutional arrangement maximize their opportunities to be the ‘winner’.

The dominant view on education’s effect on society is progressing from as a mechanism of socializing individuals, to a system of allocation in a micro-sociological perspective, and an institution which has an effect on the distribution of political, economic, and social positions in society in macro-sociological perspective (Meyer 1977). “Modern educational systems involve large-scale public classification systems, and define new roles and statuses for both elites and members” (Meyer 1977: 56). To date, market transition research had paid close attention to human capital, and a series of empirical findings have revealed an upward tendency of the returns to human capital (see, for example, Nee and Cao 1999; Yang 2005), though relative less than in developed capitalist economies (see, for example, Parish and Michelson 1996). Education, as the most important component of human capital, stands out naturally as a crucial indicator to test market transition. Xie and Hannam (1996) found that economic growth depresses the returns to both education and work experience due to the lack of a true labour market. Zhou (2000a) points out the key dilemma on of this interpretation in his *coevolution of politics and markets thesis*. Although the increase of returns to education is led by the rise of the labour market in the progression of market transition (Nee 1989; 1991), the state allocates human resources through incentive mechanisms to attract a large proportion of individuals with high human capital (e.g., college graduates). In this way, the state sector, especially in government and public organizations has and is still raising the threshold of entry on educational credential. Furthermore, as Zhou mentioned, Chinese government policies have emphasize educational credential as one of the most important criteria in obtaining political and positional power (such as party membership and cadre promotion). In this light, “the importance of education credential may increase, even in the absence of market allocation of human resources” (Zhou 2000a: 1145). The increasing returns to educational credential may reflect a genuine convergence-even a merger-of state sector and market sector, therefore, market cannot be attributed as the only

reason or mechanism to this increasing trend, and the incentive mechanisms differentials among different sectors should be studied. It is argued that human capital is an important determinant in one's economic rewards (Becker 1964), but it still remains unclear as to what extent the net effect of economic rewards is related to human capital because of the multiple implication. The conventional approach follows a 'human capital-wage returns' model, with a non-determinacy of a missing intermediary — productivity, i.e., a chain relation of 'human capital-productivity-wage returns'. The point here is, educational credential, although having production and appreciation (value-adding) functions, cannot be unconditionally equalized with productivity. The former facilitates a profession entry, but the latter grows out of the production process. In this sense, educational credential is more symbolic of a 'label' synonymous with productivity, because the initial economic rewards are more a reflection of the 'label' of educational credential relative to the educational credential per se. This dilemma could be resolved by specification of the indicators of human capital (e.g., educational credential, professional certification, training, work experience) and by tracking this characteristic through a life course, which provides adequate and clear biographical information or life histories of average people. Ultimately, follow-up research needs to refine the human capital indicators and collect data including individual's life histories.

2.2 Conceptual Model: Effects of Education as an Institution Across Economic Sectors

Prevailing research on the effect of education on social mobility is organized around a simple image of socialization in society: individuals receive their educational credentials 'reflecting' their knowledge, skill, attitudes, emotions, beliefs, senses and value throughout their school life. Individuals then expand and transform their knowledge and competence in the process of socialization in modern society (Meyer 1977) and integrate this in the individual person's life-course history. Under the proposition of socialization, individuals' wage returns in their later life were partially regarded as the returns to education per se as a *socializer*. However, "sociologists regard socialization as a lifetime process having at least two aspects: primary socialization is 'the first socialization an individual undergoes … through which he becomes a member of society; secondary socialization is any subsequent process that inducts an already socialized individual into new sectors of the objective world of his society'" (Berger and Luckmann 1991: 150; cited from Jarvis 1995: 3). Here, education is regarded as a lifelong process with the reference of the concept of lifelong learning and lifelong education. Socialization, as the effect of education, is in keeping with the approach of Dawe's (1970) centrally concerned social order in his "the two sociologies"

idea, which regarded individual man more than a reflection of the social order in which he or she has been socialized[59], ignoring a much more sophisticated interpretation of the process of socialization. Allocation theories suggest that education is more a *selector*, *sorter*, and *allocator* relative to a *socializer*, and people in modern societies are allocated to different social roles on the basis of years and types of education (Meyer 1977). The effect of institutions has been overlooked by traditional socialization theories; and allocation theories which treat education as "a set of institutional rules which legitimately classify and authoritatively allocate individuals to positions in society". Moreover, "allocation theories are limited in that they define only a few consequences of this system and consider effects mainly on the individuals being allocated" (Meyer 1977: 59), for example, the status attainment has a direct relationship with education (Blau and Duncan 1967; Duncan, Featherman, and Duncan 1972). Obviously any individual cannot escape from the fact that he or she exists in a given society with external constraints that affect individuality and autonomy.

To sociologists, social structures are regarded as the models of the patterns of social relationships that exist within a given social system, for instance, the structural functionalism (e.g., Parsons 1951; 1991) analyses society 'as it is' and as a complex social system with a gradual, evolutionary-natured change, but tends to play down the significance of power and class[60]. It is often unclear to what extent the broader range of institutions interacts with education and to what extent the effects of education are conditioned by the broader range of institutions. For instance, it is well-known that the educational level one has achieved has substantial effects on all sorts of personal qualities in public social classifications, but the outcome of education variations among different economic sectors are very large, that is, even though persons may have the same educational credential, this may have different outcomes in different economic sectors. Therefore, conventional wisdom sums up an individual's success as one's educational credential (parallel with social capital, network), holding constant to the sector they are in. However, the external institutional arrangement

[59] Wrong as early as 1961 had criticized this approach for its oversocialized conception of man. He recognized that man must be more than merely a reflection of the social system, though he is socialized into the culture of his society. See, Wrong, Dennis H. 1961. "The Oversocialized Conception of Man in Modern Sociology." *American Sociological Review* 26(2): 183-193.

[60] Parsons and Parsonian sociology have been heavily criticized for the treatments of the notions of social action, social structure, function, culture, and social system. For example, Anthony Giddens' "structuration theory" (Giddens 1968; 1976) was typically developed against Parsons' views of power, system, and action. See, Giddens, Anthony. 1968. "'Power' in the recent writing of Talcott Parsons." Sociology 2: 257-272; Giddens, Anthony. 1976. *New Rules of Sociological Method, a positive critique of interpretative sociologies*, London: Hutchinson.

varies substantially concerning the mechanisms on returns to education and other human capital indicators. The variations are embedded in a given context: firstly, the returns to educational credential per se are vitally affected by being in a given economic sector; secondly, in turn, economic sectors vary in the mechanism on education returns, forming marked differences in outcomes for similar educational credentials among different sectors; thirdly, educational credential, as a static and fixed capital asset, functions as a stepping stone in the beginning career entry, and its impact to an individual's wage returns is often interwoven with work experience which is acquired over a dynamic period of time. All these contexts suggest that in explaining the long-tern effects of education we do need to examine the details of the institutional arrangements. Correlations between one's educational credential and social position (e.g., occupation in economic sectors) can be maintained and increased by an institutionalized structure (e.g., *danwei* system).

The above literature[61] has inspired this research on returns to education in the reform period. As a basis for a theoretical synthesis, this study proposes a conceptual model that treats institutional changes as a dynamic process of evolution among the sectors of the state and markets. The 'state' refers to patterns and mechanisms of 'interest articulation' (Zhou 2000a: 1139) in the state arena associated with both political/institutional arrangements and national willpower in this study. In this study, 'market' (using Zhou's (2000a: 1139) interpretation), refers to "the modes of resource allocation and economic transactions that take place through price systems and involve 'autonomous' economic agents". The division between the state and markets is drawn in accordance with the relative controlling force of the state or political powers. Under this division, government agency and public institutions are included in the state sector, and four sub-divisions (state/local-owned, private, self-employed, and other) are included into market sector based on the employment relationship. However, it is notable that all of these sub-sectors coevolve in interactions with each other in a dynamic scheme, an absolute distinct division between the state and markets that fails to restore a real process of coevolution of these sectors. For instance, the state/local-owned sector has been inextricably tied with the state/political power, and has taken over a large proportion of the national economy in the pre-reform and even reform periods. Therefore, in this study, the model of sector division plays down the coevolution between the state and markets by highlighting the sectoral coevolution among sub-sectors,

[61] The literature on the interaction between politics and markets has been over-emphasized by many scholars in the market transition debate. See more in (Bian and Logan 1996; Parish and Michelson 1996; Róna-Tas 1994; Walder 1996; and Zhou 2000) the theoretical discussion part.

namely, government agencies/public institutions, state/local-owned enterprises, private enterprises, self-employed enterprise, and other enterprise that have no clear employment relationships.

Using the proposed model, the evolution among sectors can be roughly portrayed as the courses of institutional changes launched by state-initiated reforms in China. The previous scholarship illustrated the interaction between the state and market under different theoretical thesis, for example, Bian and Logan's (1996) theses of *persistence of power*, Parish and Michelson's (1996) *dual transformations theory*, Zhou's (2000b) *market-politics coevolution model*, and Bian and Zhang's (2002) *markets-state interaction thesis*. These thesis viewed market transition as a multifaceted, historical process with a mutual interaction between the politics and markets. Similarly, the sub-divisions of sector coevolve in interactions with each other, for example, the development and growth of non-state-owned sectors (i.e., private enterprises, self-employed enterprises, and other enterprise that have no clear employment relationships) were always pressed by the state-owned sectors which compete with and constrain each non-state-owned sector; alternatively, in other areas, these sub-divisions mutually reinforce each other through production efficiency stimulation, such as the benign competition between hybrid/private enterprises with state-owned enterprises. Under the state-initiated reform, some sectors may be transformed into other forms in the marketization process, for example, the state-owned enterprise restructuring reform which marketizes the state-owned enterprises and industries except those monopolized sectors (i.e., those closely-related with national security, naturally monopolized industries like railway industry, postal service, communications facilities, natural resources, public services such as education and health care, and some financial institutions). The central idea in this illustration is that no sector can be understood without a careful and substantive understanding of its operation in the proper context.

The premise of the proposed model is based on the implications of the scholarship that advocates institutional analysis of market expansion due to two factors: first, market penetration and its expansion is not a self-evolving process; rather, economic activities, and the related economic sectors' disintegrations are by nature embedded in and constrained by the social context and historical path of change (Zhou 2000a); second, the state plays an active role in the coevolution of markets and politics, rather than allowing a laissez free development of both markets and politics. As a result, the state intervenes by using institutional changes based on its own interests and preferences. Therefore, the state has branded the economic sector division reflecting a "compromise between competing interests

and institutions" (Zhou 2000a: 1140). The mechanisms that govern the sectoral coevolution of different interest groups are far more complex than Nee's market theory which emphasizes a competition mechanism — retreat of redistributive economic institutions versus advance of new mechanisms by markets expansion — between existing and new-emerging economic institutions. In this sense, the mechanism of sectoral coevolution is far more than a competition between emerging markets and the state socialist redistributive power. The course of any institutional change will ultimately spark various conflicts of interests socially, economically, and politically. The role of the state in the coevolutionary process is not only as a watchdog and regulator who setting institutional rules on economic activities, but an agent with its own interests that are "not necessarily in congruence with the economic agents in the marketplace" (Zhou 2000a: 1141). As Zhou (2000a: 1141) noted, "Concerns about political stability, legitimation, and historical traditions have led to a variety of institutional rules that facilitate as well as constrain markets even in industrialized market economies. Given the historical role of the state in China, and the prevalence of vested interests associated with existing institutions, there is no reason to doubt that the remaking of institutional rules in China's economic transformations will be heavily influenced by the vested interests and the state's own interests." Consequently, sectoral divisions coevolve under the constraints or enforcement from the state to some extent. The sub-divisions in this study, namely, government agencies/public institutions, state/local-owned enterprises, private enterprises, self-employed enterprises, and other enterprise that have no clear employment relationships, are all in part related to the state: government agencies and public institutions cultivate relations with political authorities and are link with the state; state-owned enterprises are distinguished from non-state-owned ones; private and self-employed enterprises, though they operate through the price system on markets, squeeze the market share through monitoring and regulating by the state. Nevertheless, the state comes to adopt policies to encourage the growth of non-state sectors because of their increasing contribution to state revenue. The role of governmental agencies also shifted gradually from 'redistributors' in Nee's term to Walder's 'referee' and 'player' and Zhou's 'regulators'. The conceptual model outlined here serves the purpose of exhibiting the dynamic evolution among these sub-sectors and assisting in the understanding of them relative to one another in the process of market expansion.

2.3 Implications for Differentials on Returns to Human Capital: Hypotheses

There are already many models that have been proposed to assess the outcomes of market transition and the follow-up debate, but still, there is a large area of model

indeterminacy with respect to its power in empirical predictions which stemmed from a substantive understanding of changes in institutions. The model indeterminacy can be reduced and the power of empirical prediction can be improved through what Zhou (2000a; 2000b) has suggested — substantive institutional analyses which highlight the specific institutional context. The market transition theory and its critics that emphasize the political economy of transformation have located their theoretical arguments for changes in the social stratification order centred on who gains and who loses in the market reform. Accordingly, the methods adopted in these analyses focused on the comparison of the increasing and/or declining significance of redistributive power and markets, and the changing returns to political capital and human capital. The model proposed above recast these theoretical arguments and their implications for income inequality, with a special reference to education. The systematic analysis from previous scholarship on market transition and its critics offer an initial basis for hypotheses about the differentials of returns to education in the urban sector.

Hypothesis 1: *The declining significance of redistributive power in the reform period*. With the market expansion, individual wage returns shift toward market sectors rather than the state sectors. Those previous research emphasized the payoff to political power (e.g., Communist Party membership and cadre position), but the hypothesis here focuses on employment sectors related with the state, i.e., government agencies/public institutions, state/local-owned enterprises, all of which are embedded in institutional coordination from the state. One's individual material benefits depend on access to opportunities and resources, which, in the Chinese context even in the reform era, is fundamentally affected by the existing institutional arrangements.

Hypothesis 2: *The increasing rewards of market activities*. The emergence of markets creates new opportunities and resources to attract more and more individuals participating in market activities. Those who participate in the market economy (e.g., individuals working in private enterprises, self-employed enterprises, and other enterprise that has none clear employment relationships) will have higher income rewards than those who are inside the state sectors.

Hypothesis 3: *Returns to human capital*. Market expansion and the state-orientated reform have ignited a huge shift in employment and labour toward market sectors. The more decisive the shift toward market reform, the stronger the returns to human capital (education

and working experience). Correspondingly, returns to human capital are more significant for individuals who participate more directly in the market sectors.

Hypothesis 4: *Interaction effects between human capital and sectors*. Human capital plays an important determinant in one's economic rewards in a competitive market economy where market transactions are governed by price mechanism (Becker 1964). However, it is also notable that the former communist states inherited the tradition of rewarding political loyalty over competence (Róna-Tas 1994). With regard to political loyalty, this study does not refer to individual political power and cadre background, but to one's working sector associated with political authorities. Even in the reform period, the rise of the labour market with the expansion of market indeed has allocated a large number of human resources in the market sector, but the state has been and is still active in intervening human resources allocation: government agencies/public institutions, and state/local-owned enterprises attract a large proportion of individuals with high human capital (e.g., college education and above). More importantly, since the early 2000s, government policies have emphasized educational credential as well as political background (Communist Party membership) as the most important criteria in new recruitments for civil servants in the sectors such as government agencies and public institutions. In this light, *the importance of educational credential may increase in these sectors related to the state, compared to increasing returns in the market sectors*.

Hypothesis 5: *The declining significance of institutional arrangements of work organizations, particularly, state ownership*. Work organizations (e.g., *danwei*) have been major institutions of redistribution in state socialist China (Bian 1994; Lin and Bian 1991; Walder 1992; Wu 2002; Xie and Wu 2008; Zhou 2000a), and these work organizations allocated various economic benefits based on their bureaucratic ranks. Individuals who are within the work organizations of the state sectors (government agencies, public institutions, and state-owned enterprises) have been rewarded more than those who work outside the state sectors. The expansion of markets creates a new pattern of economic returns by emphasizing human capital relative to political or managerial functions from work organizations. However, government mechanisms that controlled the wage allocation for the workers in state sectors did not following a 'market' way which related workers' wage earning to enterprise profitability in the reform period (Bian and Logan 1996; Walder 1987), and gradually gave industrial enterprises the autonomy to retain their profits with the process of market expansion. In the early 1990s, government controlled mechanisms were eliminated or reduced in many economic spheres such as the abolishment of state-mandated plans, opening

of stock markets, replacement of government grants by bank loans, and deregulation of price control. Accordingly, most economic transactions governed by market mechanisms were based on prices negotiation. *With its involvement in market activities to some degree, work organizations have more autonomy to covert earnings into wages, therefore, the effect of the state apparatus becomes weaker*.

2.4 Research Design

2.4.1 *Data and Variables*

The empirical analyses were based on the 1988, 1995, and 2002 CHIP urban surveys. The cases were restricted to the samples in these three years as those who earned wages, aged from 16 to 60 for male, and 16 to 55 for female due to the statutory retirement age regulation[62] in China. The samples consist of 18,145, 11,988, and 10,060 individuals for CHIP surveys of 1988, 1995 and 2002, respectively. These individuals were either permanent workers/employees of enterprises, governmental institutions, and public organizations or long-term contract workers/employees who reported positive earnings, and active self-employed businessmen who have regular annual income. Those individuals who were officially off-duty, formally retired, unable to work, laid-off, left their post, or youth waiting for job assignments and students were excluded from the samples. The samples also excluded the 1% of individuals with extreme earnings from both top and bottom incomes respectively using *z* value. The distribution of the samples is shown in Table 2.1.

The dependent variable was the natural log of yearly earnings. Individual-level independent variables included years of schooling, age, gender, working experience (total working years), working experience on a current job, a dummy variable indicating whether the individual had a university or college degree, a dummy variable on the membership in the Communist Party. To address the role of economic sectors, I included measures for categorizing individuals into five sub-sectors as governmental agencies/institutions, market I (state-owned or local owned, i.e., state-owned enterprises at central/provincial level, local state-owned enterprises, state-share-holding companies, urban collective enterprises), market II (private, i.e., private firms, Sino-foreign joint ventures, foreign companies, other

[62] The statutory retirement age in China is 60 for male, and 55 for female, generally. But there are some different specification for the following groups: cadres, the retirement age for male is 60 and female 55; normal workers, male 60, female 50, and those who undertake work in the conditions of down-hole, high-altitude, elevated temperature, heavy manual work, and other health-damaging works, are entitled an earlier retirement age, 55 for male and 45 for female. Self-employed workers in urban areas can retire from work at age of 60 for male workers and 55 for female. Those who have been laid-off and disabled workers, can have an earlier retirement.

share-holding companies, rural private enterprises), market III (self-employed and individual enterprises), and market IV (others types of ownership or unclear employment relationship). These five categories were all dummy variables indicating whether the individual was in one of these categories exclusively. Table 2.2 presents the 5-grouped sub-sectors in these three surveyed years, and Table 2.3 shows the gender specifications.

Table 2.1 *Distribution of individuals in 1988, 1995, and 2002 urban surveys, by province*

	Number of individuals			Gender, *by %*					
	1988	1995	2002	Male			Female		
				1988	1995	2002	1988	1995	2002
Province									
Total	18,145	11,988	10,060	52.0	52.8	55.6	48.0	47.2	44.4
Beijing	870	850	821	55.6	54.0	54.3	44.4	46.0	45.7
Shanxi	1,935	1,129	834	54.0	53.6	58.3	46.0	46.4	41.7
Liaoning	1,876	1,253	1,087	50.6	53.6	58.7	49.4	46.4	41.3
Jiangsu	2,262	1,330	989	53.1	53.0	56.6	46.9	47.0	43.4
Anhui	1,818	837	678	51.2	51.3	58.6	48.8	48.7	41.4
Henan	2,101	991	951	51.8	54.3	55.0	48.2	45.7	45.0
Hubei	1,971	1,267	1,026	51.2	53.0	54.8	48.8	47.0	45.2
Guangdong	2,146	1,024	945	52.1	52.9	52.8	47.9	47.1	47.2
Sichuan		1,487	413		51.2	55.4		48.8	44.6
Chongqing			831			55.7			44.3
Yunnan	1,931	1,155	900	49.6	51.0	52.0	50.4	49.0	48.0
Gansu	1,235	665	585	52.8	52.9	55.9	47.2	47.1	44.1

Table 2.2 *Categorization of economic sectors in 1988, 1995, and 2002 urban surveys*

	Surveyed years					
	Frequency			Percent		
Categories	1988	1995	2002	1988	1995	2002
Total	18,145	11,988	10,060	100.0	100.0	100.0
Governmental agency/institutions	4,330	3,512	3,097	23.9	29.3	30.8
Market I	12,861	7,696	4,080	70.9	64.2	40.6
Market II	112	194	1,426	.6	1.6	14.2
Market III	168	147	874	.9	1.2	8.7
Market IV	91	63	429	.5	.5	4.3
Missing	583	376	154	3.2	3.1	1.5

Table 2.3 *Percentage distribution of economic sectors in 1988, 1995, and 2002 urban surveys, by gender*

	Gender %					
	Male			Female		
Categories	1988	1995	2002	1988	1995	2002
Total	100.0	100.0	100.0	100.0	100.0	100.0
Governmental agency/institutions	29.9	31.3	30.8	18.9	29.1	31.8
Market I	68.2	65.4	43.0	78.8	67.3	38.9
Market II	.6	1.7	14.4	.7	1.6	14.4
Market III	1.0	1.2	8.7	1.0	1.3	9.0
Market IV	.3	.4	3.2	.7	.7	5.8
N	9,195	6,140	5,521	8,367	5,472	4,385

These variables include the demographic characteristics such as age and gender, the variables representing human capitals, i.e., years of schooling, dummy of university/college degree, and working experience, and the variables indicating an individual's economic position (their assignment to a sub-sector) were the determinants of individual's income returns.

2.4.2 *Measuring Income*

The CHIP surveys purposefully made an effort to have a comprehensive accounting of the sources of income components in China that differ from the inadequate ones covered in the official estimates which mainly focus on cash income by neglecting in-kind components or underestimating in-kind income. The urban individual income was divided into the following components: (1) cash labour compensation of working individuals, including first and second job; (2) income from pensions, bonus, welfare payments, subsidies and wages; (3) income from individual and private enterprises operated by members of the household; (4) income from property, including interest on savings deposits and bonds, dividends, house rent and income from leasing out articles; (5) income in kind and net subsidies, including ration coupon subsidies, housing subsidies, and other subsidies and income in-kind; (6) rental value of owner occupied housing; (7) other income from private resources, for example, private transfers, migrant remittances, and hardship allowances. In practice, income surveys that focus on both household and individual level may not provide complete information on all of these components. For example, the subsidies associated with the distribution of goods and services were normally below market price, and the urban residents were the main recipients of the remaining effect of redistributive mechanism. Those who were excluded from these subsidies, experienced some disadvantages in income equality, especially during the first surveyed years (before 1990), planned allocation of service and goods still played an important role. Therefore, the term referred to in this study is a comprehensive measurement containing income not only from employment, but also from housing components and in-kind subsidies.

All members of a household are implicitly assumed to have the same per capita income, so the information collected on the household level as to those subsidies components can then be equally allocated to an individual member. An example of the information on additional income received by household in the CHIP 1988 urban survey can serve the purpose to explain how the household level income is generally allocated to an individual: the CHIP 1988 urban survey had the information on household interest on

savings accounts, dividends, bond interest, income from house rent, income from leasing out other goods, machinery or tools, transfer income, gift, boarding fees from relatives and friends, and fixed grain ration received by entire household, fixed rations of subsidiary foods for entire household. In order to obtain the individual quotient from the total household level, I first transformed the fixed rations of subsidiary foods and grain rations for whole household into its market price, then added household interest on savings accounts, dividends, bond interest, income from house rent, income from leasing out other goods, machinery or tools, transfer income, gift, boarding fees from relatives and friends, obtaining the sum value (RMB) of additional income. Finally, I divided the sum value by the number of household members, the quotient, which became the individual allocation.

2.4.3 Method of Analysis

The analysis was carried out using linear regression modelling. This chapter develops a model that conceptualizes income generation by urban individual workers as an individual earning attainment process within a contextual framework which represents individual embeddedness of the socio-economic relation. To highlight the role of economic sectors in individual earning generation, I address Granovetter's (1985; 1990) notion on embeddedness[63]. Granovetter refers to embeddedness as the effect of actors' social relations on their economic actions which, in turn, is embedded in structures of social relations in modern society. This model contains three levels of analysis: the first level reflects the effect of an individual's educational attainment on his earnings regardless of his other categories in the local labour market; the second level represents the effects of educational attainment on an individual's earnings within each sub-sector. In other words, the second level tells the contextual framework that an individual belongs to which is shaped by the condition external to the individual workers in the local labour market; the third level emphasises the interaction between educational attainment and economic sub-sectors, centring on the difference of earnings return to educational attainment in different sub-sectors. The model is expressed as follows:

$$\hat{I} = a + bE \qquad (2.1)$$

[63] Granovetter further distinguishes embeddedness as having two aspects: relational embeddedness and structural embeddedness. The former refers to an actor's personal relationships, and the latter refers to the broader network of social relations in the society to which the actor belongs. In view of this, I regard economic sub-sectors as an individual worker's embeddedness.

$$\hat{I} = a' + b'E + \sum_{i=2}^{5} c_i S_i \quad (2.2)$$

$$\hat{I} = a'' + b''E + \sum_{i=2}^{5} c_i' S_i + \sum_{i=2}^{5} c_i S_i E \quad (2.3)$$

where $\hat{I}$ refers to the earnings of an individual worker, *E* represents educational attainment, indicated by years of schooling and a dummy of university/college degree, $\sum_{i=2}^{5} c_i S_i$ is the classification of the five economic sub-sectors to an individual *i*, and all these five classifications are dummy variables, in other words, an individual does or does not belongs to a given sub-sector, $\sum_{i=2}^{5} c_i S_i E$ represents the interaction between educational attainment and sub-sector to an individual *i*. a, a', and a'' represent the intercepts, b, b', b'' and c_i, c_i' represent the regression coefficients associated with the variables concerning educational attainment and economic sub-sectors. In all of these three models, an individual's demographic characteristics were also included.

The first model (Equation 2.1) assumes that only educational attainment has an effect on individual earning returns, while the economic sub-sectors have no effect. The second model (Equation 2.2) assumes that returns to individual earning among the different sub-sectors were constant, and the relation between an individual's educational attainment and earning returns was without difference among sub-sectors. The third model (Equation 2.3) assumes that, on the returns to individual earnings, educational attainment and sub-sectors have an interactive effect, in other words, educational attainment has a different effect on different sub-sectors.

2.5 Results

2.5.1 *Descriptive Documentation of Patterns of Earnings Integration*

Before documenting the patterns of individual earning generation and analysing the model described above, I will briefly report on the descriptive statistics of the individual earning studies in this chapter. Table 2.4 presents information on yearly earnings and the distribution across the sub-sectors in my classification. Average real earnings measured in 1988 increased from 2,352 to 6,660 in 1995, and 12,063 in 2002 over the two-seven-year periods, an almost five-fold increase. There are significant variations in the average individual earnings and the differentials become noticeably higher over time (the Std.

Deviation increased from 2,098 in 1988 to 4,574 in 1995, and 8,871 in 2002). Regarding the comparability of average earnings in these three years, I also document the relative earnings across sub-sectors in Table 2.5 by setting total average earnings as base line of 100% in these three years. Individuals who work in the governmental agencies/institutions had above-average annual earnings, and more noticeably, the earnings of individuals in governmental agencies/institutions sector had a steady upward trend. What is interesting is that the average earnings of individuals who work in governmental agencies/institutions sector in 2002 became the richest group. By contrast, there is a decreased trend in the average earnings for individuals in the Market I sector over time. There are also huge variations in both the years 1988 and 1995 across economic sectors due to the case components. In 1988, for example, the richest group was market II, but this only constituted 0.6% cases of the sample.

Table 2.4 also offers information on educational attainment indicated by years of schooling. During the two-seven-year period, the average years of schooling had a slight but steady increase of one year (10.4 in 1988 to 11.4 in 2002). Actually, except for the fluctuations in the sub-sector of market III, the average schooling years across all sub-sectors increased. Individuals who work in the governmental agencies/institutions sector had the highest, and naturally, above-average years of schooling. This indicates a strong attraction of the governmental agency/institution sector to urban individuals. And this is also a derivation of the national talents policy which taps into pools of skilled workers for the state sectors. Moreover, the sub-sectors of market I and market II demand a relatively higher educational attainment than market III and IV which both had large variations.

2.5.2 *Which Factors Shape Individual Earnings Integration?*

Tables 2.6a, 2.6b, and 2.6c present summary statistics for the key variables. Firstly, on demographic characteristics, the average age of an individual wage-earner increased from 36.78 in 1988 to 38.39 in 1995, and to 40.30 in 2002, representing a three-year gap. The male-female ratio had a 4% increase from 52% in 1988 to 56% in 2002, indicating a major domination of male workers in the labour force. The variables on human capital reported a similar trend as the demographic characteristics. Corresponding with an increased trend of average age, the average schooling years also increased approximately one year over the two-seven-year period. The percentage of university/college degree (*CU*) holders increased by almost 10% in each year of the two-seven-year periods. The CHIP 1988 did not survey the working experience of urban workers. I only report working experience (*WE*) in 1995

Table 2.4 *Means and Medians of Yearly Income and Years of schooling by Sectors, 1988, 1995, and 2002*

Sectors	1988				1995				2002			
	Income		Yrs. Sch		Income		Yrs. Sch		Income		Yrs. Sch	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Government agencies/ Institutions	2,485.169 (1,475.162) n=4,330 24.7%	2,247.120	11.528 (2.844) n=4,316 24.7%	12.0	7,472.251 (4,694.739) n=3,512 30.2%	6,587.00	12.16 (2.791) n=3,455 30.2%	12.0	14,523.688 (8,282.239) n=3,097 31.3%	13,130.00	12.75 (2.870) n=3,097 31.3%	13.0
Market I, State/local owned Enterprises	2,256.920 (1,729.947) n=12,861 73.2%	2,022.800	10.147 (2.814) n=12,805 73.2%	9.0	6,236.282 (4,275.311) n=7,696 66.3%	5,461.50	10.18 (2.737) n=7,587 66.3%	10.0	11,213.657 (8,193.615) n=4,080 41.2%	9,524.50	10.98 (2.750) n=4,080 41.2%	11.0
Market II, Private Enterprises	5,074.347 (12,608.802) n=112 .6%	2,536.020	10.143 (2.866) n=112 .6%	9.0	8,682.139 (8,175.027) n=194 1.7%	6,300.00	10.90 (2.960) n=193 1.7%	11.0	11,801.529 (9,716.311) n=1,426 14.4%	9,126.00	11.10 (2.899) n=1,426 14.4%	11.0
Market III, self-employed	3,287.276 (4,663.180) n=168 1.0%	2,094.797	9.321 (3.245) n=168 1.0%	9.0	6,785.830 (6,557.640) n=147 1.3%	4,690.00	8.61 (2.292) n=147 1.3%	9.0	9,078.524 (10,487.853) n=874 8.8%	6,359.50	9.54 (2.718) n=874 8.8%	9.0
Market IV, other	4,533.200 (8,535.468) n=91 .5%	2,009.204	7.956 (3.283) n=91 .5%	9.0	6,657.683 (4,575.047) n=63 .5%	5,860.00	9.53 (3.275) n=60 .5%	9.50	9,330.816 (8,379.347) n=429 4.3%	7,200.00	10.90 (2.837) n=429 4.3%	11.0
Total	2,352.815 (2,098.657) n=17,562 100.0%	2,081.400	10.469 (2.898) n=17,492 100.0%	9.0	6,660.201 (4,574.805) n=11,612 100.0%	5,818.50	10.76 (2.910) n=11,442 100.0%	11.0	12,063.205 (8,871.757) n=9,906 100.0%	10,125.00	11.42 (2.977) n=9,906 100.0%	12.0

Notes: Std.Deviation in the parentheses.

Market I: State-owned-enterprises (SOE) at central/provincial level, local SOE, urban collective, state share-holding company;

Market II: Private firm (including partnership), Sino-foreign joint venture, foreign company, other share-holding company, rural private enterprise, rural individual enterprise.

