

An Investigation in China on Employment Change between Formal and Informal Sectors:

Patterns, perceptions and achievements

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Abstract

The goal of this thesis is to study and understand the informal employment in China. With the rapid growth of informal employment, this thesis challenged the conventional view of informal sector that it is a hub for the poor who need work but cannot find employment in the formal sector. It analysed informal sector employment in China. It focused on three aspects: (1) the pattern and determinants of what constitutes employees, casual workers and employers, (2) the reasons for employment change between the formal and informal sectors, and (3) remuneration differences between formal sector employees and informal sector self-employed workers/employers. This analysis used CHIPs data from 2008, 2009, and 2014.

The findings suggest that informal employment is a hub for the more vulnerable who are less able to compete, such as women, less educated, not healthy and disabled. However, it not necessarily applied to self-employed and small business owners. They are competitive with longer working experience and financial capital to start up own businesses. Running one's own business can provide benefits in terms of job flexibility to accommodate the need to take care of children or elderly relatives. The findings also suggested that labour force engaged in the informal sector are more likely to be induced by personal career pursuing, rather than enforced unemployment. Finally, we have find that changing jobs from formal employment to either self-employment or entrepreneurship can increase monthly disposable income.

The results found in this study contribute to the existing literature on China's labour markets. We comprehensively dissected employment status by recognizing casual workers who either have no contract or a temporary contract under one year in length, which was neglected by the authorities and researchers. It has contributed to a richer understanding of employment status, where informal sector self-employed workers and employers are better off compared to formal employees. Indeed, casual workers have the worst working conditions when considering the number of hours worked and social protections received. These findings contribute to the existing literature on the informal sector as well as provide a comprehensive understanding of China's

labour market that the government can use when considering the establishment of new policies.

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List of Publications

Liang, Z., Appleton, S. & Song, L. 2016. Informal Employment in China: Trends, Patterns and Determinants of Entry. Institute for the Study of Labor (IZA).

Song, L., Appleton, S. & Liang, Z. 2016. Deconstructing Informality: A Response to Vulnerability or an Optimal Choice? Institute for the Study of Labor (IZA).

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Chapter 1 Introduction

Conventional understanding of the informal sector is that it is a hub for the poor who need work but cannot find employment in the formal sector. More recently, with the rise in informal sector employment, both globally and specifically in China, this sector is not just attracting unskilled workers. It is also attracting skilled workers, people with business assets, and risk-takers. Indeed, the informal sector may be the optimal employment choice for these people. This thesis will study this phenomenon to gain an understanding of employment patterns in the formal and informal sectors in China.

1.1 Informal sector in China

In China, during the period of the planned economy, there were few jobs available in the informal sector. The urban labour force was concentrated in state-owned enterprises or collective enterprises. From 1958, the Chinese central government controlled the rural labour force, placing restrictions on leaving rural areas for urban jobs (Knight and Song 1999). However, these restrictions have changed since the 1990s, and later China has a massive surplus labour problem in urban areas. In the 1990s, the Chinese government instituted reforms of state-owned and collective enterprises to reduce the size of the surplus labour force. As a result, millions of urban workers were retrenched by those enterprises into the formal sector. With the abolishment of collective farming in the early 1980s, agricultural production in rural China became increasingly diversified. In the 1990s, this led to huge rural-urban migrations.

Compared with formal sector employees, the surplus labour force created by these migrations was a vulnerable group excluded from the formal sector and able to find employment only in the informal sector. Many urban residents the Chinese government had retrenched into the formal sector because of the 1990s reforms were middle aged to elderly workers with either low skills or less physical capabilities. Rural-urban migrants also had less education and low skills, but they faced harsh institutional restrictions on entry into formal sector employment. The surplus labour force was too large to be

easily integrated into the Chinese urban economy. However, after the late 1970s economic reforms, the informal sector in urban China began to grow, and by the mid-1990s it had become a mechanism for absorbing the urban surplus labour force. Most of these workers entered the informal trading and services sectors (Appleton, Knight et al. 2002). According to Lewis (1954), the number of surplus labour force searching for work in casual jobs in the informal sector, such as shoes polishing workers, is usually higher than the number of jobs available. The marginal productivity of surplus labour is negligible. With high competition for casual jobs, these workers often receive low remuneration from occasional employment. Thus, workers in the informal sector are vulnerable, segmented and discriminated against.

With the development of the Chinese market economy, the informal sector has become a very important source of employment in China. Private sector have developed largely from the expansion of export-oriented manufacturing and domestic commercial and services demand. By 2012, there were 40.6 million self-employed businesses in China, which have provided jobs to 80 million workers. Ninety percent of these businesses are concentrated in the services industry. Fifty percent of the people working for these businesses lived in eastern China (XinHua 2013). The annual growth rate of self-employment since 2004 is 2.14%. There were 23.5 million businesses in 2004. Since then, the growth of self-employment businesses has accelerated with the average growth of two million businesses per year (GOV.cn 2013). This phenomenon indicates that employment in the informal sector may no longer be in the lowest-level jobs.

1.2 Policy promotion of the informal sector

Worldwide, governments and organizations have promoted employment in the informal sector. In the developed countries, the scale of the manufacturing sector has decreased, and technological progress has changed the economic weight of various industrial sectors. It has also caused displacement and unemployment of workers. As early as the 1980s, in France and the UK (Bendick Jr and Egan 1987), governments promoted the growth of small businesses and self-employed workers as a tool to decrease

unemployment. In the mid-1990s, the government of Peru promoted the informal sector as the way to reduce the poor and maintain social stability. The idea was proposed by De Soto (2002) and his team. It is to help the poor gain access to loans by giving them property titles, so they have the chance to start up own businesses. Both the political left and right worldwide have welcomed the idea of reducing global poverty and increasing market competition for the poor (Gravois 2005). Although, generally, unemployment may be seen as a push factor for engaging in informal sector, we should not overlook the potential attraction of self-employment in the informal sector. In the US, UK, and Germany, a large proportion of the labour force have reported they prefer self-employment (Blanchflower and Oswald 1998). As economic structures develop and technological progress grows, self-employed people and small businesses in the informal sector are creating new job opportunities by establishing new businesses with diverse orientations and increasing market competition.

1.3 Research on China's informal sector

The recent trends of self-employment in China studied by Zhang, Zhang et al. (2006) and Mohapatra, Rozelle et al. (2007) show that the informal sector is no longer a 'safety net' providing jobs for the unemployed and poor. These studies show that the growth of self-employment in China's informal sector is similar to the growth of small businesses: it's faster, has complex business operations, and shows financial and business health. However, other studies have found the opposite: self-employed workers in the informal sector have lower income returns than the return for formal employees (Davis 1999; Xue, Gao et al. 2014).

Unfortunately, the literature on the informal sector in China is quite limited. Most of the literature studying the concepts of segmentation, institutional barriers, and self-employment are focused on the inequality caused by hukou status (resident registrations) in urban China (Cui 2013; Davis 1999; Giulietti, Ning et al. 2012; Mohapatra, Rozelle et al. 2007; Wu 2002; Zhang, Zhang et al. 2006; Zhang and Zhao 2011; Zhang and Pan 2012).

One of the reasons for this might be the Chinese government's refusal to recognize informality. The authorities use the terms *self-decided employment* and *self-employment* to describe workers' employment not belonging to formal sector. Recognising informality would indicate the failure of the Chinese government to control the economic sector, which may also indicate that conflicts and social instability are worsening due to retrenchments of jobs from state-owned enterprises into formal sector employment (Song, Appleton et al. 2016). Authorities and academics have neglected study of the informal sector. However, this thesis will study the labour market in the Chinese informal sector by examining the determinants of employment status, patterns of changes in employment, and remuneration of employment status.

1.4 Identification of the informal sector

The ILO (1993) defined informal sector employment in terms of business ownership, using a productive unit (usually consisting of family or friends) whose fixed assets are in the informal sector and belong to the owners. Labour relationships in these units are primarily based on personal and social networks. Given these characteristics, the informal sector is usually associated with small business units within which capital and labour may be difficult to separate and where the level of productivity may be low. Such business units barely survive, struggling to accumulate enough capital for future investment. Furthermore, jobs generated in this sector constitute employment in the informal sector, usually for those who have little or no fixed assets for the kind of work they do in the informal sector.

Informal employment or employment in the informal sector was first discussed by Lewis in his dual-sector model. Here, the developing economy is assumed to have a surplus of unproductive labour in its agricultural sector or subsistence sector. This labour is attracted to and migrates to urban areas for better-paid manufacturing jobs (or capital sector). Those who fail to secure jobs in the formal sector would be pushed into the informal sector. Harris and Todaro (1970) further developed this dualistic model by focusing on rural to urban migration. This migration increases urban area unemployment because there are more migrant workers than available jobs. Less skilled migrants

would end up in unproductive informal sector jobs. However, even though this migration increases unemployment and fuels informal sector growth, in the context of the Harris-Todaro model, the behavior of migrants is economically rational and utility-maximizing. If the formal sector cannot accommodate the large migrant population, this surplus labour force will make expected income-maximizing decisions.

The ILO perspective originates from earlier studies of labour markets in developing nations, which characterised them as dualistic. Low-skilled rural-urban migrant workers who left the village but could not secure well paid urban formal jobs would stay in urban areas but survive through low return informal employment. Based on the theoretical assumptions supported by some limited empirical findings, the informal economy was first conceptualised by ILO as an adverse phenomenon for the poor in low income developing countries. Within the informal sector, working conditions were bad, hours worked long, pay low, and little or no social protection provided. Informality was further associated with labour market failures and chronic poverty (ILO, 2016).

Within this negative perspective, informal work would only attract the vulnerable: women, the disabled, low-skilled manual or migrant workers with few opportunities to find formal jobs. It was a residual activity for those unable to obtain more desirable, higher quality jobs in the formal sector. Conceptually, the informal sector was seen as something that emerged when the supply of labour exceeds the demand. It catered to those who had been forced out of the formal labour market by above market-clearing wages and were essentially queuing for scarce formal sector jobs.

However, findings from recent research provide some counter-arguments to the above perspective. There is some evidence that more and more well-off or highly skilled workers are willingly engaged in the so-called informal sector in the more developed economies. Those less competitive may also be learning to be more competitive by gaining experience or accumulating human capital. There is beginning to be a paradigm shift in conceptualising the informal sector in recent decades, partly as a result of trends in individual worker choice. Empirical evidence reveals a trend of voluntary switching from formal salaried jobs to self-employment in many countries, both developed and developing (see Maloney, 2004, for a comprehensive review).

1.5 Context and issues of informality in China

In the Chinese context, as was noted above, Chinese authorities have not recognized the concept of informality. Thus, they cannot recognize the issues resulting from expansion of the informal sector.

Huang (2013) argues that in China, the two main social classes should now be defined by whether they are employed in the formal or informal sectors. According to him, only a small number of 'blue-collar workers' are 'privileged to be included in the formal job sector', protected by the State's social insurance. He fears that the gap between the two sectors leads to a 'social-economic crisis confronting China today and cries out for reform'. Informality might be the new touchstone for social class division, where the well-recognised rural-urban divide analysed by Knight and Song (1999) is supplanted by a formal-informal divide.

All this may haunt the Chinese leadership. Seeking to avoid this divide, the Chinese government has consistently emphasised the necessity of controlling the speed of rural to urban migration. However, in practice, these controls have been ineffective. The scale of migration in China has rapidly expanded since the 1990s, with a current official estimate of 270 million people who work away from their registered origins, which becomes 500 million people if their dependents are included (Lu 2013).

With the largest population movement, the Chinese regime faces a dilemma between its pursuit of GDP growth and desire for orderly migration management. Central policy dossiers since the 1990s reveal a government flexibility regarding China's rural-urban migration. However, the government's denial of informality is consistent and firm. The term *informal employment* is not used in official statistics. Workers without employment contracts or short-term contracts are not registered, covered, or recognized by the government. Self-employed individuals and employed persons in private enterprises are recorded, and while these workers may be taken to reflect the informal employment, the equivalence is partial.

Various empirical studies have examined the issue of whether informality should be seen as a cause of concern or merely a substitute for the lack of formal job opportunities. Zhang and Cai (2012) estimate that labour

market participation dropped from 79.0% in 1990 to 73.4% in 2009 using national labour statistics. In their article, flexible jobs in the informal sector are regarded as low-level employment due to the low income they provide and the lack of social protection for those who are engaged in the informal sector. They advocate that the Chinese labour market is overly flexible, allowing informal sector jobs to emerge without social protection whilst the formal sector is overly protective by providing social insurance and obstacle for employer terminating employees' contracts.

Cai (2007) explores how the true size of informal employment may be misreported. He finds that in official labour statistics, self-employed workers in individually owned businesses or small private enterprises are not included in the labour force if they avoid registering their businesses officially. Further, his findings also demonstrate that in the formal sector, if look at some large state-owned enterprises or work units, newly hired or re-employed workers who were made redundant are not included as employees of the state-owned enterprises or work units in officially published statistics. Cai's findings reflect the fact that the Chinese government denies the existence of informality, so the full impact of the informal sector cannot be measured in official statistics sources. Only after the rapid growth of the private sector have scholars started to fully consider the components of employment status via household surveys such as the Chinese Household Income Project surveys (known as CHIPs, 1988, 1995, 2002, 2008, and 2014). Because of their efforts, we can now study different employment statuses in the informal sector.

1.6 Aim and objective

The aim of this thesis is to explore and understand the situation of informal sector in China's labour market.

There are three research objectives.

- To study the determinants of employments in formal and informal sectors by comparing 2008 and 2014 CHIPs descriptive data and multinomial logistic regression model results.
- To study the rationales of employment changing between formal and informal sector by applying nested logistic regression model.

- To examine whether the disposable income is higher for employment in the informal sector than it for employment in formal sector by analysing retrospective data.

1.7 Thesis hypotheses

This thesis is going to test following hypotheses.

Hypothesis 1: I challenge the conventional understanding that informal labour market is the hub for the poor. I expected that, in the informal labour market, casual workers and small business owners do not share similar characteristics.

Hypothesis 2: I expect to find casual workers are the most disadvantaged workers in the labour market, they may hold characteristics of less educated, being female and being either young or old. It may also be expected to find that workers with longer working experiences and have family responsibilities are more likely to be small business owners.

Hypothesis 3: I expect to find personal carrier perusing is the main reason for transition into informal sector rather than the enforced unemployment. Personality may also influence decision making on employment. I assume that workers have experiences in the informal labour market are more likely to have risk-bearing personality.

Hypothesis 4: I assume the disposable income is higher for employments in the informal labour market than it in the formal labour market.

1.8 Methodologies

1.8.1 Data information

The original dataset is the Chinese Household Income Project (CHIP). It has conducted six waves of household surveys, in 1989, 1996, 2003, 2008, 2009 and 2013. These surveys were initiated by Chinese and international researchers at the Australian National University, the University of Queensland and the Beijing Normal University, with the assistance from the National Bureau of Statistics (NBS). The surveys were carried out as part of collaborative research project on incomes and inequality in China. They covered income and expenditure information, employment status, family

structure, and social and economic characteristics at both personal and household level in data. This information allows me to conduct research from different angles. The focus groups are rural households, urban resident households and rural-to-urban migrants. The questionnaires contain individual and household information. In this thesis, I only used population who live in the urban area, whom are urban residents and rural-to-urban migrants.

The CHIPs 2008 and CHIPs 2009 surveys were conducted in nine provinces: Anhui, Chongqing, Guangdong, Hebei, Henan, Hubei, Jiangsu, Sichuan, and Zhejiang. The Urban Migrant Survey was conducted in 15 cities that are provincial capital cities or other major migrant receiving cities within above provinces. The Urban Household Survey was conducted in 19 cities within above provinces. The sample size of original data is relatively associated with the overall population size of the city.

The sampling design of the Rural and Urban Household Surveys are based on that of the Annual Rural Household Survey and Annual Urban Household Survey conducted by the NBS. The Urban Household Survey adopted stratified random sampling method. Firstly, urban cities and towns have been stratified into three strata according to population size: large and medium-sized cities (at and above prefecture level), county cities and county towns. Secondly, the sample size is decided by proportion of population in selected stratus to the provincial total. Then, samples are selected based on the proportion of population size within each districts/communities/dwelling.

Sampling strategy for rural-to-urban migrant workers has been designed and implemented by the researchers. Due to lack of complete official residential registration of migrants in cities, most existing migrant surveys using administrative records of residential addresses are less representative. The researchers of CHIPs believed that a large number of migrant workers who live at their work places, such as factory dormitories and construction sites, are left out. In order to solve this problem, they have conducted unique sampling strategy for migrant survey. The sampling frame is based on workplaces. The census is conducted in a number of randomly selected city grids within the defined city's boundary. Then based on the aggregate number of migrants, a random sample of migrant workers is selected.

The data collecting provinces are located across China; Shanghai, Jiangsu, Zhejiang, and Guangdong from eastern China; Anhui, Henan, and Hubei from central China; Chongqing and Sichuan from western China. One of the advantages of CHIPs dataset is that it considered the sample representativeness of rural-to-urban migrants. Migrant workers are one of the main groups composed labour force in the labour market. In Cao, Li et al. (2015)'s research, they find that, in the urban area, migrant workers are more likely to be self-employed or start their own businesses in middle age. Running own business can increase the feeling of settlement for migrant workers in urban area. Thus, a representative sample of migrants in urban area is essential to this thesis. The researcher has thoroughly conducted the survey in the main migrants receiving and sending provinces. The province of Shanghai, Guangdong, Jiangsu, Zhejiang are the largest migration destination. Hunbei, Sichuan, Chongqing and Henan are among the largest migration sending area1.

The sample of CHIP 2013 is coming from the big sample of the annual integration household survey sample of NBS in 2013. The latter contains 160 thousand households in 31 provinces. Sampling method is same as the elaboration for CHIP 2008 and CHIP 2009 urban and rural survey. The CHIP sample was selected by systematic sampling method in three layers of east, centre and west and contains 15 provinces, 126 cities, 234 counties, 18948 households and 64777 individuals. In which, there are 7175 urban households, 11013 rural households, and 760 migrant households. (ciidbnu 2016) I have received the authorization from International Data Service Centre (IDSC) for using this data.

For this thesis, we will analyse 2008, 2009, and 2014 surveys, according to data availability. Our samples will be comprised of registered urban residents and rural-urban migrants located in urban China. We will focus on Individuals in the labour force aged 16 to 65 who are neither in full-time education nor retired.

[1] Based on the 2000 census data, Shanghai, Guangdong, Jiangsu and Zhejiang accommodated 66 per cent of migrants, while 47 per cent of migrants were from Sichuan, Chongqing, Anhui, Hubei and Henan Provinces.

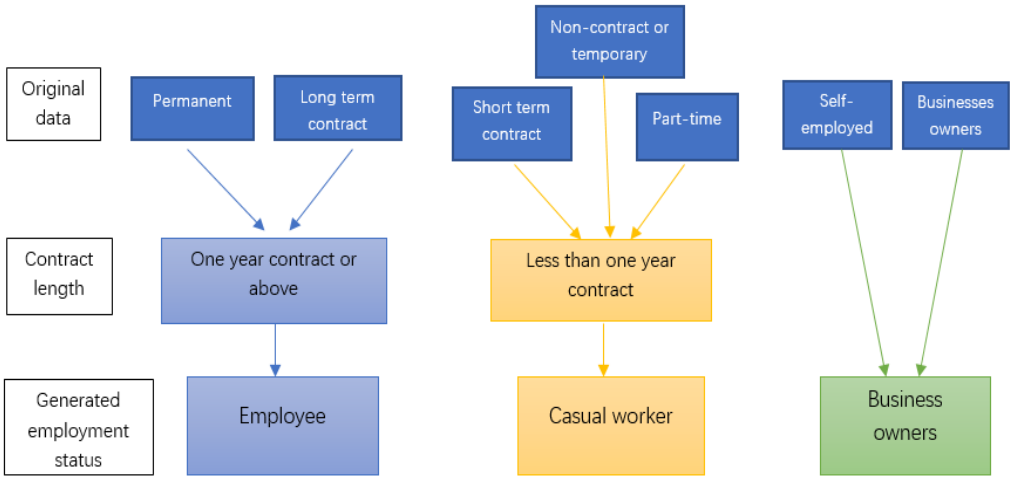
1.8.2 Research methods and data

To study determinants of employment status, we will apply the first hypothesis, multinomial logistic regression. The data will be 2008 and 2014 cross-sectional data. There are six-year gaps between the two datasets, which may reveal differences between formal and informal sector employment status decisions. To study the pattern of employment changes between the formal and informal sectors, we will apply the second hypothesis—nested logistic regression. This data will be 2009 cross-sectional data. The 2009 data contains information from job and personality-related surveys that can help narrow down endogenous factors induced by individual differences. To study the third hypothesis regarding remuneration, we will apply the fixed effects model. The data will be 2014 cross-sectional data. We will generate retrospective panel data from the 2014 data.

1.9 Classification of employment status

The employment status in the three chapters are differently defined, due to different contains in the surveys and different models we have applied. In the multinomial logistic model, the employment status is: employees, casual workers, and business owners. Figure 1.1 shows how the employment statuses have been generated from the original data. The restrictions of category employment status is the year length of contract.

Figure 1.1 Process of generating employment status (Employee, Casual worker, Business owners) for multinomial logistic model



In Chapter 3, nested logistic will be applied. The data is 2009 CHIP cross-secontional data. The purpose is to study why labour force make decisions on changing jobs between formal and informal sector. The changes have been categorised into 4 groups: formal sector to formal sector, formal sector to informal sector, informal sector to formal sector, informal sector to informal sector (refers to Table 1-1). To generate the employment transition factor, ownerships of last job and current job have been adopted. In the early period of economic reform, the employment mechanism that is 'iron bowl' and munificent welfare benefits was a legacy from planned economy to be retained in the state related work units. For participants who in old age, ownership of work units is more representative for defining job movement between formal and informal sector. Table 1-2 shows identifications of formal and informal sectors by ownerships of work units.

Table 1-1 Changes between formal and informal sector

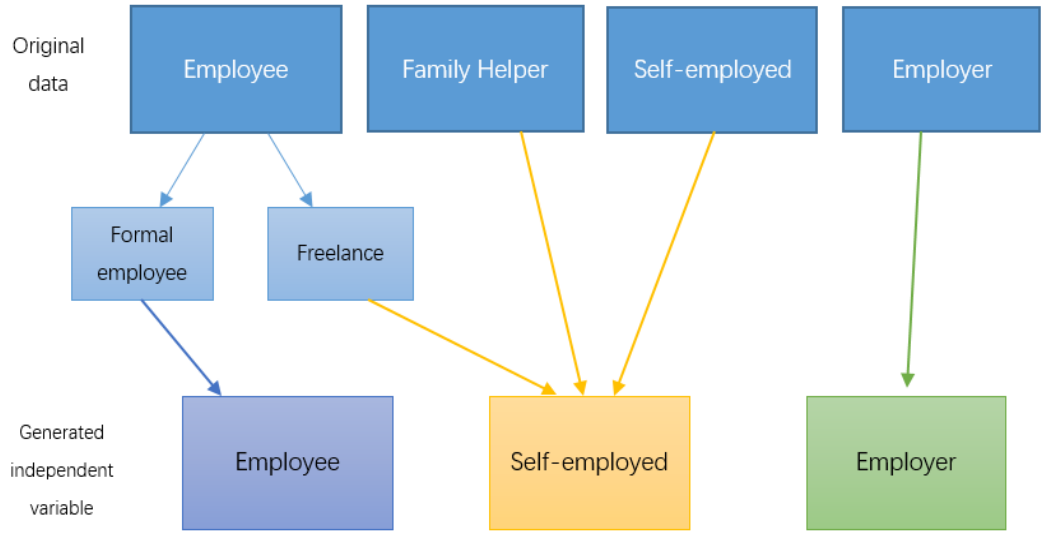
Current job / Last job	Formal Sector	Informal Sector
Formal Sector	697	705
Informal Sector	509	3164

Table 1-2 Formal and informal sector identifications by ownerships of work units

Formal Sector	**Informal Sector**
• Government Agencies and Party Agencies • State and collective public service unit • Civilian-run enterprises and public service unit • Solely state owned enterprises • State holding enterprises • Solely Foreign owned enterprises • Foreign holding joint venture • State holding joint venture	• Collective holding enterprises • Solely private owned enterprises • Private holding enterprises • Collective holding joint venture • Private holding joint venture • Self-employed Individuals • Other enterprises

In Chapter 4, fixed effects model has been applied to analyse the retrospective data that is generated from 2014 CHIP data. Comparing to 2008 and 2009 CHIPs data, the 2014 CHIP data can provide longer timg span historical data that may be helpful to observe employment changes overtime. The employment status in this chapter is Employee, Self-employed workers and Employer. The classification of the employment status in this chapter is self-reported employment status combined with ownership of the work units (refers to Figure 1.2). Casual workers have been classified in the same group of employees. With the results of multinomial logistic model, the determinants and pattern for casual workers are different from formal employees. Thus, to extract them from the group of employees is essential. With the similarity of being informal sector, casual workers are merged in the group of self-employed workers.

Figure 1.2 Process of generating employment status for fixed effects model (Chapter 4: impact of changing employment status on income)



1.10 Structure of thesis

The organisation of this thesis is as the follows: Chapter 2 analyses the determinants of what makes employees, casual workers, and small business owners. Chapter 3 analyses the patterns and rationales of shifting employment between the formal and informal sectors. Chapter 4 analyses the changes of employment status between formal employment, self-employment and employers may impact on the change of disposable income. Section 5 is the conclusion.

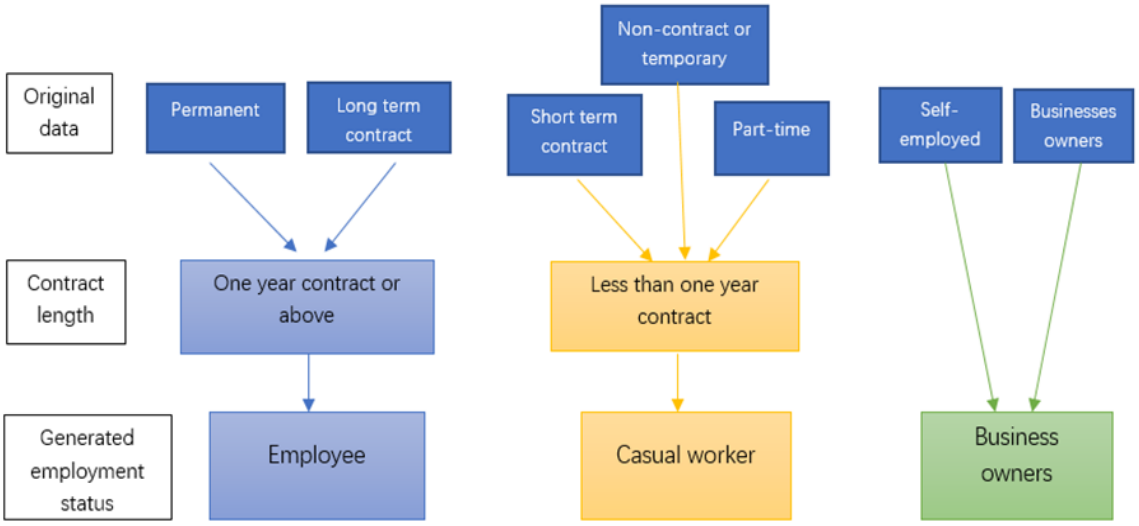
Chapter 2 Informal Employment in China: Trends, Patterns and Determinants of Entry

2.1 Introduction

The marked rise in informal employment, globally and in China in particular, has drawn attention to an ambiguity in how informally should be conceived. On the one hand, the informal sector has long been characterised as a hub for the poor and the vulnerable. On the other hand, informal employment also includes business owners who are often skilled and risk-taking. One response to this is to distinguish between two kinds of informal employment: casual workers – those who either are employees in formal sector but without formal contracts or in casual employment in the informal sector. Appropriate employment regulation and social policy will require a good empirical understanding of the pay and welfare differences between these groups of workers, and what determines the kind of employment status which an individual can attain.

In this chapter, we provide a contextualised analysis of informal employment in China, focusing on the distinction between business owners and casual employment. We define those who have business assets (private firm owners or entrepreneurs) or have registered officially as individual business holders as business owners. Other workers who have no job contracts are classified as casual workers, regardless of whether they work in a formal enterprise or in the informal sector. Formal employment is defined by whether one has received a job contract for at least one year. Figure 2.1 shows the process of generating and definitions of employee, casual workers and business owners.

Figure 2.1 Process of generating employment status for chapter 2



Using micro data from nationally representative surveys from 2008 and 2014, we document the rise in informal employment and consider its implications for workers' wellbeing, by comparing remuneration and other welfare indicators. We describe the characteristics of workers in the three categories of employment states (formal, casual and business) before using multinomial logit models to estimate the determinants of employment status in the two survey years. By using a range of explanatory variables, we try to establish whether informal employment status largely reflects vulnerable workers being unsuccessful in the attaining formal employment or whether it may be an optimal choice for some, for example, by providing job flexibility.

The received wisdom of informal employment as a residual activity for the most vulnerable or unlucky workers originates from early studies of the labour markets of developing nations. Economists asserted that dual sectors existed in such economies; low-skilled or less competitive rural-urban migrants, who left the village but could not secure better-paid urban formal jobs, would stay in the urban sector and be engaged in the interior informal employment (Harris and Todaro 1970). Based on simple theoretical assumptions supported by some limited empirical findings, this characterisation was extremely influential in shaping opinion about the informal economy in 1970s, with the ILO among others, identifying the growth of the informal sector as an adverse phenomenon for the poor in low-income developing countries.

Within the informal sector, working conditions were said to be deprived, with long hours, low pay and little or no social protection provided. Informality was further associated with labour market failure and chronic poverty (ILO, 2016).

However, this traditional view has been challenged by recent research which found some evidence that more and more well off or highly skilled workers become willingly engaged in such the so-called informal sector in the more developed economies. The sector may also help disadvantaged workers to become more competitive by gaining experiences or accumulating human capital. The fast growth of international trade, involving both the global North and South, among other factors, has reduced the size of the manufacturing sector and created job-loss in the advanced economies. In line with this, technological progress has led to changes in the industrial structure and changed views on 'work'. In more developed countries, there is a rising number of workers in self-employment, in part due to the shift of capital investment for manufacturing production from the North to South. Examining the impacts of such a structural change on the labour market, a large proportion of labour force in the US, UK and Germany preferred being self-employed (Blanchflower and Oswald, 1998). Empirical evidence shows a trend of voluntary switch from formal salaried jobs to self-employment in both developed and developing countries (see Maloney, 2004, for a comprehensive review). Small micro firms and self-employed individuals are encouraged by Western governments as ways to limit unemployment following the reduction in manufacturing jobs.

In developing countries, such as much of sub-Saharan Africa, disappointing rates of growth of formal employment have led governments to look more favourably on the informal sector as the destination of their growing urban populations. Some emerging economies like Peru have treated informal sector as "the other path" to resolve poverty and instability (De Soto, 2002). China, the largest emerging economy, has become a mixed economy in which informal employment has played an important role during its transition, particularly for the urban-rural migrants attracted to the cities. However, the Chinese government denies the phenomenon of informality, and hence relevant policies have not been made to target this type of employment. Empirical research is therefore needed in order to improve our understanding of informal employment in China.

The chapter is organised as follows. Section 2 explains the concept of informality in the Chinese context, focusing on how self-employment should be

distinguished between business owners and casual employment. Section 3 discusses the data and methods. Section 4 describes the changing patterns of informal employment in China, focusing on survey data from 2008 and 2014. Section 5 provides an econometric analysis on the determinants of employment status, focusing on the two kinds of informal employment. Section 6 concludes.

2.2 Contextualising informal employment in China

The Chinese government has never officially accepted the existence of informality. Instead, its official statistics use self-employment as an employment category differentiated from 'the employed' and unemployed. In official sources, 'self-employment' covers those who are 'employed persons in private enterprises' and 'self-employed individuals'. The rural labour force is another main category of labour, not included in the urban labour market. This crude method of classifying the Chinese labour force causes difficulties in examining employment in China in detail and risks making policies on labour issues irrelevant to real world concerns.

According to the Chinese Statistics Yearbooks (NBS various years), China's labour force is divided by the rural and urban sectors based on household registration status and by primary, secondary and tertiary sectors. For the urban labour force, ownership of employment is the indicator of division; unemployed and self-employed are only be recorded for those with urban household registration. Although rural-urban migrants total around 260 million, it is unclear whether they appear in the category of urban or rural labour force and whether their unemployment or self-employment is recorded in official statistics (Song, 2015).

As discussed above, the Chinese labour force is officially defined by rural and urban sectors. We focus on the urban labour force, but include rural-urban migrants who work in urban areas. The surveys allow us to reclassify urban employment status into three: 1) salaried workers with contracts (formal employees hereafter); 2) wage workers who have no job contract in any ownership sector (casual workers hereafter). 3) Business owners and self-employed individuals with businesses (business owners hereafter).

The rationale for making this three-fold classification is to throw light on job security and with it social protection. We set having a job contract as the defining characteristic of formal employment because this is the most important indicator for

welfare. The 2008 New Labour Contract Law (PRC, 2007) legally requires all employers to offer contracts and provide those who have over two-year-contracts with social insurance. However, there are variation in implementation – the law is only legally binding with more established firms or entities, typically those in the formal sector. Furthermore, private business employers may well avoid such laws due to the lack of mechanisms to monitor compliance. Employers in service sectors (e.g. catering, domestic, and repair shops) typically do not offer contracts and social insurance payment to their employees. Further, self-employed individuals (especially low-skilled labourers) are neglected by the law. These workers are often in casual jobs that can be within establishments in the formal sector. To save employment costs, firms in the formal sector often hire temporary employees for short-term goals or hire low skilled manual labourers to do unskilled jobs without offering formal contracts (e.g. as cleaners, security guards, and low-level of office workers). While casual workers are often grouped together with business owners as being in the informal sector, in our analysis we regard business owners as a separate category. These business owners may be sole proprietors working alone, they may work in a household enterprise or they may run a business with fewer than seven employees.

2.3 Deconstructing employment status

The ILO (1993) defined informal employment (IE) in terms of business ownership using a productive unit (usually family or among friends) whose fixed assets pertain to the informal sector and belong to the owners. Labour relationships in these units are mainly based on personal and social ties. Given these characteristics, the informal sector is usually associated with small business units within which capital and labour may be difficult to separate and where the level of productivity may be low. Such business units barely survive, rather than accumulate capital for future investment. Further, jobs generated in this sector constitute the employment in the informal sector (EIS), usually referring to those who have little or no fixed assets for the kind of work they do in the informal sector.

The distinction between "informal employment (IE)" and "employment in informal sector (EIS)" discussed above would have different determinants and consequences. Hussmanns (2004) pointed out that "Employment in the informal sector and informal employment refer to different aspects of the 'informalisation' of

employment and to different targets for policymaking. The two concepts cannot replace each other. However, the two concepts need to be defined and measured in such a way that they are consistent and that one can be clearly distinguished from the other". Further to Hussmanns, we suggest examining whether those who own fixed assets for their economic activities (IE) are far better off than those without (EIS), and whether the latter would be more likely to become IE than to work in a non-subsistence sector. In simpler terminology, we refer to small business owners (instead of informal employment, IE) and informal sector workers (instead of employment in informal sector, EIS).

In the Chinese context, as was suggested above, the concepts of informal employment and employment in the informal sector may not be sufficient to cover all the elements of informality existing in, or emerging from, the current labour market. In particular, neither concept includes the casual workers who are engaged in China's formal sector. This group of workers have either no employment contract or short-term contracts (less than two years), and obtain little or no welfare payments. Including this element in the analysis of the labour market is crucial in order to understand informality in China (it may also need to be addressed in other countries).

Chinese official statistics relating to employment status are not defined to a way that allows full investigation of informal employment. According to the Chinese Statistical Yearbooks of various years, the employed are clearly defined as "persons who are engaged in social working and receive remuneration payment or earn business income, including total staff and workers, re-employed retires, employers of private enterprises, self-employed workers, employers of private enterprises, and individual economy, employees in township enterprises and employed person in rural areas and other employed persons (including teachers in the schools run by the local people, people engaged in religious profession and the servicemen, etc.)".

The formal employees defined as workers with contract longer than one year. They are protected by State's social insurance. The difficulty comes when defining informal employment or employment in the informal sector. By official definition, 'self-employment' means 'employed persons in private enterprises and self-employed individuals'. Official categories only allow us to distinguish between employed persons in urban private enterprise and self-employed individuals but not to identify those who are in the informal jobs within the formal sector. This latter group is

particularly important in China given the dominant role of the state-sector. It is therefore problematic to use official statistics to study informal employment.

Not all employed persons engaged in the formal sector are formally employed in China. For example, most the large enterprises, whether state-owned, privately owned or of mixed ownership (joint ventures, listed forms, etc.), hire temporary employees for short-term goals; or hire manual low skilled labourers to do low skilled jobs (cleaners, security guards, nursing assistants, etc.). Employers do not provide such workers with formal contracts, and hence avoid the cost of social protection. Some agents in the formal sector may directly employ casual workers, low or high skilled, to reduce the cost of labour. Alternatively, casual workers in the formal sector may sometimes be employed by a sub-contracted company not by the organisation itself. For example, some security companies would have contract with an organisation (a client); the security company hires and manages the security guards who have no direct employment relations with the organisation.

In this chapter, the third group we categorized is small business owners. They are the business owners of individually owned business (ge ti gong shang hu). According to the *Regulation of Individual Industrial and Commercial Business*, individually owned business (ge ti gong shang hu) is defined as citizens with operational capacity shall, in accordance with the provisions of these Regulations, register with the administrative department and engage in industrial and commercial operations. Individually owned business has less than eight employees. There is no registered capital for starting-up a business. The amount of taxation is fixed and regardless with profit. However, the credibility of individually owned business is very low; they can hardly get financial help from formal institutions such as bank. This can be one of the reasons that restricting the development of small business.

Differences between individually owned business and private enterprises are existed in four aspects. Private enterprises must have at least eight employees. The business owners can be more than one person. The registered capital is start at 30,000 yuan. Taxation is calculated based on the profit with additional fees. The credibility level is different according to firm size, but the smallest registered private enterprises have higher credibility than individually owned businesses; they can receive certain financial help from formal institutions.

Comparing to private enterprises, individually owned businesses have lower entry threshold, easier business maintenance due to less taxation obligations, but more

difficulties for growing their business due to less financial helps. Based on the descriptive data in later section, they are less entitled with social insurance and have longer working hours. Thus, with less regulations, encouragement and job creation, individually owned business located in the grey area in private sector. This chapter is going to study the determinants of informal employments. Sample groups are targeted at formal employed workers (as reference group), casual workers who are employed without contract and small business owners (as discussed above as individually owned business owners)[2].

2.4 Data and methods

The data we use are drawn from the household surveys known as Chinese Household Income Project (CHIP) collected and administrated by a team of international scholars (CHIP, 2016). The CHIP data are a series of cross-sectional surveys. For this analysis, we use 2008 and 2014 surveys combining the samples of registered urban residents and of rural-urban migrants. We focus on individuals in the labour force, defined as those aged from 16 years to 65 years who were neither in full-time education nor retired.

Two exercises are covered in this chapter. In the first exercise, we map out the changes by employment status between 2008 and 2014. The reason we select 2008 and 2014 for this research is largely due to an important policy event which took place during the period. In January 2008, China's New Labour Contract Law was launched and implemented. The law has become controversial ever since with the key concern that a rise in labour costs would reduce employment and FDI. We can thus use information from 2008 prior to the new law and then see how things had changed employment status after 6 years. However, attributing all changes to the law would be unwarranted as the time interval also covers the onset the global financial crisis in 2008.

In the second exercise, we estimate multinomial logistic models to establish the determinants of the employment status, distinguishing formal employees, casual workers and business owners. The main research questions are:

[2] In this chapter, individually owned business owner is named as small business owner. One reason to change the name is for better understanding and short form of writing. The other reason is to differentiate from private enterprises.

(1) How institutional classification impact on employment status of urban labour force? Specifically, we look at the effect of household registration – whether hukou is in urban or rural – and of rural-urban migrant status.

(2) Whether the vulnerable group, whom are lacking human capital, in poor health, disabled or women, are more likely to work in informal employment, specifically as casual workers and small business owners?

(3) Whether flexible employment is an optimal choice for people who would have the young or elderly to care for?

Details of the model specification will be discussed in Section 5, but first we turn to describing the trends in employment status, their associations with the well-being of workers and the characteristics of workers in the three groups.

2.5 Employment status and wellbeing

Between 2008 and 2014, there has been a dramatic switch from formal to casual employment (Table 2-1). The proportion of formal employees dropped from 65% in 2008 to 43% in 2014, while proportion of casual workers increased from 24% to 42 %. The proportion of business owners rose from 11% to 15%. As a result of these changes, the once dominant formal sector of PR China has been exceeded, in terms of employment, by the informal sector (combining casual workers and business owners).

Table 2-1 Sample size and percentage by employment status (Unit is million for weighted sample)

	Sample	No weight		With weight	
2008	Formal employee	7,950	55.86	154.2	65.35
	Casual worker	4,128	29.01	56.38	23.89
	Business owner	2,154	15.13	25.39	10.76
	Total	14,232	100	236	100
2014	Formal employee	5,163	46.94	157.6	43.22
	Casual worker	4,387	39.88	153.67	42.14
	Business owner	1,450	13.18	53.4	14.64
	Total	11,000	100	364.69	100

2.5.1 Differences in wellbeing by employment status

What are the implications of this switch in employment status for the wellbeing of workers? Table 2-2 outlines the difference in monetary welfare indicators by employment type. The indicators imply that, at the mean, the most beneficial type of employment is formal employment, followed by being a business owner with casual workers being the most disadvantaged. This is true for hourly wages, household income per capita and net household assets per capita (excluding housing and business investment).

Table 2-2 Mean values of monetary welfare indicators by employment status (Unit = RMB Yuan, hour)

	2008			2014		
	Formal employee	Casual worker	Business owner	Formal employee	Casual worker	Business owner
Hourly wage (2008 price)	13.8	7.6	12.9	20.4	11.9	17.4
Household income per capita (2008 price)	18705.5	9163.9	13811.3	25748.6	18166	23684
Household asset per capital (2008 price)	602.6	636.5	661.1	16795.9	10459.6	15203.1
Working hours per week	44.66	52.28	66.91	48.83	53.85	61.83

There are few further issues we should highlight from this table. There is substantial overall growth in terms of monetary welfare indicators. For example, mean household income per capita nearly doubled for the casual workers between 2008 and 2014 (calculated in 2008 prices). The hourly wage for these workers also increased the most - by 36% - compared to rises of 33% for formal employees and 26% for business owners. The faster income growth of casual workers narrowed the differentials between them and other types of workers. In 2008, the household income per capita of casual workers averaged just half of that of formal employees and was 34% less than that earned by business households. By 2014, the gap had narrowed to 29% less than formal employees and 23% less than business owners.

In addition to monetary welfare indicators, it is important to consider differences in social insurance between the types of employment (Table 2-3 refers). In 2008, the majority of formal employees were benefited from pensions, housing funds and insurance against a variety of risks – medical, unemployment and work-related injuries. By contrast, most casual employees and business owners only had medical insurance. Business owners had the lowest levels of social protection. Over the next six years, there was a major expansion in the coverage of both medical insurance and pensions for all workers, but particularly benefiting informal workers. By 2014, almost all (98%) formal employees had medical insurance, but so did the vast majority of workers (91%) in the informal sector due to the central initiatives to mobilise a required health insurance covering all rural registered households. Rural-urban migrants were automatically insured by this scheme (PR_China 2005) but with limited funds. Pension coverage of informal workers roughly doubled: from 37% of casual workers in 2008 to 72% in 2014; for business owners, the rise was from 29% to 66%. There were increases in other forms of social insurance, but these were more modest.

