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# The Chinese dream, a migrant's nightmare?

The impact of the Hukou system and labour reforms on the position of  
internal migrants in China

by

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## Abstract

This thesis aims to uncover whether having a long-term or permanent contract improves the quality of employment of internal migrants in China. The focus lies specifically on the labour reforms in 2008, which will be analysed using a differences-in-differences approach. Though the results seem to point towards a positive direct effect of having such a contract, the laws seem to cause ambiguity. In particular, the effect of said regulations may differ due to regional heterogeneity and the impact of the 2008 financial crisis. Whether labour reforms have improved the position of internal migrants is thus dependent on context and the political will to enact social progress.

**Keywords:** *Internal migration, quality of employment, Hukou system, labour reform* ,  
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## 1. INTRODUCTION

Strolling through a tiny village in China presents a striking picture. As is observed by an elderly primary school teacher, Cheng Dequan, few working-age people are visible on the streets; children and the elderly comprise the majority of the remaining population (Wildau, 2015). This is perhaps not a strange incidence if one were to assess the role of migration as a mechanism for China's rapid development in recent decades. Ever since Deng Xiaoping implemented market reforms in 1978, the number of *internal* migrants has soared to around 278 million workers, that have moved from rural towns to urbanised areas with the dream of improving their quality of life. The concept of this dream has recently been formalised by the Chinese communist party as a means to rejuvenate the nation into greater prosperity. As emphasised by political scientists, the concept of rejuvenation is not necessarily new in the Chinese context (Wang, 2014). Semantically, though, it seems to allude to the concept of the American dream, in which everyone can rise to prosperity if they work hard enough.

As Taylor (2015) observes, urbanisation is a critical part of the Chinese dream. Fundamentally, the incredible aforementioned figures of internal migration in China are driven by the aspiration to have a job, earn more and have a better life. It is not just a question of personal aspirations and dreams, there are also economic forces at play. More specifically, most migrants moved from subsistence-level employment in agricultural to earning slightly more in the urban secondary or tertiary sectors. Following the seminal work of Lewis (1954), an economy will continue to expand without raising the wages significantly, as countries with an unlimited supply of subsistence labour are subject to a negligible marginal productivity of labour. However, this expansion cannot continue indefinitely, as capital accumulation eventually could materialise at a faster pace than population growth. This implies that the surplus of labourers can be exhausted, after which marginal productivity of labour increases and wages must rise above subsistence. This point of exhaustion is commonly referred to as the Lewisian turning point and whether China has reached this particular turning point is subject to debate (Zhang, et al., 2011; Cai, 2010; Das & N'Diaye, 2013). Reaching this point does not need to raise concerns however, as it conventionally coincides with a modernisation of the economy (Cai, 2010). Consequently, this implies that a previously segmented labour market – between subsistence and wage labour – is projected to transform into a modern labour market.

What constitutes a problem in this regard, is that China's labour market is segmented across multiple dimensions. The most prominent of which is the household registration – henceforth Hukou – system (Fan, 2002). This system can be explained as a system of internal passports,

which tie one's consumption of public services to one's residence status; and it was instated to curb labour mobility (Song, 2014; Fan, 2002). Following this intuition, it can be inferred that aspiring for one's Chinese dream is, to a certain degree, deterred. A migrant from a rural town in Sichuan province cannot easily rise to prosperity in Beijing or Shanghai without a lengthy, and potentially expensive, bureaucratic process. In a similar vein, one can argue that this deterrence is held back artificially, as China's urban population would be far greater if not for the Hukou system (Bosker, et al., 2012). In other words, the trade-off involved with migration is institutionally determined.

This train of thought addresses an important question: does internal migration in China result in quantifiable improvements of one's labour outcomes? Clearly, there must be some benefits connected to migration, as otherwise the figures would be far bleaker and we would not be speaking of a miracle (Mitchell, 2015). Nevertheless, the restrictions that the Hukou system poses imply that there are diverging outcomes between migrants and urban hukou holders. Thus, one's status as a migrant seems to be a barrier for proper working conditions and labour standards. Even though migrating may be an improvement in terms of quality of life, it does not say much about the quality of one's job. Simultaneously, given the political nature surrounding hukou status, it can be inferred that labour regulation does not affect migrant and urban workers in the same way. The degree to which there are discrepancies in the quality of one's job is central to this thesis and can be explicitly formulated in the following research question:

*In what way is the quality of employment of internal migrants in Chinese urban labour markets affected by institutions, i.e. the Hukou system and labour reforms?*

Following historical examples of the development of modern labour markets, one may ascribe a pertinent role for changing industrial relations. As observed in the literature, the Lewisian turning point is expected to coincide with a surge in demand for properly functioning labour market institutions (Cai & Du, 2011). China presents a particularly unique case, as its institutional arrangements are unlike most countries in the developed world to which the Lewisian theory is ascribed. For this reason, analysing the impact of improving labour relations on a group of workers that has been neglected so far is key. Moreover, analysing a property that is lacking among migrants, holding a long-term or permanent contract, may prove whether there is merit to the idea that China's dramatic growth is benefitting its populace across the board and not just a select few.

This thesis aims to assess the quality of employment of internal migrants in China by comparing this group of workers to their urban counterparts. Furthermore, a more in-depth analysis will be given to the type of contract that a migrant has, assuming that a better contract coincides with better quality of employment. In order to do this, a differences-in-differences approach is applied, following the work of Meng (2017) and Li & Freeman (2015). However, the main purpose of this paper is to look beyond their work, as not only the Labour Contract Law (LCL) is relevant. Rather, there have been additional labour reforms in 2008 – which are extended upon further in chapter 2. In order to account for all these reforms, 2009 is taken as the treatment year. Essentially, this thesis aims to contribute to the discussion on the position of internal migrants in China’s urban labour markets. This will be done by treating the impact of labour reforms as multi-dimensional and broad, as both regional heterogeneity and a broader effect on society are accounted for. With regards to the latter, this thesis intends to be explorative in its approach.

This paper is structured as follows. In chapter 2, the background concerning the Hukou system and the mechanisms through which that system potentially affects quality of employment is discussed. Thereafter, in chapter 3, the academic literature regarding internal migration and quality of employment will be discussed, in which the historical perspective is also taken into consideration. Chapter 4 extends on the methodology and will introduce the model specifications that are tested and discussed in the subsequent chapters. Furthermore, the RUMiC dataset will be introduced and described accordingly. Thereafter, the hypotheses are tested empirically, and its results will be reported and discussed accordingly. Lastly, chapter 6 reiterates the implications of the outcomes and conclude.

## **2. CHINA’S INSTITUTIONS AND INTERNAL MIGRATION**

China has experienced a migrant miracle, despite the institutional arrangements set up to curb such movements of people. In this chapter, these institutions will be introduced and explained. Further, the conditions that an internal migrant faces when entering the urban labour market will be touched upon.

### ***2.1 The Hukou system***

Even though the Chinese economy has been subject to considerable liberalisation since the 1990s, economists still point to its labour market as being distorted. A major source of this distortion is the *Hukou* system. As mentioned before, this system causes the Chinese labour market to be segmented among rural-urban lines as it imposes a disincentive on migration. This disincentive is sparked by migrants losing their entitlements to public services, such as

schooling or health if one does not have the ‘right’ Hukou (Perkins, 2018). Ultimately, one can thus expect disparities in welfare between migrants and locals to be magnified due to this restriction. What is commonly disregarded is that the Hukou system is multi-dimensional. As argued by Song (2014), one’s hukou classifies both one’s location and type<sup>1</sup>. Especially the latter is relevant, as that is the one that a rural or urban Hukou refers to, though it does not imply that one with a rural Hukou must be occupied in the agricultural sector. Therefore, it can be perfectly possible to have a rural Hukou in Shanghai and *not* be a migrant (Song, 2014).

The Hukou system has also evolved considerably. For instance, in the period before 1978, it was far more restrictive. Rural hukou holders were confined to work in the agricultural sector and it was forbidden to migrate to cities (Chan, 2012). Furthermore, anyone that intended to move required approval from the government, which severely restricted internal migration. This implies that changing one’s Hukou location occurred seldomly and changing one’s type was effectively impossible (Song, 2014). However, from 1978 onwards, The Chinese increasingly decentralised fiscal and administrative powers to local governments, which resulted in said governments being able to set their own hukou admission criteria, thereby somewhat mitigating the restriction to move (Chan, 2009; Wang, 2005). The Hukou system thus liberalised and given that these decisions have been made at lower levels of government one can assume that a vast difference in restrictions exists between regions and cities. This seems to hold, as larger cities tend to have more stringent admission criteria. This makes intuitive sense from an urban economist’s perspective, as larger cities are generally found to be more productive, pay higher wages and have more amenities (De la Roca & Puga, 2016; Glaeser, et al., 2001). Following this reasoning, it can be argued that migrants still tend to prefer moving to comparatively larger cities, as the expected benefits of doing so are rather large (Chan & Buckingham, 2008). The Hukou system thus effectively functions as a penalty on these expected benefits, as migrants experience additional costs when entering urban labour markets.

## ***2.2 Labour reforms and the position of internal migrants in the market***

One channel through which the Hukou system affects quality of employment is that it provides an individual with the eligibility for social and public services. Having a local Hukou in a large city is accompanied by housing subsidies (Hui, et al., 2012), education (Chan & Buckingham, 2008) and social security programs (Zhang, 2012) among other benefits. Clearly, this will lead to problems for migrants, as they cannot obtain the same standards of living as the locals without considerable investment. As argued by Li & Freeman (2015), this lacking legal protection

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<sup>1</sup> Hukou type refers to one’s hukou being agricultural or non-agricultural (Song, 2014).

incentivises migrants to self-select into jobs that are subject to low wages and dismal conditions. The Labour Contract Law, henceforth LCL, that came into effect in 2008 aimed to tackle this deficiency. In theory, employers were now obliged to give workers formal contracts and were incentivised to pay social security contributions for their employees. Enforcement, however, is still weak, so whether this law has significantly contributed to improving the quality of employment of migrants is debatable (Li & Freeman, 2015). Aside from the LCL, there are two additional laws that have been enacted in 2008. The first is the Employment Promotion Law, henceforth EPL, which seeks to increase employment, but also to improve it in terms of fairness; implying that it includes the right to unionize and fair rewarding systems. It also explicitly discourages discrimination, though the hukou system is left unmentioned (ILO, 2007). The second is the Labour Dispute Mediation and Arbitration Law, henceforth LDA, which focuses on the creation of legal means to solve labour disputes (ILO, 2008). All three laws were put into effect close to one another and aimed to improve labour relations in different, but slightly overlapping ways. Nevertheless, these laws initiated a legal precedent for improving the bargaining power of (migrant) workers in China (Wang, et al., 2009). Simultaneously, we see that the current generation of migrants increasingly demands better working conditions and a fulfilling job (Hannan, 2008; Chan & Selden, 2014). Therefore, one can infer that the demand for further reforms and strengthening of labour market institutions will be magnified (Cai & Du, 2011).

Another important channel through which the Hukou system affects one's employment quality is discrimination. Discrimination in the labour market was defined by Arrow (1973) as the valuation of a worker in the working place based on personal characteristics outside of productivity. In this particular case, this implies that migrant workers are valued lower vis-à-vis their urban counterparts. With regards to this Hukou-based discrimination, Song (2014) distinguishes three important strands of literature: wage discrimination, hiring discrimination and pre-market discrimination. Studies have almost consistently found that an agricultural Hukou – especially in combination with a non-local Hukou – consistently coincides with lower earnings for the same jobs, despite having similar productivity levels (Gagnon, et al. 2011; Deng, 2007; Frijters et al, 2010). Furthermore, it is found that this discrimination is especially stringent in state-owned enterprises, henceforth SOEs (Song, 2013). This sector is found to have a negligible share of migrant workers, as approximately 7% of migrants are found to find employment in SOEs compared to roughly 49% of urban hukou holders (Chen & Hoy, 2011). Comparatively, 89% of migrants end up in the private sector (Meng, 2012). This is not just due



to observed differences between urban and migrant workers, as Song (2013) confirms that migrants a priori have a 35 percent point lower probability to get hired at an SOE. These two types already point to inequality of opportunity as being a relevant phenomenon in explaining the discrepancies between migrant and urban workers. Inequality of opportunity commonly ties in with a discrepancy in education, which is also found to be problematic and the source for pre-market discrimination. According to the literature, this type of discrimination is determined by rural migrants having, on average, a lower level of educational attainment, compared to urban workers (Fields & Song, 2013). Consequently, due to migration, it is found that the skill premium in urban areas tends to be larger relative to rural labour markets (Song, 2012).

### **3. LITERATURE REVIEW**

When analysing models of migration, China presents a unique case. In this literature review, the case of China will be scrutinised in the light of classical economic theories on migration and by taking a historical perspective. Subsequently, the focus will shift to explaining whether there are disparities in quality of employment between internal migrants and urban hukou holders. This chapter will be concluded with the formulation of two testable hypotheses.

#### ***3.1 Economic models of migration and the case of China***

It makes economic sense that China experienced a migrant miracle. A country with such a huge peasant population seems to be the basket case for Lewis' seminal work. The migration flows that China experienced post 1978 seemed to confirm the Lewisian model, as the majority of migrants were found to be of a rural background (Song, 2014). In a similar vein, Todaro (1969) rationalised the motives for migration, by stating that it is an individual response to higher urban expected incomes. Similarly, it is argued that in conventional development trajectories rapid urbanisation would be coupled with rising unemployment and urban poverty (Harris & Todaro, 1970). This suggests that rapid urbanisation has negative repercussions in developing economies. Nevertheless, classical economic theory on the interplay of internal migration and development raises the idea that there is both a macro and micro economic rationale for urbanisation. In the macro-perspective, we see that the modernisation of the economy is partially driven by the inflow of unskilled labour from the traditional sector (Lewis, 1954). In the micro-perspective, one could point towards the increased standards of living that working in the modern sector, i.e. in urban areas, offers for workers in the traditional sector (Todaro, 1969).

In China however, this Harris-Todaro model is restricted by the Hukou system, thereby effectively curbing internal migration flows. China's growth has been uneven as a result, as the

restricted labour mobility has led to a widening skill gap among urban centres (Whalley & Xing, 2010). The uneven skill distribution in combination with the Hukou system raises the entry barriers for China's most prominent economic centres. An extension of the Harris-Todaro model for China's case found a related outcome: stricter admission laws, i.e. Hukou, will result in lower unemployment (Laing, et al., 2005). These higher entry costs result in a lower incentive to migrate as their prospected employment outcomes are bleak. The manifestation of said employment prospects is visible in the data, as a lot of migrants select into the informal sector or self-employment (Meng, 2012). In the original Harris-Todaro model (1970), such outcomes would be temporary. However, in China, due to the Hukou system, there seems to be little convergence in terms of earnings (Zhang, 2009).

The argumentation raised above presents that migration, in the light of China's development trajectory, is a double-edged sword. On the one hand, China's economic growth has been driven by migration, as those workers presented a sustainable source of labour supply at low costs – as per the Lewis model (Lewis, 1954). On the other hand, internal migration has been institutionally restricted, which implies that migration is disincentivised. Interestingly, and perhaps unsurprisingly, the benefits of migration seemed to have outweighed the costs, with many migrants working in China's urban centres. However, given that they are restricted by the Hukou system, they can expect worse employment outcomes and relatively little growth potential in terms of earnings (Zhang, 2009).