Table 2.5 *Relative Yearly Income (Percentage of Means and Medians) by Sectors, 1988, 1995, and 2002*

Sectors	1988		1995		2002	
	Income		Income		Income	
	Mean	Median	Mean	Median	Mean	Median
Government agencies/ Institutions	105.63	107.96	112.19	113.21	120.40	129.70
	n=4,330		n=3,512		n=3,097	
	24.7%		30.2%		31.3%	
Market I, State/local owned Enterprises	95.92	97.18	93.64	93.86	92.96	94.07
	n=12,861		n=7,696		n=4,080	
	73.2%		66.3%		41.2%	
Market II, Private Enterprises	215.67	121.84	130.36	108.28	97.83	90.13
	n=112		n=194		n=1,426	
	.6%		1.7%		14.4%	
Market III, self-employed	139.72	100.64	101.89	80.60	75.26	62.81
	n=168		n=147		n=874	
	1.0%		1.3%		8.8%	
Market IV, other	192.67	96.53	99.96	100.71	77.35	71.11
	n=91		n=63		n=429	
	.5%		.5%		4.3%	
Total	100.0	100.0	100.0	100.0	100.0	100.0
	n=17,562		n=11,612		n=9,906	
	100.0%		100.0%		100.0%	

Table 2.6a *Mean, Std. Deviation, and Correlation Coefficient of the Determinate Variables affecting Individual Income 1988*

	LnI	*YE*	*CU*	*Age*	*Male*	*SGI*	SM_I	SM_{II}	SM_{III}	SM_{IV}	*CPC*
LnI [a]		.113**	.148**	.358**	.169**	.114**	-.108**	.004	-.012	-.004	.234**
YE [b]			.659**	-.109**	.123**	.209**	-.183**	-.009	-.039**	-.063**	.200**
CU [c]				.107**	.133**	.178**	-.162**	-.016*	-.015*	-.028**	.229**
Age					.139**	.147**	-.132**	-.046**	.003	-.023**	.369**
Male [d]						.128**	-.119*	-.008	.000	-.025**	.267**
SGI [g]							-.943**	-.046**	-.056**	-.041**	.275**
SM_I [h]								-.133**	-.163**	-.119**	-.252**
SM_{II} [i]									-.008	-.007	-.031**
SM_{III} [j]										-.008	-.024**
SM_{IV} [k]											-.032**
CPC [l]											
n	18,145	17,714	18,145	18,145	18,145	17,562	17,562	17,562	17,562	17,562	17,635
Mean	7.580	10.443	.124	36.78	.52	.247	.732	.006	.010	.005	.230
Std. D	.589	2.914	.330	10.394	.500	.431	.443	.080	.097	.072	.424

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

a: (*LnI*) Returns the based-e logarithm of yearly income; b: (*YE*)Years of schooling; c: (*CU*) Individual holds a college or university degree; d: (*Male*) Gender, Male=1; g: (*SGI*) Dummy of Sector of Government agency, institution, Yes =1; h: (SM_I) Dummy of Sector of Market I—State/local owned, local collective enterprises, Yes=1 ; i: (SM_{II}) Dummy of Sector of Market II—Private enterprises, including Foreign company and Sino-foreign joint venture, Yes=1; j: (SM_{III}) Dummy of Sector of Market III—Self-employed, Yes =1; k: (SM_{IV}) Dummy of Sector of Market IV—Other unclear employment relationship, Yes =1; l: (CPC) Member of Communist Party, Yes=1

Table 2.6b *Mean, Std. Deviation, and Correlation Coefficient of the Determinate Variables affecting Individual Income 1995*

	LnI	*YE*	*CU*	*Age*	*Male*	*WE*	*WEC*	*SGI*	SM_I	SM_{II}	SM_{III}	SM_{IV}	*CPC*
LnI [a]		.182**	.185**	.343**	.167**	.372**	.239**	.160**	-.156**	.033**	-.030**	-.010	.240**
YE [b]			.632**	-.080**	.111**	-.078**	-.120**	.315**	-.283**	.006	-.085**	-.031**	.212**
CU [c]				.011	.126**	-.013	-.064**	.306**	-.278**	-.007	-.052**	-.032**	.231**
Age					.146**	.909**	.671**	.048**	-.006	-.102**	-.032**	-.033**	.305**
Male [d]						.161**	.109**	.024**	-.020*	.005	-.004	-.024**	.216**
WE [e]							.723**	.034**	.022**	-.105**	-.081**	-.051**	.316**
WEC [f]								-.090**	.148**	-.116**	-.097**	-.050**	.154**
SGI [g]									-.923**	-.086**	-.075**	-.049**	.226**
SM_I [h]										-.183**	-.159**	-.104**	-.188**
SM_{II} [i]											-.015	-.010	-.051**
SM_{III} [j]												-.008	-.057**
SM_{IV} [k]													-.028
CPC [l]													
n	11,988	11,800	11,988	11,988	11,988	11,910	11,678	11,612	11,612	11,612	11,612	11,612	11,988
Mean	8.619	10.76	.234	38.39	.53	19.220	14.85	.302	.663	.017	.013	.005	.245
Std. D	.648	2.919	.424	9.430	.499	9.564	9.004	.459	.473	.128	.112	.073	.430

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

a: (*LnI*) Returns the based-e logarithm of yearly income; b: (*YE*)Years of schooling; c: (*CU*) Individual holds a college or university degree; d: (*Male*) Gender, Male=1; e: (*WE*) Working experience (totally); f: (*WEC*) Working experience on current job; g: (*SGI*) Dummy of Sector of Government agency, institution, Yes =1; h: (SM_I) Dummy of Sector of Market I—State/local owned, local collective enterprises, Yes=1 ; i: (SM_{II}) Dummy of Sector of Market II—Private enterprises, including Foreign company and Sino-foreign joint venture, Yes=1; j: (SM_{III}) Dummy of Sector of Market III—Self-employed, Yes =1; k: (SM_{IV}) Dummy of Sector of Market IV—Other unclear employment relationship, Yes =1; l: (CPC) Member of Communist Party, Yes=1

Table 2.6c *Mean, Std. Deviation, and Correlation Coefficient of the Determinate Variables affecting Individual Income 2002*

	LnI	*YE*	*CU*	*Age*	*Male*	*WE*	*WEC*	*SGI*	SM_I	SM_{II}	SM_{III}	SM_{IV}	*CPC*
LnI [a]		.288**	.280**	.193**	.171**	.229**	.218**	.250**	-.070**	-.039**	-.172**	-.091**	.242**
YE [b]			.690**	-.232**	.020*	-.202**	-.108**	.300**	-.123**	-.044**	-.196**	-.037**	.228**
CU [c]				-.145**	.050**	-.140**	-.078**	.335**	-.150**	-.073**	-.158**	-.055**	.271**
Age					.172**	.880**	.556**	.036**	.083**	-.106**	-.063**	-.013	.249**
Male [d]						.182**	.161**	-.010	.041**	-.001	-.007	-.065**	.162**
WE [e]							.630**	.031**	.117**	-.089**	-.123**	-.031**	.262**
WEC [f]								-.005	.276**	-.099**	-.249**	-.138**	.178**
SGI [g]									-.564**	-.277**	-.210**	-.143**	.227**
SM_I [h]										-.343**	-.260**	-.178**	-.040**
SM_{II} [i]											-.128**	-.087**	-.102**
SM_{III} [j]												-.066**	-.154**
SM_{IV} [k]													-.029
CPC [l]													
n	10,060	10,060	10,060	10,060	10,060	10,009	10,009	9,906	9,906	9,906	9,906	9,906	10,060
Mean	9.181	11.42	.330	40.30	.56	20.10	14.45	.313	.412	.144	.088	.043	.286
Std. D	.678	2.985	.470	8.920	.497	9.590	9.910	.464	.492	.351	.284	.204	.452

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

a: (*LnI*) Returns the based-e logarithm of yearly income; b: (*YE*)Years of schooling; c: (*CU*) Individual holds a college or university degree; d: (*Male*) Gender, Male=1; e: (*WE*) Working experience (totally); f: (*WEC*) Working experience on current job; g: (*SGI*) Dummy of Sector of Government agency, institution, Yes =1; h: (SM_I) Dummy of Sector of Market I—State/local owned, local collective enterprises, Yes=1 ; i: (SM_{II}) Dummy of Sector of Market II—Private enterprises, including Foreign company and Sino-foreign joint venture, Yes=1; j: (SM_{III}) Dummy of Sector of Market III—Self-employed, Yes =1; k: (SM_{IV}) Dummy of Sector of Market IV—Other unclear employment relationship, Yes =1; l: (CPC) Member of Communist Party, Yes=1

and 2002 samples here: the average working experience of individual worker was 19.2 years in 1995 which increased to 21.1 years in 2002. The average starting-working age was 19 (38.39-19.22) years in 1995 and 20 (40.3-20.1) in 2002. The urban workers had a relative long and stable working career in their current jobs (WEC) in both 1995 and 2002 (both over 14 years). Concerning the Membership of Communist Party (CPC), the proportion number rose from 23.0 to 24.5, then 28.6%, despite the declining role of the party in economic transactions in the reform period. This is also one of the focus points in the research hypothesis *(H1: The declining significance of redistributive power in reform period*). There was a huge transformation of the economic sector distribution during the two-seven-year period[64]. In 1988, approximate 98% of the labour force was employed in state/public sectors (governmental agencies/institutions, market I), then in 1995, the number decreased to 96.5%, and in 2002 it further declined to 72.5%. Noticeably, this declining trend was caused by a drastic reduction of the share of market I, mostly the state-owned enterprises in the process of decentralization in urban economic reform, which released a large labour force from state/public sectors. Nevertheless, the employment proportion in the sub-sector of governmental agency/institution rose from 24.7 to 31.3%, despite the expansion of marketization. A tremendous change in the private sector (market II) and the self-employed sector (market III) took place during the reform time covering this two-seven-year period. These two sectors (market II and III) increased from 1.6% in 1988, to 23.2% in 2002, indicating a vigorous development of the market economy.

Results from the multilevel model described above are presented in Tables 2.7a, 2.7b, and 2.7c which show the estimated rates of returns for the 1988, 1995, and 2002 cross section data. The tables present results from three different models. Model 1 includes only demographic characteristics variables and human capital variables reflecting an individual's returns to human capitals. Model 2 adds dummy variables on sectoral classification reflecting different earning integration among sub-sectors. Model 3 includes the interaction variables of sub-sectors and educational attainment as to the effect of education to earning returns in different sub-sectors. All models control for the aforementioned individual level variables. Columns 1 through 3 report coefficients for Equation (2.1) through (2.3): Column 1 shows average returns to education across all sub-sectors; Column 2 reports differentials of earning returns among sub-sectors; Column 3 yields sub-sector-specific rates of returns to schooling.

[64] The information also is reported in Table 2.4.

Several noticeable findings emerge from a comparison of the 1988, 1995, and 2002 estimates. With respect to demographic characteristics, I observed that male-gender advantage, as measured by the dummy of male or female, is positively associated with earnings: a 11.9 % (a standard deviation translated from $e^{.112}$ - 1) to 12.7% (a standard deviation translated from $e^{.12}$ - 1) increase in earnings for male workers as compared to female workers in 1988, an approximate 12% (a standard deviation translated from $e^{.113}$ – 1 and $e^{.114}$ – 1) increase in 1995, and 15.3% ($e^{.142}$ - 1) to 16.3% ($e^{.151}$ - 1) in 2002. This reports a widening male-female income divide which may reflect income inequality has existed since the reform period. These results are broadly consistent with previous research[65]. At the same time, conversely, the returns to age decreased from 7.1 ($e^{.069}$ - 1) to 7.7% ($e^{.074}$ - 1) range to 6.2 ($e^{.060}$ - 1) to 6.6% ($e^{.064}$ - 1) range from 1988 to 1995, then droped to 4% ($e^{.039}$ – 1, $e^{.040}$ - 1) in 2002. Correspondingly, the returns of seniority (indicated by age^2) declined with the progression of market reform in this two-seven-year period.

The average returns of education increased substantially over the two-seven-year period, rising from a range of 1.0 ($e^{.01}$ - 1) to 2.2% ($e^{.022}$ - 1) in 1988 to 1.9 ($e^{.019}$ - 1) to 3.4% ($e^{.033}$ - 1) in 1995, then to 3.7 ($e^{.036}$ - 1) to 5.3% ($e^{.052}$ - 1) in 2002. Correspondingly, the role of a university/college degree also became more positive to individual earnings. Those with a university/college degree earned an average range of 15.4 ($e^{.143}$ - 1) to 21% ($e^{.143}$ - 1) more in 2002 than those without degrees, and the range was much higher than both in 1995 and 1988, although the estimated differentials were not statistically significant in 1988. These results on the increasing returns to education over the period from 1988 to 2002 are consistent with previous research which reported a range of estimated schooling returns of 2.8 to 7.7% (for instance, Johnson and Chow 1997; Zhang and Zhao 2002), although with a large variation.

With respect to the effects of working experience and communist party membership, the findings of the regression models confirm both a positive effect. Party membership had a persistent positive effect on returns to earnings, and ranged from 6.3 (e.061 - 1) to 7.0% (e.068 - 1) in 1988, 8.5 (e.082 - 1) to 10.2% (e.097 - 1) in 1995, and 8.2 (e.079 - 1) to 10.7% (e.102 - 1) in 2002. Work experience remained constant in both 1995 and 2002, but

[65] Among studies using the CHIP data, the widening gender earnings gap during the period from 1988 to 2002 reported a similar trend. My findings here confirm the results reported by the three major CHIP data contributors, Gustafsson and Li (2000), and Gustafsson, Li, and Sicular (2008).

decreased over time from 2.3% in 1995 to 0.7% in 2002. This indicates an earning return mechanism that emphasizes individual competence relative to seniority.

I took the dummy variable of governmental agency/institution as the reference group in these five sub-sectors in order to make a comparison to other economic sub-sectors in non-state/public sectors. The sub-sector of governmental agency/institution held an advantageous position over other sub-sectors in 1988 and 2002, but not in 1995. The average earning returns for individuals who belong to the sub-sector of governmental agency/institution were much higher than others in the other four sub-sectors in both 1988 and 2002. For all the year of 1988, 1995, and 2002, the estimated rates of returns to schooling and communist party membership are lower if economic sub-sectors, interaction between sub-sectors, and schooling are added to the basic specification. This change is due to the correlation between educational attainment and demographic characteristics. For 1988, schooling is positively associated with being male and being a communist party member, and not belonging to the sub-sector of governmental agencies/institutions; for 1995, schooling is positively associated with being male and being s communist party member, and not belonging to either sub-sector of governmental agencies/institutions or market III; for 2002, schooling is positively associated with being male and being a communist party member, and not belonging to either sub-sector of governmental agency/institution or market IV. These associations can be demonstrated as follows:

Table 2.8 *Associations between schooling with sub-sectors, by reference of governmental agency/institution in 1988, 1995, and 2002*

	1988	1995	2002
Market I	+ 0.70%	+ 1.61%	+ 1.71%
Market II	+ 1.41%	+ 1.01%	+ 3.25%
Market III	+ 3.56%	- 2.63%	+ 0.30%
Market IV	+ 6.93%	+ 4.08%	- 0.90%

With reference to the sub-sector of governmental agencies/institutions, schooling had a positive association with both market I and II, both of which had an upward effect on returns to schooling, although some of the estimated differentials were not statistically significant. However, I would keep cautious in rushing to any definitive conclusions due to the under-representativeness of the CHIP data, especially, CHIP 1988 and 1995 which accounts a small proportion of the workers in these two types of markets. Furthermore, the analytical models in my study did not take the regional differentials of market expansion into consideration, though these differentials may present different pictures of returns to education among sectors according to the regional level of marketization. Additionally, referring to

model 2, I found that the individual workers in the sub-sector of governmental agencies/institutions have higher average returns than those in other sub-sectors. This finding suggests that the state/public sector has attractions to individuals with high human capital, and in turn, the state/public sector controls the entry of new recruited workers using mechanism of educational credential. This finding is consistent with Zhou's (2000a) inference.

In summary, the evidence in this study suggests that the wage-earning structure for urban individual workers in China became more diverse over the two-seven-year period as the returns to human capital variables represented mainly by schooling years, university/college degree, and communist party membership increased. Moreover, with regard to the differentials among economic sub-sectors, earnings return to schooling varied fundamentally over time. This finding is consistent with observations that the egalitarianism on wage distribution in the redistributive period was dismantled gradually in the progression of market reform. The evidence of the significance of redistributive power in the reform period (*H*1) revealed a mixed result. On the one hand, communist party membership showed a persistent positive effect on wage-earnings; on the other hand, the sub-sector of governmental agency/institution which was closely related to the state and power, gave way to other economic sub-sectors, particularly, both state-owned and private enterprises (market I and II) which include a majority of the labour force. This result partly confirms my hypothesis 2 (*H*2), but totally validates *H*5. Concerning the returns to educational attainment, the findings revealed a generally increasing rate (*H*3) and a sub-sector-specification (*H*4). The multilevel model used in this study only explained some variables of wage integration, still, a large portion of wage variation remained unexplained, as observed from the value of the R^2 statistics.

Table 2.7a *Regression results: Determinants of Individual Yearly Income 1988*

Variables	**Model 1**	**Model 2**	**Model 3**
Unstandardized Coefficients			
Demographic Characteristics			
Age	.074***	.069***	.069***
	(.002)	(.002)	(.002)
Age^2	-.001***	-.001***	-.001***
	(.000)	(.000)	(.000)
Gender	.120***	.114***	.112***
	(.007)	(.007)	(.007)
Human Capital			
Schooling years of individual	.022***	.017***	.010***
	(.002)	(.002)	(.003)
College degree (Yes=1)	-.008	.010	.025
	(-014)	(.013)	(.014)
Working experience in all	-	-	-
Working experience on current job	-	-	-
CPC Membership	.068***	.061***	.061***
	(.009)	(.009)	(.009)
Subsectors			
Dummy: Government agency, institution (Yes=1)			
Dummy: Market I, (Yes=1)		-.012	-.096**
		(.008)	(.031)
Dummy: Market II, (Yes=1)		.155***	.002
		(.040)	(.150)
Dummy: Market III, (Yes=1)		-.047	-.389***
		(.033)	(.105)
Dummy: Market IV, (Yes=1)		.119**	-.438***
		(.045)	(.121)
*Interaction Subsectors*Schooling Years*			
Schooling Years*Dummy: Government agency, institution (Yes=1)			
Schooling Years*Dummy: Market I, (Yes=1)			.007**
			(.003)
Schooling Years*Dummy: Market II, (Yes=1)			.014
			(.014)
Schooling Years*Dummy: Market III, (Yes=1)			.035**
			(.011)
Schooling Years*Dummy: Market IV, (Yes=1)			.067***
			(.014)
Constant	5.714***	5.852***	5.930***
	(.045)	(.044)	(.050)
R^2	.202	.222	.223
s.e.e.	.445	.421	.421
Standardized Coefficients			
Demographic Characteristics			
Age	1.520***	1.474***	1.480***
Age^2	-1.191***	-1.113***	-1.118***
Gender	.121***	.119***	.118***
Human Capital			
Schooling years of individual	.130***	.106***	.061***
College degree (Yes=1)	-.005	.007	.017

Continued

Working experience in all	-	-	-
Working experience on current job	-	-	-
CPC Membership	.058***	.054***	.054***
Subsectors			
Dummy: Government agency, institution (Yes=1)			
Dummy: Market I, (Yes=1)		-.012	-.089**
Dummy: Market II, (Yes=1)		.026***	.000
Dummy: Market III, (Yes=1)		-.010	-.079**
Dummy: Market IV, (Yes=1)		.018**	-.066***
*Interaction Subsectors*Schooling Years*			
Schooling Years*Dummy: Government agency, institution (Yes=1)			
Schooling Years*Dummy: Market I, (Yes=1)			.079**
Schooling Years*Dummy: Market II, (Yes=1)			.025
Schooling Years*Dummy: Market III, (Yes=1)			.071**
Schooling Years*Dummy: Market IV, (Yes=1)			.087***
N	17,565	17,345	17,345

Significance level at <.001***, <.01**, and <.05*.

Table 2.7b *Regression results: Determinants of Individual Yearly Income 1995*

Variables	**Model 1**	**Model 2**	**Model 3**
Unstandardized Coefficients			
Demographic Characteristics			
Age	.060***	.064***	.064***
	(.004)	(.004)	(.004)
Age^2	-.001***	-.001***	-.001***
	(.000)	(.000)	(.000)
Gender	.113***	.114***	.114***
	(.011)	(.011)	(.011)
Human Capital			
Schooling years of individual	.033***	.030***	.019***
	(.002)	(.002)	(.004)
College degree (Yes=1)	.104***	.085***	.093***
	(.016)	(.017)	(.017)
Working experience in all	.023***	.023***	.023***
	(.001)	(.001)	(.001)
Working experience on current job	-.002*	.000	.000
	(.001)	(.001)	(.001)
CPC Membership	.097***	.084***	.082***
	(.014)	(.014)	(.014)
Subsectors			
Dummy: Government agency, institution (Yes=1)			
Dummy: Market I, (Yes=1)		-.122***	-.311***
		(.013)	(.051)
Dummy: Market II, (Yes=1)		.351***	.234
		(.043)	(.169)
Dummy: Market III, (Yes=1)		.045	.236
		(.051)	(.196)
Dummy: Market IV, (Yes=1)		.117	-.305
		(.079)	(.259)
*Interaction Subsectors*Schooling Years*			
Schooling Years*Dummy: Government agency, institution (Yes=1)			
Schooling Years*Dummy: Market I, (Yes=1)			.016***
			(.004)
Schooling Years*Dummy: Market II, (Yes=1)			.010
			(.015)
Schooling Years*Dummy: Market III, (Yes=1)			-.026
			(.021)
Schooling Years*Dummy: Market IV, (Yes=1)			.040
			(.025)
Constant	6.619***	6.656***	6.791***
	(.087)	(.089)	(.095)
R^2	.213	.227	.229
s.e.e.	.572	.566	.565
Standardized Coefficients			
Demographic Characteristics			
Age	.879***	.932***	.934***
Age^2	-.854***	-.914***	-.914***
Gender	.088***	.089***	.089***
Human Capital			

Continued

Schooling years of individual	.151***	.138***	.085***
College degree (Yes=1)	.068***	.056***	.061***
Working experience in all	.338***	.339***	.337***
Working experience on current job	-.030*	-.006	-.004
CPC Membership	.065***	.056***	.055***
Subsectors			
Dummy: Government agency, institution (Yes=1)			
Dummy: Market I, (Yes=1)		-.090***	-.228***
Dummy: Market II, (Yes=1)		.069***	.046
Dummy: Market III, (Yes=1)		.008	.040
Dummy: Market IV, (Yes=1)		.012	-.032
*Interaction Subsectors*Schooling Years*			
Schooling Years*Dummy: Government agency, institution (Yes=1)			
Schooling Years*Dummy: Market I, (Yes=1)			.136***
Schooling Years*Dummy: Market II, (Yes=1)			.021
Schooling Years*Dummy: Market III, (Yes=1)			-.040
Schooling Years*Dummy: Market IV, (Yes=1)			-.044
N	11,536	11,229	11,229

Significance level at <.001***, <.01**, and <.05*.

Table 2.7c *Regression results: Determinants of Individual Yearly Income 2002*

Variables	**Model 1**	**Model 2**	**Model 3**
Unstandardized Coefficients			
Demographic Characteristics			
Age	.040***	.039***	.040***
	(.005)	(.005)	(.005)
Age^2	.000***	.000***	.000***
	(.000)	(.000)	(.000)
Gender	.142***	.150***	.151***
	(.013)	(.013)	(.013)
Human Capital			
Schooling years of individual	.052***	.047***	.036***
	(.003)	(.003)	(.004)
College degree (Yes=1)	.190***	.143***	.144***
	(.018)	(.018)	(.018)
Working experience in all	.012***	.012***	.012***
	(.001)	(.001)	(.001)
Working experience on current job	.007***	.007***	.007***
	(.001)	(.001)	(.001)
CPC Membership	.102***	.079***	.079***
	(.015)	(.015)	(.015)
Subsectors			
Dummy: Government agency, institution (Yes=1)			
Dummy: Market I, (Yes=1)		-.205***	-.410***
		(.015)	(.062)
Dummy: Market II, (Yes=1)		-.121***	-.496***
		(.020)	(.079)
Dummy: Market III, (Yes=1)		-.268***	-.328***
		(.025)	(.089)
Dummy: Market IV, (Yes=1)		-.328***	-.218
		(.030)	(.125)
*Interaction Subsectors*Schooling Years*			
Schooling Years*Dummy: Government agency, institution (Yes=1)			
Schooling Years*Dummy: Market I, (Yes=1)			.017**
			(.005)
Schooling Years*Dummy: Market II, (Yes=1)			.032***
			(.007)
Schooling Years*Dummy: Market III, (Yes=1)			.003
			(.008)
Schooling Years*Dummy: Market IV, (Yes=1)			-.009
			(.011)
Constant	7.290***	7.539***	7.662***
	(.112)	(.113)	(.118)
R^2	.207	.226	.228
s.e.e.	.604	.596	.595
Standardized Coefficients			
Demographic Characteristics			
Age	.523***	.513***	.527***
Age^2	-.505***	-.502***	-.521***
Gender	.104***	.110***	.111***
Human Capital			

Continued

College degree (Yes=1)	.132***	.099***	.100***
Schooling years of individual	.231***	.208***	.158***
Working experience in all	.173***	.171***	.175***
Working experience on current job	.101***	.099***	.102***
CPC Membership	.068***	.052***	.053***
Subsectors			
Dummy: Government agency, institution (Yes=1)			
Dummy: Market I, (Yes=1)		-.149***	-.298***
Dummy: Market II, (Yes=1)		-.063***	-.257***
Dummy: Market III, (Yes=1)		-.113***	-.138***
Dummy: Market IV, (Yes=1)		-.089***	-.066***
*Interaction Subsectors*Schooling Years*			
Schooling Years*Dummy: Government agency, institution (Yes=1)			
Schooling Years*Dummy: Market I, (Yes=1)			.141**
Schooling Years*Dummy: Market II, (Yes=1)			.192***
Schooling Years*Dummy: Market III, (Yes=1)			.011
Schooling Years*Dummy: Market IV, (Yes=1)			-.030
N	10,009	9,906	9,906

Significance level at <.001***, <.01**, and <.05*.

2.6 Conclusions and Discussion

This chapter presents a general picture of nationwide changes of returns to education over time using cross-sectional data of the CHIP 1988, 1995, and 2002 survey, a nearly national representative sample of workers in urban China. This three-year-wave data set, covering 14 years of China's reform period, is compatible with my research concerns on wage-earning integration as it is differentiated from the redistributive period. The first part of this chapter documents the origin and critics of market transition theory which, different from the human capital scheme that directly links an individual's earnings with schooling or other equivalent variables, focuses on the role of human capital and political capital in the process of social transition. By identifying an individual's embeddedness in his socio-economic contextual settings, I conducted this study following Walder (1995; 1996) and Zhou's (2000a; 2000b) institutional approach by highlighting a sectoral classification. Making corrections for selectivity in in-kind wage and using the yearly wage rates, I find that across all individuals in my sample, the mean return to schooling increases over time with the market moving forward, and the rate increase to 5.3% in 2002. The notion of increasing returns is also consistent with that reported in Zhang *et al* (2002), who showed that returns to education increased over the reform period and claimed that the improvement is likely due to improving labour market. This finding is consistent with the results from other researcher, for example, Bian and Logan (1996) found that education has become more important in the reform period.

More importantly, my results expand upon the differentiation among the variations of returns in different economic sub-sectors following earlier studies by addressing contextual settings or institutions which an individual is embedded in. With the expansion of marketization, economic transactions rest mainly on price principle relative to redistributive command. Correspondingly, individual wage earning returns to education increase consistently in market sectors. Nevertheless, the sub-sector of governmental agencies/institutions, which has more access to public resources, attracts a large percentage of workforce talent, although these recruited talents do not have a large impact on the distribution of public resources. Among the reasons for the attraction of the sub-sector of governmental agencies/institutions, public services provision by the government is the most significant one. Individuals in governmental agencies/institutions tend to be designated as an immediate beneficiary of better education, health care, housing, etc., although public services are often regarded as being without rivalry and non-excludable and accessible to all.

I further find evidence that methodology has played a crucial role in the variations of estimates of returns to education in previous studies[66]. When I categorised economic sub-sectors as state/non-state and public/non-public dimensions, the rates of return increase in other sub-sectors in addition to the governmental agencies/institutions. These findings suggest that further explicit categories or typologies of occupation and organisation will help to improve the understanding of returns to education in the reform period. The categories (five sub-sectors) in my study may also become ambiguous considering the differentials of each sub-sectors, for instance, the hierarchy ranks of governmental organization/institutions, profitability of enterprises. The wage returns of individual workers is also closely related to industrial sectors (e.g., some high-profit sectors such as petroleum, electric power), workplace size and so on.

Finally, these results strongly indicate that increasing access to education in urban areas would be a good policy instrument to increase urban incomes. Given the high returns to education that I found for individuals working in the majority of market sectors in addition to governmental agencies/institutions, China's government would do well to enliven and decentralize the economy, thereby encouraging booming development of non-state, private economies. Further, the Chinese government should continue to prioritize education as a consistent policy, especially since a larger labour force will work in urban areas due to China's urbanization.

[66] For example, based on individual labour market histories, Wu and Xie (2003) offered a typology of urban workers on a state-market division. They defined workers as being within four categories: stayers (of state sector), later entrants (into market sector), market losers, and early birds (in market sector). Yang (2005) classified the economic sectors into technology sector, public sector, foreign-joint ventures, market job search, and information infrastructure.

Chapter 3 Is Out-Migration Good for Rural Households?

Hundreds of thousands of rural labourers who after getting rid of the shackles of the land and agricultural work, left the countryside, and sought work in towns and cities in the post-reform period of China. The enormous number of rural-urban migrants provides an unusual opportunity to probe the differentials of income return and even the human capital return between rural-urban migrant workers and town/city natives.

The last three decades of China's transition from a state socialist redistributive economy to a market economy coincides with China's ascent with an admirable annual economic growth rate. Accompanying the Chinese economic miracle, the rural-urban migration has sustained a steady rate of growth. This phenomenon stimulated the research enthusiasm of social scholars. The contributions that have led to this economic phenomenon and its impact on rural-urban migration of human capital have attracted more and more attention. A widely accepted theory for the leading cause of China's ascent is that China has a great competitive advantage of cheap labour upon which China has developed an export-oriented economy (Lin, Cai and Li 1994). Giovanni Arrighi (2007) disagreed with this idea, rather he surmised the reason as China's enhancement of human capital as contributing to the overall relatively higher-quality labour force than other developing countries. Education was among the first of China's development of human capital.

A large volume of scholarship has studied the subject of education returns, and the findings have varied according to different data, methodologies, and the complexity of 'transition' which are interwoven with the transformation of institutions and economy. The 'rational economic person' was commonly used as the analytic unit of education returns with a premise that it is a single individual who makes decisions and participates in the labour market. Under this premise, the education returns function could be easily interpreted by human capital theory. But when it comes to the issue of rural-urban migrants in China, the human capital model should be revised based on the context of the country. Otherwise, the interpretation of the human capital model using 'rational economic person' as the analytic unit would not sufficiently consider the practical fact: the rural-urban migrant workers certainly know their inferior position in labour market competition with urban natives, moreover, they are well aware of the preferential treatment of non-native residents. Despite this situation, the number of rural-urban migrant workers in urban China has continually expanded. Undoubtedly, earnings from work in the towns and cities are the distinct impetus

for migrant workers to pursue the potential for higher incomes for both the individual and household level. China is currently marching into an industrialization period, but the participants in these economic changes are not solely 'rational economic persons' or industrial workers; it is the migrant workers, authentically, who contribute greatly to China's economic miracle.

The inherent reason of China's ascent is human capital development in term of education, health, and birth control (Li 2009). Regarding educational attainment, the Chinese government launched a literacy education program after the new founding of the PRC, resulting in China possessing a more literate labour force than other developing countries. Chinese government also made greater efforts in prioritising primary and secondary education with limited funds, but not higher education until the end of the 20th century, because both primary and secondary education provided wider coverage of the target benefited population, who have been closely linked with the labour-intensive and low-paid industries. China's national educational strategies have served well the demand associated with developed countries' industrial restructuring and relocation, so China has successfully attracted a huge number of direct foreign investments by virtue of its competitive labour advantage. Tens of thousands of migrant workers, with relatively higher educational backgrounds, flocked into towns and cities to engage in non-agricultural jobs. Stiglitz (2011) has ascribed the root of "phenomenal success" in a small group of countries which are mostly in Asia to the accumulation of knowledge. "The argument that improvements in knowledge are a primary source of growth is even more compelling for developing countries….and knowledge is different from an ordinary commodity. The accumulation of knowledge is inherently associated with externalities — knowledge spillovers. Knowledge itself is a public good. If the accumulation, absorption, adaptation, production, and transfer of knowledge are at the centre of successful development, then there is no presumption that markets, on their own, will lead to successful outcomes. Indeed there is a presumption that they will not." Stiglitz's insight is perfectly aligned with Lin's (2011) "new structuralist approach" perspective which emphasizes that governments should strive to shape the economy in a way that is consistent with its comparative advantage.

Finding routes for the development of rural China remains a key issue for researchers and policymakers alike. From a national macro-policy perspective, this is the prime time for the vast rural areas that deserve the equivalent rights for development rather than providing subsidies perennially for urban development for the long term. Or rather, the urban areas should support timely rural development. From a personal perspective, people who were

born in rural China have many hard choices which must be made when they want to experience treatment equal to urban people. Unfortunately, these choices are more difficult than they have thought because of China's long-established urban-rural dual system.

This chapter examines the labour adjustment for the last 30 years and the differentials of both income and education between rural and urban China. Although huge labour adjustments have occurred in China, rural people need a large shift to non-agricultural employment in order to reduce the income gap. The educational disparity between rural and urban people has already created unequal employment opportunities especially when large numbers of rural labourers seek non-agricultural employment in towns and cities.

The last 30 years have witnessed a significant rural-urban labour adjustment. The general trend is that rural and urban populations are approaching equivalence, but there are currently more rural residents nationwide in China. At the end of the year 2009, the rural population was 53.4% of the total population (NBS). In 2000, the proportion was 63.8%, and 73.6% in 1990. In 1978, the proportion of rural population was up to 82.1% according to the official data (NBS). The urban-rural population ratio in 1978 was 0.22:1; the ratio had jumped to 0.36:1, in 2000, and 0.57:1 and 0.87:1 at the end of 2009 (NBS). China's net population growth is still occurring in rural areas because of China's implementation of the family planning policy. But still, according to the official data, the rural population peaked in the mid-90s and since that time has been gradually decreasing.

However, the long-term implementation of the household registration (*hukou*) system has hindered rural-urban migration. The data also shows that from another perspective, a successful transfer from rural to urban areas is far less than the population of the industrial transfer from the agricultural sector. Based on the annual employment statistics separated into three industries, we can see that the primary industrial employment share was 70.5% in 1978; in 1990, the percentage had dropped to 60.1%. Since 2000, the adjustment has been much more rapid with a decline to 50.0% in 2000 and only 38.1% in 2009 (NBS) with a roughly 10% per decade decline. However, we should recognize that the decline in employment in primary industry is far more than the number showed by these statistics. Because the National Bureau of Statistics often collects data by household, millions of migrant workers in cities are engaged in non-agricultural industries, but are counted as employed in the primary industry as farmers.

