

URBANIZATION AND EXCLUSION: EXAMINING THE WAGES OF MIGRANT  
WORKERS IN THE CHINESE URBAN LABOR MARKET

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## Acknowledgments and Dedication

This part of the thesis, although it prefaces the entire body of writing, really was the last portion that I wrote. Somehow it seemed wrong to express thanks for something that was incomplete, a bit like uncorking champagne and giving a toast with nothing to celebrate, and so I waited until the very end before I composed the dedication.

I won't attempt to make a roll call of all those people who, though their names are not listed in the bibliography or appear in these pages, have provided the author with friendship and hospitality and encouragement that he can only reciprocate but never repay. Similarly, I wish to thank all my professors for their direct and indirect inspiration for this research. They have unknowingly set the bar for scholastic enquiry and professionalism that I can only hope to emulate but never equal.

However, I do wish to thank certain persons whose contributions to my work were very specific. Dr. Kees Gispén and Dr. William Schenck, for serving as mentors throughout this entire process; Dr. Thomas Garrett, for his willingness serve as a third reader and enthusiasm in guiding my studies in economics; and lastly, but really foremost, Dr. Gang Guo, whose unwavering assistance and good judgment was essential for this project.

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FOR *Stacy* AND *Keith Heitzmann*,  
AND FOR MY SISTER *Rachel*,  
BECAUSE YOU HAVE GIVEN ME ALL YOUR LOVE THESE MANY YEARS,  
IN RETURN I GIVE YOU ALL OF MINE

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## ***Chapter 1: Introduction***

In April of 2014, the well-known and esteemed magazine *The Economist* featured an article entitled “Ending Apartheid.” Rather than discussing the failed and contentious South African policy of exclusion, the article was about the condition of migrant workers in the People’s Republic of China (PRC). As if the declamatory nature of the title was insufficient, the opening of the article featured a picture of a rural citizen riding a small motorcycle, seemingly carrying a whole household’s worth of luggage and appliances. The caption reads, “Going to a Better Place.”<sup>1</sup>

Indeed, for many of China’s impoverished rural citizens, cities on the east coast can offer promises and dreams of increased wages and living standards. Elsewhere in the world, immigrants mainly face problems of language differences and cultural assimilation. In China, migrants face a problem that comparatively seems more insurmountable and byzantine than the rest – the infamous Hukou system.

### **Overview**

On one hand, economic policy and expansion in China have caused a positive feedback loop of rural-to-urban migration. As cities along the east coast experience significant leaps in growth and development, their own shortage of urban labor necessitated flows of workers from the rural population. As eager rural workers migrants moved to cities, however, their relocation placed strain on local systems and social services. That is to say, in recent years the

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<sup>1</sup> “Ending Apartheid.” *The Economist*, April 19, 2014. <http://www.economist.com/news/special-report/21600798-chinas-reforms-work-its-citizens-have-be-made-more-equal-ending-apartheid>

large-scale flow of labor has been a matter of great concern for policy-makers who want at all costs to avoid any type of political unrest caused by unemployment or overpopulation.

Developmental policies of the PRC in the past have been intentionally unbalanced. Party officials believed that growth should first be allowed and encouraged along the coastal regions, and that economic activity would trickle down to rural, interior areas. In reality, however, faster urban growth led to an increase in the urban-rural wealth gap. Thus, while metropolises and urban centers flourished on the coast, living standards in other parts of the PRC languished. Urban-rural differences in income grew from a factor of 2.2 in 1964 to around 4.0 in 1993.<sup>2</sup> In addition, Posso identifies that total inequality in China, as measured by the GINI coefficient, increased from 0.327 to 0.502 between the years 1980 and 2008.<sup>3</sup>

The existence of dual economies and living standards within the same country are perhaps not entirely perplexing when viewed in light of the Hukou system. Although there have been moderate reforms, the Hukou system still operates as an institutional mechanism to limit rural to urban migration and to allocate the country's limited human capital and talent. Citizens are either born with rural or urban Hukou -- distinctions which significantly determine the circumstances of a person's life. For instance, a person holding rural Hukou and living in an urban area often cannot find good jobs, may not send their children to local public schools, and cannot enjoy other benefits of urban life, from reduced fare bus tickets to subsidies in

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<sup>2</sup> Wang, Fei-Ling. *Organizing through Division and Exclusion: China's Hukou System*. Stanford, CA: Stanford UP, 2005.

<sup>3</sup> Posso, Alberto. "Economic Growth and Income Inequality in China, India, and Singapore: Trends and Policy Implications." *Asian-Pacific Economic Literature* 27.2 (2013)

healthcare and housing. Despite the tangible costs of relocation, as many as 250 million Chinese citizens holding rural Hukou still choose to live in urban areas.<sup>4</sup>

## Research Question

In general, the guiding question throughout this thesis and research is how the Hukou system affects the economic circumstances of Chinese citizens who have migrated from rural to urban areas. How does one's Hukou affect labor market outcomes in cities? Will rural-to-urban migrants, who have similar levels of human capital and productivity to local urban workers, experience any decrease in wage earnings? How do the earnings for both migrants and non-migrants compare in similar jobs?

Of course, conventional wisdom should indicate that some amount of pre-market sorting is inevitable. Citizens from rural areas, as a consequence of unbalanced economic growth, often do not possess the same or comparable levels of education as urban citizens. Therefore, it seems highly likely that the labor market should sort to urban citizens those jobs with which they are most qualified to undertake. Accordingly, most migrant workers in cities work in more menial jobs or labor-intensive industries like construction.

The purpose of this thesis, then, is to compare workers whose jobs and backgrounds are similar, yet only differ by type of Hukou owned. In other words, a perfect and ideal comparison would be made between individuals whose one and only difference is that one set of individuals possessed rural Hukou and lived in a city, while the other set of individuals possessed urban Hukou and lived in a city. Here, we should be reminded that the etymology of

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<sup>4</sup> Song, Yang, "Review: What Should Economists Know About The Current Chinese Hukou System?" *China Economic Review* 29. (2014)

the word idyllic reveals that the word is of Greek origin and means “to look through a little picture,” because this type of comparison is exactly that – a little picture, it is something unattainable in the real world. We cannot, and should not, assume that a comparison of this magnitude is feasible. In reality, the limitations of this thesis are bounded by the limitations of the survey data from which this research draws. By endeavoring to control for any differences in background and human capital, I will attempt to isolate any premium attached the possession of urban Hukou. What, if any, benefit or advantage do urban citizens have over rural migrant in cities? Will they be favorably treated and will migrants be discriminated against? These are all questions that my project seeks to answer.

## **Understanding Hukou**

Although it may not be quite the most egalitarian and respectable thing to admit, civilization since its inception has endured and promulgated division among people.<sup>5</sup> Since the Age of Enlightenment, scientists and thinkers have sought to understand and create classifications of things in the natural world. It is quite ironic, then, that the classification and division of mankind began well before this time. The more natural divisions in society arise because of differences in skill and labor, or by divisions in class structure.

Alternatively, the State may choose organize society. It is an inevitable truth that all states will group and classify their population. The division of resources, being always constrained and limited, requires that the population be organized for reasons of efficiency. In turn, these divisions and exclusions are not random, but are stable and consistent.<sup>6</sup> The

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<sup>5</sup> Wang, *Organizing through Division and Exclusion: China's Hukou System*, 2

<sup>6</sup> *Ibid*, 4



consequence of this, however, is that certain groups are marginalized and discriminated against, facing issues such as racism and poverty. Wishful thinking may lead us to hope against this reality, but there will always be people on the “in” that have access to certain institutions, and people who are excluded from those institutions.

In different countries, this type of exclusion can manifest itself in a variety of forms. Slavery exhibits the roughest type of exclusion, whereby people are divided and excluded based on racial or ethnic differences. It is an extremely ineffective type of division because it completely ignores skills and human capital. On the other hand, in the United States people are usually grouped among the lines of what they have in regards to skills and property, as well as along the lines of what people do.<sup>7</sup> To some extent this is also how people in China are classified. However, another important element also exists. Importantly, people are also grouped according to where there are.

Every person in China is registered in a household registration system called Hukou. Either one is registered as an agricultural household (*nongye Hukou*) or urban resident Hukou (*chengshi jumin Hukou*). The difference between the two can be quite significant and rigid, as most people in cities enjoy subsidized housing and education, social insurance, and medical care.<sup>8</sup> In the past, rural Hukou was impossible to change to urban Hukou. Now, it thankfully is not impossible, merely difficult. As a result, Hukou has been the guardian of the deep urban-rural divide in China.