China presents a unique case in this regard. Applying the logic of the models is counterintuitive, as the mechanisms in place seem to be completely different. Given that labour mobility is restricted, the Lewisian turning point is – artificially – held back. Due to these conditions, one can question whether China is leading a race to the bottom in wages and labour standards as the Hukou system is a reason for why wage growth is relatively stagnant. As observed by Chan (2006), the minimum wages remained effectively level in the 1990s, which implies that the fruits of growth were not felt on the work floor. Furthermore, as minimum wages are determined at the local level, labour costs can differ significantly across provinces. For instance, Shanghai has a comparatively large share of minimum wage workers, whereas Guangdong does not (Fang & Lin, 2015).<sup>2</sup> Aside from these differences, there is another remarkable observation: there is considerable discrepancy between the nominal and real minimum wages – see Appendix A – as minimum wages in China are not required to keep up with inflation (Chan,

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<sup>2</sup> Refer to Appendix A for the enforcement rates of minimum wages per region in China. The enforcement ratio is the number of minimum wage workers over the total workforce.

2006). The only requirement that minimum wages have to legally fulfil is that they should be between 40 and 60% of the local average wage. A requirement, which is often not even met, especially in the large cities that attract a large number of migrants, such as Shenzhen, Beijing and Shanghai (Chan, 2006).

The narrative thus far has been preoccupied with wages. This tells only a minor part of the story, as one reason why China can keep its wages low is due to dismal working conditions and labour standards (Chan, 2006). Aside, the duality of its labour market is also expected to play a significant role, since the differences in institutional arrangements concerning the minimum wage allows arbitrage opportunities for firms. This implies that the minimum wage can be used as a policy tool for improving competitiveness of a locality, with the workers bearing the costs. Furthermore, given that migrants tend to work far more hours in a week vis-à-vis urban workers, an indicator that represents the monthly wage is not insightful (Chan, 2006; Du & Pan, 2009). Even though the position of migrant workers has improved in monetary terms, they may still have to compensate for these increasing numbers by being subject to dismal conditions or excessive hours.

### ***3.2 Quality of employment: a historical perspective***

Low quality of employment during the modernisation of the economy is not something unique to China's development's path. Historically, there have been plenty of examples that suggest that repression of labour standards is good for industrial growth. Steinfeld (1991), for instance argued that wage labour in Great Britain and the United States was not 'free' for a large part of the nineteenth century. Trapido (1971) also argued that Great Britain, the UK and the US were all characterised by labour repression during their respective take-offs of modern economic growth, which makes developing countries not unusual in their patterns of labour repression. The fact that health status in the US and the UK deteriorated during early industrialisation seem to point towards a negative impact of urbanisation and industrialisation on health (Komlos, 1987). Similarly, these trends seemed to have reversed in the late 19<sup>th</sup> century, once social progress – and perhaps more importantly, progress in the medical sciences – started to unfold. This in combination with unionisation<sup>3</sup> improved the relative position of workers.

Given these historical examples, it is perhaps not unusual that there is some form of repression present in the Chinese urban labour markets. Intuitively, this repression is primarily an issue

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<sup>3</sup> As is argued by Commons (1913), the advancement of working conditions is seen as one of core tasks within the economic function of trade unions.

for migrants as they are considerably more vulnerable to violations of labour standards. The Hukou system implies that migrants lose their entitlements to public services and social security, effectively making them second-rate citizens (Chan, 2006). Therefore, there must be evidence for the argument that disparities in quality of employment between urban and migrant workers in China exist. At the same time, an individual's Hukou status may be a predictor of one's quality of employment in the urban labour market.

An additional reason for why we see a pattern of labour repression in China's growth trajectory is that it has historically enjoyed a comparative advantage in unskilled labour (Mitchener & Yan, 2014). When it opened up in the early 20<sup>th</sup> century, its exports in industries that made extensive use of unskilled labour thrived (Ibid.). Even though it is argued that China's recent rise is due to similar reasons, there are also voices raised that China's current trajectory is driven more by increasing sophistication of exports (Rodrik, 2006). If that were to be the case, it seems that China aims to grow following both a strategy of innovation, and exploitation of unskilled labour. In other words, the Hukou system gives China a tool to exploit its historical comparative advantage for an artificially longer time.

### ***3.3 Disparities in employment quality for migrants vis-à-vis urban workers***

It can be inferred that the Hukou system imposes an additional cost on migrating through two mechanisms. The first is that migrants lose their entitlements to public services and social security. The second is discrimination, which in other words is an entry barrier to the urban labour market – and this barrier is particularly strong for the high wage SOEs. These mechanisms thus explain where migrants tend to be employed and how much less they tend to get paid. However, it does not say much about the quality of their employment in itself. One indicator that is relevant in this regard is working hours. Meng (2012) finds that migrants work 15 hours more *per week* relative to urban Hukou holders<sup>4</sup>, and this difference increases to 20 for self-employed migrants. This is mainly driven by those workers in the lower end of the labour market, as a majority of migrants are unskilled (Frijters, et al., 2009). This view is confirmed by Démurger et al. (2009) as human capital has a far stronger negative effect on working hours for migrant workers compared to their urban counterparts.

Frijters, Lee & Meng (2009) also found that the difference between migrants and urban workers increase once non-wage remunerations are accounted for. Even though migrants tend to get higher in-kind payments in the forms of meals and accommodation, urban workers get more

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<sup>4</sup> Average of 63 hours per week versus 44 for urban hukou holders (Meng, 2012).

attractive compensation packages. Nonetheless, it is noted that preferences may differ between migrants and urban workers (Frijters et al., 2009). The ILO also underscores the disparity in access to equal rights at work. Furthermore, it claims that migrants are lacking access to vocational training, workplace injury insurance, maternal leave and signed labour contracts (ILO, 2016a). Similarly, it is argued that especially the migrants that work in SMEs or on temporary contracts are vulnerable to discrepancies in social insurance coverage. In other words, the quality of one's employment as a migrant is related to one's entitlements in terms of social security, even as recent as a couple of years ago. This may also imply that labour regulations are harder to enforce in SMEs. Nevertheless, it is eminent that the ILO's Decent Work agenda puts such an emphasis on enhancing the quality of employment for migrant workers in China.

Another important indicator of working conditions and employment quality is health and safety at work. The neoclassical theory of health and safety at work suggests that lower investments in health and safety at work must be offset by higher wages (Henderson, 1983). However, there is considerable heterogeneity in the response of firms in terms of job safety; as some firms are inherently more unsafe than others, e.g. the manufacturing sector vis-à-vis the service sector (Pouliakis & Theodossiou, 2013). Similarly, it is argued that some workers may be more agreeable to work in unsafe environments or be subject to dismal conditions (Powell & Zwolinski, 2012). Recall that migrants are predominantly active in unskilled jobs, among which manufacturing is a considerable group (Meng, 2012). It is therefore at the very least debatable that, given labour market discrimination, migrants are more inclined to accept relatively unsafe occupations than non-migrants, due to their situation being more uncertain. It is striking that migrants account for a large proportion of workplace injuries in China (Fitzgerald, et al., 2013). Especially since their access to health services is limited due to the Hukou system. Chen & Chan (2010) argue that China's occupational health and safety system is well developed in the state-led industrial sector; which reinforces the argument that migrants are disproportionately subject to dismal working conditions.

Thus far, the discussion on quality of employment has focused on working conditions. However, the terms of one's contract are also an important determinant of employment quality. As is posited by the ILO (2016b), Non-standard forms of employment, i.e. forms of employment different from a full-time job under an indefinite contract, may result in higher vulnerabilities for employees. To be exact, disparities in working conditions and earnings are found to be more prevalent in non-standard employment (ILO, 2016b). Furthermore, it is found

that a large portion of migrants select into jobs that make extensive use of non-standard employment, such as construction (Swider, 2015). Non-standard forms of employment provide migrants with lower upfront migration costs, as accommodation is often facilitated by the employers (Martin, 2006). However, this may also entail deteriorated working conditions in the form of permanent control, thereby maintaining low labour standards. Such ‘dormitory labour regimes’ are found in China and its dismal conditions are fundamental to the debate on the race to the bottom (Pun & Smith, 2007; Chan, 2006). Such circumstances also severely weaken worker voice, implying that it is difficult for workers to report and combat such conditions (ILO, 2014).

We have learned that one’s Hukou status has an impact on one’s earnings, labour market participation and quality of employment. However, these are all potential mechanisms through which the Hukou system may affect one’s health and well-being. In terms of health, it is found that migrants indeed do tend to have worse health status (Zhang & Kanbur, 2005). The Hukou system is also already related to the concept of subjective well-being. For instance, Jiang et al. (2012) argue that one’s hukou status negatively impacts happiness and Chen (2013) finds that one’s well-being is affected by perceived Hukou-related discrimination. Finally, being away from family due to work-related migration is also found to be a Hukou-related reason for lower subjective well-being (Démurger, et al., 2014). In order to explain what role the Hukou system plays in this relationship, Tani (2017) analysed whether obtaining an urban Hukou improves one’s subjective well-being. He found that changing one’s Hukou status to urban substantially enhanced the subjective well-being within a household.

In short, the Hukou system is found to have a pronounced impact on the life of workers in the urban Chinese labour market. In particular, the migrants are affected, and more often than not, this effect is found to worsen their opportunities, earnings, working conditions and well-being. Therefore, it is more than a safe assumption to infer that disparities in the aforementioned factors exist between urban and migrant workers. Simultaneously, following the work of Tani (2017), changing one’s Hukou is found to have a substantial impact on such as quality of employment and earnings. Given that migrants lose their entitlements to public services and are discriminated against, we can infer that there is a significant cost to migration. Aside, migrants tend to be lower-skilled and therefore self-select into occupations that are a priori characterised by worse labour standards.

It is evident that China’s migration miracle is a special case within development economics. The repression of workers is not necessarily unusual in a historical perspective, as we even have

observed such conditions in the trajectories of frontier economies. However, given that China was able to maintain such conditions through an institutional barrier implies that the mechanisms of conventional theories on migration are not at play here. Given that China was able to extend its comparative advantage of cheap labour through the Hukou system, the question on whether China is leading a race to bottom in labour standards may be raised. In the remainder of this thesis, quality of employment of *internal* migrants will be the main variable of interest. It will be captured by a variety of indicators, including the number of hours one works, whether one is covered by social insurance and the extent to which one's job is formalised, i.e. the type of contract that one has.

In the light of the reasoning above, it is likely that migrants experience lower quality of employment. Meng (2012) for instance argued that migrants work on average 15 hours more per week than their urban counterparts. The literature points to the idea that migrants tend to be more likely to be unskilled and self-employed, which is found to be an important reason for this discrepancy. Similarly, migrants are found to lack access to a variety of benefits, and get less favourable compensation packages (Frijters, et al., 2009). Furthermore, as mentioned before, migrants select into sectors that make more extensive use of non-standard employment. Therefore, a clear trend in terms of formality must be observed.

So far, the extent to which one has a long-term or permanent contract is seen as an indicator of quality of employment. However, one can also argue that it is a key determinant of employment quality. If we treat it as a determinant, one has to consider an additional selection problem, as the more qualified migrants may be more likely to be engaged in formal employment. This may be due to the relatively large skill premia in urban centres (Song, 2012). This suggests that one's working conditions as a migrant are partially determined by the formality of one's job. Further, given that job formality is a key aspect of the regulations enacted in 2008, it must be that their impact is found to be most pronounced for those workers having a proper contract, or getting one as a consequence of the regulations. Following this line of reasoning, the following hypothesis can be formalised:

*Hypothesis 1: Migrants that have a long-term or permanent contract have better quality of employment, following the enactment of labour reforms in 2008, relative to those that have not such a contract, i.e. they work less hours and have higher social insurance coverage.*

As is discussed in the literature review, quality of employment can be seen as the mechanism through which the Hukou system influences one's well-being. Interestingly, it was argued that

the negative impact of one's hukou status as a migrant is associated with discrimination (Chen, 2013). Similarly, given that changing one's Hukou status substantially improved the subjective well-being within households, it can be inferred that the economic security that is associated with the urban Hukou is key for the raised subjective well-being. Intuitively, this also suggests that the quality of one's employment, i.e. having a formal contract, is a mechanism through which the Hukou system influences well-being and health. Following this reasoning, a second hypothesis can be formulated as follows:

*Hypothesis 2: Migrants with a long-term or permanent contract have better outcomes in terms of well-being, following the enactment of labour reforms in 2008, compared to those that have not such a contract.*

## **4. METHODOLOGY**

### **4.1 Identification**

From the literature review, some testable hypotheses have been derived. In this section, the empirical strategy for addressing these hypotheses will be presented. Both will be addressed using a differences-in-differences approach, henceforth diff-in-diff, in which the division of the MHS survey will be exploited<sup>5</sup>. Furthermore, prior to these analyses, it will be analysed whether there are disproportionate differences in variables between migrant and urban workers by means of a descriptive approach. With regards to this, the focus will be on analysing the distribution of workers in certain sectors and industries as well. If a pattern emerges, we can infer that the selection problem highlighted above holds some merit.

In the descriptive analysis, the intuition that discrepancies exist between migrant and urban workers is examined. This approach follows the work of Meng (2012), in that shares of migrants across a variety of variables will be analysed. There are some key variables of interest to be highlighted. For instance,  $Y_i$ , which represents the outcome variable in terms of quality of employment for person  $i$ . Correspondingly, the outcome variable can represent working hours, the type of contract one has, divided in long-term/permanent, short-term/temporary and self-employed. Furthermore, it also represents social insurance coverage. In accordance with the methodology of Meng (2012), the dataset requires to be a division between migrants and urbanites. For this reason, the following variable  $HUKOU_i$  is created, which is a dummy that reflects whether observation  $i$  is derived from the MHS, i.e. the migrant survey, or the UHS,

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<sup>5</sup> The MHS survey, which will be extended upon further in the data section, is divided into a first wave, 2008, and a second, in 2009.



i.e. the urban survey. This does not perfectly predict one's Hukou status, as will be shown in section 4.2, but close enough for functioning as an accurate proxy.

The additional variables in this analysis are described as personal and job-level characteristics. The personal characteristics include a wide array of variables that control for certain variables at the individual level. These include a respondent's age, marital status, education level – in terms of attainment and number of years. The latter are comprised of variables concerning the industry that one is employed in and whether one is working in a state- foreign- or privately-owned enterprise. The rationale behind the inclusion of these variables is based on the literature on migrant workers in China (Meng, 2012; 2017; Li & Freeman, 2015). Another argument for including these controls is that these characteristics may increase the likelihood that one has better quality of employment regardless of migrant status.

The econometric analysis focuses on migrants only. Zooming in on migrants is done in order to highlight the second selection problem discussed in the literature review. In the light of this reasoning, the type of one's contract is now considered a determinant of quality of employment and not part of it. In order to do this, a diff-in-diff approach on the two waves of the MHS survey is conducted. The intuition behind this approach can be summarised in the following equation:

$$\hat{\Delta} = (treatment_{after} - treatment_{before}) - (control_{after} - control_{before}) \quad (1)$$

Where  $\hat{\Delta}$  reflects the diff-in-diff estimator, *treatment* is determined as having a long-term or permanent contract and the control group is those that do not have such a contract, i.e. migrants that are temporary workers, self-employed etc. The  $\hat{\Delta}$  is interesting since it would indicate whether the LCL, the EPL and LDA, which came into effect on the 1<sup>st</sup> of January and the 1<sup>st</sup> of May in 2008 respectively have had an effect on quality of employment. In other words, 2008, i.e. the years in which these laws have come into effect will be treated as the before period in the diff-in-diff. This contrasts with other literature on the LCL, as they commonly treat 2008 as the post-treatment year (Meng, 2017; Li & Freeman, 2005). Methodologically this is correct, though I would like to raise the argument that it might take some time before manifestations of this law can be observed. As was mentioned in chapter 2, enforcement was relatively weak up until 2009; implying that it is unlikely that any strong effects in 2008 are due to the enactment of the labour laws. Taking 2008 as the year pre-treatment thus entails that one analyses the marginal effects of the regulations being put into place for at least a year; in which it may be

possible to find effects on quality of employment, but possibly also on broader well-being. In addition, it is my intent to exercise the main tests on the full sample in terms of the cities and provinces provided in the RUMiC dataset, in contrast to Meng (2017), whose primary focus is on the coastal cities of China.