Though the rural labour force has undergone a huge shift which is still continuing, if farmers in China are to share the full benefits of economic growth, there must be a much

larger shift of labour from the agricultural sector to non-agricultural. As can be seen from the official statistics (NBS, Table 3.1), although the per capita net income of rural households in the first decade of the 21st century has grown by about 1.5 times (in effect 156%), transfer and property income accounted for a small proportion. In 2009, transfer and property income first accounted for over 10% of total income. Similarly, in 2009, household operating income for the first time was less than half of the per capita net income of rural households. By dismissing the share of transfer and property income, we can get a rough estimate of the non-farm sources of income that are contributing to more than half of the increase in real income for rural people. Access to non-agricultural income is the main reason for increased income for rural people. As the leading American economist D. Gale Johnson (2002) already mentioned, "It is absolutely clear that the future prosperity of rural people does not rest primarily with agriculture but with finding more non-farm jobs for workers now engaged in farming as well as for the new entrants to the labour force. The history of the past two decades makes it very clear that the transfer of labour out of agriculture must be even more rapid than it has been if the large differentials between urban and rural per capita consumption and income are to be significantly reduced."

Table 3.1 *Annual Per-capita Net Incomes for Rural Families*

Year	Per Capita Net Income	Wage Income	Household Operating Income	Property Income	Transfer Income
2009	5,153.17	2,061.25	2,526.78 (49.03%)	167.20	397.95
2008	4,760.62	1,853.73	2,435.56 (51.16%)	148.08	323.24
2007	4,140.36	1,596.22	2,193.67 (52.98%)	128.22	222.25
2006	3,587	1,374.8	1,931 (53.83%)	100.5	180.8
2005	3,254.9	1,174.5	1,844.5 (56.67%)	88.5	147.4
2004	2,936.4	998.5	1,745.8 (59.45%)	76.6	115.5
2003	2,622.2	918.4	1,541.3 (58.78%)	65.8	96.8
2002	2,475.6	840.2	1,486.5 (60.05%)	50.7	98.2
2001	2,366.4	771.9	1,459.6 (61.68%)	47	87.9
2000	2,253.4	702.3	1,427.3 (63.34%)	45	78.8

Note: In the brackets are the percentages taking by Household Operating Income in total per Capita Net Income.
Source: NBS (various years)

3.1 Background of Rural-Urban Migration Emergence

Any meaningful analysis of China's rural-urban migration must begin by understanding the historical background and its relation to migration. Three de facto contexts should be illustrated before analysing this migration behaviour which are: the household responsibility system, township and village enterprises, and less restrictive policies toward population mobility control via the household registration system (*hukou*). In particular the institutional arrangements of population mobility policies are highly relevant for rural-urban

migration and even social stratification processes within societies. “The neglect of a consideration of history has been a feature of mobility research” (Bertaux and Thompson 1977; cited in Miller 2001: 313). Migration and social transformation in contemporary China has been largely shaped by these historical backgrounds institutional aspects.

The emergence and evolution of rural-urban migration in China is inherent within the institutional reforms, and has encouraged the reform of rural production relations, stimulated the birth of township and village enterprises (TVEs), promoted the household registration system reform. Rural-urban migration breaks through the geographical boundary of rural and urban, sectoral lines among economic industries, and administrative boundaries of labour markets. The growth of the labour market in China, to a very considerable extent, should be attributed to rural-urban migration. In return, the institutional reform, such as the introduction of market mechanisms, reallocates the labour resources according to supply-and-demand matching relations but not government-dictated policies.

China’s social structural transformation benefits from the impetus of rural-urban migration. The population ratio between urban and rural areas has experienced a major imbalance due to the long-term implemented planned economy, rural-urban segmentation and the national urban-biased industry strategies, and rural society was in a fairly closed society in the past. The physical freedom of migration helped toward changing the closed society from a traditional one to a modern one, from agricultural to industrial and from closed to opened.

3.1.1 *Household Responsibility System*

The agricultural policies of the newly founded People’s Republic of China (hereafter PRC) used collectivization of the peasantry as a strategy for reviving the war-torn economy. Collectivized agriculture was initially in line with China’s national conditions in safeguarding the outcome of land reforms which were implemented in 1952 and assisting the inferior productivity, and collectivization was very successful.[67] After land reforms, peasants were entitled to land use rights, however, due to the general scarcity of livestock and production tools, the peasants’ family was incapable of conducting the whole process of a family-run agricultural production independently. As advocated by the higher level central government, ‘mutual-aid groups’ (*hu zhu zu*) were introduced to create a cooperative

[67] Agricultural output increased continuously from 1952 to 1958, see Lin Justin Yifu. 1990. “Collectivization and China’s Agricultural Crisis in 1959-1961.” *Journal of Political Economy* 98(6): pp. 1228-1252.

production model among a few neighbouring households with their voluntary participation. Later, 'mutual-aid groups' (*hu zhu zu*) were pushed to a higher level from 'elementary agricultural cooperatives' (*chuji hezuoshe*) to 'higher-level cooperatives' (*gaoji hezuoshe*) with a wider scale of household participation. In 1955, 'cooperatives' evolved as a political campaign after Mao's speech of July 31, 1955 on the National Meeting of the Party Committee Secretary of Provinces and Municipalities (Han 2008:27). Mao said:

> "Throughout the Chinese countryside a new upsurge in the socialist mass movement is in sight. But some of our comrades are tottering along like a woman with bound feet….The tide of social reform in the countryside — in the shape of cooperation — has already been reached in some places. Soon it will sweep the whole country." (Vogel 2011: 440)

Some Beijing authorities were excessively optimistic about the 'cooperatives' movement with a vision of surpassing the United Kingdom and the United States in a short amount of time, and political pressure from the central government pushed 'cooperatives' to sweep the country. By November 1956, 96% of peasant households had joined 'higher-level cooperatives' (*gaoji hezuoshe*) (Han 2008: 27). The socialist upsurge changed the production relations in only four years from 'semi-socialist cooperation' (*ban shehui zhuyi hezuohua*) to 'entirely socialist cooperation' (*wanquan shehui zhuyi hezuohua*), and the transformation of the production relations went beyond the needs of productivity. Some peasants stepped forward to boycott by resigning from 'higher-level cooperatives', nevertheless, they had been suppressed by others who accused them of 'pursuing the capitalist road'. The ideological struggle, in that particular period, exceeded the laws of economics. In the process of implementing this radical plan, Mao Zedong launched the 'Anti-rightist movement'[68] to silence his political opponents among the Communist Party of China (CPC) and calm those reluctant peasant households. The final outcome from this mandatory implementation of 'higher-level cooperatives', as a utopian socialism, was the people's commune (*renmin gongshe*),[69] "which had been established in 1958 to mobilize peasants for large

[68] The term "Rightists" refers to those who appeared to favour capitalism and were against collectivization.

[69] The term "people's commune" first appeared in July 1958 in the article "A Totally New Society and a Totally New Man" carried in the party's theoretical journal, Hongqi (*Red flag*), by Chen Boda, a personal secretary of Mao Zedong. The first commune, Weixing People's Commune, was established in the same month in Henan province. By the end of September, 1958, 112 million household were organized into communes, and by the beginning of November, 120 million households were communized. See Lin Justin Yifu. 1990. "Collectivization and China's Agricultural Crisis in 1959-1961." *Journal of Political Economy* 98(6): 1228-1252.

public-works projects and large-scale collective farming" (Vogel 2011: 442). Since then, individual household ownership was entirely abolished and households all over China were forced into state-operated communes.

The significant characteristics of communes are, just as its literal meaning implies, an extreme degree of public ownership and egalitarianism. In the communes, the means of production were publicly owned and the means of subsistence were shared. Household or private-owned property was contributed to the commune, and even household cooking was banned and replaced by communal dining. The communes were "the highest of the three levels in the collective structure (*commune*, *brigade*, and *team*)", and "the communes had originally combined economic and political functions in a single organization."(Vogel 2011: 442) Agricultural activities were organized under the production team before its abolishment and the replacement of the household responsibility system (hereafter HRS). The production mission was assigned by level by the leaders of *communes*, *brigades* and *teams*. In this system, rural labourers were accredited with work points[70] for their daily workload. The income distribution at the end of a year was according to a peasant's work points accumulated during the year.

The commune was aimed at maximizing production and promoting industrialization in cities inspired by the slogan of 'surpass the UK and the USA', particularly the heavy industry. Peasants were bound on the collective production in rural areas, counter-productively, with low production efficiency. The commune, as a mandatory institutional arrangement, not only violated the production relations, but also conflicted with the peasants' will. The communal movement resulted in the profound catastrophe that occurred between 1959 and 1961 with a 30 million extra deaths.[71] The commune destroyed

[70] The "work points" was an evaluation system to record peasant worker's workload in a day. Generally, a peasant worker received fixed work points for a day's work regardless of the quality or quantity of his work. The difficulty of supervision and evaluation of a peasant's work is regarded as one of the main reasons of the collapse of the production team system. See more description on "work points" on Lin's papers. Lin Justin Yifu. 1988. "The Household Responsibility System in China's Agricultural Reform: A Theoretical and Empirical Study." *Economic Development and Cultural Change*, 36(3): 199-224; Lin Justin Yifu. 1990. "Collectivization and China's Agricultural Crisis in 1959-1961." *Journal of Political Economy* 98(6): 1228-1252. Among other controversial viewpoints, see, Dong Xiaoyuan and Greg Doe, 1993. "Monitoring Costs in Chinese Agricultural Teams." *Journal of Political Economy* 101(3): 539-553; Chang Gene and Guangsheng Wen, 1997. "Communal Dining and the Chinese Famine of 1958-61." *Economic Development and Cultural Change* 15: 1-15; Lin Justin Yifu and Dennis Yang, 2000. "Food Availability, Entitlement and the Chinese Famine of 1959-61." *Economic Journal* 110: 136-158.

[71] Lin uses a game theory hypothesis to explain the main cause of the catastrophe in 1959-61. He argues that, "because of the difficulty in supervising agricultural work, the success of an agricultural collective depends on a self-enforcing contract, in which each one promises to discipline oneself. A self-enforcing contract, however, can be sustained only in a repeated game. In the fall of 1958, the right to withdraw from a collective was

the traditions of the peasant economy in which independent peasant families had farmed their own small pockets of land, and lived a self-sufficient life for thousands years. In the commune, peasants who worked within production teams had low incentive to work hard because they foresaw a low pay from their hard work. The situation was significantly reformulated by the emergence of HRS.

After the 1959-61 agricultural crisis, the scale of the collectives was downsized, however, even at the Third Plenum of the 11th CPC Central Committee in 1978, collective agriculture was still firmly supported by the Beijing authorities; meanwhile, it was specifically forbidden for rural areas to contract production responsibility down to the household (*baochan daohu*).[72] The breakthrough came under the reform led by Wan Li in Anhui province.[73] A roll-out-gradualist reform began with the downsizing of agricultural units, then later, to contracting down the production responsibility to the household level. It took several years after de-collectivization to experience the widespread promotion of contracting down the production responsibility to the household. Until 1983, the system of contracting down the production responsibility to household was legalize by the No. 1 document.[74] At the end of the year 1983, contracting down the production responsibility to the household level covered 175 million households, 94.5% of the national total households. (Han 2008: 33)

HRS fundamentally liberated the production forces, promoted a rapid growth of agriculture and a betterment of agricultural products supply. Grain yield increases solved the subsistence (food and clothing) problem and drove the rural household income growth rate to 15.1% annually in 1978-84, which became the fastest ever increase in rural household income.(Han 2008: 34) The prosperity of the rural economy pushed forward the whole

deprived. The nature of the collectivization was thus changed from a repeated game to a one-time game. As a result, the self-enforcing contract could not be sustained and agricultural pro-ductivity collapsed." See more on: Lin Justin Yifu. 1990. Collectivization and China's Agricultural Crisis in 1959-1961, *Journal of Political Economy*, 98(6): pp. 1228-1252.

[72] The term "contracting production responsibility down to the household" (*baochan daohu*) was suggested by Du Runsheng, see Vogel, Ezra F. 2011. Deng Xiaoping and the Transformation of China. Cambridge and London: The Belknap Press of Harvard University Press. p.: 442.

[73] Wan Li's reform got quiet support from Deng Xiaoping and Chen Yun, both were the preeminent leaders then. Regardless the opposition by many higher conservative officials who labeled "Contracting down to the household" as "capitalism", Wan implemented his reform boldly. See more on the chapter "Wan Li and Rural Reform" in Vogel, Ezra F. 2011. Deng Xiaoping and the Transformation of China. Cambridge and London: The Belknap Press of Harvard University Press. pp.: 435-445.

[74] The No. 1 documents are those dealing with the issue on rural development, published in early January each year. The No. 1 document in 1983 was named "Some current issues on rural economic policies" (*dangqian nongcun jingji zhengce ruogan wenti*).

national economy via supply and demand. Some of the empirical research confirmed the effects of institutional change in rural China. Lin (1992) used province-level panel data to assess the contribution of de-collectivization. He argued that de-collectivization was found to improve total factor productivity and to account for about half (42%-46%) of the output growth during 1978-1984. Fan (1991) used an accounting approach to separate the relative contribution of increase in inputs, technological change, and institutional reform such as the introduction of HRS, and found that institutional change contributed 26.6% to production growth and greatly improved agricultural production efficiency. Huang and Rozelle (1996) also measured the relative importance of the role of technology versus that of institutional innovation in China's rural economy using data from China's 13 rice growing provinces in 1975-90. They identified technology adoption as the most important determinant of rice yield growth during 1978-84, accounting for nearly 40% of the change; while institutional reform accounted for 35 percent of the growth. The introduction of HRS also strengthened the former peasants' incentive toward agricultural production. McMillan, Whalley and Zhu (1989) estimate that the incentive effects of the change from the pre-1978 communal system to the post-1978 HRS resulted in a 32% increase in total factor productivity in agriculture. When interpreting the origins and dynamic of the Chinese ascent, Giovanni Arrighi (2007: 361) eulogized the HRS:

> "The key reform was the introduction in 1978-83 of the Household Responsibility System, which returned decision-making and control over agricultural surpluses from communes to rural households. In addition, in 1979 and again in 1983 agricultural procurement prices were increased substantially. As a result, farm productivity and returns to farm activity increased dramatically, strengthening the earlier tendency of commune and brigade enterprises to produce non-agricultural goods."

HRS stimulated a continuous increase in agricultural surplus. The enthusiasm of peasants spurred by decentralizing rural production and, peasant families, motivated them toward more industrious activities, fulfilled their contracted grain-production targets, and maintained a large amount of surplus. As agricultural productivity increased dramatically, rural families could release their young adults to work in rural industry, further strengthening the further reform.

3.1.2 *Township and Village Enterprises*

The township and village enterprises (hereafter TVEs) were an unanticipated achievement of rural reforms. After the abolishment of communes, township and village administrative organizations took over the political functions of communes, and those workshops and economic units previously affiliated with communes became independent "collective" enterprises. The dynamism of TVEs took Chinese leaders by surprise as Deng Xiaoping acknowledged:

> "In the rural reform our greatest success—and it is one we had by no means anticipated—has been the emergence of a large number of enterprises run by villages and townships. They were like a new force that just came into being spontaneously."(Vogel 2011: 445)

The TVEs experiment was not launched by China's central government; in fact just the opposite, it was a great creation of the masses of people. The rise of TVEs was not accidental, and a number of historical and socio-economic reasons for their long-lasting stability exist. Historically, TVEs germinated from a family's manual sideline production in the newly established PRC and later integrated into cooperative workshops with the process of agricultural collectivization, until finally, they became workshops and factories under communes or even brigades, and production teams. With the abolition of the communes after rural reform in early 1980s, commune workshops and factories became TVEs. In 1990, collective ownership of the TVEs was assigned to all local inhabitants of the town or village. TVEs emerged from a 30-year tortuous development of rural industry after establishment of the PRC. Socio-economically, TVEs have become a dual urban-rural segmentation institution in which the work division and collaboration between rural and urban in factors of productions, technological structure, and industrial distribution were fragmented. TVEs, not like most of the urban enterprises with public ownership, particularly the state-owned enterprises, produced goods without the instructive plan from government, but were market-orientated. TVEs had the autonomy to produce according to market demands and to expand the scale of production with more workers by relying on their collective ownership. The collective ownership enabled TVEs to be accepted ideologically by the conservatives among the CPC.

In addition to the reasons above, TVEs per se had many advantages. Firstly, the Chinese government adopted a Stalinist heavy-industry-oriented development strategy aimed to build up national power within a short period after WWII. This development strategy resulted in an extreme scarcity of light industrial products. TVEs took the opportunity to fill

the market void. Secondly, TVEs, unlike the state-owned enterprises which produced a given quota of goods according to the annual plan, were completely flexible in adapting to market conditions but not complying with the bureaucrats' instructions. Thirdly, the production costs of TVEs were much lower than state-owned enterprises. State-owned enterprises, leaving aside their functions such as production and management, were also expected to provide many social welfare programs like housing, health care, retirement, and schooling for all of their employees. In a certain sense, state-owned enterprises undertook high-cost functions as a mini-society. TVEs, on the contrary, "could draw on young labour and avoid the higher pay and extensive welfare payments that went to an older workforce."(Vogel 2011: 447) Fourthly, TVEs had superior incentive mechanism as compared to the state-owned enterprises in which workers were paid strictly based on their technical ranks[75] but not performance. Workers in TVEs had a great incentive to be more efficient in order to obtain a higher return from greater enterprises' profits. Furthermore, TVEs could get the support from the local government in bank credit, taxation, land use, and public infrastructure, and the local government, correspondingly, relied on TVEs for local economic development, particularly, for non-agricultural employment, encouraged the rural labour to 'leave the land without leaving the village'. Finally, the period of TVEs' emergence and growth in the 1980s was in time to take advantage of the country's decade-long investment boom. Those coastal provinces with flourishing TVEs development such as Guangdong, Fujian at first and later Zhejiang, Jiangsu, and Shandong, attracted investment and technology from Hong Kong, Taiwan, and overseas Chinese.[76] TVEs "became the main agency of the reallocation of agricultural surpluses to the undertaking of labour-intensive industrial activities capable of absorbing rural surplus labour productively." (Arrighi 2007: 362)

TVEs released a huge rural labour surplus and sparked an explosive growth of the rural labour force engaged in non-agricultural activities from 28.26 million in 1978 to 138.66 million in 2004, an almost quadruple increase. However, the increase was not smooth. The phase from 1978-83 witnessed a slow and steady growth of employment in TVEs after rural reforms, with an increase of only 4 million in employment during this phase. Since 1984, employment in TVEs experienced a spurt of dramatic growth of 100 million until it was

[75] Salary standards in the redistributive economy in socialist China were strictly implemented by a ranking system which had eight levels.

[76] See more, in Chapter 14: Experiments in Guangdong and Fujian 1979-84, in Vogel, Ezra F. 2011. Deng Xiaoping a1992nd the Transformation of China. Cambridge and London: The Belknap Press of Harvard University Pres1993s. pp.: 394-422.

suspended in 1989.[77] TVEs had grown by leaps and bounds in the prime phase in1984-88 with an annual increase of 10 million workers. In the 1990s, the capacity of employment absorption by the TVEs declined; nevertheless, TVEs included over 100 million workers for 20 years.

Table 3.2 *Employment in TVEs*

Year	Total (million)	Annual growth (number of million)	Annual growth rate %
1978	28.266		
1979	29.093	.828	2.93
1980	29.997	.903	3.10
1981	29.696	-.301	-1.00
1982	31.129	1.434	4.83
1983	32.346	1.217	3.91
1984	52.081	19.735	61.01
1985	69.790	17.709	34.00
1986	79.371	9.581	13.73
1987	88.052	8.680	10.94
1988	95.455	7.403	8.41
1989	93.668	-1.787	-1.87
1990	92.6475	-1.020	-1.09
1991	96.091	3.444	3.72
1992	106.246	10.155	10.57
1993	123.453	17.207	16.20
1994	120.175	-3.278	-2.66
1995	128.621	8.446	7.03
1996	135.083	6.462	5.02
1997	91.583	-43.500	-32.20
1998	125.366	33.783	36.89
1999	127.041	1.675	1.34
2000	128.196	1.155	0.91
2001	130.856	2.660	2.08
2002	132.877	2.021	1.54
2003	135.729	2.852	2.15
2004	138.662	2.932	2.16

Data: NBS: China Labour Statistical Yearbook 2005

The vigorous development of TVEs attracted millions of farmers out of farming to work in local TVEs, and the greatest labour mobility in the 1980s was to 'leave the land without leaving the village (*li tu bu li xiang*)'. Indeed, the disequilibrium development of TVEs among different regions resulted in massive population redistribution. A shrinking capacity of employment in TVEs from the late 1990s contradicted with the practical reality of an annual increase of 10 million in the incoming labour force; therefore, the outlet for the surplus rural labour was out-migration into town and cities intra-provincially and inter-provincially. The coastal provinces with more full-fledged TVEs development became

[77] The crackdown on June 4, 1989, on student protestors in Tiananmen Square resulted in sanctions from Western politicians and cold reaction of the foreign investors.

attractive destination for rural out-migrants. The less restrictive policies of population mobility control made out-migration possible.

3.1.3 *Less Restrictive Policies toward Population Mobility Control*

The household registration system (*hukou*, hereafter) was established in 1955 and promulgated in 1958 to restrict people's freedom of migration between rural and urban China.[78] Under the *hukou* system, households were required to register with the local public security agency of their original residence, and individuals were broadly categorised into a dichotomy as 'agricultural' and 'non-agricultural'. The *hukou* system has two classifications: one is the place of registration (*hukou suozaidi*), based on one's residential location; the other is the type of registration (*hukou leibie*), generally referred to as 'agricultural' and 'non-agricultural' *hukou* or 'rural' and 'urban' *hukou*. It is the latter that has created a pronounced distinction in socioeconomic entitlements among Chinese citizens and that has significantly shaped the order of social stratification in the country, although one's place of registration also affects one's opportunities in life to some extent. (Wu and Treiman 2004) Transforming one's *hukou* status from rural to urban was severely restricted after 1958. The *hukou* system was thought of as an "invisible wall" in a rural-urban "apartheid" segmentation. (Alexander and Chan 2004; Luard 2005; Chan 1994)

The *hukou* system was not only a population management instrument, but a social resource allocation mechanism by which communist government offered all kinds of social welfares, like housing, schooling, health insurance, to urban residents with 'non-agricultural' *hukou*. By contrast, rural residents with 'agricultural' *hukou* had to rely on themselves to achieve public services. The *hukou* system enhanced the urban welfare state development with a sharp differentiation of rights and privileges and extremely stringent conditions for converting from rural to urban status. Moreover, urban-biased economic policies deprived rural China of equal opportunities for development to meet the priority demands for urban development through shifting the surplus value created by the rural sector to urban.[79]

Before rural reforms, an individual peasant was bound to the land under the commune system, and peasant labourers had to participate in agricultural production to earn

[78] On 9th January, 1958, the "Household Registration Ordinance of the People's Republic of China" (*zhonghua renmin gongheguo hukou dengji tiaoli*) was issued and implemented. This ordinance, in fact, violated the subclause on free migration in the 1954 Constitution. In 1975, the Constitution formally removed the regulations on freedom of migration.

[79] An obvious example is the agricultural-industrial price scissors.

their work points and to receive income distribution at the end of the year according to the work points accumulated during the year. The food rations for peasant households were only allocated within the commune. However, on the urban side, before urban economic reform was in full swing in the 1980s, the state-owned economy and collective dominated the public sector, and the workplace units (*danwei*, hereafter) of the public sector safeguarded the employees' livelihood and social welfare. *Danwei* acted as the principal administrative units for most urban residents through providing most social services. (Bian 1994; Walder 1986; Wu 2002; Wu and Treiman 2004) Therefore, any out-migrant would risk losing food rations in his rural origin, and simultaneously, it was unpractical to find a way to survive in cities before the labour market emerged,[80] because employment quotas in all urban work units were tightly controlled by the government's labour administration. (Walder 1986) The rural-urban segmentation controlled on both sides virtually eliminated unauthorized rural-to-urban migration in the pre-reform era.

Along with the rise of HRS and TVEs, the population control policies were positively reformed in the 1980s. First, the government allowed and then encouraged rural labour to work in TVEs in order to 'leaving the land without leaving the village'. Later in 1983, the government removed some of the institutional barriers to spatial mobility by permitting rural residents to engage in long-distance transport and marketing to seek outlets for their products (Cai, Park and Zhao 2004; Jonathan 2002). Since that time, a large number of rural labourers have 'unofficially' migrated into cities because they were permitted to change their residence without changing their *hukou* status, thereby becoming a 'floating population'. In 1984, the population mobility policy was further relaxed by the central government by issuing an ordinance that allowed farmers to get their non-agricultural *hukou* in towns and cities by bringing their own foods rations.[81] Then in the last three decades, China's government has been instituting a variety of reforms to derestrict population mobility. In 1985, the transfer from agricultural *hukou* to non-agricultural one (*nong zhuan fei*) was permitted by the Public Security Agenda,[82] and in the same year, the resident identification card was introduced. In

[80] Under the planned economy for many years, China had no labour market. See also Knight John and Lina Song, 2005. *Towards a Labour Market in China*, Oxford: Oxford University Press.

[81] In October 1984, the "Ordinance on *hukou* issues of Farmers Who Settled in Towns" (*guanyu nongmin jinru jizhen luohu wenti de tongzhi*) was released by State Council of China allowing farmers who mainly worked in TVEs to get their local non-agricultural *hukou*.

[82] In July of 1985, the Ministry of Public Security issued the "Temporary Ordinance on the Management of Urban Residents" (*guanyu chengzhen renkou guanli de zanxing guiding*). This ordinance formulated a tiny number (about 1 in every 5000) of residents with agricultural *hukou* who can transfer to non-agricultural *hukou* each year.

the late 1980s, the local governments of many small cities began to sell urban *hukou* to non-local citizens with a costly payment (Fan 2011: 42). Then in the mid-1990s, the local governments of some big cities (e.g., Shanghai, Guangzhou, and Shenzhen) began to sell the 'blue stamp' *hukou* to stimulate local economic development through attracting more investment (especially, real estates), and endow the holders of the 'blue stamp' *hukou* the same treatment regarding social welfares such as education, health, insurance .

HRS and TVEs jointly promoted the relaxation of rural-urban population control policies even though the latter emerged simultaneously with the former two. Firstly, with the abolishment of the commune system, the introduction of the HRS sparked a higher efficiency of household agricultural production, and the surplus rural labourers could leave the agricultural land to work in TVEs or other industrial and service sectors. Secondly, TVEs released the rural workers by overcoming the ideological battle. The state government acknowledged the collective ownership of TVEs and allowed farmers to work for TVEs. Therefore, the initial mobility, known as 'leave the land without leaving the village', was at first, tacitly approved and later encouraged by the state government. In June of 1997, the State Council authorized the Ministry of Public Security to release an ordinance on *hukou* policy reform in small towns.[83] This ordinance specified the permission needed to apply for local permanent *hukou* in towns and small cities if the perspective rural people who worked or ran businesses in towns and cities, or, were employed in public institutions and organizations or enterprises, or, owned their housing, could apply for an urban permanent *hukou*. A year later, the permission was further given to people who had legal and settled housing, a stable job, or a constant life allowance. The progression to migration freedom in the new century went even further. In 2001, the quota of applicants into the local urban *hukou* was implemented without planned limitations, and in 2003, the State Council of China issued the 'Notification about Management and Service for Rural Migrants to Cities' (Chan and Buckingham 2008), further relaxing the restriction of migrants to participate in the labour market. With the continuous progress of urbanization, the extending citizenship to the transferred agricultural labourers became a vital mission of the target towns and cities. Accelerating the reform of the household registration system (*hukou* system) became a heated topic of discussion of both policy makers and the public masses. The relaxation of the

[83] "Ordinance on the pilot reform on *hukou* system in towns and small cities and rural *hukou* system betterment" (*xiaochengzhen huji guanli zhidu gaige shidian fangan he guanyu wanshan nongcun huji guanli zhidu de yijian*) entitled some qualified perspective non-local rural people to apply for local permanent residential *hukou* in towns and small cities.

requirements to settle down and have local urban *hukou* in towns and small cities was advocated by the state government.[84]

The *hukou* system has been widely criticized as the chief culprit in hindering freedom of mobility and rural-urban segmentation, and "it surprisingly remains intact three decades after the reform."(Fan 2011: 31) Nevertheless, the initial function of social welfare entitlement segregation has been weakened, meanwhile, the function of modern population management becomes more and more prominent and is accompanied by the controversy of whether the *hukou* system should be abolished (Chan and Buckingham 2008). The freedom of migration, after the long journey from the planned economic period to the market economic period, has experienced a tremendous improvement since the *hukou* system's "function of resource allocation and subsidization to the urbanities has now been reduces even replaced by the advancing market forces." (Wang 2005: 186)

3.2 Theoretical Background

The household, rather than the individuated hired labourer, has been the fundamental economic unit in the agricultural economy, and it is still true today (Huang, 2012). Reviewing the economic trajectory from the natural economies in the many centuries before the Ming and Qing dynasties[85], to capitalism germination, rural industry, modern manufacture industry, there is an indication that the household, as a basic productive unit, has, in fact, long been competing against large-scale production based on hired labour. The great persistence of its household economy is the fundamental Chinese reality, from where one can grasp an understanding of the past and future China which is different from the West.

3.2.1 *Peasant Household Farming: A Rationality*

After three decades of rural reforms and marketization, the peasant economy, still dominates agricultural production. As the main body of agricultural production, the small

[84] In the "No. 1 Document" (Some Viewpoints on Accelerating Modern Agriculture, and Further Enhance the Vitality of Rural Development, *guanyu jiakuai fazhan xiandai nongye, jinyibu zengqiang nongcun fazhan huoli de ruogan yijian*)on agricultural policy issued on 31st, December 2012 by the central government of China advocated the practicable relaxation on *hukou* settlement in towns and small cities. The previous requirements for a migrant worker to obtain an urban *hukou* are a stable job and at least two years of residence in towns and small cities.

[85] From mid fifteenth century in the Ming dynasty to the Opium War in the nineteenth century in the Qing dynasty, China was an independent feudal country, and the emergence and development of an internal commodity economy had bred the seeds of capitalism. However, capitalism grew very slowly and existed sparsely, unlike the situation in Western Europe with a vision of developing the handicraft and manufacture industries.

family farms, rather than large-scaled and mechanized farms based on hired labour, feed the large population of Chinese. These small family farms, usually have only a limited amount of arable land, i.e., a reducing arable land per capita. The current setup of small-scaled peasant production can be described as a peasant economy resting on the "over one *mu*[86] per capita, below ten *mu* per family" production scale (He, 2012), which is far from the typical Western large-scale farming. I would state briefly and reluctantly that the traditional western-oriented economics methodology is inappropriate, even misleading. In order to understand the true reality, we need a new national perspective. The methodology used throughout this dissertation is based on reality-based empirical facts over mere theory, and the premise must be as empirical as possible, and not based on opinion or projection. King (1911) used the term, "permanent agriculture", to conceptualize China's peasant agricultural. Permanent agriculture, in King's view, distinct from American large farms, was an efficient and frugal utilization of all kinds of agricultural resources except labour input to maintain a dense population. Massive labour inputs, intensive use of organic fertilizer, and multiple cropping led to considerable area yields to feed the large population. The greatest factor which characterizes, dominates, and determines the agricultural operations was intensive labour used on limited cultivated land. Because of the particular national resources endowment, Chinese farmers used intensive labour forces to make up for the insufficiency of arable lands, so as to feed the large population. Population pressures depressed farm incomes below subsistence levels, so peasant farmers were forced to work also as wage labourers, for pay which was below subsistence levels. The contradiction between the shortage of natural resources and a large population, directly contributed to Chinese farmers exhibiting the behaviours of extreme frugality, restraint, and diligence, and served as the impetus for China's traditional agricultural production modes of resource conservation, cyclic utilization, and intensive cultivation. Despite China's the huge population, labour is still the most critical element in Chinese traditional agricultural production.

The peasant families reallocated the increased labour rationally using an intra-household mechanism of labour combination and investment. If a family has more male members, the family could expect a relatively low-risk and stable income from farming in the future; if a family has more female members, the family would anticipate complementary income from sideline and handicraft industries, which are more commercialized and monetized. The peasant families' rationality internalised external risks

[86] *mu*, a unit of area , approximately equals to 0.0667 hectares.

within households through the mechanism of labour allocation based on the combination of intensive cultivation and agricultural-sideline. This mechanism can partly explain the reason why the surplus labour from peasant households would work in addition to agriculture for low wages. Agricultural farming absorbed the bulk of the workforce, and the surplus labourers were largely absorbed by various rural, internal small sideline and handicraft industries. Even if the rural surplus labourers exceeded the absorptive capability of rural non-farm industries, the rural labourers would swarm into all sectors of society in the towns and cities. When encountering economic downturns, the surplus labourers would backflow to the rural and agricultural sector, exacerbating the tension between resources and population within peasant families, but relieving the stress on the capacity of absorbing labourers for the urban economy. When the economy is operating in a favourable climate, the surplus labourers flow out again. The peasant families and rural sector in China have functioned as a 'reservoir' in labour force allocation providing a cheap labour force continuously for the smoothly running economy and bearing the burdens of an economic slowdown. The fundamental rationale behind the 'reservoir' effect was agricultural productivity, which guarantees the peasant families the opportunity to advance and retreat freely. The allocation of the labour force within peasant families was conducive to the storage capacity of the labour force 'reservoir'. The relatively abundant population, compared to other resources, had generated and sustained the labour intensive agricultural production mode. The contradiction between the limited and decreasing arable lands and growing population was the implicit drive of the peasant families' rationality.

The *Times* magazine honoured and named Chinese migrant workers, who left behind families and homes behind to migrate to towns and cities and took on largely manual work with the country's lowest salaries, as Person of the Year in 2009.[87] The magazine described them as "an increasingly influential group in one of the world's most powerful economies." Chinese migrant workers are an important part of the economic miracle in recent years. China experienced an 8% annual economic growth rate for the past decade and remains the world's fastest-growing major economy. The millions of migrant workers deserve the credit for China's booming economy. The important role of migrant workers in the Chinese economy, however, accentuates the fact that China still relies on low-technology manufacturing in which migrant workers come in to support its economic development.