With the advent of loosening policy in the 1980’s, there has been an unprecedented flow of migrant workers from rural areas to urban areas. As development progressed and the

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<sup>7</sup> Ibid, 9

<sup>8</sup> Roberts, Kenneth. “Chinese Labor Migration: Insights from the Mexican Undocumented Migration to the United States,” 185

economy expanded, the number of migrant workers has grown to about 80 million laborers, the largest flow of migrant labor in history.<sup>9</sup> This flow of Chinese migrant workers in many ways is comparable to flow of undocumented Mexican labor to the United States.<sup>10</sup> In fact, Mexican migrants to the United States presented the largest flow of labor prior to the Chinese case. Both circumstances share many similarities. The very large income and wage gap in China mirrors the flow of labor from the developing world to the developed. Migrants in both cases may find that the law impedes permanent settlement, and migrants themselves are in most cases not seeking permanent settlement – they will eventually return to their households as a part of circular flow of labor and assets. Through this framework, we can come to understand the gravity of the situation facing migrant workers in China, and seek to better comprehend the complexity of the Chinese labor market.

## **Outline of Chapters**

This thesis has six chapters. Chapter 1, the general introduction, should provide a general understanding of Hukou. It should provide a groundwork exposition to the mechanism of institutional exclusion and the consequences of such a policy. It also provides an overview understanding of labor migration in China as well as a description of the importance of this study.

Chapter 2 will focus on the Hukou system. It will provide a more detailed examination and outline of the historical formation and rationale of Hukou, the operational mechanisms of Hukou, and the results of recent reforms to the system and well as descriptions of future

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<sup>9</sup> Ibid, 179

<sup>10</sup> Ibid, 180

reforms. This chapter will also seek to further analyze the impact of the Hukou on the urban-rural divide in China.

Chapter 3 will serve as a foundational framework for understanding the mechanisms of the labor market. This chapter will seek to answer the question, “who migrates?” and will further isolate the reasons and motivations for rural citizens to pack their bags and head for the city. This chapter will serve as an explanation to the processes of migration, and will also begin to examine the determinants of earnings in the labor market. The supply and demand for labor work in tandem to determine the quantity and price of labor, but which characteristics and skills (i.e., human capital) are rewarded in the labor market?

Chapter 4 provides an additional theoretical framework and a background understanding to previous research done in this field. This chapter serves to evaluate the work of preceding researchers in determining the effects of Hukou on the labor market. Chapter 5 consists entirely of quantitative analysis on survey data, and Chapter 6 will briefly summarize and conclude my findings.

## **Significance**

The profound and enduring effects of the Hukou system in the PRC are difficult to understand and nearly impossible to evaluate ethically. China was able to achieve staggering economic growth and drastically raise the living standards of select urban elites at the cost of the rural majority. The consequences of these policies mean that owners of rural Hukou – for the most part --- remain cut off from the benefits of modernization, simply because they have been born outside of a city.

The aim of this study, therefore, is to shed light on discrimination against rural-to-urban migrants in labor markets. In the twentieth century, Mao Zedong viewed the peasants as the backbone and foundation of China. How quickly society after Mao has demonized them and portrayed migrants like illegal immigrants in their own country. The purpose of this study, however, is not merely to study the attitudes towards migrants in cities. It is intended to examine the positions of migrant workers in urban labor markets. Therefore, this thesis seeks to study the money earned by workers; it is not intended to study social perception and stigma surrounding migrants.

## ***Chapter 2: Hukou System***

### **Origin and History**

Institutional exclusion exists in many forms across states, and China is no exception. By itself, Hukou registration does not lead to exclusion. The system itself is merely a household registration that organizes and counts the population. Exclusion can only occur when the government specifically targets segments of the population. The PRC currently divides and organizes the population based on geographic location and place of birth. The system is then used to segment portions of the population and manage migration. Thus, it is possible to see the inevitable ethical questions of targeting and managing people based on criteria that they could not control. That is to say, discrimination and inequality disproportionately – if not entirely – affect rural citizens, and these effects are only amplified by the dual nature of the economy. This chapter will trace the history and origin of the Hukou system, including the rationale behind its use, as well as illustrate the effect of population control on the diverging social and economic status of rural and urban citizens.

The Hukou system as it exists in China today was more or less created in the 1950's, but the origin of the system can be traced back millennia.<sup>11</sup> Although the system in modern times is much different from what it was in the past, the ancient roots of Hukou can still be found in history. Fei-Ling Wang asserts that the Hukou system is among China's oldest and has been in use for at least 25 centuries. Almost all governments in China have utilized some sort of household planning and registering system, which is why Hukou still persists and enjoys political

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<sup>11</sup>Wang, *Organizing through Division and Exclusion: China's Hukou System*, 22

and institutional legitimacy despite its contentious legacy of propagating massive inequality within the country.<sup>12</sup> In its earliest form, Hukou was synonymous with another policy called *baojia*, which was first conceived of in the Warring States period. Its beginnings are rather vague and uncertain, as texts describing the *baojia* system are tinged with philosophical undertones of how to properly run and govern society, often implying that *baojia* is at most a system of mutual responsibility between citizens – something which seems rather ideal and unrealistic. Cheng and Seldon also note that that origin of the Hukou has its roots in the techniques of social control as perfected by the Kuomintang and Japanese rule during the twentieth century. Additionally, the system was influenced by the Soviet passbook system and Soviet methods of population control for developmental purposes.<sup>13</sup>

Whatever the circumstances of its origin, *baojia* or Hukou was primarily a means of household registration for the purposes of taxation; although it also appears that the system was used as a method to control immigration. Wang notes that there were three layers to *baojia*, and that all the families of the smallest strata, *bao*, shared collective responsibility. “All could be punished alike” if anyone was found violating the law of migrating illegally.<sup>14</sup> This quasi-policing, quasi-taxation system evolved during the Ming and Qing dynasties to also include other matters related to census taking. The Ming government ordered all households and residents of cities to display plaques outside of their homes detailing *Hukou* information (which included place of origin, number of residents, and number of guests). Travelers and

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<sup>12</sup> Ibid, 32-33

<sup>13</sup> Cheng, Tiejun, and Selden, Mark. “The Origins and Social Consequences of China's Hukou System.” *The China Quarterly* 139 (1994), 645

<sup>14</sup>Wang, *Organizing through Division and Exclusion: China's Hukou System*, 41

guests of innkeepers were mandated to register their movement in the event of official inspection, forming the precedent for registration of migration seen today.<sup>15</sup>

Thus, the Hukou system draws its legitimacy not only from the enforcement and implementation flowing from single party rule, but also from a long and historical narrative, culminating not just in political support from a government that deems it necessary and important, but also, to some degree, cultural support from the people. Thus, it appears that in one sense Chinese citizens may be unwilling to completely undo the Hukou system out of a belief that its historical legacy also allows it to form a cultural asset to society (which does nothing to mention the bureaucratic and technical problems of phasing out such a system). This probably helps explain why the rural population of China, which outnumbers the urban population, has remained “peacefully excluded.”<sup>16</sup> There is no doubt that the Hukou system has spatially divided China, for the sole purpose of development of cities rather than development of villages. The consequence for human lives is that urban citizens are treated better than rural citizens, enforcing a social hierarchy between the two areas.<sup>17</sup>

### **Theorizing the Modern Emergence of Hukou**

Following economic growth in a developing country, families or individuals of poor or rural background will flock to cities. They are driven by the desire to better themselves economically, and view growth in cities as an opportunity for improvement. Thus, research has identified that in the developing world, rural to urban migration is a fact that cannot be

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<sup>15</sup> Ibid, 41

<sup>16</sup> Ibid, 24

<sup>17</sup> Cheng, Tiejun, and Selden, Mark. “The Origins and Social Consequences of China's Hukou System.” 645

denied.<sup>18</sup> Different theories have emerged to explain the rationale behind implementing the Hukou system.

The Hukou system, in the modern sense of the system that controls the population, was established in 1955 partly to solidify the administrative control of the communist party. Since then, all households and individuals have had to register with the system. The direct reasons for the implementation of a household registration system, although very similar and related, are not entirely known. In other words, researchers and historians have pieced together slightly differing explanations as to the re-institution of Hukou.