As has been discussed in chapter 2, the laws were introduced in order to improve the legal position of workers in China. In other words, one can argue that due to these laws coming into effect, worker bargaining power has increased and therefore it is likely that employment quality has improved across the board. It has been discussed in the literature that the law has an effect on indicators such as working hours and social insurance coverage, though not much is known about its broader effects on well-being. These effects are logically expected to improve at a slower pace, as they are likely not directly affected by the change in regulation. Therefore, whether one has a formal contract is interpreted as a mechanism through which migrants' quality of employment – in the narrow sense – or well-being – in the broad sense may have improved.

In order to do this, a diff-in-diff model that includes a set of controls is specified. In this specification, the variable of interest is the aforementioned  $\hat{\Delta}$ , which reflects the interaction of the treatment with the wave of the survey. In formulaic terms, this is expressed as follows:

$$Y_{it} = \alpha + \beta_1 CONTR'_{it} + \beta_2 Year_{it} + \theta CONTR'_{it} * Year_{it} + \delta X'_{it} + \gamma J_i + \rho P_i + \varepsilon_{it} \quad (2)$$

Where the coefficient of interest is  $\theta$ , as that is the diff-in-diff estimator and signifies the interaction of the *CONTR* and *Year* variables.  $Y_{it}$  represents the outcomes in terms of quality of employment or well-being. *CONTR* is a vector of dummy variables that identifies the type of contract individual  $i$  has at time  $t$ . *Year* is a dummy variable indicating whether the observation is from the 2008 or 2009 wave of the MHS.  $X'_{it}$  and  $J_{it}$ , represent a vector of personal characteristics and industry fixed effects, respectively. Further, province fixed effects,  $P_{it}$  are now also included. Finally,  $\alpha$  is a constant and  $\varepsilon_{it}$  is an error term. The addition of controls is considered as mitigating the omitted variables problem, in the same vein as Meng (2017). In short, the intuition behind this analysis will be that  $\beta_1$  will convey the direct effect of having a contract as a migrant on one's employment quality and well-being, whereas  $\theta$  will signify whether the changes in labour regulations have impacted the prior discussed relationship. This approach thus addresses whether differences in policy between the two years has an effect. This is relevant, because aside from the LCL, other labour laws have been enacted in 2008. Namely, China introduced the Employment Promotion Law and the Labour Dispute

Meditation and Arbitration Law, of which both may have affected the quality of employment and well-being of migrants (Li & Freeman, 2015).

The controls for the diff-in-diff analysis are similar to the descriptive analysis. However, due to new outcome variables being added, some additional controls are required. For instance, as per Tani (2017), controls for migration history, ethnicity, height, weight, income and whether one has children are added. Furthermore, due to the more extensive information about one's location in the MHS, we can now also capture province fixed effects; which is relevant as labour regulations are largely enforced at the province level (Cooney, 2007). The rationale behind the controls is similarly based on the literature and follows what is available in the RUMiC data, which may be a potential threat as this survey, while extensive, may still omit some relevant variables. For instance, given that this survey is micro in nature, macro labour market conditions are difficult to incorporate in this analysis. Nevertheless, some of such conditions will be captured by the fixed effects, of which province-level and job-level variants are included. Especially the latter are relevant as they rule out any disruption by confounding factors. For instance, it may very well be that certain occupations demand higher working hours. Consequently, without adding job-level fixed effects, a specification that tests on working hours does not take into account any omitted variables and is therefore at risk for not being a suitable proxy for quality of employment.

#### ***4.2 Data***

In this thesis, the data used is derived from the Longitudinal Survey on Rural Urban Migration in China, henceforth RUMiC. This dataset comprises three independent surveys: the Urban Household Survey (UHS), the Rural Household Survey (RHS) and the Migrant Household Survey (MHS). The data that is intended to be used in this analysis is derived from IZA and contains two waves, 2008 and 2009 (Institute of Labor Economics (IZA), 2014). Further, only the UHS and MHS will be used in this thesis, as they have surveyed the samples that are relevant for this study. Both these surveys cover around 5000 households and include comprehensive information on personal characteristics, physical & mental health, employment, income, education, social networks and life events (Akgüç, et al., 2013). As mentioned before, the MHS also includes some questions on one's migration history (Ibid.). The availability of similar surveys in different settings allows one to make an elaborate comparisons, as one can control for similar contexts and characteristics, thereby 'creating' control groups (Kong, 2010).

Table 1: Coverage of the UHS and MHS surveys from the RUMiC dataset. Source: (Akgüc, et al., 2013)

UHS		MHS	
<b>Henan:</b> <i>Anyang*</i> <i>Zhengzhou</i> <i>Luoyang</i>	<b>Shanghai:</b> <i>Shanghai</i>	<b>Henan:</b> <i>Zhengzhou</i> <i>Luoyang</i>	<b>Shanghai:</b> <i>Shanghai</i>
<b>Jiangsu:</b> <i>Nanjing</i> <i>Wuxi</i>	<b>Zhejiang:</b> <i>Hangzhou</i> <i>Jiande*</i> <i>Ningbo</i>	<b>Jiangsu:</b> <i>Nanjing</i> <i>Wuxi</i>	<b>Zhejiang:</b> <i>Hangzhou</i> <i>Ningbo</i>
<b>Sichuan:</b> <i>Chengdu</i> <i>Leshan*</i> <i>Mianyang*</i>	<b>Guangdong:</b> <i>Guangzhou</i> <i>Dongguan</i> <i>Shenzhen</i>	<b>Sichuan:</b> <i>Chengdu</i>	<b>Guangdong:</b> <i>Guangzhou</i> <i>Dongguan</i> <i>Shenzhen</i>
<b>Hubei:</b> <i>Wuhan</i>	<b>Chongqing:</b> <i>Chongqing</i>	<b>Hubei:</b> <i>Wuhan</i>	<b>Chongqing:</b> <i>Chongqing</i>
<b>Anhui:</b> <i>Bengbu</i> <i>Hefei</i>		<b>Anhui:</b> <i>Bengbu</i> <i>Hefei</i>	

The RUMiC surveys cover a vast number of regions in China. Most importantly, the key receiving regions of China’s migrant miracle are covered. The MHS was carried out in 15 cities, whereas the UHS covers slightly more at 19. In Table 1, the covered cities and provinces are highlighted. What follows is that the four cities that were not part of the MHS survey, i.e. Anyang, Jiande, Leshan and Mianyang, are not the largest cities in their respective provinces. Jiande is even part of the large Hangzhou prefecture that is a part of the MHS. Further, Anyang, Leshan and Mianyang may not be as attractive to migrants in contrast to larger cities, such as Chengdu and Zhengzhou. In terms of coverage, it becomes evident that the province of Guangdong dominates the number of observations with 17%, as is seen in Table 2. After Guangdong, there is a set of provinces, Anhui, Henan, Zhejiang, Jiangsu and Shanghai that account for more than 10% of the total observations. Interestingly, these are all provinces in Eastern China, and they are all relatively proximate to the city of Shanghai, which may imply that this area in China is relatively more attractive to migrants within China. Despite this wide coverage for both the UHS and MHS, only the MHS contains a variable that indicates in which city the individual is living<sup>6</sup>. For this reason, the second analysis will be able to use additional controls and is therefore more in-depth than the first. A caveat however is that attrition levels are quite substantial for the MHS – at approximately 58% (Akgüc, et al., 2013).

<sup>6</sup> Due not non-disclosure agreements.

Table 2: Coverage of the MHS survey, with frequencies and shares per province and city. Source: (Institute of Labor Economics (IZA), 2014).

<i>Province</i>	<i>Frequency</i>	<i>Percent</i>	<i>City</i>	<i>Frequency</i>	<i>Percent</i>
<b>Henan</b>	1703	13.77	<i>Zhengzhou</i>	1110	8.98
			<i>Luoyang</i>	593	4.80
<b>Jiangsu</b>	1246	10.08	<i>Nanjing</i>	809	6.54
			<i>Wuxi</i>	437	3.53
<b>Sichuan</b>	978	7.91	<i>Chengdu</i>	978	7.91
<b>Hubei</b>	922	7.46	<i>Wuhan</i>	922	7.46
<b>Anhui</b>	1733	14.01	<i>Hefei</i>	1106	8.94
			<i>Bengbu</i>	627	5.07
<b>Shanghai</b>	1335	10.79	<i>Shanghai</i>	1335	10.79
<b>Zhejiang</b>	1343	10.86	<i>Hangzhou</i>	897	7.25
			<i>Ningbo</i>	446	3.61
<b>Guangdong</b>	1921	15.53	<i>Guangzhou</i>	813	6.57
			<i>Dongguan</i>	605	4.89
			<i>Shenzhen</i>	503	4.07
<b>Chongqing</b>	1186	9.59	<i>Chongqing</i>	1186	9.59

Attrition means that the survey lacks outcome data from some respondents that were part of the original sample (Duflo, et al., 2008). In other words, some migrants could not be tracked and are therefore not present in the second wave of the survey, i.e. 2009. These high levels are partially attributed to the mobile nature of migrant workers, but there are also some arguments to be made for the influence of the global financial crisis, as migrants tend to be concentrated in export-oriented sectors (Akgüç, et al., 2013). Nevertheless, the attrition levels are taken into consideration as RUMiC is adding components called “Old Households” and “New Households” to the data sets so that one can easily distinguish between the two (Meng, 2017). The former is undeniably more fitting for a panel analysis, whereas the latter is suitable as a repeated cross-section. Given that this thesis aims to implement a differences-in-differences approach, one would opt for the former, as diff-in-diff can be understood as a form of a fixed effects model (Angrist & Pischke, 2009).

Another important caveat that was underscored in the literature is that the early waves of RUMiC do not have a variable that accounts for having a written contract. Instead, the variable that asks respondents about their contract is merely an indicator for job formality, as it asks whether someone is working under permanent, fixed or temporary terms; rather than asking whether an actual written contract has been drafted (Meng, 2017). In her paper, Meng has access to more novel waves of the RUMiC data, after which she can identify whether the question on job formality is a suitable proxy for having a contract or not. She finds that this variable is strongly related to the existence of a written contract and this number also seems to remain stable over the years, which justifies the use of this particular question as a proxy for one’s contractual situation in this thesis. This has however some implications for the empirical analysis. The proxy indicates formality and therefore does not perfectly predict the insurance

coverage that follows from it being part of the contract. Simultaneously, this is also due to the variables on social insurance coverage being comprised of both the insurance being paid by one's employer or the respondent themselves (Institute of Labor Economics (IZA), 2014).

Due to the nature of the analysis, which is comparing two different groups of people, the data derived from the IZA requires merging. For the comparative analysis of urban workers and migrants, data of the second waves of the UHS and MHS are merged, which implies that the number of observations will grow to the sum of the UHS and MHS. However, the variables that measure the same across the different surveys have to be altered slightly so that there is one separate variable instead. In order to be able to merge these different surveys, questions that are similar across the datasets require some slight reworking in order to make sure that the combined variables measure the exact same concept. After this has been conducted, a dummy indicates whether the observation is derived from the MHS or UHS, as has been explained in section 4.1. Aside, a dummy variable that indicates whether people are actually working is created, in order to make sure that the forthcoming inference strictly focuses on those who are in employment, as children, the elderly and students are not relevant for this thesis. The result of this constraint is that the raw data for the descriptive analysis consists of 11,281 observations, of which 4427 are dubbed as migrants.

With regards to the second dataset, the observations of the 2008 and 2009 waves of the MHS are pooled. As a result, the number of observations is lower, as only migrants are considered. In total, the dataset comprises of 9207 employed migrants. However, due to the aforementioned considerable attrition rate, 6571 of those are in the 2008 wave of the survey, whereas a mere 2636 of these respondents are maintained in the 2009 wave. Even though this is a sizable difference, it is still enough to draw statistical inference and will therefore not necessarily be treated as problematic. It would pose an impediment to the ability to conduct statistical analysis, if the samples are vastly different from one another. For this reason, the next chapter will incorporate a more in-depth investigation of the descriptive statistics of the data.

#### ***4.3 Descriptive analysis: migrants vis-à-vis urban hukou holders***

Prior to engaging in the econometric analysis, the work of Meng (2012) will be followed in its effort of describing the discrepancies between migrants vis-à-vis urban workers. Accordingly, Table 3 will present the respective shares of migrants and urban hukou holders with regards to some characteristics that will function as controls in the forthcoming analyses.

A quick glance at Table 3 suggests that migrants are far more likely to be employed than their urban counterparts. Moreover, there seems to be less gender disparity in terms of employment for migrants. The gap in this regard is about 7% for migrants relative to about 19% for urban hukou holders, which is more than double. A more in-depth analysis of Table 3 indicates that a striking discrepancy exists in terms of the contractual situation. In both groups, the dominant type of contract is permanent or long-term. However, a much larger share of migrants works under a temporary contract or is self-employed compared to urban workers. If regarded as a measure of economic insecurity, it can be assumed that migrants do face a higher degree of economic insecurity vis-à-vis urban workers. In other words, the claim that migrants' quality of employment is worse relative to urban workers is conspicuous, as the proxies for employment quality are all found to be quite substantial.

Another factor that sparks interest is the type of firms that migrants tend to be employed in. Migrants are namely highly likely to work in the private sector, whereas urban workers are actually most likely to work for a state-owned enterprise. A similar difference can be observed in the type of occupations that both types of workers tend to have. For instance, migrants are predominantly working as a service employee or in the manufacturing sector. In contrast, the distribution of urban workers is overall more diverse, but professionals and clerks comprise a relatively noticeable share in terms of occupation. Furthermore, urbanites tend to be better educated and more likely to have one of the types of social insurance. Finally, migrants tend to work far more hours, but also are found to earn less, which may suggest that there is some discrepancy in the quality of employment of migrants vis-à-vis urban workers.

Just knowing and understanding the differences in shares is not enough to conclude that migrants are in a worse position though as it may be due to their relative lack in education compared to urban workers. This would mean that the Chinese urban labour market can be characterised by a skill premium that spreads more widely than income alone. This can be linked to the entry barriers of urban labour markets in the Harris-Todaro model. Furthermore, it may also possibly be explained through a process of self-selection, the difference in education alludes to the fact that the comparative advantage of migrants would be in low-skilled jobs (Swider, 2015; Martin, 2006). This ties in with the debate on the race to the bottom in labour standards, as the Hukou system may provide an additional incentive to select in the aforementioned sectors, as the entry barriers to such sectors are conventionally lower. Nevertheless, the analysis conducted in this section leads me to conclude that there is reason to believe that migrants face worse quality of employment vis-à-vis urban hukou holders.

Table 3: Individual characteristics in the dataset by migrant status and gender following a similar methodology as (Meng, 2012).