[87] *Time* magazine named Chinese migrant workers as runners-up to Ben Bernanke (the US Federal Reserve chairman) in 2009 Person of the Year awards.

The peasant familial rationality contributed to the long-term stability and prosperity of the agricultural society. After the founding of the PRC, peasant familial rationality, embedded in the rural-urban dual system, has advanced China as one of the fastest growing and most stable countries in the world. It is an undeniable fact that China becomes the world's second largest economy after the United States precisely because of its background of using the rural-urban dual system. There is no clear evidence to support the counterfactual hypothesis that China's economy could advance more without the rural-urban dual system. The Chinese government is currently integrating the overall development of the urban-rural system based on institutional reforms, but not on negating or discontinuing the use of the rural-urban dual system.

Even today, the small-scale peasant economy is generally regarded as a symbol of China's regression, and those who support regressive ideas are often labelled as having a peasant consciousness. Ideas such as this, if not completely incorrect, are at least partially imprecise. The small-scale peasant economy is a spontaneous response to China's long-term, man-land relationship stress: the seemingly backward production relationship generates the persistence of agriculture and China's ascent in the globalization period. China, different from other developing countries, has not developed urban slums in the process of large-scale industrialization. The reason for this is that the peasant economy, which protects peasants when they are not able to maintain living in cities, offers the alternative of returning to farming.

3.2.2 *Persistence of Household: How Household Acts Within the Context of China*

The peasant familial rationality, along with the rural-urban dual system, are the starting points of the analyses of China's rural-urban migration. The maximization of rural household economic benefit, rather than individual economic benefit, is the starting logical origin of the migration behaviour. Therefore, this paradox would be sure to arise when using human capital theory whose analytic unit is the individual 'rational' economic person to interpret Chinese peasant familial rationality. The family household rather than the individual constitutes the main body of economic behaviour, and the household human capital structure rather than individual human capital should become the analytic model, because it is rational peasant households which have made critical contributions to China's ascent and they correspond with the 'permanent agriculture' under dual system. The indomitable 'permanent agriculture' supports the peasant family be able to switch seamlessly between farming and sideline and handicraft industries.

Many factors related to both the individual and the family, such as wages, security, and opportunities, influence migration decisions. Additionally, socio-political entity and economic structures also play a significant role. Migration is often a strategy of risk mitigation for rural households, and the migration of an individual may represent a family's response to community conditions. Thus, an approach analysing the family as a primary unit for migration decisions can enhance the understanding of the peasant familial rationality.

A widely accepted viewpoint on migrant's motivation and behaviour logic is that migrants in different time periods have their unique characteristics, so there is no universal framework to explain migrants' motivation and behaviour logic in different time periods. Deng (2008) constructed a "motive-behaviour" analysis framework based on three cohorts, 1980s, 1990s, and post-2000. The first cohort migrants were the fore-runners who were released from the land after the HRS, and their motivation was for basic survival with what Deng called "logic of hunger"; the second cohort were migrants who were committed to maximizing their monetary income in order to relieve peasant family-household monetary stress. Deng also points out that maximization of monetary income rather than maximization of profit was the motivation because the latter cannot solve either the immediate problem of monetary pressure or ease a family's payment issues in a timely manner. Deng terms this as "monetary logic"; the third cohort migrants were much younger and well-educated, often known as the "new generation of migrant workers",[88] which has no biological connection with previous migrant workers. In Deng's viewpoint, the "new generation of migrant workers" differentiated themselves from the first and second cohort by out-migrating voluntarily rather than from the family-household economic press, but for individual interest rather than family-households. Their primary motivation was personal value realization by settling down in cities to maximize their own interests, and Deng referred to this as "logic of interests". Deng goes further to conclude that the third cohort migrants' decision was driven by individual interests including economic interest and social status, and the family-household was no longer the unit-of-analysis. In other words, individual action has replaced family-household strategy as the logic of migration behaviour for the "new generation of migrant workers". Deng is asserted that the primary motivation of the third cohort is strongly desires to advance beyond peasant status. Deng's claim has cast doubt

[88] The term "new generation of migrant worker (*xinshengdai nongmingong*)" was officially used in a key document issued in 2010 by the State Council for the first time.

again over China's agricultural security and rural development prospects as earlier stated as the critical problem of "who will feed China?"

I cannot help wondering what will be the motivation and logic of the coming fourth and fifth cohort migrants in the light of Deng's inference. Upon Deng's statement, I want to investigate whether familial rationality lasting for hundreds years will come to a grinding halt within a decade after the arrival of the "new generation of migrant workers". Who wins, after all, is the core of the motivation and logic of rural-urban migration. The individual, in Deng's viewpoint, is the orientation of the third cohort migrants' decision-making; the family-household, nevertheless, remains dominant in migration decision-making. The rural-urban migrant in contemporary China is, first of all, someone who to some degree contributes directly to household income; his production decisions were accordingly shaped partly in consideration of household needs. In this respect, he is quite different from his counterpart urban residents, "for whom the activities of production and consumption, of workplace and home, are generally distinct and separate." (Huang 1985: 3) A rural-urban migrant, although something of a single labourer, is inextricably linked with his home family and send remittances back to them. Secondly, he also bears the family role of caring for elders and children, especially if he is the 'sandwich generation' in his family. The following attendant problem in some rural areas is the emergence of the empty-nest elderly and left-behind children.[89] I remain cautious on referring to this sad scene within economically depressed rural areas. I use the phrase 'some rural areas' rather than 'rural areas' or 'all rural areas' because I believe that the current agricultural labour force is still of a prime-working age, otherwise, the difficult part of "who will feed China" problem will re-emerge (as I stated in the opening chapter). Thirdly, he will probably discontinue farming but cannot disassociate himself from his family and rural community because he still has a rural *hukou* and contracted land which he could leave to family members or rent to others. He himself

[89] With more and more young farmers who are usually from the "sandwich generation" rush into cities, in some rural areas, special groups of minorities emerged, such as elders and children, and in some cases, also women. In China, some anxiety-ridden scholars and government officials summarized current rural population composition with an appropriate title, namely "386160 troops ", 38 (8th of March, Women day) represents women, 61(Chinese children day) represents children, and 60 (aged 60 or above) represents elders. Most rural-urban migrants choose not to bring their children to cities for education, because urban local schools are supposed to focus on serving registered local residents. Even some children who have been schooled in cities for some years, were not allowed to take entrance up-grading exams, like exams from junior high school to senior high school and university entrance exam. The local urban government obligates the education entrance quotas to native children. Therefore, for a migrant family, even though the adult lived and worked in the city for years and their children were educated there, they are not regarded as native, and of course they cannot share the public resources. The university entrance examination scheme reform is obviously on the agenda, but there have been no significant reforms so far. With scarce education resources, educational equality will become a long-term problem.

works outside to sustain a livelihood, while supplementing the family income. The ties between the migrant and his family fade only if he is in a nuclear family, then he can more easily make a migration decision. Although there are, of course, individual differences among migrants, the ultimate anticipation for out-migration is based on either subsistence need or development need. Familial rationality makes an effort to achieve a win-win outcome for both the out-migrated individual and the other family members who stay-behind.

The basic theoretical default in Western economics is the 'economic man' or 'rational economic man' which can be dated back to Adam Smith (1723-1790) and John Stuart Mill (1806-1873). In economic terms, the 'economic man' was logically perceived as an individual who maximize his own benefit. But this theoretical default is not an accurate description of reality, instead, this is only an abstract assumption which is an indispensable methodology in economics. The view of the 'economic man' has become so influential that most research have been directed either to identifying changes along a "uni-linear modernist assumptions" (Huang 2011) or to simply equate the current reality with the presumed starting point of research. Following this error in logic, researchers have fallen into this chain of reasoning trap: since the migrant worker is an 'economic man', he is merited to maximize his own interests as becoming a permanent migrant and even gaining equal citizenship without taking the household's interest into account. In industry and service, in reality, migrant workers who are members of a peasant family rather than individual urban workers, fill a large quota in the labour market. This actuality is contrary to those most influential economic and social theories derived from Adam Smith (1723–1790), Karl Marx (1818–1883), and Max Weber (1864–1920),[90] all of which assert the replacement of the family-based peasant farm production by the individual industrial worker. Accompanying this alternative production unit, the three-generation extended family will be replaced by the nuclear family. Unfortunately, China's actuality looks contradictory and unreasonable, but

[90] Smith, Marx-Engels, and Weber all assumed that the peasant family farm would disappear with the rise of capitalism. Adam Smith outlined the early beginnings of modern capitalist economic development in the West using "division of labour" which specialized in production tasks. See, Smith, Adam ([1776]1976). *The Wealth of Nations*. Chicago: University of Chicago Press. p.: 8-15. Max Weber likewise suggested that the fundamental characteristic of modern capitalism was "the development of individualized production", with the household becoming "no longer a unit of production". See, Weber, Max (1978). *Economy and Society: An Outline of Interpretive Sociology*. 2 vols. Berkeley. University of California Press. p.: 375. Marx and Engels highlighted class differentiation and private property as the basis of labour division and subjugation, and all this would give way with the rise of the proletariat working class and socialist revolution. See, Engels, Friedrich. ([1884]1972). The Origin of the Family, Private Property and the State. Intro. by Evelyn Reed. New York. Pathfinder.

unexpected genuine as a peasant economy: “the actual record of China’s economic history, however, shows the powerful persistence of the small family farm, as well as of the three-generation family down to this day, even as China’s GDP becomes the second largest in the world”. (Huang 2011)

Throughout China’s economic history, the peasant household has always been the fundamental economic unit rather than individual hired labour. The concept of farm production, as Fei has clearly pointed out, must be understood not just as farming, but as farming cum *fuye* (sidelines) (which was mainly silkworm raising and silk-reeling in *Kaixiangong*, the village Fei studied [1939]). The “framing + handicrafts (and other sidelines)” combination in rural production remains dominant even today when there are some changes in the domain, and farming and sidelines are still classified as agriculture statistics. Huang (2011) examined the path that the Chinese family has followed in different historical periods and compared it to the West’s. During the period of western European proto-industrialization versus China’s handicraft production, handicraft and other sidelines production remained inextricably tied to farming, in the family and the village. China did not approve of the Western European culture in which young couples left their homes of origin and established independent nuclear households in the course of the separation of handicrafts from farming. In the period of Chinese rural industrialization versus western European proto-industrialization and industrialization, it remained crucially different from the western European experience in that the farm family, under the new household-responsibility system, again became the basic unit of production and of economic decision making. The workers in rural industries were those who ‘leave the land without leaving the village (*li tu bu li xiang*)’, departing farming without leaving their native land. They generally still lived in the rural family home and helped with farming in the busy seasons. In the era of globalization, an increasing number of the rural labour force do ‘leave the land and the village’ to work in towns and cities. As the younger generation which is often the sandwich generation in the three-generation family-household, left to work in towns and cities as couples or formed new households there, there was undeniably a substantial increase in the numbers and proportions of nuclear households. Even so, the logic of the half-worker, half-cultivator family still applies to most of the migrant peasant workers. Those family members who stay and farm often depend on their migrant workers’ children for supplementary support; the latter, on the other hand, often depend on the old family farm for security, in case of unemployment or in their old age. The peasant family, in other words, persists powerfully as an economic unit, even under the forces of globalization and massive employment of peasants in the

manufacturing and service sectors. Some sceptics questioned whether Fei and Huang's "framing + handicrafts (and other sidelines)" combination model can explain today's massive rural-urban off-farm migrants in China, since both Fei and Huang focused more on handicrafts, sidelines, and rural industry, and less on out-migration work. And the sceptics further state that the target peasants in both Fei and Huang's research were those in the pre-reform period who were markedly different from the peasant today.[91] It is true on the one hand, the academic careers of Fei (1910-2005) and Huang, particularly the former, had not focused much on rural-urban migration which emerged at the late twentieth century; on the other hand, Fei and Huang's model was generalized from the empirical actuality of China's rural economy for centuries. For instance, the majority of Huang's research traces back and restores the real situation of the rural economy dating from the Ming and Qing dynasties till today.[92] Huang stated that peasant economic development for centuries has corroborated the persistence of "framing + handicrafts (and other sidelines)" combination model. I admit the last three decades have seen tremendous social change in both rural and urban China, but I am still conservative about the overturn of the Fei-Huang model which lasted for centuries. The misrepresentation of the overturn of the Fei-Huang model disregards the flexibility of the Fei-Huang model and makes an unconvincing claim: the Fei-Huang model is out-dated. Unfortunately, this misrepresentation chooses to ignore completely the intrinsic evolution of the Fei-Huang model. Fei and Huang's "farming + handicrafts (and other sidelines)" combination model is a generalization of rural economic activities, and farm and handicrafts (and other sidelines) are the two dualities which became the principal and auxiliary parts alternately in the peasant economy. The status of the principal and auxiliary goes in accordance with the income contribution of the peasant family-household. Within this model, the peasant economic structure also affects labour allocation mechanisms; the principal labour force will work in the principal sector and the auxiliary labour force in the auxiliary sector. For a long period of time in history, farming was the primary source of income for the peasant family, and handicrafts (and other sidelines)

[91] Deng Dacai and Huang Ping question the explanatory power of Fei and Huang's "farming + handicrafts (and other sidelines) combination" model. See, Deng Dacai. (2008). Migrants' off-farm working: motivation and behaviour logic (*nongmin dagong: dongji yu xingwei luoji*), *Social Science Front* (*shehui kexue zhanxian*), 9: pp. 83-93.

[92] The two important works by Huang, most notably, *The Peasant Economy and Social Change in North China*, (Stanford: Stanford University Press, 1985), in which Huang studies peasant economy and rural social life on the North plain from the mid-seventeenth century to the eve of the communist revolution; and *The Peasant Family and Rural Development in the Yangzi Delta* (Stanford: Stanford University Press, 1990) studied peasant family and rural development in the six hundred years before 1950 in Yangzi Delta.

offered supplementary benefits.[93] The improvement of farming labour productivity has released a large surplus labour force to the non-farming sectors which first was handicrafts, then later the rural industries, and finally manufacturing industries under globalization. Peasant families make the decision on out-migration for off-farm work according to anticipated income and risk aversion. That is, in some peasant families, principal labourers were engaged in higher-paid, off-farm jobs, while auxiliary labour stayed behind to farm. This is the reason that in some rural areas in China today, large numbers of the younger labour force swarm into cities, and the empty-nest elderly and left-behind children become the major population. The misrepresentation of the overturn of the Fei-Huang model chooses to neglect the endogenous evolution of the "farming + handicrafts (and other sidelines)" combination model, but instead, focuses on the supposed inalterability of this combination, and therefore, draws unconvincing conclusions.

In terms of the family structure, the three-generation family-household has remained robust and persistent. In rural China, the multigenerational joint family which had more than one married son would be usually separated into smaller households. Nevertheless, the parents–son bond has remained powerful even when "the family is divided into separate households, the children (sons mainly) were still very much obligated to provide maintenance for their parents in their old age, with each son sharing in their old-age maintenance by providing the parents with material and/or monetary support." In the one-son and three-generation family-household, the persistence of the household model was predicated on much the same logic as the half-worker, half-cultivator: "Where 'leave the soil but not the village' employment came to exceed farming rewards, farming may be seen as supplementary to industry, but still necessary, if not directly for subsistence, then as insurance against instabilities in rural industrial employment." (Huang 2011)

I conclude by asking the question: what difference does the familial unit make in migration behaviour and for migration studies? Firstly, an individual in a peasant family is different from a worker under capitalism. Chayanov, the best agrarian economist on the analysis of the family as an economic unit to date[94], stated the empirical realities: "the

[93] In Chinese, *fuye* (副业, sidelines) literally means subsidiary industries and trades, and *fu* means non-principal.

[94] Philip Huang (in Huang Philip. 2011. The Modern Chinese Family: In Light of Economic and Legal History, *Modern China*, 37 (5): pp.: 459-497.) honours Alexander Chayanov as the best economist on the analysis of family as an economic unit. In his book "The Theory of Peasant Economy (Chayanov A. V. [1925] 1986. *The Theory of Peasant Economy*. Madison: University of Wisconsin Press.)", Chayanov was sceptical about the inefficiency of large-scale farms with the foundational idea that the households, especially peasant households

peasant family farm, as a unit both of production and of consumption, is different from a capitalist enterprise, which is a unit only of production. Its accounting is entirely different: the rewards to labour lie in the total product of the family farm, not in the 'profit' to an enterprise after accounting for labour and other expenses; accounting of wages and hours of individual workers makes little sense to such a unit."(Huang 2011: 481) The migration behaviour in China today cannot be understood in the same manner as it would be under capitalism. This is because (1) a family member's migration decision is very often a familial but not an individual choice. The decision will made based on labourers allocation, for example, whether the "auxiliary family labour"[95] could do farming while "principal labour" migrate out to seek higher-paid, off-farm employment; (2) the wage from off-farm work is often a gross value in a total year or several months which cannot be equated with salary under capitalism; (3) off-farm working duration and working time impact the migrant worker's contribution to family income, for example, a peasant who works off-farm near home or local VTEs can still be engaged in 'spare-time' farm-work as a kind of auxiliary labour that lies behind sideline employment. In this case, he could possibly make a bigger actual contribution to the family income than someone who works off-farm all of the time. Again, I would reiterate the different category of migrants. To neglect the difference between familial economy and individual economy will lead to a grate misunderstanding because of the starkly different mechanisms between family-household rationality (dwelling in peasant economy) and individual rationality (dwelling in capitalist economy or individual economy). The present-day Chinese migrant worker and peasant families are often driven more by making living improvements at home rather than struggling in cities (i.e., they would rather build new house in home village but not make a large investment to buy a house for the younger generation in the cities, which they probably cannot afford). The familial 'rational choice' on economic behaviour equips both the migrants and their families with an outlook from a three-generational (or longer) perspective rather than only of the individual.

3.2.3 *Nongmingong: Flowing in a Household Rationality*

which practice subsistence farming would not cooperate and produce a surplus in the large-scale farms in the Soviet Union.

[95] Huang (Huang Philip. 2011. The Modern Chinese Family: In Light of Economic and Legal History, *Modern China*, 37 (5): pp.: 459-497.) saw beyond Chayanov by differentiating principal labour and auxiliary labour. The labourer allocation was based on the actual contributions of the family income from both principal labour and auxiliary labour.

The dual system is seemingly manifested in the differentials of economic development and infrastructure construction between rural and urban China, but fundamentally, in the differences in the institutions and derivative entitlements between farmers and citizens. The *hukou* system, as one of the mechanisms for rural-urban segmentation, hindered the free flow of production factors before China's Reform in 1978, among which the first and foremost was labour force free mobility. After the reforms, with the loosening of the *hukou* system and some other institutional changes attached, rural-urban labour flow emerged immediately. Market mechanism rather than institutional mechanism dominates labour flow along with the retreat of strong restrictions.[96] The rigid rural-urban dual structure characterised by the institution and identity is being incrementally replaced by flexible structure determined by a more flexible structure determined by income condition.[97] The differential institutions cease to be the major determinants, and the institutional barriers standing in the way of rural-urban migration are being removed. The migration behaviour is determined mainly by one's ability to generate income based on the household strategy. Both household and individual family members will make the migration decision based on the expected economic opportunities and whether the migrant members could survive and depend on a stable wage and contribute to family income. In the current market economy, although the rigidity of the urban-rural, dual-structured identity system has experienced a slight loosening, and migrant workers could maintain their economic conditions by finding a job and engaging in trade, even some of the successful ones are well-off and become a city resident without citizenship. However, the majority of migrant workers could not dwell and live out their life in retirement in cities unless they made a fortune in business. In China, migrant workers are known as *nongmingong*,[98] meaning 'farmers-turned-workers', a term that likely means more in Chinese than it does in English. They tend to settle down in the rural countryside and work in towns and cities, circulating between their homes and working destinations periodically according to their occupational stability.

[96] The hard constraints attached on *hukou* system build a wall between internal and external system with distinct social entitlements like work, housing, education and health, etc.

[97] He Xuefeng uses "rigid dual system" and "flexible dual system" to differentiate two types of rural-urban dual systems, see, He Xuefeng, 2009. Rural-urban dual system: the core and basis of China Mode, in Pan Wei (ed.), *China Mode: A New Developmental Model From the Sixty Years of the Peoples' Republic*. Beijing: Central Compilation & Translation Press. pp.: 181-200.

[98] Migrant workers in China are called *nongmingong*, "nongmin" means "farmer" or "peasant", and "gong" means "worker". The term *nongmingong* in Chinese summarizes the identity characteristics more accurately than its corresponding English term "migrant workers", highlighting the identity as "farmer" but not really "worker". Besides the general conceptualization, I have to acknowledge the fact of the stratification and heterogeneity among migrant workers.

Few migrant workers indeed have left the agricultural production and become industrial workers, and some fewer have settled in the cities along with their family to be permanent migrants. The rising number of permanent migrants has been confirmed by migrants' claims of discrimination regarding citizenship status and the appeal of the housing, education, and other social welfares equated with native urban residents. Nevertheless, the majority are temporary migrants because of their seasonal or periodical circulation, and they have roots in rural homes. The motivation of migrate-out workers is to contribute to household income growth after weighing the pros and cons of leaving the farming behind to other family members. The migrant workers' unfavourable position is affected by two factors: (1) due to their limited human capital, migrant workers are less likely to find well-paying jobs; (2) some institutional factors disfavour migrants' working and living satisfactorily as compared to city natives, especially when budget cuts are making it hard to maintain public services in cities. I should also point out that migrant workers have no competitive advantage over their native competitors if one ignores the work differentials. Conversely, although they find it very difficult to settle down in cities, migrant workers have the management rights to the contracted land at rural home, they can get basic means of subsistence through farming or acquire land rent by land circulation to other rural households, meanwhile, they themselves out-migrate to work. The most common case of labour allocation in peasant family is, as I mentioned in the introduction chapter, an interweaving model of farming and non-farming activities based on intergenerational labour-division: young labours out-migrate to seek non-agricultural jobs in the cities, while the middle-aged and elderly stay to engage in left-behind farming. In this way, a rural family could live a well from these two sources of income. With land as a guarantee, a peasant family can proceed or step back freely between farming and out-migration non-farming work.

3.3 Research Design

3.3.1 *Research Framework*

A rural household family's economic improvement primarily relies on expansion of the industries and variety of labour employment allocation. China, with the largest population in the world, ranks first in agricultural population. In an agrarian society, the large agricultural population is mainly depended on farming for subsistence. But in the eras of industrialization and globalization, development becomes the first priority for both household family as well as each individual members. The crux for betterment of the family

lies in the household's factor endowments. "The starting point for the analysis of economic development is an economy's endowments. Endowments are given in an economy at any specific time and are changeable over time" (Lin, 2012: 21). The core idea of the analytical framework in this study is that a rural household's production structure is determined endogenously by its factor endowments. Household economics at a specific time is endogenous to its given relative abundance of land, labour, and capital at that time, and households' factor endowments will change with capital accumulation, pushing households' economic improvement.

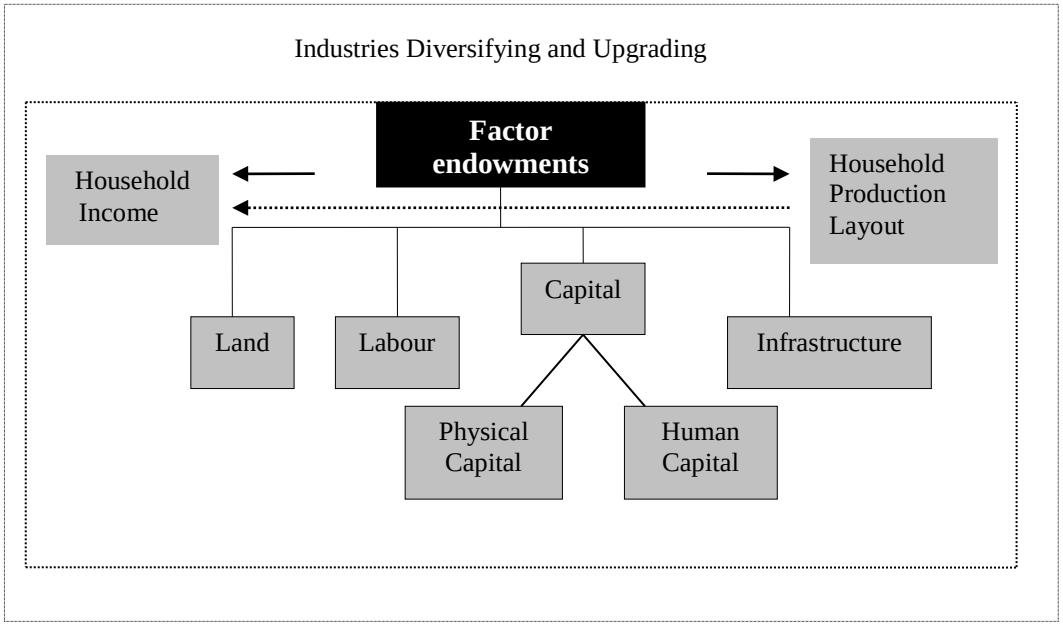
Factor endowment generally refers to the relative abundance of a given country's natural resources, human capital, physical capital, and labour forces. Factor endowment is commonly understood as the land, labour, and capital that a country possesses and can exploit for manufacturing. It has been assumed that countries with a large endowment of resources tend to be more prosperous than those with a small endowment, all other things being equal. I adopt the concept of factor endowments at a rural household level, not a country. Kenneth Sokoloff and Stanley Engerman (2000) argue in their article *History Lessons: Institutions, Factor Endowments, and Paths of Development in the New World* that the difference between North America and the rest of the New World[99] was not just in the institutions but in the nature of their respective factor endowments. Both North and South America inherited attractive endowments such as a vast country with rich natural resources, ideal weather conditions, and sparse populations, nevertheless, centuries later, they present a completely different picture of development. Adam Smith, in his *The Wealth of Nations*, compares the North American colonies on the one side, and China and Holland on the other, to illustrate his conception of economic development as a process embedded in, and limited by a particular physical, institutional, and social environment. More specifically, Smith conceived the economic development as the filling-up with people and physical capital ('stock') of a spatial container ('country') that encompasses a given endowment of natural resources and is shaped internally and bounded externally by laws and institutions. When the spatial container is 'under-stocked' and 'under-peopled,' as in the case of the North American colonies, there is great potential for economic growth, a condition or 'state' that Smith calls 'progressive'. When the spatial container is 'fully stocked' and 'fully peopled' , as in the case of China and Holland, by contrast, the potential for economic growth, if any, is

[99] The New World refers to the European colonies in North and South America during sixteenth, seventeenth, and eighteenth centuries.

not so great, a condition or 'state' that Smith calls 'stationary' but that in contemporary language would be described as one of economic maturity.

Coincidentally, in the past 100 years, especially during the second half of the twentieth century, the diverging economic stories of various countries question current economic theories. "On the one hand, they will be amazed by the rapid growth path followed by a small number of countries such as Brazil, Chile, China, Indonesia, India, Korea, Malaysia, Mauritius, Singapore, Thailand, and Vietnam, where the industrialization process quickly transformed their subsistence, agrarian economies and lifted several hundred million people out of poverty in the space of one generation. On the other hand, they will be puzzled by the apparent inability of many other countries, where more than one-sixth of humanity remained trapped in poverty, to generate sustainable growth"(Lin, 2012:14). In Lin's (2012) "New structural economics", factor endowment is the backbone concept for decomposing development differentials among countries. I use the microform of factor endowment to analyse household income performance with a hypothesized heterogeneity of factor endowments among rural households, especially, between households with and without migrants. Economists tend to think of a given country's endowments as consisting only of its land (or natural resources), labour, and capital (both physical and human), however, following Lin's warning, I also extend the domains of factor endowments to land (or natural resources), labour, capital (both physical and human), and infrastructure, see Figure 3.1.

Figure 3.1 *Determinants of Household Income*



Households at different times (and at different levels of development) tend to have different economic structures due to differences in their endowments. Factor endowments for households at the early levels of development are typically characterized by a relative scarcity of capitals (both physical and human) and a relative abundance of labour or land; while at a relative higher levels of development, households display a different endowment structure with a relatively abundant factor in capital. This can be verified by the data description of households in the samples of households with migrants and without migrants in 1995 and 2002 in the following section. In the relatively early level of development, rural households primarily depend on agriculture for their livelihood. But, along with nationwide industrial upgrading and diversification and improvements in agricultural technology, household economic development also requires continuous diversifying and upgrading from existing labour-intensive to more capital-intensive ones. The overall trend of endowment structure changes from relative lower levels to higher levels in the promotion of the capital/labour ratio.

I first list human capital as one of the primary factor endowments because human capital, particularly education, is an important factor needed to improve technology in order to boost productivity in a country's profile. Similarly, human capital increases an individual's ability to cope with risk and uncertainty (Schultz, 1961), and also contributes to an individual's income return (Mincer, 1974; Becker, 1993; Jones and Romer, 2009) which highlights its driving force for economic development. Even though in the early level of development, the household's income tend to rest on intensive labour input rather than human capital, human capital accumulation will definitely simulate household economic development in the process of industrial upgrading and diversification.

Land is the primary factor for rural households' subsistence, and the scale of land which a household possesses, particularly, cultivated land, has a direct impact on a household's domesticity condition. Land is exogenously assumed in any realistic discussion of a household's development, therefore, the focus is shifted to the dynamics of the capital/labour ratio. This is because land, as well as natural resources, exists in a fixed quantity with the possibility of shrinking but not growing.

It is self-evident that labourers play such an important role in rural households' economy, especially, in agricultural production. In early levels of development, the affluent families often were those with a sufficient labour force, so called large households (*dahu*). With the industrial upgrading and diversification, along with the improvement of agricultural

productivity, an increasing conflict of human-land relationship became prominent — with an excess of labourers in agricultural production. The number of labourers in a household plays a different role in different levels of development — either promoting or hindering.

Physical capital, such as equipment, factories, and machinery are capital goods applied to production as a factor of production (or input into the process of production). In economics, capital stock, along with labour and natural resources (including land), are the three primary factors of production, also known as inputs in the production function, whose general form $Y = f(C, L, N)$, where Y is output, C is capital stock, L is labour, and N is natural resources (Samuelson and Nordhaus 2004)[100]. In this study, physical capital also refers to the current value of fixed capital, or any kind of real or physical asset, such as household fixed productive assets, financial assets, durable goods, and self-owned house.

Infrastructure typically refers to the physical and organizational structures which an economy depends on. The physical infrastructure, such as highways, port facilities, airports, telecommunication systems, electricity grids, etc., is also named as hard (or tangible) infrastructure; correspondingly, organizational infrastructure, such as institutions, regulations, social capital, value systems, and other social, economic arrangements, etc., is named as soft (or intangible) infrastructure (Lin, 2012: 22). Upgrading and diversification in household economics not only depend on the optimization of factor endowments, but the improvement of infrastructure which rests on a household's development. Therefore, I include infrastructure also as an influencing factor. However, it should be noted that only hard (or tangible) infrastructures which are easily operationalized in quantification processing are included in this study.

Land, labour, capitals, and infrastructure, are combined to affect household production layout. Concerning out-migration, rural households make their decision according to their factor endowments by weighting the advantages and disadvantages. On the one hand, households want to optimize their production so as to maximize income profits; on the other hand, they also pursue risk-aversion, minimizing the risk through out-migration.

3.3.2 *Data Infrastructure*

Issues

[100] Paul A. Samuelson and William D. Nordhaus. 2004. Economics, 18th ed., Glossary of Terms "Factors of production", "Capital", "Human capital", and "Land".

The last three decades witnessed a massive wave of rural-urban population mobility in China, and this became even more and vigorous during the first decade of the 21st century. Millions of rural labourers migrated into towns and cities for more economic opportunities to better themselves and their households at home. After releasing from the institutional controls via the household registration system (HRS) and the People's Commune system, surplus agricultural labourers left farming and their home village to seek non-farming employment opportunities. A large proportion of the out-migrant workers poured into the towns and cities, engaging in all walks of life. The estimated volume of rural-urban migration has so far been undetermined because of the variations in the statistical calibre and confusion as to the definition of the term migration, and even the tiniest bias in the statistics will make it difficult to reach a consensus. For example, the differentials on migration duration and migration distance will generate an enormous difference in the calculation of the stock of the total migration population. And the definition of rural-urban migration population is often confused with such terms as 'floating population in cities (*chengshi liudong renkou*)', 'surplus agricultural labours (*nongcun fuyu laodongli*)', and 'peasant migrant workers (*nongmingong*)'. But all of these terms fail to represent the exact target labourers who participate in the labour market. Since the 1980s, there have been a number of different estimates of the size of the rural floating labour force and the number of rural migrants in urban areas (Li, 2001: 304). Generally, the estimates of the former during the late 1980s and early 1990s range from 40 million to 80 million people — a puzzlingly large difference, indeed, and the estimates of the latter may have numbered roughly 45 to 50 million. (Li, 2001: 304). The numbers for the 1990s are broadly similar to those reported in other studies such as Yang (2004), Zhao (1998), Rozelle et al (1999).