One narrative, as explicated by Yaohui Zhao, is that migration control began in large part due to the Great Famine from 1959-1961. He asserts that, indeed, the Hukou system was instituted in 1955 but that upon first implementation it was never intended to restrict mobility. On the contrary, the purpose of the regulation was to “protect social order, safeguard the freedom of residence and migration.”<sup>19</sup> Thus, the policy was simply intended to keep track of movements of people. Upon arrival in a destination, a migrant simply needed to register if his or her duration was to exceed three days. The system eventually became restrictive and controlling due to food rations and shortages. Zhao explains that a restrictive policy was necessary to control rural to urban migration -- on one hand, people were leaving the countryside to try to obtain low-priced rationed food. Alternatively, the government wished to keep rural citizens in the countryside so that they would continue agricultural work. The role of

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<sup>18</sup> Kasarda, John, and Crenshaw, Edward. “Third World Urbanization: Dimensions, Theories, and Determinants.” *Annual Review of Sociology* 467

<sup>19</sup> Zhao, Yaohui. “Rural-To-Urban Labor Migration in China: The Past and The Present.” In *Rural Labor Flows in China*, edited by Loraine A. West and Yaohui Zhao, 16



Hukou, therefore, became more than simply a way to track movement, but an institution to control the flow of labor and essentially to dole out job assignments.

Fei-Ling argues a similar economic approach to Zhao. He states that the functionality of the Hukou system can be explained in two ways.<sup>20</sup> The purpose of Hukou primarily is to restrict the movement of certain portions of the population. Migration from these areas is halted in an attempt to better allocate the resources of the state. The other function of Hukou, as argued by Wang, is to control “politically determined targets” (*zhongdian renkou*)<sup>21</sup> Thus, the function of Hukou is also to target and manage whichever people the state may view as a social and political threat, or even manage and assist crime fighting.

Wu and Treiman also believe the tightening of migration controls in China was a direct consequence of burgeoning economic growth. Because economic growth in developing countries leads to rural to urban migration, the communist party was keen on restricting migration to cities where a large influx of rural migrants would strain resources and dampen growth. Thus, the purpose of Hukou was directly linked to its ability to manage the demographic population of the country. Wu and Treiman note that between 1961 and 1963, about 18 million urban workers were sent back to their home villages.<sup>22</sup> This indicates that migration control was not only restricting flows of labor, but was also actively trying to decrease the population of rural people in cities.

Kenneth Roberts takes a similar viewpoint to Zhao in explaining the necessity of implementing the Hukou system. He posits that it was intentional economic policy of the

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<sup>20</sup> Wang, *Organizing through Division and Exclusion: China's Hukou System*, 24

<sup>21</sup> *Ibid*, 24

<sup>22</sup> Wu, Xiaogang, and Donald J. Treiman. “The Household Registration System and Social Stratification in China: 1955-1996.” *Demography*, 41.2, 364

communist party to restrict migration. For China to develop and industrialize rapidly, it would need to channel agricultural surplus to industry to keep wages low and investment high.<sup>23</sup> To facilitate industrialization, the government would need to restrict capital and investment to cities. Consequently, grain production could only increase with what was leftover – surplus rural labor. Like Zhao’s previous theory contends, Roberts makes the argument that the government restricted rural to urban migration fundamentally out of necessity to keep peasants in the countryside. Cities were to become havens of investment and industrialization, kept afloat by the effective subsidization from rural workers and low prices in the agricultural sector. We can begin to see, then, the seeds of a dual economy sprouting through the cracks of supposed communist equality.

Is a dual economy within a developing nation necessarily an evil? Legally and morally we can begin to debate this question, but that is not really within the scope of this thesis. The Hukou system seems to make more sense economically than ethically. As previous researchers have shown, the rationale of Hukou is mainly to limit and control migration. Restrictions on movement are not balanced, either. The policy of Hukou is to disproportionately target rural people. Therefore, Hukou acts as a measure of institutional exclusion, and remains a system that benefits the “haves” (urban residents) at the expense of the “have-nots” (rural people).

The act of exclusion by the state in a developing country can have significant economic impact. It allows the government, the elite, or urban citizens in general, to accumulate capital at the denial of a certain other portion of the population (rural citizens).<sup>24</sup> Government or elites with access to this capital could then theoretically use it to fund economic policies or

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<sup>23</sup>Roberts, Kenneth. “Chinese Labor Migration: Insights from the Mexican Undocumented Migration to the United States,” 185

<sup>24</sup> Wang, *Organizing through Division and Exclusion: China’s Hukou System*, 14

investment. While government allocation of resources is not Pareto efficient, it is, however, vital for developing economies, or at least those so-called dual economy countries. Many growing economies face a bottleneck that is termed the “Lewis Transition” or “Lewis Turning Point.” The problem facing China is thus: most developing economies contain a large supply of unskilled labor, and these workers for the most part have low marginal productivity levels. In a dual economy like China, one part of the country receives an unequal share of investment. This leads to better standards of living, higher wages, and newer industrial jobs. Not everyone, however, can compete to have these jobs. The large supply of unskilled labor and workers will serve to drive down the wages of these industrial jobs. As countries begin developing, they import foreign technology and capital and utilize cheap domestic labor. Producing goods in the industrial sectors with cheap labor will result in massive amounts of capital and savings accumulation necessary for investment. As the country absorbs the unskilled labor in the agricultural sector, it drives up wages, because eventually a point is reached where there is no longer excess labor willing to take subsistence level incomes. Urban labor markets and agricultural labor markets begin competing for the same labor force participants, because the flow of cheap migrant labor slows. An increase in wages drives down firm profits and investment, forcing domestic firms to innovate in order to survive, at which point the country has reached the Lewis Turning Point, and is considered a developed country. Researchers are currently debating whether or not China has reached the Lewis Transition.<sup>25</sup> The problem, if it has not, is how to properly absorb the rural labor force. The Hukou system works to ensure that there are industrial jobs, growth, and investment; but at the same time obstructs rural

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<sup>25</sup> Das, Mitali, and N'Diaye Papa. “*Chronicle of a Decline Foretold: Has China Reached the Lewis Turning Point?*” Working Paper, IMF

citizens from obtaining those jobs. In effect, the Chinese economy may be considered at once both developed and developing.

## Registration Process and Implications

Fei-Ling Wang succinctly illustrates the basic technical process of registration:

“The PRC *Hukou* system requires that every Chinese citizen register with the *Hukou* authority (the *Hukou* police) at birth. The categories of nonagricultural (urban) or agricultural (rural), legal address and location, and unit affiliation (employment), and a host of personal and family information are documented and verified to become a person’s permanent *Hukou* record. A person’s *Hukou* location and categorization or type were determined by his mother’s *Hukou* location and type rather than his birthplace until 1998, when a child was allowed to inherit the father’s or the mother’s *Hukou* location and categorization. No one can acquire legal permanent residence and the numerous community-based rights, opportunities, benefits, and privileges anywhere other than where his *Hukou* is. Only through proper authorization of the government can one change his *Hukou* location and especially his *Hukou* categorization from the rural to the urban type.” (Wang, 23)

There are a host of problems associated with this system. Notice that if a child of migrant workers is born in an urban area, he or she is still not eligible for urban *Hukou*. The child may only choose mother or the father’s *Hukou* location and categorization. The *Hukou* system has been revised and reformed in successive waves, but the system for the most part still excludes a large portion of the population from freely migrating and seeking employment.<sup>26</sup> The continued existence of the *Hukou* system contributes to massive inefficiency within China and continued regionalization of the Chinese economy at the peril of political unrest. Yet, the

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<sup>26</sup> Bao, Shuming, et al. “The Regulation of Migration in a Transition Economy: China’s *Hukou* System.” *Contemporary Economic Policy* 29.4 (2011) 565

Hukou system is still considered legitimate administration by Chinese politicians and the population in general.