Table 2-3 Social insurance coverage by employment status (%)

		Medical	Pension	Unemployment	Work-related injury	Housing fund
2008	Formal employee	90.43	77.74	60.66	55.87	53.24
	Casual worker	71.77	37.39	16.4	16.04	8.88
	Business owner	67.92	28.55	9.61	7.23	3.48
	Total	84.15	62.81	44.6	41.13	37.29
2014	Formal employee	98.22	92.64	59.76	59.08	62.99
	Casual worker	90.95	71.52	19.29	19.91	10.19
	Business owner	90.73	66.14	7.51	7.1	3.25
	Total	94.06	79.86	35.09	34.99	32.03

Health is another important dimension of welfare and so it is interesting to see how it varies by type of employment (Table 2-4 refers). However, inferring causality from these correlations is difficult: although income, social insurance and work risks may affect health, health may itself affect employment status. For example, poor health or disability may lead to termination of formal employment[3]. The CHIP data measure health using self-reported assessments of global health status. Only around 2% of workers report being in poor or very poor health, but these are disproportionately found in informal employment. Similarly, around 2% of workers report being disabled and this is also more common in informal employment. There is evidence of a general improvement in worker health status over time (and a fall in disability). The proportion of workers reporting being in excellent health has increased substantially, particularly among – but not confined to - formal employees (where it rose from 25% to 40%).

[3] This is despite laws protecting the employment rights of disabled individuals passed since the 1980s. For example, firms can be awarded credits if they recruit a certain number of disabled employees.

Table 2-4 Health and disability distribution by employment status (%)

	2008				2014			
	Formal employee	Casual worker	Business owner	Total	Formal employee	Casual worker	Business owner	Total
Health: Excellent	24.75	26.44	28.75	25.59	39.57	33.02	36.89	36.42
Good	54.75	48.58	50.00	52.76	45.89	49.14	46.63	47.37
Average	19.02	22.71	18.49	19.85	13.40	15.56	14.32	14.45
Poor	1.36	2.02	2.54	1.65	1.04	2.00	1.91	1.57
Very poor	0.11	0.25	0.22	0.16	0.10	0.27	0.23	0.19
Disability: No	98.07	97.40	96.89	97.78	98.56	98.46	98.21	98.47
Yes but not serious	1.68	2.20	2.47	1.89	1.28	1.00	1.10	1.14
Seriously disabled	0.25	0.39	0.64	0.33	0.16	0.54	0.69	0.40

Subjective wellbeing of workers also appears to have risen, although a note of caution is required as the original questionnaires of 2008 and 2014 used different scales for reporting happiness. We have simplified the scales to three categories to try to make them comparable: happy, indifferent and not happy. Formal employees and business owners both report being happier than casual workers (see Table 2-5). In 2008, only 29% of casual workers are happy compared to 36% of formal workers and 35% of business owners. There are large increases in happiness across all groups by 2014, but the differentials remain.

Table 2-5 Happiness distribution by employment status (%)

		Happy	Indifferent	Not happy
2008	Formal employee	35.79	57.79	6.42
	Casual worker	28.54	59.79	11.68
	Business owner	34.87	55.3	9.83
	Total	33.86	58	8.14
2014	Formal employee	70.83	26.64	2.53
	Casual worker	53.88	39.09	7.02
	Business owner	67.59	28.43	3.98
	Total	63.28	32.1	4.62

2.5.2 Descriptive statistics on worker characteristics and demographics

Given the welfare differences associated with different employment status, it is interesting to examine what kind of workers are typically found in each category (Table 2-6 refers). The proportion of migrants among the workforce falls from 27% in 2008 to 20% in 2014. Migrants account for relatively few formal employees: 18% in2008, falling to 9%. They make up more than two fifths of casual employment and self-employment in 2008 but this has fallen by 2014, particularly in casual employment. The lack of access of migrants to the benefits of formal employment can be largely attributed by China's labour policies over the past decades that rural-urban migrants are empirically found inferior to their urban counterparts in terms of job-seeking (Knight and et al. 2005; Knight and Song 1999), pay and labour market entry (Appleton, Knight et al. 2002; Long, Appleton et al. 2013) and social protection (Song and Appleton 2008).

Table 2-6 Proportion of migrants and urban residents by employment status (%)

		Rural migrant	Urban	Total
2008	Formal employee	17.87	82.13	100
	Casual worker	43.36	56.64	100
	Business owner	44.85	55.15	100
	Total	26.88	73.14	100
2014	Formal employee	8.6	91.4	100
	Casual worker	26.94	73.06	100
	Business owner	35.09	64.91	100
	Total	20.12	79.79	100

It is conventional to regard informality as the refuge of more vulnerable workers in terms of age, sex and education (Table 2-7). However, this characterisation is simplistic, failing to distinguish between casual workers and business owners, and the patterns are changing over time. For example, casual workers were the youngest group in both years of our data, but the mean age gap fell over time. In 2008, casual workers averaged 3 years younger than formal employees but by 2014, they were only 1 year younger. Business owners are the oldest of the three groups of workers.

Women's participation in all three types of employment is lower than their male counterparts in both years. This has challenged the legacy of China's high female

labour market participation, although it has been falling over recent decades, from 73% in 1990 to 64% in 2014 (World Bank, 2016). However, women are disproportionately concentrated in casual employment: in almost equal numbers of both sexes were casual workers (49% were women, 51% men), despite women constituting only 43% of the sample of workers. By 2014, the proportion of women in casual employment had fallen in 2014 (to 46%). While the proportion of women in formal employment or business was smaller but remained the same (around 40% to 42%) in the both years of data.

Education is a key indicator to measure human capital, the skills and knowledge of workers. Researchers has studied that pattern of educational level may vary for the decision of being self-employed. For rural to urban migrants, individuals who with higher levels of education were much more likely to participate in self-employment (Mohapatra, Rozelle et al. 2007). However, contradicted evidences argued that people who with more years of formal education and non-agricultural training are more likely to choose paid work than self-employment (Giulietti, Ning et al. 2012). In the descriptive table, formal employees have the highest average years of education: 12.1 in 2008 rising to 12.8 in 2014. Casual workers and business owners have less – around 10 years, with little change over time.

Table 2-7 Personal characteristics: age, gender and education by employment status

		Age (year)	**Gender** (%): Female	**Education (year)**
2008	Formal employee	38.2	41.28	12.1
	Casual worker	35.8	49.39	10
	Business owner	38.4	39.84	9.5
	Total	37.67	43.06	11.35
2014	Formal employee	40.6	41.39	12.8
	Casual worker	39.2	46.46	10.2
	Business owner	42.2	41.75	9.6
	Total	40.24	43.58	11.22

2.5.3 Family structure of age group and marriage union or dissolution

Having young children or/and elderly in the family may affect one's employment status if one can choose. This is even more so in a country like China

where care for the young and the old is typically neither commercialised nor accommodated by the public sector. When they move to work in the urban area, rural-urban migrants have to decide whether to take those whom they have to care for with them, or leave them behind in villages. Even if care could be provided commercially in cities, affordability may be an issue. Casual work and business owners are likely to be more compatible with caring for family members. If this is so, household demographics may affect job selection (Table 2-8).

Of all three types of employment, business owners have the highest ratio of children to household size, while casual workers are the least likely (this goes both children aged 0-6 and those aged 7-12, and it holds true in both 2008 and 2014). Business owners also have the smallest proportion of working age household members in both years. The proportion of elderly in households rises over time, but particularly for business owners who go from having the smallest proportion of elderly in 2008 to the largest in 2014.

Marital status may also affect employment type, as being married may help to support a family business. It is theorised that marriage may permit an efficient labour division between couples, perhaps enabling one member to engage in household production (potentially including both domestic duties and a household economic enterprise) while another finds market work (Becker 1972). By contrast, for casual workers, especially for rural-urban migrants, the pattern of "living apart together" has been commonly observed in China. Living arrangements for migrant couples often involve separation during the employment period. This arrangement does not allow them live their daily life together, and some of them dwell in different cities, or even in the same city, they may only be able to stay one or two weekends per month together (Lee 2016). Couples living apart together are still financially responsible for the needs of their households including the cost of house-building and care for children and elders (Zhou and Zhou 2013). The next section aims to establish whether marital status, among other variables, is a determinant of employment status.

Table 2-8 Household Characteristics: age ratio to household size and marital status

Age cohort:	2008				2014			
	Formal employee	Casual worker	Business owner	Total	Formal employee	Casual worker	Business owner	Total
0-6	4.63	3.15	6.37	4.46	4.85	4.51	5.63	4.82
7-12	4.56	3.37	6.31	4.47	5.67	5.50	7.60	5.88
13-15	2.23	1.79	2.88	2.20	3.12	2.99	3.19	3.07
16-59	83.30	86.55	81	83.83	80.5	79.62	75.87	79.45
60-69	3.29	3.45	2.47	3.24	3.91	5.31	5.81	4.78
70-79	1.50	1.34	0.63	1.37	1.39	1.49	1.36	1.43
80-89	0.38	0.29	0.27	0.35	0.48	0.49	0.31	0.46
>=90	0.10	0.03	0.05	0.08	0.04	0.07	0.16	0.07
Marriage:								
Married	80.08	68.69	91.33	78.57	88.8	80.48	94.05	86.06
Divorced/ widowed	2.28	3.12	1.46	2.39	2.06	3.72	2.32	2.80
Single	17.65	28.19	7.21	19.04	9.14	15.8	3.63	11.14
Total	100	100	100	100	100	100	100	100

2.6 Determinants of employment status

The descriptive statistics in Section 4 provide background information on how employment status is correlated with variables of interest. However, the results are bivariate, so it is no clear if, ceteris paribus, employment status is significantly related to a given factor on its own. In this section, we establish the determinants of employment status using multinomial logistic regression models estimated separately for 2008 and 2014. The dependent variable, E_i, is employment status: formal employees, casual workers and business owners. Formally, the model can be specified as:

$$\Pr(E_i = k) = \frac{exp^{\beta_k X_i}}{1+\sum_{j=1}^{3} exp^{\beta_j X_i}} \qquad k = 1,2,3 \tag{1}$$

In this equation, the probability of individual i having an employment status k depends on a set of explanatory variables of X_i, each with a set of coefficients β_k. Among the explanatory variables, we use a dummy variable for having an urban hukou to test for whether institutional status determines type of employment. Also we controlled for the personal characteristics discussed in Section 4: age and sex, self-reported health status, physical ability (whether disabled), marital status and

educational attainment. We also include a set of independent variables for household demographics to test whether employment status is affected by individuals' need for flexible employment. Industrial sector and regional dummy variables are also included as control variables.

The results of the multinomial logit are reported in Table 2-9 for the estimated probabilities, and Table 2-10 for marginal effects. For each explanatory variable, we present either a predicted probability, if the variable is qualitative, or a marginal effect, if the variable is continuous. Bootstrapping is used to calculate standard errors, as this provides consistent estimates if residuals are not normal. The number of observations for 2008 totals 10,232 and that for 2014 is 10,508. In terms of the goodness of fit, the pseudo R^2 of the model for 2008 is 0.24, and that for 2014 is 0.32.

2.6.1 Institutional determinant –the rural and urban divide?

In both models, we control for registered urban residentship (hukou) as a proxy for institutional differences. Hukou status in China has long divided rural and urban populations. It is a paradox that Communist China, a state formed by peasant revolutionaries, has instituted a system of official household registration that discriminated against peasants. Until late last century, the hukou system was part of the administrative controls that effectively walled off the cities from those born in rural areas and helped create a marked rural-urban divide in living standards. By the 1990s, these controls started to be relaxed, enabling mass migration of rural workers into urban areas in search of higher incomes and dramatically contributing to poverty reduction in China. However, lacking urban hukou, rural-urban migrants remained second-class citizens, unable to access key urban government services (including schools and health clinics) or to compete for certain protected jobs (Song 2015).

Table 2-9 Predicted probabilities of employment from multinomial logit models

	2008			2014		
	Formal employee	Casual worker	Business owner	Formal employee	Casual worker	Business owner
Urban (reference)	0.659	0.241	0.0995	0.454	0.418	0.128
Migrant	0.599	0.259	0.143	0.373	0.425	0.201
Gender: Male(reference)	0.640	0.224	0.137	0.442	0.396	0.162
Female	0.628	0.276	0.0964	0.436	0.438	0.126
Marriage: Married(reference)	0.630	0.237	0.132	0.439	0.410	0.150
Divorced/widowed	0.685	0.255	0.0604	0.417	0.462	0.121
Single	0.658	0.288	0.0541	0.451	0.455	0.0937
Health: Excellent(reference)	0.637	0.234	0.129	0.455	0.388	0.157
Good	0.644	0.246	0.110	0.429	0.429	0.143
Average	0.614	0.276	0.110	0.430	0.437	0.133
Poor	0.585	0.266	0.149	0.425	0.457	0.118
Very poor	0.579	0.185	0.236	0.328	0.644	0.0285
Disability: No(reference)	0.635	0.249	0.115	0.439	0.416	0.144
Yes	0.618	0.245	0.137	0.410	0.397	0.193
Happiness: Happy(reference)	0.648	0.229	0.123	0.451	0.387	0.163
So so	0.637	0.252	0.111	0.425	0.454	0.121
Not happy	0.569	0.302	0.129	0.371	0.516	0.113
Industry: Agriculture(reference)	0.690	0.263	0.0474	0.277	0.397	0.326
Mining	0.768	0.155	0.0770	0.645	0.331	0.0241
Manufacturing	0.769	0.205	0.0264	0.527	0.430	0.0431
Production and Supply of Electricity, Gas and Water	0.773	0.206	0.0209	0.596	0.378	0.0253
Construction Enterprise	0.498	0.440	0.0619	0.336	0.592	0.0720
Transport, Storage and Post Industry	0.690	0.240	0.0700	0.453	0.412	0.135
Information Transmission, Computer Services and Software	0.633	0.180	0.187	0.449	0.455	0.0956
Wholesale and Retail Trade	0.435	0.250	0.315	0.232	0.370	0.398
Hotel and Catering Services	0.533	0.303	0.164	0.257	0.495	0.248
Financial Intermediation	0.689	0.298	0.0130	0.606	0.366	0.0280
Real Estate Industry	0.734	0.245	0.0203	0.480	0.464	0.0566
Leasing and Business Services	0.526	0.302	0.172	0.283	0.511	0.205
Scientific Research, Technical Service	0.647	0.233	0.121	0.558	0.442	2.28e-12

Management of Water Conservancy, Environment and Public Facilities	0.885	0.0805	0.0342	0.645	0.333	0.0215
Services to Households and Other Services	0.617	0.275	0.107	0.326	0.499	0.175
Education	0.773	0.202	0.0242	0.636	0.340	0.0247
Culture, Sport and Entertainment	0.732	0.233	0.0358	0.545	0.421	0.0342
Health, Social Security and Social Welfare	0.608	0.284	0.108	0.385	0.442	0.174
Public Management and Social Organization	0.866	0.134	3.96e-13	0.643	0.345	0.0114

Table 2-10 Multinomial logit models on determinants of employment status (Presented in terms of marginal effects)

	2008			2014		
	Formal employee	Casual worker	Business owner	Formal employee	Casual worker	Business owner
Migrant	-0.061***	0.0176	0.043***	-0.080**	0.007	0.074***
Age	0.002	-0.010***	0.008***	0.016*	-0.027***	0.010
Age*age	-0.0001	0.0002***	-0.0001***	-0.0002**	0.0003***	-0.0001
Gender: Female	-0.012*	0.052***	-0.040***	-0.006	0.042***	-0.036***
Education in years	0.026***	-0.017***	-0.009***	0.033***	-0.023***	-0.010***
Year worked for current job	0.014***	-0.013***	-0.0006	0.0138***	-0.017***	0.003***
Health: Good	0.007	0.012*	-0.019***	-0.026***	0.040***	-0.014
Average	-0.022*	0.042***	-0.020***	-0.025***	0.049***	-0.023*
Poor	-0.052*	0.032	0.019***	-0.030	0.069	-0.039***
Very poor	-0.058	-0.049	0.107***	-0.126	0.255	-0.129
Disability: Yes	-0.017	-0.004	0.021***	-0.029	-0.020	0.048**
Family age ratio: 0-6	-0.035	-0.111***	0.146***	0.022	-0.110***	0.088
7-12	-0.085***	-0.052***	0.137***	-0.092***	0.014	0.078
13-15	-0.030	-0.053***	0.083***	0.018	-0.022	0.004
60-69	0.010	-0.029	0.018	-0.066	0.038***	0.028
70-79	-0.085**	0.327***	-0.242***	-0.101	0.081	0.021
80-89	0.104	-0.298***	0.194***	-0.097	0.186	-0.089
Marriage:						
Divorced/widowed	0.055***	0.018**	-0.072***	-0.023	0.051***	-0.029**
Single	0.027***	0.051***	-0.078***	0.012	0.045	-0.057
Happiness: Indifferent	-0.011***	0.023***	-0.013***	-0.026**	0.067***	-0.042***
Not happy	-0.079***	0.073***	0.006	-0.079***	0.129***	-0.050***
Industry:						
1.Mining	0.078	-0.108*	0.030	0.367***	-0.065	-0.302***
2.Manufacturing	0.079***	-0.058*	-0.021***	0.249***	0.034	-0.283***
3.Production and Supply of Electricity, Gas and Water	0.083*	-0.057	-0.027*	0.318***	-0.017	-0.301***
4.Construction Enterprise	-0.191***	0.177***	0.014**	0.059*	0.195***	-0.254***
5. Transport, Storage and Post Industry	0.0002	-0.023	0.023**	0.175***	0.016	-0.191***
6.Information Transmission, Computer Services and Software Industry	-0.057	-0.083**	0.140***	0.172***	0.059***	-0.231***
7.Wholesale and Retail Trade	-0.255***	-0.012	0.267***	-0.045	-0.027	0.072**
8.Hotel and Catering Services	-0.156***	0.040	0.116***	-0.020	0.098**	-0.079*
9.Financial Intermediation	-0.0004	0.035	-0.034***	0.328	-0.030	-0.298***
10.Real Estate Industry	0.044	-0.017	-0.027**	0.202	0.068	-0.270
11.Leasing and Business Services	-0.164***	0.040	0.124***	0.007	0.115***	-0.121**
12.Scientific Research, Technical Service	-0.043	-0.030	0.073***	0.281***	0.046	-0.326***
13.Management of Water Conservancy, Environment and Public Facilities	0.196***	-0.183***	-0.013	0.367***	-0.062	-0.305***

14.Services to Households and Other Services	-0.072***	0.012	0.060***	0.049	0.102***	-0.151***
15. Education	0.084***	-0.060*	-0.023***	0.357***	-0.056	-0.302***
16.Health, Social Security and Social Welfare	0.042	-0.030	-0.012*	0.267***	0.025	-0.292***
17. Culture, Sport and Entertainment	-0.082**	0.022	0.060***	0.107***	0.045**	-0.152***
18. Public Management and Social Organization	0.176***	-0.129***	-0.047***	0.365***	-0.050	-0.315***
Observations			10232			10508
Pseudo R^2			0.2418			0.3196

Notes:

(1) The table presents marginal effects for all variables.
(2) * denotes p < .1, ** p < .05, *** p < .01
(3) The omitted variables are urban residents, male, excellent health, no disability, aged 16-59, married, happy, agriculture sector.
(4) In both models, we controlled for province dummy variables. For brevity, the results are not presented here.
(5) Bootstraps are employed for calculating standard errors.

The results of multinomial logit are presented in two ways. Table 2-9 shows the predicted probabilities of being in different employment states for workers with particular values of discrete explanatory variables. For example, residents with urban hukou are more likely to be engaged in formal employment (with at least one-year job contract) than rural-urban migrants. Ceteris paribus, in 2008, an urban resident has a 66% probability of being a formal employee compared with 60% for migrants (a five-point difference). In 2014, the figures fall to 45% for urban residents and 37% for migrants (an 18-percentage point difference). Although the proportion of workers in formal employment decreased from 2008 to 2014, the decrease was larger – both absolutely and relatively – for migrants than urban residents. Thus, institutional differences appear to have widened over the period.

The second way of presenting the results is Table 2-10, which records the marginal effects of each variable and whether they are statistically significant. For example, being a migrant (lacking an urban hukou) has a significant effect (at the 5% level) on the probability of formal employment and being a business owner in both years. However, in neither year was there a significant effect of being a migrant on the probability of being a casual worker. Instead, there is a striking difference in the probability of being a business owner. Migrants are more likely than urban residents to engage in such work and the difference in the predicted probabilities has been widened over time. In 2008, 14% of migrant workers are predicted to be engaged in

business compared to 10% of urban workers. This has both increased to 20% for migrants and 13% for urban residents in 2014.

2.6.2 Capability or vulnerability

Acquisition of capability symbolises one's employment status. Lacking it, an individual would be regarded as vulnerable in a competitive labour market. Our models of employment include several variables which may reflect capabilities – notably educational attainment, a proxy for skills, and health plus disability status, indicators of physical abilities. Other personal characteristics such as age and gender may also be relevant, in so far as they are related to differences in productivity, preferences or discrimination. For example, previous research found that the sex and age of employees were key factors determining who was made redundant during the retrenchment of SOEs in the second half of the 1990s. Those who were retrenched were by and large older and female (Appleton et al, 2005).

Other things being equal, the models find being female increases the chances of being workers in casual employment and reduces the chances of them being business owners. Being a woman worker raises the probability of being in causal employment by 5% in 2008 and 4% in 2014. Correspondingly, it lowers the probability of being in the more rewarding category of business owners by around 4% in both years. Gender is statistically insignificant in affecting the probability of formal employment

The likelihood of workers being in particular kinds of employment varies with age, but the relationships are often non-monotonic as shown by the quadratic relations estimated in Table 9 and plotted in Figure 2.2 and Figure 2.3. The only monotonic relationship is the effect of age on the probability of formal employment in 2008, which is negative. This reflects a predicted switch out of formal employment into business owners and, after around age 30, casual employment. In 2014, the effect of age on formal employment takes an inverse U-shape, being highest at age 36.

Figure 2.2 Marginal effect of Age on Probability of Employment, 2008



Figure 2.3 Marginal effect of Age on Probablility of Employment, 2014



The probability of being a business owner rises with age until the worker is in their mid to late 40s (the turning point is 44 in 2008, rising to 48 in 2014). Age may be helpful to starting one's own business to the extent that it allows workers to have accumulated capital and expertise. One might speculate that the negative effect of age on self-employment in the 50s and early 60s is a consequence of the investment aspect of running one's own business. As workers head towards retirement, investing time and capital in an enterprise may appear less attractive due to shortening time horizon to reap returns.

By contrast, the effects of age on the probability of casual employment are initially negative and then turn positive. The negative effect of age for younger workers is particularly pronounced in 2014. For example, an increase in the age of a worker from 16 to 30 would reduce the probability of being in casual employment by 16 percentage points in 2014 compared to 3 points in 2008. This suggests that youth has become an increasingly important factor in determining whether workers are in casual employment. Younger workers may have been more subject to the general trend towards the casualization of employment in China because it may be easier for employers to offer new employees casual employment than to remove the protections enjoyed by existing workers. However, after a certain age (30 in 2008; 40 in 2014), age starts to increase the probability of causal casual employment. This absolute magnitude of this effect is similar in both surveys – for example, increasing age from 40 to 60 increases the probability of casual employment by 13-14 percentage points in both 2008and 2014.

Worker's age will partly reflect their accumulated general work experience. Time spent in their current job is also controlled for, as it may affect their specific job experience. Ceteris paribus, job tenure is positive associated with formal employment and negatively associated with casual employment. An extra year of tenure is predicted to raise the probability of formal employment by 1.4% in both 2008 and 2014. There are corresponding reductions in the probability of casual employment, albeit somewhat bigger in 2014 when tenure is also positively associated with being a business owner.

While work experience is sometimes interpreted as a measure of human capital, our main proxy for skills and knowledge is educational attainment. More years of education raise the probability of formal employment while lowering that of business owners and, especially, casual employment. The effects have become somewhat stronger over time. Ceteris paribus, every extra one-year of education would add 2.6 percentage points to the chance of formal employment in 2008, rising to 3.3 points in 2014. Conversely, every extra year of education would reduce probability of casual work by 1.7% in 2008 and by 2.3 % in 2014. For business owners, every extra year in education would reduce the probability by 1% of both years. Education therefore plays an increasing role in securing workers formal employment and avoiding casual employment in particular.

A second aspect of human capital is the health of workers. While the significance of the relationships varies, the general pattern is that greater health is

associated with formal employment and lower health is associated with casual employment. Specifically, health status does not significantly affect the probability of being in formal employment in 2008, but in 2014, being in excellent health is associated with higher formal employment, *ceteris paribus.* Being in average health, rather than excellent health, increases the probability of being in casual employment by 4-5 percentage points in both years (the same is true for good health, relative to excellent health, in 2014). As noted in Section 4, interpreting these relationships is difficult because of the possibility of two-way causation. For example, it is not clear whether employers are selecting health workers for formal employment or whether casual employment carries health risks. The empirical relationship between health and the likelihood of being in informal employment is complex and changing. In 2014, running a business seems to resemble formal employment, in that lower health status has a negative marginal effect (relative to excellent health). In 2008, the relationships are non-monotonic: those in very poor or poor health are more likely to be business owners than those with excellent health; however, those in good or average health are less likely.

A more objective health indicator –disability – is included in the models. We find that compared with those not being disabled, being disabled increase the probability of being a business owner by two percentage points in 2008, increasing to five points in 2014. This suggests that the disabled sometimes be unable to find employment and so more likely to turn to self-employment, i.e., running one's own business.

2.6.3 Optimal choices – seeking flexibility and happiness

Flexible jobs, allowing one to juggle family and work life, can be something of luxury for workers, particularly in an emerging economy like China where much of the labour force is concentrated in manufacturing. As public or commercial services are lacking and not affordable, care for the young and old often relies heavily on family members. It is an interesting question, therefore, whether workers choose to be self-employment for the flexibility it provides or because they are unable to secure formal employment. The simple correlations reported in Section 4 between household demographics – specifically numbers of children – and the category of business owners

suggests such a link; the models in Table 2-9 test whether than finding is robust to controls for other variables.

We measure household demographics by the proportions of household members in particular age groups. The calculation is stated as in each household:

$$Percentage\ of\ Age\ cohort_n = \frac{Number\ of\ family\ members\ in\ Age\ cohort_n}{Total\ family\ members\ in\ the\ household} \quad (2)$$

To identify impact on employment status from family demographics, which in terms of having small children, schooling children, and older parents need to be looked after, the $Age\ cohort$ is categorised into 8 groups. They are age between 0-6, 7-12, 13-15, 16-59, 60-69, 70-80, 80-89 and ≥ 90. Children with age younger than seven years old are not eligible to go to school in most of places in China. They may need more attention and time from parents whom might be in the age of labour force (16-59 age cohort). Children in the school age between 7-12 and 13-15 may need more economic support from family, thus parents may choose to be self-employed for higher disposable income and more flexible working time. For the household who have older parents need to be looked after, the mechanism is similar for family members in the working age. Elders with age younger than 70 may still have the capability to help with house work and looking after children. Elders with age older than 70 may require economic support and caring attention for their later life including illness treatment, reduced capability of living and other needs. Thus, it is necessary to consider household demographics, as different household demographics may have different impacts on employment choice.

Applying to data, 8 variables have been created. They are age cohorts that have been mentioned above and with continued components. For example, the age cohort 0-6 is calculated as the number of children whose ages are between 0 to 6 in the household then divided by the total family members of the household. If the demographics of the household is three family members in total, in which one is child aged 5 and two adults in working age (16-60), then the variable of age cohort 0-6 for each individual in this household will be 0.33 and the variable of age cohort 16-65 will be 0.67. Other age cohorts for this household will be 0.

Applying to the multinomial regression, age cohort of working age (16-59) will be the reference group; so, they will be manually left out from the regression. The reason to leave it out is that the sum of all age cohorts is equal to one. Results shows how each age cohort impact on the possibility of being in three employment status.

We find that in 2008, having more children (of all ages) significantly increases the likelihood of being a business owner and reduces the probability of being a casual worker. More children aged 7-12 years also has a negative effect on the probability of being in formal employment, in both 2008 and 2014. In 2014, most of these relationships are weaker and not statistically significant, although young children (0-6) do reduce the likelihood of being casual workers. These findings suggest that being casual workers may be more likely to choose running business if they have children, due to the flexibility it provides in terms of childcare. However, casual employment seems particularly unattractive to such workers: the work may be casual, but it is not flexible. We also controlled for the proportions of elderly in the household but found mixed results, with no clear pattern. This may well reflect the Chinese character of care system for the elderly – a mixed of negligence, sharing among adult children's households, and possibly also institutionalised.

The finding that business owners were more likely to be married (Section 4 reports) is robust when other variables were controlled for. In 2008, being either divorced/widowed or being single both reduced the probability of being a business owner by 7 to 8 percentage points, while raising the probabilities of both formal and casual employment. In 2014, the effects were similar in sign but weaker and not always significant. The only significant effects were that divorce/widowed lowered the probability of being a business owner and raised that of being a casual worker. However, the models do not establish causality between informality (flexible and informal jobs) and the explanatory variables. Reverse causality remains a possibility: for example, having one's own business rather than being in causal casual employment may make one more likely to be married.

Similar caveats apply to the dummy variables entered into the model for subjective wellbeing. Controlling for other variables, lower levels of happiness tend to be associated with casual employment. The effect is significant for so-so level of happiness (relative to the default category of being happy or very happy) and even stronger for being not happy. The association between being not happy and casual employment becomes stronger in 2014 than in 2008. Not happy workers are less likely to be in formal employment (and, in 2008 only, business owners) ceteris paribus. This suggests a policy concern: the growing casualization of employment in China may lead to discontent among the workforce and so encourage instability.

2.6.4 Sectoral changes between 2008 and 2014

To estimate the determinants of employment type, we included dummy variables of 20 industrial sectors officially defined. Our intention is to estimate and compare the probabilities in order to outline the shifts between the two years. Some booming sectors in 2008 had downsized by 2014, and others may be up coming. However, to our surprise, the model predicted falls in the probability of formal employment between 2008 and 2014 in all 20 sectors, whether manufacturing, public service for others. The only difference was in the extent of the reduction. The highest reduction on formal employment are manufacturing, real estate, hotel and catering, wholesale and retail, and all sorts of public services (health and social security organisations; public management and social organisations; water conservancy and environment facilities; etc.), all of which saw reductions in probabilities of formal employment of more than 20 percentage points from 2008 to 2014. The smallest reduction on formal employment between the two years is from 'financial intermediation', which dropped from 69% in 2008 to 60% in 2014. This seems to show that the financial sector fared better during 2008 and 2014. Adverse impacts of the global financial crisis starting from 2008 were not felt by China's financial sector until recently.

The probability of casual employment has experienced a large increase across the sectors. The sectors with the highest absolute increases were mining, manufacturing, IT, and public management and social organisation (all experiencing an increase of 20 percentage points or above). In fact, almost all the sectors have large increase of probabilities on casual work, showing that since 2008, fewer people received job contracts, and were employed with no contracts. This includes the export-oriented sectors including manufacturing and transport. This may partly a result of the slow-down of international trade from 2008. Manufacturing firms may have wished to downsize employment, or make it easier to downsize in future, and thus switched from formal sector to informal employment. In 2008, prior to the global finance crises, manufacturing workers had one of the highest predicted probabilities of being in formal employment of all the sectors but this fell to 53% in 2014. The opposite trend was found for casual employment, which rose from 21% in 2008 is 43% in 2014.

2.7 Conclusions

In this research, we have looked at the growth of informal employment in China. Surveys from 2008 and 2014 record a dramatic rise in the proportion of urban workers in informal employment from 35% to 57%, so that it now exceeds the proportion in formal employment. Our first main contribution is to empirically deconstruct informal employment into two types: business owners and causal workers (those without job contracts). Most of the rise in informal employment has taken the form of casual employment. This shift may reflect the change of labour policies since the launch of 2008 New Labour Contract Law. The heterogeneity of informal employment is illustrated by a comparison of welfare levels across different types of workers. Causal Casual workers receive lower levels of remuneration and report lower subjective wellbeing than business owners, who in turn receive less than formal employees. However, business owners have the lowest levels of social protection and work the longest hours. There have been marked improvements in these welfare indicators between 2008 and 2014. However, the inequalities in welfare indicators between workers of different status echo Huang's (2013) concern that Chinese society is stratified between those with formal and informal jobs.

Our main focus has been on the characteristics of workers in different employment categories and modelling how these characteristics affect their employment status. We do find some evidence in favour of the conventional view that informal employment is a hub for the more vulnerable who are less able to compete. For example, education increases the probability of workers being formally employed, rather than that in casual jobs or running one's own business. Indeed, characteristics which make workers most likely to be formally employed are being educated, healthy, not disabled and male. For casual employment, one could add to this list both the young and the old. By 2014, being women, older and in poorer health are even more likely to land on casual employment. These findings have worrying implications for the impact of 2008 New Labour Contract Law, if only those who are more able can secure job contracts. It would be ironic if a Law designed to protect employees, in particular the poor and vulnerable, in fact saw vulnerable workers squeezed out into casual employment.

However, our research also suggests that informal employment is not always an activity of last resort and that business owners, in particular, are not always

vulnerable or poor. Business owners are often prime aged workers, who have acquired useful work experience and perhaps savings. Running one's own business can provide benefits in terms of job flexibility to accommodate the need to take care of children or elderly relatives. When those in poor health and disability are rejected from jobs with formal contracts, running their own businesses may be an optimal choice. Thus, although there are concerns over the rise in casual employment, the increasing prevalence of workers running their own businesses may provide benefits for workers.

In a brief summary, we empirically deconstruct informal employment in China into business owners and casual workers without job contracts. Survey data from 2008 and 2014 document a rise in informal employment to the point where it exceeds formal employment, potentially an unintended consequence of the 2008 New Labour Contract Law. Compared with formal employees and business owners, casual workers report the lowest monetary and subjective wellbeing although business owners work longer hours with less social protection. Descriptive statistics and multivariate modelling reveal formal employees tend to have more favoured characteristics, often being educated, male, healthy and able bodied. Casual workers are more likely to have the characteristics of vulnerable groups, so the growth of casual employment is particularly concerning. There are indications that running business is not always a sign of vulnerability and it may provide job flexibility for those with dependents to care for.

Chapter 3 Reasons for moving between formal and informal sectors

3.1 Introduction

This chapter studies the reasons why people decide to move between the formal and informal sectors. In the last chapter, we identified the patterns and determinants of formal employees, casual workers and small business workers. This chapter will explore perceptions of self-employment and reasons for moving between the formal and informal sectors.

By adopting the nested logit model, we will analyse 2009 CHIPs cross-sectional data. The nested logit model is commonly used to study consumer choices. It studies how workers make decisions to move between the formal and informal sectors. The model requires a tree structure. We have assumed that personal characteristics impact decisions to change or not change jobs. We have also assumed that certain reasons may affect these decisions. Thus, the exploring factors on the first level is 'not change job', 'change job', and movements between sectors, which are movements between the formal to formal sector (FF), formal to informal sector (FI), informal to formal sector (IF), and informal to informal sector (II).

In the first level, we will focus on personal characteristics involved in making decisions to change jobs. These characteristics are gender, hukou status, educational levels, health status, family structures (having children or not), and firm size. We have identified these characteristics in the previous chapter to show whether participants are vulnerable. By analysing these characteristics, we will study whether vulnerable workers in the labour force are more likely to decide to change jobs. Firm size can indicate job stability and benefits from profit sharing. Studies (Haltiwanger, Scarpetta et al. 2008; Wagner 1997) show that small business may involve certain characteristics of low wages, low job security, less rigid work organisation, and fewer skill enhancement opportunities. These things result in lower work productivity. With the low bargaining power small business employees have comes less profit sharing opportunities. Thus, firm size will be controlled and analysed in the model.

In the second level, we will focus on the influential factors that are risk-bearing attitudes, which involve reasons for moving the location of a previous job or city.

Literature shows that choosing work in the informal sector, especially self-employment, is riskier than the choosing to be an employee in the formal sector. With the development of marketization and structural changes planned by the government (Appelbaum and Katz 1986; Sheshinski and Dreze 1976), the demand for products that the informal sector produces is uncertain. On the other hand, the uncertainty of self-employment costs in the informal sector can also increase the risk level (Kanbur 1979). Empirical research (Barton H. Hamilton 2000; Carroll, Holtz-Eakin et al. 2001; Johansson 2000) states that there are more income return fluctuations from informal employment than in formal employment as an employee. With cost and demand uncertainty and income return variances, informal sector employment seems more risky than being and employee in the formal sector. Thus, by controlling other factors, we assume that workers with higher risk-bearing capability are more likely to make decisions to enter the informal sector.

The second important factor influencing this decision-making process is the reason for moving between the formal and informal sectors. Unemployment has long been recognised as a push factor for working in the informal sector (Knight 2012; Oxenfeldt 1943). Studies focusing on why individuals decide to work in the informal sector have proven that self-employment and unemployment are positively correlated. Literature has contributed to the theory that increasing unemployment leads to increasing start-up businesses due to reduced opportunity cost when running one's own business (Blanchflower and Meyer 1994; Evans and Leighton 1990; Grilo and Irigoyen 2006; Grilo and Thurik 2005; Parker 2004). A counter-argument to this theory suggests that high unemployment is related to low participation in self-employment work. Unemployed people tend to have less human capital and capabilities to start up and run a business (Hurst and Lusardi 2004; Johansson 2000). Unemployment also indicates a low level of personal wealth, making one unable to establish a small businesses (Audretsch 2002; Picot, Manser et al. 1998). While some scholars argue that unemployment can influence the decision to enter the informal sector, other scholars argue that informal economic activities can impact the unemployment rate and competitiveness in the economic market. This theory states that informal sector employment, such as self-employment and entrepreneurship, has the pull effect on unemployment (Pfeiffer and Reize 2000; Picot, Manser et al. 1998). High participation in self-employed work and small businesses can create job opportunities, increase new techonology development (Acs and Audretsch 2005), influence economic performance

(Van Stel, Carree et al. 2005) and increase productivity by increasing competition (Nickell, Nicolitsas et al. 1997; Nickell 1996).

Our analysis of previous literature, has confirmed that unemployment is a significant influential factor in informal sector employment. Instead of adopting unemployment history, in this chapter, we are going to use reasons why they left last job that include forced dismissal as one of the option. By adopting the reasons of changing job can illustrate more clear on what reasons may have greater impact on the decision making process.

The main research questions of this chapter are as follow:

1. Whether labour force with vulnerable personal characteristics are more likely to change jobs？

2. How risk-bearing attitudes impact on the decision making of engaging in informal secto?

3. What are the most significant reason of leaving last job impacting on engaging in informal sector?

There are four findings from the results of nested logit model. The first finding is people with vulnerable personal characteristics are more likely to change job. The second finding is that the people with high risk-bearing attitudes value are more likely to engage in informal sector. The third finding is that personal reasons to leave last job is the most affected factor to engage in informal sector, which challenged the traditional view that unemployment is the push effect of self-employment. The final finding is that location is an influential factor for decision making. Government's plan on development strategy and commercial atmosphere can heavily influence individuals' choice making on engaging in formal or informal sector. By analyse descriptive data on perceptions of informal sector, we have also proved that people with less income have better faith on self-employment, especially for poor rural to urban migrants. It can be explained by the willingness of urban integration and settlement for migrant workers (Cao, Li et al. 2015).

3.2 **Empirical strategies**

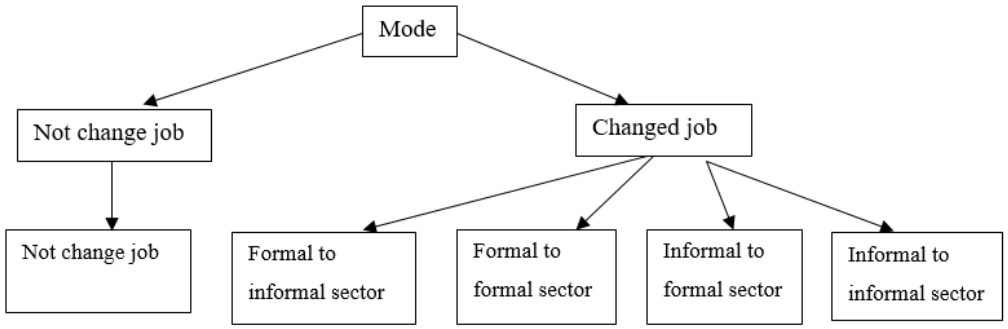
In this chapter, we apply a nested logit model to analyse 2009 CHIP cross-sectional data. We selected 2009 CHIP data to study the factors influencing entry into the formal and informal sectors. The data contains personality information, previous

job information and reasons for leaving the last job. Compared to 2014 CHIP data, this information more thoroughly analyses reasons given for changing jobs between the formal and informal sectors.

We also establish the determinants for making job changes between the formal and informal sectors by using nested logistic regression models. It is commonly used to study decision making processes. Other models, such as the multinomial logistic model and condition logistic model, are simply binary logit models restricting the choice between any two pairs of alternatives. The multinomial logit model should be used only when interdependence, or statistical correlation, between the utility functions of the competing alternatives is not expected (Hansen 1987). This assumption, known as the independence of irrelevant alternatives (IIA) assumption, can be too restrictive if the two choices involve too many similarities except one difference. The one difference must have impact on individual to make decision on one of the choice. Other logit models may have very high correlations between the errors of the two options, since all characteristics are same except one. If we overpredict the utility of one option, the other option will be overpredicted as well. Whereas, the nested logit model requires a nesting structure that splits the options into groups. The errors in the model are correlated within group but are uncorrelated across groups. In this way, the IIA can be relaxed and the decision making on choices can be studied.

Following Traoré (2013)'s methodology, which studied the determinants of informal sector in Burkina Faso, we simulate the logical process of choice making. The process is assumed that choosing from the Branch choice sets and then making the specific choice within the chosen set. This method is operated by a tree structure, which are two branches a number of choices (twigs). Figure 3.1 shows this tree structure. The two branches are 'not change job' and 'change job'. There are five twigs for the two branches. Within the 'not change job' branch, the twig is the same as the branch. Within the 'changed job' group, the four choices reflect the decisions by individuals and their employment movement in the formal and informal sector. These choices are formal to informal sector (FI), formal to formal sector (FF), informal to formal sector (IF), and informal to informal sector (II). In the nested logit model, we can relax the IIA restrictions within the same branch. The model permits correlation of errors between twigs within one group. In this chapter, the four movement options (FI, FF, IF, II) can be correlated, but one branch is independent of the other branch.