The national population census of China published by NBS helps us further to be convinced that the estimated number of migrants has exceeded 100 million in the early years of 21st century. According to the statistical calculation in the two waves of surveys in the year 2000 and 2010, as the 5th and 6th Population Census respectively, the total number of migrants residing away from their registered places of residence for more than half year stood at about 261.39 million in 2010, which is 117 million more than in 2000 (NBS, 2010). The previous 4th Population Census in 1990 calculated the total number of migrants residing away from their registered places of residence for more than one year stood at about 19.83 million, accounting for 1.75 percent of the total population of that year (NBS, 1996). The yearly China Statistical Yearbooks published by NBS gave detailed estimates of the population who were residing away from their registered places of residence for more than

one-half year due to the fact that the division of residential places and registered places was made according to towns, townships, and districts, and the estimates lined up in a linear trend from 134.29 million in 2000 (NBS, China Statistical Yearbook 2002) to 146.86 million in 2005 (NBS, 2006), then to 263.17 million in 2011 (NBS, 2012). From the available First National Agricultural Census in 1996, the volume of migration in rural China could be assessed at a glance. At the end of 1996, there were 888,645 households out-migrated beyond county, contributing to a total population of 2.81 million. Meanwhile, there were a total of 8.58 million immigrant workers who worked in villages beyond their home. It is easy to conclude that the volume of the inter-rural labour migration was quite large, not to mention the larger volume of the rural-urban migration. Since the end of 2008, the National Bureau of Statistics of China has established a statistical monitoring survey system of peasant migrant workers and issued a yearly report. The gross number of peasant migrant workers in 2008 was 225.42 million, of which 140.41 million were out-migrants. The gross number has risen from 229.78 million in 2009, to 242.23 million in 2010, to 252.78 million in 2011, and to 262.61 million in 2012. Correspondingly, the total out-migrants numbered 145.33 million in 2009, to 153.35 million in 2010, to 158.63 million in 2011, to 163.36 million in 2012 (NBS, 2013).

Table 3.3 *Peasant Migrant Workers Size, 2008-2012*

	2008	2009	2010	2011	2012
Gross number: million	225.42	229.78	242.23	252.78	262.61
Out-migrant workers [a]: million	140.41	145.33	153.35	158.63	163.36
%	62.29	63.25	63.31	62.75	62.21
Intra-province migration at national level: %	-	-	-	52.9	53.2
Eastern China [c]: %	-	-	-	83.4	83.7
Central China [d]: %	-	-	-	32.8	33.8
Western China [e]: %	-	-	-	43.0	43.4
Inter-province migration at national level: %	-	-	-	47.1	46.8
Eastern China: %	-	-	-	16.6	16.3
Central China: %	-	-	-	67.2	66.2
Western China: %	-	-	-	57.0	56.6
Individual out-migrants at national level: million	111.82	115.67	122.64	125.84	129.61
%	79.64	79.59	79.97	79.33	79.34
Whole family out-migrants at national level [f]: million	28.59	29.66	30.71	32.79	33.75
%	20.36	20.41	20.03	20.67	20.66
Local migrant workers [b]: million	85.01	84.45	88.88	94.15	99.25
%	37.71	36.75	36.69	37.25	37.79

a. Out-migrants refers to those who out-migrated from townships to work more than six months in the survey year.
b. Local migrant workers refer to those who engaged in non-agricultural business (including non-farming employment and non-farming self-employment) for more than 6 months within township.
c. Eastern China includes Beijing, Tianjin, Hebei, Liaoning, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong, and Hainan, in all 11 provinces and municipalities.
d. Central China includes Shanxi, Jilin, Heilongjiang, Anhui, Jiangxi, Henan, Hubei, and Hunan, in all 8 provinces.
e. Western China includes Inner Mongolia, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Tibet, Shaanxi,

Gansu, Qinghai, Ningxia, and Xinjiang, in all 12 provinces and autonomous regions.
f. Whole family out-migrants refer to those workers with their family members who left their original residence to settle down in working towns.

Data resource: NBS. Monitoring and Survey Report on Migrant Workers 2012.

Table 3.3 above tells us more information about the migrants' distribution features: out-migrant workers make up the majority (roughly 62%-63%) of the total peasant migrant workers on a nationwide representativeness, which means that more than 60% of peasant migrant workers work outside of their township. And another roughly 37% of peasant migrant workers stay within the township working in non-farming business. There is a huge geographic difference among Eastern, Central, and Western China on intra/inter-province migration. In Eastern China, over 80% of peasant migrant workers choose to work within their provinces, as compared to peasant migrant workers in Central China (67.2% and 66.2% in 2011 and 2012 respectively) and Western China (57.0% and 56.6% in 2011 and 2012 respectively). Although the proportions of local migrant workers stand below 40%, this still represents a large population of almost 100 million. More importantly, the division between out-migrants and local migrants helps us to better understand the status of the migrants' distribution. Generally speaking, the target of peasant migrant workers' out-migration is oriented towards non-farming jobs with the consideration of non-farming job opportunities locally and the weight of risk-aversion for a long-distance migration. Those inter-province-migrants invest their working time in non-farming jobs in towns and cities so as to leave household farming to other family members. In this case, the migrant household can have farming and non-farming income with all their household labour input. If non-farming jobs are sufficient to ensure the well-being of the rural family, it is rational for some members of the household family to choose to cut ties with farming, engaging in non-farming business. In this manner, whole family out-migrants emerged and accounted for about 20% of the total out-migrant workers population. Once finding stable jobs, the whole family out-migrants would settle down in towns and cities, and naturally, they would become the major source of new citizens. The transformation of social status identity from peasant to citizen goes along with the transformation of occupational identity from farmer to worker.

Regarding the intra-province-migrants, most of them have combined occupations in farming and non-farming based on their work-time distribution. This combination has been proved an effective and successful strategy to increase the household income and avoid the market risk. As narrated in previous text on the analytical unit, the peasant household has

been always the fundamental economic unit rather than individual hired labour in China's economic history. The concept of farming production in Fei's (1939) view was as farming cum *fuye* (sidelines) and Huang's (2011) "farming + handicrafts (and other sidelines)". The "farming + handicrafts (and other sidelines)" combination in rural production remains dominant even today when there are some changes and expansions of the domain, handicrafts (and other sidelines) has gradually evolved into a rural industry in the industrialization period and manufacturing industry under globalization. The local migrant workers are those who 'leave the land without leaving the township (*li tu bu li xiang*)', departing farming without leaving their native land. They work in better-paying, non-farming jobs and leave farming work to other family members. This labour division is in accordance with Huang's (2011) classification on principal and auxiliary dualities in the peasant economy and the principal and auxiliary labour forces. Principal labour forces, of course, take part in the better-paying, rural industry and manufacturing industry; auxiliary ones, with the aid of modern agricultural machinery, chemical fertilizer, and new varieties of seeds, can easily handle the small-scale farming. In addition, in the slack season, the auxiliary labour forces can also engage in non-farming businesses to earn some extra cash. Therefore, unlike their out-migrant worker counterparts, there is no determinate line between the occupational identities of farmers and workers among local migrant workers. As far as social status identity is concerned, local migrant workers are still authentically farmers. Nevertheless, local migrant workers play a vital role in agricultural development and the rural economy from a macroscopic perspective. On the one hand, local migrant workers engaging in local non-farming business have not only contribute directly to the growth of their household income, but indirectly as well in that their out-migration raises the labour productivity of members remaining in their households (Li, 2001: 303). The small-scale peasant economy, for a long time, has been subjected to the constraints of means of production, among which farm land became the primary one. Rural labourers were bound to the constant or even shrinking farm land before enforcement of the Household Responsibility System (HRS), was enacted making agricultural production an inefficient mode. It has become a self-evident truth that farming labour saturation weakens the agricultural marginal productivity, and every increase per unit of production factors (here, labour particularly) generates minimal production capacity. Before the time of industrialization when agriculture was the predominant industry, peasants in China for a long time had no alternative but to intensively farm on the small-scale land in order to feed the whole family. Intensive farming, thus has become the unique trait that distinguishes it from

the production mode of a modern large farm with scale effect. It is precisely by virtue of intensive farming on the small-scale land that China's agricultural production did not decline, but instead, increased in the context of down-sized agricultural labour forces. Once the historical turning point of less restrictive control of population mobility control occurred, the surplus labour forces were definitely willing to pursue other outlets beyond farming. On the other hand, the released surplus farming workers being employed in non-farming industries was the mainstream of labour transfer in the following decades. Urbanization is under way and has had rapid growth, but it will be a rather long and gradual process. Rural China, as one duality of a long-divided rural-urban structure, expectedly, stands out as the new engine for China's development strategy. The construction of a new socialist countryside (*jianshe shehui zhuyi xinnongcun*) was launched as a national policy in 2005 (Lin, 2012: 221)[101], and was designated as the most important task in the first decade of 21st century. Although there is a consensus on the solution upon 'three-rural-issue' (*sannong wenti*)[102] which is, urbanization — transferring rural labour forces to light industry, manufacturing industry and services in towns and cities, constructing a new socialist countryside. Because a real sense of urbanization is one without polarization between rural and urban sectors, if it is not developed wisely, urbanization will occur without robust economic growth. With more local migrant workers taking part in non-farming jobs, the rural household income will have an inevitable increase. Combined with the boost of infrastructure facilities' construction, downsized farm labour forces could conduct optimum-scale farming with expansion of farming land which partly come from those local migrant workers. Undoubtedly, the precondition for transferring rural labour forces to non-farming industries is that more jobs are created in those industries; otherwise, not only the transfer dilemma remains unsolved, but unemployment in towns and cities will increase.

Superficially, out-migration is an individual behaviour stemming from one's rationality, but what makes China's rural-urban migration stand out is the role of the household family to which every single migrant worker is attached. Due to the absence of a

[101] Lin Yifu. (2012). Demystifying the Chinese Economy (Chinese). Beijing: Peking University Press.

Construction of a new socialist countryside was officially issued at the Fifth Plenary Session of the 16th Central Committee of Communist Party of China in October 2005 in the government work report titled "Proposal for the Eleventh Five-Year Plan". The main features of the new socialist countryside were summarized as "advanced production, improved livelihood, a civilized social atmosphere, clean and tidy villages, and democratic administration." This five-item Principle reveals that construction of a new socialist countryside is a long-term project and historical task.

[102] Three-rural-issue concerns agriculture development, rural countryside upgrading and farmers' income increasing, and increased farmers' income.

determinate boundary on classification of migrant workers' categories, along with the deficiency of migrants' micro-data, an analysis on the household level is an alternative for better understanding rural-urban migration. By analysing migration mechanism and income determination on the household level, we can have a restored panorama on the heterogeneity of the household with and without migrants, and subsequently, the differential on income functions.

Data Description

The study in this chapter is based primarily upon two surveys of CHIP data sets that were designed by a joint-team which was composed of researchers from the Institute of Economics of the Chinese Academy of Social Science together with associated Chinese and international scholars as Riskin Carl, Zhao Renwei, and Li Shi (Riskin Carl, Zhao Renwei, and Li Shi, 2001; Li Shi, Luo Chuliang, Wei Zhong, and Yue Ximing, 2008) and implemented with the assistance of National Bureau of Statistics (NBS) in the year 1996 and 2003 for the reference year 1995 and 2002. The CHIP surveys have three waves for the reference years 1988, 1995, and 2002. The reason for choosing CHIP1995 and 2002 surveys as comparison samples is that these two surveys offer information on population migration in rural individual data sets. By identifying an individual as a migrant worker, I then confirm the households which the migrants are from as either a household with migrant(s), or a household without migrant(s). It must be noted that the migrants I mentioned here is more representative of the local migrant workers, and the cases from both CHIP 1995 and 2002 are sampled in rural individual and household data sets. Therefore, migrant samples of 1995 and 2002 are different from the samples from the rural-urban migrant household survey 2002, which is more representative of out-migrant workers who are permanent migrants. The data from the rural-urban migrant household survey of 2002 is useful for analysing the income difference between urban natives and permanent migrants based on their occupational characteristics in Chapter 4 (which also contains a data description).

The number of provinces in the rural survey was reduced from 28 in 1988 to 19 in 1995 with a cut-numbered households from 10,258 to 7,998. For the rural survey in 1995, the selected 19 provinces were thought to constitute a representative sample of the economic characteristics in rural China's various regions. Therefore, in the sample, Beijing represented the three large metropolitan cities (the other two being Shanghai and Tianjin, and Chongqing became the fourth in 1997) at that time; Liaoning, Jiangsu, Zhejiang, Shandong, and Guangdong represented the coastal region; Hebei, Shanxi, Jilin, Anhui, Jiangxi, Henan,

Hubei, and Hunan represented the central region; and Sichuan (Chongqing being part of Sichuan then), Guizhou, Yunnan, Shaanxi, and Gansu represented the western region. The size of the rural household sample in the 2002 survey increased to 9,200 because two new provinces, Guangxi and Xinjiang were included in the survey to further investigate the ethnic issues. Also, Chongqing separated from Sichuan in 1997 and became a new large metropolitan city. Consequently, the number of provinces in the rural survey increase from 19 in 1995 to 22 in 2002 as shown in Table 3.4.

In the rural survey, the total number of households sampled was distributed among the 19 provinces in a manner roughly consistent with their populations (Li, Luo, Wei, and Yue, 2008: 340). Here, I also borrowed the complete and comprehensive description of household size in the rural surveys of 1995 and 2002 by Li Shi *et al*, (see Table 3.4a and Table 3.4b). The tables indicate that households with three to five members account for around 80 percent of the rural household sample in both 1995 and 2002, and households with four members account for over one-third of the sample. Still, there are some subtle differences of number-groups in these two years: the share of households with two-to-three members increased in 2002 from 1995, while the share of households with more than five decreased.

Table 3.4 *Distribution of households in 1995 and 2002, by province*

	Households in 1995		Households in 2002	
Province	Frequency	Percent	Frequency	Percent
Beijing	100	1.25	160	1.74
Hebei	498	6.23	370	4.02
Shanxi	300	3.75	400	4.35
Liaoning	300	3.75	450	4.89
Jilin	300	3.75	480	5.22
Jiangsu	500	6.25	440	4.78
Zhejiang	400	5.00	520	5.65
Anhui	450	5.63	440	4.78
Jiangxi	350	4.38	430	4.67
Shandong	700	8.75	630	6.85
Henan	700	8.75	530	5.76
Hubei	402	5.03	520	5.65
Hunan	500	6.25	450	4.89
Guangdong	500	6.25	530	5.76
Guangxi			400	4.35
Chongqing			200	2.17
Sichuan*	798	9.98	500	5.43
Guizhou	300	3.75	400	4.35
Yunnan	300	3.75	260	2.83
Shaanxi	300	3.75	370	4.02
Gansu	300	3.75	320	3.48
Xinjiang			400	4.35
Total	7,998	100.00	9,200	100.00

Table 3.4a *Distribution of households in 1995 rural survey, by household size and province (%)*

	Household size							
Province	1	2	3	4	5	6	7&over	All
Total	0.3	4.6	19.5	35.9	23.9	10.4	5.4	100.0
Beijing	0.0	3.0	39.0	37.0	14.0	7.0	0.0	100.0
Hebei	0.6	7.0	12.7	39.6	25.3	9.0	5.8	100.0
Shanxi	1.0	5.7	13.3	42.3	24.7	9.3	3.7	100.0
Liaoning	0.0	7.7	25.3	41.7	17.0	6.3	2.0	100.0
Jilin	0.3	5.3	29.0	37.7	20.3	6.0	1.4	100.0
Jiangsu	0.2	9.0	32.2	30.8	17.8	6.6	3.4	100.0
Zhejiang	0.3	8.3	26.3	38.8	19.0	6.5	3.0	100.0
Anhui	0.4	4.7	16.4	33.6	31.1	8.9	3.9	100.0
Jiangxi	0.0	0.3	10.0	32.6	28.6	16.9	11.6	100.0
Shandong	0.3	5.0	24.1	39.2	21.6	6.4	3.4	100.0
Henan	0.3	2.3	14.3	39.3	27.1	11.1	5.6	100.0
Hubei	0.0	4.5	17.2	36.6	26.1	11.0	4.7	100.0
Hunan	0.6	3.8	17.8	43.0	24.2	8.6	2.0	100.0
Guangdong	0.0	3.4	10.0	27.6	30.8	19.0	9.2	100.0
Sichuan	0.4	5.4	36.0	31.6	15.9	7.9	2.9	100.0
Guizhou	0.7	4.0	10.7	23.0	32.7	15.3	13.7	100.0
Yunnan	0.3	0.0	11.3	36.7	25.7	15.3	10.6	100.0
Shaanxi	0.3	3.0	11.3	38.3	26.0	14.3	6.7	100.0
Gansu	0.3	1.0	6.0	35.7	25.7	19.3	12.0	100.0

Note: Distribution of household size is calculated based on the number of households rather than of individuals.

Table 3.4b *Distribution of households in 2002 rural survey, by household size and province (%)*

	Household size							
Province	1	2	3	4	5	6	7&over	All
Total	0.3	7.9	23.9	33.5	21.3	8.7	4.3	100.0
Beijing	0.6	12.5	40.0	32.5	10.0	4.4	0.0	100.0
Hebei	0.5	13.0	14.3	35.1	25.9	8.9	2.2	100.0
Shanxi	0.8	9.3	16.5	41.5	24.3	5.5	2.3	100.0
Liaoning	0.7	15.8	34.4	32.4	13.8	2.7	0.2	100.0
Jilin	0.2	11.0	36.0	32.1	15.4	5.0	0.2	100.0
Jiangsu	0.7	13.6	38.0	26.8	13.4	6.6	0.9	100.0
Zhejiang	0.6	10.6	32.9	35.6	14.6	4.8	1.0	100.0
Anhui	0.2	4.8	24.3	37.3	20.7	8.0	4.8	100.0
Jiangxi	0.0	3.7	15.8	37.2	26.3	9.5	7.4	100.0
Shandong	0.2	10.3	34.8	33.0	17.1	3.3	1.3	100.0
Henan	0.2	5.8	21.7	36.4	22.1	11.1	2.6	100.0
Hubei	0.2	8.5	24.4	35.2	21.2	8.5	2.1	100.0
Hunan	0.4	6.2	16.7	44.4	24.0	7.6	0.7	100.0
Guangdong	0.0	3.2	11.1	33.6	28.3	16.4	7.4	100.0
Guangxi	0.3	5.8	9.8	22.0	27.0	15.3	19.8	100.0
Chongqing	1.0	14.0	47.5	22.5	13.0	2.0	0.0	100.0
Sichuan	0.2	8.4	40.6	31.4	15.4	3.0	1.0	100.0
Guizhou	0.0	5.3	15.8	29.5	28.8	11.8	8.8	100.0
Yunnan	0.4	2.3	13.1	35.8	25.0	16.5	6.9	100.0
Shaanxi	0.3	3.0	15.9	35.9	28.4	12.4	4.1	100.0
Gansu	0.0	3.4	14.4	36.9	25.0	14.1	6.3	100.0
Xinjiang	0.8	4.5	11.0	23.8	27.3	17.0	15.6	100.0

Note: Distribution of household size is calculated based on the number of households rather than of individuals.

I used the average number of family members as another indicator for household size in this study, and the number varies between the households with migrants and these without migrants. Compared to the 1995 rural survey, the average size of a household in 2002 rural sample has declined, and the average size of a household in 1995 rural survey was 4.34 (34,719 individuals in 7,998 households) and 4.13 (37,969 individuals in 9,200 households) in 2002 rural survey. In my 1995 sample of households without migrants, the average number was 4.35, which was very close to the number in the rural survey, and the average number was 4.82 in the sample of households with migrants; in the 2002 sample of households without migrants, the average number was 4.09, and the average number was 4.47 in the sample of households with migrants. Households without migrants were more consistent with the overall samples in both years.

The samples of households with and without migrants in 1995 and 2002 were drawn from rural surveys according to a two-step procedure. In the first step, individuals who resided away from the household family for more than one month were identified as local migrant workers; in the second step, households that had migrants were chosen by their shared household code. The first step only included adults (ages 16 to 60) who were wage-earners, and the second step excluded those households with no income. In this way, I created new samples of households with and without migrants in the years 1995 and 2002, and the size of the samples are smaller than the original rural surveys: I identified in total 7,484 households with (1,681) and without (5,803) migrants in 1995, which is 514 less than the rural survey sample with 7,998 households; for the samples of households with and without migrants in 2002, I identified 2,917 households with migrants and 5,163 without migrants (see Tables 3.5a, and 3.5b). The households with migrants were identified from individual migrants in households in both years, I identified 2,062 seasonal migrants in 1995 and 4,392 in 2002 as shown in Tables 3.6, 3.7a, 3.7b, and 3.7c.

Table 3.5a *Distribution of households with and without migrants 1995, by province*

	Households with Migrants 1995		Households without Migrants 1995	
Province	Frequency	Percent	Frequency	Percent
Beijing	4	.2	62	1.1
Hebei	80	4.8	391	6.7
Shanxi	50	3.0	204	3.5
Liaoning	24	1.4	240	4.1
Jilin	52	3.1	231	4.0
Jiangsu	99	5.9	374	6.4
Zhejiang	53	3.2	304	5.2
Anhui	140	8.3	294	5.1
Jiangxi	144	8.6	196	3.4
Shandong	127	7.6	538	9.3
Henan	106	6.3	564	9.7
Hubei	41	2.4	357	6.2
Hunan	128	7.6	344	5.9
Guangdong	140	8.3	286	4.9
Sichuan*	251	14.9	510	8.8
Yunnan	37	2.2	254	4.4
Guizhou	77	4.6	209	3.6
Gansu	55	3.3	230	4.0
Shaanxi	73	4.3	215	3.7
Total	1,681	100.0	5,803	100.0

Table 3.5b *Distribution of households with and without migrants 2002, by province*

	Households with Migrants 2002		Households without Migrants 2002	
Province	Frequency	Percent	Frequency	Percent
Beijing	12	.4	62	1.2
Hebei	49	1.7	242	4.7
Shanxi	32	1.1	288	5.6
Liaoning	113	3.9	281	5.4
Jilin	69	2.4	362	7.0
Jiangsu	169	5.8	206	4.0
Zhejiang	104	3.6	270	5.2
Anhui	249	8.5	171	3.3
Jiangxi	269	9.2	145	2.8
Shandong	95	3.3	456	8.8
Henan	171	5.9	312	6.0
Hubei	168	5.8	320	6.2
Hunan	183	6.3	244	4.7
Guangdong	189	6.5	252	4.9
Guangxi	199	6.8	179	3.5
Sichuan*	241	8.3	240	4.6
Chongqing*	99	3.4	83	1.6
Yunnan	69	2.4	168	3.3
Guizhou	180	6.2	206	4.0
Gansu	106	3.6	153	3.0
Shaanxi	128	4.4	218	4.2
Xinjiang	23	.8	305	5.9
Total	2,917	100.0	5,163	100.0

* Chongqing separated from Sichuan and became the fourth metropolitan city in 1997 after Beijing, Tianjin and Shanghai.

Table 3.6 *Distribution of individuals in rural-urban migrants samples in 1995 and 2002, by province*

	Seasonal Migrants 1995		Seasonal Migrants 2002		Permanent Migrants 2002	
Province	Frequency	Percent	Frequency	Percent	Frequency	Percent
Beijing	2	.1	29	.7	189	5.7
Shanxi	64	3.1	56	1.3	192	5.8
Liaoning	29	1.4	152	3.5	356	10.7
Jiangsu	113	5.5	249	5.7	333	10.0
Anhui	160	7.8	390	8.9	342	10.3
Henan	124	6.0	232	5.3	326	9.8
Hubei	47	2.3	231	5.3	286	8.6
Guangdong	210	10.2	338	7.7	352	10.6
Sichuan*	301	14.6	325	7.4	282	8.5
Chongqing*			140	3.2	200	6.0
Yunnan	37	1.8	91	2.1	246	7.4
Gansu	59	2.9	148	3.4	225	6.8
Hebei	84	4.1	59	1.3		
Jilin	61	3.0	106	2.4		
Zhejiang	74	3.6	181	4.1		
Jiangxi	206	10.0	446	10.2		
Shandong	167	8.1	137	3.1		
Hunan	152	7.4	264	6.0		
Guizhou	94	4.6	264	6.0		
Shaanxi	78	3.8	178	4.1		
Guangxi			338	7.7		
Xinjiang			38	.9		
Total	2,062	100.0	4,392	100.0	3,329	100.0

* Chongqing separated from Sichuan and became the fourth Municipality in 1997 after Beijing, Tianjin and Shanghai.

Table 3.7a *Distribution of households with rural-urban migrants samples in 1995 and 2002, by province*

	Households with Migrants 1995		Households with Migrants 2002	
Province	Frequency	Percent	Frequency	Percent
Beijing	4	.2	12	.4
Hebei	80	4.8	49	1.7
Shanxi	50	3.0	32	1.1
Liaoning	24	1.4	113	3.9
Jilin	52	3.1	69	2.4
Jiangsu	99	5.9	169	5.8
Zhejiang	53	3.2	104	3.6
Anhui	140	8.3	249	8.5
Jiangxi	144	8.6	269	9.2
Shandong	127	7.6	95	3.3
Henan	106	6.3	171	5.9
Hubei	41	2.4	168	5.8
Hunan	128	7.6	183	6.3
Guangdong	140	8.3	189	6.5
Guangxi			199	6.8
Sichuan*	251	14.9	241	8.3
Chongqing*			99	3.4
Yunnan	37	2.2	69	2.4
Guizhou	77	4.6	180	6.2
Gansu	55	3.3	106	3.6
Shaanxi	73	4.3	128	4.4
Xinjiang			23	.8
Total	1,681	100.0	2,917	100.0

* Chongqing separated from Sichuan and became the fourth Municipality in 1997 after Beijing, Tianjin and Shanghai.

Table 3.7b *Distribution of households with and without rural-urban migrants samples in 1995, by province*

	Households with Migrants 1995		Households without Migrants 1995	
Province	Frequency	Percent	Frequency	Percent
Beijing	4	.2	62	1.1
Hebei	80	4.8	391	6.7
Shanxi	50	3.0	204	3.5
Liaoning	24	1.4	240	4.1
Jilin	52	3.1	231	4.0
Jiangsu	99	5.9	374	6.4
Zhejiang	53	3.2	304	5.2
Anhui	140	8.3	294	5.1
Jiangxi	144	8.6	196	3.4
Shandong	127	7.6	538	9.3
Henan	106	6.3	564	9.7
Hubei	41	2.4	357	6.2
Hunan	128	7.6	344	5.9
Guangdong	140	8.3	286	4.9
Sichuan	251	14.9	510	8.8
Yunnan	37	2.2	254	4.4
Guizhou	77	4.6	209	3.6
Gansu	55	3.3	230	4.0
Shaanxi	73	4.3	215	3.7
Total	1,681	100.0	5,803	100.0

Table 3.7c *Distribution of households with and without rural-urban migrants samples in 2002, by province*

	Households with Migrants 2002		Households without Migrants 2002	
Province	Frequency	Percent	Frequency	Percent
Beijing	12	.4	62	1.2
Hebei	49	1.7	242	4.7
Shanxi	32	1.1	288	5.6
Liaoning	113	3.9	281	5.4
Jilin	69	2.4	362	7.0
Jiangsu	169	5.8	206	4.0
Zhejiang	104	3.6	270	5.2
Anhui	249	8.5	171	3.3
Jiangxi	269	9.2	145	2.8
Shandong	95	3.3	456	8.8
Henan	171	5.9	312	6.0
Hubei	168	5.8	320	6.2
Hunan	183	6.3	244	4.7
Guangdong	189	6.5	252	4.9
Guangxi	199	6.8	179	3.5
Sichuan*	241	8.3	240	4.6
Chongqing*	99	3.4	83	1.6
Yunnan	69	2.4	168	3.3
Guizhou	180	6.2	206	4.0
Gansu	106	3.6	153	3.0
Shaanxi	128	4.4	218	4.2
Xinjiang	23	.8	305	5.9
Total	2,917	100.0	5,163	100.0

* Chongqing separated from Sichuan and became the fourth Municipality in 1997 after Beijing, Tianjin and Shanghai.

3.3.3 *Variables*

Following the analytical framework, I grouped the determinant variables into five clusters: human capital, labour, land, physical capital, and infrastructure. The samples in 1995 and 2002 shared the most of the variables in addition to some small variations in physical capital and infrastructure. In the cluster of human capital, I choose the total schooling years of labourers in a household, average schooling years of labourers in a household, and schooling years of a household head as representative variables, which were exactly the same in the 1995 and 2002 samples for both households with and without migrants. In the cluster of labour, two variables, the total number of residents in the household and the total labour number in the household were selected. All farm land used by the household was considered as the land cluster. The samples in 1995 and 2002 shared the same variables in clusters of labour and land. There are some differences in the cluster of physical capital in 1995 and 2002. In 1995, I only have the information of household fixed productive assets and all financial assets; in 2002, durable goods and self-owned houses, along with household fixed productive assets and all financial assets, enlarge the variable

size. The samples in 1995 have more information on infrastructure than in 2002, although they share some variables such as electric lighting and drinking water. The dependent variable is a natural logarithm of household yearly income.

Tables 3.8a and 3.8b present information about all the independent variables in samples of household with and without migrants in1995. Compared to households without migrants, households with migrants had more residents (4.82 vs. 4.35), as well as more labourers (2.99 vs. 2.42), but less farm land (7.38 vs. 7.68). Also because of more labourers in their households, the total schooling years of labourers in households with migrants is spontaneously bigger than in households without migrants, however, there is no visible difference in the average schooling years of labourers in a household. The schooling years of the head of households (6.50) without migrants is slightly higher than those (6.165) in households with migrants. It is astonishing that the households without migrants are much better off than the households with migrants in terms of physical capital (fixed productive assets + all financial assets). However, this is not unexpected, since the household members from lower and medium income households are more likely to have the incentive to seek improvement. In regard to infrastructure, households without migrants prevail over households with migrants; nearly half (49.1%) of the households without migrants are located in flat areas with 13% more than in the households with migrants; almost one third (32.9%) of the households with migrants belong to the old revolutionary base areas where the land is less developed, while only 21.7% of the households without migrants belong to the old revolutionary base areas. Over 30% of the households with migrants were situated in the counties which were designated as impoverished counties, 10% more than in the households without migrants; households without migrants were also better off in terms of services such as village telephone service and drinking water. Regarding the factors like village school and village health clinics, there were no obvious differences between these two types of households in 1995.

Tables 3.9a and 3.9b roughly tell the same story as in 1995. Households with migrants had a bigger household size with a mean of 4.47 residents, and correspondingly, more labourers (2.91); both household size and number of labourers were larger than in households without migrants (4.09 and 2.24 respectively). Undoubtedly, the total number of schooling years of labourers in the households with migrants was much greater than in the households without migrants, but still, there is little difference in the average number of schooling years of labourers in these two types of households. However, compared to the two samples in 1995, the average number of schooling years of labourers in 2002 increased

over one year. Household heads were better educated in the households without migrants than those in households with migrants in 2002. Similarly, the educational level of household heads in 2002 was better than in 1995. The farm lands in the two types of households were significantly different: households without migrants had a mean 6.14 *mu*[103], 1.2 *mu* more than in the households with migrants. I am puzzled by decreased amount of farm land in 2002 in both types of households compared to 1995: there were only 4.89 *mu* farm lands in households with migrants and 6.14 *mu* in households without migrants in 2002, and much less, 7.38 *mu* and 7.68 *mu* in 1995, respectively. The farm land/labour ratio in the households with migrants in 1995 was 2.47 (7.38/2.992), and 3.17 (7.68/2.420) in the households without migrants; the ratio dropped to 1.68 (4.892/2.911) in the households with migrants in 2002, and 2.74 (6.138/2.241) in the households without migrants. The acuteness of the contradiction between the land and the farming labour was the immediate cause of rural labour's out-migration. The same holds true in the samples in 1995: households without migrants were much better off than the households with migrants on physical capital (fixed productive assets + all financial assets + durable goods + self-owned house). It is easy to reach the conclusion that migrants commonly come from relatively poor households. Concerning the hard (or tangible) infrastructure (here this refers to electric lighting, fuel, family telephone service, and drinking water), households without were migrants completely in advantageous positions in fuel, family telephone service, and drinking water.

The dependent variable is the natural logarithm of the household yearly income in both years of 1995 and 2002. The gross household income was composed of both income from household operations and other income resources. The former included income from family planting, forest, husbandry and fishery and other income from non-agriculture operation (e.g., industry, construction, transportation, post, social services, commerce, catering, and others); the latter referred to in-kind income, including income from collective welfare fund, subsidies, remittance by household members lived or worked outside, presenter income from relatives and friends, income from renting out or contracting out land, income from renting out other assets, income from interest and dividends, and others.

[103] *mu*, a unit of area , approximately equals to 0.0667 hectares.

Table 3.8a *Statistical Description of Households with and without Migrants, 1995*

		Households 1995			
		HWM		HWOM	
		Mean	Std.D	Mean	Std.D
Labour number within households		2.99	1.28	2.42	1.01
Sum schooling years of labours		18.14	9.40	14.82	8.08
Average schooling years of labours		6.16	2.12	6.19	2.37
Schooling years of household head		6.16	2.80	6.50	2.86
Total number of residents in the households		4.82	1.60	4.35	1.33
Total household living area (m^2)		99.04	53.27	97.27	56.68
Ratio of labour in household		.64	.22	.58	.22
Total gross yearly income		8,417.70	4,790.96	8,641.10	5,356.77
Logged gross income		8.88	.57	8.89	.60
Total amount of land possessed by the household (Mu)		7.38	6.13	7.68	6.34
All farm land used by the household (Mu)		7.38	6.13	7.68	6.34
Cultivated land by the household (Mu)		5.91	5.43	6.63	5.97
Value of household fixed productive assets at the end of 2002		2,480.60	4,119.76	2,671.72	4,974.92
The estimated value for self-owned house		21.71	744.58	8.25	378.35
Total value of all financial assets at the end of 2002		3,975.94	5,463.35	4,616.59	8,693.84
Total debts of household at the end of 2002		616.02	2879.35	608.44	3453.76
Old revolutionary base area*		.33	.47	.22	.41
Border area*		.004	.064	.01	.11
National ethnic minority region*		.05	.23	.08	.27
Suburb of middle or large sized city*		.04	.19	.04	.20
Designated as an impoverished county*		.32	.47	.20	.40
Does your village have a school*		.91	.28	.91	.29
Does your village have a health clinic*		.82	.38	.87	.34
N	Valid	5,803			
	Missing	0			

* Dummy variables, Yes=1, and No=0.