Since the reforms of 1978, China's GDP has on average been growing around a rate of 10% per year. This has undoubtedly raised the standards of living for most Chinese people, lifting a large segment of the population out of extreme poverty. However, the national level of income inequality has also risen quite sharply in the same amount of time, and the majority of the income differences fall along urban and rural lines. The GINI coefficient has increased from around 0.33 in 1980 to 0.49 in 2008 and then fell slightly to 0.47 in 2012. The disparity between rural and urban households, in turn, has been among the largest in the world.<sup>27</sup> The difference between urban and rural citizens not only manifests itself in traditionally expected areas like income and consumption, but also in education and healthcare. The education of migrant children in urban areas has reached a deplorable level. Because these children are holders of rural Hukou, they are not eligible for the free state education that is available to urban children. Instead, these children have to rely on the education provided by private schools that are funded by tuition fees, donations, or voluntary teachers.<sup>28</sup> Thus, the only options available to migrant parents are to either pay for low-quality education in these private schools, or send their children back home to rural areas for the free education that they are eligible to receive. While in practice every child in China has access to free public education, there still exists a significant difference in quality between rural and urban education. Rural communities often must pay taxes to support their own school system, and the revenue from this tax is mostly

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<sup>27</sup> Wang, Xiaobing, Jenifer Piesse, and Nick Weaver. "Mind the gaps: a political economy of the multiple dimensions of China's rural-urban divide." *Asia-Pacific Economic Literature*. 27.2 (2013) 52

<sup>28</sup> *Ibid*, 57

insufficient to pay for the costs of running a school. In the event that tax resources are inadequate, rural schools may charge additional tuition fees. The result is that the quality of education in rural areas is substantially lower than urban areas (as a result of lack of funding) or in some cases, rural families may find it impossible to send their children to school if they are unable to pay the required tuition fees.<sup>29</sup>

In addition to the education gap, there is also a gap in healthcare services between rural and urban citizens. More and more frequently, urban citizens have access to higher quality and more modern types of health services. The lack of investment at the rural level often means that rural citizens suffer when it comes to medical treatment. A 2003 National Health Survey revealed that 30 percent of poor rural households identified “large healthcare expenditures as the reason that they are in poverty.”<sup>30</sup> Thus, low income may further trap rural citizens in poverty. As a consequence, they may outright refuse to seek medical treatment because of an inability to pay, or seek early dismissal from the hospital. Undoubtedly, the quality of life for many rural people cannot be said to equal the more favored urban population.

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<sup>29</sup> Ibid, 57

<sup>30</sup> Ibid, 59

## Chapter 3: Who Migrates?

This chapter serves to analyze the basic demographic features of migrants, determinants of wage, and illustrate the economic motivation for migrating in the first place.

### Characteristics of Rural Labor Mobility in China

Peasants engaging in rural-to-urban migration are often criticized for their “blind mobility” (*mangmu liudong*) or “disorderly mobility” (*wuxu liudong*). The government, in response, is supposed to limit or control the flow of migrants, and as such is seen as playing a vital role in migration and controlled immigration. From where does this opinion originate, and why are migrants described in such deprecating terms? A brief look at media and public perception reveals that attitude towards migrants are rather hostile. Migrants are frequently referred to as “waves,” “tides,” or “floods” – as overwhelming forces that will disturb the peace and security of cities. Headlines often associate migrants with “overcrowding, chaos, crime, high fertility, and illicit sex.”<sup>31</sup> While migrants may indeed pose some burden on the welfare and infrastructure of cities, it should be kept in mind that they are, after all, Chinese citizens just like the people whose Hukou classifies them as legitimate city dwellers.

Research by Zhao Shukai shows, however, that peasants are not necessarily as unorganized as the public or government perceives. He contends that there are three modes of mobility through which peasants operate: self-organized, formally organized, or unorganized. In formally organized migration, a person may utilize some government service or consulting firm

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<sup>31</sup> Davin, Delia. “Migrants and the Media: Concerns about Rural Migration in the Chinese Press.” In *Rural Labor Flows in China*, edited by Loraine A. West and Yaohui Zhao, 278

to find employment. On the other hand, a person may use social networks (both familial and geographical) to find employment – a mode of migration Zhao refers to as self-organized. Finally, in unorganized migration, a person makes no decision regarding organizing employment in the destination city, and rather relies on himself or herself to find a job upon arrival. He stresses that the majority of labor migration is self-organized.<sup>32</sup>

An important implication of self-organized migration is that migration, fundamentally, becomes a rational and not blind activity. Therefore, an important characteristic of migrants is that they relocate to new places based on employment opportunities. That is, employment is the cause for migration; migration is not a spontaneous and endless drifting – there is purpose to it.

## **A Macroeconomic Context of Rural Migration**

Du analyzed data from the rural household network of the State Statistical Bureau rural investigation team in Sichuan and Anhui (both are areas which have experienced a large amount of trans provincial migration). He reaches the following conclusions about the demographic characteristics of migrants. The average age of migrants is 26.9 in Sichuan and 27.4 in Anhui.<sup>33</sup>

This agrees with the general consensus among researchers that age is perhaps the single most important factor in determining which individuals will choose to migrate. There are two reasons that age factors so heavily in the migration process. First, it is important to consider

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<sup>32</sup>Zhao, Shukai. "Organizational Characteristics of Rural Labor Mobility in China." In *Rural Labor Flows in China*, edited by Loraine A. West and Yaohui Zhao., 232

<sup>33</sup>Du, Ying. "Rural Labor Migration in Contemporary China: An analysis of its Features and the Macro Context." In *Rural Labor Flows in China*, edited by Loraine A. West and Yaohui Zhao., 76



that migration should be equitable to any evaluation or decision to acquire human capital. As such, the returns on an investment in human capital increase with age. Thus, the younger one is, the greater the potential returns to investment are. In this case, then, migration will be conducted mostly by young people because the present value of the benefits of migration are larger for them – there is a larger time period for them to enjoy those benefits.

Secondly, an individual must also weigh the costs associated with migration in addition to the benefits. There may be some direct costs coupled with the movement process, such as transportation costs, the opportunity costs of forgoing income while migrating, and the cost of acquiring information related to finding employment, the cost of acquiring new housing, etc. However, another large part of migration involves psychic costs that are not quite so easily measured.<sup>34</sup> When becoming an adult, a person (in the beginning) has relatively few connections and ties to other people. Later in life, a person's ties with family, neighbors and employers, and identity with place of residence become much more firmly established. Therefore, the psychic costs of severing these ties are much greater for older people than for younger people. If the total costs of psychic costs and direct monetary costs are greater than the perceived benefits of migration, then migration will not occur. For these reasons, it is easier for younger people to migrate than older people.

Du also identifies that single males are more likely to migrate than married couples or women. In Sichuan, according to his study, 69.3% of the labor force is male, and 65.2% of the labor force in Anhui is male.<sup>35</sup> Mincer, who found that married people were less likely to migrate when compared to unmarried people, also supports this observation. He also finds that

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<sup>34</sup> Ehrenberg, Ronald, and Smith, Robert. *Modern Labor Economics: Theory and Public Policy, Fifth Edition*, 331

<sup>35</sup> Du, Ying. "Rural Labor Migration in Contemporary China: An analysis of its Features and the Macro Context." In *Rural Labor Flows in China*, edited by Loraine A. West and Yaohui Zhao, 77

married couples with children are less likely to migrate when compared to married couples without children.<sup>36</sup> This most likely relates to the psychic costs of migration mentioned previously. Married couples may be older than unmarried individuals, and they may also have more established ties in their place of residence. Du notes, however, that the total difference between married couples and unmarried individuals is relatively small. The ratio of the two groups in his sample size is only 51:49 for Sichuan and 54:46.<sup>37</sup> According to Hare and Zhao, who used data on a farm household survey in Xiayi county, Henan province, migrants are more likely to be male, young, and better educated than the overall population. However, contrasting data from Chezhan Township also shows that migrants there are slightly more likely to be female, but also slightly more educated than the non-migrant subsample.<sup>38</sup>

Du also notes that the education level of migrants differs from those of local urban citizens. The illiteracy rate among migrants in Sichuan and Anhui is lower than non-migrants, and in terms of education, the average for migrants is about one and half years more than non-migrants. This leads to his important observation that migrants are not always unskilled or lacking in education. In fact, education may also provide a key motivation for migration in the first place. A significant cost of migrating is that of information – where are job opportunities and how good are they compared to a current job? If a person has a high level of education, he or she is more likely to be employed in a job that has regional or national demand. Information about jobs in these markets can be obtained much more easily than in markets for individuals with less education. Du finds that there is a relationship between the level of income of a

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<sup>36</sup> Mincer, Jacobs. "Family Migration Decisions." *Journal of Political Economy* 86.5 (1978) 750

<sup>37</sup> Du, Ying. "Rural Labor Migration in Contemporary China: An analysis of its Features and the Macro Context." In *Rural Labor Flows in China*, edited by Loraine A. West and Yaohui Zhao, 77

<sup>38</sup> Hare, Denise, and Zhao, Shukai. "Labor Migration as a Rural Development Strategy: A View from the Migration Origin." In *Rural Labor Flows in China*, edited by Loraine A. West and Yaohui Zhao, 153

county and its rate of migration. Specifically, counties with the highest rates of migration are middle-income counties.<sup>39</sup> Low income and high income counties both exhibit low rates of migration, perhaps due to the fact that low income households may find it difficult to find information about potential jobs in other areas, and also because high income individuals do not perceive there to be any benefit regarding migration. In other words, high-income individuals are already content with their situation in life and would not seek to change it.