Figure 3.1 Choice making process of changing job between the formal and informal sectors



The base model of the nested logit model is derived from the model of a two-level random utility, which illustrated by Greene (2003):

$$U_{jb} + \varepsilon_{jb} = x'_{ij|b}\beta + z'_{ib}\gamma + \varepsilon_{jb}\ ,\ j = 1, \dots, J, \quad b = 1, \dots, K \tag{3}$$

where j denotes the choice in twig (level 2) and b denotes the branch (level 1). $x'_{ij|b}$ is the choices and z'_{ib} is the choice sets. U_{jb} is the utility of choice j in branch b. ε_{jb} is the residual of choice j in branch b. The nested logit model assumes that $(\varepsilon_{j1}, \dots, \varepsilon_{jK})$ are distributed as Gumbel's multivariate extreme-value distribution. Then the probability that alternative (j, b) is writen as

$$\text{Prob}\big[twig_j, branch_b\big] = P_{ijb} = \frac{\exp(x'_{ij|b}\beta + z'_{ib}\gamma)}{\sum_{b=1}^{B}\sum_{j=1}^{Jb}\exp(x'_{ij|b}\beta + z'_{ib}\gamma)} \tag{4}$$

Define the inclusive value for the branch as

$$IV_{ib} = ln\big(\sum_{j=1}^{Jb}\exp(x'_{ij|b}\beta)\big) \tag{5}$$

The inclusive value parameter is the measure of similarity among the basic choices in the corresponding partition of the choice set. It represents the expected utility for the choice of alternatives in the given branch. Inclusive value (IV) parameter is to measure, in each partition (branch), the degree of similarity of the alternatives (choices in this branch). The IV parameter lies in the interval between zero and one to reflect the preferences of utility-maximization of individuals. The value is closer to zero, individual's preferences (alternatives) are more similar in the associated partition. If the value is closer to one, the alternatives are less similar in the partition. Then, after cancelling terms, it is find

$$P_{ij|b} = \frac{\exp(x'_{ij|b}\beta)}{\sum_{j=1}^{Jb}\exp(x'_{ij|b}\beta)} \quad \text{and} \quad P_b = \frac{\exp[\tau_b(z'_{ib}\gamma + IV_{ib})]}{\sum_{b=1}^{B}\exp[\tau_b(z'_{ib}\gamma + IV_{ib})]} \tag{6}$$

where the new parameters τ_b are restricted between 0 to 1. The model prodces positive probabilities that sum to one for any value of τ_b, called dissimilarity parameters. If the value of τ_b is outside the range, using correct formulations, it is inconsistent with random-utility theory (Greene 2003).

As Figure 3.1 shows, the 'not change job' has only one choice in the branch. This is considered a partially degenerated nested. We focus on the degenerate partition. Let the 'not change job' branch designated to be the *m* partition and set the scale as $\lambda = 1$. The reason for setting the value as 1 is that inclusive values depend on the nomalisation of scaling selection. Because branch *m* only constitutes single choice, the scaling normalization should be 1. After considering the scaling normalization and inclusive values, the probability for the degenerated partition is:

$$\mathrm{P(m)} = \frac{\exp[\lambda^m(U_m+IV_m)}{\sum_{\forall n\in B}\exp[\lambda^n(U_n+IV_n]} = \frac{\exp[\lambda^m(U_m+U_{mj})}{\sum_{\forall n\in B}\exp[\lambda^n(U_n+IV_n]} \quad (7)$$

The unique inclusive value parameter is not present in above equation. (Hunt 2000)

3.3 Classification of formal and informal sectors

The method for generating formal and informal sector is to adopt the classification of work unit' ownership (see Table 3-1). There are two reasons for using ownership as a classification. Comparing to contracts or employment status, ownership can cover both and are more significant to previous job. Before the development of private sector, the state related enterprises provided lifelong contract and non-cash form benefits. People who work in state related enterprises are formal employees. Though, the contract system may altered over the years, the legacy of 'iron bowl' remains the workers to be formal employees. Foreign companies are considered as belong to formal sector. The companies tends to be formally running in other countries and entering China's market with considerable proper firm size and circulation capitals. Thus, labour force in the foreign enterprisis are consideres working in formal sector. Collective enterprises should be considered as formal sector, however has been defined as informal sector in this chapter. As we have mentioned in the introduction chapter and will mentioned in the later chapter, the collective enterprises have been shrinked in the aspects of firm size, production and capital access since 1990s. Unlike state owned enterprises, collective enterprises have been alleviated from the state related

sector, and made them not able to provide same wage and welfare same as formal sector. Thus, collective enterprises are in informal sector.

Another reason to categorise sectors with the ownership classification is access to capital. Only recently has the government recognized private companies. Compared to state-owned enterprises and foreign companies, government authorities favour private companies less(Wang 2000). The ownership protection and rule of laws provide less protection for them, which results in low access to capital and reduced productive efficiency (Heugens, Van Essen et al. 2009). State-owned enterprises dominate the funding priorities for local states and. However, collective enterprises no longer have priorities similar to with state-owned enterprises due to the under-developed situation. The growth of the private sector and industrial structure reforms have reduced the importance of collective enterprises in Chinese economy. Many have experienced bankruptcy or ownership mergers with private companies. Family-owned businesses (stated below as private enterprises and self-employed individuals) rely heavily on informal financing from family networks and unofficial and illegal credit institutions (Boisot and Child 1996). These institutions have flourished with high borrowing rates (Tian 2007), which result slow development and bankruptcy. Research by Ayyagari, Demirgüç-Kunt et al. (2010) has shown that a relatively low percentage of small firms have utilized formal bank financing. These results suggest that support from the formal financial system is associated with fast firm growth, whereas financing from illegal credit institutions is not.

Table 3-1 Classification of formal and informal sector by ownership

Formal Sector	Informal Sector
• Government Agencies and Party Agencies • State and collective public service unit • Civilian-run enterprises and public service unit • Solely state owned enterprises • State holding enterprises • Solely Foreign owned enterprises • Foreign holding joint venture • State holding joint venture	• Collective holding enterprises • Solely private owned enterprises • Private holding enterprises • Collective holding joint venture • Private holding joint venture • Self-employed Individuals • Other enterprises

3.4 Data management

The data for running nested logit need to be prepared to long form data. We firstly identified the dependent variable: change of employment status. There are two tasks to complete. Firstly, we identified last job's location in either formal or informal sector. Then, identify the same content for current job. If current job is the only working experience, sample with this characteristic is grouped into 'no job change' category. For people who have job changing experiences, if the last job was located in formal sector and current job is located in informal sector, they are grouped into 'formal sector to formal sector (FF)'. Similar procedure has been processed to other three groups.

Last job in *formal sector* → Current job in *formal sector* (FF)

Last job in *formal sector* → Current job in *informal sector* (FI)

Last job in *informal sector* → Current job in *formal sector* (IF)

Last job in *informal sector* → Current job in *informal sector* (II)

The dependent variable has five categories: 1=no job changed, 2=FF, 3=FI, 4=IF and 5=II.

Then, we changed the data from wide to long form based on the dependent variable and sample ID code. For each individual, there are five entries. The difference of each entry for this individual is the category of dependent variable. In the data, another variable identified their choice of changing employment status. The data looks like below:

Table 3-2 Data example of nested logit

ID	Job transition	Choice	Gender	Other variables….
000001	No job Change	IF	Female	Should be same for five entries
000001	FF	IF	Female	.....
000001	FI	IF	Female	.....
000001	IF	IF	Female	.....
000001	II	IF	Female	.....

3.5 Sample and descriptive data analysis

After setting the restrictions on age (from 16 to 65) and reducing the missing value, the sample size totals 9,626. In the sample, there are 4,551 participants in the branch of 'not change job' and 5,075 participants in the branch of 'change job'. The number of participants for each choice in the 'change job' branch is shown in Figure 3.1.

Table 3-3 Sample distribution by choices in 'change job' branch

Current job / Last job	Formal sector	Informal sector
Formal sector	696 (FF)	705 (FI)
Informal sector	509 (IF)	3156 (II)

Table 3-4 shows the descriptive summary for the changes between sectors. It reveals that, in general, workers who change to the formal sector tend to have a better range of personal characteristics.

The percentage of male workers who change jobs to the formal sector is higher than for female workers. Urban workers have a high frequency of in changing jobs within the formal sector. They are more likely to change jobs from the formal to the informal sectors, but constitute a low percentage of those with an initial job in the informal sector. Migrant workers constitute 80% of the populations who change jobs within the informal sector. Cao, Li et al. (2015)'s explained this phenomenon in results that show rural-urban migrants have a high willingness to set up their own business for intergration and permanent settlement in urban areas. Employees with excellent health are more likely to work in the informal sector at previous jobs. This may be related to being younger in age. Participants who had a previous job in the informal sector are younger than their counterparts. Workers who change jobs within the formal sectors have the oldest mean age when they change to their current job (mean age at 42.6).

Workers with a low education level (i.e., junior middle school) tend to work in the informal sector in previous jobs. Around 40% of participants in the FI group have senior middle school educational experience. In the FF group, 75% of participants have senior middle school education (37%) and undergraduate education (38%).

This indicates that people with low education may be have difficulty entering the formal sector and have a high possibility of retrenchment or a low chance of promotion. This limits the development of a personal career and induces willingness to work in the informal sector. The descriptive data is also quite consistent with the

results in the previous chapter showing that people who are better educated are more likely to be formal sector employees, a tendency that increases over the years.

One of the common theories explaining the reason for moving to self-employment in the informal sector is the demand of family responsibilities. The summary table shows that participants with previous jobs in the informal sector have a high probability of having children under the age of six. The highest group is the one changing jobs within the informal sector. Participants having children between the ages of 7-12 are more likely to choose jobs in the formal sector. The highest percentage of participants with parents (elders) are in formal sector employment and are more likely to change jobs within the formal sector.

Risk-bearing attitude is controlled in the nested logit for personality. Entrepreneurship is commonly understood as being associated with risk bearing, affecting the decision of owning a business (Cramer, Hartog et al. 2002).This may either indicate lack of employment in the formal sector or reflect an atmosphere of encouraging risk-taking employments (Earle and Sakova 2000). The risk bearing attitude score in the survey is between 0 to 10. Zero is 'never take risks', and 10 is 'like to take risks'. The summary table shows that participants in the IF and II groups have higher risk-bearing attitudes than participants in the FF and FI groups. Participants in the II group have the highest mean value of risk-bearing attitudes, which is 4.15. These descriptive statistics are quite consistent with the above research findings.

Table 3-4 Summary statistics for changing between formal and informal sectors

Summary Statistics						
	FF	FI	IF	II	No change	Total
Gender						
Male	58.33	56.76	60.57	58.29	52.68	54.94
Female	41.67	43.24	39.43	41.71	47.32	45.06
Hukou Status						
Urban	84.67	66.08	44.98	19.79	64.38	54.07
Migrant	15.33	33.92	55.02	80.21	35.62	45.93
Health Status						
Excellent	12.55	17.55	23.42	26.29	21.46	21.95
Good	50.41	48.92	49.85	50.56	55.83	53.52
Average	34.67	30.98	25.38	21.06	20.45	22.32
Poor	2.37	2.55	1.35	2.09	2.27	2.21
Education levels						
Primary school or below	2.88	6.37	7.81	12.2	9.63	9.58
Junior middle school	21.63	32.65	40.54	49.1	28.74	34.1
Senior middle school	37.18	40.49	31.53	30.21	31.35	32

Undergraduate or above	38.31	20.49	20.12	8.48	30.28	24.32
Age	42.57	40.88	35.82	33	34.99	35.44
Family Structures (% of the group population)						
Children under 6	10.8	11.96	12.74	15.18	13.47	13.6
Children between 7-12	14.51	13.92	11.39	11.59	13.3	12.91
Elders	9.26	8.43	6.9	3.46	7.76	6.81
Risk taking (mean 0-10)	3.08	3.19	3.68	4.15	3.17	3.5

Table 3-5 shows the reasons for changing jobs. It reveals that, in the FI group regarding reasons for changing jobs to the formal sector, forced dismissal gets the highest percentage (46.4%). For people who change jobs within the informal sector, the most popular category is personal reasons (66.3%). The pattern is similar for the IF group (57.5%). This may indicate that the reasons people change jobs from the informal sector tend to be personal rather than 'the second best of unemployment'. However, the descriptive statistics show that people who move from the formal sector to the informal sectors are more likely to be enforced unemployed. It need to be clarified that the job changing reasons have been reclassified. In the original data, there are twenty options. Due to the complexity of the calculations of nested logit modelling, the twenty options have been reclassified into five reasons. It is also easier to generate the reasons for individuals to change jobs. Table 3-6 shows the reclassification of job changing reasons.

Table 3-5 Percentage of job changing reasons for sectors transitions

	FF	FI	IF	II	Total
Retired	9.76	7.97	1.83	1.33	3.76
Forced dismissal	36.69	46.44	26	16.56	25.41
Personal reason	35.21	34.86	57.5	66.33	55.57
Family reason	5.2	5.21	7.5	7.17	6.57
Others	13.15	5.53	7.17	8.61	8.69
Total	100	100	100	100	100

Table 3-6 Identification of reclassifying job changing reasons

Retired	Forced dismissal	Personal reason	Family reason

• Formal age to retire • Earlier retirement	• Factory bankruptcy or closure • Change of factory site • Factory acquisition, restructure and privatisation • Dismission • Laid off collectively • Expiration of contract • Completion of Probation	• Health condition • Education • To find a higher paid job or a job with better working • To find a more interesting job • To run my own business • Closure of my own business	• Marriage • Pregnancy or care of babies under 3 years old • Take care of other family members • Change of residential address

3.6 **Perceptions of informal sector**

The above analysis shows that people working in the informal sector, for both previous jobs and current jobs, are either forcibly dismissed or are pursuing a personal career. In this section, we more comprehensively explore people's perceptions of self-employment. The general result shows that people who have the lowest income return have a greater desire to be self-employed. The survey presented questions about the willingness of employees to be self-employed and the obstacles in their way for achieving that goal. For self-employed workers, the survey questions asked about their reasons for entering self-employment, future plans, and historical working experiences as formal sector employees. The original data asked both employees and self-employed workers these questions. Thus, it is difficult to use the classification of formal and informal sectors to classify the asked sample group. We adopt the concept that self-employed individuals are located in the informal sector and employees are located in the formal sector.

In the Table 3-4, the summary statistics show that migrant workers have a high rate of participation in the informal sector. It is also proved in the multinomial logistic model. In the following descriptive tables, it is going to study the perceptions toward to self-employment by the distribution of income. Income distribution is grouped into income quartile. The first quartile contains observations that have wage rate falling below 25% of all the data analysed. Contrary, observations in forth quartile have the

highest 25% wage rate. Thus, the first quartile group is the poorest group and the forth quartile group is the richest group. It gives a clear picture of constraints and needs for self-employment in different financial levels.

Table 3-7 shows a clear picture of income condition for each employment group. The poorest group is migrant self-employed workers; more than half of the population is located in first quartile. The richest group is urban employees; 43% of the population allocate in fourth quartile. Compared to migrant self-employed workers, in general, urban self-employed workers are better financially. Sixty percent of urban self-employed workers allocated in the third and fourth quartiles. Only 7.18% of migrant formal sector employees have an income level in the fourth quartile.

Table 3-7 Income distribution by employment types

Employment types	First quartile	Second quartile	Third quartile	Forth quartile	Total
Migrant self-employed	52.34	24.92	15.41	7.32	100
Migrant formal employee	33.23	36.12	23.47	7.18	100
Urban self-employed	15.79	18.8	30.08	35.34	100
Urban formal employee	9.42	18.07	29.4	43.11	100
Total	23.93	25.41	25.22	25.44	100

3.6.1 Employees' perceptions of informal sector

Table 3-8 and Table 3-9 shows attitudinal questions for employees. The first question is, 'Have you ever thought of running your own business'. The second question is, 'What is the main reason that stops you from establishing your own business?' These two questions reveal the attitudes of paid-employees towards becoming self-employed and the constraints they facing choosing self-employment.

The first question asks whether they have ever considered self-employment. The percentage of migrant workers who want to have own business for each income level rises perpendicularly. (39.74% for 1st quartile; 40.33% for 2nd quartile; 42.12% for 3rd quartile; 42.94% for 4th quartile) Compared to urban employees, migrant employees have a high willingness to consider self-employment.

This phenomenon may be caused for two reasons: identity integration and utility maximization. There are many factors, such as hukou status, social insurance, and selective bias of the labour market, which can push migrant workers as outsiders. Self-employment can minimize the impacts of these factors. Wang and Fan (2012) found that self-employed migrants are three times more likely to achieve identity

integration than migrants employed in the formal sector. The feeling of be an urban worker can be increased by choosing self-employment. They also have higher chance to make next generation staying urban area. It is an important way to achieve social and economic integration(Cummings 1980; Lofstrom 2004), and achieve identity integration in future.

The second reason is the autonomy and flexibility of the self-employment. According to Hakim (1988), self-employment can be a great way to achieve maximized utility. It is especially true to women. By being self-employed, they can have more flexible time to take care of their family. It doesn't only applied to women. Table 4 shows that, though there are many participants allocated in lower quartiles, the willingness of having own business is quite high in forth quartile. In other words, job satisfaction of paid-employment for migrant is quite low, and they believe, self-employment can help them approaching ultimate utility.

The result of the second question on obstacles of being self-employed is consistent with above literature findings. Table 3-9 shows that there are only 2%-5% of the participants believed the constraint of self-employment is low income. The major concerns for not having own business are difficulty of access to loan and lack of network. Income return too low is the least to be concerned.

Table 3-8 Consideration of running own business (for formal employees)

	Have you ever think of running your own business?			
	Never	Never seriously, because it would be very difficult	Yes, I have.	Total
1st quartile migrant	48.35	11.91	39.74	100
3rd quartile migrant	44.15	13.73	42.12	100
3rd quartile migrant	44.15	13.73	42.12	100
4th quartile migrant	45.71	11.36	42.94	100
1st quartile urban	88.19	4.85	6.96	100
2nd quartile urban	88.35	4.37	7.28	100
3rd quartile urban	91.34	3.46	5.19	100
4th quartile urban	91.85	3.18	4.97	100
Total	71.54	7.5	20.96	100

Table 3-9 Reasons to establish not own business (for formal employees)

	What is the main reason stops you from establishing your own business?					
	Inability to engage in a loan	Lack of network to engage in customers and business permit	Too hard work	Too low income	Others	Total
1st quartile migrant	57.13	19.24	5.79	1.97	15.87	100
2nd quartile migrant	55.28	21.11	6.17	1.99	15.46	100
3rd quartile migrant	49.92	23.98	5.31	1.97	18.82	100
4th quartile migrant	42.35	27.55	8.67	4.59	16.84	100
1st quartile urban	49.32	16.44	13.7	5.48	15.07	100
2nd quartile urban	36.03	28.68	19.85	2.94	12.5	100
3rd quartile urban	40.36	28.92	16.27	3.01	11.45	100
4th quartile urban	23.89	33.63	21.68	3.98	16.81	100
Total	50.06	23.05	8.36	2.44	16.09	100

3.6.2 Self-employed workers' perception on informal sector

Table 3-10 to Table 3-12 shows the questions that only reponsed by self-employed participants. The questions include reasons to engage in self-employment, historical experience of being employed by others and plan for seeking job opportunities of formal employment.

For the first question (refers to Table 3-10), 'The main reason of why you were engaged in self-employed business?', the most selected answers are 'The self-employment can earn more' and 'Freedom and flexibility'. These two answers are very corresponding to the analyses we had above; Wang and Fan (2012) and Hakim(1988)'s studies shows that self-employment is a way to accumulate economic and social integration and to maximize the utility. The first quartile migrant workers have 14.44%

of the population choosing cannot be employed. Therefore, it can suggest that self-employment is a way out for unemployment. Although, many institutional related restricted have been abolished, there are residual influence on migrant workers that makes them have no other way than be self-employed.

The second question asks whether they have been employed by others (details refer to Table 3-11). It can identify whether working experience can lead them to self-employment. For migrant workers, having been employed by other may be essential for setting up business. This is understandable that they need to accumulate capital to start up business. Though, the pattern for urban residents are slightly different. In the 1st quartile and 2nd quartile urban groups, there are more participants don't have the experience of working for others. Urban residents in the 3rd quartile and 4th quartile have higher percentage to be employed by others than no formal employed people. The differences are existed between migrant and urban workers. However, the patterns of income distribution by whether worked for employers are quite similar. Participants with lower income return are less likely to have the experience of working for others. The percentage increase with the income return increase.

The third question asking whether they are looking for paid-employed job opportunities. Most of the self-employed participants answerd not looking for jobs. The tendency of not looking for jobs is higher while the income group ascend. It shows that self-employed workers and employers have faith that having own businesses can bring better profit for them.

Table 3-10 Reasons for engaging in self-employment by income quartile for migrant workers and urban residents

	The main reason of why you were engaged in self-employed business?					
	Cannot be employed	The self-employed can earn more	Wants to be my own boss	Freedom and flexibility	Other	Total
1st quartile migrant	14.44	34.66	14.32	34.54	2.05	100
2nd quartile migrant	9.76	37.03	22.17	29.27	1.77	100
3rd quartile migrant	8.01	41.35	20.51	29.49	0.64	100
4th quartile migrant	4.59	50	23.98	20.92	0.51	100
1st quartile urban	26.32	31.58	15.79	22.81	3.51	100
2nd quartile urban	25	26.67	6.67	38.33	3.33	100
3rd quartile urban	19.57	40.22	9.78	29.35	1.09	100
4th quartile urban	9.27	42.38	15.89	29.14	3.31	100
Total	12.09	38	17.49	30.65	1.77	100

Table 3-11 Historical experience of being employed for self-employed migrant and urban residents by income quartile

Have you ever been employed by others?			
	Yes	No	Total
1st quartile migrant	52.74	47.26	100
2nd quartile migrant	58.45	41.55	100
3rd quartile migrant	56.74	43.26	100
4th quartile migrant	61.54	38.46	100
1st quartile urban	47.37	52.63	100
2nd quartile urban	41.27	58.73	100
3rd quartile urban	54	46	100
4th quartile urban	52.26	47.74	100
Total	54.47	45.53	100

Table 3-12 Seeking formal employment for self-employed migrant workers and urban residents by income quartile

Do you want to look for an opportunity to be employed by others?			
	Yes	No	Total
1st quartile migrant	11.09	88.91	100
2nd quartile migrant	9.4	90.6	100
3rd quartile migrant	8.31	91.69	100
4th quartile migrant	7.27	92.73	100
1st quartile urban	8.08	91.92	100
2nd quartile urban	4.43	95.57	100
3rd quartile urban	5.31	94.69	100
4th quartile urban	5.54	94.46	100
Total	8.56	91.44	100

As conclusion to this section, by analysing attitudinal questions for self-employment, there are five findings. The first one is that the poorest migrant employees have higher willingness to choose self-employment in the future, while urban employees have less tendency to consider self-employment. The second finding is that migrant employees who want to be self-employed in future considering getting loans are the most difficult issue. It is also a problem for urban employees but have less impact on them than the impact on migrant employees. Interestingly, urban employees consider social networks is more problematic than the consideration for migrant employees. The third finding is that self-employed workers and employers believing self-employment can bring more profits and less restricted working hours. The fourth finding is that paid-employed working experience may not significantly influence choice of self-employment. The final findings is that people who have their own businesses, either self-employed or employers, have faith to retain their

businesses. Next section will analyse the results of nested logit model, and to identify what factors may influence labour force moving to different sectors.

3.7 Results analysis

The nested logit model is to study what reasons may influence workers' choice of formal and informal sectors. In the following part, it will analyse how the vulnerabilities impact on changing or not changing jobs, which is the first level in nested logit model. The second level of movement between sectors will be analysed to simulate people's decision making on engaging in the formal or informal sectors. The results are shown in Table 3-13 and Table 3-14 with predicted probability.

In the first level of the model, it shows which factors may influence workers' decision of changing job. The explanatory factors include firm size, health status, education, hukou status, gender and whether having children under six. The results show that labour force who work in large company, with good health status, with better education, to be urban residents and female are more likely to not change job.

The results show that people who work in big companies are less likely to change job. The possibility of changing job is increased while the firm size decreased. It is quite consistent with the findings from other literatures that the greater firm size may indicate better productivity efficiency which will make more 'share' with employees (Gindling, Mossaad et al. 2016; Haltiwanger, Scarpetta et al. 2008).

We have analysed how vulnerabilities may impact on the decision making on employment status. The result of the first level, changing or not changing jobs, in the nested logit model is quite similar to the results in previous chapter. People with vulnerable personal characteristics are more likely to change jobs. In the previous chapter, people with good health condition are more likely to work in the formal sector. In the nested model, it shows similar results that people who have better health condition are less likely to change jobs. Comparing to people who have junior middle school education, people who have primary school or below are 8% more likely to stay in first job, and people who have undergraduate or above education are 28% more likely to not change job. The possibility to change job is higher for migrant workers. 59.9% of urban residents are likely to not change job, while this number for migrant workers is only 37.8%. Gender differences of changing jobs is not large. The possibility of male workers to change jobs is 4% higher than female workers. Whether

having children under six is statistically significant for impacting the possibility of changing job. Though, the difference is very small. Workers who have children under six is 0.2% more likely to not change job.

In the second level of the model, it tested what reasons may influence people's decision of changing sectors. It includes five groups: formal sector to formal sector, formal sector to informal sector, informal sector to formal sector, informal sector to informal sector. The explanatory factors that impact on decision of changing sector are age, willingness of taking risk, the reason of changing last job and city location. The proxy is the group change from formal sector to formal sector.

Participants are asked to rank the risk from low to high as 0 to 10 and state which level they belong to. 0 is 'never take risk', 10 is 'more likely to take risk'. For the group of FF, they are less likely to have risky personality. The possibility of moving within formal sectors is monotonic reduce while the risk-taking grade increase.

For the group of FI, the pattern of risk taking grade between 0-8 is similar to FF group. The differences are existed in the 9-10 risk grade. The possibility of changing to informal sector from formal sector is quite high if the individual have risky personality. It indicates that, for people who change from formal to informal sector, the reason for them to move is either forced movement caused by unemployment or selection bias in the labour market, or the willingness of move to informal sector is quite high. Although, the pattern is quite straightforward, the p-values are not statistically significant for this group (FI).

The pattern for the group of IF isn't very straightforward to illustrate. Participants who ranked 1 and 7 are less likely to move from informal sector to formal sector. Only rankings in seven and eight are statistically significant. It is difficult to tell whether move from informal sector to formal sector are impacted by risky personality.

For both groups (FI and IF), the risk-bearing attitude is quite similar in the ratio of 8, 5% of total population is more likely to be in FI group and 6% of total population is more likely to be in IF group. The reason for they have less differentiation is that they may share similar attitudes for utility maximization. The two groups have very closed predicted probabilities when answering the reason to change job that is personal career perusing. For the group of FI, they initiated with a formal job, but in order to achieve utility maximization, they choose to be in informal sector. For the IF group, after accumulating human capital in the informal sector, they may be able to compete

for the formal jobs, which they may unable to compete when they entered the market. Obtaining a formal job can increase the social protection as well as stabilization of income. For the IF group, to have a formal job may indicate better future career.

The pattern for people (II) who move within informal sectors are monotonic increase while the risky rank increase. Participants who change jobs within the informal sector are more likely to have risk taking personality. The results are quite consistent with literatures that labour force chose to engage in informal sector if they have higher risk-bearing personalities.

The factor of job changing reason has revealed that unemployment isn't the most important reason to change jobs. The weakness of this factor is that it is self-reported indicator. Although, it contains the option of forced dismissal, it may not as representative and directly as using unemployment history. Studies shows that unemployment frequencies and time spans can have long term effect on choosing employment status (Rissman 2003). In the data, this information isn't existing, thus self-reported answer is applied.

The result shows that, for people who have moved jobs within formal sector (FF), retirement is the main reason. Forced dismissal is the second influential reason, but the proportion is 12% lower than retirement. The pattern is similar for the FI group. Retirement is the main reason to move to informal sector from formal sector. The proportion of the FI group engaging in informal sector caused by personal reason is 1.4% higher than it for the group of FF. It might be able to consistent to the explanation of the people who have risky personality willing to move to informal sector from formal sector, whereas the FF group is more skeptical of informal sector (Cramer, Hartog et al. 2002). For people who move from informal sector to formal sector (IF), personal and family and other reasons are the most influential reasons for changing jobs to formal sector. Forced dismissal has lower impact on this group of people (IF). For people who move within informal sectors (II), personal reason is the most influential reason. Retirement and forced dismissal are the least influential reasons to change jobs. All the patterns are statistically significant.

In order to reduce the exogenous influences, cities have been controlled. The pattern is significant to understand the government strategies and industries structures' impact on employment changes. There are high possibility for people who move within formal sectors (FF) are located in Shanghai, Mianyang and Anyang. These cities are highly planned by governments. Mianyang is planned to develop military related

industries and technology related industries. The main industries in Anyang is metallurgical industry, equipment manufacturing industry and renewable energy industry, which formal sector clustered in these industries. Shanghai is internationally well-known city that have more formal jobs than other second-tier cities. Thus, moving within formal sectors are more likely to be located in the area that are highly strategized by government.

For the group who move from formal sector to informal sector, they are more likely to located in Bengbu, Wuhan, Mianyang and Leshan. The characteristics of these cities are good location, such as being transportation junction and developed tourist industry, and highly developed commercial atmosphere, such as trading industry and technology oriented industry. In these cities, people are more likely to be in informal sector, due to more demand for informal employment and good nature and capital resources.

For the group who move from informal sector to formal sector, they are more likely to located in Dongguan and Ningbo. The main similarity of both cities is clustered manufacturing industry, which can provide formal employments but may not necessarily high labour return. This is also consistent with the results in next chapter that manufacturing industry has been revived in recent decades, which can locate more informal employment back to formal sector.

For the group who move within informal sector, the location are quite wide. It includes Guangzhou, Dongguan, Shenzhen, Zhengzhou, Bengbu, Chongqing, Hangzhou, Ningbo, Wuhan and Chengdu. The main characteristics of these cities are large population that have higher demand in personalised services, such as trade and service industries.

Most of the cities are statistically significant; the locations have significant influence on employment status change between formal and informal sectors. Government strategical planned cities are more likely to provide formal employment. Cities with diversified resources are more attractive for people to move from formal sector to informal sector. Manufacturing clustered cities may attract workers in informal sector to be relocated in formal sector. Cities have large population require more informal jobs to fulfil public needs. Changing jobs within informal sectors may also impact by peer influence. As conclusion, people move to formal sector are mainly caused by sufficient resources of formal employment, and people who move to informal sector are mainly caused by large vacancies and demand.

Table 3-13 Predicted probabilities of changing job decision from nested logit modelling: First Level

	Not Changed	***Changed (base)***
Firm size		
1	0.402	0.598
2~7 (ref)	0.398	0.602
8~49	0.477*	0.523
50~99	0.486**	0.514
100~999	0.514	0.486
>=1000	0.537	0.463
Health		
Excellent	0.459**	0.541
Good	0.494*	0.506
Average (ref)	0.442	0.558
Poor	0.432**	0.568
Edu_lvl		
Primary school or below	0.466***	0.534
Junior middle school (ref)	0.384	0.616
Senior middle school	0.453	0.547
Undergraduate or above	0.661***	0.339
Hukou		
Urban (ref)	0.599	0.401
Migrant	0.378***	0.622
Gender		
Male (ref)	0.455	0.545
Female	0.494***	0.506
Children under 6		
Without children (ref)	0.472	0.528
With children	0.474***	0.526

Table 3-14 Predicted probabilities of changes between formal and informal sectors from nested logit modelling: Second Level (Continue with above table)

		FF(base)	FI	IF	II	No change
Age			-0.288	-0.376	-0.330*	-0.679***
Age^2			0.003	0.003	0.001	0.006***
Risk-bearing attitude						
Never take risk (ref)	*0*	0.080	0.092	0.056	0.233	0.539
	1	0.082	0.082	0.035	0.295	0.507
	2	0.083	0.080	0.057	0.271	0.509
	3	0.090	0.078	0.053	0.300	0.479
	4	0.074	0.064	0.060	0.337	0.464
	5	0.058	0.066	0.052*	0.360	0.464
	6	0.056	0.073	0.055*	0.424	0.392
	7	0.067	0.055*	0.037	0.423	0.419
	8	0.044	0.050*	0.062*	0.459	0.385
	9	0.038	0.081	0.054	0.451	0.376
Like to take risk	10	0.035	0.077	0.047	0.483	0.358
Job change reason						
Not changed (ref)		0.065	0.068	0.045	0.277	0.546
Retired		0.250	0.189*	0.047**	0.169**	0.345
Forced dismissal		0.124	0.113*	0.059**	0.265**	0.439***
Personal reason		0.050	0.063**	0.062**	0.447**	0.377***
Family reason		0.079	0.076**	0.061**	0.370**	0.414***
Others		0.061	0.072**	0.063**	0.426**	0.378
City						
Guangzhou		0.072	0.055*	0.079**	0.357**	0.436***
Dongguan		0.063	0.066*	0.115**	0.337**	0.420***
Shenzhen		0.055	0.054**	0.062**	0.385**	0.444**
Zhengzhou		0.024	0.042**	0.015	0.359***	0.559***
Luoyang		0.026	0.057**	0.021	0.286**	0.611***
Hefei		0.049	0.068**	0.044**	0.300***	0.538**
Bengbu		0.042	0.120**	0.013	0.383**	0.443***
Chongqing		0.062	0.052**	0.064**	0.414***	0.409***
Shanghai (ref)		0.160	0.076	0.043	0.278	0.443
Nanjing		0.042	0.079**	0.043**	0.201***	0.636***
Wuxi		0.098	0.082**	0.042*	0.169*	0.609***
Hangzhou		0.053	0.087**	0.063**	0.394***	0.403***
Ningbo		0.076	0.068*	0.119**	0.402**	0.334**
Wuhan		0.055	0.104**	0.032*	0.359***	0.450***
Chengdu		0.082	0.094**	0.057**	0.425***	0.343***
Mianyang		0.168	0.118	0.046	0.093*	0.575
Leshan		0.076	0.115*	0.014	0.041	0.753
Anyang		0.164	0.099	0.045	0.110	0.582

Number of obs = 47,955 Number of cases = 9591

LR test for IIA (tau=1): chi2(1) = 5.65 Prob > chi2 = 0.0175

Note: * denotes p < .1, ** p < .05, *** p < .01

3.8 Conclusion

This chapter studied the reasons why people decide to move between the formal and informal sectors. It explored perceptions of self-employment and reasons for moving between the formal and informal sectors. The method to generate formal and informal sector is adopting the classification of work units' ownership. With the tree structure of nested logit model, we have studied the decision of changing jobs in the first level and reasons to move between formal and informal sector in the second level. The exploring factors on the first level is 'not change job', 'change job', and movements between sectors, which are movements between the formal to formal sector (FF), formal to informal sector (FI), informal to formal sector (IF), and informal to informal sector (II).

There are four findings from the results of nested logit model. The first finding is people with vulnerable personal characteristics are more likely to change job. The second finding is that the people with high risk-bearing attitudes value are more likely to engage in informal sector. The third finding is that personal reasons to leave last job is the most affected factor to engage in informal sector, which challenged the traditional view that unemployment is the push effect of self-employment. The final finding is that location is an influential factor for decision making. Government's plan on development strategy and commercial atmosphere can heavily influence individuals' choice making on engaging in formal or informal sector. By analysing the descriptive data on perceptions of informal sector, we have also proved that people with less income have better faith on self-employment, especially for poor rural to urban migrants. It can be explained by the willingness of urban integration and settlement for migrant workers (Cao, Li et al. 2015).

Chapter 4 Impact of Changing Employment Status on Income

4.1 Introduction

This chapter aims to study the impact of changing employment status on disposable monthly income. It is to prove the results of previous two chapters that employment in the informal sector is not financially lower than employment in formal sector. The exploring factor (dependent variable) is disposable monthly income. It is self-reported cash-form monthly income. In wide sense, disposable monthly income can reflect socio-economic status. It emphasised whether the income workers earn can 'make ends meet' (Danziger, van der Gaag et al. 1984; Goedhart, Halberstadt et al. 1977; Van Praag, Spit et al. 1982). Hourly wage involves the consideration of working hours that may not be necessarily applied to self-employed individuals and small business owners. They tend to work longer, but the working time contains looking after families as well. Thus, instead of labour price, disposable monthly income is more representative to reflect whether being informal sector is more inferior than being formal sector. The influential factor (independent variable) is employment status. It is going to study how changing employment status may impact on the changes of disposable monthly income. This chapter is going to challenge the conventional views on employment in informal sector, which is unequal financially.

In the previous chapters, we found in the available literature and from empirical results that people choose self-employment because they expect to earn a higher income. They also believe self-employment has non-pecuniary advantages like autonomy and time flexibility. However, the International Labour Organization (ILO) states that self-employed people often work in the informal sector as a way out of unemployment. They work in low-skilled industries with low-income returns and experience poor working conditions. Researchers have also found that, in developing countries, self-employment does not increase income, especially for self-employed individuals and small business owners (Arias and Khamis 2008; Bargain and Kwenda 2011; Tansel and Kan 2012). Clearly, conflicting opinions exist about the informal sector. This chapter addresses the question of whether employment in the informal sector, defined here as self-employed workers and small business employers, can achieve better income maximisation.

Numerous scholars have studied income from self-employment. Scholars who have found that individuals working in the informal sector earn lower incomes believe that self-employed workers constitute a labour force that has been excluded from the formal labour market due to limited comparative advantages. Thus, the excluded workers are forced to work as self-employed or temporary workers in the lower-paid informal labour market sector. This phenomenon maintains wages of formal labour market employees above the market-clearing wage and results in self-employed workers earning less income because of the dual (formal and informal) labour market[4] (De Mel, McKenzie et al. 2010; Fields 2009; Harris and Todaro 1970; Tokman 1978).

Specific studies on self-employment by other researchers support these arguments. In less-developed countries, self-employed people tend to be female, less-educated workers. For example, in Honduras, most self-employed workers are young women with less education (Ruben 2001). In Africa, most owners of micro firms are women (Mead and Liedholm 1998). In Botswana, most self-employed workers have an educational level no higher than primary school (Grosh and Somolekae 1996). Weijland (1999) find that, in rural Indonesia, 50% of the self-employed workers in a cotton industry study were young mothers, widows, and elderly women with little working experience prior to their jobs in this industry. These findings support the above view that self-employed workers are considerably more vulnerable in the labour market. As a result, they are excluded from formal sector employment and forced into the informal sector, which means income earned is lower.

Researchers should study the phenomenon of self-employment income for each nation instead of trying to generate results that reflect a commonality for all countries. New research on the *earning penalties* of self-employed workers and the pattern of employment status changes challenge the above arguments about the lower income that self-employed workers experience. Gindling, Mossaad et al. (2016) studied earning penalties of self-employed workers in 73 OECD countries. Their results show that income from self-employment should be studied by regions and skills. They stated

[4] The dualist labor market theory states that the labour market is segregated between the formal and informal sectors. It argues that economic activities in the informal sector are constructed by marginal activities from the formal sector that are unrelated to formal economics. This serves as a safety net to workers in the informal sector, where rather than being unemployed, they are able to work and receive income. (Hart 1973; Sethuraman 1976; Tokman 1978).

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that earnings penalties for low-skilled, self-employed workers are higher in developed countries and lower in developing countries. In developing countries, the formal sector doesn't have the capacity to provide enough stable and high-income jobs (Gindling, Mossaad et al. 2016). The entry and regulation costs normally require less capital. Self-employed or salaried employees in the informal sector are more likely to be in low-skilled occupations requiring less initial investment capital. The initial cost can be less than the cost of searching for high-paid formal employment, such as the cost of searching for information and networking (Bryan, Chowdhury et al. 2012; Jensen 2012). Therefore, in developing countries, self-employment is quite common. Income differentiations with formal labour market sector employees are less than in developed countries. As the economy develops, the proportion of self-employed workers should fall. In developed countries, despite the above competitive economic disadvantages, high quasi-rents for employees in the formal labour market sector can help explain the lower income (further reduced by higher business costs) informal sector self-employed workers receive. Scholars have determined that earnings penalties for self-employed workers can be increased if the bargaining powers for formal sector employees, and their share of quasi-rents, are increased (Abowd, Kramarz et al. 2012; Dickens and Katz 1986). The efficiency wage determines quasi-rents; increased innovation and productivity can increase the share of quasi-rents that move from firms to employees. Employees' bargaining power through labour unions can influence the size of the quasi-rents they receive by constraining firms' behaviours on labour rights from labour unions (Van Reenen 1996). Thus, the opportunity costs of self-employment can be high if quasi-rents are high (Cahuc, Postel‐Vinay et al. 2006). This is quite common in developed countries with more comprehensive regulations and faster technological development.

Based on the above analysis, while the personal characteristics and human capital of self-employed workers may not be attractive to formal sector employers in developing countries, the disposable income of self-employed workers may be equal to or even higher than that of formal sector employees. Therefore, a specific study of income as it relates to employment status transitions in China is necessary.

Studies on income maximisation in China's informal sector are quite limited. Most studies of income in this sector have focused on rural China. They spotlight migration patterns and study whether migration to urban areas can increase household

income more than if migrants stayed in place, working locally as non-farm or self-employed workers. Study results show that individuals who are self-employed locally and work as non-farm employees earn more household income than migrants to urban areas do. Research conducted by Zhang, Zhang et al. (2006) and Mohapatra, Rozelle et al. (2007) support these findings. These studies focus on the development and productivity of self-employment in rural China and reveal that the positive productivity characteristics of self-employment in rural areas are similar to those of the small-business sector. While the self-employment activities are small, they develop quickly, operate in complex ways and perform well financially. Zhang, Zhang et al. (2006) and Mohapatra, Rozelle et al. (2007)conclude that, unlike other nations where higher rates of self-employment signals low economic development, the emergence of self-employment in China is a positive sign of development. While their studies focus on rural China, they apply their findings to statements about the development of self-employment across the nation, which we challenge.

Xue, Gao et al. (2014) generated different results from their research. They studied informal sector income inequality in urban China with cross-sectional data from 2005 and 2010. Their results show that informal sector workers earned 23.5% and 22.8% less than formal sector employees in 2005 and 2010. These researchers believe that this large earnings gap raised the Gini coefficient to 0.42 in 2005. By adopting the Blinder-Oaxaca decomposition model, their results show that more than half the overall personal income inequality in urban China can be explained by the earnings gap. These results are consistent with the unconditional descriptive data of earnings by employment status set out in previous chapters, which is that, in general, informal sector jobs have less income return than formal sector jobs. However, even though they have a lower income return, they retain a high expectation of a greater income return in the future (please refer to the expectation by income quartile table in Chapter 3, Table 3-7 to Table 3-12). This effect has been described as the superstar model. It argues that, for certain self-employed occupations like dentists or lawyers, the cost of production doesn't rise in proportion to the size of the market and can increase the observed variance and skewness of returns in the self-employed sector (Rosen 1981). In other words, a considerably large proportion of entrepreneurial premiums go to minorities, and most entrepreneurs have low income returns. The superstar effect has made individuals more interested in self-employment, especially those who are unemployed and excluded from the formal labour market sector

(Sorgner, Fritsch et al. 2014). However, the question is whether the returns to those in the informal, self-employed sector will be the same as the research results of Xue, Gao et al. (2014), or whether those returns will contradict Xue et al.'s results and turn in the direction of Rozelle's results. Both studies have weaknesses. The research results of Xue et al. only compare the earnings differencial between the informal and formal sectors; they neglect consideration of possible income growth gained by transitioning between sectors. Rozelle's research studies panel data and notices income changes that come with changes in employment status. However, their focus is in rural China, which has a different labour market mechanism than urban China. It is necessary to study to what degree the transitions in employment status may influence income distribution in urban China and whether individuals have achieved income maximisation through employment status transformation.

This chapter uses panel data to study whether changing employment status will impact income.We created the panel data from part of the retrospective data in the 2014 CHIPs dataset. The sample includes heads of households and spouses who are of working age between 16 and 65. Because of restrictions and missing values,We reduced the sample size to 9,623 participants.We applied the fixed effects model to observe whether moving to the informal sector can impact income, with the dependent variable of logged monthly income and explanatory variables of employment status and other controlling time-variant job related factors. Furthermore, for robustness of results, we applied the OLS regression model, with change of income as the dependent variable. The purpose of the OLS regression model is to eliminate the return to capital and risk of entrepreneurships for self-employed workers and business owners.

The results of the fixed effects model are consistent with Rozelle's results. Self-employed workers in the informal sector earn 25.7% more monthly income than employees in the formal sector. Business owners in the informal sector earn 53% more than employees in the formal sector. The OLS regression model results show that personal characteristics, including transitions of employment status, contribute very little to an explanation of changes in the logged income growth rate. In the OLS regression model, only industry and ownership factors contribute to income growth. We applied quantile regressions and truncated regressions to check the robustness of the OLS regression model.