Table 3.8b *Statistical Description of Households with and without Migrants, 1995*

			Households 2002			
			HWM		HWOM	
			Frequency	Percent	Frequency	Percent
Telephone	With telephone in the village		880	52.3	3,518	60.6
	Without telephone in the village		801	47.7	2,285	39.4
	Total	Valid	1,681	100.0	5,803	100.0
		Missing	0	.0	0	.0
Lighting	Lacks electric lighting		35	2.1	85	1.5
	Electric		1,646	97.9	5,718	98.5
	Total	Valid	1,681	100.0	5,803	100.0
		Missing	0	.0	0	.0
Drinking water	Motor-pumped well, Natural well, other		1,322	78.6	4,053	69.8
	Tap		359	21.4	1,750	30.2
	Total	Valid	1,681	100.0	5,803	100.0
		Missing	0	.0	0	.0
House ownership	Non-privately owned		11	.7	41	.7
	Privately owned		1,670	99.3	5,762	99.3
	Total	Valid	1,681	100.0	5,803	100.0
		Missing	0	.0	0	.0
Type of terrain	Hilly, mountainous, unknown		1,065	63.4	2,953	50.9
	Flat		616	36.6	2,850	49.1
	Total	Valid	1,681	100.0	5,803	100.0
		Missing	0	.0	0	.0

Table 3.9a *Statistical Description of Households with and without Migrants, 2002*

		Households 2002			
		HWM		HWOM	
		Mean	Std.D	Mean	Std.D
Labour number within households		2.91	1.13	2.24	.94
Sum schooling years of labours		20.82	9.24	16.06	7.89
Average schooling years of labours		7.21	1.84	7.22	2.08
Schooling years of household head		7.07	2.48	7.33	2.46
Total number of residents in the households		4.47	1.28	4.09	1.24
Total household living area (m^2)		118.07	66.41	113.33	73.79
Schooling years of household head: Father		2.93	2.72	3.01	2.71
Schooling years of household head: Mother		1.04	1.75	1.27	1.95
Ratio of labour in household		.67	.22	.57	.22
Total gross yearly income		8,678.56	4,991.38	10,685.83	6,670.68
Logged gross income		8.91	.58	9.08	.66
Total amount of land possessed by the household (Mu)		7.43	7.68	8.47	9.28
All farm land used by the household (Mu)		4.89	4.96	6.14	7.27
Cultivated land by the household (Mu)		5.35	4.91	6.73	7.46
Value of household fixed productive assets at the end of 2002		3,129.79	5,156.38	5,205.40	13,881.22
The estimated value for self-owned house		20,260.02	21,321.45	23,437.07	27,565.53
Total value of all financial assets at the end of 2002		5,810.04	9,229.85	7,361.97	11,304.96
Total present value of durable goods (and furniture) (estimated)		2,770.36	3,866.18	3,241.19	4,825.70
Total debts of household at the end of 2002		1,369.19	4,741.91	1,320.80	6,332.06
CPC membership of household head: Father*		.11	.31	.12	.32
CPC membership of household head: Mother*		.01	.10	.01	.10
Household head: Father: Have they ever been engaged in industry and commerce business*		.06	.24	.06	.25
Household head: Mother: Have they ever been engaged in industry and commerce business*		.01	.10	.01	.12
Do you belong to the first largest surname families in this village*		.45	.50	.40	.49
Did you get any kind of poverty alleviation loan in 2002*		.01	.09	.01	.10
Did you get other kinds of loan in 2002*		.08	.28	.10	.30
Did the family engaged in non-agricultural business*		.15	.35	.16	.37
N	Valid	2,917		5,163	
	Missing	0		0	

* Dummy variables, Yes=1, and No=0.

Table 3.9b *Statistical Description of Households with and without Migrants, 2002*

			Households 2002			
			HWM		HWOM	
			Frequency	Percent	Frequency	Percent
Fuel	Firewood and other		1,977	67.8	2,989	57.9
	Gas or Coal		940	32.2	2,171	42.0
	Total	Valid	2,917	100.0	5,160	99.9
		Missing	0	.0	3	.1
Telephone	With telephone in the household		1,088	37.3	2,157	41.8
	Without telephone in the household		1,828	62.7	3,003	58.2
	Total	Valid	2,916	100.0	5,160	99.9
		Missing	1	.0	3	.1
Lighting	Lacks electric lighting		10	.3	11	.2
	Electric		2,907	99.7	5,150	99.7
	Total	Valid	2,917	100.0	5,161	100.0
		Missing	0	.0	2	.0
Drinking water	Motor-pumped well, Natural well, other		2,214	75.9	3,265	63.2
	Tap		703	24.1	1,898	36.8
	Total	Valid	2,917	100.0	5,163	100.0
		Missing	0	.0	0	.0
House ownership	Non-privately owned		37	1.3	49	.9
	Privately owned		2,878	98.7	5,113	99.0
	Total	Valid	2,915	99.9	5,162	100.0
		Missing	2	.1	1	.0
Building materials of house	Brick or stone, clay and straw, other		2,063	70.7	3,914	75.8
	Concrete framework		852	29.2	1,248	24.2
	Total	Valid	2,915	99.9	5,162	100.0
		Missing	2	.1	1	.0

3.3.4 *Hypotheses, Models, and Methods*

I mainly focus on four hypotheses: (*H*1) that the return to human capital in households with migrants is larger than that in households without migrants; (*H*2) that the return to human capital increases over time; (*H*3) that the contribution of labour to household income decreases over time and correspondingly; (*H*4) that the contribution of physical capital becomes increasingly important.

The first hypothesis concerns whether the out-migrants have more income from their non-farming work with an assumption that the human capital return in non-farming sector is higher than in the farming sector. The second hypothesis concerns the change in human capital return over time both for the households with and without migrants. The third hypothesis tests whether households' income depends on intensive labour input, and the fourth hypothesis, in return, tests the role of physical capital over time.

Semi-logarithm transformation is a helpful way to measure the returns of income, that is, the predication is not on income itself, but on the natural logarithm of income. There

are three benefits in doing so (Treiman, 2012:135). First, economic theories on income determinants tend to use natural logarithm to predict income. Second, in the countries like the United States and other developed countries, income is generally in a logarithmic normal distribution. Therefore, the natural logarithm of income also is in a normal distribution, and for simplicity in statistics, natural logarithm of income, rather than income, is frequently used. Third and most important, if the dependent variable is in the form of a natural logarithm, the regression coefficient can be explained as a proportionate increase with the per unit increase of independent variables. Following this same strategy in this study, I refer to the natural logarithm of household's yearly income (*LnI*) as the dependent variable. The general model in this study can be formulated as follows:

$$LnI_{jt} = a + b_{jt}HC + c_{jt}Labour + d_{jt}Land + f_{jt}PC + g_{jt}I + h_{jt}D + e_{jt} \quad (3.1)$$

where:

LnI = natural logarithm of household yearly income

HC = human capital

Labour = number of labourers in the household

Land = all farm land used by the household

PC = physical capital

I = infrastructure

D = Dummy variables

e = error term

and *a*, *b*, *c*, *d*, *f*, *g*, and h are parameters, *j* is the types of households, *t* is time of years in 1995 and 2002. I split the general model in a stepwise process as follows:

$$LnI_{jt} = a + b_{1jt}SE + b_{2jt}AE + b_{3jt}E_H + e_{jt} \quad (3.2)$$

$$LnI_{jt} = a + b_{1jt}SE + b_{2jt}AE + b_{3jt}E_H + c_{1jt}NT + c_{2jt}NL + e_{jt} \quad (3.3)$$

$$LnI_{jt} = a + b_{1jt}SE + b_{2jt}AE + b_{3jt}E_H + c_{1jt}NT + c_{2jt}NL + d_{jt}LF + e_{jt} \quad (3.4)$$

$$LnI_{jt} = a + b_{1jt}SE + b_{2jt}AE + b_{3jt}E_H + c_{1jt}NT + c_{2jt}NL + d_{jt}LF + f_{1jt}V_{FPA} + f_{2jt}V_{FA} +$$

$$(f_{3jt}V_{DG} + f_{4jt}V_H)^* + e_{jt} \quad (3.5)$$

$$LnI_{jt} = a + b_{1jt}SE + b_{2jt}AE + b_{3jt}E_H + c_{1jt}NT + c_{2jt}NL + d_{jt}LF + f_{1jt}V_{FPA} + f_{2jt}V_{FA} + (f_{3jt}V_{DG} + f_{4jt}V_H) + g_{jt}I + h_{jt}D_k + e_{jt} \quad (3.6)$$

where:

LnI = natural logarithm of household yearly income

SE = sum of schooling years of labourers in the household

AE = average schooling years of labours in the household

E_H = schooling years of household head

NT = total number of residents in household

NL = labourer number within household

LF = all farm land used by the household

V_{FPA} = value of household fixed productive assets

V_{FA} = value of all financial assets

V_{DG} = value of durable goods (estimated)

V_H = value of self-owned house (estimated)

D_k = dummy variables*

I = infrastructure¤

* I used the variables of V_{DG} (value of durable goods (estimated)) and D_H (value of self-owned house (estimated)) only in the 2002 samples.

* The dummy variables in 1995 and 2002 samples vary from each other. In both samples of households with migrants and without migrants in 1995, the dummy variables include *Tt* (types of terrain, flat = 1), *ORBA* (Old Revolutionary Base Area, yes = 1), *BA* (border area, yes = 1), *NEMR* (national ethnic minority region, yes = 1), *Sub* (suburb of middle or large sized city, yes = 1), and *IC* (designated as an impoverished county, yes = 1); in the two samples in 2002, the dummy variables include *ENAB* (does the family engaged in non-agricultural business, yes = 1), *PAL* (did the family get any kind of poverty alleviation loan in 2002, yes = 1), *OL* (did the family get other kinds of loan in 2002, yes = 1), and *LSF* (does the family belong to the first largest surname families in this village, yes = 1)

¤ The cluster of infrastructure includes variables like *VS* (does the village have a school, yes = 1), *VHC* (does the village have a health clinic, yes = 1), *VTS* (does the village have a telephone service, yes = 1), *EL* (electric lighting, yes = 1) and *DW* (drinking water obtained from, tap water = 1) in 1995 samples; and *EL* (electric lighting, yes = 1), *DW* (drinking water obtained from, tap water = 1), *F* (fuel, gas or coal =1), and *HT* (does the family have a telephone, yes = 1) in 2002 samples.

I first (in Equation 3.2) test the impact of human capital on a rural household's income using three variables: sum of schooling years of labourers in the household representing the overall educational level of wage-earners, average schooling years of labourers in the household expressing the restrictive correlation between the quantity and quality of labour, and schooling years of the household head indicating the role of the household head's educational level to the decision-making on household production layout. Then, I incrementally enter other cluster of variables to the regression models to explore the effect of human capital on households' income under the control of other variables in equation 3.3, 3.4, 3.5, and 3.6.

3.4 Results

3.4.1 Descriptive Results

The average income (shown in Table 3.10 below) for households with migrants was less than those without, and the gap widened from 1995 to 2002 from approximately 200 RMB *yuan* to 2,000 RMB *yuan*. Noticeably, the average income for households with migrants only had a slight increase compared with households without migrants in this seven-year period. The proportion of households with migrants increased to 36.10% (2,917/8,080) in 2002 from 22.46% (1,681/7,484) in 1995, indicating that more than 1/3 of households had migrants in rural areas in 2002.

Table 3.10 *Statistical Description of Households Income with and without Migrants, 1995 and 2002*

			Households				
			With Migrants		Without Migrants		Total
			Mean	Median	Mean	Median	
			8,417	7,441	8,641	7,447	
1995			(4,790)		(5,356)		
	Total	Valid	1,681		5,803		7,484
		Missing	0		0		
2002			8,678	7,513	10,685	9,080	
			(4,994)		(6,670)		
	Total	Valid	2,917		5,163		8,080
		Missing	0		0		

With respect to human capital variables, I observed that the average schooling years (*AE*) of the labour force in households without migrants, by and large, was equivalent to households with migrants in 1995 (6.189 for households without migrants and 6.16 for households with migrant in Tables 3.11a, and 3.12a), and the same story was told in 2002 (7.218 for households without migrants and 7.214 for households with migrants in Tables 3.13a, and 3.14a), despite their having a one-year increase in average schooling years in

2002 than in 1995. The educational attainment of the household head (E_H) in households without migrants was higher than those in households with migrants in both years; this may indicate that a relatively better educated household head is more inclined to stay and work at home, and earn their livelihood. The household size (*NT*) was smaller for those without migrants in both 1995 and 2002, and correspondingly, households without migrants had less labour force (*NL*) than those with migrants. Just because of this, households without migrants had more per capita cultivated land (*LF*) as reported in previous text on variable introduction. The sharpening contradiction between population and land resources for rural households is the driving reason for out-migration and pursuing other means of living.

A huge disparities were also reported on physical capitals represented by in-kind assets. Households without migrants were markedly superior to those with migrants, and the disparities became bigger over time. Referring to the differentials on farming land possession, I can conclude that the reason that some rural household members out-migrate for working is justified because they and their family households are deprived of production resources, e.g., land and assets.

With respect to infrastructure (school, electricity, tap water) and objectively exterior conditions such as geomorphic features and economic-geographic features (e.g., type of terrain, ethnic minority regions), households with migrants have been disadvantaged.

3.4.2 *Which Factors Shape Household Income Generation?*

I use a vertical and horizontal comparison method following the model reported above to test which factors shape household income generation and inequality among households and between household groups (with and without migrants). The comparison scheme can be illustrated as follows:

Figure 3.2 *Comparison Scheme of Household Income Determinants from 1995 to 2002*

Years	Households types
1995	Human capital
|	Physical capital
2002	Land
	Labour force
	Infrastructure

Table 3.11a *Mean, Std. Deviation, and Correlation Coefficient of the Determinate Variables affecting Income of Households without Migrants 1995 (N=5803)*

	LnI	*SE*	*AE*	E_H	*NT*	*NL*	*LF*	V_{FPA}	V_{FA}
LnI: Returns to the based-e logarithm of yearly income		.160**	.017	.005	.206**	.185**	.168**	.213**	.193**
SE: Sum schooling years of labourers in household			.584**	.366**	.263**	.719**	.035**	.068**	.090**
AE: Average schooling years of labourers in household				.701**	-.052**	-.069**	-.080**	.023	.080**
E_H: Schooling years of household head					-.053**	-.122**	-.068**	-.007	.028*
NT: Total number of residents in household						.399**	.224**	.063**	.009
NL: Labourer number within household							.129**	.071**	.035**
LF: All farm land used by the household								.123**	-.051**
V_{FPA}: Value of household fixed productive assets									.112**
V_{FA}: Total value of all financial assets									
N	5,803	5,803	5,803	5,803	5,803	5,803	5,803	5,803	5,803
Mean	8.892	14.822	6.189	6.50	4.35	2.420	7.68	2,671.72	4,616.59
Std. D	.599	8.081	2.372	2.861	1.331	1.013	6.336	4,974.921	8,693.842

**.Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 3.11b *Mean, Std. Deviation, and Correlation Coefficient of the Dummy Variables affecting Income of Households without Migrants 1995 (N=5803)*

	LnI	*Tt*	*ORBA*	*BA*	*NEMR*	*Sub*	*IC*	*VS*	*VHC*	*VTS*	*EL*	*DW*
LnI: Returns to the based-e logarithm of yearly income		.195**	-.001	.049**	.016	.016	-.211**	-.012	.087**	.084**	.063**	.003
Tt: Type of terrain, Flat=1			-.143**	.004	-.110**	-.010	-.259**	.089**	.232**	.193**	.080**	.130**
ORBA: Old Revolutionary Base Area, Yes=1				-.037**	-.060**	-.093**	.086**	.001	-.029**	.059**	.043**	-.124**
BA: Border Area, Yes=1					.299**	-.007	-.022	-.034*	-.147**	-.013	.001	.047**
NEMR: National Ethnic Minority Region, Yes=1						-.057**	.122**	-.141**	-.292**	-.071**	-.187**	-.062**
Sub: Suburb of middle or large sized city, Yes=1							-.057**	.035**	.067**	.102**	.018	.118**
IC: Designated as an impoverished county, Yes=1								.001	-.134**	-.140**	-.121**	-.103**
VS: Does the village have a school, Yes=1									.324**	.207**	.140**	.000
VHC: Does the village have a health clinic, Yes=1										.242**	.185**	.090**
VTS: Does the village have a telephone service, Yes=1											.104**	.229**
EL: Electric Lighting, Yes=1												.027**
DW: Drinking water obtained from, Tap water=1												
N	5,803	5,803	5,803	5,803	5,803	5,803	5,803	5,803	5,803	5,803	5,803	5,803
Mean	8.892	.491	.217	.013	.079	.040	.203	.908	.867	.606	.985	.301
Std. D	.599	.450	.412	.111	.270	.196	.402	.289	.339	.489	.120	.459

**.Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 3.12a *Mean, Std. Deviation, and Correlation Coefficient of the Determinate Variables affecting Income of Households with Migrants 1995 (N=1681)*

	LnI	*SE*	*AE*	E_H	*NT*	*NL*	*LF*	V_{FPA}	V_{FA}
LnI: Returns to the based-e logarithm of yearly income		.292**	.024	.026	.287**	.326**	.163**	.219**	.270**
SE: Sum schooling years of labourers in household			.496**	.283**	.439**	.773**	.087**	.037	.080*
AE: Average schooling years of labourers in household				.616**	-.037	-.100**	-.080**	.017	.118**
E_H: Schooling years of household head					-.046	-.116**	-.026	-.024	.030
NT: Total number of residents in household						.563**	.264**	.091**	.035
NL: Labourer number within household							.177**	.046	.015
LF: All farm land used by the household								.114**	-.025
V_{FPA}: Value of household fixed productive assets									.135**
V_{FA}: Total value of all financial assets									
N	1,681	1,681	1,681	1,681	1,681	1,681	1,681	1,681	1,681
Mean	8.882	18.140	6.160	6.165	4.82	2.992	7.38	2,480.60	3,975.94
Std. D	.575	9.403	2.121	2.798	1.603	1.276	6.127	3,975.94	5,463.348

**.Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 3.12b *Mean, Std. Deviation, and Correlation Coefficient of the Dummy Variables affecting Income of Households with Migrants 1995 (N=1681)*

	LnI	*Tt*	*ORBA*	*BA*	*NEMR*	*Sub*	*IC*	*VS*	*VHC*	*VTS*	*EL*	*DW*
LnI: Returns to the based-e logarithm of yearly income		.183**	.046	-.055**	-.119**	.052*	-.203**	.000	.176**	.119**	.097**	.036
Tt: Type of terrain, Flat=1			-.136**	-.030	-.148**	-.053*	-.208**	.050**	.275**	.167**	.085**	.185**
ORBA: Old Revolutionary Base Area, Yes=1				.014	.013	-.125**	.142**	-.013	-.126**	.-.004	.-.013	-.139**
BA: Border Area, Yes=1					-.015	-.013	.074**	-.045	-.018	-.031	.009	-.034
NEMR: National Ethnic Minority Region, Yes=1						-.033	.230**	-.047	-.249**	-.112**	-.169**	-.072**
Sub: Suburb of middle or large sized city, Yes=1							-.037	-.016	.026	.094**	.029	.042
IC: Designated as an impoverished county, Yes=1								.073**	-.110**	-.145**	-.059*	-.166**
VS: Does the village have a school, Yes=1									.272**	.159**	.028	.014
VHC: Does the village have a health clinic, Yes=1										.262**	.183**	.124**
VTS: Does the village have a telephone service, Yes=1											.136**	.221**
EL: Electric Lighting, Yes=1												.056*
DW: Drinking water obtained from, Tap water=1												
N	1,681	1,681	1,681	1,681	1,681	1,681	1,681	1,681	1,681	1,681	1,681	1,681
Mean	8.882	.366	.329	.004	.054	.038	.325	.911	.823	.524	.979	.214
Std. D	.575	.482	.470	.064	.225	.190	.468	.284	.382	.500	.143	.410

**.Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 3.13a *Mean, Std. Deviation, and Correlation Coefficient of the Determinate Variables affecting Income of Households without Migrants 2002 (N=5163)*

	LnI	*SE*	*AE*	E_H	*NT*	*NL*	*LF*	V_{FPA}	V_{FA}	V_{DG}	V_H
LnI: Returns to the based-e logarithm of yearly income		.136**	.024	.017	.196**	.153**	.252**	.188**	.141**	.060**	.033*
SE: Sum schooling years of labourers in household			.480**	.294**	.350**	.818**	.025	.067**	.124**	.128**	.153**
AE: Average schooling years of labourers in household				.699**	-.014	-.052**	-.030*	.027*	.130**	.130**	.159**
E_H: Schooling years of household head					-.073**	-.109**	-.041**	-.010	.094**	.090**	.091**
NT: Total number of residents in household						.441**	.112**	.067**	-.004	.009	.011
NL: Labourer number within household							.059**	.065**	.054**	.062**	.063**
LF: All farm land used by the household								.066**	-.046**	-.037**	-.125**
V_{FPA}: Value of household fixed productive assets									.082**	.202**	.157**
V_{FA}: Total value of all financial assets										.272**	.265**
V_{DG}: Total value of durable goods (estimated)											.411**
V_H: Value of self-owned house (estimated)											
N	5,163	5,163	5,163	5,163	5,163	5,163	5,163	5,163	5,163	5,163	5,163
Mean	9.077	16.064	7.218	7.334	4.09	2.241	6.138	5,205.40	7,361.97	3,241.19	23,437.07
Std. D	.658	7.892	2.083	2.465	1.244	.936	7.271	13,881.217	11,304.958	4,825.696	27,565.527

**.Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 3.13b *Mean, Std. Deviation, and Correlation Coefficient of the Dummy Variables affecting Income of Households without Migrants 2002 (N=5163)*

	LnI	*ENAB*	*PAL*	*OL*	*LSF*	*EL*	*F*	*HT*	*DW*
LnI: Returns to the based-e logarithm of yearly income		.131**	.008	.093**	-.027	.001	-.080**	.110**	.026
ENAB: Family engaged in non-agricultural business, Yes=1			.010	-.018	.045**	-.014	.105**	.121**	.003
PAL: Did the family get any kind of poverty alleviation loan in 2002, Yes=1				.073**	-.012	-.038**	-.036**	-.016	-.018
OL: Did the family get other kinds of loan in 2002, Yes=1					-.047**	.015	-.069**	.035	-.012
LSF: Does the family belong to the first largest surname families in this village, Yes=1						.012	.069**	.035*	-.012
EL: Electric Lighting, Yes=1							.005	.019	.009
F: Fuel, Gas or coal=1								.185**	.241**
HT: Does the family have a telephone, Yes=1									.207**
DW: Drinking water obtained from, Tap water=1									
N	5,163	5,163	5,157	5,138	5,160	5,161	5,160	5,160	5,163
Mean	9.077	.163	.010	.099	.400	.998	.421	.418	.368
Std. D	.658	.370	.098	.299	.489	.046	.493	.493	.482

**.Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 3.14a *Mean, Std. Deviation, and Correlation Coefficient of the Determinate Variables affecting Income of Households with Migrants 2002 (N=2917)*

	LnI	*SE*	*AE*	E_H	*NT*	*NL*	*LF*	V_{FPA}	V_{FA}	V_{DG}	V_H
LnI: Returns to the based-e logarithm of yearly income		.243**	.114**	.073**	.145**	.206**	.205**	.243**	.178**	.146**	.156**
SE: Sum schooling years of labourers in household			.430**	.243**	.436**	.836**	.074**	.074**	.111**	.154**	.135**
AE: Average schooling years of labourers in household				.606**	-.029	-.081**	-.005	.069**	.170**	.131**	.163**
E_H: Schooling years of household head					-.081**	-.094**	.006	.040*	.081**	.065**	.076**
NT: Total number of residents in household						.524**	.129**	.061**	-.036	.062**	.028
NL: Labourer number within household							.092**	.041*	.015	.088**	.053**
LF: All farm land used by the household								.145**	-.035	.025	-.100**
V_{FPA}: Value of household fixed productive assets									.053**	.158**	.137**
V_{FA}: Total value of all financial assets										.167**	.178**
V_{DG}: Total value of durable goods (estimated)											.299**
V_H: Value of self-owned house (estimated)											
N	2,917	2,917	2,917	2,917	2,917	2,917	2,917	2,917	2,917	2,917	2,917
Mean	8.907	20.818	7.214	7.074	4.47	2.911	4.892	3,129.79	5,810.04	2,770.36	20,260.02
Std. D	.579	9.245	1.844	2.479	1.284	1.133	4.958	5,156.377	9,229.851	3,866.181	21,321.454

**.Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 3.14b *Mean, Std. Deviation, and Correlation Coefficient of the Dummy Variables affecting Income of Households with Migrants 2002 (N=2917)*

	LnI	*ENAB*	*PAL*	*OL*	*LSF*	*EL*	*F*	*HT*	*DW*
LnI: Returns to the based-e logarithm of yearly income		.162**	.028	.083**	-.004	.063**	.039**	.181**	.035
ENAB: Family engaged in non-agricultural business, Yes=1			-.006	-.007	-.012	.024	.105**	.110**	-.020
PAL: Did the family get any kind of poverty alleviation loan in 2002, Yes=1				.054**	-.005	.005	-.006	-.007	.011
OL: Did the family get other kinds of loan in 2002, Yes=1					.001	.018	-.003	.034	.019
LSF: Does the family belong to the first largest surname families in this village, Yes=1						.029	.009	.006	-.033
EL: Electric Lighting, Yes=1							.040*	.045*	.006
F: Fuel, Gas or coal=1								.154**	.109**
HT: Does the family have a telephone, Yes=1									.096**
DW: Drinking water obtained from, Tap water=1									
N	2,917	2,917	2,917	2,917	2,917	2,917	2,917	2,917	2,917
Mean	8.907	.146	.008	.084	.446	.997	.322	.373	.241
Std. D	.579	.354	.090	.278	.497	.058	.467	.484	.428

**.Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The regression results are presented below in Tables 3.15a, 3.15b, 3.16a, and 3.16b. Horizontally, Table 3.15a and 3.15b outline the differences of the determinants on income in two types of households in 1995. Surprisingly, the variables of human capital collectively were absent from income function in the sample of households without migrants, even *AE* has an impact on household income, but negative. A possible explanation is that, firstly, the returns to human capital in the households which mainly engaged in farming are low. Secondly, in the early development level, agricultural production relied more on the input of intensive labour forces, rather than human capital. A probable situation is that, agricultural production is a relatively low-access-threshold industry, therefore, the prospective rural labourers can engage in farming at an early age. If the prospective labourers study at school, it is a loss to rural households. Following the logic of exclusion time on farming and schooling, rural households tend to reduce the schooling years of the prospective labourers, choosing farming with the 'higher return'. Fortunately, the collective failure of human capital has been improved in the sample of households with migrants in 1995: E_H (schooling years of household head) has a positive effect on household income, though *SE* (sum schooling years of labourers in the household) and *AE* (average schooling years of labourers in the household) still are insignificant. The household income increases by 1.3% ($e^{.013}$-1) if the household head receive one more year education. The results so far tend to verify *H1* in that the return to human capital in households with migrants is more than that in households without migrants. Nevertheless, if I compare the joint effect of human capital between the samples of households with and without migrants, the result shows that the return to human capital in households with migrants is slightly higher than in the households without migrants; the return to human capital for the households with migrant is -0.6%($e^{.004-.023+.013}$-1), and -0.7% ($e^{.004-.016+.005}$-1) for the households without migrants. Superficially, human capital return for households with migrants is higher than for households without migrants, though both have a negative effect. But considering the statistical insignificance, I am reluctant to draw the conclusion that *H1* has been verified. Concerning the variables of household size and number of labourers, the two types of households tell a different story. *NT* (total number of residents in household) contributes income in both households without and with migrants, which means that, for rural households, an increase of household size is simultaneously an increase of prospective labourers. *NL* (labourer number within household) has a greater effect on household income for the households with migrants, and the household income increases by 7% ($e^{.068}$-1) if the households have one additional labourer. This also suggests out-migration in households

with migrants raises the labour productivity of members remaining in their households. The farm land definitely determines households' income, and there is a slight difference between the two types of households, an increase of 1.0% ($e^{.010}$-1) and 1.3% ($e^{.013}$-1) in households with and without migrants respectively. Physical capitals (V_{FPA}: value of household fixed productive assets, and V_{FA}: value of all financial assets) have positive effects on households' income, but are not significant. The interpretation of infrastructure goes beyond my expectations: both *VS* (does the village have a school, yes = 1) and *DW* (drinking water obtained from, tap water = 1) have a negative effect on households' income. All the other dummy variables favour the better-off aspects.

Tables 3.16a and 3.16b present the income determining models in 2002 for two types of households, and show a completely different picture. This time, contrary to the results of 1995, the collective failure of human capital occurs in the samples of households with migrants; all three variables, *SE* (sum schooling years of labourers in the household), *AE* (average schooling years of labourers in the household), and E_H (schooling years of household head), have a positive effect on household income however, not significant. For the samples of households without migrants, their household income increases by 1.0% ($e^{.010}$-1) if the household head receive one more year of education. In comparing the joint effect of human capital, the return on households with migrants ($e^{.003+.008+.006}$) is lightly higher than for households without migrants ($e^{-.006+.007+.010}$). Still, I cannot jump to the conclusion that human capital returns on households with migrants is higher than for households without migrants in the absence of solid proof of any statistical significance. The variables of household size and number of labourers have a great impact on household income for the households without migrants; the household income increases by 17.8% ($e^{.068+.096}$-1) if the household has one more member and one more labourer. For the households with migrants, the effects of both household size and number of labourers are positive on household income, in spite of statistical insignificance, and there is much less effect on the households without migrants. The scale of farm land plays an important role in the rural household income on a sustained basis, and the household income increases by 2.0% if the household uses one *mu* more farm land for both households with and without migrants. Physical capitals positively affect household income, but have only a limited effectiveness. Expectedly, households' income is much higher in those areas with well-developed infrastructure. It is notable that the dummy variable of non-agricultural business engagement (*ENAB*) has such a huge impact on household income; the household income increases by 21.2% ($e^{.192}$-1) and 24.5% ($e^{.219}$-1) for the households with and without

migrants, respectively. Furthermore, rural household incomes also are influenced by financial policy, particularly loan. Household income increases by 11.2% ($e^{.106}$-1) for the households with migrants and 12.2 % ($e^{.115}$-1) for the households without migrants.

Vertically, the results of the two types of households in different years offer an opportunity to explore the transformation of the income determinants over time. Firstly, in the households with migrants, (see Tables 3.15b and 3.16a), the rate of human capital return in 2002 is 1.7% ($e^{.003+.008+.006}$-1), and -0.6% ($e^{.004-.023+.013}$-1) in 1995. These results are consistent with *H2* without considering the statistical insignificance; the effects of household size and labourer numbers have stronger impacts on household income for the sample in 1995 than in 2002, and the household income increases by 12.9% ($e^{.053+.068}$-1) if the households with migrants have one more family member and one more labourer in 1995, an increase of 4.9% for the households with migrants in 2002. Household income in households with migrants in 2002 increased by 2% ($e^{.020}$-1) and 1% ($e^{.010}$-1) in 1995 if the household has one more farm land; physical capitals in both years do not show huge differences, although they positively contribute to household income; and the effects of infrastructure vary because of the diversity of variables. Secondly, in the households without migrants, (see Tables 3.15a and 3.16b), the rate of human capital return in 1995 is -0.7% ($e^{.004-.016+.005}$-1), and 1.1% ($e^{-.006+.007+.010}$-1) in 2002. These results also favour *H2* without considering the statistical insignificance; the household size and labourer numbers largely affect household income in 2002, and household income increases by 17.8% ($e^{.068+.096}$-1) if the household have an increase of family member and labourer simultaneously, much more than 9.9% ($e^{.069+.025}$-1) in 1995. Household income increases by 2.1% ($e^{.021}$-1) in 2002 and 1.3% ($e^{.013}$-1) in 1995 if the households have one more *mu* farm land. As in the samples of households with migrants, physical capitals in households without migrants in both years present little difference, although they positively contribute to household income; likewise, the effects of infrastructure vary because of the diversity of variables. Therefore, the variation trends of income determinants can be illustrated in the chart as follows:

Figure 3.3 *Variation Trends of Income Determinants from 1995 to 2002*

	Households with Migrants	Households without Migrants
Human capital	↗	↗
Labour	↘	↗
Land	↗	↗
Physical capital	-	-
Infrastructure	-	-
	1995-2002	

Table 3.15a *Regression results: Households without Migrants 1995*[a]

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Unstandardized Coefficients					
SE: Sum schooling years of labourers in household	.017***	.009*	.010**	.008*	.004
	(.001)	(.003)	(.003)	(.003)	(.003)
AE: Average schooling years of labourers in household	-.030***	-.011	-.012	-.015	-.016*
	(.005)	(.008)	(.008)	(.008)	(.008)
E_H: Schooling years of household head	.001	.001	.002	.005	.005
	(.004)	(.004)	(.004)	(.004)	(.003)
NT: Total number of residents in household		.072***	.060***	.058***	.069***
		(.006)	(.006)	(.006)	(.006)
NL: Labourer number within household		.022	.011	.015	.025
		(.022)	(.022)	(.021)	(.021)
LF: All farm land used by the household			.012***	.011***	.013***
			(.001)	(.001)	(.001)
V_{FPA}: Value of household fixed productive assets				1.975E-005***(.000)	1.847E-005***(.000)
V_{FA}: Total value of all financial assets				1.192E-005***(.000)	9.127E-006***(.000)
Tt: Type of terrain, Flat=1					.145***
					(.015)
ORBA: Old Revolutionary Base Area, Yes=1					.094***
					(.018)
BA: Border Area, Yes=1					.029 (.068)
NEMR: National Ethnic Minority Region, Yes=1					.044
					(.029)
Sub: Suburb of middle or large sized city, Yes=1					.020
					(.037)
IC: Designated as an impoverished county, Yes=1					-.241***
					(.019)
VS: Does the village have a school, Yes=1					-.167***
					(.027)
VHC: Does the village have a health clinic, Yes=1					.122***
					(.024)
VTS: Does the village have a telephone service, Yes=1					.038*
					(.016)
EL: Electric Lighting, Yes=1					.153* (.016)

Continued

DW: Drinking water obtained from, Tap water=1					-.065***
					(.016)
Constant	8.822***	8.462***	8.430***	8.359***	8.194***
	(.022)	(.057)	(.057)	(.055)	(.082)
R^2	.034	.057	.073	.135	.198
s.e.e.	.588	.581	.577	.557	.537
Standardized Coefficients					
SE: Sum schooling years of labourers in household	.228***	.115*	.131**	.103*	.049
AE: Average schooling years of labourers in household	-.120***	-.044	-.047	-.059	-.062*
E_H: Schooling years of household head	.006	.007	.008	.023	.024
NT: Total number of residents in household		.159***	.133***	.129***	.153***
NL: Labourer number within household		.037	.019	.025	.042
LF: All farm land used by the household			.128***	.118***	.139***
V_{FPA}: Value of household fixed productive assets				.164***	.154***
V_{FA}: Total value of all financial assets				.173***	.133***
Tt: Type of terrain, Flat=1					.121***
ORBA: Old Revolutionary Base Area, Yes=1					.065***
BA: Border Area, Yes=1					.005
NEMR: National Ethnic Minority Region, Yes=1					.020
Sub: Suburb of middle or large sized city, Yes=1					.007
IC: Designated as an impoverished county, Yes=1					-.162***
VS: Does the village have a school, Yes=1					-.080***
VHC: Does the village have a health clinic, Yes=1					.069***
VTS: Does the village have a telephone service, Yes=1					.031*
EL: Electric Lighting, Yes=1					.031*
DW: Drinking water obtained from, Tap water=1					-.049***

a ***.Correlation is significant at the 0.001 level.
**.Correlation is significant at the 0.01 level.
*. Correlation is significant at the 0.05 level.
Std. Error is in the brackets.