## Determining Migration

Present Value of Net Benefits<sup>40</sup> =

$$\sum_{t=1}^T \frac{B_{jt} - B_{ot}}{(1+r)^t} - C$$

where:

$B_{jt}$  = the utility derived from the new job (j) in the year  $t$

$B_{ot}$  = the utility derived from the old job (o) in the year  $t$

$T$  = the length of time (in years) one expects to work at job  $j$

$r$  = the rate of discount

$C$  = the utility lost in the move itself (direct and psychic costs); and

$\Sigma$  = a summation – in this case the summation of the yearly discounted net benefits over a period running from year 1 to year  $T$

The above equation signifies the following: the present value of the net benefits of migration will be larger if the expected utility of the new job outweighs the expected utility of the old job. The implications of this assumption are quite subtle. There is a negative effect of distance between a migrant's home and the location of the expected job on the elasticity of

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<sup>39</sup>Du, Ying. "Rural Labor Migration in Contemporary China: An analysis of its Features and the Macro Context." In *Rural Labor Flows in China*, edited by Loraine A. West and Yaohui Zhao, 79

<sup>40</sup> Ehrenberg, Ronald, and Smith, Robert. *Modern Labor Economics: Theory and Public Policy, Fifth Edition*, 327

migration flows.<sup>41</sup> That is to say, as the distance between home and job increases, a migrant will have less information about the job or job market in the destination area. This decrease in information lowers his or her expected utility of the destination job, thus affecting the decision to migrate. In addition, the costs  $C$  of migration will increase (for both direct and psychic costs). To state it more plainly, as the distance a migrant must travel increases, he or she will be less likely to migrate.

Most migrant workers in cities, however, are not from local areas. This can be explained by current research on temporary migration versus permanent migration. Xu, and Chen show that most migrant workers in cities with high levels of education and experience are more likely to be permanent residents of cities. By contrast, the workers with low education or experience will more likely be engaged in temporary, or circular, migration.<sup>42</sup> The gains, therefore, that these people can make to China's level of urbanization have not been fully realized. As a result, migrant workers tend to be more excluded from urban life and from the urban labor market because they do not stay permanently in urban areas. Decreasing the time spent in cities may decrease the absoluteness of the migration process, and thus lower the psychic costs of migrants (because they feel they do not have to permanently cut ties with their home). Migrants know that they might eventually return to their hometowns, so this knowledge might further decrease the associated psychic costs of migration (especially when compared to a static model of migration that says migrants abandon their previous homes and live in new places forever). Additionally, if job changes are the dominant factor motivating mobility, then

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<sup>41</sup> Schwartz, Aba. "Interpreting the Effect of Distance on Migration." *Journal of Political Economy*. 81.5 (1973)1153

<sup>42</sup> Hu, Feng, and Zhaoyuan Xu, and Yuyu Chen. "Circular Migration or Permanent Stay? Evidence from China's rural-urban migration." *China Economic Review*

we should see a movement of people from areas where employment opportunity or wages are poor to an area where opportunities or wages are higher.

## ***Chapter 4 - Literature Review and Theoretical Framework***

Previous chapters have served to illustrate the current state of migrant workers in China. Historical forces have shaped the economic divide in China. From the 1960's to the 1980's people were generally restricted to their place of birth. The government specifically targeted growth in cities at the expense of rural areas. The result of unequal growth on the lives of citizens, however, has had the unintended consequence of creating second-class citizens out of the rural population. In addition to a widening income and consumption gap, rural citizens also face mediocre quality education and healthcare. It should come as no surprise, then, that rural citizens might wish to change their circumstances by migrating to cities. They might wish to improve their education, increase their potential wages, or they simply might be pursuing a more cosmopolitan lifestyle that is unavailable to them in their home villages. Whatever the case may be, people migrate because they feel that their chances of success or happiness are more likely to be realized in cities. The reality of the situation, however, is that not all people face equal opportunities in cities.

The scope of this research is not merely to examine the consequences of Hukou on the urban-rural divide, although understanding the divide in the first place is essential to understanding the process and determinants of migration in cities. This thesis is intended to contribute to existing literature on the nature of labor markets within cities. Migrants have caused a large increase in the urban population, and thus compete with urban citizens for jobs in the urban market. What types of jobs are migrants qualified to take? Do they suffer any disadvantages in human capital? Most importantly, does one's Hukou status provide any

premium if it is urban? These questions are fundamentally asking whether migrants face any type of discrimination in the labor, both legitimate and illegitimate.

## **Explaining Labor Market Discrimination**

Preliminary review of the literature concerning labor market discrimination among migrant workers suggests that holders of non-local Hukou face discrimination in at least three types: wage discrimination, pre-market discrimination, which occurs due to differences in education and background, and hiring discrimination, which occurs when similarly productive people do not have equal chances to compete for the same job.<sup>43</sup>

Migrants to cities can only be willing to move if they believe that their income in urban areas will be greater than their income in rural areas. The Hukou system, despite recent reform, still presents many challenges to migrant workers and remains a significant barrier for rural citizens trying to fully integrate into cities. Generally, migrant workers tend to fill the less desirable jobs in an urban labor market. As Li, Jun, Gu, and Zhang point out, differences in wage earnings between native urban worker and migrant workers are due to migrants' lack of comparable human capital. Numerous studies confirm that differences in education and background are major sources of premarket discrimination for migrant workers. This, however, is not necessarily an evil. It is simply the labor market correctly allocating higher income jobs to individuals with more accumulated human capital. This is a rather important point to make about labor market discrimination – not all of it is illegitimate (in the sense that it would be considered immoral). Suppose that there are two potential workers, both of whom are applying

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<sup>43</sup> Song, Yang. "Review: What Should Economists Know About The Current Chinese Hukou System?" *China Economic Review* 29. (2014)

to be a doctor in a hospital, and that one of them is a migrant and that one of them is urban. Now suppose that only the urban worker has actually completed medical school and medical training. Logic would dictate that the labor market should allocate the hospital position to the urban worker, because that person has greater human capital and experience than the migrant worker. This is an example of pre-market discrimination, because both workers have acquired different skills and different levels of human capital. The market for labor will always allocate higher paying jobs to workers who have higher levels of education and experience.

Take, for example, another situation where both a migrant worker and an urban worker are applying for the same position in a hospital. In this scenario, both the migrant and the urban citizen have the exact same levels of human capital. They have both completed medical school and they both have appropriate training for the job. At this point it should be clear that both applicants are equally eligible for the position. However, it would be hard to argue a case for discrimination if the urban worker was awarded the job, because this is only one anecdote. Suppose that on average, then, more urban workers are hired than migrant workers. This would be a case of hiring discrimination, because all applicants are equal in terms of human capital, and yet the urban workers are given a premium because of what Hukou they hold.

Wage discrimination is relatively easier to explain than hiring or premarket discrimination. It is the classic example of labor market discrimination, and has been widely studied by economists – wage discrimination presents itself when two people with similar levels of human capital earn different wages. In the United States, this is most often studied as the gap between men’s earnings and women’s earnings.



The purpose of this thesis is to identify factors of labor market discrimination that cannot be explained by differences in human capital. In other words, the purpose of this research is to bridge a gap in the literature concerning the economic status of migrant workers. Most studies identify and analyze pre-market conditions for wage discrimination. In this thesis I will analyze the wages of rural-to-urban migrants and urban citizen who hold similar, or preferably identical, jobs and who have little or no difference in education and human capital. Thus, I hope to determine if individuals can be discriminated against for possession of rural Hukou in urban areas. As Stockman notes, migrants can be discriminated against because of negative images that the media propagates. Authorities warn of “waves” of “blindly floating migrants” who “flood” into cities and cause overcrowding and crime.<sup>44</sup> I hypothesize that because of these reasons, owners of rural Hukou are subject to lower wages for no rational economic reason.

## **Previous Research**

When studying labor markets, economists have always had a penchant for analyzing labor market segregation. In the United States, this can occur along the lines of gender, age, or ethnic background. To be sure, segregation along these lines can also occur in China, but there is another situation that is unique to China. Namely, the divide between rural and urban China has given researchers the chance to examine the prospects of migrant workers in the urban labor market. In other words, as two distinct working groups compete in the same market for labor, the conditions arise whereby discrimination may become prevalent.