In conclusion, the result of the chapter may not consist with either Xue's argument that income is lower for informal employment, or the Rozelle's argument

that self-employment is activated and not worse than formal employment. Changing employment status to self-employment in the informal sector can increase monthly income, which seemingly achieves income maximisation. However, the income growth rate will increase only if jobs change from low-skilled and labour-intensive industries to professional and high-tech oriented industries. In other words, income growth increases can only be fulfilled by changes in industrial structures.

The rest of this chapter is organised as follows. Next section will be the literature review focusing on theoretical framework and empirical framework. The third section elaborates the definitions and specifications of employment status and income maximization in this chapter. In the forth section, data management is descript. Section five analyses descriptive data. Section six elaborates the empirical strategy, and results are analysed in the section seven. Section eight is the conclusion for this chapter.

4.2 Literature Review

This section is a literature review of certain aspects of theoretical and empirical frameworks. The theoretical framework analyses key theories related to informal sector employment income maximisation. The empirical framework analyses important studies that adopt the retrospective research method. Finally, research hypothesis will be illustrated.

4.2.1 Theoretical framework

Neo-classical theory states that workers are free to move between sectors to maximise benefits. Given the same conditions, this theory argues, workers will have the same amount of income whether they are employed in the formal sector or self-employed in the informal sector. Despite the ability of large firms to increase worker productivity, in the competitive market, free movement of labour will equalise earnings between the formal and informal sectors (Gindling, Mossaad et al. 2016). However, earnings differences have obstructed the free movement of labour between these two sectors. Workers, unable to find adequate employment in the formal sector, are forced to work in the low-paid informal sector, which results in earnings differences between the two sectors. The traditional view from the Dualist School sees the labour market as segmented into formal and informal sectors from certain

restrictions like labour market regulations, tax laws, and minimum wages. This view states that the dual labour market came from the imbalance between high population growth and the slow growth of matched industrial employment (De Mel, McKenzie et al. 2010; Fields 2005; Harris and Todaro 1970; Tokman 1978). Thus, people are unable to find employment in large firms; they are excluded from the formal sector, and their income doesn't increase due to restrictions of movement.

Informal sectors, therefore, create more job opportunities for this excluded labour, thereby reducing unemployment. With this benefit, legalists argue that formal sector firms have 'mercantilist' interests to collude with government regulations by increasing business costs. The high cost of firm registration and related transaction costs forces people to find self-employment in the informal sectors (De Soto 2000; De Soto 2002).

These dualist and legalist theories support the reality of earnings differentials between the formal and informal sectors. However, reducing costs related to government regulations may reduce these differences. While maximising income through free movement between sectors cannot be achieved in reality, minimising business costs may increase income in the informal sector. This paper studies whether people can maximise income in the informal sector. The results obtained will test the above analysis. If workers can maximise their income in the informal sector, suggestions for simplifying bureaucratic procedures for registering informal enterprises to reduce costs related to government regulations can be given.

4.2.2 Empirical framework

This chapter contributes to the literature on the estimation of magnitudes of income maximisation between the formal and informal employment sectors; specifically, in the employment status of employees, self-employed workers, and employers. Many of these studies are based on the data in rural areas (Shi, Heerink et al. 2007; Zhang, Zhang et al. 2006) or migrants in urban areas. Most of the studies involving the concept of self-employment address the institutional barriers faced by rural and urban migrants (Démurger, Gurgand et al. 2009; Ha, Yi et al. 2016; Zhang and Zhao 2011). Xue, Gao et al. (2014) studied income distribution in the informal sector in urban China. Their results show that informal sector employment has lower

income returns than formal sector employment. They used cross-sectional data that cannot reflect income distribution over time.

Mohapatra, Rozelle et al. (2007) and Zhang, Zhang et al. (2006) studied self-employment in rural areas with retrospective data. The results show self-employment in China has a positive impact on economic development. The varying results between cross-sectional and panel data—although the study locations are different—indicate a new study of data over a period of years should be carried out. Although retrospective data have the weaknesses of memory inaccuracy, other studies have used it to study income differentiations. Appleton, Song et al. (2005) studied wage structure in urban China through retrospective data from 1988 to 2002. They found that state-owned enterprises (SOE) reform and changing industries impact wage structure. Researchers have also used retrospective data to study the impacts of personal traits on the sustainability of self-employment (Caliendo, Fossen et al. 2014), finding that self-employed workers with risk tolerance, locus of control, and openness have a higher possibility of staying in the self-employed sector. Scholars have also adopted retrospective data to study the informal sector; however, there is still a lack of literature studying China's urban informal sector. Thus, this chapter contributes to the literature regarding aspects of long-term retrospective data to reflect people's income increase over time.

The main research questions in this chapter are:

- To what degree does change in employment status influence income maximisation?
- How do personal characteristics, which are closely related to labour market inequalities, impact income achievement?
- How does change in employment status affect financial elevation? If it doesn't, what factors can help explain the income growth rate?

Before analysing data, we will clarify and specify the meaning of employment status and income maximisation.

4.3 Definitions and specifications of employment status and income maximisation

This section clarifies the definition of employment status and income maximisation. The specification of employment status is different from previous

chapters. Here, the measurement of income maximisation is monthly income. In the following paragraphs, we will specify the process of generating employment status and how that is different from previous chapters. This section will also analyse the identification and measurement of income maximisation.

4.3.1 Definitions and specifications of employment status

The data used in this chapter is the newly released 2014 CHIPs data. This data categorises the labour force sample into four groups: employees, family helpers, self-employed, and employers. According to the specifications of each group, we use *employment status* as the main explanatory factor.

Figure 4.1 describes the process of how we generated employment status from original data. Table 4-1 shows the specification of employment status in this chapter, followed by elaboration and details.

Figure 4.1 Process of generating employment status from original data

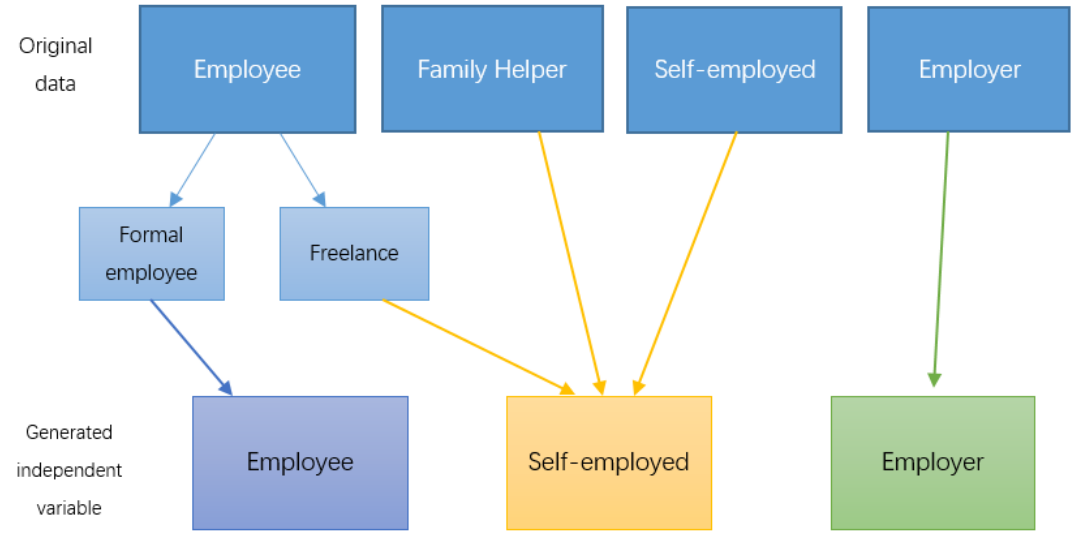


Table 4-1 Specifications of employment status

	Employee	Self-employed		Employer
		Freelance	Self-employed	
Wage	Collect from employers	Collect from employers	Returns of business except costs	Returns of business except costs
Belong to formal sector	Yes	No, no contract with employer	No	N/A*

Hire employees	N/A	N/A	No employees, except family helper without payment	Yes, have employees working and be paid more than one month
Autonomy of business	N/A	N/A	Yes	Yes
Business formally registered	N/A	N/A	No	Either registered or not registered

*There is no information on firm size in the retrospective data. Therefore, we cannot identify whether these firms are in the informal sector or not. Still, it's important to separate the employers group from self-employed workers, as they have different characteristics and income.

In this chapter, we define *employment status* by three groups: (a) employee, (b) self-employed, and (c) employer. Employees, in the first group, are those who are hired by, and collecting payment from, one or more employers. There are two types of workers in the second, self-employed group. The first is the self-employed business owner where the business is not formally registered and doesn't hire any employees except family helpers. The typical characteristic of self-employed workers is autonomy in business management; they neither hire employees nor are employed by others. The second type of worker in the self-employed group are those who are flexibly employed, such as freelancers and temporary workers. In the last chapter, we described workers in this subgroup as casual workers.[5] The last group is the employer group. These businesses hire paid contract employees who work for more than one month. Businesses in this group can be either formally registered or informally organised, such as unregistered contractors.

The initial plan was to separate casual workers from formal sector employees, so employment status would be consistent with previous chapters. The sample size was 1,666. When running the fixed effects model, the *p*-value of casual workers was insignificant and there was no pattern for the coefficients. We can explain this issue by using retrospective data and the vagueness of the definition of employment status

[5] In the original data set, we identified the second type of self-employed workers as employees. Here, in the process of separating them from formal sector employees, we added the condition that if they are working in an individual business, to constrain that population from the whole population of employees. The defined population in the individual business (getihu) in this data not only includes formally registered small business owners but also includes workers with flexible employment. The results of the multinomial logistic model showed that casual workers have incomes hugely different from formal sector employees and much closer to self-employed workers. Although we can't clearly differentiate the casual worker category in this chapter from previous chapters, we include the sample we separated from the original employee group in the self-employed workers' group.

in the original data. However, due to lack of information in the retrospective data, the status of contract workers cannot be used to define employment status in this chapter. The specification of *employee* in the original data did not indicate whether they had a contract, which mixed employees in the formal and informal sectors together.

We separated casual workers from formal employees by applying an ownership restriction. If the ownership is self-employment and employment status is formal employees, we categorise the participants as informal sector casual workers. In the original data, the determination of ownership for self-employment is that the employment income is equal to business returns. Therefore, casual workers who have been separated from employees may be self-employed. Even though they don't necessarily have their own businesses, they share similar characteristics with self-employed workers. In the Figure 4.1, they are identified as freelancers rather than casual workers. According to the specification of the original data, freelancers should have better working conditions and higher incomes than casual workers. Nevertheless, this group may not be an exact fit with the previously described self-employed group, where being self-employed indicates informal sector work.

4.3.2 Definitions and specifications of income maximisation: monthly income

The dependent variable in the fixed effects model is monthly income. The monthly income for a wage earner is the net income from monthly salary, bonuses, and cash compensations. For self-employed workers and business owners, monthly income is the net income of the business, excluding the cost of operation and production.

The reason for using monthly income as the measurement of income maximisation is that applied socio-economic status in this chapter. Scholars who study poverty usually adopt net monthly income as an essential indicator for socio-economic status when measuring poverty and life satisfaction (Fernández-Ballesteros, Zamarrón et al. 2001; Muellbauer 1974). In the previous chapters, we have shown that self-employment no longer functions as a social safety net, as the ILO has identified. Other scholars also find that the purposes of being self-employed are highly related to non-pecuniary reasons. Transitions from the formal sector to the informal sector may involve a desire for autonomy and control over time. What workers are seeking is no longer higher labour return but better socio-economic status.

In early studies of poverty, researchers have emphasised the importance of whether the income workers earn can 'make ends meet' (Danziger, van der Gaag et al. 1984; Goedhart, Halberstadt et al. 1977; Van Praag, Spit et al. 1982). In other words, they focus on whether a worker's monthly income can cover the cost of living. They studied the difference between the level of income needed to make ends meet and the real monthly income earned. They found that the poverty line changes with growth of average income (Kilpatrick 1973). Although this chapter is not a study of poverty, the concept of using real monthly income as an indicator of the standard of living is analogous to the issues this chapter addresses, which is whether changing employment status can impact socio-economic status—in other words, whether it can increase monthly income to make ends meet.

Another reason for using monthly income instead of hourly wage is that employment status transition involves self-employment and business owners in the informal sector. The results of the last chapter revealed that self-employed workers tend to work longer hours than employees in the formal sector. The working time of self-employed workers is, to a large degree, combined with caring for families. Hourly wages cannot measure the value of these non-wage benefits. However, monthly income can be explicitly used to represent socio-economic status to the extent that disposable income covers the cost of living.

The final reason for accepting monthly income as a dependent variable is the lack of information in the data. The data only provides working hours for a current job. For retrospective data, only initial and final monthly incomes are given. To make the data correspond to two waves in the panels, we use monthly income to measure income maximisation. Non-cash income should be also addressed. The income compositions are different between workers in formal and informal sector. However, due to the weakness of lacking information in the retrospective data, the non-cash income cannot be applied in the model.

According to the 2008 New Labour Contract Law, contributions to employees' social insurance (medical Insurance, pension, unemployment Insurance, maternity Insurance, injury Insurance and housing fund) are made by both employers and employees. The contributions are different depending on time and location. For example, in 2015, the government increased the contribution threshold by 11% in Tianjin. In general, the contribution is around 40% of total income, but in some parts of China, it can be 50% of total income. If an employee's income is 10,000 yuan before

taxes, the employee receives only 7,450 yuan and the employer pays 14,410 yuan. The balance of 6,960 is paid to social insurance, other funds and taxes. Formal sector employees who may have a contract longer than a year may have more non-cash benefits in the future, while informal sector employees may not have benefits at all if they don't pay into these funds on their own. Since the data is recall panel data, we don't have any information regarding whether employees held a contract for longer than a year. It is not possible to identify whether all employees have such benefits. Therefore, the monthly income described in this chapter is more like a welfare/well-being indicator than an economic indicator that can be used to study whether individuals have achieved income maximisation.

Monthly income is converted to real income by factoring in the inflation rate. Thus, these values are equivalent to the value of 2014 income value. To address the inflation issue, we used the following steps: In the retrospective data, the earliest year can be traced back to 1965. All years before 1980 are treated as the year 1980. The Famine, Cultural Revolution and other factors contributed to social and economic instability before the 1980s. From 1978, the central government adjusted the orientation of economic development and implemented economic reform. In the early 1980s, results began to appear and economic growth began to increase. Due to the low fluctuation of economic growth before the 1980s, all wages before 1980 are treated with the inflation rate of 1980.

The first step is to calculate the inflation rate for every year by using the Consumer Price Index (CPI). The CPI information we took from the National Bureau of Statistics of the People's Republic of China (stats.gov.cn) is on a year-on-year basis, for example, the CPI value provided for 2014 is the growth on a year earlier. The inflation rate on a year-on-year basis is calculated as: CPI/100. For example, the CPI of year 2012 to the year 2011 is 102.6, so the inflation rate in 2012 is 1.026.

$$\text{Inflation Rate to 2014} = \text{Inflation Rate in 2014} \times \text{Inflation Rate in 2013} \times \ldots\ldots \times \text{Inflation Rate in year}_{n+1} \quad (8)$$

To calculate the real income in the year 2014, we need to calculate the inflation rate in the 2014 to the particular year n. To calculate the inflation rate to a certain year n, multiply the inflation rate of every year from 2014 to the year after the year n. For

example, calculating the inflation rate since 2000 to 2014 is equal to multiply inflation rate of each year from 2014 till 2001.

$$\text{Treated Wage} = \text{Wage} \times \text{Inflation Rate to 2014} \quad (9)$$

Then, the real wage, equivalent to the value in 2014, is equal to the real value of wage times the inflation rate to 2014. In the fixed effects model, the logged real wage is set as a dependent variable.

4.4 Sample and Data Management

This section analyses the advantages and weaknesses of retrospective data, and how we reduce the disadvantages of retrospective data. This section also describes data management. Finally, we give a sample profile.

4.4.1 Advantages and weaknesses of retrospective data

There are advantages and disadvantages of retrospective data and panel data. The advantage of panel data is its accuracy. It reports the reality of a participant's status and involves shorter periodical recall memory. However, panel data suffers from a high attrition rate and high cost of tracking interviewees and rehiring interviewers. It also encounters the problem of changing definitions and instruments over time, which may increase a researcher's misunderstanding and inconvenience. Compared to the high cost of collecting panel data, retrospective data are a more economical and reasonable way to collect data. Most of the panel datasets in China focus on family-related rather than job-related information. Initiated in 1988, CHIPs data have had six waves of data collection experience. Although they are not panel data, the sample, questionnaire design, and data collection of CHIPs data are considerably more mature and contain more job-related information. Therefore, adopting a cross-sectional dataset containing retrospective information is much more reasonable.

The well-known disadvantage of recall data concerns memory reliability. Studies show that potential errors exist in recall data. The participants may have forgotten the whole episode; they may have a misclassified or inaccurate memory of the episode; or, they may have forgotten the specific time of the episode (Dex 1995). Psychologists have made huge contributions in testing the reliability and validity of retrospective data. Their findings suggest that a certain degree of selective degradation

error exists in the recall data; however, some events are better memorised than the others (Elias 1991). A recent study testing the accuracy of recall data researched self-reported information from self-employed households (De Nicola and Giné 2014). The results show that time cues can reduce the recall error by providing periodical boundaries as references to add more impression and improve precision. This result corresponds to previous findings that may not necessarily be concentrated in labour studies. Known events or reference boundaries may help participants provide accurate recall (Conway and Bekerian 1987; Kurbat, Shevell et al. 1998). Studies also find that participants often rely on estimation rather than on retrieving memories when recalling periodically repeated events (Bradburn, Rips et al. 1987; De Nicola and Giné 2014; Thompson, Skowronski et al. 2013).

The above two findings support the accuracy of data selection and data cleaning strategy we use in this chapter. The first wave of the panel data is the first working experience of participants, which become working history time cues. This increases the accuracy and reliability of the retrospective information.

Scholars have questioned the reliability of memorising absolute value and tested its accuracy. This is one of the reliability issues addressed in this chapter. The dependent variable is the self-reported monthly income in the retrospective information; it may be questioned whether interviewees can remember a specific income level after a long period of time. Researchers find that the mean of memorised absolute values is quite close to the mean of actual value. However, it may be difficult to study the volatility of income processing when participants are asked to report absolute values in events that happened long time ago. Often, researchers find they rely more on sequential deduction on the values according to time frames rather than memories (Angrist and Krueger 1999; Tourangeau 1999). This has been tested by De Nicola and Giné (2014). The results show that, with a 24-month recall period, the variance of self-reported income value is 13% lower than the actual income value, but the mean of self-reported income value is only 2% lower than the mean of actual value. This chapter studies whether labour force employees have maximised their welfare. Instead of checking periodic changes in earnings, we study income that can indicate an increase in well-being resulting from transferring employment status. Thus, these findings support the accuracy of the use of retrospective information in this chapter.

4.4.2 Retrospective data management

This chapter uses retrospective penal data generated from 2014 CHIPs data. We generated two waves of panel data. The 2014 CHIPs data contains information about past jobs for heads of households and spouses. This information includes time, employment status, ownership, industry, occupation, and monthly income. This information allows us to create recall panel data. The samples selected from the labour force are participants between the ages of 16–65, are rural migrants and urban residents, and who are in an urban area. The total sample size is 9,623. The population with job-changing experience is 3,393, or 35% of the total sample (refers to Table 4-2). The remaining sample participants are people who either had only one job experience or are working on their first job.

Table 4-2 Sample size by job-changing experience

	Sample size	Percentage
With job-changing experience	3,393	35.26
Without job-changing experience	6,230	64.74
Total	9,623	100

Participants working on their first job were asked for the first month's income and the total wage income for the year 2014. The retrospective CHIPs data for 2014 asked for the initial monthly income and the last month's income for the job. The first wave is the first monthly income and other factor variables. For people who don't have job-changing experience, the first month's income is their initial income. For people who have job-changing experiences, the first month's income is the initial monthly income of their first job. The second wave is the monthly income of the current job in 2014. The retrospective data contains the information from a maximum of three previous jobs. We used only the first job and the current job. If participants have multiple working experiences, the possibility of having information about their first job is higher than for their second and third jobs. The differences in terms of income and job-related factors between the first job and current job will be larger than the rest of the jobs. Therefore, to match with people who only have one job experience, it is more suitable to use the last month's income of the first job to create the first wave. The monthly income of the second wave is generated from 2014 yearly wage income. We use yearly wage income divided by the number of months worked in 2014 for current job data.

To create the recall panel data, we extracted the retrospective data and appended two waves together. We extracted each job experience as a single observation and kept only the first job experience, appending the first job experience vertically with current job information to make panel data. For each participant, there are two observations (waves/entries) in the panel data.

In the panel data, a number of individuals change jobs multiple times in a year. To set up panel data correctly in the STATA software, the time unit is a month. The retrospective data contains information of the job's starting and ending month and year. This information can be converted directly. When narrowing down to a month unit, the only problem that exists is for the current job. The questionnaire asked for the starting year, not the starting month. Thus, we categorised the issue into two situations. If the participants started working in 2014, we traced the date by using December and subtracting the number of months they worked in 2014. If the participants started current work earlier than 2014, we attached *January* after the year they started working.

In conclusion, regarding the procedure of creating recall data, the recall data sample had 9,623 participants and two waves for each participant. The time unit is a month. The oldest entries are from 1965. However, due to the less economically fluctuating national background before 1980, entries before that time are included in 1980. Since the waves haven't been created according to time lapse, the panel data are unbalanced.

4.4.3 Sample profile

The final sample size in this chapter is 9,623. The total sample size of the 2014 CHIPs data is 61,162. We only study urban China, looking at urban residents and migrant workers, which reduced the sample population to 22,097. The sample age is set as working age, which is from 16–65 years old. This cut the sample population down to 16,926 participants. Only heads of households and their spouses responded to the retrospective data. After subtracting the missing observations, the final sample population is 9,623.

A general summary of sample statistics is in Table 4-3, which includes the percentage distribution of the sample and the average income for both waves. From the analysis in the last chapter, we see that self-employment no longer holds the lowest employment status in the labour market. In China, the benefits of self-employment

have increased the number of workers in the informal sector. Table 5.3 shows that the percentage of employees in the formal sector declined 4% from the first wave to second wave. In the informal sector, the number of self-employed workers increased 2.5% and 1.2% for employers. The unconditional average income of the second wave is twice that of the first wave. However, it is unknown whether average income growth is influenced by changing employment status. In general, female workers have lower income than male workers. In the first wave, migrant workers' income is higher than urban workers. Commonly, migrants should experience lower socio-economic conditions than urban workers. However, since the waves are not created by a specific year, this outcome may be caused by uncontrolled national economic growth and the age of workers. People who are older tend to have lower income in the first job due to a less-developed national economy. In the second wave, migrants' monthly income is lower than urban residents' income, which consist with reality.

For both waves, the average income gap between participants who have a higher education and those who don't is quite observable. Participants who don't have a higher education share a similar average income at any educational level, although the spread of the average income is larger in the second than that in first wave. The sample's average 2014 age, the data collecting year, is 46. The average age of leaving the first job is 28.

Table 4-3 Summary statistics of sample

Summary Statistics			
Variable	**Freq.**	**Percentage**	**Income**
Employment status of first job			
Employee	7,701	80.39	1421
Self-employed	1,662	17.35	1968
Employer	216	2.25	3467
Employment status of current job			
Employee	7,284	76.54	2992
Self-employed	1,898	19.95	2705
Employer	334	3.51	6137
Gender			
Male	5,065	52.63	1782(1st)/3566(2nd)
Female	4,558	47.37	1314(1st)/2459(2nd)
Hukou status			
Urban	8,605	89.42	1498(1st)/3048(2nd)
Migrant	1,018	10.58	2084(1st)/2993(2nd)
Education			
Primary and below	849	8.82	1414(1st)/1875(2nd)
Middle school	3,155	32.79	1367(1st)/2318(2nd)
High school	2,841	29.52	1478(1st)/2950(2nd)
College and above	2,778	28.87	1906(1st)/4313(2nd)
	Mean	**Std. Dev.**	**Skewness**
Age in 2014	45.88	9.80	-0.033
Age in first wave	28.28	8.93	1.12
Age in second wave	43.07	9.25	-0.16
Total working years	19.05	11.09	0.10
Monthly income of first wave	1559.86	2553.26	8.43
Monthly income of second wave	3042.24	3293.78	15.69
Observations	9,623		

Table 4-4 and Table 4-5 focus on ownerships and industries, which are job-related factors. Table 4-4 shows summary statistics of work unit ownership. It shows that the proportion of the labour force that works in SOE and collective enterprises has declined, and the proportion has increased for self-employed individuals and private enterprises. The average income in the second wave, in general, is higher than in the first wave, except for the public service unit, foreign enterprises and land contractors. The average income for self-employed individuals has the highest growth, which is around 2000 yuan. This is consistent with Rozelle's statement that self-employment in China is a sign of economic development. Diversified economic development in China has reduced the importance of government-related enterprises. Regardless of the restrictions in the formal sector, self-employment in the informal sector has a lower entry requirement and, in the unconditional table, a higher monthly income than formal sector workers, especially when workers accumulate more job experiences.

Table 4-4 Distribution and average income of ownership

Ownership of the work unit	% of 1st wave	Income	% of 2nd wave	Income
Government agencies and party agencies	4.93	2856	5.53	3720
Public service unit	14.71	2318	14.97	2175
Solely state owned/state holding enterprises	23.41	2482	19.51	2603
Collective enterprises	12.73	1379	8.24	1719
Sino-foreign joint venture/solely foreign owned enterprises	2.07	4266	2.14	3718
Self-employed individuals	14.67	3369	19.77	5339
Private enterprises	18.19	2283	21.38	2962
Land contractor	2.56	2930	1.44	1138
Others	6.73	1717	7.03	1720
Total	100.00		100.00	

Table 4-5 shows labour distribution by industry and the applicable average monthly income. A high proportion of labour enters the labour market through the manufacturing, wholesale, and retail trade industries. After accumulating job experiences, in the second wave, about 6% of those workers move out of the manufacturing industry (was 24.02%, now 18.60%); 3% move into the wholesale and retail trade industries (13.17%), and 2% move into the service industry (10.88%). Although they are natural statistics without a controlling year, the movement of labour between industries is consistent with the economic and structural development of China. The cluster of industries has shifted away from manufacturing due to high labour costs resulting from labour shortages and the 2008 New Labour Contract Law. The proportion of the wholesale/retail trade industry and the service industry (hotel and catering services, and services to households, and other services) increased in the second wave. The population that increased in the shifted industries are mostly informal sector self-employed workers. Later, empirical results show the importance of inter-industries transition, where industry changes contribute the most in explaining the changes in the income growth rate. In the following parts of this section, we provide a specific analysis of inter-industries transition by employment status.

Table 4-5 Distribution and average income of industry

Industry	**% of 1st wave**	**Income**	**% of 2nd wave**	**Income**
Agriculture, forestry, animal husbandry	6.03	1001	3.33	1541
Mining	3.24	1277	3.15	3103
Manufacturing	*24.02*	1190	*18.60*	2518
Production and supply of electricity, gas, and water	2.38	1164	2.28	3475
Construction enterprise	5.48	1843	5.41	3764
Transport, storage, and post industry	6.39	1976	7.38	3244
Information transmission, computer, and software industry	2.04	2979	2.17	5110
Wholesale and retail trade	*10.67*	2043	*13.17*	3065
Hotel and catering services	4.87	1650	5.32	2308
Financial intermediation	1.85	2548	2.27	5501
Real estate industry	0.89	2614	0.98	3741
Leasing and business services	3.05	1681	3.04	2851
Scientific research, technical service	0.58	1665	0.67	4413
Management of water conservancy, environment, and public facilities	0.92	1667	1.06	2909
Services to households and other services	8.52	1565	*10.88*	2342
Education	5.84	1381	5.63	3595
Health, social security, and social welfare	3.26	1394	3.67	3131
Culture, sport, and entertainment	1.59	1683	1.68	3475
Public management and social organization	8.36	1476	9.28	3351
International organizations	0.02	1717	0.02	2583
Total	100.00	1559	100.00	3043

Figure 4.2 and Figure 4.3 shows the distribution of employment status by years for the two panels. The fluctuations are very small and hard to observe overtimes for the initial job. Though, it shows that the density of being formally employeed tend to be lower since 2000. The tendency for self-employment and be employers increased since 2000. The tendency for the current job is observable. The tendency of employment in the informal sector, self-employed workers and employers, increased since 1994. Though, the trend for employers are more fluctuated than self-employed individual. As conclude, labour force are more likely to change jobs into informal sector when they possessed working experiences.

Figure 4.2 Employment status distribution by Starting year for initial job

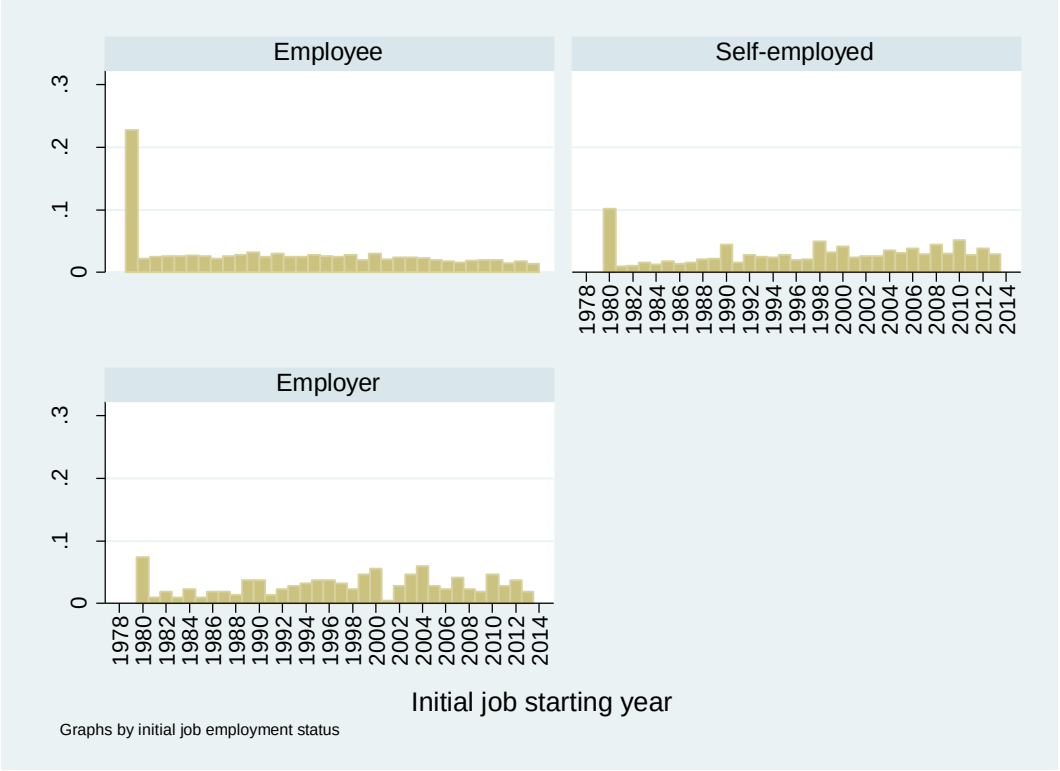
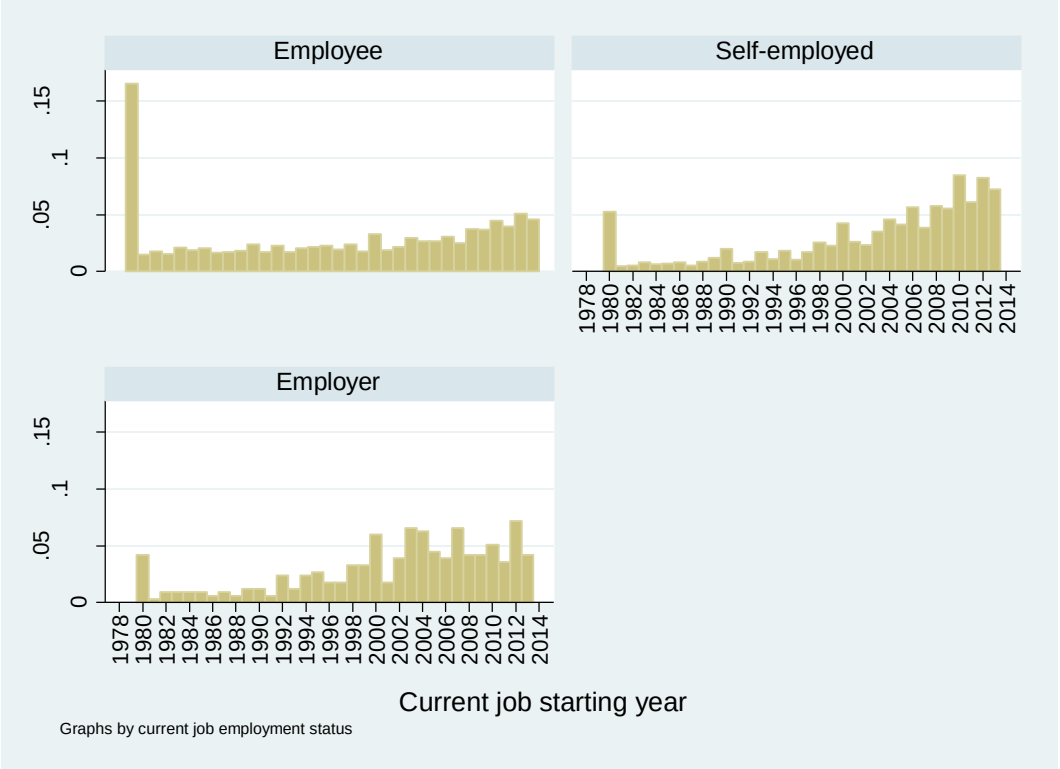


Figure 4.3 Employment status distribution by Starting year for current job



4.5 Descriptive data analysis: characteristics and pattern of employment status transitions

This section analyses descriptive data focusing on two aspects. The first aspect studies what kind of characteristics and patterns they share in employment status transitions. The second aspect explores whether their income has improved or deteriorated. We specifically illustrate gender, hukou status, education, age, ownership, and industry will be specifically illustrated.

4.5.1 Employment status transitions by gender

Female workers are more likely to be self-employed in the informal sector in their first jobs. If they started as formal sector employees, they are unlikely to transit to another employment status. Female employers, in general, are unlikely to hold their positions and are more likely to change to self-employment. Unconditional statistics shows that income inequality still exists between genders. Female workers who transition to the informal sector may not achieve income parity with male workers.

Figure 4.4 shows employment status by gender. The left three columns show gender distribution for first jobs; the right three columns show gender distribution for current jobs. Focusing on self-employed workers, a higher proportion of female workers enter the informal sector labour market as self-employed workers. Given that female participants in this sample constitute about 47% of the total sample, 53.9% of self-employed workers are female, which is a higher proportion compared to men. In the second wave[6], the proportion of female self-employed workers drops to about 9%. Due to the low threshold of entry into self-employed jobs, along with the fact that female workers are a vulnerable group in urban China, the high proportion self-employed women may indicate women are more likely to be excluded from the formal sector. This is consistent with the result of the multinomial logistic model. Entering the informal sector can help female workers. However, another explanation, as we have mentioned before, is that women can more easily enter the informal sector due to family-related issues, such as having children (Boden 1999; Budig 2006; Clain 2000). In the second wave, the proportion of male self-employed workers increased.

[6] The data in the right three columns (the second wave) only contain the population that has job-change experience; the samples size is 3,390.

According to Budig (2006), men are more likely to choose self-employment to attain a higher income return.

Figure 4.4 Employment status for two waves by gender

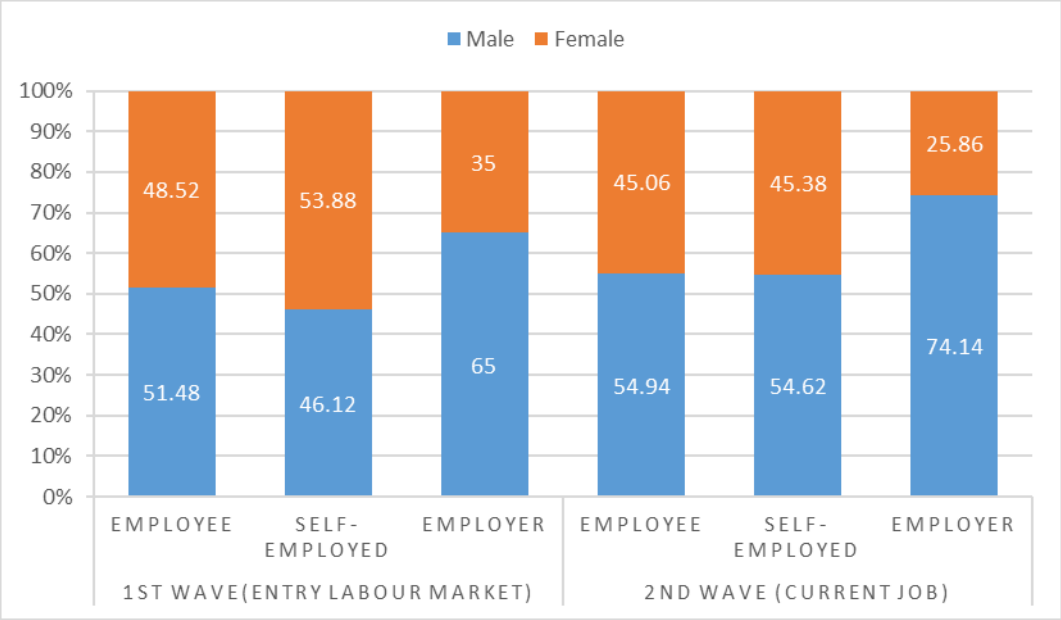
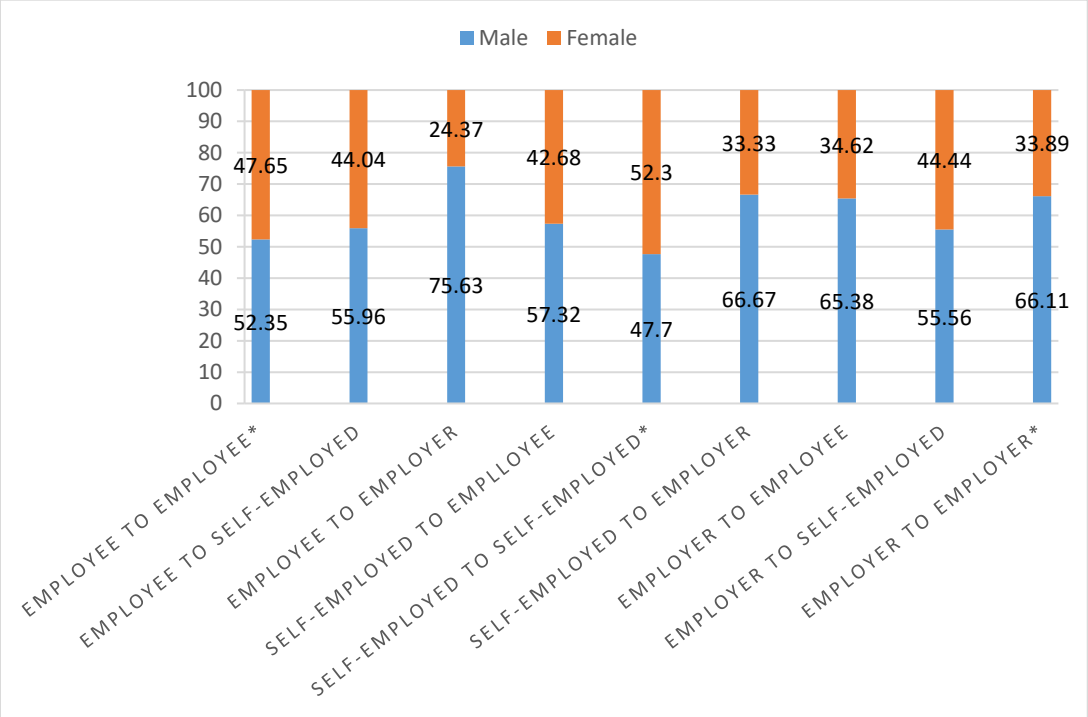


Figure 4.5 and Figure 4.6 show the pattern of employment status transition by gender. Figure 4.5 reveals that female workers are less likely to move around than men, especially to another employment status. Also, female workers are less likely to become employers if they change jobs. If they start as employers, they have a higher possibility of becoming self-employed. Transitions within the same employment status cannot represent the real movement made by participants who have job changing experiences. The decomposed population from job changes shown in Figure 4.6 illustrates two points: low movement if people start as employees in the formal sector, and a high tendency of women to be self-employed. If the first jobs of female employees are in the formal sector, they are unlikely to move out of that sector. The proportion of female employees who change jobs within the formal sector is only 3 % lower than people who don't change jobs. Combining Figure 4.5 and Figure 4.6, and focusing on people who move to self-employment, the proportion of female workers who are self-employed is quite high. Although the proportion of female workers changing jobs to self-employment drops compared to the initial size of entry into the labour market, the proportion of female workers who move to self-employment in both figures are generally higher than that in other transitions.

Table 4-6 shows the average monthly income of two waves by employment transitions. Female workers who transitioned from the formal sector to another

employment status generally have a lower increase in income than male workers do. The table shows that female workers tend to have lower initial job income than male workers. Although female workers might have a higher increase in some transitions, their income is still lower than males due to a lower initial income. Boden (1999) finds that women who have lower income returns are more likely to choose self-employment. However, in unconditional statistics, income increases from transitions to self-employment tend to be the lowest. The benefits female workers receive from working in the informal sector raises the question of whether female workers' income maximisation can be realized through self-employment, or whether their entry into self-employment is because the formal sector has excluded them. The fixed effects model will test this by applying gender interaction with employment status that is a time-variant factor. If the result shows high income return over time, then we can assume that self-employment can maximise the income of female workers.

Figure 4.5 Distribution of gender by employment status transition (all samples)



*The three groups, employee to employee, self-employee to self-employee and employer to employer, contains participants with and without job-changing experiences, which cannot reflect the employment transition for people who changed jobs within same sector. Please refer to the figure below for decomposed data.