Table 3.15b *Regression results: Households with Migrants 1995*[b]

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Unstandardized Coefficients					
SE: Sum schooling years of labourers in household	.023***	.006	.007	.008	.004
	(.002)	(.005)	(.005)	(.005)	(.005)
AE: Average schooling years of labourers in household	-.049***	-.007	-.007	-.023	-.023
	(.009)	(.015)	(.015)	(.014)	(.014)
E_H: Schooling years of household head	.007	.009	.008	.013*	.013*
	(.006)	(.006)	(.006)	(.006)	(.005)
NT: Total number of residents in household		.054***	.046***	.038***	.053***
		(.010)	(.010)	(.010)	(.009)
NL: Labourer number within household		.075*	.068	.062	.068*
		(.035)	(.035)	(.033)	(.032)
LF: All farm land used by the household			.009***	.008***	.010***
			(.002)	(.002)	(.002)
V_{FPA}: Value of household fixed productive assets				2.223E-005***	2.139E-005***
				(.000)	(.000)
V_{FA}: Total value of all financial assets				2.544E-005***	1.870E-005***
				(.000)	(.000)
Tt: Type of terrain, Flat=1					.118***
					(.027)
ORBA: Old Revolutionary Base Area, Yes=1					.117***
					(.027)
BA: Border Area, Yes=1					-.277 (.186)
NEMR: National Ethnic Minority Region, Yes=1					-.050
					(.056)
Sub: Suburb of middle or large sized city, Yes=1					.063
					(.065)
IC: Designated as an impoverished county, Yes=1					-.183***
					(.028)
VS: Does the village have a school, Yes=1					-.140**
					(.045)
VHC: Does the village have a health clinic, Yes=1					.162***
					(.036)
VTS: Does the village have a telephone service, Yes=1					.030
					(.026)

Continued

EL: Electric Lighting, Yes=1					.207*
					(.086)
DW: Drinking water obtained from, Tap water=1					-.058
					(.031)
Constant	8.729***	8.280***	8.266***	8.218***	7.984***
	(.042)	(.104)	(.103)	(.098)	(.133)
R^2	.105	.127	.134	.227	.291
s.e.e.	.544	.538	.535	.506	.486
Standardized Coefficients					
SE: Sum schooling years of labourers in household	.372***	.098	.114	.131	.061
AE: Average schooling years of labourers in household	-.179***	-.028	-.028	-.086	-.085
E_H: Schooling years of household head	.032	.042	.037	.061*	.062*
NT: Total number of residents in household		.151***	.129***	.107***	.148***
NL: Labourer number within household		.167*	.151	.137	.151*
LF: All farm land used by the household			.091***	.081***	.107***
V_{FPA}: Value of household fixed productive assets				.159***	.153***
V_{FA}: Total value of all financial assets				.242***	.178***
Tt: Type of terrain, Flat=1					.099***
ORBA: Old Revolutionary Base Area, Yes=1					.096***
BA: Border Area, Yes=1					-.031
NEMR: National Ethnic Minority Region, Yes=1					-.020
Sub: Suburb of middle or large sized city, Yes=1					.021
IC: Designated as an impoverished county, Yes=1					-.149***
VS: Does the village have a school, Yes=1					-.070**
VHC: Does the village have a health clinic, Yes=1					.108***
VTS: Does the village have a telephone service, Yes=1					.026

Continued

EL: Electric Lighting, Yes=1	.051*
DW: Drinking water obtained from, Tap water=1	-.042

b ***.Correlation is significant at the 0.001 level.
**.Correlation is significant at the 0.01 level.
*. Correlation is significant at the 0.05 level.
Std. Error is in the brackets.

Table 3.16a *Regression results: Households with Migrants 2002*[c]

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Unstandardized Coefficients					
SE: Sum schooling years of	.015***	.007	.008	.004	.003
Labourers in household	(.001)	(.005)	(.005)	(.005)	(.005)
AE: Average schooling years	.001	.019	.018	.009	.008
of labourers in household	(.008)	(.014)	(.014)	(.013)	(.013)
E_H: Schooling years of	.003	.005	.003	.006	.006
household head	(.005)	(.005)	(.005)	(.005)	(.005)
NT: Total number of residents		.023*	.014	.014	.017
in household		(.010)	(.009)	(.009)	(.009)
NL: Labourer number within		.046	.037	.058	.060
household		(.038)	(.037)	(.036)	(.035)
LF: All farm land used by the			.022***	.020***	.020***
household			(.002)	(.002)	(.002)
V_{FPA}: Value of household fixed				2.007E-005***	1.832E-005***
productive assets				(.000)	(.000)
V_{FA}: Total value of all financial				8.633E-006***	7.648E-006***
assets				(.000)	(.000)
V_{DG}: Total value of durable				5.479E-006*	2.421E-006
goods (estimated)				(.000)	(.000)
V_H: Value of self-owned house				2.507E-006***	1.896E-006***
(estimated)				(.000)	(.000)
ENAB: Family engaged in					.192***
non-agricultural business, Yes=1					(.028)
PAL: Did the family get any					.092
kind of poverty alleviation					(.107)
loan in 2002, Yes=1					
OL: Did the family get other					.106**
kinds of loan in 2002, Yes=1					(.035)
LSF: Does the family belong to					-.012
the first largest surname					(.020)
families in this village, Yes=1					
EL: Electric Lighting, Yes=1					.376*
					(.166)
F: Fuel, Gas or coal=1					.006
					(.022)

Continued

HT: Does the family have a telephone, Yes=1					.097*** (.022)
DW: Drinking water obtained from, Tap water=1					.010 (.023)
Constant	8.576*** (.043)	8.349*** (.108)	8.309*** (.106)	8.216*** (.102)	7.807*** (.191)
R^2	.059	.062	.096	.170	.195
s.e.e.	.562	.562	.551	.529	.521
Standardized Coefficients					
SE: Sum schooling years of labourers in household	.239***	.115	.126	.057	.045
AE: Average schooling years of labourers in household	.004	.061	.059	.030	.026
E_H: Schooling years of household head	.012	.020	.015	.025	.024
NT: Total number of residents in household		.051*	.030	.030	.038
NL: Labourer number within household		.089	.073	.114	.117
LF: All farm land used by the household			.185***	.174***	.168***
V_{FPA}: Value of household fixed productive assets				.179***	.163***
V_{FA}: Total value of all financial assets				.138***	.122***
V_{DG}: Total value of durable goods (estimated)				.037*	.016
V_H: Value of self-owned house (estimated)				.092***	.069***
ENAB: Family engaged in non-agricultural business, Yes=1					.117***
PAL: Did the family get any kind of poverty alleviation loan in 2002, Yes=1					.014
OL: Did the family get other kinds of loan in 2002, Yes=1					.051**
LSF: Does the family belong to the first largest surname families in this village, Yes=1					-.011
EL: Electric Lighting, Yes=1					.038*
F: Fuel, Gas or coal=1					.005

Continued

HT: Does the family have a telephone, Yes=1	.081***
DW: Drinking water obtained from, Tap water=1	.008

c ***.Correlation is significant at the 0.001 level.
**.Correlation is significant at the 0.01 level.
*. Correlation is significant at the 0.05 level.
Std. Error is in the brackets.

Table 3.16b *Regression results: Households without Migrants 2002*[d]

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Unstandardized Coefficients					
SE: Sum schooling years of Labourers in household	.014***	-.007	-.004	-.006	-.006
	(.001)	(.005)	(.005)	(.005)	(.004)
AE: Average schooling years of labourers in household	-.020**	.015	.011	.006	.007
	(.007)	(.011)	(.011)	(.010)	(.010)
E_H: Schooling years of household head	.004	.009	.011*	.012*	.010*
	(.005)	(.005)	(.005)	(.005)	(.005)
NT: Total number of residents in household		.084***	.071***	.070***	.068***
		(.008)	(.008)	(.008)	(.008)
NL: Labourer number within household		.110**	.091*	.090**	.096**
		(.036)	(.035)	(.034)	(.034)
LF: All farm land used by the household			.021***	.021***	.021***
			(.001)	(.001)	(.001)
V_{FPA}: Value of household fixed productive assets				7.145E-006***	6.168E-006***
				(.000)	(.000)
V_{FA}: Total value of all financial assets				7.954E-006***	7.044E-006***
				(.000)	(.000)
V_{DG}: Total value of durable goods (estimated)				-6.795E-007	-3.612E-006
				(.000)	(.000)
V_H: Value of self-owned house (estimated)				-5.614E-008	-3.916E-007
				(.000)	(.000)
ENAB: Family engaged in non-agricultural business, Yes=1					.219***
					(.023)
PAL: Did the family get any kind of poverty alleviation loan in 2002, Yes=1					-.059
					(.086)
OL: Did the family get other kinds of loan in 2002, Yes=1					.115***
					(.029)
LSF: Does the family belong to the first largest surname families in this village, Yes=1					-.010
					(.017)
EL: Electric Lighting, Yes=1					.147
					(.190)

Continued

F: Fuel, Gas or coal=1					-.076***
					(.019)
HT: Does the family have a telephone, Yes=1					.123***
					(.019)
DW: Drinking water obtained from, Tap water=1					.040*
					(.019)
Constant	8.978***	8.416***	8.362***	8.327***	8.148***
	(.034)	(.082)	(.080)	(.078)	(.205)
R^2	.021	.046	.099	.142	.171
s.e.e.	.652	.643	.625	.610	.600
Standardized Coefficients					
SE: Sum schooling years of labourers in household	.162***	-.081	-.051	-.070	-.077
AE: Average schooling years of labourers in household	-.063**	.048	.036	.020	.022
E_H: Schooling years of household head	.013	.035	.040*	.046*	.039*
NT: Total number of residents in household		.158***	.134***	.132***	.128***
NL: Labourer number within household		.156**	.129*	.128**	.137**
LF: All farm land used by the household			.233***	.230***	.228***
V_{FPA}: Value of household fixed productive assets				.151***	.130***
V_{FA}: Total value of all financial assets				.137***	.121***
V_{DG}: Total value of durable goods (estimated)				-.005	-.026
V_H: Value of self-owned house (estimated)				-.002	-.016
ENAB: Family engaged in non-agricultural business, Yes=1					.123***
PAL: Did the family get any kind of poverty alleviation loan in 2002, Yes=1					-.009
OL: Did the family get other kinds of loan in 2002, Yes=1					.052***
LSF: Does the family belong to the first largest surname families in this village, Yes=1					-.008

Continued

EL: Electric Lighting, Yes=1	.010
F: Fuel, Gas or coal=1	-.057***
HT: Does the family have a telephone, Yes=1	.092***
DW: Drinking water obtained from, Tap water=1	.029*

d ***.Correlation is significant at the 0.001 level.
**.Correlation is significant at the 0.01 level.
*. Correlation is significant at the 0.05 level.
Std. Error is in the brackets.

This figure offers a good way to tevaluate (*H2*) that the return to human capital increases over time; (*H3*) that the contribution of labour to household income decreases over time and correspondingly; (*H4*) that the contribution of physical capital becomes increasingly important. *H2* is true but with statistical insignificance; *H3* is false, and the effectiveness does not fall but rise; *H4* remains unclear.

3.5 Conclusions and Policy Application

Admittedly, the model presented in this study did not cover all possible determinants of household income generation and used indirect measures for some of the main mechanisms, due mainly to practical considerations of rural household production practices. First, I used indirect measures of in-kind assets in this study to make a distinction among the factor endowments among households. And the findings of the study of the major role of in-kind assets might manufacture other determinants' role, especially, human capital, which had a disappointing effect on household income generation which was not expected. Hence, it is plausible that human capital had only a limited impact on income returns in my study simply because the agricultural production was still in a traditional mode which reflects little value of human capital. This is consistent with Schultz's (1993) view on the equilibrium of a traditional agricultural economy and his assertions about transforming traditional agriculture (Schultz 1964). Secondly, the household income generation mechanism was measured in this study only at the group level. Moving to the region/province-specification, might lead to more reliable estimates of the effects of income generation by rural household. An important issue that may fit into the analytical framework developed in this study (but remained beyond the scope of the current analysis) is the determinants of income generation patterns for households engaged in non-agricultural work. In view of these limitations and omissions, I count this study only as a modest step toward forming a conclusive account of factors shaping household income generation.

The regression model, which attempts to identify household income determinants, is mainly focused on the independent and marginal effects of a multitude of income determinants. Therefore, the model is inherently flawed by the linearizing of complex theoretical models and the simplifying of a complex practical household income situation. "Yet, the general view was that growth determinants interact with each other. To be successful, some policy reforms must be implemented with other reforms. There was a general perception that the policy prescriptions stemming from such regressions did not

produce tangible results" (Lin, 2012: 19). Despite all of this, I still boldly conclude the following:

First, a household's structure of factor endowments evolves from one level of development to another. Therefore, the optimal production structure of a given household will be different at different levels of development during different times. Any household production requires corresponding capital (both human capital and physical capital) to facilitate its operations and transactions. Although the determining power of physical capital is weak in the regression model, I can foresee an increasing effectiveness with a continuing physical capital accumulation. Human capital becomes increasingly prominent in household income, but is still restricted by its stock. I recognize that it is unrealistic to expect a high-rate return of human capital with a mean 6 to 7 years of education.

Secondly, at each given level of development, the state (government) and market are the basic mechanisms for effective resource allocation, and rural households tend to experience the disadvantages of this system. The obvious examples are land policies and rural financial policies. Regarding farm land, large amounts of farm land have been requisitioned for urbanization, but in turn, rural family households receive very little compensation for this. Regarding rural financial policies, rural households often fail to apply for loans because they lack sufficient assets to mortgage and related guarantees, and ironically, for rural households, their most valuable asset is farm land. The results from the regression model highlights clearly that both farm land and loans have a critical effect on household income.

Thirdly, rural infrastructure demands accelerated development. The good news is that the project of the new socialist countryside definitely boosts rural infrastructure construction. Along with the development of hard infrastructure, the focus of infrastructure construction will shift to soft infrastructure, particularly, those closely related to the people's benefits, including medical health and education. Good education increases the out-migrants' knowledge and skills, and meanwhile, equips the left-behind farms with practical knowledge. The strengthening of rural elementary and secondary education, and also vocational education, is an intellectual guarantee to boost rural household income.

Household income is not a good measure of inequality, since it is heavily dependent on the number of earners in the household and thus also reflects inequalities in household composition. Household income per capita or household income per earner would have been more appropriate. Further, the calculation of the human capital return on farming income is

also problematic, because income returns from agriculture are reflected more by applications of new agricultural varieties and technology, as compared to education which is an implicit factor.

Chapter 4 Human Capital Return and Citizenship: Comparative Analysis of Individual Human Capital Returns of Migrants and Natives in 2002

I have distinguished between permanent migrants and temporary (seasonal) migrants in chapter 3 and presented the household income differentials between households with and without temporary migrants. CHIP data also includes a sample of rural-urban migrants which offers individual and household information about permanent migrants. This sample provides a lens to evaluate wage returns of migrants. In this chapter, I first review the models addressing occupation in order to analyse income inequality and social stratification. I then outline the occupational differentials between rural-urban migrant workers and urban native workers in the CHIP samples, presenting the incomparability concerning wage returns and occupations between these two groups. I finally shift to what is an alternative pathways to analyse wage returns between urban natives and migrants. I also offer possible research methods reflecting the two previous chapters to demonstrate the implication of cohort studies in illustrating the changing trends of educational attainment of urban workers over time.

4.1 Analytical Models

Wage returns are always associated with resources, power, and status. The conventional indicator, which can illustrate people's links to resources, power, and status, is one's occupation. Research models based on occupational specification are widely accepted in studies of social stratification and inequality. Social stratification research wants to understand the deeper problem of the causes of socio-economic inequality and, therefore, how this could potentially be unmade. Occupational attainment had relied heavily on family background in the relatively low-level-industrialized societies where, correspondingly, the occupational differentiation was not high. With the advance of industrialization, the agencies such as education, training, and educational qualifications carry much weight in one's eventual occupational attainment. In interpreting the returns to education from an individual's occupation, three theoretical models emerged in the last century: human capital, signalling and screening, and labour market segmentation.

4.1.1 *Human Capital*

Human capital ideas can be traced back to historical landmarks such as Adam Smith's [1776] (2000: 117) classic exposition that "a man educated at the expense of much labour and time to any of those employments which require extraordinary dexterity and skill, may be compared to one of those expensive machines. The work which he learns to perform, it must be expected, over and above the usual wages of common labour, will replace to him the whole expense of his education, with at least the ordinary profits of an equally valuable capital." Although Adam Smith did not use the term human capital, he regarded an individual's skills as an important source of wealth production and economic growth for a nation. Since Smith, the stage for study of human capital had been set. A century later, Alfred Marshall [1890] (1961) referred to industrial training as a national investment in his masterpiece book. Additionally, Marshall expanded the notion of returns to human capital to include non-monetary considerations. Human capital was formally modelled and theorized by Mincer (1958), Schultz (1960; 1961) and Becker (1975) through their theoretical and empirical work, though the three had individual profiles: Jacob Mincer documented the finding that the number of schooling years has an inverted U-shape as to the rate of earnings growth; Theodore Schultz focused on the role of investment in human capital in the increase of productivity of labour; Gary Becker studied human capital investment for individual and family. Before them, the modern estimates on human capital had been conducted in some ground-breaking studies by economists including Strumilin (1924), Walsh (1935), Friedman and Kuznets (1946). The studies of human capital had stimulated countless and fruitful works with implications for individuals, families, firms, and nations.

The human capital theory firstly assumes that human capital, in a way similar to physical capital, is equivalent to productive capability which can create value; and secondly, following the first, individuals, family, and nations will likely increase their earnings, wealth, and national growth. The research methodology varied according to research objects (i.e., individuals, families, and nations) and data resources (micro, macro, and micro/macro combination)[104]. Touching on topics in education, human capital theory usually addresses private returns (monetary rewards of increased earnings) from education using Mincerian earnings function to illustrate what a better educated individual earns compared to a control

[104] George Psacharopoulos and Harry Anthony Patrinos (2004) present the pathways to measuring the returns of education in their individual chapter on "Human capital and rates of return" in *International Handbook on the Economics of Education* (Edited by Geraint Johnes and Jill Johnes). By distinguishing data suitability for empirical measurement, Psacharopoulos and Patrinos document three different way to measure private returns using micro data, national growth using macro data, and externalities using micro/macro combination data. The representative approaches are Mincerian earnings function, within country growth accounting and cross-country panel regression, and new growth theory respectively.

group of individuals with less education, an what are the benefits of each additional year of schooling. The Mincerian earnings function takes log-wages (*LnW*) as a dependent variable, then years of schooling (*S*), years of working experience (*EX*) and its square as independent variables. These variables constitute the now-known "basic earning function", which takes the form as follows:

$$\text{Ln } W_i = \alpha + \beta S_i + \gamma_1 EX_i + \gamma_2 EX_i^2 + \varepsilon$$

In this semi-log specification, the coefficient on years of schooling, β, can be interpreted as the average estimated rate of return to one additional year of schooling or the rate of return to the marginal year of schooling, regardless of the educational level[105] this year of schooling refers to. Human capital theory typically models the observed differentials in wage earnings which can be explained partially by differences in time and value investment in schooling and training. Using human capital theory, the explanation of more investment in schooling and training for a rational individual would yield a corresponding higher return in a lifetime. This insight also suggests that lifetime earnings, but not life-point-time earnings, are a more appropriate measurement to evaluate inequality, regardless of the accessibility of micro data.

Although human capital theory suggests that individuals invest in schooling and training in anticipation of a sufficiently wide range of returns including a higher wage, better working conditions, and a longer life span, most empirical work has focused on the monetary rewards of increased earnings (Eide and Showalter 2010). The rates of returns to education vary according to different data and contexts, with some variation by gender, ethnicity, migration background on a micro-level, and nationality and economic development level on a macro-level. Contemporary accounts of measures on returns to human capital ignore nonmonetary benefits, such as social status elements of honour, esteem, and respect. Weber's ([1918]1968) three classic bases for inequality analysis in industrial societies — resources, power, and status, are not given equal emphasis: "status is often treated as a side topic" (Ridgeway 2013). This is possible because, on the one hand, status is regarded as the "weakest" of Weber's three bases, on the other hand, status is not easily operated as an independent variable as resources and power in inequality studies. Therefore,

[105] The "basic earning function" does not distinguish between different levels of schooling. This will cause ambiguity of the absolute returns to one additional year of schooling among different schooling levels. For example, as Psacharopoulos and Patrinos (2004) say, "there may be no need to estimate a rate of return to justify investment in basic education: it is taken for granted that the literacy of the population is a goal that stands on its own merits for a variety of reasons other than economic considerations.". The extended earning function substitutes a series of 0-1 dummy variables for the subscripted level of schooling for *S* to solve the problem of ambiguity.

the mechanisms of inequality generated from resources and power are 'seemingly' more causally significant with inequality than from status. Most empirical work supporting human capital theory focused on monetary issues: the correlation or causal link between education and wage returns.

4.1.2 *Signalling in the Labour Market*

The signalling model of education has emerged as a contrasting view to the human capital model. The signalling model, usually attributed to Michael Spence (1973), is distinguished from human capital theory in the relationship between education and earnings "by its premise that individual workers' innate productivity levels are identified by their years of schooling rather than enhanced by them" (Page 2010: 321). The signalling model hypothesizes that education 'signals' or 'screens' intrinsic productivity, and correspondingly, one of the most distinct implications is that more-educated workers receive higher wages because education provides them with a *credential*, relative to acquired *skills* as the human capital model assumes. In interpreting returns on education, the signalling model has a different pathway than the human capital model. The former interprets the higher wage return from education as: (*a*) educational investment → (*b*) higher educational credential → (*c*) higher wage return; the latter explains as: (*a'*) educational investment → (*b'*) higher productivity → (*c'*) higher wage return. Therefore, in the labour market, an employer makes his decision on hiring an employee not according to the employee's unobservable productivity, instead, he uses educational *credential* or qualification to predict the employee's potential productivity.

The divergence of the pathway on interpreting higher return to education originated from theoretical assumptions. The signalling model assumes that, firstly, individuals have different innate levels of productivity, which are not affected by their education (Page 2010); secondly, individuals have different acquirement on educational signal, so that they will have a variation on educational investment; thirdly, individuals' productivity is negatively related to the cost of acquiring signal; fourthly, there is asymmetric information with respect to a perspective employee or job applicant's intrinsic productivity. Similar to the human capital theory, the signalling model is also based on the premise that individuals are rational, yet with a difference in the treatment of investment in education. Human capital theory premises that individuals invest in education in anticipation of higher returns in their lifetime; the signalling theory premises that individuals invest in education as long as the benefit of an additional year of schooling exceeds the cost.

Nevertheless, human capital and signalling models of education are not necessarily mutually exclusive (Weiss 1995). Individuals may choose to invest in upgrading their educational level in order to maximize their net benefits, this may, simultaneously, enhance individuals' productivity, and facilitate signal about their innate skills. In empirical works, there is no obvious favour of either the human capital model or the signalling model in comparing educational wage gaps for workers of different ages and years of work experience (Layard and Psacharopoulos 1974), further, the results are often mixed (Riley 1979; Wolpin 1977) in the studies across industries or occupations. The studies on the wage returns to particular credentials and/or diploma years also have not found significant evidence in favour of the signalling hypothesis (Groot and Oosterbeek 1994; Layard and Psacharopoulos 1974; Weiss 1983). All of these empirical studies suggest that the conclusion of the relative importance of human capital versus signalling cannot yet be drawn. Both theories play a role in the labour market, nevertheless, the extent to which signalling estimates the returns of education relies largely on the labour market contexts.

4.1.3 *Labour Market Segmentation*

The theory of labour market segmentation (SLM theory) was developed to explain social problems that are often associated with inequality, such as poverty, labour market discrimination, unemployment, and the observed ineffectiveness of education to render higher earnings among migrants (Cain 1976) . The prevalence of these social problems in the USA in the 1960s motivated researchers to develop the segmentationalist approach. The SLM theory is usually attributed to Doeringer and Piore (1971), Piore (1970), and Reich *et al*. (1973), but it has a longer continuation with other contributors.

SLM is foremost, a labour economic theory which interprets the observed wage differentials in the labour market. Both human capital and signalling are mainly microeconomic theories with a focus on individuals and households. SLM, on the other hand, stresses the existence of the within-firm labour market, which contributes to wage inequality as a direct consequence of the 'dual' nature of the labour market. This is completely different from both human capital and signalling models which hypothesize the heterogeneous nature of individual workers, and regards earning returns differentials as being the result of underlying skill differentials or individual productivity. By contrast, the SLM theory divides individual workers into either primary or secondary sectors of the labour market (Souza-Posa 2004). The primary sector contains higher-paying wages and secure jobs, normally to be found within firms with internal labour market structures, where

institutional rules are substituted for market purposes. Normally, the primary sector has significant returns to education whereas the secondary sector employs low-wage, unskilled labour and has a low degree of job security and low returns to education.

The SLM evolved from an earlier version of the internal labour market theory (ILM) which offered a general framework of the later duality of the labour market:

> …an administrative unit,…, within which the pricing and allocation of labour is governed by a set of administrative rules and procedures. The internal labour market governed by administrative rules, is to be distinguished from the external labour market of conventional economic theory where pricing, allocating and training decisions are controlled directly by economic variables. These two markets are interconnected however and movement between them occurs at certain job classifications which constitute ports of entry and exit to and from the internal market. (Doeringer and Piore 1971: 2)

The distinction between a primary and a secondary sector is motivated theoretically by the existence of institutional regulations (e.g., minimum wages) which protects the primary sector from uncertain elements, e.g. business cycle fluctuation (Piore 1975), and shelters workers from uncertainty. For Doeringer and Piore, stability of employment is the most prominent feature of the ILM, and the two mechanisms consolidate this stability. One is based on the notion of skill specificity which enables an employer to specify his employee through training and screening methods; the other one is an established but unwritten rule about the notion of 'equity' which entails stability of employment.

Based on their well-developed ILM theory, Doeringer and Piore linked it to the 'Dual Labour Market' (DLM) theory which postulates a dichotomisation of the labour market over time, into two separate sectors, 'primary' and 'secondary'. The former is seen as being composed of a series of well-developed ILMs (Doeringer and Piore 1971: 167) which offers higher negotiated wages, great promotion possibilities, better working conditions, and employment stability; and the latter resembles the external market in the ILM models, thus on the whole, secondary sectors are relatively poor.

The two sectors are linked because the regulations in the primary sectors influence the secondary sectors' recruitment of labour as well. Consider, for example, the determination of wages. In primary sectors, the wage setting process is a combination of the negotiations between individual employers and employees on the one hand, and between employer organizations and unions on the other. This means that when employers are in

need of unskilled low-wage labour, it is expensive to try to attract this category of workers by raising their wages because other categories of workers will respond by demanding higher wages too (so that their social status and prestige is maintained). Therefore, the employers are forced to find unskilled labour in other ways, for instance by hiring workers from secondary sectors which are not equally concerned about their social status. This way of describing the recruitment process of labour is in contrast to neoclassical theories (both human capital and signalling theories), which assume one complete and competitive labour market.

Doeringer and Piore's 'Dual Labour Market' theory stimulated other radical economists to further examine divisions of the labour market. The segmented labour market (SLM) theory emerged in the 1970s. Edwards, Reich and Gordon (1975) stressed segmentation of institutional changes and behavioural rules in determining the nature of the labour market.

> The labour market consists of those institutions which mediate, effect or determine the purchase and sale of labour power; the labour process consists of the organisation and conditioning of the activity of production itself, i.e. the consumption of labour power by the capitalist. Segmentation occurs when the labour market or labour process is divided into separate submarkets or subprocesses, or segments, distinguished by different characteristics, behavioural rules and working conditions. (Edwards, Reich and Gordon 1975: xi)

SLM theory is able to provide an explanation of labour process because the poor working condition and low wages associated with the secondary market does not attract native workers and employers therefore make use of labour from secondary market instead (Piore 1979). In many ways, SLM appears both logical and appealing, because it emphasizes perspectives which are typically neglected in both human capital and signalling models.

Thurow (1970) further theorizes SLM as a job competition model and queue theory. Thurow's job competition model places great emphasis on the relationship between a perspective job and the 'desirability' of an employee. As opposed to the neo-classical models (which include both human capital and signalling model) of wage competition in the supply-demand framework, where individuals compete against each other on the basis of potential productivities acquired before entering the labour market, in the job competition model the individual's earning depend upon the quality of the job he acquires. The mechanism of individuals' earning differentials follows a 'labour queue'. Thurow suggested

that workers are arrayed along a continuum in the order of their desirability to employers, and this 'labour queue' ranks the labour on the basis of their training costs or 'trainability'. Thurow explained that 'trainability' is critically affected by individuals' different background characteristics which tend to incur different potential training costs. The access to job opportunities is directly related to individuals' training cost. Employers tend to employ those workers with the lowest training costs from the 'labour queue'. Therefore, the earnings distribution is determined by the interrelation between this 'labour queue' and distribution of jobs in a given labour market.

The various versions of the SLM theory have emerged since 1970s, although they have not constituted a single unified alternative to the neo-classical theory (Leontaridi 1998). From the empirical perspective, the literature so far focuses more on whether the labour market is segmented, and less on the defined lines of segmentation.

4.1.4 *Critique*

Human capital theory emphasises individuals' heterogeneity, including differential investments in human capital, as the primary cause of earnings return differentials. However, it remains arguable, with regarding to productivity, which is the hypothesised element for educational returns: school quality which is conventionally ignored in the empirical estimates of returns of education; family background which acts as an intergenerational effect of human capital; and sample selectivity which is ideally representative of a larger population. With regard to productivity, the net estimated impacts on earning returns vary hugely in relating education to physical farm productivity. The returns of productivity can also be attributed to machinery and new varieties of crop (Rosenzweig 1995; Foster and Rosenzweig 1996). Moreover, considering the less-demanded requirement of schooling on farming, the production may not specifically reflect different levels of schooling, as found in chapter 3. With regard to school quality, it is often ignored due to the difficulty of information collection. Quantity of schooling, rather than quality represents human capital, though the latter is also a determining element on individual wage earning (see, for example, Salmon 1985; Psacharopoulos and Velez 1993). Family background has a mixed effect on the returns to education in different national contexts (see, for example Altonji and Dunn 1996; Miller *et al*. 1995). Sample selectivity directly determines the estimated rate of returns. For example, in China's context, a large proportion of individual workers are employed in public sectors, and their wages are typically not determined by market price. Therefore, the

returns to education for individuals in public sectors cannot be equivalent to those in non-public sectors. This point is also a concern discussed in the next section.

The signalling model attempts to highlight the role of educational credentials in the determination of earning returns, differing itself from human capital which concentrates the informational role of years of schooling. Although the use of the signalling model is increasingly popular among theorists, empirical researchers favour the human capital model. A possible reason may be the interpretation of education solely as signals. It is questionable whether educational credentials should be matched with productivity, hence, signalling may cause a mismatch of education (too much or too little education) and job requirements. A proposed mediator between human capital and signalling model may be a combination which can be illustrated by adding dummies of educational levels (*EL*) on Mincerian earnings function:

$$\text{Ln } W_i = \alpha + \beta S_i + \gamma_1 EX_i + \gamma_2 EX_i^2 + \gamma_3 EL_i + \varepsilon$$

The coefficient on educational levels in this wage regression might actually underestimate the impact of educational level on productivity with regard to the collinearity.

Empirical validation of SLM has proven problematic. Firstly, empirical validation of SLM requires being able to confirm that wage differentials are not merely the results of differences of individual innate productivity but also arise because of a segmented labour market. However, this requires defining and delineating segments in an objective and non-arbitrary manner. Different theoretical schools of SLM have different formulations of segmentations, and correspondingly, the criteria and methodology used to define and delineate segments vary hugely in the labour market. The earlier version of SLM (e.g., ILM) divided the labour market as being of two virtual parts, primary and secondary (see, for example, Doeringer and Piore, 1971). Empirical studies follow a bimodal scheme, but their results find no significant evidence to confirm the bimodality of the distribution of earnings (Psacharopoulos 1978). Empirical studies often find that the labour market is segmented along some particular dimensions (e.g., age, gender) but results are often mixed and typically depend on the exact criteria (e.g., training, education, job characteristics, and wage level, see Rosenberg 1980; Boston 1990; Van Ophem 1987; and the dichotomisation of ‘core’ and ‘periphery’ sectors by industrial characteristics proposed by Edwards, Reich and Gordon 1975) are used to define the duality of the labour market (Cain 1976; Leontaridi 1998; Souza-Poza 2004). Secondly, if the labour market is segmented, it is not necessarily presented as a dichotomisation of primary and secondary sectors concerning the variations of

occupations, ownerships, and employment relationship. Some researchers assigned individual workers in the labour market to more than two dualities (see, for example, Osberg *et al*. 1987; Osterman 1975).