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<sup>44</sup> Stockman, Norman. *Understanding Chinese Society*, John Wiley & Sons, 2013,

Demurger, et al. show that migrants differ from urban workers in several key aspects. Other than a relatively lower income, migrants can also suffer from delay in payments of wage. They generally have much higher job mobility than local workers because they usually do not sign contracts. Their working hours are usually much longer than the legal working time, and they are overrepresented in lower paying jobs, often because these are tougher jobs that urban workers refuse to take.<sup>45</sup> Data from the 2002 Chinese Household Income Project (CHIP) shows that migrants themselves willingly admit to perceived discrimination. The data indicates that 70 percent of migrant workers perceive discrimination in terms of wage paid for equal work, 71 percent perceive discrimination in the type of work that is given to them, and 61 percent perceive discrimination in terms of the hours that they are required to work.<sup>46</sup> Additionally, the research performed by Demurger et al. shows that differences in earnings can be explained by four factors. (1) The sectoral effect groups migrants into lower paying sectors of the economy. (2) Hourly wage discrepancies occur between migrant worker populations and urban worker populations. (3) Migrants workers work longer hours than urban workers. (4) Population differences can further explain differences in income. Of all the effects listed, Demurger et al. find that population effects (differences in human capital) can most convincingly explain the income gap between migrants and urban workers.<sup>47</sup>

However, not all research is consistent with the work of Demurger et al. In fact, there appears to be a divide in the literature as to what causes differences in income between the segmented labor market in China. Some scholars will argue that education and human capital

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<sup>45</sup> Demurger et al. "Migrants as second-class workers in China? A Decomposition Analysis." *Journal of Comparative Economics*, 37.4 (2009), 611

<sup>46</sup> Ibid, 611

<sup>47</sup> Ibid, 624

can account for all perceived instances of discrimination and differences in income. Other scholars will argue that Hukou status plays a tangible and significant role in the determination of wage. Meng and Zhang are two researchers whose work agrees with the belief that Hukou status can affect the earnings of workers. Their work acknowledges the difference in occupations caused by the sectoral effect (as identified by Demurger et al.), however, they argue that the differences in earnings cannot be explained by “productivity-related differences.”<sup>48</sup> This implies that human capital, education, and experience are perhaps not as significant as the status of one’s Hukou. Urban residents, therefore, are favored while migrants face discrimination.

The work of Messinis concurs with Demurger et al. Specifically, the returns to education in the labor market cannot be ignored. The purpose of his study is to investigate the endogenous effects of higher education on the difference in characteristics between migrant and urban workers. In other words, he is investigating the possibility that a person’s expected earnings will determine their level of education, and not the reverse assumption (that a person’s level of education will determine his or her income). Notably, his research concludes that when accounting for endogeneity in education, the urban-migrant wage gap between long term migrants and urban citizens completely disappears.<sup>49</sup> Of course, one could also argue that Messinis fails to consider the differences between permanent and temporary migration. Most migrants are only following circular migration flows, and will eventually return to their home.

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<sup>48</sup> Meng, Xin and Junsen Zhang. “The Two-Tier Labor Market in Urban China: Occupational Segregation and Wage Differentials between Urban Residents and Rural Migrants in Shanghai.” *Journal of Comparative Economics*, 29.3 (2001) 502

<sup>49</sup> Messinis, George. “Returns to education and urban-migrant wage differentials in China: IV quantile treatment effects.” *China Economic Review*, 26 (2013) 53

The migrants who become eventual permanent migrants already have comparable levels of human capital with urban citizens.

Another study published by Lu and Song reveals that, according to analysis of their survey data, Hukou status does have a significant effect on the income gap between migrant and non-migrant workers. Additionally, controlling for sources of pre-market discrimination revealed that urban workers were still more highly paid than migrant workers, which suggests wage discrimination.<sup>50</sup> Research by Lee shows that, when utilizing Blinder-Oaxaca decomposition, there still remains a large enough portion of the gap in earnings between migrants and non-migrants that cannot be explained. In essence, a Blinder-Oaxaca decomposition compares individuals with similar jobs and attempts to explain differences in wage earning with control variables. Any remaining percent difference in income that cannot be explained by the control variables is then assumed to be discrimination. Lee suggests that discrimination in the urban labor market may occur because of the problem of asymmetric information.<sup>51</sup> In other words, potential employers may not recognize or be familiar with the schools that migrants have attended. As a result, employers simply rely on the assumption that the average quality of rural education is lower than that of the education received by urban workers. The subsequent income of migrants, therefore, depends on these faulty assessments.

In any case, the government remains in the awkward position of being beholden to these migrants' complaints of discrimination, yet is the undisputed legal cause of their discrimination in the first place. Current research remains at an impasse of sorts – there is a

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<sup>50</sup> Lu, Zhigang, and Shunfeng Song. "Rural-urban migration and wage determination: The case of Tianjin, China." *China Economic Review* 17.3 (2006)344

<sup>51</sup>Lee, Leng. "Decomposing wage differentials between migrant workers and urban workers in urban China's labor markets." *China Economic Review* 23.2 (2012) 469-470

lack of literature that fully explains the complete discrepancy in the earnings gap between migrant and non-migrant workers. This thesis, therefore, is intended to add to and supplement the existing literature, and examine whether Hukou status does or does not have a significant impact on the wage gap.

## ***Chapter 5: Quantitative Analysis of Longitudinal Survey on Rural Urban Migration***

### **Introduction**

Following a rise in foreign investment and the implementation of market reforms in the 1970's, the nature of the Chinese economy experienced rather significant changes. Growth and development of urban production and services induced a rapid shift in demand for workers, and migrant workers have consistently refreshed the urban supply of labor. However, the backgrounds and skill sets of migrant workers on average are often considerably lacking when compared to those of urban workers. The aim of this chapter is to produce quantitative research comparing the wages of migrant workers in urban areas to the wages of local urban citizens. It includes an introduction to the survey used in the research, descriptions and reasoning for the use of the independent and dependent variables, and finally a linear regression model with subsequent analysis of the regression results.

### **The Longitudinal Survey on Rural Urban Migration**

The Longitudinal Survey on Rural Urban Migration in China (RUMiC) consists of three parts: the Urban Household Survey, the Rural Household Survey and the Migrant Household Survey. It was initiated by a group of researchers at the Australian National University, the University of Queensland and the Beijing Normal University and was supported by the Institute for the Study of Labor (IZA), which provides the Scientific Use Files. The financial support for RUMiC was obtained from the Australian Research Council, the Australian Agency for

International Development (AusAID), the Ford Foundation, IZA and the Chinese Foundation of Social Sciences.

Surveys for the data began in 2008, and four surveys for the Urban Household Survey (UHS) and Rural Household Survey (RHS) have since been published, and five surveys for the Migrant Household Survey (MHS) have been published. Most existing surveys of the Chinese population focus on rural and urban households. The Longitudinal Survey on Rural Urban Migration is unique in that it includes a third survey on migrant households. Thus, the survey of urban households complements and serves as a control group for the survey on migrant households.

As the surveys explain, an urban (or rural) citizen is one who possesses urban (or rural) Hukou. A migrant is defined as a person who possesses rural Hukou while living in a city at the time of the survey. The UHS and MHS have respectively interviewed around 5,000 households, and the RHS has collected data for around 8,000 households. The Urban and Rural household surveys were collected with information using random samples of the population across varying age and income levels. The conductors of the survey note, however, that randomly surveying migrant workers proved to be slightly more difficult because most migrants cluster around “dormitories near factories and construction sites, often without a registered address.” A new and innovative survey design was constructed by RUMiC to randomly assess the migrant population.

The UHS and MHS were conducted in the same 15 cities. Because the surveys are designed to be longitudinal, RUMiC expected to follow specific individuals and households throughout the scope of the project. A small lottery was implemented to discourage attrition

among individuals interviewed. Unfortunately for the surveyors, the attrition rate for urban citizens, which measures the number of original people surveyed who could not be located for subsequent surveys, was 5.8%, but the attrition rate for migrant workers was drastically higher (58.4%). Therefore, this paper will only utilize data from the 2008 survey, and will not compare individuals across time.