Figure 4.6 Distribution of gender by employment status transition (sample separated by job change experience)

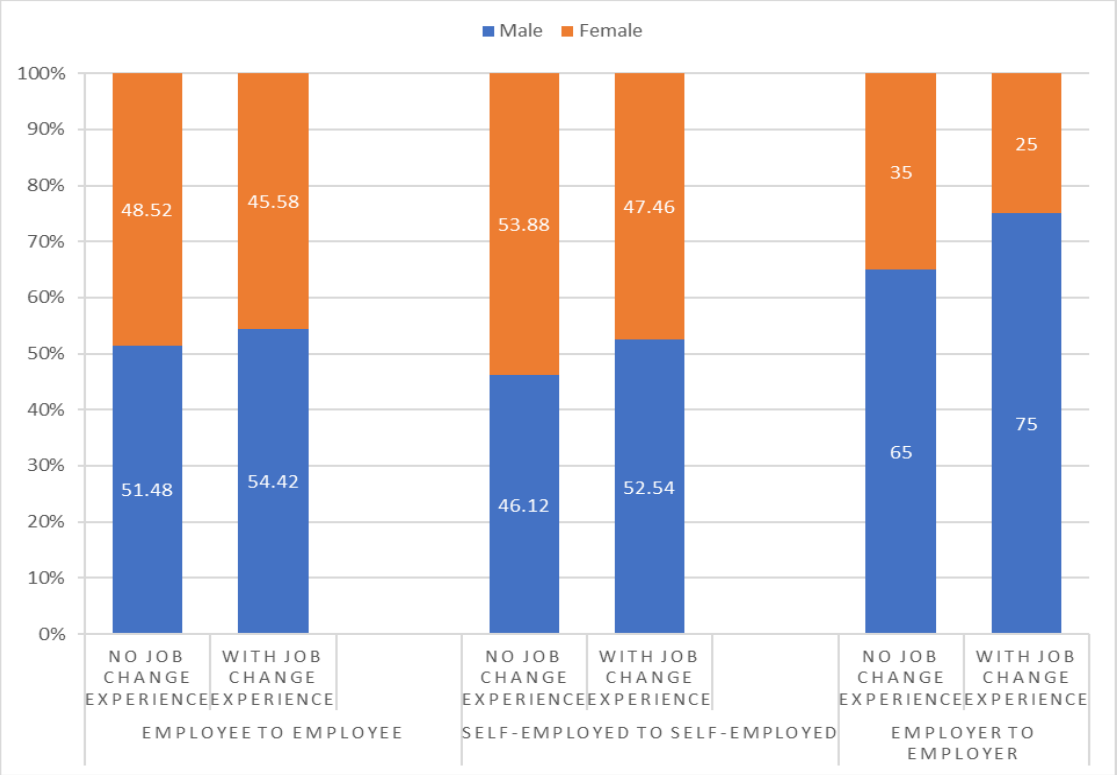


Table 4-6 Average monthly income by employment status transition

	Female			Male		
	Income 1st wave	Income 2nd wave	*Income2/ Income1*	Income 1st wave	Income 2nd wave	*Income2/ Income1*
Employee to Employee	1211	2478	*2.046*	1594	3506	*2.199*
Employee to Self-employed	1234	2334	*1.892*	1573	3056	*1.943*
Employee to Employer	1440	3536	*2.456*	1717	8112	*4.725*
Self-employed to Employee	1225	1829	*1.492*	1505	2608	*1.733*
Self-employed to Self-employed	1668	2197	*1.317*	2519	3232	*1.283*
Self-employed to Employer	1086	2851	*2.624*	1944	5247	*2.699*
Employer to Employee	1302	1918	*1.473*	2388	3036	*1.272*
Employer to Self-employed	1174	3138	*2.674*	1407	3350	*2.382*
Employer to Employer	3261	5742	*1.761*	3895	5977	*1.534*

4.5.2 Employment status transitions by hukou status

Institutional barriers still exist. Rural migrants are more likely than urban residents to work in the informal sector. Migrant workers suffer employment and wage discrimination in urban areas (Cheng, Guo et al. 2013). The wage gap has been significantly noticed (Yu and Chen 2012). Researchers find that migrants are more likely to be self-employed for the purpose of staying the urban areas (Cao, Li et al. 2015). They also find that, on average, self-employed migrants earn more than their urban counterparts despite education. These findings may indicate that transitions to

informal sectors may reduce the inequalities caused by institutional barriers as well as maximise income.

Figure 4.7 shows the general distribution of employment status by hukou status for two waves. The proportions haven't changed much for urban and migrant workers. The percentage of urban residents who are employees is around 80% for two waves, while only 50% of migrants work in the formal sector. Half of the migrant population work in the informal sector as self-employed workers or employers. This indicates that institutional barriers still exist and the degree of difficulty for migrant workers to engage in the formal sector hasn't decreased. We test this assumption though the fixed effects model by applying the interaction of hukou status and employment status. The results show whether informal sector work can maximise income, which may change the employment structure influenced by hukou status differences in the future.

Figure 4.7 Employment status distribution by hukou status

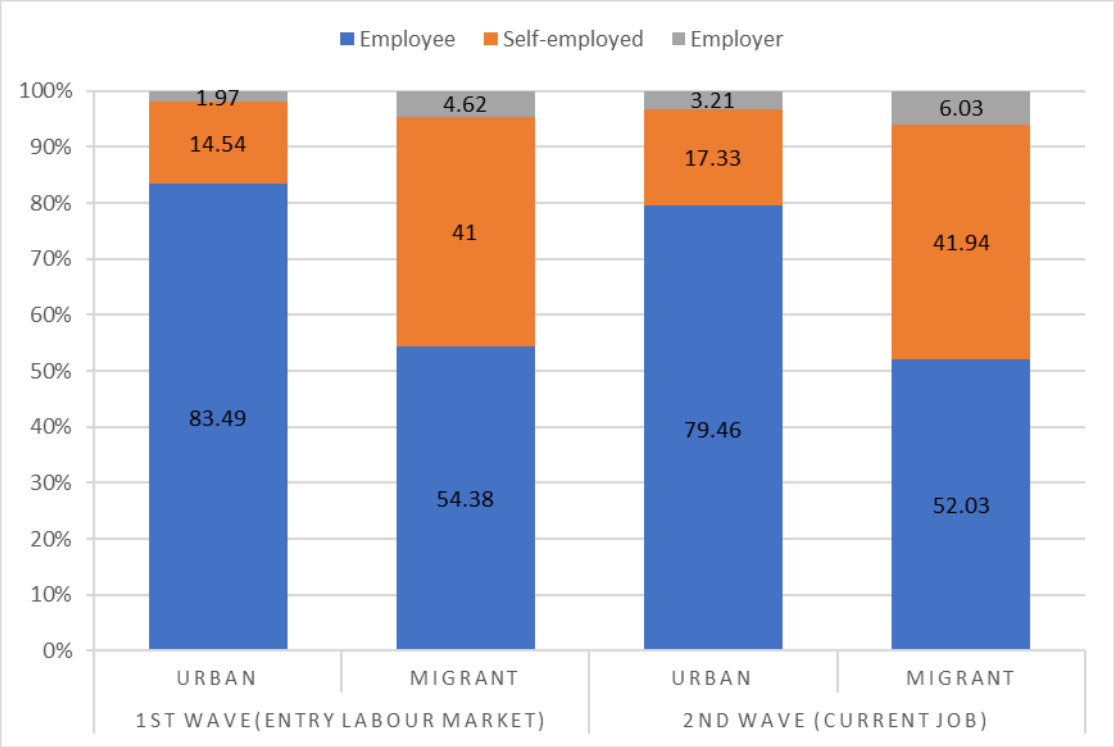
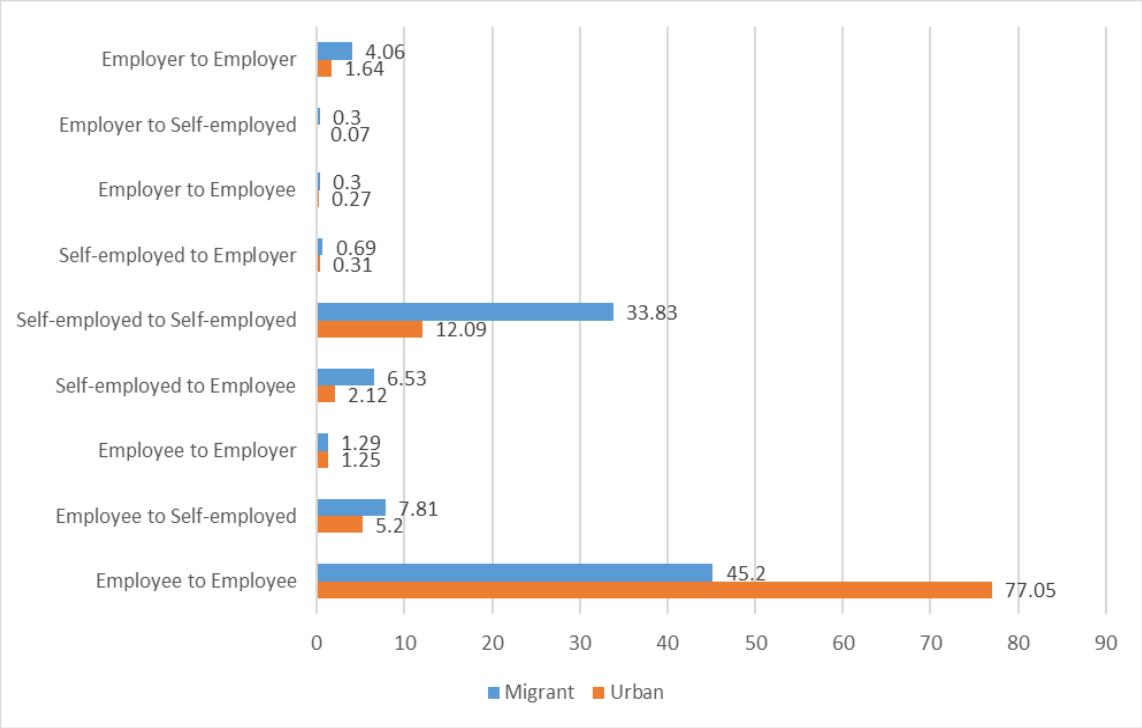


Figure 4.8 shows the distribution of employment status transition by hukou status, where 77% of the urban population change jobs within the formal sector, while 45% of migrant workers change jobs within the formal sector.

Migrant workers are more likely than urban residents to move out of the formal sector. They are also more likely to change jobs within the informal sector. However, for the transition from self-employed to employee status, the proportion of migrant

workers (6.5%) is 4% higher than the proportion of urban residents (2.2%). This pattern may indicate, although it is unknown whether self-employment can have a higher income return, that the stability and benefits of formal sector employment are still very attractive to migrant workers (Hart 2008; Pagés and Stampini 2009).

Figure 4.8 Distribution of hukou status by employment status transition



4.5.3 Employment status transitions by education

People with higher education are more likely to form their own businesses (Gudgin, Fothergill et al. 1979). With skills, technology, and more human capital, they can enhance productivity (Sanders and Nee 1996). Studies show that self-employed workers or small business owners with higher education are more likely to own and run successful businesses (Honjo 2004; Ramachandran and Shah 1999). However, our descriptive data shown below, revealing that people with higher educational levels are less likely to work in the informal sector, contradicts these findings.

Figure 4.9 shows the distribution of employment status by educational level for both waves. Here is how the percentage is calculated: for each educational level, one wave is equal to 100%. For example, for the first wave, % of employees +% of self-employed +% of employer in the primary school = 100%. The figure compares the distribution changes between the first job and the current job. It shows that, in the

formal sector, the percent of population increases while the educational level goes up. In the informal sector, the proportion decreases while the educational level goes up. The patterns change slightly from first to current job. The people who work in the informal sector increase slightly for every educational level. Table 4-7 describes the unconditional distribution of educational levels by employment status transitions. The pattern is similar to Figure 4.9. It raises the question of whether the formal sector has requirements for higher education, or the informal sector is more attractive than before.

In the fixed effects model, educational levels are applied with employment status to study how education may influence the monthly income of different employment statuses. Instead of four educational levels, only two educational levels are applied in the model: People with higher educational experiences and people with lower educational experiences. The reason for this action is that only employees and self-employed workers who have primary and middle school education are statistically significant. Other groups of participants are either insignificant or omitted. The problem may be caused by the small sample sizes of the statistically insignificant groups. The results are better if the groups are regenerated into two groups. We analyse this in the sections below.

Figure 4.9 Distribution of employment status by educational levels

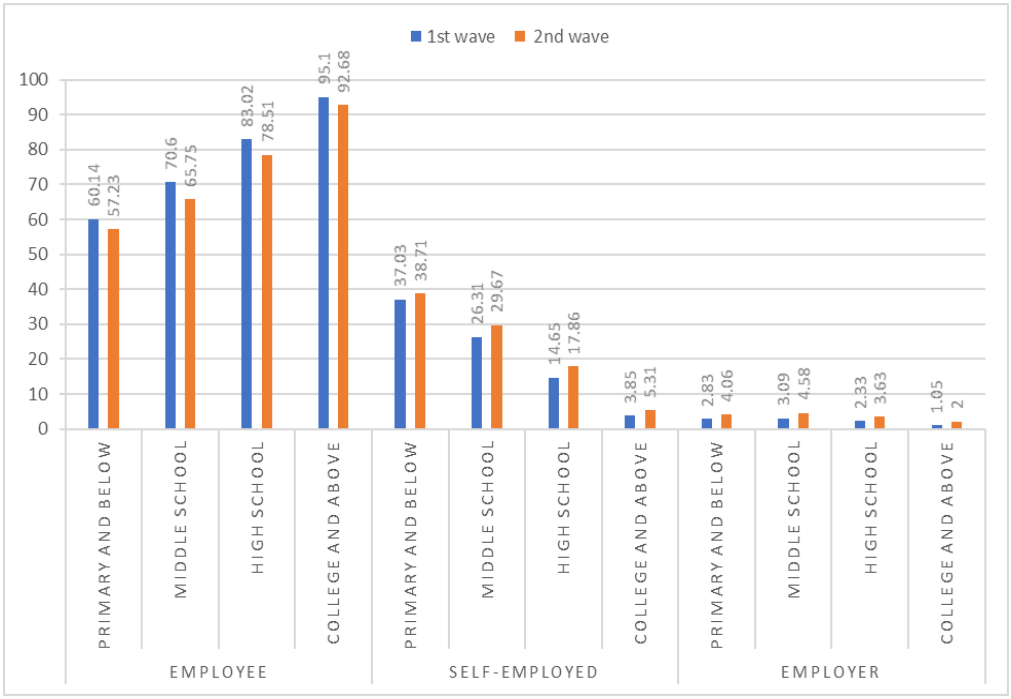


Table 4-7 Distribution of employment status transition by educational levels

	Primary and below	Middle school	High school	College and above
Employee to Employee	51.91	61.82	75.84	91.58
Employee to Self-employed	7.06	7.64	5.74	2.27
Employee to Employer	0.96	1.15	1.43	1.28
Self-employed to Employee	4.9	3.72	2.42	0.77
Self-employed to Self-employed	31.46	21.88	12.08	3.04
Self-employed to Employer	0.84	0.67	0.14	0.04
Employer to Employee	0.36	0.22	0.29	0.29
Employer to Self-employed	0.24	0.16	0.04	0.04
Employer to Employer	2.27	2.73	2.03	0.7
Total	100	100	100	100

4.5.4 Employment status transitions by age

Age is a control variable in both models. It is not statistically significant in both models. However, it is interesting to note the demographic change in employment status transitions. Table 4-8 shows the average age of entry to jobs for both waves. For example, the age of the first job in an employee-to-employee transition is 24.6 years, which is the age of entry into the labour market. The average age for entering for current job is 28.5, which is the age for the whole sample. The age for people with job changing experiences within the employee group transiting from one to another in the formal sector is 35.9 years. This table shows that transitions within the same employment status occur at a younger age than transitions from one employment status to another. Transitions from formal sector employment and from employer to self-employment takes a longer time than other transitions. It can be further proved that while the characteristics of self-employment may not be the safety net, self-employment has become a tool for maximising income.

Table 4-8 Average age by employment status transitions

	Age of first job (start year)	Age of current job (start year)	Gap (age2-age1)
Employee to Employee	24.6 (all)/ 22.6(changed)	28.5 (all)/ 35.9(changed)	3.9(all) / 13.3(changed)
Employee to Self-employed	22.4	38.4	15.9
Employee to Employer	21.2	35.5	14.4
Self-employed to Employee	24.0	36.9	13.0
Self-employed to Self-employed	28.5 (all)/ 23.1(changed)	31.7(all) /36(changed)	3.2 (all) / 12.9(changed)
Self-employed to Employer	21.7	36.3	14.6
Employer to Employee	24.0	35.7	11.7
Employer to Self-employed	22.8	39.4	16.7
Employer to Employer	28.8(all) / 24.9(changed)	30.3(all) / 38.9(changed)	1.6(all) / 14(changed)
Total	25.0	29.9	4.9

4.5.5 Employment status by ownership

During the period of China's planned economy, self-employment didn't exist. Before it appeared, ownership of the work unit reflected socio-economic status. The welfare system and non-cash form benefits have underlay the high social-economic status for employees in the SOEs and collective enterprises. With the development of China's market economy, private sector has shared the role of economic development of China's market. The effects of iron bowl have been reduced. Thus, ownership may not necessarily representative for socio-economic status. The tables below, using long recall data, reflect the impact of China's transition from a planned economy to a market economy on employment status.

Table 4-9 shows three important pieces of information on formal and informal sector development in China. Firstly, there are more people moving out of state-owned and collective enterprises. Secondly, private enterprises became a popular destination for formal sector employees. Finally, people who started in the informal sector and then moved to the formal sector tended to go into private enterprises, SOE and collective enterprises.

Table 4-9 shows the movement pattern of employment status by ownerships of work units for both waves. Ownership for the first job is 1st, which is the first wave of the data. Ownership for the current job is 2nd, which is the second wave of the data. The transition within formal sector employment shows that there is a 5% decrease in the ownership of SOE and collective enterprises. In other words, if the participants move jobs or have been promoted to different jobs within SOE and collective enterprises, 5% of them move out of the two ownerships. Since they remained as formal sector employees, their destinations are more likely to be private enterprises (increased by 4.6%). SOE, collective enterprises, and private enterprises are also inducing a high proportion of employees to become self-employed workers. On the other hand, if self-employed workers choose to become formal sector employees, they have a higher possibility of working in the above three ownerships, although the proportion in private enterprises is 40% higher than the other two ownerships.

This phenomenon is also applicable to employers who become employees in the formal sector. The pattern we have analysed is quite consistent with the development of China's economy. In the late 1990s, economic reform caused severe

labour retrenchment in SOE. The retrenchment also caused the bankruptcy of collective enterprises identified as township and village enterprises (Saich 2010).

Table 4-9 Pattern of employment status transition by ownership for both waves

Employment status	Wave	Government agencies and party agencies	Public service unit	Solely state owned/state holding enterprises	Collective enterprises	Sino-foreign joint venture/solely foreign owned	Self-employed individuals	Private enterprises	Land contractor	Others	Total
Employee to Employee	1st	6.36	19.18	***29.52***	***14.38***	2.56	0	***21.34***	0.44	6.22	100
	2nd	7.23	19.87	***25.98***	***10.63***	2.81	0	***25.98***	0.36	7.13	100
Employee to Self-employed	1st	0.77	7.31	***22.69***	***30.96***	2.69	0	***29.42***	0	6.15	100
	2nd	0.19	0	0	0	0	***92.31***	1.35	1.92	4.23	100
Employee to Employer	1st	1.68	7.56	25.21	30.25	2.52	0	28.57	0.84	3.36	100
	2nd	0	0.84	1.68	0.84	0	70.59	23.53	0.84	1.68	100
Self-employed to Employee	1st	0	0	0.82	0.41	0	57.96	0.82	24.08	15.92	100
	2nd	2.86	***8.57***	***8.16***	***10.2***	2.45	0	***51.02***	0.82	15.92	100
Self-employed to Self-employed	1st	0.07	0.22	0.07	0.37	0.07	78.87	1.83	10.27	8.22	100
	2nd	0.07	0.22	0.07	0.37	0.15	83.2	1.76	6.75	7.41	100
Self-employed to Employer	1st	0	0	0	3.03	0	60.61	3.03	18.18	15.15	100
	2nd	0	0	0	0	0	75.76	12.12	3.03	9.09	100
Employer to Employee	1st	0	***3.85***	***15.38***	***15.38***	0	***34.62***	***30.77***	0	0	100
	2nd	0	***15.38***	***11.54***	***11.54***	0	0	***50***	0	11.54	100
Employer to Self-employed	1st	0	0	11.11	11.11	0	66.67	0	11.11	0	100
	2nd	0	0	0	0	0	100	0	0	0	100
Employer to Employer	1st	2.22	1.11	1.11	1.11	0	80.56	8.89	3.33	1.67	100
	2nd	1.67	1.11	1.67	1.67	0	81.67	8.89	3.33	0	100
Total	1st	4.8	14.69	23.41	12.82	2.08	14.74	18.24	2.57	6.64	100
	2nd	5.46	14.96	19.45	8.22	2.15	19.83	21.43	1.45	7.05	100

4.5.6 Employment status transition by industry

In the fixed effects model, industry is a control factor. However, in the OLS regression model, transitions between industries have been found to be a major contributory factor to logged income change. For a full picture, this section examines how employment status changes between industry allocation. It will focus on three aspects: (a) distribution of employment status by industry, (b) employment status transitions by industry, and (c) industries changes by years. The descriptive analysis of transition will reveal the development of the informal sector by industries in China.

Table 4-10 shows the distribution of employment status by industries for two waves, revealing that the informal sector in China is clustered in labour-intensive industries. Around 50% of formal sector workers are in low-skilled industries. For self-employed individuals, high proportions are allocated in the wholesale and retail trade, hotel and catering services, and services to households and other services industries. The trend to be in the trade and services industries increases from first job to current job. For employers, the distribution of industries is slightly different than the distribution of self-employed workers. Employers cluster in the manufacturing, construction, wholesale and retail trade, hotel and catering services, and services to households industries. Around 40% of employers begin their business in the trade industry. Except for the hotel and catering services industry, the industries mentioned above have a decreasing tendency to retain employers from first job to current job.

The jobs of formal sector employees are protected by the restrictions and requirements of the formal sector. From the table below and the descriptive analysis of education and hukou status, we can assume that the entry thresholds of the formal sector are quite high. Some industries are occupied only by formal sector employees, such as the financial intermediation, scientific research, education, and public management and social organization industries. The proportion of self-employed workers and employers is very small in these industries. This phenomenon indicates that a segmentation exists between the formal and informal sectors, and China's industrial structure is stagnant in the labour-intensive industries.

Table 4-10 Employment status by industry for both waves

	Employee		Self-employed		Employer		Total	
	1st	2nd	1st	2nd	1st	2nd	1st	2nd
Agriculture, forestry, animal husbandry[7]	3.45	1.97	***17.98***	***8.45***	4.19	3.9	5.99	3.33
Mining	3.88	3.89	0.6	0.69	1.4	1.2	3.25	3.16
Manufacturing	***28.04***	***22.14***	7.36	6.12	***8.84***	***11.11***	24.02	18.56
Production and supply of electricity, gas, and water	2.93	2.92	0.06	0.21	0.47	0	2.38	2.27
Construction enterprise	5.22	5.16	6.22	5.65	***10.23***	***9.91***	5.5	5.42
Transport, storage, and post industry	6.31	7.03	7	9.24	5.12	4.5	6.4	7.38
Information transmission, computer services, and software industry	2	2.49	0.91	1	1.4	2.1	2	2.17
Wholesale and retail trade	6.77	7.44	***25.11***	***30.94***	***40.47***	***37.84***	10.7	13.2
Hotel and catering services	3.41	3.38	***11.53***	***12.09***	***6.05***	***9.01***	4.88	5.32
Financial intermediation	2.24	2.86	0.36	0.37	0	0.3	1.86	2.27
Real estate industry	1	1.09	0.42	0.63	0.47	0.6	0.89	0.98
Leasing and business services	2.94	2.77	3.68	4.12	1.86	2.1	3.04	3.01
Scientific research, technical service	0.72	0.88	0.06	0	0	0	0.59	0.67
Management of water conservancy, environment, and public facilities	1.12	1.33	0.06	0.16	0	0.3	0.91	1.06
Services to households and other services	***7.01***	***9.49***	***15.57***	***16.53***	***9.77***	***9.61***	8.56	10.9
Education	***7.14***	***7.15***	0.36	0.74	0.93	0.6	5.83	5.64
Health, social security, and social welfare	3.72	4.36	1.27	1.37	1.86	1.8	3.25	3.68
Culture, sport, and entertainment	1.64	1.66	0.84	1.32	6.05	4.2	1.6	1.68
Public management and social organization	***10.12***	***11.95***	0.6	0.42	0.93	0.9	8.27	9.27
International organizations	0.03	0.03	0	0	0	0	0.02	0.02
Total	100	100	100	100	100	100	100	100

In this paragraph, we analyse the patterns between industries by employment status transition. Due to the number of tables and their large sizes, we have placed them in the appendix. Table 1 to Table 9 in the Appendix B-Industries Transition illustrate, for each category of employment status transitions, the movement between industries. In general, like Table 4-10,

[7] In the table, the distribution in the agriculture industry should be clarified. Since the panel data can be traced back in 1965, the first wave percentages for self-employed individuals are quite high. With the development of collective enterprises from the early 1980s, rural people moved to urban areas to work in non-farm jobs in the TVEs. Their initial jobs can be farming-related jobs. Another group in the sample are migrants. They may have moved to the city once movement restrictions were removed, but they probably worked in the farming industry before they moved to urban areas.

Tables 1–9 in the Appendix show that the trade, catering services, and household services industries are all popular destination industries.

For employees, people who move within the formal sector tend to stay in the same industry. The most popular industry to move into for current job, if they move out from the initial industry, is the household services industry. People who change from formal sector employees to self-employed workers are more likely to start a business in the trade, catering services, or services to household industries, which may have a lower entry threshold. When they chose to be self-employed, it is unlikely they made that choice because they wanted to stay in the industry of their first job. For people who transitioned from employees to employers, the pattern is like that of employed workers transitioning to self-employed workers, except that the household services industry isn't popular for employers who want to set up businesses. If they were initially working in the catering services and trade industries, they are more likely to become an employer in the same industry.

The movement pattern for self-employed workers to the formal and informal sectors is quite different. People who transition from self-employed workers to employees are more likely to work in industries requiring manual labour, especially in the manufacturing and services to households industries. The initial industries tend to be the trade and services industries. Workers who started as self-employed and move to another form of self-employment are unlikely to change industries; at least 80% of the population stayed in the same industry. For people who change industries, the wholesale and retail trade industry is the one they most often relocate to. The group of self-employed workers who move to employers are generally located in labour-intensive industries, although the sample size is small: 33 in total.

Due to the small sample size (26), it is difficult to generate patterns in employment status transitions for those whose initial job is employer. People moving from labour-intensive industries, such as the trade, services, manufacturing, and construction industries, tend to relocate into low-skilled industries.

According to the data, we can assume that employees moving into self-employment believe they can receive higher income returns. Employer and self-employed workers moving to employees tend to have lower income

returns. The sample size for the group of employers choosing to be self-employed is only nine participants. This may indicate that employers may be less likely to move to self-employment. Due to time and data limits, we cannot test the above pattern and the reasons behind this phenomenon. However, this can be tested in the future by using the switch model and comparing the employer to self-employed groups and employer to employer groups to test whether the superstar model can be applied to the development of entrepreneurship in China. The sample size of the group that changes from one to another employer is 179, which is considerably larger than the above two groups. Unlike any transitional groups, their movement between industries are very stable; they normally remain in the same industry.

As a conclusion to the above analysis, there are three patterns of employment status transitions by industries:

- Transitions made within the same employment status have low movement between industries; they tend to stay in the same industries. These groups are: (a) Employee to employee (EE to EE), (b) Self-employed to self-employed (SE to SE), and (c) Employer to employer (ER to ER).
- Transitions into informal sector employment (self-employed workers and employers) are more likely to start a business in low-skilled industries, which are the trade industry and catering and household services industries. (These groups include EE->SE, EE->ER, SE->ER, ER->SE.)
- Transitions from the informal sector to the formal sector are more likely to relocate to manual, labour-intensive industries, which are the manufacturing, construction, trade, and services industries. (These groups include SE->EE, ER->EE.)

From the above conclusions, we can say the industrial structure in China is oriented to the labour-intensive industries. However, this phenomenon has also created opportunities for people to maximise income who are otherwise vulnerable. The fixed effects model shows that moving between industries may affect monthly income. Meanwhile, it is interesting to note

which year the popular industries thrived. The tables are located in the Appendix B-Industries Transitions from Table 10 to Table 29. Each table represents Each table represents employment changes from one industry to others industries yearly from 1980 to 2014.

Job movement into the wholesale and retail trade industry began to grow in the early 1990s; the peak time for transition was the late 1990s and early 2000s, until the most recent year of the survey, 2014. Transitions into the services industry started in the mid-2000s and were very active to 2014. The number of workers in the manufacturing industry has dropped significantly since 1997, when people began moving out of the manufacturing industry each year at a rate of between 40% to 60% of the total labour force. However, beginning in 2006, sample participants chose to relocate employment into the manufacturing industry, mainly from the construction and household services industries. This may indicate that when economic structure is upgraded in the manufacturing industry from low-efficiency wage production to technology-oriented manufacturing, wage efficiency may increase. There are fewer transitions to labour-intensive industries from professional-oriented industries, such as the education; health and social welfare; culture, sport and entertainment; and public management and social organization industries. However, most of these industries have low labour movement in general, and the movements, if they exist, are more likely to be into other professional-oriented industries. Regarding the industry patterns we have analysed thus far, people working in the informal sector prefer to set up businesses in the trade and services industries. Preferences for the trade and services industries have been increasing since the 2000s. The services industries have a positive influence on economic growth, directly or indirectly, depending on the regions in China (Wei and Cao 2007). Thus, working in the informal sector may not necessarily reflect an inferior position in the labour market.

To conclude, high entry thresholds into the formal sector still exist. People who are considered to be a vulnerable group—like female workers, migrant workers, and low-educated workers—are more likely to work in the informal sector. Industrial structures are clustered in labour-intensive industries. However, the development of labour-intensive industries may indicate that employment in the informal sector can fulfil income maximisation. The next

section illustrates empirical strategies for enhancing the analysis of what factors may contribute to income maximisation.

4.6 Empirical Strategies

We use two models in this chapter. The first model is the fixed effects model. It studies how change in employment status and other factors influence income maximisation. The second model, the OLS regression model, shows how changes in these factors influence the income growth rate.

The fixed effects model studies the changes for each individuals. The OLS model is to determine how the changes of job related factors (employment status, industries, ownerships and locations) impact on the changes of income. It is to observe the changes across the whole sample.

After running the fixed effects model, we question the representativeness of monthly income for income maximisation, especially for self-employed workers and employers. The self-reported earnings may contain different components for employees and self-employed workers. The reported earnings from employees only report the return to labour. However, the earnings for self-employed workers may also contain components of return to capital and return to the risk of entrepreneurships (Boden 1999; Budig 2006; Gindling, Mossaad et al. 2016). Therefore, casting the OLS regression model with status changing and time-invariant variables will identify what kinds of changes may induce changes to the income growth rate. In this section, we specifically control business fixed assets to minimize the deification between reported monthly income of formal and informal sector employment.

To understand whether change of employment status to the informal sector will influence income maximisation, we first estimate the fixed effects regression:

$$Y_{it} = \beta_1 * ES_{it} + \beta_2 * X_{it} + \tau_t + \epsilon_{it} \quad (10)$$

where subscripts i denote individual, and t is the ending year of first job or the last year of current job.

ES_{it} is the employment status of individual i in year t. Employment status are 1=employee, 2=self-employed and 3=employer.

X_{it} represent the vectors of individual job-related characteristics, including age, ownerships, industries, and provinces.

τ_t is the year of fixed effects. By applying year fixed effects, it may control the exogenous effects that may influenced by political and financial events over the years.

ϵ_{it} is the unobserved factor.

The main advantage of the fixed effects model is that, through analyzing panel data and removing time-invariant factors, endogeneity bias may be reduced. However, by applying the base model, we cannot identify whether personal characteristics have restrictions on achieving income maximisation by transferring between different employment statuses. In addition to the base model, we have decomposed time-variant variables (employment status) with time-invariant variables, to identify how employment status transitions with different personal characteristics can influence monthly income:

$$Y_{it} = \beta_1 * ES_{it} * P_i + \beta_2 * X_{it} + \tau_t + \epsilon_{it} \quad (10)$$

where P_i indicates time-invariant personal characteristics for each individual. It represents gender, hukou status (urban residents or migrants) and education (with or without higher education level). The regression will run with only one interaction at a time. For example, we run the fixed effects model for time-variant monthly income as a dependent variable, interacting the independent variable of employment status with gender and other controlled variables. With each interaction of gender, hukou status, and educational levels with employment status, three additional fixed effects regressions have been run.

The second model estimates whether transferring employment status can affect income growth rate:

$$\Delta lny_{it} = \beta_1 * \Delta X_{it} + \beta_2 * \Delta I_{it} + \beta_3 * \Delta O_{it} + \beta_4 * \Delta L_{it} + \beta_5 * P_i + \epsilon_i \quad (11)$$

where the dependent variable is the monthly income growth rate, calculated by:

$$\Delta lny_{it} = IncomeGrowthRate_i = (\ln(MonthlyIncome)_1 - \ln(MonthlyIncome)_0)/Years \quad (12)$$

where the logged monthly income of current job is subtracted from logged monthly income of first job. Both monthly incomes are the income from the last month of the job. Dividing the results by the year length between the two waves, we get:

$$Years = the\ last\ year\ of\ current\ job - the\ last\ year\ of\ first\ job \quad (13)$$

The year length is precise to the month; for example, one year and six months will be 1.5 years in the data.

The ΔX_{it} in the OLS regression model is the changes of employment status. It has nine categories capturing employment status change:

Table 4-11 Changes of employment status

Current job / Initial job	Employee	Self-employed	Employer
Employee	6,992 (EE->EE)	520 (EE->SE)	119 (EE->ER)
Self-employed	246 (SE->EE)	1,367 (SE->SE)	33 (SE->ER)
Employer	26 (ER->EE)	9 (ER->SE)	180 (ER->ER)

The ΔI_{it} indicates the changes between industries.

The ΔO_{it} is the changes between ownerships of work units.

The ΔL_{it} denotes the location changes between provinces.

The P_i denotes the controlled variables of personal characteristics that are fixed assets, hukou status, gender, age, education levels, disability status, quantity of past jobs.

4.7 Result discussions

This section reports the results of fixed effects and OLS regression modelling. It analyses the different impact of employment status on monthly income and other factors that may influence monthly income over time. The results analysis focuses on five aspects: employment status, capability factors, institutional barriers, exogenous factors, and other controlled variables.

4.7.1 Fixed effects model

The results show self-employed and employers in the information sector can earn more monthly income than formal sector employees. Lower-

educated workers can reduce the income gap by entering the informal sector. Also in this sector, self-employed female workers have a smaller income gap with formal sector employed male workers. The inequality of hukou status as an institutional barrier is not diminished when formal sector workers transfer to the informal sector. Shifting out of SOE and collective enterprises has a positive impact on monthly income. The popular relocation of ownership is private enterprises and self-employment. Moving out of labour-intensive industries to professional-oriented industries indicates a higher disposable income return. Transitioning from the manufacturing industry to more risky industries, like mining and construction, results in a positive income return. Full results are shown in Table A.0-1 in the Appendix A.

1.1 Employment status

Employment status is the main concern in this chapter. The fixed effects model tested whether people working in the informal sector are financially inferior to those who work in the formal sector. The previous chapter identified the impact of the 2008 New Labour Contract Law, which created more job security for people who are able to find formal sector employment but squeezed out more vulnerable groups into the informal sector. That chapter also found that people who work as business owners in the informal sector are not always vulnerable or poor. The informal sector may be an optimal choice for people who cannot fit into formal sector employment. Although here the definition of employment status is slightly different[8] than it was in the last chapter, the results are still meaningful for studying the formal and informal sectors.

The results show that the monthly income of formal sector employees is the lowest among three employment statuses. Self-employed individuals earn 25.7% more than formal sector employees; and employers earn 53.4% more than formal sector employees. Self-employed individuals have a higher financial achievement than formal sector employees. In the previous chapter, we proved that—for people who may share vulnerable factors (women, the disabled, those with low educational levels and those who are unskilled)—running a business provides benefits such as job flexibility. The results show

[8] The employment status in last chapter was defined as formal and informal employments. The classification is types of ownership. The employment status in this chapter is self-reported employment positions and ownership.

that self-employment not only provides job autonomy but also enhances financial welfare.

Table 4-12 Fixed effects model results for employment status, other variable controlled

Employment status	Coef.	P-value
Employees	Reference	Group
Self-employed individuals	0.257	0.014
Employer	0.5342	0.000

1.2 Capability factors

The results in previous chapters show that factors such as education, personal identity, and physical characteristics impact employment status. Lack of certain capabilities can make workers less competitive in the labour market. In this section, we analyse how an individual's personal capabilities, like educational level and skills, impact employment achieve income maximisation. Educational level is the main factor reflecting an individual's capabilities. Personal identity factors are hukou status and gender. These variables are time-invariant. To study their impact on income, we have regrouped them with a time-variant variable: employment status. We interacted the time-invariant variable with employment status to test whether these factors contribute to income maximisation.

Unfortunately, physical capabilities cannot be tested like they were in the last chapter. Physical capabilities are time-variant and cannot be interacted with employment status. One of the weaknesses of recall panel data is that memory information of past jobs is often quite limited. The recall panel data doesn't contain an individual's memory of his or her physical condition on previous jobs.

While unfortunately we cannot test how physical capabilities impact monthly income in this paper, other researchers have made the effort and have contributed to this knowledge. Li and Zhu (2006) found that, in China, people who report better health earn a higher income than people who report poor health. Burchardt (2004) concluded that, to achieve the same subjective wellbeing, families with disabled members need more income than families with non-disabled members, due to extra required expenditures like additional heating and personal assistance services. Inequalities from physical vulnerabilities exist. Income may not be an appropriate way to measure these

inequalities, since people with physical vulnerabilities have unique needs and expenses.

Education

Educational level has long been acknowledged to be one of the main factors contributing to the value of human capital. A higher educational level will increase an individual's competitiveness in the labour market and result in an income higher than what people with a lower educational level will receive. In the fixed effects model, we interact employment status with higher educational levels. Employees without higher educational level are the model's reference group. The result shows that highly-educated people working in the formal sector earn less income than people who have less education working in the informal sector. The pattern applies to all three types of employment statuses. In the formal sector, employees who have higher education earn 60% less than employees with less education. In the informal sector, self-employed workers with higher education earn 43% less than self-employed workers with less education; however, the value is insignificant for this group due to the small sample size (253). Employers with higher education have been omitted from the model results due to the small sample size (84). Although the impact of a higher education on income is negative, the pattern for employment status with the same education level doesn't change. Self-employed workers with a higher education earn 40% more than employees.

Table 4-13 Results for employment status by education

Employment status—Education	Coef.	P-value
Employee—No higher education	Reference	Group
Employee—Equivalent to higher education or above	-0.5939	0.002
Self-employed—No higher education	0.2357	0.027
Self-employed—Equivalent to higher education or above	-0.1948	0.405
Employer—No higher education	0.5104	0.002
Employer—Equivalent to higher education or above	0	Omitted

This result is quite different from the available literature on human capital accumulation. Most of the literature supports the idea that the income return rate will increase if the value of each person's human capital increases, and education is one of the main factors increasing this value. However, we found quite different results in our study, probably for two reasons. Firstly, people with higher education may have longer job tenure, less job movement,

and may be less likely to take risks. The results in the last chapter prove that longer job tenure will positively increase the probability of formal sector employment and lower the possibility of informal sector self-employment. The descriptive data also shows that more than 90% of people with higher educational levels work as formal sector employees, which makes employees with higher education less likely to change jobs. With *the job matching theory*, longer job tenure can't result in earnings growth over time, regardless of a good or poor match. However, efficient turnover can improve the quality of the job match, which may result in an increase in income (Altonji and Williams 1992; Stephens Jr 2004). The final explanation is related to family income. If the income per capita is very high, people with higher education probably have less incentive to change jobs for higher income returns or move into self-employment. A stable income may be a kind of income security for the household.

To test whether the above assumptions explain the negative return rate of education, we tested how education impacts per capita income through OLS regression modelling on 2014 CHIPs data (Table A.0-2 in Appendix). The dependent variable is logged household income per capita (IPC). Independent variables are employment status by educational levels and other controlling variables (hukou status, gender, age, marital and health status, working year length of current job, occupation, industry, ownership, and province). The reference group of employment status by educational levels is employees without higher educational experience. The result corresponds to the above assumption. It shows that IPC for people with higher educational levels is higher than IPC for people with lower educational levels. The patterns are similar for the three employment statuses.

As mentioned above, with the same employment status, workers who have higher educational levels earn less monthly income than workers with lower education levels. Testing through the OLS regression model supports the above assumption that people with higher educational levels have more household income, although their personal income may be low. High household income may reduce the incentive to pursue higher personal income, or stable personal income may be a strategy for families with high total income.

Gender

Women favour self-employment due to its time management flexibility. They usually have more responsibility for raising children and taking care of household needs; thus, they are often considered a vulnerable group. Women often view self-employment as a substitute working option due to the time constraints of female workers. However, the results show a different hierarchy of employment statuses. In general, women earn less than men do, no matter which employment status they change to. Gender inequality didn't change over time. However, comparing self-employed individuals to employees, both female and male self-employed workers can earn more than employees in the same gender group. Interestingly, female self-employed workers earn only 3.5% less per month than male employees working in the formal sector. The results show that self-employed women not only earn more than female employees in the formal sector but also earn similar income to male employees working in the formal sector. In other words, although female self-employed workers still earn less than male self-employed workers, self-employed females now earn almost the same monthly income as male employees in the formal sector.

Table 4-14 Results for employment status by gender

Employment status—Gender	Coef.	P-value
Employee —Male	Reference	Group
Employee—Female	-0.2544	0.181
Self-employed—Male	0.2788	0.012
Self-employed—Female	-0.0351	0.848
Employer—Male	0.6409	0
Employer—Female	0	Omitted

Institutional barriers

Hukou status is an indicator of an institutional barrier. Our samples target people in urban areas. We interacted migrants (who have rural resident status but work in urban areas) and urban residents with employment status. The results show (unlike the gender inequality issue, which can be improved if women transfer to the informal sector) that the institutional barrier issue remains a concern. The income gap between migrant workers and urban residents is enormous. In the employees group, migrant workers earn 136% less than urban residents. The situation of self-employed migrant workers is slightly better than employed migrant workers; they earn 106% less than

employed urban residents. For urban workers, employers have the highest income; self-employed urban workers earn 29% more than employees. Although the inequality of the institutional barrier issue is large, the results show that people can earn higher incomes from informal sector self-employment than from formal sector employment. This applies to both migrant workers and urban residents. Self-employed migrant workers earn 30% more than migrant workers employed in the formal sector; and self-employed urban workers earn 29% more than urban workers employed in the formal sector.

By analysing capability and personal identity factors that may lead to vulnerable positions in the labour market, we can conclude that vulnerable characteristics have a negative impact on income maximisation. However, if individuals are self-employed or have their own businesses, they can earn more than those who are employed in the formal sector.

Table 4-15 Result of employment status by hukou

Hukou	Coef.	P-value
Employee—Urban	Reference	Group
Employee—Migrant	-1.3607	0.000
Self-employed—Urban	0.2895	0.007
Self-employed—Migrant	-1.0629	0.000
Employer—Urban	0.4283	0.000
Employer—Migrant	0	Omitted

1.3 Exogenous factors

In this chapter, we consider exogenous factors as political and economic changes. To minimize the impact of exogenous factors on changes in individual income over the years, we created year dummy and province dummy variables. Year dummy variables are derived from the year workers leave a job. If they are currently working in a job, the year dummy variable is 2014. Province dummy variables are the province location of that job. Year dummy variables can control economic and political events, such as a financial crisis. Province dummy variables can control local policy changes, such as differences in policy implementations across China.

In this data, the labour force movement between provinces is not fluctuant. Some provinces received few workers, such as west region provinces. Instead of analyzing provinces with many statistical insignificances, we categorized provinces into three groups: east region, central region, and west

region. As the results show, over the years, income patterns across the country didn't change. For example, if workers move from the east region to the central region, their monthly income would decrease 25%. The west region is not statistically significant.

The proxy for the year dummy variable is 1997. The fixed effects model result clearly reveals the financial crisis event that hit Eastern Asia. The impact on monthly income is negative prior to 1997; it is positive after 1997. Beginning in 1980, the economy began to grow. In 1989, however, monthly income dropped dramatically, brought on in 1988 when the government transformed the planned economy to a market economy. The inflation rate increased, which led to government financial retrenchment. The negative effects from these events began to appear in 1989. This corresponds to the fixed effects results: monthly income decreased 27% beginning 1988. In 1990, after the government's adjustment, the supply and demand chains balanced out and positively impacted the economy. After 1997, China's economy steadily and positively grew. These analyses show that, although provinces and time cannot eliminate all exogenous influences, they can positively reflect history and should have the power to lower the impact from uncontrolled factors.