	<i>Migrants</i>			<i>Urban workers</i>		
	<i>Females</i>	<i>Males</i>	<i>Total</i>	<i>Females</i>	<i>Males</i>	<i>Total</i>
Labour participation	86.59	93.69	<b>90.64</b>	52.97	71.87	<b>62.18</b>
% of which have a long-term contract	38.86	45.35	<b>42.69</b>	72.8	77.44	<b>75.42</b>
% of which have a short-term/temporary contract	35.45	32.64	<b>33.79</b>	18.53	12.25	<b>14.98</b>
% of which are self-employed	33.97	21.51	<b>23.09</b>	8.24	9.87	<b>9.16</b>
<b>Ownership of employment</b>						
State	8.71	12.68	<b>11.1</b>	50.46	58.59	<b>55.01</b>
Collective <sup>7</sup>	6.5	10.09	<b>8.66</b>	31.18	29.88	<b>30.45</b>
Private	84.12	76.79	<b>79.71</b>	38.3	31.32	<b>34.39</b>
Foreign <sup>8</sup>	4.73	5.27	<b>5.05</b>	5.11	4.24	<b>4.63</b>
<b>Occupation</b>						
Professional	0.44	0.34	<b>0.38</b>	20.03	24.24	<b>22.41</b>
Managers	4.47	5.4	<b>5.01</b>	3.18	7.19	<b>5.44</b>
Clerks	6.56	3.41	<b>4.7</b>	27.24	21.89	<b>24.22</b>
Sales/Service workers	46.31	21.35	<b>31.58</b>	33.27	18.95	<b>25.18</b>
Production workers	15.88	28.4	<b>23.27</b>	8.27	19.36	<b>14.53</b>
Others	26.35	41.03	<b>35.01</b>	7.04	6.54	<b>6.76</b>
Age	30.81	32.1	<b>31.57</b>	38.72	42.1	<b>40.62</b>
% males			<b>59.02</b>			<b>56.45</b>
Years of schooling	9.27	9.4	<b>9.34</b>	12.26	12.26	<b>12.26</b>
<b>Education level</b>						
Elementary	12.62	9.41	<b>10.73</b>	2.71	2.64	<b>2.67</b>
Junior high	44.32	46.46	<b>45.58</b>	18.32	18.56	<b>18.46</b>
Senior high	31.2	35.78	<b>33.91</b>	35.44	35.2	<b>35.31</b>
College	7.5	5.51	<b>6.32</b>	24.99	23.31	<b>24.04</b>
Uni or above	0.61	1.22	<b>0.97</b>	18.02	20.08	<b>19.19</b>
Unemployment insurance	10.92	13.13	<b>12.22</b>	58.59	63.97	<b>61.63</b>
Pension	18.03	21.62	<b>20.15</b>	78.73	81.62	<b>80.36</b>
Injury insurance	12.9	19.06	<b>16.53</b>	49.41	55.75	<b>52.99</b>
Medical insurance	69.96	71.45	<b>70.84</b>	89.17	89.38	<b>89.26</b>
	<i>Wage-earners</i>	<i>Self-employed</i>	<i>Total</i>	<i>Wage-earners</i>	<i>Self-employed</i>	<i>Total</i>
Average weekly hours worked	64.7	78.29	<b>67.83</b>	42.6	57.07	<b>43.92</b>
Average income (in yuan)	1609.15	2444.28	<b>1801.54</b>	2584.04	2982.99	<b>2620.5</b>
Average monthly bonus (in yuan)			<b>136.24</b>			<b>475.62</b>

<sup>7</sup> The collective and state subcategories have some overlap, as the RUMiC data does not fully distinguish between the two.

<sup>8</sup> The foreign subcategory has some overlap with private as this category distinguishes those workers that are employed in foreign private firms, making this category a subcategory of private.



## 5. EMPIRICAL ANALYSIS

This chapter will start with a description of the data used for the econometric exercise in this thesis. As per the methodology, a differences-in-differences approach will be applied in order to properly address the hypotheses. Thereafter, the focus will shift to regional heterogeneity, which implies a repetition of the tests on two geographically derived subsamples. Lastly, the outcomes will be discussed accordingly, and potential limitations will be touched upon.

### *5.1 Descriptive statistics*

Observing the differences between the two groups points to the idea that employment security is a large part of the explanation behind this relationship. For instance, it was found that urban hukou holders are far more likely to be working under a long-term or permanent contract. Moreover, they also had higher shares of employees in state-owned enterprises and tend to be insured against the risk of unemployment. However, the most important proxy for employment security, i.e. the existence of a long-term contract, was treated as an outcome. It can be argued that having such a contract improves one's employment security and quality of employment. Furthermore, this may be another source of variation within migrants; in which those that have such a contract are experiencing far better outcomes in terms of working hours and insurance coverage. In order to analyse whether there is merit to this claim, we are going to analyse the aforementioned outcomes for a sample that solely consists of migrants.

Prior to the diff-in-diff analysis some descriptive statistics will be presented. These are exhibited in Table 4. It is important to note that these descriptives reflect the values for respondents over two years, in which 6571 observations account for 2008 and 2636 account for the returning respondents in 2009. This entails a slightly higher attrition rate than discussed before, but that is because the number of observations reported in Table 3 takes only those respondents that are employed into consideration. The variables relevant for the analysis include a variety of demographic and job-level characteristics. One's occupation and the place that a respondent lives and works in has already been touched upon earlier in this thesis and will also be added as time-invariant<sup>9</sup> variables in the analysis. There are some particularities that are worthwhile to highlight. For instance, the ethnicity variable, which is divided into 18 types, and has a considerably low mean. This implies that the vast majority of migrants are ethnically Han-Chinese as that is the ethnicity that is demarked as 1 in this particular dataset. Another interesting fact is that only a quarter of the migrants have recently migrated to the urban centres and the average value of the migration history seems to signify that the majority

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<sup>9</sup> In the short-term.

of migrants have moved in the 1990s. Furthermore, quite a substantial number of migrants are living in dormitories, i.e. close to or at the location of their employment, at around 40%. This may be an additional indicator for quality of employment.

Table 4: Descriptive statistics of the variables used in the econometric analysis.

Variables	N	Mean	SD	skewness	kurtosis	max	min
<i>Long-term or permanent contract</i>	9207	.383	.486	.483	1.233	1	0
<i>Short-term or temporary contract</i>	9207	.333	.471	.707	1.499	1	0
<i>Self-employed</i>	9207	.281	.449	.975	1.951	1	0
<i>Working hours (per week)</i>	9164	65.284	17.949	.628	3.602	168	3
<i>Unemployment insurance coverage</i>	9207	.119	.324	2.354	6.543	1	0
<i>Pension coverage</i>	9207	.195	.396	1.542	3.377	1	0
<i>Injury insurance coverage</i>	9207	.173	.378	1.733	4.003	1	0
<i>Medical insurance coverage</i>	9207	.614	.487	-.466	1.218	1	0
<i>Health</i>	9207	1.837	.757	.576	2.911	5	1
<i>Subjective Well-Being (GHQ)</i>	7764	19.764	4.618	.714	4.176	48	12
<i>Gender (Male = 1)</i>	9207	1.396	.489	.423	1.179	2	1
<i>Age</i>	9205	31.911	10.153	.645	2.935	71	15
<i>Marital Status (ever had) Children</i>	9207	.643	.479	-.595	1.355	1	0
<i>Migration history</i>	9207	.69	.463	-.821	1.674	1	0
<i>Recent migrant (<math>\leq 5</math> years)</i>	6600	7.819	6.4	1.174	4.43	45	0
<i>Ethnicity</i>	9207	.272	.445	1.022	2.045	1	0
<i>Height</i>	9201	1.071	.758	14.059	227.482	18	1
<i>Weight</i>	9202	166.203	6.989	-.125	2.689	190	130
<i>Years of schooling</i>	9188	60.524	9.591	.421	3.025	100	35
<i>Never went to school</i>	6588	9.135	2.423	-.15	3.933	20	1
<i>Elementary</i>	9207	.014	.117	8.303	69.944	1	0
<i>Junior high</i>	9207	.077	.266	3.182	11.124	1	0
<i>Senior high</i>	9207	.364	.481	.565	1.32	1	0
<i>College</i>	9207	.24	.427	1.217	2.482	1	0
<i>Uni or above</i>	9207	.03	.17	5.546	31.756	1	0
<i>Employed in a SOE</i>	9207	.005	.071	13.889	193.899	1	0
<i>Employed in a collective</i>	9207	.077	.267	3.173	11.069	1	0
<i>Employed in a private firm</i>	9207	.064	.245	3.553	13.621	1	0
<i>Employed in a foreign firm</i>	9207	.843	.363	-1.89	4.571	1	0
<i>Small firms</i>	9207	.047	.212	4.268	19.215	1	0
<i>Large firms</i>	9207	.708	.455	-.916	1.839	1	0
<i>Average income</i>	9207	.29	.454	.927	1.86	1	0
<i>Average monthly bonus (if any)</i>	9193	1657.081	1268.696	6.727	97.075	30000	0
<i>Living in a dormitory (at the location of one's job)</i>	1612	155.927	369.767	4.821	40.008	5000	0
<i>Living in a dormitory (at the location of one's job)</i>	9207	.379	.485	.498	1.248	1	0

In terms of the variables of interest, we see that social insurance coverage is quite low, with the exception of medical insurance. Moreover, all of the values seem to be in line with Table 3. The same holds for working hours, with a mean of about 65 hours per week being only slightly

lower than the value in the other dataset. In terms of health and subjective well-being, the values are both in the lower end of their respective distributions, which is positive. The health variable namely goes from 1 to 5, with 1 reflecting excellent and 5 reflecting very poor. Similarly, the GHQ is measured as a summed variable of 12 individual questions concerning one's subjective well-being ranging from 1 to 4: with one being the most positive answer and 4 corresponding to the most negative answer. Due to the summation, this entails that 12 is the most positive outcome, while 48 reflects the most negative. The correlation between the GHQ and the question on happiness in particular is 0.58<sup>10</sup>, indicating that it is a suitable indicator for subjective well-being, as per Akay et al. (2016).

Finally, as becomes evident from analysing the skewness and kurtosis, some variables are far from normally distributed and as such require some reworking. One example of this is the ethnicity variable, which will be transformed as into a dummy variable in which the value 1 describes whether the respondent is Han Chinese and 0 otherwise. Aside, logarithmic transformation will be applied to the variable income. The other variables that seem to be problematic at face value will remain the same, due to them being dummy variables, such as *Large firms* or *Uni or above*.

## 5.2 Results

Table 5 shows the results of the differences-in-differences analysis on a subset of the indicators for quality of employment. The table presents four specifications, that are all based on and derived from Equation (2) in chapter 4. Column (1) is a baseline that only focuses on the effect of the variables of interest on the quality of employment. Each additional specification allows for more control variables to be added. Column (2) adds personal and demographic characteristics, (3) adds job-level controls and occupation-fixed effects and the (4) includes province-level fixed effects. In terms of working hours, it seems that the existence of a long-term or permanent contract consistently affects one's working hours positively, i.e. migrants that have such a contract work less hours. This effect seems to be quite strong, ranging from about 12 hours less on average in column (1) to 5.5 hours less in column (4). Interestingly, though, the time dummy is found to have a negative effect, as the number of hours worked seemed to have risen in 2009. The variable of interest, the diff-in-diff, is found to be consistently significant with a positive coefficient. Furthermore, it is found to become slightly stronger in magnitude after adding the fixed effects, i.e. in columns (3) and (4). This implies that the quality of employment in terms of working hours has worsened in 2009. Long-term contract holders

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<sup>10</sup> The correlations table can be found in the Appendix B

seem to be working more hours and their benefit, relative to non-long-term contract holders has deteriorated as well. In other words, the test on working hours is not in line with hypothesis 1.

Table 5: Empirical results of the diff-in-diff analysis on working hours.

Dependent variable: working hours	(1)	(2)	(3)	(4)
Year (t = 2009)	6.401*** (0.533)	1.775** (0.747)	1.614** (0.714)	1.498** (0.710)
Long-term or permanent contract (treatment)	-11.64*** (0.401)	-10.66*** (0.400)	-5.636*** (0.403)	-5.536*** (0.404)
Diff-in-diff	1.542** (0.730)	1.368* (0.733)	2.430*** (0.717)	2.755*** (0.714)
Age		-0.173 (0.121)	-0.170 (0.116)	-0.0968 (0.117)
Age <sup>2</sup>		0.267* (0.160)	0.315** (0.154)	0.224 (0.156)
Gender		-1.115*** (0.359)	-1.027*** (0.375)	-0.811** (0.373)
Han-Chinese (Ethnicity)		-3.837*** (1.423)	-3.309** (1.335)	-4.122*** (1.314)
Marital Status		3.638*** (0.491)	2.307*** (0.460)	1.969*** (0.458)
Junior high school (as highest attained education)		-3.632*** (0.666)	-2.791*** (0.628)	-2.249*** (0.625)
Senior high school		-5.012*** (0.706)	-4.194*** (0.671)	-3.744*** (0.664)
College		-7.480*** (1.104)	-5.632*** (1.040)	-5.526*** (1.037)
University or higher		-10.03*** (2.161)	-6.747*** (2.144)	-6.709*** (2.148)
Recent migrant ( $\leq 5$ years)		-2.192*** (0.464)	-1.077** (0.436)	-1.087** (0.431)
(being employed in a) Small firm			-4.995 (3.397)	-3.781 (3.369)
(being employed in a) Large firm			-7.281** (3.412)	-5.799* (3.384)
State-owned enterprise			0.770 (0.791)	0.609 (0.785)
Collective			0.0169 (0.801)	-0.154 (0.798)
Private enterprise			3.074*** (0.705)	2.784*** (0.698)
Foreign firm			-4.884*** (0.668)	-3.352*** (0.697)
Observations	9,164	9,156	9,134	9,134
R-squared	0.127	0.157	0.263	0.275
F-statistic	508.97***	144.60***	79.78***	72.89***
Mean difference in 2008 (control – treatment group)	-11.64	-10.66	-5.636	-5.536
Mean difference in 2009 (control – treatment group)	-10.10	-9.297	-3.206	-2.781

Robust standard errors in parentheses.

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Analysing the control variables<sup>11</sup> also provides some interesting insights. For instance, it is found that males tend to work longer hours; as well as those migrants that are married. Moreover, being ethnically Han Chinese also has a downward effect on one's working hours. In terms of education, a similar effect is noted, as can be observed in the coefficients for the

<sup>11</sup> Which will be done using the preferred model specification, i.e. column (4) in Table 5.

education variables. Interestingly, the higher the level of education achieved, the larger the magnitude of the coefficient. Furthermore, the time one has spent in the city has a positive effect on working hours, as the variable *Recent migrant* shows that those who only migrated to a city in the last 5 years are working slightly less hours on average. Finally, working in a large and/or foreign firm has a negative effect on working hours. However, being employed in a private firm entails that one has to work more hours. In terms of the fixed effects, there are some occupations and provinces that stand out. With regards to the former, those who are self-employed or private business owners tend to work significantly more hours, as per expectation. In terms of provinces, Anhui tends to stand out as it exhibits the strongest positive effect on working hours, whereas migrants in Jiangsu and Guangdong tend to comparatively work less hours.

In terms of social insurance coverage, the analysis presents mixed results. The contract variable indicates that having a long-term contract has a positive effect on insurance coverage, though this effect varies on the type of insurance in question. Particularly, having a long-term contract seems to have a pronounced effect on the pension, unemployment and injury insurance coverage, whereas its effect on medical insurance coverage is far less strong, while still statistically significant in all columns. Both the time dummy and the diff-in-diff indicator present mixed results though. The effect of the regulations is found to be statistically significant only in the cases of pension and injury insurance coverage (columns (5) to (8) in Table 6 and (1) to (4) in Table 7). In both cases the coefficient exhibits a positive effect, meaning that we can infer that the pension and work injury insurance coverage of long-term contract holders is positively affected by the increased regulations enacted in 2009 – which is in line with the first hypothesis. More specifically, we can infer that pension and work injury insurance coverage have risen with 3.4 and 3.7 percent, respectively – as per columns (8) in Table 6 and (4) in Table 7.

The effects are not particularly striking, as the medical insurance is not as related to one's occupation relative to the other types. Another point in which the results are mixed is the explanatory power of the models. Perhaps unexpectedly, the specifications on medical insurance are found to have far lower values for the R-squared, as displayed in columns (5) to (8) in Table 7. This might be due to this type of insurance not being linked as much to one's employment in contrast to the other types. The lack of an effect for the unemployment insurance may be attributed to it being affected in the prior year, when the LCL was enacted, which would mean that the main effect of that regulation has already transpired for this particular type of insurance. This intuition is derived from the fact that its coefficient was the most pronounced

in the analysis of Meng (2017), who also conducts a diff-in-diff approach but with 2008 as the year of treatment. Thus, it may very well be that the effects of the enacted regulations had a more direct effect on unemployment insurance coverage, in contrast to a more indirect, lagging effect on pension and work injury insurance coverage.