The RUMiC surveys contain a wide set of variables that measure respondents detailed socioeconomic characteristics, and includes questions that cover “physical and mental health status, life events, social networks, household consumption, assets and expenditure.” The Migrant Household survey includes further questions about an individual’s experience as a migrant. These surveys, then, prove invaluable to this thesis by providing an avenue to concretely examine the effects of migration and the labor market.

Quantitative analysis for this paper was completed using SPSS software after merging the Urban and Migrant household datasets.

## **The Dependent Variable**

To compare wages between migrants and urban individuals, only the Urban Household and Migrant surveys were used for this research. The surveys from 2008 were chosen for this study because they are the most recent available. Because the purpose of this research is to study wages among comparable urban and migrant workers, the dependent variable is income. Respondents were asked the question: “What is your average monthly income from current primary job? (Yuan/month)?” The result is a scalar variable.



## Independent Variables

Four models were used in this study, and each model successively uses additional independent variables in order to more narrowly describe and isolate the effect of Hukou status on income.

The most general model, referred to as Model I, uses only the combination of dependent variable, income, and one independent variable, Hukou Status. The variable “Urban” was originally a nominal variable based on the following question asked in each survey: “What is your current status of Hukou?” Respondents were given four options from which to choose: local, urban Hukou; non-local, urban Hukou; local, rural Hukou; and non-local, rural Hukou. The answers to this question across both surveys were recoded into a binary variable called “Urban.” A value of 1 indicates urban Hukou status, while a value of 0 indicates rural Hukou status. Thus, respondents with a value of 0 are considered to be migrants working in cities.

A second model, now referred to as Model II, seeks to further isolate the effect of Hukou status on income level by including additional independent variables that may help to explain away any difference in wage. These additional independent variables are Age, Male, Level of Education, and Hours Worked per Week.

The scalar variable “Age” is a rather self-explanatory measure of the respondent’s age. It is included in Model II for two reasons: age is often linked in the workplace with experience, and also because younger migrants usually receive higher wages than older migrants (for the reason that their occupations on average are more physically demanding.)

The variable “Male” is intended to capture the effects of gender bias in the labor market. It was recoded into a dummy variable for the purpose of this research: a value of 0 indicates the respondent is female, and a value of 1 indicates that the respondent is male.

Finally, the remaining two variables, “Level of Education” and “Hours Worked per Week” seek to explain the effect of human capital on differences in wage earnings. It is a well-established fact that increases in education lead to increases in wage earnings by the simple logic that highly educated laborers have more skills and human capital available to be rented out by employers. The ordinal variable “Level of Education” ranges from 1 (which indicates the respondent has never attended school) to 9 (which indicates the respondent has completed postgraduate education). The variable “Hours Worked per Week” is included to control for any income differences which might arise from the fact that some workers are being paid more simply because they work longer hours than their counterparts.

The third model, now referred to as Model III, includes additional independent variables to control for differences in income arising from differences in occupation. An important part of this research is to determine if differences in income exists between similarly skilled urban and migrant individuals. However, it is important to note that migrants and urban individuals often do not compete for the same jobs in the labor market. One reason is that migrants are excluded from certain jobs, such as positions within the urban government. Additionally, urban residents are often more educated than migrants from rural areas, so the labor market will allocate higher-wage jobs to them. The researcher does wish to note that not all wage differences from occupation can be accounted for, a problem arising from lack of specific data. For instance, a restaurant may employ both an urban worker and migrant worker, but the urban worker may

be employed as a chef while the migrant worker may be employed as an assistant chef. RUMiC surveys would describe both workers as being employed by the food service industry, but would not further describe the internal hierarchy of the place of employment. The following chart details the distribution of migrant and urban workers in the urban labor markets of the surveyed cities:

Industry of Primary Job	Migrant	Urban
Agriculture, Forestry, Animal Husbandry	4	74
Mining	4	71
Manufacturing	1355	1246
Production and Supply of Gas, Electricity, Water	14	253
Construction Enterprise	740	237
Transport, Storage, Port Industry	224	631
IT, Computer Services, Software Industry	61	269
Wholesale and Retail Trade	2069	847
Hotel and Catering Services	1322	235
Financial Intermediation	18	254
Real Estate	209	125
Leasing and Business Services	66	240
Scientific Research, Technical Service	213	176
Management of Water Conservancy, Environment and Public Facilities	27	83
Services to Households	710	777
Education	48	394
Health, Social Security, Social Welfare	129	277
Culture, Sport, Entertainment	98	141
Public Management and Social Organization	15	565
International Organizations	0	3
Total	7,326	6,898

Therefore, to adequately compare incomes across jobs it is necessary to study the sectors in which both urban citizens and migrant workers are employed. That is, an area such as Public Management and Social Organization should not be considered for this research, because it employs 565 urban workers and yet only employs 15 migrant workers. The

researcher has arbitrarily chosen an employment level of 200 workers to serve as the threshold for viability of comparison. In light of this, only six industries employ at least 200 migrants and 200 urban citizens: Manufacturing; Construction; Transportation, Storage, and Port; Wholesale and Retail Trade; Hotel and Catering Services; and Services to Households.

The fourth and most powerful model, referred to as Model IV, includes additional independent variables to control for interaction between urban citizens and education, gender, age, hours worker, as well as variables to control for the interaction between urban citizens with the industry variables.

The following table illustrates basic descriptive statistics for the urban and migrant surveys:

Variables	Respondents	min	mean	median	mode	max	Standard deviation	% missing
Age	Urban	1.00	40.38	41.50	46.00	78.00	18.52	1.83
	Migrants	1.00	28.79	28.00	21.00	88.00	12.70	0.02
Gender-Male	Urban	0.00	0.495	0.00	0.00	1.00	0.50	0.02
	Migrants	0.00	0.568	1.00	1.00	1.00	0.50	0.00
Hours worked at employment	Urban	5.00	44.52	40.00	40.00	100.00	11.60	51.36
	Migrants	5.00	63.34	60.00	60.00	100.00	15.70	19.56
Education	Urban	1.00	5.38	5.00	4.00	9.00	1.71	20.56
	Migrants	1.00	4.24	4.00	4.00	9.00	1.09	12.53
Income	Urban	100.00	2015.06	1700.00	1000.00	6000.00	1243.02	52.64
	Migrants	100.00	1450.12	1300.00	1000.00	6000.00	874.32	16.73

It is interesting to note that, on average, migrants are younger (29) than urban residents (40). This agrees with previous research mentioned in Chapter 3. Specifically, Du analyzed data from the State Statistical Bureau and concluded that the average age of migrants was

significantly younger than the local population. The migrant population also skews slightly male, and migrants work about 20 hours more per week than urban citizens. This observation is supported by the work of Du and Demurger et al. Statistics analyzed by Du reveal that the migrant labor force is slightly more male than local urban populations. Additionally, Demurger et al. show that migrant workers often have longer working hours than urban citizens. Urban citizens are slightly more educated (5.38) than migrant workers (4.24). This information contrasts starkly with the observations obtained by Du, Hare, and Zhao. In their studies, they found that migrants in a given county are slightly more educated than local residents. In contrast, this dataset shows migrants attend about one year less of schooling than their urban counterparts, Du, Hare, and Zhao find that migrants attend almost one year more of schooling. This can possibly be explained by the fact that the RUMiC data is an average of the responses from many migrants across 15 cities. By comparison, the studies of Du, Hare, and Zhao are all focused examinations of individual counties. From the outset, migrants also earn about 565 less Yuan per month than their urban counterparts.