1.4 Other controlled variables

In the fixed effects model, ownership and the industries is controlled. Analyzing the impact of ownership and industry on the monthly income of individuals will help to illustrate financial structure changes over time.

Ownership

Ownership indicates social class and income in the 1980s in China. Employees who work in state-owned enterprises indicate they have higher social status, higher incomes and better social benefits than those who work in collective-owned enterprises or as peasants (Saich 2010). We analysed whether this rule has changed over the years. The results show that this rule has been affected by the rise of foreign companies and private enterprises. Although the numbers are not statistically significant, changing jobs from a government organization to a foreign company has a positive impact on income. The impact on income from changing jobs to private enterprises is negative but not significantly large; the coefficient is 6%. The worst impact on income is for

workers to become land contractors[9]. Except for land contractors, the other two ownerships are self-employed individuals and collective enterprises.

The results are equivalent to the fact that the autonomy of collective enterprises decreased dramatically (Saich 2010) as we have mentioned in the above descriptive data analysis. Changing jobs to collective enterprises would reduce monthly income by 36%. Self-employed individuals have a similar coefficient with collective enterprises. Transferring to self-employment will reduce monthly income by 35.8%. Self-employment ownership may still look quite weak, but with the growth of private enterprises, self-employment may begin to provide more opportunities in the future.

Industry

The proxy for industry is the manufacturing industry. There are six industries that are statistically significant. The agriculture industry is the only one that has a negative impact on income, which is 35% lower than the manufacturing industry. This can explain why rural residents want to migrate to urban areas to find jobs. The industries that have statistically significant and positive increases in income are the mining (35%), construction (23%), financial (65%), and real estate (63%) industries. When workers move to the mining and construction industries from the manufacturing industry, they must accept the uncertainty of injury and job stability. Therefore, although jobs in the mining and construction industries are low-skilled jobs, the dangerous nature of such jobs may increase income[10].

Income increases are almost doubled in the financial and real estate industries over the mining and construction industries. This indicates that

[9] The number of people working as land contractors is 384 or 2% of the total population. That is just slightly lower than the number of people working in foreign companies, which is 406. We considered moving land contractors to another group. However, this group shouldn't be neglected. The job of a land contractor is to collect rent from peasants for cultivation. It can be understood as unemployed with rent as income.

[10] There may be an omission in the results. Monthly income that is stated as a dependent variable is the income of the last month of the past job. They may have a longer period of unemployment than workers in the manufacturing industry. Alternatively, we can adapt yearly income to calculate monthly income. However, there isn't any information available for yearly income for past jobs. Although the results may not be accurate enough to report income differences, they are not far from reality. According to the National Bureau of Statistics, in 2014, the average yearly income of mining industry workers (60,138 Yuan) was 29% higher than that of manufacturing industry workers (46,431 Yuan). However, the average yearly income of construction industry workers (42,072 Yuan) was relatively lower than the income of workers in the manufacturing industry.

income can increase with knowledge and skills. According to China's National Bureau of Statistics, in 2015, people who worked in the financial industry received the highest average yearly income.

Other industries having negative impacts on income are statistically insignificant and have similar coefficients with the manufacturing industry—from 1% to 4%. Most of these industries are in the tertiary sector, such as the wholesale and retail sectors, and hotel and catering sectors. Industries that have higher positive impacts on income but are statistically insignificant tend to be technology-related industries, such as the scientific research and technical service industries.

4.7.2 OLS regression model results analysis

The OLS regression model results (Table A.0-3 in Appendix A) for capturing logged income change are different from the fixed effects model results. Employment status transitions are not very statistically significant compared to logged monthly income change. Personal characteristics, including employment status transitions, contribute little to the explanations of logged income change. Industry transitions and ownership transitions contribute the most.

Comparing the group of people who changed employment status from employee to another employee (EE->EE), only the transitions from employee to self-employed (EE->SE) and self-employed to employer (SE->ER) are statistically significant. People who change from employee to self-employed can increase their monthly income growth rate by 7.4% more than if they change from employee to employee, the reference group. People transitioning from self-employed to employer (SE->ER) realize an income growth rate 8.5% higher than those who transition from employee to employee (EE->EE). This pattern of employment status transitions is different from the fixed effects model results. Transitions to employers have a lower income growth rate than transitions to self-employed workers. As we mentioned in previous literature reviews on monthly income, the monthly income of self-employed workers may include business costs, such as regulation costs, which cannot truly reflect their labour value. Although applying the logged monthly income change

deducts most business costs that may be reflected in reported monthly income, the business costs may be different during specific time periods. Thus, this can be one of the reasons why the income growth rate resulting from transitions to self-employment are higher than from transitions to employers.

Because of this issue, we have controlled fixed assets. By controlling business investments for self-employed and employers, we can compare their income growth rate to that of formal sector employees.[11] This variable has been regenerated into a dummy variable, where the proxy dummy is 0. This group is comprised of formal sector employees who don't own a business. Compared to the income growth rate of formal sector employees, small business investments between 0~25000 yuan decrease income growth rate, and large businesses investments between 500,000~6,500,000 yuan increase income growth rate. Both impacts are statistically significant. Other personality variables are generally not significant; the variables are gender, hukou, age, age^2, disability, and the number of jobs worked. As for educational levels, only people who have college experience and above are statistically significant. Compared to an educational level of primary and below, this positively impacts income growth rate.

We ran OLS regressions (Table A.0-3 in Appendix A) by adding one variable at a time to check contributions to the adjusted R-squared (R2) for a representative of the sample. The regression with all variables has 0.07 of the adjusted R2. The regression of only personal characteristics contributes 0.0039 to the overall R2. Adding industry into the OLS regression contributes 0.059 to the adjusted R2, and adding ownership contributes 0.023. Transitions between provinces don't significantly contribute to the representative of the sample. We found that employment status transitions and other personal characteristics don't have a significant impact on income growth. However, transitions between industries can significantly impact the income growth rate.

[11] However, we have discussed the mathematical issue of double-calculating controlled fixed assets for self-employed workers and employers. Since their business costs may already be included in monthly income calculations, applying fixed assets will amplify the monthly income differences between formal sector employees and informal sector employees. When tests running the regression without fixed assets are done, the patterns, in terms of coefficient and *p*-value, don't change much. Therefore, we choose to leave it in the table to show more information.

The result is consistent with the research results of Dickens and Katz (1986). Their results show that industry differences explain at least 6.7% of inter-personal wage variation, and individual characteristics contribute little to an explanation of wage variation.

Regarding industry transitions, the movement from manufacturing to manufacturing is the proxy. Transitions from manufacturing to other industries generally have a positive impact on the income growth rate, except transitions to trade and services industries, which have a negative influence. As we mentioned in the fixed effects model results, the mining and construction industries tend to have higher income returns than the manufacturing industry. The OLS regression model reveals similar results, where transitions from the mining and construction to other industries tend to have negative impacts on the income growth rate. The mining and construction industries have higher income returns than other labour-intensive industries. Moving out of trade and services industries (not including the farming and manufacturing industries) tends to have a positive impact on the income growth rate. Transitions between the trade and services sectors show that the income growth rate will be higher for the services sector than for the trade industry. Transitions from professional-oriented industries (information transmission; computer services and software; financial intermediation; real estate; leasing and business services; scientific research and technical service; management of public facilities; and education) to labour-intensive industries tend to have a negative impact on income growth rates. Positive impacts are related to entering other professional-oriented industries.

To check why personal characteristics results are different from fixed effects results, we applied truncated regressions (Table A.0-5 in Appendix) and quantile regressions. Truncated regressions study which group of employment status transitions is not significant to the data. Quantile regressions dig up more information patterns by the distribution of income growth rates. Truncated regressions results show that the transitions of: (a) Employee to Self-employed, (b) Employee to Employer, and (c) Self-employed to Self-employed make contributions to the overall results. We can state that employment transitions to the informal sector can impact income growth rates. Transitions that have small sample sizes tend to be invalid. These transitions are (a) Self-employed

to Employer (30), (b) Employer to Employee (25), and (c) Employer to Self-employed (9). Other transitions that have low or negative values in adjusted R2 may indicate outliers in the income growth rate. We applied quantile regressions for this reason.

Quantile regression results (Table A.0-4 in Appendix) show that pay differentials are not uniform along the earnings distribution. The results show that factors influencing income growth rates are impacted differently in various percentiles. In the 75th percentile, most of the factors are statistically significant. In the regression of the 75th percentile, the patterns of employment status transitions are similar to the results of the fixed effect model. Transitions from the informal sector to the formal sector can negatively impact income growth rates, which is consistent with the descriptive data analysis. Age has a negative impact in the lower percentiles (0.1 and 0.25) but a positive impact on the higher percentiles (0.75 and 0.9). To be a female has a negative impact on income growth rates in percentiles below 50 and is not statistically significant in percentiles higher than 50%. To be a migrant has a positive impact on income growth rates in the regressions higher than the 59th percentile. In the 50th to 75th percentile regressions, as educational levels rise, income growth rates rise. The quantile regression results are similar to the fixed effects model results, which have been found to be in the 50th to 90th percentiles.

Finally, regarding the tested models, we applied the impact from personal characteristics only to the upper percentiles of income growth rates. To increase income growth rates, workers must either transition upward from labour-intensive industries to higher income return industries, or they must change employment status from the formal to the informal sector.

4.8 Conclusion

In this chapter, we studied whether employment in the informal sector can achieve income maximisation. In previous chapters, we found that self-employment is no longer a 'safety net' for unemployed workers. The income maximisation tests undertaken in this chapter confirm these findings. This chapter explored the impacts of employment status changes on disposible monthly income. It generated retrospective data from 2014 CHIP cross-

secontional data, and analysed by applying fixed effects mode. OLS regression model is applied as well to test the change of income growth rate. Personal characteristics and job related factors are controlled in both models.

These results show that informal sector self-employed workers earn 26% more monthly income than formal sector employees. Informal sector employers earn 53% more monthly income than formal sector employees. The results reveal that income maximisation can be achieved for labour in the informal sector by increasing disposable income.

Within the urban labour market, vulnerability-induced inequalities still exist. However, workers can mitigate these inequalities by entering the informal sector. Inequalities are also reflected in educational level and gender. Workers with higher educational levels are more likely find work in the formal sector but receive less monthly income than informal sector self-employed workers with insufficient education. Female workers are more likely to enter the informal self-employment sector, and once there, they have a low possibility of movement. Although self-employed females have lower income than self-employed males, they have less of a disposable income gap with male employees working in the formal sector. This indicates that, although gender inequality exists, it can be minimised when women enter the informal sector. The inequality of hukou status cannot be reduced by self-employment. Here, the income gap is wide and hasn't decreased over the years.

Employment status and personal characteristics do not contribute to an explanation of income growth rates, as they are statistically insignificant. In the OLS regression model, we found that industry and ownership transitions contribute the most to an explanation of income growth rates. The results are consistent with the studies of the efficiency wage of inter-industry transitions (Dickens and Katz 1986). Scholars believe that if the conditions necessitating efficiency wages are varied across industries, then the workers are paid differently according to industry affiliation (Katz 1986; Stiglitz 1984; Yellen 1995). In both the fixed effects and OLS regressions models, the results show that transitions from labour-intensive industries to professional-oriented industries have positive impacts on income growth rates. Within labour-intensive industries, transitions from the manufacturing industry to the mining and construction industries show positive impacts on income growth rates.

Transitions of ownership are consistent with the development of structural reform. The population located in state-owned and collective enterprises has declined over time. Private enterprises and self-employed individuals have become popular destinations for ownership transitions.

To conclude, people can achieve income maximisation by increasing disposable income. Although workers entering the informal sector may not necessarily increase income growth rates, we have shown that workers in the informal sector can earn higher disposable income than workers in the formal sector. Changing industries can also contribute to income growth. We suggest that self-employment should be encouraged by the government for both individual satisfaction and social stability. Carrying out industrial structure upgrades is also necessary to increase income growth rates for workers.

Chapter 5 Conclusion

This thesis investigated employment in China's labour market. The ILO has classified the informal sector as a 'safety net' for lower-skilled and vulnerable workers (ILO 2012). Others have considered it as an important method of resolving unemployment issues for the government. Recent studies have demonstrated that increasingly, highly-skilled workers are choosing employment in the informal sector to pursue a career (Blanchflower and Oswald 1998; Carr 1996; Gindling, Mossaad et al. 2016). However, it is not clear whether informal sector employment is a substitute for unemployment or an optimal choice for career enhancement in China.

The informal sector in China is unique. The Chinese government had a centrally planned economy from 1958 until the early 1980s. The informal sector made an appearance after the government abolished the planned economy. Retrenchment by the formal sector and rural to urban migration created a large surplus labour force. Lack of capital resources and formal sector job opportunities contributed to the birth of the informal sector. Informal sector workers are more likely to do low-skilled work, like polishing shoes, selling fruits, and the like. Thus, informal sector employment has increased. Unfortunately, government authorities do not yet recognize informal sector employment. This raises difficulties for researchers who want to study this sector.

This thesis analysed informal sector employment in China. It focused on three aspects: (1) the pattern and determinants of what constitutes employees, casual workers and employers, (2) the reasons for employment changes between the formal and informal sectors, and (3) remuneration differences between formal sector employees and informal sector self-employed workers/employers. This analysis used CHIPs data from 2008, 2009, and 2014.

5.1 Thesis Contribution

The results found in this study contribute to the existing literature on China's labour markets. We comprehensively dissected employment status by recognizing casual workers who either have no contract or a temporary contract

under one year in length. Study results revealed the vulnerable status of casual workers in the labour market. Our work has contributed to a richer understanding of employment status, where informal sector self-employed workers are sometimes better off compared to formal employees and casual workers. Indeed, casual workers have the worst working conditions when considering the number of hours worked and social protections received.

This thesis explored the reasons why people change employment status and move to the informal sector in China's labour market. The results challenge the traditional view that informal sector employment is driven by unemployment levels. They also show that the most influential reasons for moving to informal sector employment are often personal.

To prove that informal sector self-employment is not necessarily worse than formal sector employment in the aspects of low income and worse working condition, we studied how the changes of employment status have impacted disposable income. The results confirm that moving to informal sector self-employment or employer status can bring a higher level of disposable income than formal sector employees receive. These findings contribute to the existing literature on the informal sector as well as provide a comprehensive understanding of China's labour market that the government can use when considering the establishment of new policies.

5.2 Determinants and patterns of employment status

The first empirical results show who are more likely to be employed in the informal sector. By analysing CHIPs 2009 and 2014 cross-sectional data, we found that the proportion of urban workers in informal employment increased from 37% to 57%. We empirically deconstructed informal employment into two types: (1) business owners, and (2) casual workers who have no contract or contract of less than a year. Most of the increase in informal sector employment has taken the form of casual employment. This shift may reflect the change in labour policies since the launch of 2008 New Labour Contract Law.

We applied a multinomial logistic model to analyse how these characteristics affect employment status and found that some of the results

were similar to the conventional view that informal sector employment is the choice for the more vulnerable workers who are less able to compete for jobs in the formal sector. For example, those employed in the formal sector are more likely to be better educated, healthy, not disabled, and male. The young and old are more often found in casual employment. By 2014, women, older workers and those in poor health were more likely to be found in casual employment. If only those who are healthy can secure jobs, the findings of our study may raise questions about the implications of the 2008 New Labour Contract Law. The government designed this law to protect the labour force; in fact, however, vulnerable workers have been squeezed out of formal sector employment and pushed into informal sector casual employment.

The findings of this study also suggest that, particularly for business owners, employment in the informal sector does not always involve marginal activities of the formal sector. Informal sector business owners are often prime aged workers who have acquired useful work experience and perhaps savings. Running their own businesses can provide job flexibility benefits that allows them to more easily take care of family responsibilities. For people who have poor health or disabilities and have been rejected from formal sector employment, running their own businesses may be an optimal choice.

Descriptive statistics and multinomial modelling revealed that, compared with formal sector employees and informal sector business owners, casual workers reported the lowest monetary and subjective wellbeing, and higher vulnerability. Business owners reported longer working hours with less social protections. Although their working conditions may not be ideal, informal sector business owners have greater job flexibility, allowing them to care for dependents. Business owners are less vulnerable compared to casual workers.

5.3 Rationals for changes between formal and informal sectors

This thesis also studied the reasons why workers move between the formal and informal sectors. The study used the nested logistic model to analyse 2009 CHIPs cross-sectional data. The results revealed that people who are vulnerable are more likely to change jobs and be: less healthy, less

educated, migrants, and/or be women with children. Examining movements between the formal and informal sectors, this study found that moves to the informal sector are not necessarily related to unemployment. Decisions to move to the informal sector are more likely to be related to retirement and personal or family reasons. The study also found that informal sector employment is higher when the market size is bigger. People who have moved from one to another informal sector job are more likely to live in economically developed regions, which may indicate that large market demand can increase a willingness to engage in informal sector. Researchers and various organisations have argued that informal sector employment is a way to avoid unemployment. However, this may not apply to the situation in urban China. The most influential factor for this group of people to move from formal to informal sector employment is retirement. Forced dismissal is the second most influential factor.

Different locations also reflect various patterns of employment status changes. Cities with a centrally structured economic development plan are more likely to show employment changes within the formal sector. Job changes from the formal to the informal sector are more likely to take place in cities with good transportation location *and a market-based* commercial atmosphere. Employees who change jobs from the informal sector to the formal sector are more likely to be located in regions with many manufacturing industries. Employment changes within the informal sector are more likely to be in cities with large populations where there is a greater demand for labour. This study challenges the conventional view that informal sector employment is a substitute for unemployment. This does not sufficiently describe employment patterns in urban China, even for people moving from the formal to the informal sector. Study results suggest that the choice to work in the informal sector is also related to personal choice and market demand.

5.4 Remuneration achievement by employment status

To identify whether employment in the informal sector is financially inferior to employment in the formal sector, this study—using CHIPs 2014 data—examined whether informal sector self-employed individuals and

employers receive higher disposable income than formal sector employees. Using retrospective information, we created panel data. The fixed effects results showed that movement from formal sector employment to informal sector self-employment can increase disposable monthly income by 26%. The same movement to informal sector employers can increase disposable monthly income by 53%. In the urban labour market, vulnerability-induced inequalities can be balanced out by entering the informal sector. Female workers with less education can increase their disposable monthly income by moving from formal sector employees to informal sector self-employed workers or business owners. However, entering the informal sector does not decrease the inequality between urban residents and rural migrants. The results of this study prove the findings in the multinomial logistic model and nested logistic model that the informal sector in urban China is no longer financially inferior to the formal sector.

Applying the OLS regression model to study income changes across a whole sample gave results showing that disposable income changes are more likely to be affected by economic structure upgrading than individual changes in employment status. Both modelling results show that workers, whether moving to risky industries (mining and construction industries) or professional-oriented industries (financial and technological industries), can increase their disposable monthly income and income growth rate. A growing number of people are choosing employment in informal sector services and trading industries. The results from a descriptive analysis and modelling investigation have, again, confirmed that the labour force favors the informal sector for the low threshold of entry, pursuing better career and utility maximisation, and increasing remuneration.

5.5 **Policies implications**

The expansion of the informal sector shows that the 2008 New Labour Contract Law may indirectly squeeze out vulnerable workers from the formal sector. These workers are more likely to be found in the informal sector, either running small businesses or working as temporary employees. Although we cannot measure whether the 2008 New Labour Contract Law is a factor

triggering growth of the informal sector, we saw the expansion of the informal sector by comparing the results from 2008 and 2014 data. Scholars have raised concerns about the 2008 New Labour Contract Law regarding increasing labour costs for enterprises and restrictions on labour turnover autonomy by employers (Gallagher, Giles et al. 2014; Wang, Appelbaum et al. 2009).

We can suggest two improvements.

First, reduce business costs like taxes, social insurance contributions and unemployment compensation. Such cost reductions may seem contrary to the interests of labour. However, these reductions, by increasing employment flexibility for employers, could expand the available labour force by employing people who have been squeezed out of the formal sector.

Second, establish a nationwide social insurance system or adapt a flexible social insurance system for rural-to-urban migrants. This can reduce the restrictions on movement and help migrants pursue utility maximisation. It can also help to increase disposable income, which will, in turn, reduce the inequality between urban residents and rural-to-urban migrants, thus increasing social stability.

In nested logistic modelling, enforced unemployment isn't a significant factor influencing movement of workers to the informal sector. More influential factors are retirement or personal/family situations. In other words, when choosing to work in the informal sector, personal willingness may be more important than whether someone is unemployed. Having confirmed our assumption that the informal sector in China no longer serves as a safety net, we suggest that the government recognize and promote self-employment and small businesses in the informal sector. Literature analysis and modelling show that initial investments, and the ability to maintain them, are crucial elements for the success of informal sector small businesses. The promotion example from Peru [12]illustrates this. Another element would be to open markets to more competition, such as the 'contract-out' system in the UK. Such a system can expand the market for more businesses while officially monitoring the process

[12] By giving entitlement of properties to the poor, they can access to loan and further to enhance social stability.

to reduce future issues raised from negligence. Such a system might also encourage private companies to develop in a more diversified way.

The results of this study also lead to another suggestion that industrial structures should be upgraded. Although studies have found that the trade and service sectors can have a positive impact on China's economic development, our results show that moving to technology-oriented industries can increase income growth for individuals. While in China there are increasing numbers of educated people, there are not yet enough technology-oriented industries to employ them. However, the government may help increase the number of technology-oriented companies by encouraging small businesses and promoting market coorporation. Appropriate training programs and financial help can support the growth of technology-oriented industries in the informal sector.

5.6 Limitations in empirical strategies and literatures contributions

This study has some limitations that we cannot overcome. Due to the endogeneity and limited information in the data, we cannot measure whether moving to the informal sector is pecuniary-oriented. The return tolabour may have a two-way influence on employment status. To test the pecuniary impacts and reduce the endogeneity between wage and employment status, future researchers should apply instrumental variables to wages. Generally, information from parents is one of the best options to use as an instrumental variable. However, we did not have access to parental information across the whole sample, which may reduce the representativeness of the result. The same issue applies to sibling information. Solving this problem may involve using other datasets.

The second weakness is lack of control variables such as unemployment, inheritances, and business investments.

In the fixed effects model, we cannot control unemployment as a factor influencing income due to limited information in the retrospective data. Applying provincial unemployment data can be a substitute method resolving the issue. However, due to long recall data, the facticity of macro data provided by authorities is doubtful. The results proved that forced unemployment is not

the most significant factor influencing workers to enter the informal sector, which is not consistent with other researchers' findings (Acs, Audretsch et al. 1994; Taylor 1996).

Blanchflower and Oswald (1990) and Hout and Rosen (1999) find that inheritance is a significant factor influencing the decision to become self-employed. However, this factor may not necessarily be related to economic development in China. Unlike other capital markets, China experienced a planned economy, and people with business assets did not appear until the economic reform. Because the private sector began to grow only in the late 1970s, inheritance is less likely to be a factor influencing self-employment decisions. However, with the descriptive analysis, we found that increasingly the first jobs people hold are in the informal sector. Now it is possible that people born after 1980s may inherit a family business. However, due to the lack of parental information, we cannot test possible impacts from inheritance.

As for lack of business investment related variables, research shows that the success of self-employment and micro firms are closely related to initial investment and the ability to maintain investment (Barton H. Hamilton 2000). Due to the lack of this information, we could not test whether movement from the informal sector to the formal sector is caused by lack of investment.

The informal economy isn't a newly invented concept. However, the rise of the informal sector is relatively new phenomenon. Thus, research on the informal economy in China is scarce. Although this thesis has contributed to the literature on the understanding of the informal labour market in China, more research is necessary for specific knowledge of the informal sector. We did not apply the argument initiated by Voluntarist School in this thesis. This school argues that the informal sector is a way to avoid business costs and raises inequality in the competitive market. It may be interesting to study whether running a business in the informal sector increases vicious competition and reduces fiscal revenue. It may also be interesting to study whether it is necessary to formalise the informal economy, and what methods will make such formalising smoother in China's economy. This study found that income growth change is closely related to structural changes in industry. Although some literature has contributed to the inter-industry change impact on income, similar studies examining the impact in China are quite limited. With an

increasing number of workers willing to move into the trade and services sectors, it may be interesting to study why such industries are more attractive to these individuals. It may also be interesting to study whether these factors are obstacles to the upgrading of industrial structures, and whether industrial structure upgrading may help to formalise the informal sector.

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Appendix A : Short version of models results

Table A.0-1 Fixed effects model results

Dependent variable: Logged monthly income	Coef.	se
Employment status		
Employee (ref)		
Self-employed individuals	0.2570**	(0.105)
Employer	0.5342***	(0.118)
Age	-0.0000	(0.001)
Ownership		
Government agencies and party agencies		
Public service unit	-0.2163*	(0.121)
Solely state owned/state holding enterprises	-0.1740	(0.126)
Collective enterprises	-0.3589***	(0.129)
Sino-foreign joint venture/solely foreign owned	0.1599	(0.159)
Self-employed individuals	-0.3583**	(0.159)
Private enterprises	-0.0633	(0.126)
Land contractor	-1.2523***	(0.191)
Others	-0.4337***	(0.134)
Industry		
Agriculture, forestry, animal husbandry	-0.3500***	(0.094)
Mining	0.3462***	(0.128)
Manufacturing	0.0000	(.)
Production and supply of electricity, gas and water	0.2065	(0.148)
Construction enterprise	0.2297**	(0.096)
Transport, storage and post industry	0.1203	(0.081)
Information transmission, computer services and software industry	0.0582	(0.139)
Wholesale and retail trade	-0.0088	(0.064)
Hotel and catering services	-0.0317	(0.084)
Financial intermediation	0.6522***	(0.144)
Real estate industry	0.6259***	(0.189)
Leasing and business services	-0.0418	(0.103)
Scientific research, technical service	0.1249	(0.241)
Management of water conservancy, environment and public facilities	0.1569	(0.198)
Services to households and other services	-0.0160	(0.069)
Education	-0.0391	(0.141)
Health, social security and social welfare	0.2991**	(0.140)
Culture, sport and entertainment	-0.0385	(0.137)
Public management and social organization	0.0214	(0.103)
International organizations	0.0000	(.)
Province		
Beijing		
Tianjin	-1.3132	(0.914)
Hebei	-0.9498***	(0.269)
Shanxi	-0.5191	(0.347)
Inner Mongolia	-0.5088	(0.526)
Liaoning	-0.4689	(0.356)
Jilin	0.2989	(0.554)
Heilongjiang	0.0296	(0.349)
Shanghai	-0.2906	(0.466)
Jiangsu	-0.4387*	(0.251)
Zhejiang	-0.5931	(0.427)
Anhui	-0.7530**	(0.334)
Fujian	-0.0478	(0.648)
Jiangxi	-0.6951*	(0.376)
Shandong	-0.0602	(0.345)
Henan	-0.6830**	(0.298)
Hubei	-0.4005	(0.275)

Hunan	-0.4325	(0.302)
Guangdong	-0.0679	(0.242)
Guangxi	-0.3711	(0.912)
Hainan	-1.0266	(0.926)
Chongqing	-0.0260	(0.278)
Sichuan	-0.6716**	(0.291)
Guizhou	0.1918	(0.759)
Yunnan	-0.7197*	(0.428)
Tibet	-2.1503***	(0.781)
Shaanxi	-0.2894	(0.505)
Gansu	0.6095	(1.273)
Qinghai	-1.1025	(0.673)
Ningxia	-0.5589	(0.914)
Xinjiang	-0.3804	(0.553)
Year		
1980	-1.0733***	(0.080)
1981	-0.6874***	(0.132)
1982	-0.6503***	(0.125)
1983	-0.4963***	(0.130)
1984	-0.4765***	(0.117)
1985	-0.2231*	(0.116)
1986	-0.5351***	(0.119)
1987	-0.3250***	(0.125)
1988	-0.1382	(0.118)
1989	-0.4091***	(0.115)
1990	0.0104	(0.106)
1991	-0.1561	(0.121)
1992	0.1111	(0.107)
1993	-0.0096	(0.111)
1994	-0.1996*	(0.110)
1995	-0.1755*	(0.104)
1996	-0.0532	(0.105)
1997	0.0000	(.)
1998	0.1271	(0.098)
1999	0.3148***	(0.102)
2000	0.6312***	(0.092)
2001	0.5810***	(0.100)
2002	0.5890***	(0.098)
2003	0.6736***	(0.094)
2004	0.7068***	(0.094)
2005	0.7757***	(0.095)
2006	0.8057***	(0.096)
2007	0.8129***	(0.097)
2008	0.8524***	(0.093)
2009	0.9754***	(0.093)
2010	1.0786***	(0.091)
2011	0.9715***	(0.095)
2012	1.0919***	(0.091)
2013	1.2829***	(0.073)
Constant	6.9327***	(0.232)
N	18973	
R-sq within	0.5051	
R-sq between	0.2525	
R-sq overall	0.3570	
Sigma_u	0.8680	
Sigma_e	0.8788	
Rho	0.4938	

Table A.0-2 OLS regression testing education on income per capita (2013 RUMIC data)

	Income per capita	
	b	se
Employee # without higher education	0.0000	(.)
Employee # with higher education	0.3316***	(0.016)
Self-employed # without higher education	0.0136	(0.049)
Self-employed # with higher education	0.3437***	(0.068)
Employer # without higher education	0.3370***	(0.062)
Employer # with higher education	0.6352***	(0.087)
N	16245	
Population size	540,410,202	
r2	0.1993	
F(55, 16190)	45.80	
P	0.0000	

*Other independent variables controlled not presented. Including gender, hukou, age, jobs experiences frequency, marriage, health status, industries, ownerships, and provinces.

Table A.0-3 OLS regression and contribution to explanation check

	(1) OLS All variables b/se	(2) OLS personal characteristics b/se	(3) OLS PC+industry b/se	(4) OLS PC+Ownership b/se	(5) OLS PC+Province b/se
Employment status transition					
Employee to Employee	0.0000	0.0000	0.0000	0.0000	0.0000
	(.)	(.)	(.)	(.)	(.)
Employee to Self-employed	0.0739**	-0.0074	0.0031	0.0585**	-0.0064
	(0.032)	(0.012)	(0.013)	(0.030)	(0.012)
Employee to Employer	0.0414	-0.0261	-0.0004	0.0153	-0.0292
	(0.032)	(0.024)	(0.024)	(0.031)	(0.024)
Self-employed to Employee	0.0350	0.0155	-0.0400**	0.0654*	0.0078
	(0.035)	(0.016)	(0.018)	(0.034)	(0.017)
Self-employed to Self-employed	0.0075	-0.0107	-0.0103	0.0202	-0.0128
	(0.019)	(0.008)	(0.008)	(0.019)	(0.008)
Self-employed to Employer	0.0850*	0.0763*	0.0915**	0.0807*	0.0655
	(0.048)	(0.044)	(0.044)	(0.046)	(0.046)
Employer to Employee	-0.0012	-0.0409	-0.0337	0.0076	-0.0542
	(0.051)	(0.047)	(0.048)	(0.049)	(0.049)
Employer to Self-employed	0.0524	0.0030	0.0156	0.0236	0.0179
	(0.087)	(0.079)	(0.078)	(0.080)	(0.087)
Employer to Employer	0.0147	0.0013	-0.0083	0.0396	0.0020
	(0.024)	(0.019)	(0.019)	(0.024)	(0.019)
Fixed assets					
0	0.0000	0.0000	0.0000	0.0000	0.0000
	(.)	(.)	(.)	(.)	(.)
0~25000	-0.0356***	-0.0421***	-0.0402***	-0.0436***	-0.0389***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
25000~100000	0.0142	0.0114	0.0099	0.0153	0.0135
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
100000~500000	-0.0150	-0.0136	-0.0181	-0.0139	-0.0120
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
500000~6500000	0.0693**	0.0737**	0.0714**	0.0618*	0.0832**
	(0.035)	(0.035)	(0.034)	(0.035)	(0.035)
Gender					
Male	0.0000	0.0000	0.0000	0.0000	0.0000
	(.)	(.)	(.)	(.)	(.)
Female	-0.0031	-0.0061	-0.0050	-0.0034	-0.0054
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Hukou					
Urban	0.0000	0.0000	0.0000	0.0000	0.0000
	(.)	(.)	(.)	(.)	(.)
Migrant	0.0117	0.0211**	0.0128	0.0143	0.0202**
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Age	-0.0030	0.0000	-0.0022	-0.0018	-0.0000
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Age*Age	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Education					
Primary and below	0.0000	0.0000	0.0000	0.0000	0.0000
	(.)	(.)	(.)	(.)	(.)
Middle school	0.0093	0.0158	0.0128	0.0139	0.0155
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
High school	0.0091	0.0184*	0.0149	0.0166	0.0166
	(0.011)	(0.010)	(0.010)	(0.010)	(0.010)
College and above	0.0196*	0.0327***	0.0285**	0.0271**	0.0310***

	(0.012)	(0.011)	(0.011)	(0.011)	(0.011)
Disability					
No disability	0.0000	0.0000	0.0000	0.0000	0.0000
	(.)	(.)	(.)	(.)	(.)
With disability	-0.0121	-0.0148	-0.0137	-0.0125	-0.0155
	(0.017)	(0.018)	(0.017)	(0.018)	(0.018)
How many jobs have you worked for?	0.0035	0.0042	0.0012	0.0024	0.0057**
N	8904	8935	8910	8918	8935
r2_a	0.0706	0.0039	0.0594	0.0227	0.0009

*Industries transitions, ownership transitions and provinces transitions are controlled but not presented.

Table A.0-4 Quantile regressions

	(1) OLS all sample(robust) b/se	(2) OLS 0.1 b/se	(3) OLS 0.25 b/se	(4) OLS 0.50 b/se	(5) OLS 0.75 b/se	(6) OLS 0.9 b/se
Employment status transitions						
Employee to Employee	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(.)	(.)	(.)	(.)	(.)	(.)
Employee to Self-employed	0.0745*	0.0150	0.0323**	0.0536***	0.0417***	0.0225
	(0.041)	(0.029)	(0.015)	(0.013)	(0.015)	(0.048)
Employee to Employer	0.0399	0.0603**	0.0455***	0.0642***	0.0411***	0.0638
	(0.042)	(0.030)	(0.016)	(0.014)	(0.015)	(0.049)
Self-employed to Employee	0.0339	-0.0512	-0.0066	-0.0005	-0.0056	0.0797
	(0.067)	(0.032)	(0.017)	(0.015)	(0.016)	(0.053)
Self-employed to Self-employed	0.0079	0.0020	-0.0007	0.0133	0.0243**	0.0323
	(0.022)	(0.019)	(0.010)	(0.009)	(0.010)	(0.031)
Self-employed to Employer	0.0868	-0.0020	-0.0091	0.0108	0.0652***	0.3764***
	(0.060)	(0.044)	(0.023)	(0.020)	(0.022)	(0.072)
Employer to Employee	-0.0013	-0.0385	-0.0277	-0.0087	-0.0021	0.0549
	(0.037)	(0.046)	(0.024)	(0.021)	(0.023)	(0.076)
Employer to Self-employed	0.0565	0.0349	0.0240	0.0411	0.0984**	0.0163
	(0.036)	(0.080)	(0.042)	(0.036)	(0.040)	(0.132)
Employer to Employer	0.0178	-0.0065	-0.0077	0.0128	0.0279**	0.0258
	(0.029)	(0.024)	(0.013)	(0.011)	(0.012)	(0.039)
Fixed assets						
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(.)	(.)	(.)	(.)	(.)	(.)
0~25000	-0.0346**	-0.0093	-0.0071	0.0006	0.0083	-0.0099
	(0.017)	(0.011)	(0.006)	(0.005)	(0.006)	(0.019)
25000~100000	0.0169	0.0166	0.0053	0.0107*	0.0093	0.0065
	(0.012)	(0.013)	(0.007)	(0.006)	(0.007)	(0.021)
100000~500000	-0.0176	0.0126	-0.0029	0.0012	-0.0122	-0.0230
	(0.012)	(0.015)	(0.008)	(0.007)	(0.008)	(0.025)
500000~6500000	0.0783**	-0.0145	0.0204	0.0037	0.0242	0.0209
	(0.110)	(0.033)	(0.018)	(0.015)	(0.017)	(0.055)
Age	0.0011	0.0085***	0.0047***	-0.0003	-0.0051***	-0.0146***
	(0.003)	(0.002)	(0.001)	(0.001)	(0.001)	(0.004)
Age*age	-0.0000	-0.0001***	-0.0001***	-0.0000	0.0000***	0.0001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Gender						
Male	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(.)	(.)	(.)	(.)	(.)	(.)
Female	-0.0090	-0.0118**	-0.0082***	-0.0063***	-0.0022	0.0044
	(0.006)	(0.005)	(0.003)	(0.002)	(0.003)	(0.009)
Hukou						
Urban	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	(.)	(.)	(.)	(.)	(.)	(.)
Migrant	0.0135	-0.0045	0.0024	0.0068*	0.0111***	0.0246*
	(0.011)	(0.008)	(0.004)	(0.004)	(0.004)	(0.014)
Education						
Primary and below	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(.)	(.)	(.)	(.)	(.)	(.)
Middle school	0.0145	-0.0013	0.0008	0.0100**	0.0064	0.0075
	(0.010)	(0.010)	(0.006)	(0.005)	(0.005)	(0.017)
High school	0.0129	0.0059	0.0096*	0.0180***	0.0124**	0.0121
	(0.012)	(0.011)	(0.006)	(0.005)	(0.006)	(0.018)
College and above	0.0264*	0.0146	0.0231***	0.0325***	0.0251***	0.0174
	(0.013)	(0.012)	(0.006)	(0.005)	(0.006)	(0.020)
Disability						
No disability	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(.)	(.)	(.)	(.)	(.)	(.)
With disability	-0.0137	0.0021	-0.0100	-0.0136	-0.0046	0.0035
	(0.010)	(0.018)	(0.010)	(0.008)	(0.009)	(0.030)
How many jobs have you worked for?	0.0053	0.0043	0.0056***	0.0035***	0.0015	0.0158***
	(0.003)	(0.003)	(0.001)	(0.001)	(0.001)	(0.005)
N	7653	7653	7653	7653	7653	7653
r2_a	0.0715	0.1246	0.0836	0.0676	0.0786	0.1383

*Industries transitions, ownership transitions, and provinces transitions are controlled but not presented. Colum 1 is a robust result of OLS regression for all samples.

Table A.0-5 Truncated regressions

	(1) Employee to Employee	(2) Employee to Self-employed	(3) Employee to Employer	(4) Self-employed to Employee	(5) Self-employed to Self-employed	(6) Self-employed to Employer	(7) Employer to Employee	(8) Employer to Self-employed	(9) Employer to Employer
	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se
Fixed assets									
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)
0~25000	-0.0322*	0.0149	-0.1906	-0.1117	-0.0090	0.7661	-0.1865	0.0869	-0.1763
	(0.018)	(0.036)	(0.180)	(0.290)	(0.029)	(.)	(.)	(.)	(0.109)
25000~100000	-0.0174	0.0146	0.0834	-0.9051	0.0381	3.4032		0.3444	-0.0496
	(0.021)	(0.040)	(0.125)	(0.623)	(0.036)	(.)		(.)	(0.110)
100000~500000	-0.0207	-0.0079	-0.0076	-0.2832	-0.0218	2.6267			-0.0382
	(0.029)	(0.049)	(0.174)	(0.432)	(0.038)	(.)			(0.113)
500000~6500000	0.0201	-0.3150**	0.4132		-0.0175			0.1616	0.5291***
	(0.051)	(0.153)	(0.475)		(0.090)			(.)	(0.200)
Gender									
Male	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Female	-0.0037	-0.0024	-0.0794	-0.0904	-0.0233	-0.0030	-0.0692	-0.1299	-0.0932
	(0.005)	(0.025)	(0.095)	(0.086)	(0.022)	(.)	(.)	(.)	(0.074)
Age	-0.0039	0.0280**	0.1735	0.1020**	0.0004	-0.6073	0.0040	-0.1299	-0.0104
	(0.002)	(0.012)	(0.107)	(0.044)	(0.009)	(.)	(.)	(.)	(0.044)
Age*Age	0.0000	-0.0003**	-0.0018	-0.0013**	-0.0000	0.0060	0.0004	0.0013	0.0001
	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(.)	(.)	(.)	(0.001)
Hukou									
Urban	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Migrant	0.0180*	-0.0732*	0.2534	-0.0425	0.0324	-3.2488	-0.4720	0.0644	-0.0806
	(0.011)	(0.042)	(0.202)	(0.097)	(0.025)	(.)	(.)	(.)	(0.098)
Education									
Primary and below	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Middle school	0.0333**	-0.0280	0.0238	0.1020	-0.0211	0.0030	-0.2099	0.2043	-0.0260
	(0.013)	(0.041)	(0.197)	(0.153)	(0.030)	(.)	(.)	(.)	(0.126)
High school	0.0271**	-0.0012	0.0988	-0.0991	0.0183	1.3832	0.1047	0.0000	-0.0594
	(0.014)	(0.045)	(0.193)	(0.158)	(0.035)	(.)	(.)	(.)	(0.138)
College and above	0.0450***	0.0000	0.2252	0.1069	-0.0311	-0.8732	0.0467	0.0000	-0.2400
	(0.014)	(0.056)	(0.204)	(0.253)	(0.051)	(.)	(.)	(.)	(0.181)
Disability									
No disability	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)
With disability	-0.0045	0.0399	-0.1292	0.0811	-0.0423				0.1738
	(0.020)	(0.091)	(0.255)	(0.314)	(0.066)				(0.343)
How many jobs have you worked	0.0059**	0.0054	-0.0466	-0.0108	-0.0041	0.8404	-0.1280	0.0000	0.1121**

for?									
	(0.003)	(0.011)	(0.071)	(0.047)	(0.012)	(.)	(.)	(.)	(0.050)
N	5427	480	109	219	1188	30	25	9	166
r2_a	0.0106	0.1543	0.9380	-0.0114	0.0868	.	.	.	-0.0745

*Industries transitions, ownership transitions, and provinces transitions are controlled but not presented.

Appendix B: Industry transitions

Table of transition by employment status changes

The following tables (1-9) shows industries transitions by each employment status transitions. For example, table 1 illustrate industries transitions for the group of employee to employee. Full industry name cannot be presented in the table due to the size issue. Please refer to the following full name if necessary.