Table 6: Empirical results of the diff-in-diff analysis on unemployment insurance coverage and pension coverage.

	Dependent variable: Unemployment insurance coverage				Dependent variable: Pension coverage			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Year (t = 2009)	0.00410 (0.00575)	0.0412*** (0.00897)	0.0344*** (0.00899)	0.0398*** (0.00905)	0.0137* (0.00823)	-0.0485* (0.0288)	-0.0455 (0.0291)	-0.0464 (0.0285)
Long-term or permanent contract (treatment)	0.206*** (0.00898)	0.202*** (0.00901)	0.126*** (0.00863)	0.123*** (0.00861)	0.281*** (0.0104)	0.271*** (0.0103)	0.169*** (0.0103)	0.166*** (0.0102)
Diff-in-diff	0.00659 (0.0176)	0.0155 (0.0177)	0.00693 (0.0171)	0.00212 (0.0169)	0.0394* (0.0204)	0.0584*** (0.0204)	0.0408** (0.0194)	0.0335* (0.0191)
Age		0.0128*** (0.00192)	0.0117*** (0.00189)	0.0120*** (0.00190)		0.0243*** (0.00247)	0.0217*** (0.00237)	0.0206*** (0.00239)
Age <sup>2</sup>		-0.0160*** (0.00239)	-0.0150*** (0.00234)	-0.0155*** (0.00235)		-0.0305*** (0.00308)	-0.0279*** (0.00297)	-0.0265*** (0.00299)
Gender		0.00241 (0.00662)	0.00670 (0.00670)	0.00372 (0.00668)		-0.0141* (0.00786)	-0.00623 (0.00794)	-0.00984 (0.00792)
Han-Chinese (Ethnicity)		-0.0281 (0.0282)	-0.0308 (0.0293)	-0.0160 (0.0294)		-0.0143 (0.0317)	-0.0172 (0.0321)	0.00607 (0.0328)
Marital Status						-0.00673 (0.0132)	0.0103 (0.0124)	0.0147 (0.0122)
(ever had) Children		-0.0239** (0.0113)	-0.0182* (0.0107)	-0.0121 (0.0106)		-0.0244* (0.0142)	-0.0251* (0.0135)	-0.0188 (0.0132)
No schooling						-0.137*** (0.0368)	-0.113*** (0.0372)	-0.137*** (0.0373)
Elementary school (as highest attained education)						-0.140*** (0.0310)	-0.126*** (0.0309)	-0.137*** (0.0304)
Junior high school		0.0396*** (0.00953)	0.0177* (0.00904)	0.0120 (0.00908)		-0.0716** (0.0299)	-0.0854*** (0.0300)	-0.102*** (0.0294)
Senior high school		0.0508*** (0.0107)	0.0318*** (0.0103)	0.0279*** (0.0103)		-0.00685 (0.0300)	-0.0243 (0.0299)	-0.0396 (0.0293)
College		0.0880*** (0.0246)	0.0552** (0.0241)	0.0561** (0.0241)		0.0702* (0.0400)	0.0317 (0.0397)	0.0243 (0.0387)
University or higher		0.217*** (0.0630)	0.167** (0.0651)	0.171*** (0.0636)		0.114 (0.0700)	0.0588 (0.0706)	0.0634 (0.0686)
Recent migrant (≤ 5 years)		-0.00227 (0.00881)	-0.00898 (0.00837)	-0.00920 (0.00825)		-0.0102 (0.0104)	-0.0203** (0.00979)	-0.0223** (0.00963)
(being employed in a) Small firm			-0.0668 (0.101)	-0.0708 (0.105)			-0.0583 (0.123)	-0.0632 (0.123)
(being employed in a) Large firm			0.0148 (0.101)	0.00976 (0.105)			0.0826 (0.124)	0.0674 (0.123)
State-owned enterprise			0.00995 (0.0205)	0.00797 (0.0203)			0.0238 (0.0238)	0.0264 (0.0234)
Collective			0.0676*** (0.0208)	0.0639*** (0.0206)			0.0564** (0.0239)	0.0483** (0.0235)
Private enterprise			-0.00913 (0.0171)	-0.00592 (0.0169)			-0.0581*** (0.0211)	-0.0514** (0.0209)
Foreign firm			0.296*** (0.0245)	0.251*** (0.0245)			0.312*** (0.0234)	0.274*** (0.0237)
Observations	9,207	9,199	9,174	9,174	9,207	9,199	9,174	9,174
R-squared	0.097	0.105	0.204	0.223	0.129	0.151	0.255	0.280
Wald-statistic	797.33***	833.25***	1288.01***	1370.97***	1103.20***	1210.10***	1811.05***	1947.56***
Mean difference in 2008 (control – treatment)	0.206	0.202	0.126	0.123	0.281	0.271	0.169	0.166
Mean difference in 2009 (control – treatment)	0.213	0.217	0.133	0.125	0.321	0.0427	0.0818	0.0649

Robust standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 7: Empirical results of the diff-in-diff analysis on work injury insurance coverage and medical insurance coverage.

	<i>Dependent variable: Work injury insurance coverage</i>				<i>Dependent variable: Medical insurance coverage</i>			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Year (t = 2009)	-0.0167** (0.00659)	-0.0354 (0.0266)	-0.0331 (0.0266)	-0.0307 (0.0261)	0.135*** (0.0137)	0.128*** (0.0401)	0.139*** (0.0399)	0.135*** (0.0396)
Long-term or permanent contract (treatment)	0.276*** (0.0101)	0.265*** (0.0102)	0.155*** (0.0102)	0.148*** (0.0101)	0.0724*** (0.0124)	0.0779*** (0.0125)	0.0594*** (0.0137)	0.0583*** (0.0133)
Diff-in-diff	0.0529*** (0.0196)	0.0612*** (0.0196)	0.0460** (0.0184)	0.0365** (0.0182)	-0.0310 (0.0222)	-0.0281 (0.0224)	-0.0331 (0.0224)	-0.0149 (0.0220)
Age		0.0156*** (0.00246)	0.0133*** (0.00237)	0.0113*** (0.00236)		0.000795 (0.00369)	-0.00213 (0.00368)	0.00391 (0.00360)
Age <sup>2</sup>		-0.0206*** (0.00308)	-0.0185*** (0.00297)	-0.0161*** (0.00297)		-0.000395 (0.00477)	0.00237 (0.00474)	-0.00491 (0.00463)
Gender		-0.0387*** (0.00737)	-0.0258*** (0.00727)	-0.0280*** (0.00725)		-0.0472*** (0.0105)	-0.0268** (0.0114)	-0.0184* (0.0111)
Han-Chinese (Ethnicity)		-0.0118 (0.0308)	-0.0160 (0.0300)	0.0102 (0.0305)		0.0829** (0.0418)	0.0849** (0.0421)	0.0593 (0.0421)
Marital Status (ever had) Children		-0.0128 (0.0129)	0.00760 (0.0120)	0.0141 (0.0118)		0.0102 (0.0181)	0.00396 (0.0180)	-0.00986 (0.0176)
No schooling		-0.0171 (0.0140)	-0.0170 (0.0131)	-0.0114 (0.0129)		0.0437*** (0.0169)	0.0474*** (0.0169)	0.0333** (0.0165)
Elementary school (as highest attained education)		-0.0926*** (0.0320)	-0.0719** (0.0320)	-0.0942*** (0.0317)		-0.0178 (0.0551)	-0.0194 (0.0551)	-0.0177 (0.0547)
Junior high school		-0.0712** (0.0290)	-0.0627** (0.0288)	-0.0709** (0.0283)		0.00369 (0.0440)	0.00565 (0.0438)	-0.00558 (0.0434)
Senior high school		-0.0289 (0.0279)	-0.0463* (0.0278)	-0.0604** (0.0272)		0.000227 (0.0403)	0.00367 (0.0401)	0.0217 (0.0398)
College		0.00749 (0.0280)	-0.0107 (0.0277)	-0.0249 (0.0272)		0.00886 (0.0403)	0.0118 (0.0401)	0.0239 (0.0397)
University or higher		0.0675* (0.0381)	0.0268 (0.0378)	0.0200 (0.0369)		0.0179 (0.0498)	0.0149 (0.0499)	0.00111 (0.0493)
Recent migrant (≤ 5 years)		0.0682 (0.0650)	0.00976 (0.0664)	0.0171 (0.0617)		-0.0821 (0.0829)	-0.0835 (0.0836)	-0.0675 (0.0782)
(being employed in a) Small firm		0.000574 (0.0103)	-0.00881 (0.00981)	-0.0114 (0.00962)		-0.00119 (0.0143)	-0.00499 (0.0144)	-0.00358 (0.0140)
(being employed in a) Large firm			0.0559 (0.0697)	0.0428 (0.0725)			0.0209 (0.151)	0.0823 (0.150)
State-owned enterprise			0.197*** (0.0703)	0.178** (0.0731)			0.0593 (0.151)	0.127 (0.150)
Collective			0.0237 (0.0231)	0.0258 (0.0227)			0.0614** (0.0256)	0.0411 (0.0254)
Private enterprise			0.0958*** (0.0233)	0.0876*** (0.0229)			0.0279 (0.0260)	0.0118 (0.0257)
Foreign firm			-0.00483 (0.0196)	-0.00404 (0.0193)			0.0186 (0.0237)	-0.0127 (0.0239)
Observations	9,207	9,199	9,174	9,174	9,207	9,199	9,174	9,174
R-squared	0.140	0.152	0.271	0.294	0.017	0.023	0.038	0.096
Wald-statistic	1167.49***	1216.68***	1822.19***	1857.98***	155.77***	211.14***	343.26***	838.00***
Mean difference in 2008 (control – treatment group)	0.276	0.265	0.155	0.148	0.0724	0.0779	0.0594	0.0583
Mean difference in 2009 (control – treatment group)	0.328	0.326	0.201	0.184	0.0414	0.0498	0.0262	0.0434

Robust standard errors in parentheses.

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Analysing the control variables exhibits similar effects as the prior analysis on working hours. Most of the outcomes in columns (4) and (8) in Tables 6 & 7 seem to indicate that one's likelihood to be insured increases with one's education level, as either indicators for low-skilled migrants are significant with a negative coefficient or the indicators for high-skilled migrants exhibit a significantly positive effect. Once more, medical insurance is the exception to this observation. Similarly, for all but the medical insurance coverage, being employed in a collective is positively related to one's insurance status. In terms of discrepancies between occupations, there are remarkably few. Only unemployment insurance coverage exhibits some particularities, as it is found that managers and workers in the manufacturing sector are found to be more likely to have such an insurance. For provinces, it is found that migrants in Jiangsu, Zhejiang and Guangdong are more likely to be insured against work injuries and unemployment, while also having a slightly higher likelihood of having a pension plan. In terms of medical insurance, there are no peculiarities, though Sichuan stands out positively.

Ultimately, there has been some statistical evidence for a positive effect of having a contract on one's quality of employment, as the direct effect has been significant with the right sign for all measures, though the diff-in-diff analysis raises some ambiguity. While the outcomes are in line with the hypothesis for work injury insurance and pension coverage, unemployment and medical insurance coverage refrains from being significant and the analysis on working hours result in a significant outcome with the *wrong* sign. There could be reasons both external and internal to the methodology that creates this noise in the interpretation of the results. For this reason, this ambiguity has to be addressed accordingly in the forthcoming chapters. Nevertheless, given that the results are in line with prior literature, the ambiguity is likely caused by factors other than measurement error (Meng, 2017; Li & Freeman, 2015). Consequently, I will refrain from drawing a conclusion with respect to the first hypothesis, since the discussion and some additional tests may prove useful in highlighting where the problem resides.

The focus will now shift to a more indirect mechanism. In Table 8, the results of diff-in-diff analysis on physical and mental well-being are presented. In both cases, having a long-term or permanent contract is found to have a positive effect, i.e. migrants that have such a contract are found to be healthier and better outcomes for subjective well-being – as is observed in columns (1) to (8). In terms of health, the time dummy is found to have a consistently negative effect with a remarkably high magnitude. The baseline for the analysis on subjective well-being highlights a similarly strong negative effect, though that becomes insignificant once the controls



are added. In both cases, however, the variable of interest, *Diff-in-diff*, is found to be insignificant, with the exception of column (2). In other words, there is statistical evidence to conclude that having a long-term or permanent contract is beneficial for one's subjective well-being and health; but there is no evidence for any improvements in that effect between 2008 and 2009. In other words, the results suggest that the regulations that were put into effect in 2008 do not have any indirect effect on the physical and mental well-being of migrants.

Another indication of why this must be the case is that the explanatory power of all specifications for this hypothesis are remarkably weak, as the R-squared of these tests barely reaches 0.1. Furthermore, relative to the prior tests, the F-statistics were considerably lower, even in the most extensive specifications. This alludes to these relationships being far more complex than currently addressed. It could be that the financial crisis has a more dominant effect on the well-being of migrants, while it also may be that the effect requires a slightly longer time to properly manifest itself. Nevertheless, it must be concluded that hypothesis 2 is to be rejected. There is not enough statistical evidence to conclude that migrants with better contracts are experiencing more favourable outcomes in physical and mental well-being. Even though the existence of a contract seems to have favourable direct effect, particularly in health, there is no change in outcomes observed as per the diff-in-diff analysis. In other words, the regulations did not have an improving nor a worsening impact on well-being outcomes for migrants with a contract.

The results concerning the control variables are fairly straightforward. For example, the relationship between age and health is so that one's health initially improves with age, though this effect becomes insignificant when province fixed effects are added. However, at a higher age, the effect becomes significantly negative, suggesting that the relationship between age and health follows an inverted U-shape. Further, low education is found to have a negative effect on one's health, whereas weight interestingly has a positive, albeit marginal, effect. There are no large deficiencies observable between the provinces, though migrants in Shanghai are found to be comparatively healthy. In terms of occupations however, there are a lot of peculiarities. Perhaps unsurprisingly, most of the so-called 'unhealthy' occupations can be characterised as low skilled manufacturing or service jobs, including constructions, restaurant workers and people in the transport sector, among others.

Table 8: Empirical results of the diff-in-diff analysis on health and subjective well-being.