It is suggested that the mechanism governing earnings return and employment determination similar among different occupations, industrial sectors, and segments in the conception of SLM theories. Human capital theory disfavours the hypothesis that wage-setting mechanisms are different among labour market segments as the SLM theory does. As the SLM theory hypothesises, workers in the secondary labour market have lower wage profiles and therefore, a lower rate of returns to education; the primary market has a wage profile similar to that predicted by the human capital theory. In this sense, Mincerian earnings function could serve appropriately as the analytical method for individuals in the primary sector. However, the segmentation designs of SLM theories without exception sort out better industrial sectors, better occupation into primary labour market, leaving the other as secondary labour market. These classification of segmentation are favourable to the empirical result that human capital related variables perform considerably better in primary segmentation than in secondary segmentation.

4.2 Comparability

The models of earning returns mechanisms provided by the neo-classical theorists are inadequate, while the dominant theories (both human capital and signalling) are limited by their premise of the '*rational*' individual as the primordial unit of analysis. I instead propose that analytical models should take social contexts as its primordial unit and that understands wage earning as a system of meanings that actors (individual workers and households) laminate into the situations they face through interactive processes of interpretation and performance, though I fail to illustrate and develop a model demonstrably. I examine three different models on wage determination and inequality generation in the text above, and discuss the links between SML and neo-classical models (both human capital and signalling). The main argument from SLM theorists is usually in conflict with neo-classical theorists regarding the existence of labour market segmentation, though neo-classical theorists confirm the wage differentials concerning age and gender-specification. Although the neo-classical theorists accept the idea that the labour market is segmented, they disagree over the segmentations proposed by SLM theorists. It is an established consensus that the labour market is segmented for both parties, but along what lines the segmentation is

assigned remains unclear. However, the reality is far more complex. I will present this in the context of China as an example.

CHIP 2002 also includes a rural-urban migrant survey sample. As discussed in the description of data in chapter 1, the rural-urban migrant households were selected from all of the 12 provinces, but not from all of the cities, in the urban survey. "Within cities, because of sampling frame limitations, rural-urban migrant households were selected from resident committees. In other words, migrant workers living in construction sites and factories were not included in the sampling selection. Consequently, most of the migrants selected had families with them" (Li, Luo, Wei and Yue 2008). Therefore, the sample is more representative of permanent migrants.

Following the same method as the urban worker sample in chapter 2, I included rural-urban migrant workers as those who have earning wages, and of ages 16 to 60 for male, and 16 to 55 for female in the rural-urban migrant survey 2002. The sample consists of 3,294 individuals who were either permanent workers/employees of enterprise, governmental institutions, and public organizations or long-term contract workers/employees who reported positive earnings, and active self-employed businessmen who have regular annual income. Similarly, those individuals who were officially off-duty, formally retired, unable to work, laid-off, left post, or youth waiting for job assignment and students were excluded from the samples. The distribution of the samples is shown in Table 4.1.

Table 4.1 *Distribution of individuals in 2002 urban and rural-urban migrants surveys, by province*

	Number of individuals		Gender, *by %*			
	Rural-urban Migrants	Urban Natives	Male		Female	
			Rural-urban Migrants	Urban Natives	Rural-urban Migrants	Urban Natives
Province						
Total	3,294	10,060	57.4	55.6	42.6	44.4
Beijing	187	821	55.6	54.3	44.4	45.7
Shanxi	175	834	66.9	58.3	33.1	41.7
Liaoning	355	1,087	56.1	58.7	43.9	41.3
Jiangsu	331	989	56.2	56.6	43.8	43.3
Anhui	341	678	58.4	58.6	41.6	41.4
Henan	324	951	58.0	55.0	42.0	45.0
Hubei	284	1,026	56.3	54.8	43.7	45.2
Guangdong	349	945	55.9	52.8	44.1	47.2
Sichuan	283	413	55.1	55.4	44.9	44.6
Chongqing	199	831	49.2	55.7	50.8	44.3
Yunnan	244	900	59.4	52.0	40.6	48.0
Gansu	222	585	64.9	55.9	35.1	44.1

Regarding the representativeness of permanent migrants, I report the living and working duration of the surveyed sample in Table 4.2 below. The rural-urban migrants in the CHIP 2002 survey have a relatively long time in living and working years in urban areas, and remain in a stable working career (an average 5 years on current job). Table 4.3 reports the differentials on wage earnings between urban natives and rural-urban migrants. Overall, urban native workers earn on average more than rural-urban migrant workers, a gap of more than 2,000 RMB. The average earning gap has a regional variation; in Beijing and Guangdong, the gap is more than 6,000 RMB, far larger than in other regions. However, the average earnings of rural-urban migrant workers in both Beijing and Guangdong are much more than the average total level. Noticeably, the average wage earning of rural-urban migrants in Jiangsu tops the others, and even higher than its urban native counterpart. The reason could be, firstly, Beijing, Guangdong, and Jiangsu are the more economically developed areas as compared to other regions; secondly, sample selectivity of cities may cause bias; and thirdly, as shown from the statistics, the average earnings have a huge variation for rural-urban migrants in Jiangsu. The statistics for regions such as Shanxi, Anhui, Henan, and Hubei, all of which represent central China, and Sichuan, Chongqing, Yunnan, and Gansu, all of which represent western China, are much less better off than Beijing, Jiangsu, and Guangdong, which represent eastern and coastal regions. Chongqing, after its separation from Sichuan, becoming the fourth metropolitan city (the other three are Beijing, Tianjin, and Shanghai), has undergone a great economic change. The average earnings of urban native workers in Chongqing rank after Beijing, Jiangsu, and Guangdong. Nevertheless, the average earnings of rural-urban migrant workers in Chongqing do not have a corresponding growth, and the earnings gap between migrants and natives is much larger than the total average.

Table 4.2 *Distribution of individuals in 2002 urban and rural-urban migrants surveys, by province*

	Statistics		
	Mean	Median	Std. Deviation
Years living in an urban area by the end of 2002	7.19	6.0	5.106
Months living in an urban area in 2002	11.42	12.0	1.719
Years have been working in urban areas	7.01	6.0	4.981
Years have been working for current employers	5.09	4.0	4.210
Years living and working in town and city*	7.89	7.0	5.254
Years come to live and work in this city*	7.11	6.0	4.975

Note: * Years living and working in town and city and Years come to live and work in this city have 6 and 4 missing cases respectively.

Table 4.3 *Comparison on average yearly income between migrant and native workers, by province and gender*

	Average yearly income		Gender			
	Rural-urban migrants	Urban natives	Male		Female	
Province			Rural-urban migrants	Urban natives	Rural-urban migrants	Urban natives
Total	9,684.88	12,047.10	11,112.71	13,193.32	7,760.42	10,609.05
	(11,436.73)	(8,914.50)	(14,158.56)	(9,649.68)	(5524.62)	(7,658.04)
Beijing	11,912.73	18,435.02	13,716.92	20,593.00	9,652.05	15,868.46
	(9,739.19)	(11,252.15)	(10,180.91)	(12,676.72)	(8,697.98)	(8,615.77)
Shanxi	8,221.17	9,940.76	9,455.38	10,801.15	5,731.45	8,739.17
	(5,905.39)	(5,344.08)	(6,609.16)	(5,625.10)	(2,850.89)	(4674.21)
Liaoning	9,451.88	10,995.36	10,776.66	12,455.48	7,761.92	8,920.63
	(12,149.89)	(8,281.55)	(15,229.02)	(9,184.09)	(5,979.48)	(6264.86)
Jiangsu	13,137.17	12,429.98	16,932.71	13,706.01	8,268.41	10,764.31
	(24,648.05)	(8851.07)	(31,984.10)	(9,353.04)	(5,960.11)	(7853.54)
Anhui	8,026.56	10,350.85	9,084.42	11,570.24	6,544.06	8,628.07
	(5,566.42)	(6,602.22)	(6,745.10)	(6,996.91)	(2,652.24)	(5573.78)
Henan	8,211.81	8,912.63	9,279.32	9,901.77	6,736.15	7,703.94
	(8,900.79)	(6,043.22)	(11,028.52)	(6,144.73)	(4,158.41)	(5,694.82)
Hubei	9,253.44	10,460.85	10,515.45	11,338.50	7,625.03	9,397.83
	(7,090.01)	(6,277.59)	(8,477.76)	(6,756.62)	(4,243.18)	(5,464.47)
Guangdong	12,295.08	18,893.33	14,135.38	20,819.59	9,964.83	16,738.16
	(8,483.03)	(14,070.76)	(9,712.44)	(15,293.89)	(5,855.42)	(12,223.79)
Sichuan	8,521.57	9,891.59	9,047.15	10,659.29	7,875.97	8,925.72
	(7,113.62)	(6,332.70)	(7,346.79)	(6,766.37)	(6,789.35)	(5,601.97)
Chongqing	8,980.10	12,275.85	10,219.59	13,608.53	7,777.43	10,617.24
	(10,212.58)	(10,243.38)	(14,135.62)	(11,735.06)	(3,117.63)	(7,724.30)
Yunnan	9,186.30	11,460.26	10,205.96	12,057.25	7,692.85	10,813.52
	(7,490.07)	(5,385.31)	(8,002.68)	(5,554.67)	(6,419.72)	(5,123.96)
Gansu	7,995.73	9,979.42	9,050.92	10,925.99	6,047.69	8,779.69
	(9,467.21)	(6,190.76)	(11,030.01)	(6,283.87)	(5,037.41)	(5,866.53)

Concerning the gender-specification, Table 4.3 presents the similar comparative trends of migrants and natives. Male workers earn on average more than female workers, regardless of the regional differentials. Both male and female urban native workers are positioned advantageously in earnings over their migrant counterparts. However, interestingly, male migrant workers, in some regions, earn on average more than urban native female workers, for example, in Shanxi, Liaoning, Jiangsu, Anhui, Henan, Hubei, Sichuan, and Gansu. In spite of this, female urban native workers in regions like Beijing, Guangdong, Chongqing, and Yunnan, still have higher income earnings than male migrant workers.

The income inequality is usually attributed to occupation differentials. The comparisons of occupations and employment characteristics in Table 4.4 illustrate enormous disparities between urban native workers and migrant workers. Table 4.4 shows that over half of the migrant workers are engaged in private or self-employed business, and more than one-quarter are commercial or service workers. The majority of urban workers, 60%, are employed as professional, technician or skilled workers and clerical staff.

Table 4.4 *Comparison of occupations between migrant and native workers*

Occupations	Rural-urban Migrants	Urban Natives
Owner (manager) of private firm or self-employed	1,748 (53.1%)	464 (4.6%)
Professional, technician or Skilled worker	133 (4.0%)	4,007 (39.8%)
Responsible person (director) of enterprise or institution	16 (.5%)	1,044 (10.4%)
Clerical staff	81 (2.5%)	2,028 (20.2%)
Unskilled worker (incl. manufacturing Worker and construction worker)	226 (10.3%)	969 (9.6%)
Commercial or service worker	877 (26.6%)	1,223 (12.2%)
Other	209 (6.3%)	226 (2.2%)
Missing	13 (.4%)	99 (1.0%)
Total	3,294 (100.0%)	10,060 (100.0%)

The employment characteristics shown in Table 4.5 indicate clearly the disadvantages of migrant workers in the urban labour market. Only 5.3% of migrant workers are permanent or long-contract workers. The majority of them run private businesses or is

employed as temporary or short-term workers. By contrast, over 70% of urban native workers are permanent or long-term contract workers, including cadres and public servants.

Table 4.5 *Comparison of employment characteristics between migrant and native workers*

Employment characteristics	Rural-urban Migrants	Urban Natives
Permanent staff member, enterprise/institution (incl. cadres, public servants)	18 (.5%)	5,092 (50.6%)
Long-term contract worker	158 (4.8%)	2,128 (21.2%)
Temporary worker or short-term contract worker	838 (25.4%)	1,116 (11.1%)
Private businessmen or self-employed	2,188 (66.4%)	673 (6.7%)
Other (incl. employed without contract)	79 (2.4%)	958 (9.5%)
Missing	13 (.4%)	93 (.9%)
Total	3,294 (100.0%)	10,060 (100.0%)

The employment sectors are centred on wholesale, retail and food services (47.4%) and social services (21.2%) for migrant workers, as reported in Table 4.6. Urban native workers are decentralized in different sectors, but hold an absolute predominance in public sectors such as transportation, storage, post office and communication (2.7% vs. 7.8%), health, sports and social welfare (1.1% vs. 5.1%), education, culture and arts, mass and entertainment (1.4% vs. 8.9%), scientific research and professional services (.4% vs. 1.7%), government agents, party organizations and social groups (1.2% vs. 11.8%). Additionally, the sector of manufacturing includes a quarter of urban native workers, but only around 10% of migrant workers.

Table 4.6 *Comparison of employment sectors between migrant and native workers*

Employment sectors	Rural-urban Migrants	Urban Natives
Farm, forest, husbandry and fishery	17 (.5%)	123 (1.2%)
Mineral	8 (.2%)	158 (1.6%)
Manufacturing	320 (9.8%)	2,517 (25.0%)
Electricity, gas and water supply facilities	23 (.7%)	324 (3.2%)
Construction	155 (4.7%)	326 (3.2%)
Geological prospecting, irrigation administration	1 (.0%)	83 (.8%)

Transportation, storage, post office and communication	88 (2.7%)	787 (7.8%)
Wholesale, retail and food services	1,562 (47.4%)	1,227 (12.2%)
Finance and insurance	10 (.3%)	270 (2.7%)
Real estate	22 (.7%)	122 (1.2%)
Social services	689 (21.2%)	1,022 (10.2%)
Health, sports and social welfare	36 (1.1%)	510 (5.1%)
Education, culture and arts, mass and entertainment	46 (1.4%)	899 (8.9%)
Scientific research and professional services	13 (.4%)	175 (1.7%)
Government agents, party organizations and Social groups	39 (1.2%)	1,191 (11.8%)
Other	253 (7.7%)	222 (2.2%)
Missing	3 (.1%)	104 (1.0%)
Total	3,294 (100.0%)	10,060 (100.0%)

Table 4.7 *Comparison of ways to get current job between migrant and native workers*

Ways to get current job	Rural-urban Migrants	Urban Natives
Assigned by government	11 (.3%)	5,379 (53.5%)
Inherited it	9 (.3%)	533 (5.3%)
Through an open examination	23 (.7%)	815 (8.1%)
Through an employment agency	34 (1.0%)	341 (3.4%)
Found it through newspaper	34 (1.0%)	227 (2.3%)
Found it through a referral by you or your family knows	864 (26.2%)	879 (8.7%)
Found it on your own	877 (26.6%)	1,091 (10.8%)
Started your own business	1,418 (43.0%)	492 (4.9%)
Other	17 (.5%)	192 (1.9%)
Missing	7 (.2%)	111 (1.1%)
Total	3,294 (100.0%)	10,060 (100.0%)

Table 4.7 illustrates the ways used by urban native workers and migrant workers to get their job. Not surprisingly, over half of urban native workers obtain their job through government mechanisms (both assigned by government and inherited from parents).

Furthermore, urban native workers are more competitive in the open examinations for prospective employee recruitment. Migrant workers mainly rely on referrals or themselves.

With all of these astonishing differentials in mind, I am reluctant to employ any of the three models discussed in the first section above.

4.3 A Synopsis Discussion of Perspective Research Methods

Generally speaking, there is always a correlation between an individual's wage earnings and his educational attainment, but within a context-concern. Reflecting on the earnings gap between urban native workers and migrant workers in Table 4.3, Table 4.8 presents a corresponding relation of the educational gap between these two groups. It is an indisputable fact that urban native workers are much better educated; 26.3% of urban native workers are below the level of senior middle school, with a corresponding 79.8% for migrant workers; 33.1% of urban native workers finished college or university degree, but only 0.6% of migrant workers have achieved this level. This could explain the reason for migrant workers being allocated to the labour-intensive, low-end industries and sectors (for example, wholesale, retail and food services) as reported in Table 4.6 above.

Table 4.8 *Comparison of educational level between migrant and native workers*

Educational level	Rural-urban Migrants	Urban Natives
Elementary school or below	838 (25.4%)	281 (2.8%)
Junior middle school	1794 (54.4%)	2,361 (23.5%)
Senior middle school (incl. professional Middle school)	583 (17.7%)	2,827 (28.1%)
Technical secondary school	59 (1.8%)	1,259 (12.5%)
College/university (incl. junior college) and above	18 (.6%)	3,323 (33.1%)
Missing	2 (.1%)	9 (.1%)
Total	3,294 (100.0%)	10,060 (100.0%)

On a superficial level, the disparities between urban native and migrant workers are quite similar to the dichotomisation of primary and secondary sectors proposed by the SLM theory. The labour market segmentation in China is not very different from the labour market in many developing countries in which a cheap and unskilled migrant labour force fosters labour-intensive industrialization. The labour market segmentation theory explains

the channelling of migrants into the secondary, informal sector in the cities by assuming homogeneity among the migrant labour force and does not highlight the role of *institution* and the 'behind-the-curtain force', the *state*. What makes China stand out is that institutional rules (for example, *hukou* system) enforce this inequality. Consider, for example, the determination of wages. The wage setting process, in most countries of market economies, is a combination of the negotiations between individual employers and employees on the one hand, and between employer organizations and unions on the other (Karpestam and Andersson 2013). However, this is not the case in China's context. In China, a large percentage of individual workers are employed in public (or state) sectors where the wage setting is not even a result of the market pricing process, not to mention the negotiations between individual employers and employees. The negotiations between individual employers and employees only exist in non-public sectors, however, unions have had limited impacts on wage determination due to the limited development of unions in China within the relatively short-term market economy period. Furthermore, the workers organization of migrants is much less-developed. When employers in urban areas are in need of unskilled low-wage labour, they turn to migrants, who do not demand as high a wage as urban native workers expect. The migrant workers accept relative low wages and they have little say in wage negotiations. This situation of low-wage workers recruitment is in contrast to the premise of neo-classical theories, which assume one complete and competitive labour market. So, the models of both human capital and signalling are not an accurate reflection of the picture of migrant workers described here. But, the validation of SLM empirically, as I have explained earlier, has proven problematic. It is unreasonable to assign some layers of segmentation, though I tentatively agree with the idea that the labour market is segmented.

The difficulty also stems from the underlying logic in neo-classical theories that individuals from different working backgrounds adhere to the same mechanism of wage earning. The disparities of employment characteristics and occupations from the comparison between urban native and migrant workers suggest, firstly, a large proportion of urban workers in public/state sectors where wage returns do not follow a market principle may misrepresent the estimated rates of return to education; secondly, another large proportion of migrant workers in low-end industries may underestimate rates of returns to education.

Reviewing the ways used to find a job in Table 4.7, a genuinely open and competitive labour market is not considered to fully exist currently. The labour market was not examined at the beginning of market reform in China (Knight and Song 2005). A longitudinal and continuing observation is needed to track the changes of the labour market over time.

Examining the methodologies used in chapter 2 and 3, I chose the longitudinal study although the cohort study could be an alternative, considering the CHIP surveys are not panel data. Considering, for example, the returns to education for the individual workers in public sector (for example, governmental agency/institution), a cohort study can be designed as follow:

Table 4.9 *A cohort study design on changes of returns to education over time*

	1988	1995	2002
Age cohorts	20-25	27-32	34-39
	26-30	33-37	40-44
	31-35	38-42	45-49
	36-40	43-47	50-54

This cohort study may better interpret changes of the returns to education over two-seven-year period.

Epilogue: The Variables Construction and Models Validation

In Chapter 2 the changes of the returns to education of urban workers in market transition period during 1988 to 2002 in China were described. I opened Chapter 2 with the discussion of market transition theory which theorizes a redistribution-market dichotomization, and depicts a retreat of redistribution and progress of market on the wage returns. The theoretical literature discussion in Chapter 2 followed market transition theory was reviewed in a chronological way so as to document the evolution of theoretical foci on wage returns in market transition period. The chronological evolution showed a switch of the study centre from a redistribution-market dichotomization to the frameworks of market transition or path dependency. Building on this switch, more studies emphasized the multifaceted dimensions of market transition relative to the weight of distribution or market, shedding light on institutional change and the following corresponding changes in mechanisms shaping individual workers' wage returns. Compared to the ambiguous and idealistic typology of distribution-market dual-division, more studies refined on the substantive institutional arrangements (e.g., work units, employment status, and industrial sectors) theoretically and empirically. I conducted my institutional analysis by employing a five-sector specification to examine the returns to education of urban workers over time. The results from earning function regression model suggested a significant upward returns to education in market transition during 1988 to 2002, when the survey data covered. The results also showed a persistence of political capital represented by membership of Communist Party of China. The most conspicuous result was on the concern of sector specification. The state/public sector which I constructed the variable of governmental agencies/institutions, held an overwhelming advantage on wage returns over other sectors with the market penetration. Nevertheless, there was a variation of the effect of education among different sectors, but the overall trend indicated a positive effect for market sectors.

In Chapter 3 the comparison of income generation between rural households with and without migrants was made. This chapter firstly documented the backgrounds of the emergence of the rural-urban migration in China. These backgrounds are the Household Responsibility System, Township and Village Enterprises, and less restrictive policies toward population mobility control. These backgrounds explained the driving forces of rural-urban migration. I then turned to the logic of rural-urban migration on the level of household. In this section, I analysed and corroborated that rural household, rather than

individual, should be the analytical unit for interpreting the behaviour of the rural-urban migration. The logic behind the migration behaviour is the rationality of rural household which safeguards the persistence of household as the basic production unit even to present time. The comparison was made by a framework of factor endowments which includes human capital, physical capital, land, labour force, and infrastructure. The results from a regression model did not show a significantly positive effect of human capital to household income return as I expected. Instead, the results highlighted the role of physical capital such as household fixed productive assets, financial assets, and value of durable goods. It is plausible that human capital had only limited impact on rural household income returns simply because the agricultural production is still in a traditional mode which devalues the effect of human capital. This is consistent with other studies on the equilibrium of traditional agricultural economy which demands a lower entry threshold for labour force.

In Chapter 4 the discussion on the comparability on the wage returns between urban native workers and rural-urban migrant workers[106] was presented. I listed the often-used models for analysing income inequality between/among different groups. These models are human capital, signalling in the labour market, and labour market segmentation. The former two models premise a competitive labour marker where individual 'rational' workers maximize their profit; whereas the labour market segmentation model proposes that individual worker's wage earning is determined by the segment which he belongs to, relative to his schooling (from human capital's perspective) or educational credential (from signalling model). The validation of these three models has proven problematic considering the complex situation of China's context. I documented the huge disparities on income, work industrial sectors, employment characteristics, ways for job-hunting, and educational attainment between urban native workers and rural-urban migrant workers. In this way, I pointed out that both human capital and signalling are not the proper models in interpreting income returns between these two noticeable groups in an obvious segmented labour market, and labour market segmentation model is also unreasonable on assigning some virtual layers (e.g., primary and secondary labour market).

[106] The rural-urban migrant workers here refers to the permeant ones who have been living and working in urban areas for a relatively longer period. They differ from the migrants I mentioned in chapter 3, who are more representative to seasonal migrants.

As a personal epilogue to this dissertation, I want to present some of the ways in which I try to model the inequality analysis on returns to education. In particular, I want to show how variables and models determine the validity and reliability on inequality analysis.

Variables Construction

As a broader level, I will argue that, in the search for mechanisms of inequality, the majority variables we used are 'constructed', rather than directly observed. These constructed variable are served to validate our theoretical hypotheses. A representative example is human capital, which is 'constructed' as an indicator of productivity. Some other examples mentioned in this dissertation could also be easily listed: redistribution and market dichotomization in market transition theory; primary and secondary labour markets in labour market segmentation model; Walder's (1992) classification on work organization according to budgetary rank, workplace size, and economic sectors; Zhou's (2000a) categories of work organizations as into government agencies, public organizations, central government-owned firms, local government-owned firms, collective and hybrid/private firms; Wu and Xie's (2003) typology of workers flowing from the state sector to the market sector based on individual's labour market history as recent market entrants and early market entrants; and the five sub-sectors in my classification and classifications from other studies, and so on. All these 'constructed' variations were conducted in the service of theoretical models to sketch an explicit analysis on returns inequality. The variation of classification was rarely observed, though they actually existed. We need to more thoroughly interrogate the models of inequality themselves to offer sound reason in variables construction.

Models Validation

In order to make a reasonable variables construction, I suggest that we need to thoroughly incorporate the models of inequality of wage returns based on multidimensional complexity — that is, to examine its social as well as economic dimensions and to incorporate group-based inequality, such as migrant workers and urban native workers in this dissertation. Further, we need to look across levels of analysis from individual micro characteristics to the meso-level of organization (e.g., work unit, hierarchy rank) to the macro-institutional to discover how inequality processes as a systematic mechanism at multiple levels. The validation of inequality on returns to education should not be constrained at a single level.

Conclusion

The results in this dissertation were drawn from analytical frameworks and variables construction based on purposeful theoretical models as I designed. Therefore, the empirical and policy implications are only valid with the premise of reasonableness of both variables construction and models. As is often the case in social science studies, the models presented in this dissertation did not cover all possible determinants of inequality generation due mainly to complexity of practical socio-economic contexts. Another point should also be mentioned here, is the quality of the data set. The CHIP data sets used in this dissertation, from my knowledge, is the most representative and publicly available household income survey data in China so far, regardless the shortcomings. Although many studies eyeing on returns to education in China, they use different survey data which either are small-sized, or inaccessible. The validation of inequality of returns to education, demands not only convincing models, but data resources.

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Appendices

Table 1.A *Distribution of households in 1988 rural and urban surveys, by province*

Province	Rural			Urban		
	Number of counties*	Number of households	Number of individuals	Number of counties	Number of households	Number of individuals
Total	298	10,258	51,352	127	9,009	31,827
Beijing	3	101	415	10	501	1,580
Tianjin	3	102	468			
Hebei	15	653	3,007			
Shanxi	12	361	1,722	9	951	3,569
Nei Menggu	10	300	1,534			
Liaoning	8	301	1,355	14	903	3,068
Jilin	7	252	1,193			
Heilongjiang	11	352	1,682			
Shanghai	5	102	388			
Jiangsu	10	504	2,250	27	1,204	3,995
Zhejiang	9	451	1,895			
Anhui	11	503	2,647	11	851	3,040
Fujian	16	304	1,702			
Jiangxi	10	354	1,896			
Shandong	14	655	3,126			
Henan	14	653	3,311	10	1,024	3,721
Hubei	10	500	2,486	10	1,003	3,430
Hunan	12	550	2,420			
Guangdong	20	397	2,334	20	1,002	3,743
Guangxi	13	350	2,198			
Hainan	3	132	752			
Sichuan	15	813	3,792			
Guizhou	14	313	1,773			
Yunnan	12	352	2,050	12	957	3,399
Shaanxi	14	350	1,780			
Gansu	10	300	1,637	4	600	2,230
Qinghai	8	107	699			
Ningxia	9	103	610			

Note: The number here is from my description on rural survey, CHIP 1988. There may be some discrepancy of number of counties with other resources.

Table 1.B *Distribution of households in 1995 rural and urban surveys, by province*

Province	Rural			Urban		
	Number of counties	Number of households	Number of individuals	Number of counties	Number of households	Number of individuals
Total	102	7,998	34,719	69	6,934	21,696
Beijing	1	100	363	1	500	1,528
Hebei	5	498	2,177			
Shanxi	6	300	1,228	7	650	2,109
Liaoning	5	300	1,186	5	700	2,212
Jilin	5	300	1,191			
Jiangsu	5	500	1,965	9	800	2,450
Zhejiang	5	400	1,575			
Anhui	5	450	1,970	6	500	1,527
Jiangxi	5	350	1,728			
Shandong	7	700	2,879			
Henan	6	700	3,138	8	600	1,939
Hubei	6	402	1,764	7	742	2,310
Hunan	4	500	2,102			
Guangdong	7	500	2,460	8	546	1,821
Sichuan	8	798	3,145	7	848	2,486
Guizhou	5	300	1,465			
Yunnan	5	300	1,452	9	648	2,010
Shaanxi	6	300	1,376			
Gansu	6	300	1,495	3	400	1,304

Table 1.C *Distribution of households in 2002 rural and urban surveys, by province*

Province	Rural			Urban		
	Number of counties	Number of households	Number of individuals	Number of counties	Number of households	Number of individuals
Total	120	9,200	37,969	70	6,835	20,632
Beijing	2	160	563	1	484	1,456
Hebei	5	370	1,513			
Shanxi	6	400	1,622	7	640	1,937
Liaoning	6	450	1,583	5	697	2,111
Jilin	5	480	1,763			
Jiangsu	5	440	1,594	9	729	2,163
Zhejiang	6	520	1,932			
Anhui	5	440	1,837	6	493	1,476
Jiangxi	6	430	1,927			
Shandong	7	630	2,343			
Henan	6	530	2,219	8	680	2,086
Hubei	6	520	2,093	7	673	2,063
Hunan	5	450	1,848			
Guangdong	7	530	2,483	8	544	1,763
Guangxi	5	400	2,025			
Chongqing	2	200	677	2	279	832
Sichuan	6	500	1,832	6	585	1,703
Guizhou	6	400	1,825			
Yunnan	5	206	1,199	8	636	1,848
Shaanxi	6	370	1,641			
Gansu	5	320	1,449	3	395	1,194
Xinjiang	8	400	2,001			

Table 1.D *Distribution of households in 2002 rural-urban migrant surveys, by province*

Province	Sample size			Gender	
	Number of households	Number of individuals		Male	Female
Total	2,005	5,327		2,786	2,532
Beijing	100	267		139	128
Shanxi	151	316		178	136
Liaoning	201	552		276	274
Jiangsu	201	510		262	247
Anhui	200	547		292	255
Henan	201	521		274	245
Hubei	201	619		322	295
Guangdong	200	554		291	263
Chongqing	100	268		131	137
Sichuan	150	398		212	186
Yunnan	150	406		211	195
Gansu	150	369		198	171

Kurzfassung

Zusammenfassung

In dieser Forschungsarbeit wird die Entwicklung von Bildungsrenditen in China vor dem Hintergrund des Übergangs von der Plan- zur Marktwirtschaft untersucht. Drei Personengruppen werden dabei fokussiert: erwerbstätige Einzelpersonen in Städten, Haushalte auf dem Land und Binnenmigranten. Auf Grundlage der Daten des Chinese Household Income Project (CHIP) wird zunächst die Entwicklung der Bildungsrenditen für Erwerbstätige in Städten ermittelt und vor dem Hintergrund verschiedener transformationstheoretischer Ansätze diskutiert. Die multivariaten Befunde verweisen auf steigende Bildungsrenditen in dieser Übergangszeit, wenngleich der Anstieg in verschiedenen Wirtschaftsbereichen unterschiedlich stark ausfällt. Die Einkommensentwicklung ist für Beschäftigte im öffentlichen Sektor am günstigsten, allerdings verweist die Interaktion von Wirtschaftsbereich und formaler Bildung auf die steigende Bedeutung von Bildungsabschlüssen für die Einkommensentwicklung in privatwirtschaftlichen Sektoren. Anschließend wird die Bedeutung von Binnenmigration für das Haushaltseinkommen durch den Vergleich von Haushalten ohne und Haushalten mit Arbeitsmigrantinnen und -migranten ermittelt. Variablen zum Humankapital zeigen dabei keine signifikanten Effekte, was auf weitere bedeutende Faktoren der Einkommensentwicklung verweist. Abschließend widmet sich die Analyse den Unterschieden zwischen der städtischen Erwerbsbevölkerung und den vom Land migrierten Erwerbspersonen und vergleicht unter Anlehnung an humankapital- und segmentationstheoretische Modelle die Bildungsrenditen beider Personengruppen. In der Diskussion der Ergebnisse wird deutlich, dass zur Prüfung der theoretischen Bezüge ein längsschnittliches und kontinuierliches Monitoring von Arbeitsmarktprozessen notwendig ist. Insgesamt gelingt mit den in dieser Arbeit eröffneten drei Perspektiven auf die ökonomische Bedeutung von Bildung für Individuen und Haushalte ein fundierter Einblick in den wirtschaftlichen Transformationsprozess in der Volksrepublik China.

Abstract

This dissertation pictures the returns to education in China's market transition period during 1988 to 2002 focusing on three target groups, namely, urban individual workers, rural households, and rural-urban migrants. Using the Chinese Household Income Project (CHIP) data sets, this dissertation firstly examines the returns to education for urban individual workers over the period of market transition to echo the controversy on market transition theory. The results from a regression model shows clearly an upward change of the wage returns to education in the process of market transition period which the survey data covered. However, with a huge variation among economic sectors: the state/public sector, i.e., governmental agency/institution holds advantageous position over other sectors on wage returns. The interaction between education and economic sectors indicates a growing effect for market sectors. Secondly, this dissertation tests how rural-urban migration reshapes the household income generation scheme through comparing income composing between households with migrants and those without. The coefficients of variables representing human capital are not significantly positive. This finding suggests other factors play a vital role in rural household income generation relative to human capital. Thirdly, this dissertation also take a glance at the huge disparities between urban native workers and rural-urban permanent migrant workers, and discuss the comparability of the human capital return mechanism by reviewing human capital, signalling, and labour market segmentation models. The discussion of this part suggests that the validation of the theoretical models requires a longitudinal and continuing observation of labour market evolution. These three independent stories make up the comprehensive picture of the returns to education in market transition period in China.

Curriculum Vitae

For reasons of data protection,
the curriculum vitae is not included in the online version