1 Agriculture, Forestry, Animal husbandry
2 Mining
3 Manufacturing
4 Production and Supply of Electricity, Gas and Water
5 Construction Enterprise
6 Transport, Storage and Post Industry
7 Information Transmission, Computer Services and Software Industry
8 Wholesale and Retail Trade
9 Hotel and Catering Services
10 Financial Intermediation
11 Real Estate Industry
12 Leasing and Business Services
13 Scientific Research, Technical Service
14 Management of Water Conservancy, Environment and Public Facilities
15 Services to Households and Other Services
16 Education
17 Health, Social Security and Social Welfare
18 Culture, Sport and Entertainment
19 Public Management and Social Organization
20 International Organizations

Table 0-1 Industries transition (Employee to Employee)

	Agricultur~u	Mining	Manufactur~g	Production~i	Constructi~e	Transport,~u	Informatio~t	Wholesale ~e	Hotel and ~s	Financial ~n	Real Estat~y	Leasing an~s	Scientific~S	Management~,	Services t~r	Education	Health, So~i	Culture, S~t	Public Man~g	Internatio~s	Total
Agr~u	120	2	29	2	7	2	1	10	6	2	2	0	1	2	19	5	3	2	13	0	228
	(52.6)	(0.9)	(12.7)	(0.9)	(3.1)	(0.9)	(0.4)	(4.4)	(2.6)	(0.9)	(0.9)	(0.0)	(0.4)	(0.9)	(8.3)	(2.2)	(1.3)	(0.9)	(5.7)	(0.0)	(100.0)
Min~g	0	242	8	1	1	6	0	1	0	0	0	1	0	0	7	2	1	0	10	0	280
	(0.0)	(86.4)	(2.9)	(0.4)	(0.4)	(2.1)	(0.0)	(0.4)	(0.0)	(0.0)	(0.0)	(0.4)	(0.0)	(0.0)	(2.5)	(0.7)	(0.4)	(0.0)	(3.6)	(0.0)	(100.0)
Man~g	10	9	1437	15	24	37	10	66	28	16	6	20	10	9	101	8	18	8	46	0	1878
	(0.5)	(0.5)	(76.5)	(0.8)	(1.3)	(2.0)	(0.5)	(3.5)	(1.5)	(0.9)	(0.3)	(1.1)	(0.5)	(0.5)	(5.4)	(0.4)	(1.0)	(0.4)	(2.4)	(0.0)	(100.0)
Pro~i	0	1	3	181	2	1	0	4	1	1	0	1	1	2	4	0	0	0	3	0	205
	(0.0)	(0.5)	(1.5)	(88.3)	(1.0)	(0.5)	(0.0)	(2.0)	(0.5)	(0.5)	(0.0)	(0.5)	(0.5)	(1.0)	(2.0)	(0.0)	(0.0)	(0.0)	(1.5)	(0.0)	(100.0)
Con~e	0	3	8	0	301	11	1	5	1	3	2	3	0	3	9	0	3	1	4	0	358
	(0.0)	(0.8)	(2.2)	(0.0)	(84.1)	(3.1)	(0.3)	(1.4)	(0.3)	(0.8)	(0.6)	(0.8)	(0.0)	(0.8)	(2.5)	(0.0)	(0.8)	(0.3)	(1.1)	(0.0)	(100.0)
Tra~u	0	4	3	2	4	378	5	5	2	4	0	1	0	1	11	4	2	0	15	0	441
	(0.0)	(0.9)	(0.7)	(0.5)	(0.9)	(85.7)	(1.1)	(1.1)	(0.5)	(0.9)	(0.0)	(0.2)	(0.0)	(0.2)	(2.5)	(0.9)	(0.5)	(0.0)	(3.4)	(0.0)	(100.0)
Inf~t	0	0	5	0	0	3	140	8	0	0	0	0	2	0	2	2	2	1	4	0	169
	(0.0)	(0.0)	(3.0)	(0.0)	(0.0)	(1.8)	(82.8)	(4.7)	(0.0)	(0.0)	(0.0)	(0.0)	(1.2)	(0.0)	(1.2)	(1.2)	(1.2)	(0.6)	(2.4)	(0.0)	(100.0)
Who~e	0	4	19	1	3	8	4	362	4	4	2	6	2	0	21	2	1	5	8	0	456
	(0.0)	(0.9)	(4.2)	(0.2)	(0.7)	(1.8)	(0.9)	(79.4)	(0.9)	(0.9)	(0.4)	(1.3)	(0.4)	(0.0)	(4.6)	(0.4)	(0.2)	(1.1)	(1.8)	(0.0)	(100.0)
Hot~s	0	0	7	1	0	3	2	21	167	1	1	1	0	2	11	1	5	2	7	0	232
	(0.0)	(0.0)	(3.0)	(0.4)	(0.0)	(1.3)	(0.9)	(9.1)	(72.0)	(0.4)	(0.4)	(0.4)	(0.0)	(0.9)	(4.7)	(0.4)	(2.2)	(0.9)	(3.0)	(0.0)	(100.0)
Fin~n	0	0	5	0	0	0	2	1	1	148	0	2	0	0	0	0	2	0	2	0	163
	(0.0)	(0.0)	(3.1)	(0.0)	(0.0)	(0.0)	(1.2)	(0.6)	(0.6)	(90.8)	(0.0)	(1.2)	(0.0)	(0.0)	(0.0)	(0.0)	(1.2)	(0.0)	(1.2)	(0.0)	(100.0)
Rea~y	0	0	1	1	0	3	0	0	1	2	58	1	0	0	3	0	0	0	4	0	74
	(0.0)	(0.0)	(1.4)	(1.4)	(0.0)	(4.1)	(0.0)	(0.0)	(1.4)	(2.7)	(78.4)	(1.4)	(0.0)	(0.0)	(4.1)	(0.0)	(0.0)	(0.0)	(5.4)	(0.0)	(100.0)
Lea~s	1	1	6	0	2	8	3	7	2	4	1	144	0	0	7	2	1	2	7	0	198
	(0.5)	(0.5)	(3.0)	(0.0)	(1.0)	(4.0)	(1.5)	(3.5)	(1.0)	(2.0)	(0.5)	(72.7)	(0.0)	(0.0)	(3.5)	(1.0)	(0.5)	(1.0)	(3.5)	(0.0)	(100.0)
Sci~S	0	1	1	1	0	1	0	0	0	2	0	0	45	0	0	0	0	0	0	0	51
	(0.0)	(2.0)	(2.0)	(2.0)	(0.0)	(2.0)	(0.0)	(0.0)	(0.0)	(3.9)	(0.0)	(0.0)	(88.2)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Man~,	0	0	1	0	0	4	0	1	1	0	0	0	0	69	2	0	0	2	3	0	83
	(0.0)	(0.0)	(1.2)	(0.0)	(0.0)	(4.8)	(0.0)	(1.2)	(1.2)	(0.0)	(0.0)	(0.0)	(0.0)	(83.1)	(2.4)	(0.0)	(0.0)	(2.4)	(3.6)	(0.0)	(100.0)
Ser~r	0	1	12	0	2	6	3	6	6	4	0	7	1	0	430	2	2	4	9	0	495
	(0.0)	(0.2)	(2.4)	(0.0)	(0.4)	(1.2)	(0.6)	(1.2)	(1.2)	(0.8)	(0.0)	(1.4)	(0.2)	(0.0)	(86.9)	(0.4)	(0.4)	(0.8)	(1.8)	(0.0)	(100.0)
Edu~n	0	2	2	0	2	1	0	3	3	3	2	1	0	1	2	481	7	1	14	0	525
	(0.0)	(0.4)	(0.4)	(0.0)	(0.4)	(0.2)	(0.0)	(0.6)	(0.6)	(0.6)	(0.4)	(0.2)	(0.0)	(0.2)	(0.4)	(91.6)	(1.3)	(0.2)	(2.7)	(0.0)	(100.0)
Hea~i	0	0	2	1	2	2	0	5	1	2	0	1	0	0	0	1	256	0	5	0	278
	(0.0)	(0.0)	(0.7)	(0.4)	(0.7)	(0.7)	(0.0)	(1.8)	(0.4)	(0.7)	(0.0)	(0.4)	(0.0)	(0.0)	(0.0)	(0.4)	(92.1)	(0.0)	(1.8)	(0.0)	(100.0)
Cul~t	0	0	3	0	0	1	2	3	3	0	1	1	0	0	2	2	1	87	5	0	111
	(0.0)	(0.0)	(2.7)	(0.0)	(0.0)	(0.9)	(1.8)	(2.7)	(2.7)	(0.0)	(0.9)	(0.9)	(0.0)	(0.0)	(1.8)	(1.8)	(0.9)	(78.4)	(4.5)	(0.0)	(100.0)
Pub~g	2	3	7	0	1	6	3	5	0	6	2	4	0	2	12	2	5	3	684	0	747
	(0.3)	(0.4)	(0.9)	(0.0)	(0.1)	(0.8)	(0.4)	(0.7)	(0.0)	(0.8)	(0.3)	(0.5)	(0.0)	(0.3)	(1.6)	(0.3)	(0.7)	(0.4)	(91.6)	(0.0)	(100.0)
Int~s	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(100.0)
Total	133	273	1559	206	351	481	176	513	227	202	77	194	62	91	643	514	309	118	843	2	6974
	(1.9)	(3.9)	(22.4)	(3.0)	(5.0)	(6.9)	(2.5)	(7.4)	(3.3)	(2.9)	(1.1)	(2.8)	(0.9)	(1.3)	(9.2)	(7.4)	(4.4)	(1.7)	(12.1)	(0.0)	(100.0)
N	6974																				

Table 0-2 Industries transition (Employee to Self-employed)

	Agricultur~u	Mining	Manufactur~g	Production~i	Constructi~e	Transport,~u	Informatio~t	Wholesale ~e	Hotel and ~s	Real Estat~y	Leasing an~s	Management~,	Services t~r	Education	Health, So~i	Culture, S~t	Public Man~g	Total
Agr~u	4	0	1	0	1	0	0	13	4	0	0	0	5	0	0	1	0	29
	(13.8)	(0.0)	(3.4)	(0.0)	(3.4)	(0.0)	(0.0)	(44.8)	(13.8)	(0.0)	(0.0)	(0.0)	(17.2)	(0.0)	(0.0)	(3.4)	(0.0)	(100.0)
Min~g	0	3	0	0	1	3	0	4	3	0	0	0	2	0	0	0	0	16
	(0.0)	(18.8)	(0.0)	(0.0)	(6.3)	(18.8)	(0.0)	(25.0)	(18.8)	(0.0)	(0.0)	(0.0)	(12.5)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Man~g	7	2	24	1	3	21	1	81	23	5	9	0	29	2	1	6	0	215
	(3.3)	(0.9)	(11.2)	(0.5)	(1.4)	(9.8)	(0.5)	(37.7)	(10.7)	(2.3)	(4.2)	(0.0)	(13.5)	(0.9)	(0.5)	(2.8)	(0.0)	(100.0)
Pro~i	0	0	1	0	2	1	0	1	1	0	2	0	3	0	0	0	0	11
	(0.0)	(0.0)	(9.1)	(0.0)	(18.2)	(9.1)	(0.0)	(9.1)	(9.1)	(0.0)	(18.2)	(0.0)	(27.3)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Con~e	1	0	0	0	6	4	0	10	1	0	2	1	1	0	0	1	1	28
	(3.6)	(0.0)	(0.0)	(0.0)	(21.4)	(14.3)	(0.0)	(35.7)	(3.6)	(0.0)	(7.1)	(3.6)	(3.6)	(0.0)	(0.0)	(3.6)	(3.6)	(100.0)
Tra~u	1	0	1	0	0	15	1	3	4	0	1	0	4	0	0	0	0	30
	(3.3)	(0.0)	(3.3)	(0.0)	(0.0)	(50.0)	(3.3)	(10.0)	(13.3)	(0.0)	(3.3)	(0.0)	(13.3)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Inf~t	0	0	0	0	0	2	0	3	1	0	0	0	1	0	0	0	0	7
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(28.6)	(0.0)	(42.9)	(14.3)	(0.0)	(0.0)	(0.0)	(14.3)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Who~e	4	0	2	1	0	6	0	22	2	0	2	1	9	1	0	0	0	50
	(8.0)	(0.0)	(4.0)	(2.0)	(0.0)	(12.0)	(0.0)	(44.0)	(4.0)	(0.0)	(4.0)	(2.0)	(18.0)	(2.0)	(0.0)	(0.0)	(0.0)	(100.0)
Hot~s	0	0	0	0	0	1	0	10	6	0	0	0	4	0	1	1	0	23
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(4.3)	(0.0)	(43.5)	(26.1)	(0.0)	(0.0)	(0.0)	(17.4)	(0.0)	(4.3)	(4.3)	(0.0)	(100.0)
Fin~n	1	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	0	5
	(20.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(40.0)	(20.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(20.0)	(0.0)	(100.0)
Rea~y	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(100.0)
Lea~s	0	0	0	0	0	0	0	7	3	0	5	0	4	0	0	0	0	19
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(36.8)	(15.8)	(0.0)	(26.3)	(0.0)	(21.1)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Sci~S	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(33.3)	(0.0)	(33.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Man~,	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Ser~r	2	0	0	0	1	7	0	8	3	0	3	0	8	0	0	0	0	32
	(6.3)	(0.0)	(0.0)	(0.0)	(3.1)	(21.9)	(0.0)	(25.0)	(9.4)	(0.0)	(9.4)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Edu~n	1	0	1	0	0	0	0	4	1	0	0	0	2	4	0	0	0	13
	(7.7)	(0.0)	(7.7)	(0.0)	(0.0)	(0.0)	(0.0)	(30.8)	(7.7)	(0.0)	(0.0)	(0.0)	(15.4)	(30.8)	(0.0)	(0.0)	(0.0)	(100.0)
Hea~i	0	0	0	0	2	0	0	0	1	0	0	0	1	0	1	0	0	5
	(0.0)	(0.0)	(0.0)	(0.0)	(40.0)	(0.0)	(0.0)	(0.0)	(20.0)	(0.0)	(0.0)	(0.0)	(20.0)	(0.0)	(20.0)	(0.0)	(0.0)	(100.0)
Cul~t	1	0	0	0	0	1	0	6	1	0	0	0	2	0	0	2	0	13
	(7.7)	(0.0)	(0.0)	(0.0)	(0.0)	(7.7)	(0.0)	(46.2)	(7.7)	(0.0)	(0.0)	(0.0)	(15.4)	(0.0)	(0.0)	(15.4)	(0.0)	(100.0)
Pub~g	0	1	1	0	2	1	1	4	2	0	1	0	4	0	0	0	0	17
	(0.0)	(5.9)	(5.9)	(0.0)	(11.8)	(5.9)	(5.9)	(23.5)	(11.8)	(0.0)	(5.9)	(0.0)	(23.5)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Total	22	6	32	2	18	62	4	180	57	6	25	2	79	7	3	13	1	519
	(4.2)	(1.2)	(6.2)	(0.4)	(3.5)	(11.9)	(0.8)	(34.7)	(11.0)	(1.2)	(4.8)	(0.4)	(15.2)	(1.3)	(0.6)	(2.5)	(0.2)	(100.0)
N	519																	

Table 0-3 Industries transition (Employee to Employer)

	Agricultur~u	Mining	Manufactur~g	Constructi~e	Transport,~u	Informatio~t	Wholesale ~e	Hotel and ~s	Real Estat~y	Leasing an~s	Management~,	Services t~r	Health, So~i	Culture, S~t	Public Man~g	Total
Agr~u	1	0	0	0	2	0	2	1	0	0	0	0	0	0	0	6
	(16.7)	(0.0)	(0.0)	(0.0)	(33.3)	(0.0)	(33.3)	(16.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Min~g	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(0.0)	(100.0)
Man~g	1	1	15	2	0	0	10	0	1	1	0	5	2	0	0	38
	(2.6)	(2.6)	(39.5)	(5.3)	(0.0)	(0.0)	(26.3)	(0.0)	(2.6)	(2.6)	(0.0)	(13.2)	(5.3)	(0.0)	(0.0)	(100.0)
Pro~i	0	0	0	2	1	1	1	0	0	0	0	0	0	0	0	5
	(0.0)	(0.0)	(0.0)	(40.0)	(20.0)	(20.0)	(20.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Con~e	0	0	0	6	1	0	4	1	0	0	0	0	0	1	0	13
	(0.0)	(0.0)	(0.0)	(46.2)	(7.7)	(0.0)	(30.8)	(7.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(7.7)	(0.0)	(100.0)
Tra~u	0	0	1	0	1	1	0	2	0	0	0	1	0	0	0	6
	(0.0)	(0.0)	(16.7)	(0.0)	(16.7)	(16.7)	(0.0)	(33.3)	(0.0)	(0.0)	(0.0)	(16.7)	(0.0)	(0.0)	(0.0)	(100.0)
Inf~t	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Who~e	0	0	2	0	1	0	6	2	0	1	0	0	0	1	0	13
	(0.0)	(0.0)	(15.4)	(0.0)	(7.7)	(0.0)	(46.2)	(15.4)	(0.0)	(7.7)	(0.0)	(0.0)	(0.0)	(7.7)	(0.0)	(100.0)
Hot~s	0	0	0	1	0	0	1	3	0	0	0	0	0	0	0	5
	(0.0)	(0.0)	(0.0)	(20.0)	(0.0)	(0.0)	(20.0)	(60.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Fin~n	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2
	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Lea~s	0	0	1	0	0	0	5	1	0	0	0	1	0	0	0	8
	(0.0)	(0.0)	(12.5)	(0.0)	(0.0)	(0.0)	(62.5)	(12.5)	(0.0)	(0.0)	(0.0)	(12.5)	(0.0)	(0.0)	(0.0)	(100.0)
Sci~S	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Man~,	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Ser~r	0	0	0	0	0	0	4	0	0	0	0	2	0	0	1	7
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(57.1)	(0.0)	(0.0)	(0.0)	(0.0)	(28.6)	(0.0)	(0.0)	(14.3)	(100.0)
Edu~n	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(0.0)	(0.0)	(33.3)	(0.0)	(0.0)	(33.3)	(0.0)	(0.0)	(100.0)
Hea~i	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	2
	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(100.0)
Pub~g	0	1	2	0	0	0	1	0	0	0	0	0	0	0	0	4
	(0.0)	(25.0)	(50.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Total	2	2	22	12	6	3	36	12	1	3	1	10	4	2	1	117
	(1.7)	(1.7)	(18.8)	(10.3)	(5.1)	(2.6)	(30.8)	(10.3)	(0.9)	(2.6)	(0.9)	(8.5)	(3.4)	(1.7)	(0.9)	(100.0)
N	117															

Table 0-4 Industries transition (Self-employed to Employee)

	Agricultur~u	Mining	Manufactur~g	Production~i	Constructi~e	Transport,~u	Informatio~t	Wholesale ~e	Hotel and ~s	Financial ~n	Real Estat~y	Leasing an~s	Management~,	Services t~r	Education	Health, So~i	Culture, S~t	Public Man~g	Total
Agr~u	5	5	13	3	14	4	1	5	3	0	0	0	4	14	1	4	0	5	81
	(6.2)	(6.2)	(16.0)	(3.7)	(17.3)	(4.9)	(1.2)	(6.2)	(3.7)	(0.0)	(0.0)	(0.0)	(4.9)	(17.3)	(1.2)	(4.9)	(0.0)	(6.2)	(100.0)
Min~g	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Man~g	0	0	7	0	1	4	1	3	1	0	0	0	0	3	1	1	0	1	23
	(0.0)	(0.0)	(30.4)	(0.0)	(4.3)	(17.4)	(4.3)	(13.0)	(4.3)	(0.0)	(0.0)	(0.0)	(0.0)	(13.0)	(4.3)	(4.3)	(0.0)	(4.3)	(100.0)
Con~e	1	0	1	0	4	0	0	2	0	0	0	1	0	1	1	0	0	0	11
	(9.1)	(0.0)	(9.1)	(0.0)	(36.4)	(0.0)	(0.0)	(18.2)	(0.0)	(0.0)	(0.0)	(9.1)	(0.0)	(9.1)	(9.1)	(0.0)	(0.0)	(0.0)	(100.0)
Tra~u	1	1	2	0	1	8	1	1	0	1	0	0	0	2	1	0	0	2	21
	(4.8)	(4.8)	(9.5)	(0.0)	(4.8)	(38.1)	(4.8)	(4.8)	(0.0)	(4.8)	(0.0)	(0.0)	(0.0)	(9.5)	(4.8)	(0.0)	(0.0)	(9.5)	(100.0)
Who~e	1	0	6	2	0	2	1	10	3	0	1	0	1	4	0	1	1	2	35
	(2.9)	(0.0)	(17.1)	(5.7)	(0.0)	(5.7)	(2.9)	(28.6)	(8.6)	(0.0)	(2.9)	(0.0)	(2.9)	(11.4)	(0.0)	(2.9)	(2.9)	(5.7)	(100.0)
Hot~s	1	3	3	0	0	2	0	2	8	0	0	1	0	3	0	0	1	2	26
	(3.8)	(11.5)	(11.5)	(0.0)	(0.0)	(7.7)	(0.0)	(7.7)	(30.8)	(0.0)	(0.0)	(3.8)	(0.0)	(11.5)	(0.0)	(0.0)	(3.8)	(7.7)	(100.0)
Rea~y	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Lea~s	0	0	3	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	6
	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(16.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(16.7)	(0.0)	(16.7)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Sci~S	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Ser~r	1	0	4	0	1	5	0	1	1	1	0	1	0	12	1	0	0	3	31
	(3.2)	(0.0)	(12.9)	(0.0)	(3.2)	(16.1)	(0.0)	(3.2)	(3.2)	(3.2)	(0.0)	(3.2)	(0.0)	(38.7)	(3.2)	(0.0)	(0.0)	(9.7)	(100.0)
Cul~t	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3
	(0.0)	(0.0)	(66.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(0.0)	(0.0)	(0.0)	(100.0)
Pub~g	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(100.0)
Total	10	9	41	5	21	26	5	24	16	2	1	4	5	44	6	6	2	16	243
	(4.1)	(3.7)	(16.9)	(2.1)	(8.6)	(10.7)	(2.1)	(9.9)	(6.6)	(0.8)	(0.4)	(1.6)	(2.1)	(18.1)	(2.5)	(2.5)	(0.8)	(6.6)	(100.0)
N	243																		

Table 0-5 Industries transition (Self-employed to Self-employed)

	Agricultur~u	Mining	Manufactur~g	Production~i	Constructi~e	Transport,~u	Informatio~t	Wholesale ~e	Hotel and ~s	Financial ~n	Real Estat~y	Leasing an~s	Management~,	Services t~r	Education	Health, So~i	Culture, S~t	Public Man~g	Total
Agr~u	133	1	5	1	5	5	0	24	12	0	0	1	0	15	0	0	0	0	202
	(65.8)	(0.5)	(2.5)	(0.5)	(2.5)	(2.5)	(0.0)	(11.9)	(5.9)	(0.0)	(0.0)	(0.5)	(0.0)	(7.4)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Min~g	0	6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	7
	(0.0)	(85.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(14.3)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Man~g	3	0	74	0	1	4	0	8	1	0	0	1	0	3	0	1	0	0	96
	(3.1)	(0.0)	(77.1)	(0.0)	(1.0)	(4.2)	(0.0)	(8.3)	(1.0)	(0.0)	(0.0)	(1.0)	(0.0)	(3.1)	(0.0)	(1.0)	(0.0)	(0.0)	(100.0)
Pro~i	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Con~e	0	0	0	0	77	3	0	4	2	0	0	0	0	0	0	0	1	0	87
	(0.0)	(0.0)	(0.0)	(0.0)	(88.5)	(3.4)	(0.0)	(4.6)	(2.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(1.1)	(0.0)	(100.0)
Tra~u	0	0	0	0	0	89	0	3	1	0	0	0	0	1	0	0	0	0	94
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(94.7)	(0.0)	(3.2)	(1.1)	(0.0)	(0.0)	(0.0)	(0.0)	(1.1)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Inf~t	0	0	0	0	0	0	13	1	0	1	0	0	0	0	0	0	0	0	15
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(86.7)	(6.7)	(0.0)	(6.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Who~e	1	0	2	0	2	3	0	340	12	0	0	2	0	6	0	1	1	0	370
	(0.3)	(0.0)	(0.5)	(0.0)	(0.5)	(0.8)	(0.0)	(91.9)	(3.2)	(0.0)	(0.0)	(0.5)	(0.0)	(1.6)	(0.0)	(0.3)	(0.3)	(0.0)	(100.0)
Hot~s	0	0	2	0	1	5	0	10	139	0	0	0	0	2	0	0	1	0	160
	(0.0)	(0.0)	(1.3)	(0.0)	(0.6)	(3.1)	(0.0)	(6.3)	(86.9)	(0.0)	(0.0)	(0.0)	(0.0)	(1.3)	(0.0)	(0.0)	(0.6)	(0.0)	(100.0)
Fin~n	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	6
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Rea~y	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Lea~s	0	0	1	0	1	0	1	4	0	0	0	45	0	1	0	0	0	0	53
	(0.0)	(0.0)	(1.9)	(0.0)	(1.9)	(0.0)	(1.9)	(7.5)	(0.0)	(0.0)	(0.0)	(84.9)	(0.0)	(1.9)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Man~,	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Ser~r	1	0	0	0	1	2	0	7	5	0	0	1	0	202	1	0	0	0	220
	(0.5)	(0.0)	(0.0)	(0.0)	(0.5)	(0.9)	(0.0)	(3.2)	(2.3)	(0.0)	(0.0)	(0.5)	(0.0)	(91.8)	(0.5)	(0.0)	(0.0)	(0.0)	(100.0)
Edu~n	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
Hea~i	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0	21
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(100.0)
Cul~t	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	8	0	11
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(18.2)	(0.0)	(9.1)	(0.0)	(0.0)	(72.7)	(0.0)	(100.0)
Pub~g	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	7	8
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(12.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(87.5)	(100.0)
Total	138	7	84	2	88	111	14	402	172	7	6	52	1	232	7	23	11	7	1364
	(10.1)	(0.5)	(6.2)	(0.1)	(6.5)	(8.1)	(1.0)	(29.5)	(12.6)	(0.5)	(0.4)	(3.8)	(0.1)	(17.0)	(0.5)	(1.7)	(0.8)	(0.5)	(100.0)
N	1364																		

Table 0-6 Industries transition (Self-employed to Employer)

	Agricultur~u	Manufactur~g	Constructi~e	Informatio~t	Wholesale ~e	Hotel and ~s	Leasing an~s	Services t~r	Total
Agr~u	2	2	0	0	3	3	0	1	11
	(18.2)	(18.2)	(0.0)	(0.0)	(27.3)	(27.3)	(0.0)	(9.1)	(100.0)
Man~g	0	1	0	0	2	0	0	0	3
	(0.0)	(33.3)	(0.0)	(0.0)	(66.7)	(0.0)	(0.0)	(0.0)	(100.0)
Con~e	0	2	2	0	0	0	0	0	4
	(0.0)	(50.0)	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Tra~u	0	0	0	0	1	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
Who~e	1	1	1	1	3	1	0	0	8
	(12.5)	(12.5)	(12.5)	(12.5)	(37.5)	(12.5)	(0.0)	(0.0)	(100.0)
Hot~s	0	0	0	0	1	2	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(66.7)	(0.0)	(0.0)	(100.0)
Lea~s	0	0	0	0	0	0	1	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(100.0)
Ser~r	0	0	0	1	1	0	0	0	2
	(0.0)	(0.0)	(0.0)	(50.0)	(50.0)	(0.0)	(0.0)	(0.0)	(100.0)
Total	3	6	3	2	11	6	1	1	33
	(9.1)	(18.2)	(9.1)	(6.1)	(33.3)	(18.2)	(3.0)	(3.0)	(100.0)
N	33								

Employer to employee

Table 0-7 Industries transition (Employer to Emloyee)

	Mining	Manufactur~g	Production~i	Constructi~e	Transport,~u	Wholesale ~e	Hotel and ~s	Financial ~n	Leasing an~s	Services t~r	Health, So~i	Culture, S~t	Total
Min~g	0	0	0	0	0	0	0	1	0	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Man~g	0	3	1	0	2	0	2	0	0	0	0	0	8
	(0.0)	(37.5)	(12.5)	(0.0)	(25.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Con~e	0	0	0	2	0	0	0	0	0	0	0	0	2
	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Tra~u	1	0	0	0	0	0	0	0	0	0	0	0	1
	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Inf~t	0	0	0	0	0	1	0	0	0	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Who~e	0	0	0	0	0	2	0	0	0	3	0	1	6
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(16.7)	(100.0)
Hot~s	0	1	0	0	1	0	0	0	0	0	0	0	2
	(0.0)	(50.0)	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Lea~s	0	0	0	0	0	0	0	0	1	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
Hea~i	0	0	0	0	0	0	0	1	0	0	1	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(50.0)	(0.0)	(100.0)
Cul~t	0	0	0	0	1	0	0	0	1	0	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(0.0)	(100.0)
Total	1	4	1	2	4	3	2	2	2	3	1	1	26
	(3.8)	(15.4)	(3.8)	(7.7)	(15.4)	(11.5)	(7.7)	(7.7)	(7.7)	(11.5)	(3.8)	(3.8)	(100.0)
N	26												

Table 0-8 Industries transition (Employer to Self-employed)

	Constructi~e	Transport,~u	Wholesale ~e	Services t~r	Total
Agr~u	0	0	1	0	1
	(0.0)	(0.0)	(100.0)	(0.0)	(100.0)
Man~g	0	0	1	0	1
	(0.0)	(0.0)	(100.0)	(0.0)	(100.0)
Pro~i	0	1	0	0	1
	(0.0)	(100.0)	(0.0)	(0.0)	(100.0)
Con~e	1	0	0	0	1
	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
Who~e	0	1	2	1	4
	(0.0)	(25.0)	(50.0)	(25.0)	(100.0)
Ser~r	0	0	0	1	1
	(0.0)	(0.0)	(0.0)	(100.0)	(100.0)
Total	1	2	4	2	9
	(11.1)	(22.2)	(44.4)	(22.2)	(100.0)
N	9				

Table 0-9 Industries transition (Employer to Employer)

	Agricultur~u	Mining	Manufactur~g	Constructi~e	Transport,~u	Informatio~t	Wholesale ~e	Hotel and ~s	Financial ~n	Real Estat~y	Leasing an~s	Services t~r	Education	Health, So~i	Culture, S~t	Public Man~g	Total
Agr~u	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Min~g	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Man~g	0	0	8	0	0	0	0	0	0	0	0	1	0	0	0	0	9
	(0.0)	(0.0)	(88.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(11.1)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Con~e	0	0	0	18	0	0	1	0	0	0	0	0	0	0	0	0	19
	(0.0)	(0.0)	(0.0)	(94.7)	(0.0)	(0.0)	(5.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Tra~u	0	0	0	0	7	0	0	0	1	0	0	2	0	0	0	0	10
	(0.0)	(0.0)	(0.0)	(0.0)	(70.0)	(0.0)	(0.0)	(0.0)	(10.0)	(0.0)	(0.0)	(20.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Inf~t	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Who~e	0	0	0	0	0	0	77	0	0	0	0	0	0	0	0	0	77
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Hot~s	0	0	0	0	0	0	0	10	0	0	0	0	0	0	1	0	11
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(90.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(9.1)	(0.0)	(100.0)
Rea~y	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Lea~s	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Ser~r	0	0	0	0	1	0	1	0	0	0	0	18	0	0	0	0	20
	(0.0)	(0.0)	(0.0)	(0.0)	(5.0)	(0.0)	(5.0)	(0.0)	(0.0)	(0.0)	(0.0)	(90.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Edu~n	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
Hea~i	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(100.0)
Cul~t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(100.0)
Pub~g	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(100.0)
Total	8	2	8	18	8	2	79	10	1	1	3	21	2	2	12	2	179
	(4.5)	(1.1)	(4.5)	(10.1)	(4.5)	(1.1)	(44.1)	(5.6)	(0.6)	(0.6)	(1.7)	(11.7)	(1.1)	(1.1)	(6.7)	(1.1)	(100.0)
N	179																

Table of transitions from one industry to other industries by years

The following tables descript labour transition from one industry to other industries by years. The analyse shows the time period that industry became popular for employment movements. The names of industries are stated in numbers. Please check industry names list in below for information. The probability of transitions are highly located in the industries of 3. Manufacturing, 5. Construction enterprise, 8. Wholesale and Retail Trade, 9. Hotel and Catering Services and 15.Services to Households and Other Services.

1 Agriculture, Forestry, Animal husbandry
2 Mining
3 Manufacturing
4 Production and Supply of Electricity, Gas and Water
5 Construction Enterprise
6 Transport, Storage and Post Industry
7 Information Transmission, Computer Services and Software Industry
8 Wholesale and Retail Trade
9 Hotel and Catering Services
10 Financial Intermediation
11 Real Estate Industry
12 Leasing and Business Services
13 Scientific Research, Technical Service
14 Management of Water Conservancy, Environment and Public Facilities
15 Services to Households and Other Services
16 Education
17 Health, Social Security and Social Welfare
18 Culture, Sport and Entertainment
19 Public Management and Social Organization
20 International Organizations

*Table 0-10 Labour transitions from **'Agriculture, Forestry, Animal Husbandry Industry'** to other industries by Year*

	1	2	3	4	5	6	7	8	9	10	11	13	14	15	16	17	18	19	Total
1980	30	0	12	1	1	0	1	2	1	1	0	0	0	3	1	1	1	2	57
	(52.6)	(0.0)	(21.1)	(1.8)	(1.8)	(0.0)	(1.8)	(3.5)	(1.8)	(1.8)	(0.0)	(0.0)	(0.0)	(5.3)	(1.8)	(1.8)	(1.8)	(3.5)	(100.0)
1981	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
	(40.0)	(0.0)	(60.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1982	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4
	(75.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(100.0)
1983	5	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	6
	(83.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(16.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1984	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3
	(0.0)	(33.3)	(33.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1985	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	6
	(66.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(16.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(16.7)	(100.0)
1986	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3
	(33.3)	(0.0)	(0.0)	(33.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1987	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1988	2	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	4
	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1989	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5
	(80.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(20.0)	(0.0)	(0.0)	(0.0)	(100.0)
1990	5	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	7
	(71.4)	(14.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(14.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1992	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	(75.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1993	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1994	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	(50.0)	(0.0)	(25.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1995	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1996	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	(75.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1997	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	4
	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(25.0)	(100.0)
1998	1	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	5
	(20.0)	(0.0)	(20.0)	(0.0)	(20.0)	(0.0)	(0.0)	(20.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(20.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1999	7	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	9
	(77.8)	(0.0)	(11.1)	(0.0)	(11.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2000	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	8
	(62.5)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(12.5)	(100.0)
2001	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	4
	(25.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(100.0)
2002	6	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	7
	(85.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(14.3)	(0.0)	(0.0)	(0.0)	(100.0)
2003	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4
	(25.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(25.0)	(100.0)
2004	1	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	4
	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(50.0)	(25.0)	(0.0)	(0.0)	(0.0)	(100.0)
2005	3	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	5
	(60.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(20.0)	(0.0)	(0.0)	(0.0)	(20.0)	(0.0)	(0.0)	(0.0)	(100.0)
2006	4	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	6
	(66.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(16.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(16.7)	(100.0)

2007	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	6
	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(50.0)	(100.0)
2008	3	0	0	0	0	0	0	1	0	0	0	1	0	3	0	0	0	1	9
	(33.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(11.1)	(0.0)	(0.0)	(0.0)	(11.1)	(0.0)	(33.3)	(0.0)	(0.0)	(0.0)	(11.1)	(100.0)
2009	2	0	2	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	7
	(28.6)	(0.0)	(28.6)	(0.0)	(0.0)	(14.3)	(0.0)	(14.3)	(0.0)	(0.0)	(0.0)	(0.0)	(14.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2010	4	0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	8
	(50.0)	(0.0)	(12.5)	(0.0)	(0.0)	(12.5)	(0.0)	(0.0)	(12.5)	(0.0)	(0.0)	(0.0)	(0.0)	(12.5)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2011	2	0	2	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	8
	(25.0)	(0.0)	(25.0)	(0.0)	(12.5)	(0.0)	(0.0)	(12.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(12.5)	(0.0)	(0.0)	(12.5)	(0.0)	(100.0)
2012	3	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	6
	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(16.7)	(0.0)	(0.0)	(100.0)
2013	1	0	1	0	0	0	0	0	0	0	0	0	0	5	0	1	0	0	8
	(12.5)	(0.0)	(12.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(62.5)	(0.0)	(12.5)	(0.0)	(0.0)	(100.0)
Total	120	2	29	2	7	2	1	10	6	2	2	1	2	19	5	3	2	13	228
	(52.6)	(0.9)	(12.7)	(0.9)	(3.1)	(0.9)	(0.4)	(4.4)	(2.6)	(0.9)	(0.9)	(0.4)	(0.9)	(8.3)	(2.2)	(1.3)	(0.9)	(5.7)	(100.0)

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*Table 0-11 Labour transitions from **'Mining Industry'** to other industries by Year*

	2	3	4	5	6	8	12	15	16	17	19	Total
1980	67	1	0	0	0	0	0	0	0	0	0	68
	(98.5)	(1.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1981	11	0	0	0	1	0	0	0	0	0	0	12
	(91.7)	(0.0)	(0.0)	(0.0)	(8.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1982	7	1	0	0	0	1	0	0	0	1	0	10
	(70.0)	(10.0)	(0.0)	(0.0)	(0.0)	(10.0)	(0.0)	(0.0)	(0.0)	(10.0)	(0.0)	(100.0)
1983	7	0	0	0	0	0	0	0	0	0	0	7
	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1984	6	0	0	0	2	0	0	0	0	0	0	8
	(75.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1985	5	0	0	0	1	0	0	0	0	0	1	7
	(71.4)	(0.0)	(0.0)	(0.0)	(14.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(14.3)	(100.0)
1986	6	0	1	0	0	0	0	0	0	0	0	7
	(85.7)	(0.0)	(14.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1987	5	0	0	0	0	0	0	0	0	0	0	5
	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1988	8	0	0	0	0	0	0	0	0	0	0	8
	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1989	8	0	0	0	1	0	0	0	0	0	0	9
	(88.9)	(0.0)	(0.0)	(0.0)	(11.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1990	7	0	0	0	0	0	0	0	0	0	0	7
	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1991	2	0	0	0	0	0	0	0	0	0	1	3
	(66.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(100.0)
1992	9	0	0	0	0	0	0	0	1	0	0	10
	(90.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(10.0)	(0.0)	(0.0)	(100.0)
1993	6	0	0	0	0	0	0	0	0	0	0	6
	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1994	5	1	0	0	0	0	0	0	0	0	0	6
	(83.3)	(16.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1995	8	0	0	0	0	0	0	0	0	0	0	8
	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1996	7	0	0	0	0	0	0	0	0	0	0	7
	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1997	4	1	0	0	0	0	0	1	0	0	0	6
	(66.7)	(16.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(16.7)	(0.0)	(0.0)	(0.0)	(100.0)
1998	4	0	0	0	0	0	0	0	0	0	0	4
	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1999	4	0	0	0	0	0	0	0	0	0	0	4
	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2000	2	0	0	0	0	0	0	0	0	0	0	2
	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2001	2	0	0	0	0	0	0	1	0	0	1	4
	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(25.0)	(100.0)
2002	4	0	0	0	0	0	0	0	0	0	1	5
	(80.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(20.0)	(100.0)
2003	2	1	0	0	0	0	0	0	0	0	0	3
	(66.7)	(33.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2004	3	0	0	0	0	0	0	0	1	0	0	4
	(75.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(100.0)
2005	4	0	0	0	0	0	0	1	0	0	0	5
	(80.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(20.0)	(0.0)	(0.0)	(0.0)	(100.0)
2006	4	0	0	0	0	0	0	1	0	0	0	5
	(80.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(20.0)	(0.0)	(0.0)	(0.0)	(100.0)
2007	3	1	0	0	0	0	0	0	0	0	0	4
	(75.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2008	6	0	0	0	0	0	0	1	0	0	1	8
	(75.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(12.5)	(0.0)	(0.0)	(12.5)	(100.0)
2009	8	1	0	0	0	0	0	0	0	0	1	10
	(80.0)	(10.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(10.0)	(100.0)
2010	6	0	0	1	0	0	0	1	0	0	2	10
	(60.0)	(0.0)	(0.0)	(10.0)	(0.0)	(0.0)	(0.0)	(10.0)	(0.0)	(0.0)	(20.0)	(100.0)
2011	6	0	0	0	0	0	1	0	0	0	0	7
	(85.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(14.3)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2012	3	1	0	0	0	0	0	0	0	0	2	6
	(50.0)	(16.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(100.0)
2013	3	0	0	0	1	0	0	1	0	0	0	5
	(60.0)	(0.0)	(0.0)	(0.0)	(20.0)	(0.0)	(0.0)	(20.0)	(0.0)	(0.0)	(0.0)	(100.0)
Total	242	8	1	1	6	1	1	7	2	1	10	280
	(86.4)	(2.9)	(0.4)	(0.4)	(2.1)	(0.4)	(0.4)	(2.5)	(0.7)	(0.4)	(3.6)	(100.0)
N	280											

*Table 0-12 Labour transitions from **'Manufacturing Industry'** to other industries by Year*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total
1980	1	1	388	1	0	3	0	0	0	1	0	0	0	0	0	1	1	0	1	398
	(0.3)	(0.3)	(97.5)	(0.3)	(0.0)	(0.8)	(0.0)	(0.0)	(0.0)	(0.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.3)	(0.3)	(0.0)	(0.3)	(100.0)
1981	0	0	28	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	30
	(0.0)	(0.0)	(93.3)	(0.0)	(0.0)	(0.0)	(0.0)	(3.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(3.3)	(0.0)	(100.0)
1982	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1983	0	0	27	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	29
	(0.0)	(0.0)	(93.1)	(3.4)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(3.4)	(100.0)
1984	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1985	0	1	32	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	34
	(0.0)	(2.9)	(94.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(2.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1986	0	0	37	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	40
	(0.0)	(0.0)	(92.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(2.5)	(0.0)	(0.0)	(0.0)	(0.0)	(2.5)	(0.0)	(0.0)	(0.0)	(2.5)	(100.0)
1987	0	0	30	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	34
	(0.0)	(0.0)	(88.2)	(0.0)	(5.9)	(0.0)	(0.0)	(2.9)	(0.0)	(2.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1988	0	0	27	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	29
	(0.0)	(0.0)	(93.1)	(3.4)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(3.4)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1989	0	0	43	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	47
	(0.0)	(0.0)	(91.5)	(0.0)	(0.0)	(0.0)	(0.0)	(2.1)	(0.0)	(2.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(2.1)	(0.0)	(2.1)	(100.0)
1990	0	0	41	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	42
	(0.0)	(0.0)	(97.6)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(2.4)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1991	0	0	30	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	33
	(0.0)	(0.0)	(90.9)	(0.0)	(0.0)	(3.0)	(0.0)	(0.0)	(3.0)	(0.0)	(0.0)	(0.0)	(3.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1992	0	0	34	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	37
	(0.0)	(0.0)	(91.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(2.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(5.4)	(0.0)	(0.0)	(100.0)
1993	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1994	0	0	25	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	3	31
	(0.0)	(0.0)	(80.6)	(0.0)	(0.0)	(0.0)	(3.2)	(0.0)	(0.0)	(0.0)	(0.0)	(3.2)	(0.0)	(0.0)	(0.0)	(0.0)	(3.2)	(0.0)	(9.7)	(100.0)
1995	0	0	26	2	0	1	0	0	0	0	0	0	0	1	2	0	0	1	1	34
	(0.0)	(0.0)	(76.5)	(5.9)	(0.0)	(2.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(2.9)	(5.9)	(0.0)	(0.0)	(2.9)	(2.9)	(100.0)
1996	0	0	32	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	35
	(0.0)	(0.0)	(91.4)	(0.0)	(0.0)	(0.0)	(2.9)	(0.0)	(0.0)	(2.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(2.9)	(100.0)
1997	1	0	23	0	1	1	0	0	0	0	0	0	0	0	1	0	1	0	4	32
	(3.1)	(0.0)	(71.9)	(0.0)	(3.1)	(3.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(3.1)	(0.0)	(3.1)	(0.0)	(12.5)	(100.0)
1998	0	0	35	1	0	2	1	2	0	1	0	0	1	1	2	0	0	0	1	47
	(0.0)	(0.0)	(74.5)	(2.1)	(0.0)	(4.3)	(2.1)	(4.3)	(0.0)	(2.1)	(0.0)	(0.0)	(2.1)	(2.1)	(4.3)	(0.0)	(0.0)	(0.0)	(2.1)	(100.0)
1999	0	0	24	0	0	1	0	2	0	0	0	1	0	0	2	0	0	0	2	32
	(0.0)	(0.0)	(75.0)	(0.0)	(0.0)	(3.1)	(0.0)	(6.3)	(0.0)	(0.0)	(0.0)	(3.1)	(0.0)	(0.0)	(6.3)	(0.0)	(0.0)	(0.0)	(6.3)	(100.0)
2000	0	0	31	0	1	1	0	2	2	1	0	1	0	0	3	2	0	0	1	45
	(0.0)	(0.0)	(68.9)	(0.0)	(2.2)	(2.2)	(0.0)	(4.4)	(4.4)	(2.2)	(0.0)	(2.2)	(0.0)	(0.0)	(6.7)	(4.4)	(0.0)	(0.0)	(2.2)	(100.0)
2001	0	0	23	0	1	0	1	3	1	2	0	0	0	0	3	0	0	0	0	34
	(0.0)	(0.0)	(67.6)	(0.0)	(2.9)	(0.0)	(2.9)	(8.8)	(2.9)	(5.9)	(0.0)	(0.0)	(0.0)	(0.0)	(8.8)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2002	1	0	20	0	0	0	0	1	1	0	1	0	1	0	3	0	0	0	1	29
	(3.4)	(0.0)	(69.0)	(0.0)	(0.0)	(0.0)	(0.0)	(3.4)	(3.4)	(0.0)	(3.4)	(0.0)	(3.4)	(0.0)	(10.3)	(0.0)	(0.0)	(0.0)	(3.4)	(100.0)
2003	0	1	45	0	0	4	0	4	1	1	0	0	0	0	1	1	2	0	2	62
	(0.0)	(1.6)	(72.6)	(0.0)	(0.0)	(6.5)	(0.0)	(6.5)	(1.6)	(1.6)	(0.0)	(0.0)	(0.0)	(0.0)	(1.6)	(1.6)	(3.2)	(0.0)	(3.2)	(100.0)
2004	1	2	28	0	1	3	1	0	0	0	0	0	0	2	2	0	0	0	0	40
	(2.5)	(5.0)	(70.0)	(0.0)	(2.5)	(7.5)	(2.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(5.0)	(5.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2005	0	0	26	2	0	1	0	3	0	0	0	1	2	0	10	0	0	0	0	45
	(0.0)	(0.0)	(57.8)	(4.4)	(0.0)	(2.2)	(0.0)	(6.7)	(0.0)	(0.0)	(0.0)	(2.2)	(4.4)	(0.0)	(22.2)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)