	Dependent variable: Health				Dependent variable: GHQ-12   Subjective well-being			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Year (t = 2009)	0.268*** (0.0223)	0.252*** (0.0583)	0.267*** (0.0587)	0.262*** (0.0590)	0.519*** (0.165)	0.0577 (0.237)	0.160 (0.240)	0.221 (0.238)
Long-term or permanent contract (treatment)	-0.136*** (0.0183)	-0.0975*** (0.0184)	-0.0782*** (0.0203)	-0.0738*** (0.0204)	-0.699*** (0.118)	-0.585*** (0.119)	-0.693*** (0.133)	-0.668*** (0.132)
Diff-in-diff	-0.0556 (0.0352)	-0.0598* (0.0353)	-0.0505 (0.0359)	-0.0446 (0.0357)	0.0679 (0.257)	-0.109 (0.262)	0.0157 (0.265)	-0.0162 (0.265)
Age		-0.0130** (0.00600)	-0.0108* (0.00615)	-0.00741 (0.00618)		-0.0444 (0.0401)	-0.0219 (0.0408)	0.00567 (0.0404)
Age <sup>2</sup>		0.0306*** (0.00801)	0.0276*** (0.00822)	0.0238*** (0.00826)		0.0828 (0.0524)	0.0446 (0.0533)	0.00753 (0.0527)
Gender		0.00960 (0.0225)	0.00867 (0.0233)	0.0223 (0.0235)		0.633*** (0.129)	0.594*** (0.139)	0.538*** (0.139)
Han-Chinese (Ethnicity)		0.103 (0.0640)	0.102 (0.0637)	0.110* (0.0627)		0.511 (0.405)	0.450 (0.404)	0.585 (0.394)
Marital Status (ever had) Children		0.0410 (0.0258)	0.0357 (0.0261)	0.0284 (0.0261)		-0.669*** (0.181)	-0.676*** (0.181)	-0.688*** (0.179)
No schooling		-0.0347 (0.0267)	-0.0360 (0.0268)	-0.0426 (0.0266)		-0.167 (0.191)	-0.124 (0.192)	-0.0770 (0.190)
Elementary school (as highest attained education)		0.189** (0.0909)	0.175* (0.0911)	0.168* (0.0919)				
Junior high school		0.0920 (0.0649)	0.0924 (0.0656)	0.0923 (0.0658)				
Senior high school		-0.0121 (0.0592)	-0.000932 (0.0597)	-0.00500 (0.0600)		-0.242 (0.199)	-0.193 (0.199)	-0.321 (0.198)
College		-0.0662 (0.0596)	-0.0486 (0.0601)	-0.0514 (0.0603)		-0.988*** (0.207)	-0.830*** (0.209)	-0.866*** (0.208)
University or higher		-0.107 (0.0717)	-0.0746 (0.0725)	-0.0887 (0.0726)		-1.621*** (0.346)	-1.249*** (0.349)	-1.243*** (0.348)
Recent migrant (≤ 5 years)		-0.104 (0.119)	-0.0574 (0.119)	-0.0564 (0.117)		-1.764*** (0.647)	-1.228* (0.648)	-1.220* (0.636)
Height		-0.00372 (0.0211)	-0.0112 (0.0214)	-5.89e-05 (0.0213)		-0.437*** (0.139)	-0.551*** (0.141)	-0.527*** (0.139)
Weight		-0.00128 (0.00168)	-0.000774 (0.00169)	0.000340 (0.00171)				
Income (log)		-0.00423*** (0.00112)	-0.00366*** (0.00112)	-0.00341*** (0.00113)		-0.0145** (0.00658)	-0.0109* (0.00666)	-0.0144** (0.00669)
(being employed in a) Small firm			-0.0484*** (0.0164)	-0.0206 (0.0166)			-0.685*** (0.109)	-0.681*** (0.112)
(being employed in a) Large firm			0.0332 (0.207)	0.0325 (0.201)			5.372*** (1.399)	5.290*** (1.337)
State-owned enterprise			0.00120 (0.208)	-0.00699 (0.201)			5.080*** (1.403)	4.978*** (1.342)
Collective			0.0573 (0.0397)	0.0416 (0.0395)			-0.192 (0.277)	-0.230 (0.274)
Private enterprise			-0.0581 (0.0400)	-0.0579 (0.0399)			-0.585** (0.280)	-0.521* (0.279)
Foreign firm			0.0345 (0.0364)	0.0298 (0.0359)			-0.464* (0.253)	-0.458* (0.247)
			0.00270 (0.0354)	-0.0324 (0.0371)			0.845*** (0.245)	0.390 (0.247)
Observations	9,207	9,178	9,108	9,108	7,764	7,751	7,710	7,710
F-statistic	104.06***	105.19***	12.71***	14.81***	20.53***	14.78***	7.53***	12.04***
R-squared	0.033	0.060	0.066	0.086	0.008	0.027	0.042	0.071
Mean difference in 2008 (control – treatment group)	-0.136	-0.0975	-0.0782	-0.0738	-0.699	-0.585	-0.693	-0.668
Mean difference in 2009 (control – treatment group)	-0.192	-0.157	-0.129	-0.118	-0.631	-0.694	-0.677	-0.685

Robust standard errors in parentheses.

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

In terms of subjective well-being, it is found that migrants who are married and/or higher educated have more positive outcomes. In contrast, females tend to score lower relative to males. Furthermore, income seems to have a significantly positive effect, in that migrants with higher incomes are more likely to express favourable levels of subjective well-being. Interestingly, being a recent migrant also has a positive effect, and the same holds for weight. Moreover, working in a collective or private firm seem to be favourable as well. Interestingly, the size of the firm that one works for exhibits a significant, but ambiguous effect. Across the provinces, Jiangsu stands out for its migrant workers showing relatively worse outcomes in terms of subjective well-being. For occupations, the outcomes present a rather similar pattern to the analysis on health, though the effects, negative that is, seem to dominate in service-oriented jobs. Thus, in both cases, it can be argued that hypothesis 2 is to be rejected as the differences-in-differences indicator is found to be insignificant across all specifications of the model.

### ***5.3 Regional heterogeneity***

As has been discussed earlier, the time period of the analysis is complex as it includes the financial crisis of 2008. This may explain some of the ambiguity that followed from the results. It is perhaps unsurprising that the crisis will affect the results of this thesis, as it is expressed by Chinese officials that internal migrants are among those worst off due to the crisis (Fu & Si, 2009). Especially the Pearl River Delta<sup>12</sup> was hit hard, as that region is particularly dependent on the export sector (Chan, 2010). Following this intuition, one can infer that the crisis had a more pronounced impact in those regions that have stronger linkages with the global economy, and those regions tend to be clustered around the southern and eastern coasts. Due to their relatively better position to tap into the global economy, these regions are also found to dominate China's trade and FDI shares (Zhang & Zhang, 2003). Consequently, their superior position has driven regional inequality in the last two decades, as their growth created a wedge between coastal regions and the interior in terms of GDP per capita (Fan & Sun, 2008). More specifically, the GDP per capita of the coastal regions is roughly double that of the interior regions, which leads me to question whether the outcomes would be different if the tests were conducted separately on coastal or interior regions. In this chapter, this idea will be addressed, meaning that the prior analyses will be repeated on the two geographically derived subsamples.

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<sup>12</sup> Which comprises of the areas surrounding Hong Kong, Macau and Guangdong and often colloquially referred to as "the core of the World factory".

Recalling the regions mentioned in section 4.2, the sample will be divided into coastal regions, including Jiangsu, Shanghai, Zhejiang and Guangdong, and interior regions, comprised of Henan, Sichuan, Hubei, Anhui and Chongqing. Of these, the coastal regions represent a slightly larger number of observations at 4704 compared to 4503 for the interior sample, respectively. These tests will follow the same methodology as the tests conducted in chapter 5, meaning that the diff-in-diff approach will be applied. With regards to the descriptive statistics of the aforementioned subsamples, one can refer to Appendix C. These tests are not just conducted in order to account for the diverging impact of the financial crisis. Depending on the outcomes, one can also infer whether the enacted regulations have had different effects between the two samples. If so, this may spark an interesting outcome, as Meng (2017) mainly focused on the coastal regions in her analysis.

The outcomes of the analyses are displayed in the Table 9 & 10 below. It must be noted that the tables merely focus on the variables of interest and are thus simplified. For the full tables, i.e. including all controls, one can refer to Appendix D. In order to ease the interpretation for these additional tests, they are only conducted using the full model specification, thus including all controls and fixed effects. For matter of comparison, the same specification is represented in the prior chapter as either column (4) or (8).

With regards to Table 9, the results lead me to conclude that hypothesis 1 still holds some merit, though the ambiguity has not been fully addressed. The outcomes for the analysis on working hours is similar in that the direct effect of the contract variable is positive, though somewhat stronger in the interior regions as the treatment group works about 7 hours less relative to the control group, whereas for their coastal counterparts, the premium is about 4 hours. Furthermore, the diff-in-diff coefficient exhibits a negative effect on working hours, but only in the interior region. Interestingly, the time dummy only exhibits a significant effect in the coastal region, and it is negative. Even though this hints at the financial crisis being a factor, it cannot explain why migrants, that have a long-term or permanent contract, are worse off in the interior region.

Table 9: Empirical results for the test on working hours and social insurance coverage by region.

	(1)	(2)
	Interior regions	Coastal regions
<i>1) Working hours (per week)</i>		
Treatment year (t = 2009)	0.496 (0.937)	3.250*** (1.114)
Long term or permanent contract	-6.852*** (0.584)	-4.341*** (0.559)
Diff-in-diff	3.484*** (1.035)	1.137 (1.058)
Observations	4,476	4,658
R-squared	0.238	0.285
Mean difference in 2008 (control – treatment group)	-6.852***	-4.341***
Mean difference in 2009 (control – treatment group)	-3.368***	-3.204***
<i>2) Unemployment insurance coverage</i>		
Treatment year (t = 2009)	0.0182** (0.00894)	0.0546*** (0.0167)
Long term or permanent contract	0.0614*** (0.0104)	0.161*** (0.0129)
Diff-in-diff	0.0761*** (0.0237)	-0.0369 (0.0244)
Observations	4,490	4,684
R-squared	0.117	0.240
Mean difference in 2008 (control – treatment group)	0.0614***	0.161***
Mean difference in 2009 (control – treatment group)	0.138***	0.124***
<i>3) Pension coverage</i>		
Treatment year (t = 2009)	-0.0292 (0.0380)	-0.0641 (0.0418)
Long term or permanent contract	0.126*** (0.0134)	0.186*** (0.0149)
Diff-in-diff	0.0977*** (0.0281)	-0.00255 (0.0275)
Observations	4,490	4,684
R-squared	0.179	0.293
Mean difference in 2008 (control – treatment group)	0.126***	0.186***
Mean difference in 2009 (control – treatment group)	0.224***	0.183***
<i>4) Work injury insurance coverage</i>		
Treatment year (t = 2009)	-0.0529* (0.0291)	-0.0129 (0.0420)
Long term or permanent contract	0.113*** (0.0133)	0.164*** (0.0147)
Diff-in-diff	0.102*** (0.0269)	-0.00290 (0.0258)
Observations	4,490	4,684
R-squared	0.158	0.314
Mean difference in 2008 (control – treatment group)	0.113***	0.164***
Mean difference in 2009 (control – treatment group)	0.215***	0.161***
<i>5) Medical insurance coverage</i>		
Treatment year (t = 2009)	0.0790 (0.0580)	0.176*** (0.0543)
Long term or permanent contract	0.0382* (0.0195)	0.0734*** (0.0183)
Diff-in-diff	-0.00508 (0.0316)	-0.0396 (0.0322)
Observations	4,490	4,684
R-squared	0.085	0.092
Mean difference in 2008 (control – treatment group)	0.0382*	0.0734***
Mean difference in 2009 (control – treatment group)	0.0331	0.0338

Robust standard errors in parentheses.

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

The results are also diverging in terms of the social insurance outcomes. In contrast to the full sample, the analyses now exhibit a statistically significant effect for all types of social insurance except medical. However, this effect only holds in the interior regions. Interestingly, the effect is found to be positive for the interior regions, whereas the coefficient for the coastal regions is consistently negative, but insignificant. Assuming that the regulations did have their intended effects on increasing the number of workers with a long-term or permanent contract, one can infer that the coverage of unemployment insurance among migrants in the interior has risen with 7.6% and we see similar rises in pension and work injury insurance coverage; 9.8% and 10.2% respectively. Additionally, the direct effect of the treatment, i.e. having a long-term or permanent contract, seems to be uniformly stronger in the coastal regions for the analyses on social insurance coverage, despite being consistently positive and significant in all analyses.

Table 10: Empirical results for the test on health and subjective well-being by region.

	(1) Interior regions	(2) Coastal regions
<i>6) Health</i>		
Treatment year (t = 2009)	0.251*** (0.0874)	0.268*** (0.0786)
Long term or permanent contract	-0.00632 (0.0306)	-0.124*** (0.0277)
Diff-in-diff	-0.118** (0.0514)	0.0320 (0.0510)
Observations	4,448	4,660
R-squared	0.097	0.080
Mean difference in 2008 (control – treatment group)	-0.00632	-0.124***
Mean difference in 2009 (control – treatment group)	-0.124***	-0.0923**
<i>7) Subjective well-being, GHQ-12</i>		
Treatment year (t = 2009)	0.503 (0.323)	-0.413 (0.346)
Long term or permanent contract	-0.309 (0.203)	-1.020*** (0.176)
Diff-in-diff	-0.428 (0.406)	0.689** (0.348)
Observations	3,793	3,917
R-squared	0.072	0.101
Mean difference in 2008 (control – treatment group)	-0.309	-1.020***
Mean difference in 2009 (control – treatment group)	-0.738*	-0.331

*Robust standard errors in parentheses.*

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

With regards to the second hypothesis, as displayed in Table 10, the tests do not result into a different conclusion. However, the analyses did bring some interesting outcomes that require some discussion. First of all, in terms of physical health, we see that the direct effect of the treatment merely holds up in the coastal regions, where it has a positive effect. More specifically, migrant workers in the coastal region that have a long-term or permanent contract

are found to perceive themselves as slightly healthier vis-à-vis the control group. Further, the time dummy does indicate a negative effect in both subsamples, indicating that people got less healthy in 2009. This may point in the direction of a negative, perhaps indirect, impact of the financial crisis. In terms of subjective well-being, there is also an observable effect of the regulations, as a negative diff-in-diff effect is observed, though only in the coastal region. Similarly, the direct impact of having a long-term or permanent contract is positive and only found in the coastal region. To be exact, as a result of the law, the treatment group is found to exert less favourable outcomes in terms of subjective well-being for the coastal regions, while there seems to be no effect in the interior regions. This may thus suggest that the relative position of the treatment group has become more unfavourable due to the regulation. Another explanation may be that the composition of the contract variable among the groups has changed, as the difference in outcome for 2009 is not statistically significant and the gap in outcomes seemed to have converged dramatically<sup>13</sup>.

These results are interesting, despite them not affecting the conclusions regarding the hypotheses. Ultimately, it seems that the LCL, EPL and LDA affect regions differently, especially in times of an economic crisis. Indeed, this external threat seems to be of considerable influence in those regions that are more interlinked with the global economy. Furthermore, given that there is regional inequality in China, it may also be the macro-level labour market conditions that underly the variety in outcomes displayed in this thesis. For instance, by analysing the shares of the different types of contracts – i.e. long-term/permanent, short-term/temporary and self-employment – we see that the interior regions are characterised by a larger share of temporary and self-employed workers. This suggests that the labour markets across interior regions are probably less formal as migrants tend to self-select into self-employment in the informal sector (ILO, 2016b; Giulietti, et al., 2012). Therefore, the analyses conducted in this section indicate that the impact of the aforementioned regulations is subject to bias. The sample that one uses may impact the outcomes of the test applied. This entails that one has to be careful in interpreting the results, as the external validity of the analysis is hampered, especially because of the unique nature of China's institutional arrangements.

#### ***5.4 Discussion***

In the prior chapters, it was tested whether it can justifiably be argued that migrants with a long-term or permanent contract are found to be better off in terms of employment quality, following the labour regulations enacted in 2008. First of all, it was found that migrants had a worse

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<sup>13</sup> See appendix E.

position vis-à-vis urban hukou holders. Though, given that the diff-in-diff analysis had ambiguous outcomes, we cannot immediately conclude that this relatively stronger position is determined due to the discrepancy in employment quality between the two groups. Rather it was found that the relative position of migrants with a long-term contract slightly worsened between 2008 and 2009, at least in terms of working hours. This discussion will touch upon this ambiguity and aims to analyse the potential drivers behind the mixed results. However, a consistently significant direct effect of having a long-term or permanent contract was found, suggesting that employment security may indeed foster one's quality of employment. This mechanism will be addressed as well, as employment security may be a luxury for migrants, rather than being the standard.

Even though we have learned that having a contract does indeed have a positive direct effect on one's employment quality; this does not mean that we cannot justify claiming that hypothesis 1 holds merit. Clearly, the regulations did not have the anticipated effect, as the exercise resulted in an unfavourable effect to working hours. This result is in line with similar exercises, as we have learned that the enactment of the LCL has a close to consistently positive effect on quality of employment. For instance, in the case of Meng (2017), it was found the enactment of the law resulted in migrants working more hours. Similarly, she also found significant effects on medical and unemployment insurance coverage and a not-so robust effect on pensions. This is remarkable, as I did not find any effect on the former, but a significantly positive impact on both pension and work injury insurance coverage, the latter of which Meng (2017) does not account for. This alludes to the idea that the enactment of labour regulations may have differential impacts over time, in that certain factors are potentially affected immediately, and others are subject to a lagged effect. At the same time, it could be that the more recently enacted regulations are more relevant for work injury and pensions and we therefore see the effects of these, rather than a delayed or indirect effect of the LCL. This direct effect may imply that some types of insurance are tied to one's employment and thus react more immediate to a change in regulation. Similarly, both the surge in medical and unemployment insurance coverage may flow from increased employment security, in that people are more inclined to spend a bit more on matters such as insurance if their employment security has improved. However, it could also be due to the approach, as Li & Freeman (2015) do find a consistently significant effect on all types of social insurance coverage.