2006	0	0	36	0	1	2	0	5	1	2	0	2	0	1	6	0	2	0	4	62
	(0.0)	(0.0)	(58.1)	(0.0)	(1.6)	(3.2)	(0.0)	(8.1)	(1.6)	(3.2)	(0.0)	(3.2)	(0.0)	(1.6)	(9.7)	(0.0)	(3.2)	(0.0)	(6.5)	(100.0)
2007	0	0	22	0	1	2	0	4	0	1	1	1	0	2	7	0	2	0	2	45
	(0.0)	(0.0)	(48.9)	(0.0)	(2.2)	(4.4)	(0.0)	(8.9)	(0.0)	(2.2)	(2.2)	(2.2)	(0.0)	(4.4)	(15.6)	(0.0)	(4.4)	(0.0)	(4.4)	(100.0)
2008	0	0	34	1	5	1	1	5	3	0	0	2	0	0	10	0	0	1	3	66
	(0.0)	(0.0)	(51.5)	(1.5)	(7.6)	(1.5)	(1.5)	(7.6)	(4.5)	(0.0)	(0.0)	(3.0)	(0.0)	(0.0)	(15.2)	(0.0)	(0.0)	(1.5)	(4.5)	(100.0)
2009	0	1	42	3	1	2	0	3	0	0	1	4	1	0	8	2	1	0	2	71
	(0.0)	(1.4)	(59.2)	(4.2)	(1.4)	(2.8)	(0.0)	(4.2)	(0.0)	(0.0)	(1.4)	(5.6)	(1.4)	(0.0)	(11.3)	(2.8)	(1.4)	(0.0)	(2.8)	(100.0)
2010	1	0	33	0	3	1	0	6	6	1	0	3	2	1	10	0	0	0	3	70
	(1.4)	(0.0)	(47.1)	(0.0)	(4.3)	(1.4)	(0.0)	(8.6)	(8.6)	(1.4)	(0.0)	(4.3)	(2.9)	(1.4)	(14.3)	(0.0)	(0.0)	(0.0)	(4.3)	(100.0)
2011	0	0	43	0	1	3	1	9	5	0	0	1	1	0	8	1	2	1	6	82
	(0.0)	(0.0)	(52.4)	(0.0)	(1.2)	(3.7)	(1.2)	(11.0)	(6.1)	(0.0)	(0.0)	(1.2)	(1.2)	(0.0)	(9.8)	(1.2)	(2.4)	(1.2)	(7.3)	(100.0)
2012	1	1	49	0	1	2	3	6	1	0	1	0	0	0	10	0	1	1	5	82
	(1.2)	(1.2)	(59.8)	(0.0)	(1.2)	(2.4)	(3.7)	(7.3)	(1.2)	(0.0)	(1.2)	(0.0)	(0.0)	(0.0)	(12.2)	(0.0)	(1.2)	(1.2)	(6.1)	(100.0)
2013	4	2	46	3	5	6	0	8	6	1	1	3	0	1	11	1	2	3	1	104
	(3.8)	(1.9)	(44.2)	(2.9)	(4.8)	(5.8)	(0.0)	(7.7)	(5.8)	(1.0)	(1.0)	(2.9)	(0.0)	(1.0)	(10.6)	(1.0)	(1.9)	(2.9)	(1.0)	(100.0)
Total	10	9	1437	15	24	37	10	66	28	16	6	20	10	9	101	8	18	8	46	1878
	(0.5)	(0.5)	(76.5)	(0.8)	(1.3)	(2.0)	(0.5)	(3.5)	(1.5)	(0.9)	(0.3)	(1.1)	(0.5)	(0.5)	(5.4)	(0.4)	(1.0)	(0.4)	(2.4)	(100.0)

N	1878

*Table 0-13 Labour transitions from **'Production and Supply of Electricity, Gas and Water Industry'** to other industries by Year*

	2	3	4	5	6	8	9	10	12	13	14	15	19	Total
1980	0	0	42	0	0	0	0	0	0	0	1	0	0	43
	(0.0)	(0.0)	(97.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(2.3)	(0.0)	(0.0)	(100.0)
1981	0	0	4	0	0	0	0	0	0	0	0	0	0	4
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1982	0	0	6	0	0	0	0	0	0	0	0	0	0	6
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1983	0	0	2	0	0	0	0	0	0	0	0	0	0	2
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1984	0	0	9	0	0	0	0	0	0	0	0	0	0	9
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1985	0	0	4	0	0	0	0	0	0	0	0	0	0	4
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1986	0	0	2	0	0	0	0	0	0	0	0	0	0	2
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1987	0	0	6	0	0	0	0	0	0	0	0	0	0	6
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1988	0	0	7	0	0	0	0	0	0	0	0	0	0	7
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1989	0	0	5	0	0	0	0	0	0	0	0	0	0	5
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1990	0	0	3	0	0	0	0	0	0	0	0	0	2	5
	(0.0)	(0.0)	(60.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(40.0)	(100.0)
1991	0	0	4	0	0	0	0	0	0	0	0	0	0	4
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1992	0	0	9	0	0	0	0	0	0	0	0	0	0	9
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1993	0	0	9	0	0	0	0	0	0	0	0	0	0	9
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1994	0	0	6	0	0	0	0	0	0	0	0	0	0	6
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1995	0	0	10	0	0	0	0	0	0	0	0	0	0	10
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1996	0	0	5	0	0	0	0	0	0	0	0	0	0	5
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1997	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1998	0	0	5	0	0	0	0	0	0	0	0	0	0	5
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1999	0	0	3	0	0	0	0	0	0	0	0	0	0	3
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2000	0	0	2	0	0	0	0	0	0	0	0	0	0	2
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2001	0	0	3	0	0	0	0	0	0	0	1	0	0	4

	(0.0)	(0.0)	(75.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(100.0)
2002	0	0	6	0	0	0	0	0	0	0	0	0	0	6
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2003	0	0	2	0	0	0	0	0	0	0	0	0	0	2
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2004	0	0	2	0	0	0	0	0	0	0	0	0	0	2
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2005	0	0	2	0	0	0	0	0	0	0	0	1	0	3
	(0.0)	(0.0)	(66.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(0.0)	(100.0)
2006	0	0	3	0	0	0	0	0	0	0	0	0	0	3
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2007	0	0	2	0	0	0	0	0	0	0	0	0	0	2
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2008	0	0	6	0	0	0	0	0	0	0	0	0	0	6
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2009	0	1	2	0	0	0	0	0	0	0	0	1	0	4
	(0.0)	(25.0)	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(100.0)
2010	0	0	2	0	1	2	0	0	1	0	0	0	1	7
	(0.0)	(0.0)	(28.6)	(0.0)	(14.3)	(28.6)	(0.0)	(0.0)	(14.3)	(0.0)	(0.0)	(0.0)	(14.3)	(100.0)
2011	0	1	1	1	0	0	0	1	0	0	0	0	0	4
	(0.0)	(25.0)	(25.0)	(25.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2012	0	1	4	1	0	1	0	0	0	0	0	1	0	8
	(0.0)	(12.5)	(50.0)	(12.5)	(0.0)	(12.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(12.5)	(0.0)	(100.0)
2013	1	0	2	0	0	1	1	0	0	1	0	1	0	7
	(14.3)	(0.0)	(28.6)	(0.0)	(0.0)	(14.3)	(14.3)	(0.0)	(0.0)	(14.3)	(0.0)	(14.3)	(0.0)	(100.0)
Total	1	3	181	2	1	4	1	1	1	1	2	4	3	205
	(0.5)	(1.5)	(88.3)	(1.0)	(0.5)	(2.0)	(0.5)	(0.5)	(0.5)	(0.5)	(1.0)	(2.0)	(1.5)	(100.0)

N	205

*Table 0-14 Labour transitions from **'Construction Enterprise Industry'** to other industries by Year*

	2	3	5	6	7	8	9	10	11	12	14	15	17	18	19	Total
1980	0	0	61	0	0	0	0	0	0	0	0	0	0	0	1	62
	(0.0)	(0.0)	(98.4)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(1.6)	(100.0)
1981	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	11
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1982	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1983	0	0	6	0	0	0	0	0	0	0	0	0	0	0	1	7
	(0.0)	(0.0)	(85.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(14.3)	(100.0)
1984	0	0	5	0	0	0	0	0	0	0	0	0	1	0	0	6
	(0.0)	(0.0)	(83.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(16.7)	(0.0)	(0.0)	(100.0)
1985	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	10
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1986	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1987	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1988	0	0	6	0	0	0	0	0	0	0	1	0	0	0	0	7
	(0.0)	(0.0)	(85.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(14.3)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1989	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
	(0.0)	(0.0)	(66.7)	(33.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1990	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	3
	(0.0)	(0.0)	(33.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(0.0)	(33.3)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1991	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1992	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1993	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1994	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1995	0	0	5	0	0	0	0	0	0	0	0	1	0	0	0	6
	(0.0)	(0.0)	(83.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(16.7)	(0.0)	(0.0)	(0.0)	(100.0)
1996	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	7
	(0.0)	(14.3)	(85.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1997	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3
	(33.3)	(0.0)	(66.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1998	0	0	9	1	0	0	0	0	0	0	0	0	0	0	0	10
	(0.0)	(0.0)	(90.0)	(10.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1999	0	0	5	0	0	0	0	1	0	0	0	0	0	0	0	6
	(0.0)	(0.0)	(83.3)	(0.0)	(0.0)	(0.0)	(0.0)	(16.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2000	0	0	8	0	0	1	0	0	0	0	0	0	0	0	0	9
	(0.0)	(0.0)	(88.9)	(0.0)	(0.0)	(11.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2001	0	0	5	1	0	0	0	0	0	0	0	0	1	0	0	7

	(0.0)	(0.0)	(71.4)	(14.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(14.3)	(0.0)	(0.0)	(100.0)
2002	0	0	9	0	1	0	0	0	0	0	0	0	0	0	0	10
	(0.0)	(0.0)	(90.0)	(0.0)	(10.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2003	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	4
	(0.0)	(0.0)	(75.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(100.0)
2004	0	0	10	0	0	0	0	0	0	0	0	1	0	0	0	11
	(0.0)	(0.0)	(90.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(9.1)	(0.0)	(0.0)	(0.0)	(100.0)
2005	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2006	0	0	12	3	0	1	0	0	0	0	0	0	0	0	0	16
	(0.0)	(0.0)	(75.0)	(18.8)	(0.0)	(6.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2007	0	0	8	0	0	0	0	0	0	0	0	1	0	0	0	9
	(0.0)	(0.0)	(88.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(11.1)	(0.0)	(0.0)	(0.0)	(100.0)
2008	0	1	13	0	0	0	0	0	0	1	0	0	0	0	1	16
	(0.0)	(6.3)	(81.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(6.3)	(0.0)	(0.0)	(0.0)	(0.0)	(6.3)	(100.0)
2009	0	0	7	1	0	1	0	0	0	0	1	0	0	0	0	10
	(0.0)	(0.0)	(70.0)	(10.0)	(0.0)	(10.0)	(0.0)	(0.0)	(0.0)	(0.0)	(10.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2010	0	0	24	1	0	1	0	2	0	1	0	0	0	1	0	30
	(0.0)	(0.0)	(80.0)	(3.3)	(0.0)	(3.3)	(0.0)	(6.7)	(0.0)	(3.3)	(0.0)	(0.0)	(0.0)	(3.3)	(0.0)	(100.0)
2011	0	0	15	2	0	0	0	0	0	1	0	0	0	0	1	19
	(0.0)	(0.0)	(78.9)	(10.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(5.3)	(0.0)	(0.0)	(0.0)	(0.0)	(5.3)	(100.0)
2012	1	5	16	1	0	1	1	0	1	0	0	3	0	0	0	29
	(3.4)	(17.2)	(55.2)	(3.4)	(0.0)	(3.4)	(3.4)	(0.0)	(3.4)	(0.0)	(0.0)	(10.3)	(0.0)	(0.0)	(0.0)	(100.0)
2013	1	1	9	0	0	0	0	0	0	0	0	2	1	0	0	14
	(7.1)	(7.1)	(64.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(14.3)	(7.1)	(0.0)	(0.0)	(100.0)
Total	3	8	301	11	1	5	1	3	2	3	3	9	3	1	4	358
	(0.8)	(2.2)	(84.1)	(3.1)	(0.3)	(1.4)	(0.3)	(0.8)	(0.6)	(0.8)	(0.8)	(2.5)	(0.8)	(0.3)	(1.1)	(100.0)

N	358

*Table 0-15 Labour transitions from **'Transport, Storage and Post Industry'** to other industries by Year*

	2	3	4	5	6	7	8	9	10	12	14	15	16	17	19	Total
1980	0	0	0	0	78	0	0	0	0	0	0	0	0	1	0	79
	(0.0)	(0.0)	(0.0)	(0.0)	(98.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(1.3)	(0.0)	(100.0)
1981	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	6
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1982	0	0	0	0	5	0	0	0	0	0	0	0	1	0	0	6
	(0.0)	(0.0)	(0.0)	(0.0)	(83.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(16.7)	(0.0)	(0.0)	(100.0)
1983	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	9
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1984	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	10
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1985	0	0	0	0	12	0	0	0	0	0	0	0	0	0	1	13
	(0.0)	(0.0)	(0.0)	(0.0)	(92.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(7.7)	(100.0)
1986	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	17
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1987	0	0	0	0	5	0	0	0	0	0	0	0	1	0	0	6
	(0.0)	(0.0)	(0.0)	(0.0)	(83.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(16.7)	(0.0)	(0.0)	(100.0)
1988	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	11
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1989	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	9
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1990	0	0	0	0	10	0	0	0	0	0	0	0	0	0	1	11
	(0.0)	(0.0)	(0.0)	(0.0)	(90.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(9.1)	(100.0)
1991	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	15
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1992	0	0	1	0	11	0	0	0	0	0	0	1	0	0	1	14
	(0.0)	(0.0)	(7.1)	(0.0)	(78.6)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(7.1)	(0.0)	(0.0)	(7.1)	(100.0)
1993	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	9
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1994	0	0	0	0	10	0	0	0	0	0	0	0	0	0	1	11
	(0.0)	(0.0)	(0.0)	(0.0)	(90.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(9.1)	(100.0)
1995	0	0	0	0	10	0	0	1	0	0	0	1	0	0	0	12
	(0.0)	(0.0)	(0.0)	(0.0)	(83.3)	(0.0)	(0.0)	(8.3)	(0.0)	(0.0)	(0.0)	(8.3)	(0.0)	(0.0)	(0.0)	(100.0)
1996	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	9
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1997	0	0	0	0	3	0	0	0	0	0	0	0	0	0	1	4
	(0.0)	(0.0)	(0.0)	(0.0)	(75.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(100.0)
1998	0	0	0	0	8	0	0	0	0	0	0	0	0	0	1	9
	(0.0)	(0.0)	(0.0)	(0.0)	(88.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(11.1)	(100.0)
1999	0	0	0	0	5	0	0	0	0	0	0	0	0	0	1	6
	(0.0)	(0.0)	(0.0)	(0.0)	(83.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(16.7)	(100.0)
2000	0	0	0	2	20	0	0	0	2	0	0	0	0	0	1	25
	(0.0)	(0.0)	(0.0)	(8.0)	(80.0)	(0.0)	(0.0)	(0.0)	(8.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(4.0)	(100.0)
2001	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5

	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2002	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2003	0	0	0	0	7	1	0	0	0	0	0	0	0	0	0	8
	(0.0)	(0.0)	(0.0)	(0.0)	(87.5)	(12.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2004	0	0	0	0	7	0	0	0	1	0	0	0	0	1	0	9
	(0.0)	(0.0)	(0.0)	(0.0)	(77.8)	(0.0)	(0.0)	(0.0)	(11.1)	(0.0)	(0.0)	(0.0)	(0.0)	(11.1)	(0.0)	(100.0)
2005	0	0	0	0	8	0	0	0	0	0	0	0	1	0	0	9
	(0.0)	(0.0)	(0.0)	(0.0)	(88.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(11.1)	(0.0)	(0.0)	(100.0)
2006	0	0	0	0	10	0	0	0	0	0	0	0	0	0	1	11
	(0.0)	(0.0)	(0.0)	(0.0)	(90.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(9.1)	(100.0)
2007	0	0	0	0	6	1	0	0	0	0	1	0	1	0	0	9
	(0.0)	(0.0)	(0.0)	(0.0)	(66.7)	(11.1)	(0.0)	(0.0)	(0.0)	(0.0)	(11.1)	(0.0)	(11.1)	(0.0)	(0.0)	(100.0)
2008	1	0	0	0	8	2	0	0	0	0	0	0	0	0	2	13
	(7.7)	(0.0)	(0.0)	(0.0)	(61.5)	(15.4)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(15.4)	(100.0)
2009	0	0	0	1	12	0	1	0	0	0	0	1	0	0	0	15
	(0.0)	(0.0)	(0.0)	(6.7)	(80.0)	(0.0)	(6.7)	(0.0)	(0.0)	(0.0)	(0.0)	(6.7)	(0.0)	(0.0)	(0.0)	(100.0)
2010	0	2	0	0	3	0	1	0	0	0	0	2	0	0	1	9
	(0.0)	(22.2)	(0.0)	(0.0)	(33.3)	(0.0)	(11.1)	(0.0)	(0.0)	(0.0)	(0.0)	(22.2)	(0.0)	(0.0)	(11.1)	(100.0)
2011	2	1	1	0	9	1	2	1	0	1	0	1	0	0	0	19
	(10.5)	(5.3)	(5.3)	(0.0)	(47.4)	(5.3)	(10.5)	(5.3)	(0.0)	(5.3)	(0.0)	(5.3)	(0.0)	(0.0)	(0.0)	(100.0)
2012	0	0	0	1	10	0	1	0	1	0	0	2	0	0	2	17
	(0.0)	(0.0)	(0.0)	(5.9)	(58.8)	(0.0)	(5.9)	(0.0)	(5.9)	(0.0)	(0.0)	(11.8)	(0.0)	(0.0)	(11.8)	(100.0)
2013	1	0	0	0	16	0	0	0	0	0	0	3	0	0	1	21
	(4.8)	(0.0)	(0.0)	(0.0)	(76.2)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(14.3)	(0.0)	(0.0)	(4.8)	(100.0)
Total	4	3	2	4	378	5	5	2	4	1	1	11	4	2	15	441
	(0.9)	(0.7)	(0.5)	(0.9)	(85.7)	(1.1)	(1.1)	(0.5)	(0.9)	(0.2)	(0.2)	(2.5)	(0.9)	(0.5)	(3.4)	(100.0)

N	441

*Table 0-16 Labour transitions from **'Information Transmission, Computer Services and Software Industry'** to other industries by Year*

	3	6	7	8	13	15	16	17	18	19	Total
1980	0	0	7	0	0	0	0	0	0	0	7
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1981	0	0	5	0	0	0	0	0	0	0	5
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1982	0	0	3	0	0	0	0	0	0	0	3
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1984	0	0	2	0	0	0	0	0	0	0	2
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1985	0	0	1	0	0	0	0	0	0	0	1
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1986	0	0	2	0	0	0	0	0	0	0	2
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1987	0	0	1	0	0	0	0	0	0	0	1
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1988	0	0	1	0	0	0	0	0	0	0	1
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1989	0	0	1	0	0	0	0	0	0	0	1
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1990	0	0	3	0	0	0	0	0	0	0	3
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1991	0	0	4	0	0	0	0	0	0	0	4
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1992	0	0	6	0	0	0	0	0	0	0	6
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1993	0	0	4	0	0	0	0	0	0	0	4
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1994	0	0	2	0	0	0	0	0	0	0	2
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1995	0	0	3	0	0	0	1	0	0	0	4
	(0.0)	(0.0)	(75.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(100.0)
1996	0	0	2	0	0	0	0	0	0	0	2
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1997	0	0	4	0	0	0	0	0	0	0	4
	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1999	0	0	5	0	0	0	0	0	0	1	6
	(0.0)	(0.0)	(83.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(16.7)	(100.0)
2000	0	0	7	0	0	1	0	0	1	0	9
	(0.0)	(0.0)	(77.8)	(0.0)	(0.0)	(11.1)	(0.0)	(0.0)	(11.1)	(0.0)	(100.0)
2001	0	0	4	1	0	0	0	0	0	0	5
	(0.0)	(0.0)	(80.0)	(20.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2002	1	0	3	0	0	0	0	0	0	0	4
	(25.0)	(0.0)	(75.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2003	1	1	7	1	0	0	0	0	0	0	10
	(10.0)	(10.0)	(70.0)	(10.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2004	0	0	9	0	0	0	0	1	0	0	10
	(0.0)	(0.0)	(90.0)	(0.0)	(0.0)	(0.0)	(0.0)	(10.0)	(0.0)	(0.0)	(100.0)
2005	0	1	9	0	1	0	0	0	0	1	12
	(0.0)	(8.3)	(75.0)	(0.0)	(8.3)	(0.0)	(0.0)	(0.0)	(0.0)	(8.3)	(100.0)
2006	0	0	7	0	0	1	0	0	0	0	8
	(0.0)	(0.0)	(87.5)	(0.0)	(0.0)	(12.5)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2007	0	0	7	0	1	0	0	0	0	0	8
	(0.0)	(0.0)	(87.5)	(0.0)	(12.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2008	0	0	3	1	0	0	0	0	0	0	4
	(0.0)	(0.0)	(75.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2009	1	0	3	0	0	0	0	0	0	0	4
	(25.0)	(0.0)	(75.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2010	1	0	11	2	0	0	0	0	0	0	14
	(7.1)	(0.0)	(78.6)	(14.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2011	0	0	2	0	0	0	0	1	0	0	3
	(0.0)	(0.0)	(66.7)	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(0.0)	(0.0)	(100.0)
2012	1	0	7	1	0	0	1	0	0	1	11
	(9.1)	(0.0)	(63.6)	(9.1)	(0.0)	(0.0)	(9.1)	(0.0)	(0.0)	(9.1)	(100.0)
2013	0	1	5	2	0	0	0	0	0	1	9
	(0.0)	(11.1)	(55.6)	(22.2)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(11.1)	(100.0)
Total	5	3	140	8	2	2	2	2	1	4	169
	(3.0)	(1.8)	(82.8)	(4.7)	(1.2)	(1.2)	(1.2)	(1.2)	(0.6)	(2.4)	(100.0)
N	169										

*Table 0-17 Labour transitions from **'Wholesale and Retail Trade Industry'** to other industries by Year*

	2	3	4	5	6	7	8	9	10	11	12	13	15	16	17	18	19	Total
1980	0	1	0	0	0	0	61	0	0	0	0	0	0	0	0	0	0	62
	(0.0)	(1.6)	(0.0)	(0.0)	(0.0)	(0.0)	(98.4)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1981	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	8
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1982	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	6
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1984	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1985	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	6
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1986	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1987	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	6
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(16.7)	(83.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1988	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1989	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(66.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1990	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	1	8
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(87.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(12.5)	(100.0)
1991	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	8
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1992	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	7
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1993	0	0	0	0	0	0	5	0	1	0	0	0	0	0	0	0	0	6
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(83.3)	(0.0)	(16.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1994	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	6
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1995	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	8
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1996	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	6
	(0.0)	(16.7)	(0.0)	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(100.0)
1997	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	7
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1998	0	1	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	13
	(0.0)	(7.7)	(0.0)	(0.0)	(0.0)	(0.0)	(92.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1999	0	0	0	0	0	0	4	0	0	0	0	0	0	0	1	0	0	5
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(80.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(20.0)	(0.0)	(0.0)	(100.0)
2000	0	1	0	0	0	0	15	0	0	0	0	0	2	0	0	0	0	18
	(0.0)	(5.6)	(0.0)	(0.0)	(0.0)	(0.0)	(83.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(11.1)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2001	0	1	0	0	1	0	5	0	0	1	0	0	0	0	0	0	0	8
	(0.0)	(12.5)	(0.0)	(0.0)	(12.5)	(0.0)	(62.5)	(0.0)	(0.0)	(12.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2002	0	0	0	0	0	0	6	1	0	0	0	0	1	0	0	0	0	8
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(75.0)	(12.5)	(0.0)	(0.0)	(0.0)	(0.0)	(12.5)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2003	0	0	0	0	0	1	8	0	1	0	0	0	4	0	0	0	2	16
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(6.3)	(50.0)	(0.0)	(6.3)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(12.5)	(100.0)
2004	0	0	1	0	1	0	13	0	0	0	0	0	0	0	0	0	0	15
	(0.0)	(0.0)	(6.7)	(0.0)	(6.7)	(0.0)	(86.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2005	0	0	0	0	1	0	17	1	0	0	0	0	0	0	0	1	0	20
	(0.0)	(0.0)	(0.0)	(0.0)	(5.0)	(0.0)	(85.0)	(5.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(5.0)	(0.0)	(100.0)
2006	1	0	0	1	0	0	13	1	0	1	0	0	1	0	0	0	2	20
	(5.0)	(0.0)	(0.0)	(5.0)	(0.0)	(0.0)	(65.0)	(5.0)	(0.0)	(5.0)	(0.0)	(0.0)	(5.0)	(0.0)	(0.0)	(0.0)	(10.0)	(100.0)

2007	0	1	0	0	1	1	9	0	0	0	0	0	1	0	0	0	0	13
	(0.0)	(7.7)	(0.0)	(0.0)	(7.7)	(7.7)	(69.2)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(7.7)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2008	0	0	0	1	1	0	15	0	0	0	1	0	1	0	0	0	0	19
	(0.0)	(0.0)	(0.0)	(5.3)	(5.3)	(0.0)	(78.9)	(0.0)	(0.0)	(0.0)	(5.3)	(0.0)	(5.3)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2009	1	2	0	0	2	0	18	0	0	0	2	1	1	1	0	1	0	29
	(3.4)	(6.9)	(0.0)	(0.0)	(6.9)	(0.0)	(62.1)	(0.0)	(0.0)	(0.0)	(6.9)	(3.4)	(3.4)	(3.4)	(0.0)	(3.4)	(0.0)	(100.0)
2010	1	5	0	0	0	1	16	0	0	0	1	0	2	0	0	1	0	27
	(3.7)	(18.5)	(0.0)	(0.0)	(0.0)	(3.7)	(59.3)	(0.0)	(0.0)	(0.0)	(3.7)	(0.0)	(7.4)	(0.0)	(0.0)	(3.7)	(0.0)	(100.0)
2011	0	2	0	1	0	0	12	0	0	0	1	0	3	0	0	0	0	19
	(0.0)	(10.5)	(0.0)	(5.3)	(0.0)	(0.0)	(63.2)	(0.0)	(0.0)	(0.0)	(5.3)	(0.0)	(15.8)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2012	0	3	0	0	1	0	29	1	1	0	0	0	3	1	0	2	0	41
	(0.0)	(7.3)	(0.0)	(0.0)	(2.4)	(0.0)	(70.7)	(2.4)	(2.4)	(0.0)	(0.0)	(0.0)	(7.3)	(2.4)	(0.0)	(4.9)	(0.0)	(100.0)
2013	1	1	0	0	0	0	22	0	1	0	1	1	1	0	0	0	1	29
	(3.4)	(3.4)	(0.0)	(0.0)	(0.0)	(0.0)	(75.9)	(0.0)	(3.4)	(0.0)	(3.4)	(3.4)	(3.4)	(0.0)	(0.0)	(0.0)	(3.4)	(100.0)
Total	4	19	1	3	8	4	362	4	4	2	6	2	21	2	1	5	8	456
	(0.9)	(4.2)	(0.2)	(0.7)	(1.8)	(0.9)	(79.4)	(0.9)	(0.9)	(0.4)	(1.3)	(0.4)	(4.6)	(0.4)	(0.2)	(1.1)	(1.8)	(100.0)

N	456

*Table 0-18 Labour transitions from **'Hotel and Catering Services Industry'** to other industries by Year*

	3	4	6	7	8	9	10	11	12	14	15	16	17	18	19	Total
1980	0	0	0	0	0	17	0	0	0	0	0	0	0	0	0	17
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1982	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1983	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(100.0)
1984	0	0	0	0	0	4	0	0	0	0	0	0	0	0	1	5
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(80.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(20.0)	(100.0)
1985	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1986	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1987	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1988	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1989	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1990	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1992	0	0	0	0	1	7	0	0	0	0	0	0	0	0	0	8
	(0.0)	(0.0)	(0.0)	(0.0)	(12.5)	(87.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1993	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1994	0	0	0	1	0	4	0	0	0	0	0	0	0	0	0	5
	(0.0)	(0.0)	(0.0)	(20.0)	(0.0)	(80.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1995	0	0	0	0	0	5	0	0	0	0	1	0	0	0	1	7
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(71.4)	(0.0)	(0.0)	(0.0)	(0.0)	(14.3)	(0.0)	(0.0)	(0.0)	(14.3)	(100.0)
1996	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1997	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	4
	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(75.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1998	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	4
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(75.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(100.0)
1999	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2000	1	0	0	0	1	11	0	0	0	0	0	0	0	0	1	14
	(7.1)	(0.0)	(0.0)	(0.0)	(7.1)	(78.6)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(7.1)	(100.0)
2001	0	0	0	0	2	4	0	0	1	0	0	0	0	0	0	7
	(0.0)	(0.0)	(0.0)	(0.0)	(28.6)	(57.1)	(0.0)	(0.0)	(14.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2002	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	9
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2003	1	0	0	0	0	8	0	0	0	0	0	0	1	0	0	10

	(10.0)	(0.0)	(0.0)	(0.0)	(0.0)	(80.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(10.0)	(0.0)	(0.0)	(100.0)
2004	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	5
	(0.0)	(0.0)	(0.0)	(0.0)	(60.0)	(40.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2005	0	0	0	0	1	3	0	0	0	0	1	0	0	0	0	5
	(0.0)	(0.0)	(0.0)	(0.0)	(20.0)	(60.0)	(0.0)	(0.0)	(0.0)	(0.0)	(20.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2006	1	0	0	0	0	5	0	0	0	0	0	0	0	0	0	6
	(16.7)	(0.0)	(0.0)	(0.0)	(0.0)	(83.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2007	0	0	0	0	1	2	0	0	0	0	1	0	1	0	0	5
	(0.0)	(0.0)	(0.0)	(0.0)	(20.0)	(40.0)	(0.0)	(0.0)	(0.0)	(0.0)	(20.0)	(0.0)	(20.0)	(0.0)	(0.0)	(100.0)
2008	1	0	1	0	0	6	0	0	0	0	1	0	0	0	0	9
	(11.1)	(0.0)	(11.1)	(0.0)	(0.0)	(66.7)	(0.0)	(0.0)	(0.0)	(0.0)	(11.1)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2009	0	0	0	0	1	6	1	0	0	0	0	0	0	0	0	8
	(0.0)	(0.0)	(0.0)	(0.0)	(12.5)	(75.0)	(12.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2010	1	0	0	1	2	13	0	0	0	0	0	1	1	0	1	20
	(5.0)	(0.0)	(0.0)	(5.0)	(10.0)	(65.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(5.0)	(5.0)	(0.0)	(5.0)	(100.0)
2011	0	0	2	0	2	6	0	0	0	0	2	0	0	0	1	13
	(0.0)	(0.0)	(15.4)	(0.0)	(15.4)	(46.2)	(0.0)	(0.0)	(0.0)	(0.0)	(15.4)	(0.0)	(0.0)	(0.0)	(7.7)	(100.0)
2012	0	0	0	0	6	13	0	1	0	1	2	0	1	0	0	24
	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(54.2)	(0.0)	(4.2)	(0.0)	(4.2)	(8.3)	(0.0)	(4.2)	(0.0)	(0.0)	(100.0)
2013	1	1	0	0	1	11	0	0	0	0	2	0	1	0	2	19
	(5.3)	(5.3)	(0.0)	(0.0)	(5.3)	(57.9)	(0.0)	(0.0)	(0.0)	(0.0)	(10.5)	(0.0)	(5.3)	(0.0)	(10.5)	(100.0)
Total	7	1	3	2	21	167	1	1	1	2	11	1	5	2	7	232
	(3.0)	(0.4)	(1.3)	(0.9)	(9.1)	(72.0)	(0.4)	(0.4)	(0.4)	(0.9)	(4.7)	(0.4)	(2.2)	(0.9)	(3.0)	(100.0)

N	232

*Table 0-19 Labour transitions from **'Financial Intermediation Industry'** to other industries by Year*

	3	7	8	9	10	12	17	19	Total
1980	0	0	0	0	19	0	0	0	19
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1981	0	0	0	0	1	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1982	0	0	0	0	2	0	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1983	0	0	0	0	4	0	0	0	4
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1984	0	0	0	0	5	0	0	0	5
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1985	0	0	0	0	6	0	0	0	6
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1986	0	0	0	0	8	0	0	0	8
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1987	0	0	0	0	4	0	0	0	4
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1988	0	0	0	0	6	0	0	0	6
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1989	0	0	0	0	1	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1990	0	0	0	0	6	0	0	0	6
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1991	0	0	0	0	4	0	0	0	4
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1992	0	0	0	0	5	0	0	0	5
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1993	0	0	0	0	4	0	0	0	4
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1994	0	0	0	0	2	0	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1995	0	0	0	0	4	0	0	0	4
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1996	0	0	0	0	3	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1997	0	0	0	0	1	0	0	1	2
	(0.0)	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(50.0)	(100.0)
1998	0	0	0	0	1	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1999	0	0	0	0	3	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
2000	0	0	0	0	3	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
2001	0	0	0	0	4	0	0	0	4
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
2002	0	0	0	0	7	0	0	0	7
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
2003	0	0	0	0	3	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
2004	0	0	0	0	7	0	0	0	7
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
2005	0	0	0	0	1	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
2006	0	0	0	0	3	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
2007	0	2	0	0	6	0	0	0	8
	(0.0)	(25.0)	(0.0)	(0.0)	(75.0)	(0.0)	(0.0)	(0.0)	(100.0)
2008	0	0	0	0	6	0	1	0	7
	(0.0)	(0.0)	(0.0)	(0.0)	(85.7)	(0.0)	(14.3)	(0.0)	(100.0)
2009	1	0	1	1	2	0	0	0	5
	(20.0)	(0.0)	(20.0)	(20.0)	(40.0)	(0.0)	(0.0)	(0.0)	(100.0)
2010	1	0	0	0	6	1	0	0	8
	(12.5)	(0.0)	(0.0)	(0.0)	(75.0)	(12.5)	(0.0)	(0.0)	(100.0)
2011	2	0	0	0	4	1	1	0	8
	(25.0)	(0.0)	(0.0)	(0.0)	(50.0)	(12.5)	(12.5)	(0.0)	(100.0)
2012	0	0	0	0	6	0	0	1	7
	(0.0)	(0.0)	(0.0)	(0.0)	(85.7)	(0.0)	(0.0)	(14.3)	(100.0)
2013	1	0	0	0	1	0	0	0	2
	(50.0)	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(0.0)	(100.0)
Total	5	2	1	1	148	2	2	2	163
	(3.1)	(1.2)	(0.6)	(0.6)	(90.8)	(1.2)	(1.2)	(1.2)	(100.0)
N	163								

*Table 0-20 Labour transitions from **'Real Estate Industry'** to other industries by Year*

	3	4	6	9	10	11	12	15	19	Total
1980	0	0	0	0	0	4	0	0	0	4
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1982	1	0	0	0	0	0	0	0	0	1
	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1984	0	0	0	0	0	1	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1986	0	0	0	0	0	2	0	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1987	0	0	0	0	0	1	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1988	0	0	0	0	0	1	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1989	0	0	0	0	0	2	0	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1991	0	0	0	0	0	1	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1992	0	0	0	0	0	1	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1993	0	0	0	0	0	1	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1996	0	0	0	0	0	2	0	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1997	0	0	0	0	0	1	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
1998	0	0	0	0	0	1	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
2000	0	0	0	0	0	5	0	0	0	5
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
2001	0	0	0	0	0	3	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
2002	0	0	0	0	0	4	0	0	0	4
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
2003	0	0	0	0	0	2	0	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
2004	0	0	0	0	0	2	0	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
2005	0	0	2	0	0	1	0	0	0	3
	(0.0)	(0.0)	(66.7)	(0.0)	(0.0)	(33.3)	(0.0)	(0.0)	(0.0)	(100.0)
2006	0	0	1	0	0	2	0	0	0	3
	(0.0)	(0.0)	(33.3)	(0.0)	(0.0)	(66.7)	(0.0)	(0.0)	(0.0)	(100.0)
2007	0	0	0	0	0	3	0	1	1	5
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(60.0)	(0.0)	(20.0)	(20.0)	(100.0)
2008	0	0	0	0	0	4	0	0	1	5
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(80.0)	(0.0)	(0.0)	(20.0)	(100.0)
2009	0	1	0	1	0	3	0	0	0	5
	(0.0)	(20.0)	(0.0)	(20.0)	(0.0)	(60.0)	(0.0)	(0.0)	(0.0)	(100.0)
2010	0	0	0	0	0	5	0	0	1	6
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(83.3)	(0.0)	(0.0)	(16.7)	(100.0)
2011	0	0	0	0	0	2	0	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(100.0)
2012	0	0	0	0	1	3	1	1	1	7
	(0.0)	(0.0)	(0.0)	(0.0)	(14.3)	(42.9)	(14.3)	(14.3)	(14.3)	(100.0)
2013	0	0	0	0	1	1	0	1	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(33.3)	(0.0)	(33.3)	(0.0)	(100.0)
Total	1	1	3	1	2	58	1	3	4	74
	(1.4)	(1.4)	(4.1)	(1.4)	(2.7)	(78.4)	(1.4)	(4.1)	(5.4)	(100.0)
N	74									

*Table 0-21 Labour transitions from **'Leasing and Business Services Industry'** to other industries by Year*

	1	2	3	5	6	7	8	9	10	11	12	15	16	17	18	19	Total
1980	0	0	0	0	0	0	0	0	0	0	28	0	0	0	0	0	28
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1982	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1983	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1984	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1986	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	5
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(20.0)	(80.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1987	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1988	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	3
	(0.0)	(0.0)	(33.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(66.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1989	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1990	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1992	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(0.0)	(66.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1994	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1995	0	0	0	0	0	0	0	0	1	0	3	1	0	0	0	0	5
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(20.0)	(0.0)	(60.0)	(20.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1996	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1997	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1998	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0	4
	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(75.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
1999	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2000	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2001	0	0	0	0	1	0	0	0	0	0	2	0	1	0	0	0	4
	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(100.0)
2002	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2
	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2003	0	0	0	0	1	0	0	0	0	0	7	0	0	0	1	0	9
	(0.0)	(0.0)	(0.0)	(0.0)	(11.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(77.8)	(0.0)	(0.0)	(0.0)	(11.1)	(0.0)	(100.0)
2004	0	0	2	0	0	0	0	0	0	0	8	0	0	0	0	1	11
	(0.0)	(0.0)	(18.2)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(72.7)	(0.0)	(0.0)	(0.0)	(0.0)	(9.1)	(100.0)
2005	0	0	1	1	0	0	0	0	0	0	6	0	0	0	0	1	9
	(0.0)	(0.0)	(11.1)	(11.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(66.7)	(0.0)	(0.0)	(0.0)	(0.0)	(11.1)	(100.0)
2006	0	0	0	0	0	0	0	0	0	0	4	1	0	0	1	0	6
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(66.7)	(16.7)	(0.0)	(0.0)	(16.7)	(0.0)	(100.0)
2007	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	3
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(66.7)	(33.3)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2008	0	0	0	0	1	0	1	0	1	0	5	0	0	0	0	1	9
	(0.0)	(0.0)	(0.0)	(0.0)	(11.1)	(0.0)	(11.1)	(0.0)	(11.1)	(0.0)	(55.6)	(0.0)	(0.0)	(0.0)	(0.0)	(11.1)	(100.0)
2009	0	0	0	0	0	1	1	1	0	0	6	1	1	1	0	1	13
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(7.7)	(7.7)	(7.7)	(0.0)	(0.0)	(46.2)	(7.7)	(7.7)	(7.7)	(0.0)	(7.7)	(100.0)

2010	0	0	0	0	1	0	0	0	0	0	7	2	0	0	0	0	10
	(0.0)	(0.0)	(0.0)	(0.0)	(10.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(70.0)	(20.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
2011	0	1	0	0	1	0	3	0	0	0	8	1	0	0	0	2	16
	(0.0)	(6.3)	(0.0)	(0.0)	(6.3)	(0.0)	(18.8)	(0.0)	(0.0)	(0.0)	(50.0)	(6.3)	(0.0)	(0.0)	(0.0)	(12.5)	(100.0)
2012	1	0	1	0	0	1	1	0	1	0	9	0	0	0	0	1	15
	(6.7)	(0.0)	(6.7)	(0.0)	(0.0)	(6.7)	(6.7)	(0.0)	(6.7)	(0.0)	(60.0)	(0.0)	(0.0)	(0.0)	(0.0)	(6.7)	(100.0)
2013	0	0	0	1	1	1	1	0	0	0	11	0	0	0	0	0	15
	(0.0)	(0.0)	(0.0)	(6.7)	(6.7)	(6.7)	(6.7)	(0.0)	(0.0)	(0.0)	(73.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Total	1	1	6	2	8	3	7	2	4	1	144	7	2	1	2	7	198
	(0.5)	(0.5)	(3.0)	(1.0)	(4.0)	(1.5)	(3.5)	(1.0)	(2.0)	(0.5)	(72.7)	(3.5)	(1.0)	(0.5)	(1.0)	(3.5)	(100.0)

N	198