As has been mentioned before, prior literature does not consider the additional regulations enacted in 2008 as confounding factors. In contrast, since these aimed to promote employment



and to ease dispute mediation, they still could have an impact on labour relations. The second law in particular seems to fall in line with the larger trend of increasing bargaining power for workers in China. This is an additional result found by Li & Freeman (2015), as they argue that the enactment of the LCL has bolstered unionisation on the work floor. However, as Wang et al. (2009) state, these regulations merely function to create a legal mechanism for labour disputes, thereby effectively restraining the process. In other words, the laws have institutionalised labour conflict, a step which theoretically does not favour migrants unfortunately. If the institutions remain rigid, then the discrimination that follows from another important institution, the Hukou system also remains in place. Nevertheless, the recent trend seems to point to workers increasingly being more successful in addressing their legal rights through the judiciary system (Mitchell, 2015). At the same time, workers seem to be more demanding for such rights as well (Chan & Selden, 2014; Hannan, 2008).

The significantly positive direct effect of having a long term or permanent contract raises the argument that employment security does improve the quality of employment for migrants, which would imply that there is some evidence arguing in favour of hypothesis 1. Furthermore, we see a similar effect in the mechanisms of physical and mental well-being, from which one can deduce that employment security also has a favourable effect on well-being, providing some evidence for hypothesis 2. It is the differences-in-differences estimate that makes matters interesting. It has been discussed already that such institutional changes do not mark any large shifts for the people on the work floor. Moreover, assuming that the regulations had a uniformly positive effect on employment quality might be naïve. For instance, such laws may have unfavourable unintended effects as Liang et al. (2016) observed that informal employment among migrants rose as a potential consequence of the LCL, even exceeding formal employment. At the same time, it has to be considered that the years of study are coinciding with the Great Recession. Therefore, it may very well be that the labour market tightening as a result of this financial crisis may have influenced the unfavourable outcomes in the diff-in-diff estimates. Aside, the mechanisms of physical and mental health are complex, though the year-dummy seems to suggest that the financial crisis had a detrimental effect on well-being – at least on health. Furthermore, the fact that the tests on regional heterogeneity found a pronounced effect of the time dummy for coastal regions also seems to point in the direction that the financial crisis had an impact on Chinese urban labour markets.

This analysis has not been without limitations. The most pronounced of which is the lacking external validity, which is both driven by China being a unique case and the relatively high

attrition levels in the MHS survey. As a result, the composition of the sample changed somewhat in the 2009 wave of the survey, making the self-employed group grow disproportionately. Though this could also point to them being less vulnerable to threats such as the financial crisis, but exploring this idea goes beyond the scope of this thesis. Furthermore, given that the survey asks the questions to the workers themselves, there may be some form of bias; especially for the variables on physical and mental health as these are measured as one's perception relative to others. Furthermore, as also has been pointed out by Meng (2017), the variable concerning one's contract does not entail that an actual written contract exists. It merely asks what type of job the respondent currently holds. Future research may opt for a more extensive research on later waves of the survey, in which a question about a written contract is included (Meng, 2017). Another interesting implication of this thesis that may require further examination is a closer look at the regional heterogeneity. In other words, zooming in on particular regions may lead to interesting insights.

## **6. CONCLUSIONS**

In their aspiration of achieving their Chinese dream, large numbers of migrants have moved to China's developing urban centres; truly a miracle to behold (Lewis, 1954; Mitchell, 2015). In reality though, their Chinese dream may end up to be a nightmare as they face a labour market in which they are a priori treated as second class citizens (Chan, 2006). This thesis focused on this group of workers in particular, while questioning the impacts of China's labour reforms in 2008 on quality of employment. By means of a differences-in-differences approach, it was tested whether employment quality of migrant workers is amplified by having a long-term or permanent contract. The direct effect of which seems to be consistently significant, indicating that having such a contract and thereby relatively secure employment is favourable for one's employment quality, physical and mental health. However, this does not entail that the results of this analysis were definite, as there is still some ambiguity to be observed.

There are several explanations for this. The first is simply that the channels are more complex than preliminarily thought, especially in terms of health and subjective well-being. Furthermore, there may be a lagged response, depending on one's occupation or province. In section 5.3 it became evident that regional heterogeneity may indeed be a reason for the ambiguous outcomes in this thesis. Furthermore, the impact of the financial crisis may have affected employment quality simultaneously with the regulations. It is argued that these regulations have been enacted in order to improve labour relations in China, though its

unintended effects may have made it more difficult for migrants to assert their rights (Liang, et al., 2016; Wang, et al., 2009).

The train of thought in this thesis seems to point towards the intuition that China is indeed moving forward and improving labour relations but there is something lingering that holds progress back: politics. There have been optimistic voices arguing that China is on the verge of economic rebalancing towards domestic-driven economic growth (Ma, et al., 2018). However, in order to achieve said rebalancing, real household income growth has to surge across the board. Internal migrants are currently to some extent hampered from joining this rebalance, as the Hukou system still allows employers to inhibit their income growth. The current barriers in the Chinese labour market already make it a rather peculiar focal point of analysis. However, the liberalisation of the Chinese economy has also created insecurity – not unlike most developed economies. Consequently, as observed by Lo (2006), China seems keen to reinstate socialist values. A transition that is strengthened under Xi Jinping and under the current circumstances, it does not seem as if China is ready for radical reforms in any way (Lo, 2006). Therefore, the future does look bleak, as even though the regulations seem to have improved labour conditions across the board, it does not automatically entail that progress will sway through Chinese labour markets unhindered. The barriers to reform have made China's rise unique, and the country does not seem to move closer to conventional economic models anytime soon.

The lack of any real progress may also explain why the mechanisms of mental and physical well-being do not include any significant effects. More importantly, the direct effect may just follow from the self-selection of higher-skilled migrants into more secure jobs, as it was argued in the literature review that the migrants who have a long-term or permanent contract are also the ones that are more likely to work high quality jobs. Though, as we have discovered in the analysis of discrepancies between migrants and urban hukou holders, education and skills are considerably lower among migrants, meaning that this advantage is only for the select view that would compete normally if the barriers would not exist in the first place. This suggests that self-selection may indeed influence the results in this thesis. Ultimately, the skill premium is another important factor in understanding discrepancies in employment quality of migrants vis-à-vis urban hukou holders but also among migrants themselves. From history, we can learn that a high skill premium implies low human capital formation and an inefficient labour market (van Zanden, 2009). Implying that by trying to exploit its comparative advantage by curbing migration to persist conventionally, China is effectively obstructing other channels of future development.

The majority of work on China's recent labour reform mainly focuses on the direct effects of such reforms. However, as has been argued, labour regulations may have widespread effects, be them direct, indirect, intended or unintended. This thesis put quality of employment to the centre stage and took an explorative approach regarding mechanisms through which certain institutional changes may affect workers on a micro-level. While the results remained ambiguous and the channels through which regulations affect people are undeniably complex, the exercise was useful in posing that employment security – i.e. having a long-term or permanent contract – is important in achieving favourable quality of employment. This idea is especially relevant for a group that faces considerable barriers for competing in the urban and developing labour markets in China.

Even though a stroll through a Chinese village may incline one to think otherwise, migration does not always result in a better life. China's growth has been spectacular and throughout this thesis, it has been mentioned that social progress also seems to be on the rise. Whether this development will prove successful, depends in large parts on whether political will in addressing dismal labour standards. A number of concerned voices are pointing towards the end of China's migrant miracle and the impending Lewisian turning point as the catalyst for widespread reform. An optimistic view would argue that a shift in its comparative advantage would move China forward. Ultimately, whether the ambiguous impact of the labour regulations on employment quality of migrants are simply growing pains of an emerging superpower or here to stay is for the future to behold.

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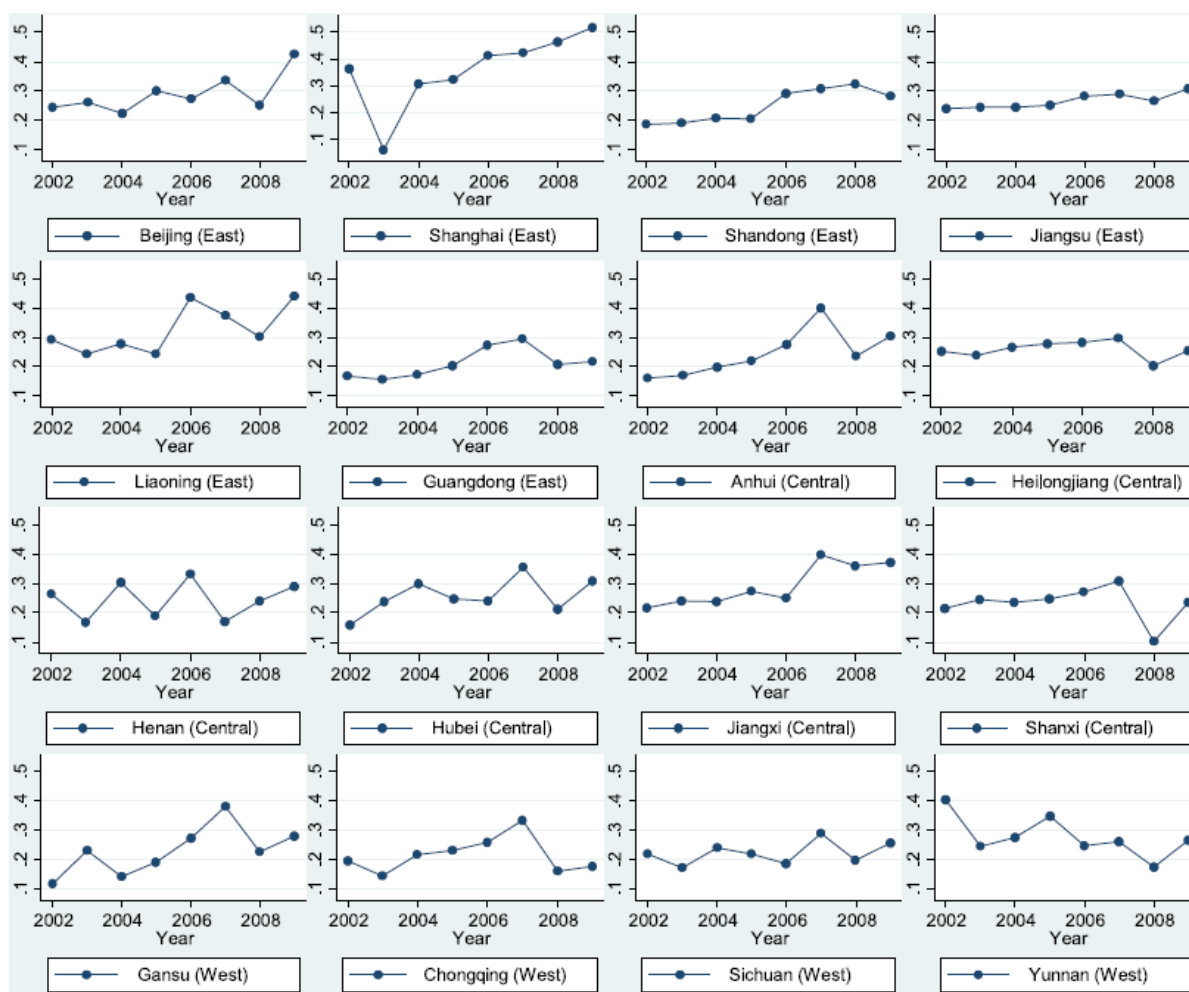
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## APPENDIX

### *Appendix A: Enforcement of the minimum wage across provinces in China, 2002-2009*



*Note: The vertical axis shows enforcement, which is defined as the number of minimum wage workers divided by the number of workers earnings less than the minimum wage. Source: (Fang & Lin, 2015).*

*Appendix B: Correlation of the GHQ-12 with its components*

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) GHQ	1.000												
(2) a44	0.605	1.000											
(3) a45	0.586	0.356	1.000										
(4) a46	0.572	0.314	0.228	1.000									
(5) a47	0.571	0.302	0.210	0.391	1.000								
(6) a48	0.579	0.294	0.409	0.195	0.194	1.000							
(7) a49	0.627	0.290	0.340	0.288	0.272	0.373	1.000						
(8) a50	0.624	0.266	0.275	0.300	0.283	0.302	0.337	1.000					
(9) a51	0.581	0.279	0.221	0.286	0.332	0.196	0.287	0.292	1.000				
(10) a52	0.633	0.313	0.376	0.237	0.249	0.397	0.374	0.320	0.308	1.000			
(11) a53	0.645	0.320	0.309	0.314	0.320	0.277	0.395	0.310	0.347	0.398	1.000		
(12) a54	0.591	0.259	0.265	0.271	0.276	0.228	0.340	0.306	0.314	0.335	0.462	1.000	
(13) a55	0.581	0.226	0.246	0.251	0.245	0.298	0.289	0.433	0.270	0.314	0.296	0.321	1.000

All correlations are statistically significant at the 1% level.

*Appendix C: Descriptive statistics of the subsamples used in the tests on regional heterogeneity – section 5.3*

Variables	interior regions	N	mean	sd	skewness	kurtosis	max	min
Long-term or permanent contract		4929	.309	.462	.829	1.687	1	0
Short-term or temporary contract		4929	.383	.486	.48	1.231	1	0
Self-employed		4929	.307	.461	.838	1.702	1	0
Working hours (per week)		4914	67.71	16.236	.599	3.407	126	7
Unemployment insurance coverage		4929	.057	.231	3.829	15.664	1	0
Pension coverage		4929	.103	.305	2.604	7.78	1	0
Injury insurance coverage		4929	.083	.276	3.014	10.084	1	0
Medical insurance coverage		4929	.696	.46	-.852	1.725	1	0
Health		4929	1.85	.748	.591	3.121	5	1
Subjective Well-Being (GHQ)		4255	19.924	4.52	.617	3.764	48	12
Gender (Male = 1)		4929	1.397	.489	.423	1.179	2	1
Age		4921	31.637	10.485	.661	2.947	71	15
Marital Status		4929	.631	.483	-.543	1.295	1	0
(ever had) Children		4929	.753	.431	-1.171	2.372	1	0
Migration history		4846	8.358	6.702	1.131	4.426	45	0
Recent migrant ( $\leq 5$ years)		4929	.347	.476	.643	1.413	1	0
Ethnicity		4918	1.046	.562	15.744	288.926	15	1
Height		4922	166.092	7.048	-.158	2.828	190	125
Weight		4907	60.047	9.456	.385	2.819	95	35
Years of schooling		4844	9.125	2.534	.03	3.583	17	1
Never went to school		4929	.016	.127	7.607	58.869	1	0
Elementary		4929	.116	.32	2.401	6.763	1	0
Junior high		4929	.487	.5	.054	1.003	1	0
Senior high		4929	.317	.465	.785	1.616	1	0
College		4929	.054	.226	3.939	16.518	1	0
Uni or above		4929	.009	.094	10.442	110.032	1	0
Employed in a SOE		4929	.062	.242	3.622	14.122	1	0
Employed in a collective		4929	.046	.21	4.31	19.573	1	0
Employed in a private firm		4929	.88	.325	-2.337	6.463	1	0
Employed in a foreign firm		4929	.005	.07	14.226	203.38	1	0
Small firms		4929	.756	.43	-1.192	2.42	1	0
Large firms		4929	.243	.429	1.201	2.442	1	0
Average income		4924	1481.081	1553.824	14.303	336.879	50000	0
Average monthly bonus (if any)		1338	70.49	201.44	4.898	33.161	2000	0
Living in a dormitory (at the location of one's job)		3016	.385	.487	.473	1.224	1	0

<b>Variables   coastal regions</b>	<b>N</b>	<b>mean</b>	<b>sd</b>	<b>skewness</b>	<b>kurtosis</b>	<b>max</b>	<b>min</b>
<i>Long-term or permanent contract</i>	6069	.488	.5	.05	1.002	1	0
<i>Short-term or temporary contract</i>	6069	.331	.471	.718	1.516	1	0
<i>Self-employed</i>	6069	.177	.382	1.688	3.851	1	0
<i>Working hours (per week)</i>	6038	62.872	16.466	.723	3.786	168	3
<i>Unemployment insurance coverage</i>	6069	.172	.378	1.735	4.01	1	0
<i>Pension coverage</i>	6069	.269	.443	1.043	2.089	1	0
<i>Injury insurance coverage</i>	6069	.243	.429	1.201	2.443	1	0
<i>Medical insurance coverage</i>	6069	.578	.494	-.317	1.101	1	0
<i>Health</i>	6069	1.739	.73	.662	2.938	5	1
<i>Subjective Well-Being (GHQ)</i>	5075	19.328	4.491	.532	3.166	41	12
<i>Gender (Male = 1)</i>	6069	1.4	.49	.409	1.167	2	1
<i>Age</i>	6063	31.225	10.172	.712	2.876	72	10
<i>Marital Status</i>	6069	.58	.494	-.326	1.106	1	0
<i>(ever had) Children</i>	6069	.718	.45	-.968	1.938	1	0
<i>Migration history</i>	5980	7.554	6.332	1.241	4.641	49	0
<i>Recent migrant (<math>\leq 5</math> years)</i>	6069	.394	.489	.433	1.187	1	0
<i>Ethnicity</i>	6049	1.083	.813	13.442	209.309	18	1
<i>Height</i>	6058	166.341	7.151	-.158	2.873	188	120
<i>Weight</i>	6051	60.275	9.653	.448	3.113	96	35
<i>Years of schooling</i>	5929	9.278	2.459	-.14	3.877	20	1
<i>Never went to school</i>	6069	.023	.149	6.403	42.002	1	0
<i>Elementary</i>	6069	.099	.299	2.679	8.175	1	0
<i>Junior high</i>	6069	.481	.5	.076	1.006	1	0
<i>Senior high</i>	6069	.343	.475	.663	1.439	1	0
<i>College</i>	6069	.046	.211	4.309	19.57	1	0
<i>Uni or above</i>	6069	.007	.085	11.616	135.939	1	0
<i>Employed in a SOE</i>	6069	.098	.297	2.713	8.36	1	0
<i>Employed in a collective</i>	6069	.087	.283	2.92	9.525	1	0
<i>Employed in a private firm</i>	6069	.805	.396	-1.539	3.368	1	0
<i>Employed in a foreign firm</i>	6069	.081	.273	3.074	10.449	1	0
<i>Small firms</i>	6069	.627	.484	-.526	1.276	1	0
<i>Large firms</i>	6069	.372	.483	.532	1.283	1	0
<i>Average income</i>	6062	1839	1687.422	20.606	754.102	76000	0
<i>Average monthly bonus (if any)</i>	2054	179.07	410.064	4.359	34.11	6000	0
<i>Living in a dormitory (at the location of one's job)</i>	3555	.416	.493	.34	1.115	1	0

*Appendix D: Full tables of the econometric analysis in the tests on regional heterogeneity – section 5.3*

	<i>Dependent variable: Working hours</i>		<i>Dependent variable: Unemployment insurance coverage</i>		<i>Dependent variable: Pension coverage</i>		<i>Dependent variable: Injury insurance coverage</i>	
	<b>Interior</b>	<b>Coastal</b>	<b>Interior</b>	<b>Coastal</b>	<b>Interior</b>	<b>Coastal</b>	<b>Interior</b>	<b>Coastal</b>
Year (t = 2009)	0.496 (0.937)	3.250*** (1.114)	0.0182** (0.00894)	0.0546*** (0.0167)	-0.0292 (0.0380)	-0.0641 (0.0418)	-0.0529* (0.0291)	-0.0129 (0.0420)
Long-term or permanent contract (treatment)	-6.852*** (0.584)	-4.341*** (0.559)	0.0614*** (0.0104)	0.161*** (0.0129)	0.126*** (0.0134)	0.186*** (0.0149)	0.113*** (0.0133)	0.164*** (0.0147)
Diff-in-diff	3.484*** (1.035)	1.137 (1.058)	0.0761*** (0.0237)	-0.0369 (0.0244)	0.0977*** (0.0281)	-0.00255 (0.0275)	0.102*** (0.0269)	-0.00290 (0.0258)
Age	0.386** (0.164)	-0.569*** (0.170)	0.00580*** (0.00196)	0.0166*** (0.00333)	0.0115*** (0.00283)	0.0294*** (0.00388)	0.00396 (0.00276)	0.0179*** (0.00385)
Age <sup>2</sup>	-0.405* (0.214)	0.854*** (0.231)	-0.00855*** (0.00234)	-0.0207*** (0.00427)	-0.0152*** (0.00351)	-0.0379*** (0.00491)	-0.00622* (0.00347)	-0.0253*** (0.00488)
Gender	-0.780 (0.545)	-0.775 (0.512)	0.00151 (0.00743)	0.0106 (0.0109)	-0.00601 (0.00980)	-0.0108 (0.0123)	-0.0148* (0.00851)	-0.0360*** (0.0115)
Han-Chinese (Ethnicity)	-2.670 (2.564)	-5.060*** (1.498)	-0.0420 (0.0389)	0.000978 (0.0406)	-0.0623 (0.0476)	0.0471 (0.0436)	-0.0385 (0.0426)	0.0528 (0.0411)
Marital Status (ever had) Children	2.034*** (0.684)	1.952*** (0.608)	0.00805 (0.0124)	-0.0277* (0.0163)	-0.0104 (0.0165)	-0.0211 (0.0204)	0.0111 (0.0157)	-0.0242 (0.0200)
No schooling Elementary school (as highest attained education)					-0.0566 (0.0452)	-0.190*** (0.0549)	-0.0659* (0.0342)	-0.0967* (0.0496)
Junior high school	-1.716** (0.869)	-2.689*** (0.904)	-0.00417 (0.00911)	0.0294* (0.0155)	-0.0689* (0.0393)	-0.125*** (0.0430)	-0.0572* (0.0303)	-0.0587 (0.0438)
Senior high school	-3.256*** (0.937)	-4.188*** (0.949)	0.0154 (0.0112)	0.0423** (0.0169)	-0.0234 (0.0397)	-0.0501 (0.0425)	-0.0374 (0.0315)	-0.0113 (0.0431)
College	-4.216*** (1.498)	-7.197*** (1.433)	0.0382 (0.0273)	0.0751* (0.0396)	-0.00435 (0.0497)	0.0579 (0.0582)	-0.0220 (0.0417)	0.0710 (0.0587)
University or higher	-5.954 (4.293)	-8.240*** (1.631)	0.148 (0.0933)	0.190** (0.0834)	0.0682 (0.107)	0.0573 (0.0842)	-0.0778 (0.0772)	0.0988 (0.0821)
Recent migrant (≤ 5 years)	-0.338 (0.640)	-1.498*** (0.580)	-0.00974 (0.00875)	-0.00972 (0.0130)	-0.0305*** (0.0115)	-0.0169 (0.0146)	-0.0282** (0.0111)	-0.000157 (0.0147)
(being employed in a) Small firm	-4.356 (5.146)	1.557 (3.125)	-0.0563 (0.145)	-0.0801 (0.157)	-0.0210 (0.147)	-0.176 (0.193)	0.0960* (0.0544)	-0.0270 (0.143)
(being employed in a) Large firm	-7.025 (5.173)	-0.261 (3.149)	-0.0161 (0.146)	0.0261 (0.158)	0.0538 (0.148)	-0.00860 (0.193)	0.169*** (0.0553)	0.153 (0.144)
State-owned enterprise	0.224 (1.316)	0.721 (0.972)	0.0298 (0.0286)	-0.00878 (0.0275)	0.00832 (0.0369)	0.0378 (0.0303)	0.0208 (0.0339)	0.0315 (0.0300)
Collective	-1.913 (1.362)	0.762 (0.985)	0.0320 (0.0300)	0.0768*** (0.0274)	-0.0144 (0.0377)	0.0746** (0.0299)	0.0420 (0.0352)	0.102*** (0.0297)
Private enterprise	-0.153 (1.182)	4.318*** (0.855)	-0.0106 (0.0241)	-0.0143 (0.0227)	-0.0936*** (0.0338)	-0.0350 (0.0267)	-0.0245 (0.0294)	-0.00226 (0.0253)
Foreign firm	-2.902 (3.277)	-3.604*** (0.741)	0.0228 (0.0684)	0.237*** (0.0265)	0.135 (0.0894)	0.252*** (0.0258)	0.0979 (0.0874)	0.266*** (0.0262)
Observations	4,476	4,658	4,490	4,684	4,490	4,684	4,490	4,684
R-squared	0.238	0.285	0.117	0.240	0.179	0.293	0.158	0.314
F-/Wald-statistic	88.74***	43.29***	345.38***	857.58***	594.56***	1081.36***	608.46***	1127.21***
Mean difference in 2008 (control – treatment group)	-6.852***	-4.341***	0.0614***	0.161***	0.126***	0.186***	0.113***	0.164***
Mean difference in 2009 (control – treatment group)	-3.368***	-3.204***	0.138***	0.124***	0.224***	0.183***	0.215***	0.161***

	<i>Dependent variable: Medical insurance coverage</i>		<i>Dependent variable: Health</i>		<i>Dependent variable: Subjective well-being / GHQ-12</i>	
	<b>Interior</b>	<b>Coastal</b>	<b>Interior</b>	<b>Coastal</b>	<b>Interior</b>	<b>Coastal</b>
Year (t = 2009)	0.0790 (0.0580)	0.176*** (0.0543)	0.251*** (0.0874)	0.268*** (0.0786)	0.503 (0.323)	-0.413 (0.346)
Long-term or permanent contract (treatment)	0.0382* (0.0195)	0.0734*** (0.0183)	-0.00632 (0.0306)	-0.124*** (0.0277)	-0.309 (0.203)	-1.020*** (0.176)
Diff-in-diff	-0.00508 (0.0316)	-0.0396 (0.0322)	-0.118** (0.0514)	0.0320 (0.0510)	-0.428 (0.406)	0.689** (0.348)
Age	-0.00843* (0.00499)	0.0169*** (0.00529)	-0.00522 (0.00906)	-0.00735 (0.00835)	0.101* (0.0576)	-0.0898 (0.0578)
Age <sup>2</sup>	0.00822 (0.00639)	-0.0192*** (0.00689)	0.0255** (0.0120)	0.0174 (0.0112)	-0.0968 (0.0738)	0.115 (0.0766)
Gender	-0.0307** (0.0156)	-0.00494 (0.0158)	0.0639* (0.0330)	-0.0238 (0.0332)	0.753*** (0.209)	0.216 (0.184)
Han-Chinese (Ethnicity)	0.0244 (0.0651)	0.0809 (0.0550)	0.203* (0.111)	0.0629 (0.0735)	0.660 (0.689)	0.573 (0.464)
Marital Status	0.0116 (0.0251)	-0.0187 (0.0247)	0.0423 (0.0382)	0.0318 (0.0357)	-0.614** (0.269)	-0.741*** (0.234)
(ever had) Children	0.0764*** (0.0231)	-0.00918 (0.0237)	-0.0266 (0.0392)	-0.0556 (0.0362)	-0.323 (0.287)	0.189 (0.251)
No schooling	-0.115 (0.0820)	0.0285 (0.0728)	0.292** (0.147)	0.129 (0.112)		
Elementary school (as highest attained education)	-0.0691 (0.0629)	0.0368 (0.0599)	0.0282 (0.0966)	0.185** (0.0895)		
Junior high school	-0.00390 (0.0585)	0.0235 (0.0543)	-0.0614 (0.0891)	0.0740 (0.0801)	-0.662** (0.277)	0.0872 (0.282)
Senior high school	-0.00754 (0.0589)	0.0347 (0.0537)	-0.0794 (0.0912)	0.00211 (0.0794)	-0.890*** (0.299)	-0.749*** (0.288)
College	-0.0483 (0.0722)	0.0253 (0.0674)	-0.109 (0.109)	-0.0363 (0.0968)	-1.361*** (0.516)	-0.963** (0.463)
University or higher	-0.102 (0.117)	-0.0602 (0.104)	-0.0712 (0.202)	0.0130 (0.139)	-1.131 (1.199)	-1.402** (0.616)
Recent migrant (≤ 5 years)	0.0350* (0.0204)	-0.0256 (0.0192)	0.0371 (0.0331)	-0.0378 (0.0276)	-0.335 (0.211)	-0.687*** (0.183)
Height			0.00151 (0.00247)	-0.00138 (0.00237)		
Weight			-0.00242 (0.00167)	-0.00399*** (0.00153)	-0.0103 (0.0101)	-0.0212** (0.00886)
Income (log)			-0.0440* (0.0234)	0.0161 (0.0234)	-0.822*** (0.154)	-0.438*** (0.163)
(being employed in a) Small firm	0.335 (0.208)	-0.180 (0.160)	-0.227 (0.277)	0.180 (0.253)	6.966*** (1.718)	2.255*** (0.523)
(being employed in a) Large firm	0.336 (0.209)	-0.103 (0.160)	-0.249 (0.277)	0.138 (0.253)	6.773*** (1.721)	1.969*** (0.556)
State-owned enterprise	0.0854** (0.0403)	0.0210 (0.0328)	-0.0333 (0.0627)	0.0996* (0.0511)	-1.150** (0.471)	0.292 (0.332)
Collective	-0.0433 (0.0418)	0.0568* (0.0327)	-0.0281 (0.0643)	-0.0819 (0.0513)	-0.300 (0.505)	-0.634* (0.335)
Private enterprise	-0.0324 (0.0396)	0.00981 (0.0303)	0.0427 (0.0557)	0.0283 (0.0471)	-1.273*** (0.438)	0.0220 (0.290)
Foreign firm	0.0708 (0.0846)	0.175*** (0.0277)	-0.151 (0.137)	-0.00465 (0.0403)	-1.089 (1.106)	0.568** (0.257)
Observations	4,490	4,684	4,448	4,660	3,793	3,917
R-squared	0.085	0.092	0.097	0.080	0.072	0.101
F-/Wald-statistic	359.67***	421.63***	42.09***	8.21***	5.77***	8.82***
Mean difference in 2008 (control – treatment group)	0.0382*	0.0734***	-0.00632	-0.124***	-0.309	-1.020***
Mean difference in 2009 (control – treatment group)	0.0331	0.0338	-0.124***	-0.0923**	-0.738*	-0.331

*Appendix E: Composition of the treatment variable by region and year*

	<i>Interior regions</i>			<i>Coastal regions</i>			<i>Full sample</i>		
	<b>2008</b>	<b>2009</b>	<b>Total</b>	<b>2008</b>	<b>2009</b>	<b>Total</b>	<b>2008</b>	<b>2009</b>	<b>Total</b>
<i>Other</i>	4	11	15	8	5	13	12	16	28
<i>Long-term or permanent contract</i>	943	380	1323	1647	553	2200	2590	933	3523
<i>Short-term or temporary contract</i>	1131	433	1564	1271	235	1506	2402	668	3070
<i>Self-employed</i>	938	663	1601	629	356	985	1567	1019	2586
<i>Total</i>	3016	1487	4503	3555	1149	4704	6571	2636	9207