The following table presents the regression results of Models I,II,III, and IV:

Variables	Coefficient estimate	Coefficient estimate	Coefficient estimate	Coefficient estimate
(Constant)	1473.404*** (12.591)	19.761 (67.169)	283.110*** (71.495)	585.095*** (98.363)
Urban	531.240*** (18.207)	65.461* (25.468)	51.291** (25.896)	-466.677*** (149.912)
Age		7.065*** (0.908)	5.991*** (.909)	4.519*** (1.241)
Male		394.611*** (17.566)	370.535*** (17.827)	387.848*** (24.918)
Highest Level of Education		248.594*** (7.050)	232.050*** (7.224)	134.238*** (11.846)
Hours Worked per Week		-1.078* (0.632)	-0.893 (.645)	-2.084** (0.803)
Manufacturing Binary			-167.243*** (26.84)	95.526 (43.040)
Construction Binary			17.923 (38.424)	271.920*** (50.483)
Transportation Binary			-36.889 (38.964)	235.743** (75.523)
Retail Binary			-126.218*** (27.898)	162.712*** (41.356)
Hotel Binary			-293.708*** (33.62)	-41.767 (44.163)
Services to Households Binary			-382.022*** (31.972)	70.196 (50.669)
Urban*Education				138.051*** (15.000)
Urban*Manufacturing				-325.018*** (55.613)
Urban*Construction				-360.016*** (85.528)
Urban*Transportation				-325.774*** (88.070)
Urban*Retail				-423.198*** (58.396)
Urban*Hotel				-326.195*** (82.161)
Urban*Services				-668.621*** (65.778)
Urban*Age				2.128 (1.829)
Urban*Gender				70.389** (35.548)
Urban*Hours				.955 (1.354)
R Square	0.057	0.172	.189	.204

N	13959	13562	13535	13534
*	**	***		
p<0.1	p<0.05	p<0.01		

## Data Analysis

Each model was constructed with varying degrees of generality, so there will naturally be some variation in the beta coefficient between variables of different models. The statistical significance of each beta coefficient is marked by asterisks, as indicated at the bottom of the table. The adjusted r square value for Model IV, the most complete model in terms of independent variables, is .203, which indicates that Model IV is able to explain about 20% of the variation in the dependent variable, income. The variable “Urban” is statistically significant in Models I, III, and IV. (It is still statistically significant in Model II, but only at the 90% confidence interval.)

The values for each beta coefficient explain the relationship between the corresponding independent variable and the dependent variable. Therefore, any value change in a beta coefficient will result in a change for the total amount of wages earned.

Model I can be expressed as:

$$\text{Wage} = 1473.404 + 531.24 * \text{Urban}$$

In this model, Urban (which is the variable describing possession of urban Hukou) is statistically significant at the 99% confidence interval. The equation is a linear representation of income when Hukou is taken into consideration. The constant, 1473.404, is the estimate value of Y when X equals zero. We can use this equation to estimate a person’s income. The variable Urban is coded as follows: 1= Urban Hukou, 0=Rural Hukou. Because this research only utilized

the Urban and Migrant surveys from RUMiC, a value of 0=Rural Hukou indicates that the respondent has rural Hukou and lives in a city. It should not be understood to mean the respondent has rural Hukou and is living in a rural area. Thus, the income per month of a city-dwelling person with urban Hukou can be estimated as:

$$2004.644 = 1473.404 + 531.24*1$$

By comparison, the income per month of a city-dwelling person who has rural Hukou can be estimated as:

$$1473.404 = 1473.404 + 531.24*0$$

The income for a rural migrant is the same as the constant because the variable for Hukou is coded for one and zero. When it takes on a value of zero, it indicates that the respondent is a migrant. Thus, this model indicates that urban citizens enjoy a premium on their wages valued at 531.24 yuan per month.

In Model II, the regression shows us that the variable Urban is not significant enough to reject the null hypothesis, which says that there is no relationship between the independent variable (in this case, the respondent's Hukou status) and the dependent variable (in this case, the respondent's income). In other words, Model II is saying that we cannot discern with certainty whether or not the regression coefficient we obtained, 65.461, occurred by chance. Interestingly, the majority of the remaining independent variables – Age, Male, and Highest Level of Education – are all significant at the 99% confidence interval. One's income can be raised about 248 Yuan per month for each higher level of education attained. This model also shows that men earn almost 400 more Yuan per month than women. However, like the variable



Urban, the number of hours worked per week does not influence a person's income. This is perhaps because migrants are more likely to work more per week, and they already work in comparatively lower paying jobs than urban residents.

Model III is only marginally more revealing than Model II. In general, it shows that taking jobs measured by the variables Manufacturing, Retail, Hotel, and Services to Households is associated with a decrease in income per month compared with individuals who do not work in those sectors. Of particular importance in this model is that the variable Urban returns to being statistically significant at the 95% confidence interval. Additionally, as each model advances, the financial returns to being a holder of urban Hukou decreases. That is, in Model I a worker with urban Hukou earned 531 more Yuan per month than his or her counterpart with rural Hukou. In Model II, a worker with urban Hukou will only earn about 65 more Yuan per month. In Model III, a worker with urban Hukou only earns about 51 more Yuan per month.

Model IV can be expressed as:

$$\begin{aligned} \text{Wage} = & 585.094 - 466.677 * \text{Urban} + 4.519 * \text{Age} + 347.878 * \text{Male} + 134.238 * \text{Level of Education} - \\ & 2.084 * \text{Hours Worked per Week} + 95.526 * \text{Manufacturing} + 271.920 * \text{Construction} + \\ & 235.743 * \text{Transportation} + 162.712 * \text{Retail} - 41.767 * \text{Hotel} + 70.196 * \text{Services to} \\ & \text{Households} + 138.051 * (\text{Urban} * \text{Education}) - 325.018 * (\text{Urban} * \text{Manufacturing}) - \\ & 360.016 * (\text{Urban} * \text{Construction}) - 325.774 * (\text{Urban} * \text{Transport}) - \\ & 423.198 * (\text{Urban} * \text{Retail}) - 326.195 * (\text{Urban} * \text{Hotel}) - 668.621 * (\text{Urban} * \text{Services}) + \\ & 2.128 * (\text{Urban} * \text{Age}) + 70.389 * (\text{Urban} * \text{Male}) + 0.955 * (\text{Urban} * \text{Hours}) \end{aligned}$$

This model is relatively more complex than previous models because it includes variables to control for interaction effects. Multiple regression (that is, a regression equation with more than one independent variable) is a linear and additive technique. It assumes a linear relationship between the independent variables and the dependent variable.

It also assumes that the effect of one independent variable on the dependent variable is the same for all values of the other independent variables in the model. However, if interaction is taking place – if, for example, the effect of education on workers with urban Hukou is larger than the effect of education on migrant workers – then multiple regression will not capture this effect. In other words, the level of one independent variable depends on the level of another independent variable. Creating an interaction variable in SPSS simply means multiplying one independent variable with another independent variable (as long as you suspect those variables have interaction). The coefficient for the interaction variable tells us how much to adjust our additive estimate for each one-unit increase in the variables for education and job sectors. Thus, Model IV can be expressed in two ways. For a worker with urban Hukou, his or her wage can be estimated as:

$$\text{Wage} = 118.427 + 6.647 * \text{Age} + 418.267 * \text{Male} + 272.289 * \text{Level of Education} - 1.129 * \text{Hours Worked per Week} - 229.492 * \text{Manufacturing} - 88.096 * \text{Construction} - 90.031 * \text{Transportation} - 260.486 * \text{Retail} - 284.428 * \text{Hotel} - 598.425 * \text{Services to Households}$$

The income for a migrant worker can be estimated as:

$$\text{Wage} = 585.094 + 4.519 * \text{Age} + 347.878 * \text{Male} + 134.238 * \text{Level of Education} - 2.084 * \text{Hours Worked per Week} + 95.526 * \text{Manufacturing} + 271.920 * \text{Construction} + 235.743 * \text{Transportation} + 162.712 * \text{Retail} - 41.767 * \text{Hotel} + 70.196 * \text{Services to Households}$$

The model shows that urban workers and migrant workers in the same job sector earn different amounts of wages. In fact, an urban worker may even earn less than a migrant, for example, assuming they work in the construction industry, have low levels of education, are relatively young, and are female. Thus, possession of urban Hukou may not necessarily be an

advantage in industries where both migrants and urban workers are able to compete for similar jobs.

## ***Chapter 6: Concluding Remarks***

It is well known how certain research papers, especially when poorly written, can become fatiguing to read or understand. This purpose of this final chapter, therefore, is to make some final remarks and clarifications regarding the data. After all, there are always implications that data and graphs are never able to fully convey.

The purpose of this paper was to examine the effect of urban Hukou on an individual's wages. The Hukou system was originally established to limit the number of rural citizens migrating to urban cities. Today, the purpose of it is more or less the same. Migrant workers come to cities despite the fact that, on average, they will earn less money and work longer hours than urban citizens. What can we say about these migrant workers? Why do they earn less money? Based on my own interactions with Chinese people, it seems that urban residents do not hold that high of an opinion of migrant workers. Even looking at newspaper headlines regarding labor migration in China, the language employed is quite similar to the descriptions of undocumented Mexican immigrants in the United States. The study was not meant to further understand public perception of Chinese migrant workers, but this could certainly be a driving factor in any differences in income. After all, discrimination in the labor market is not always rational. If anything, previous research could support the idea that migrant workers are unfairly discriminated against. At least in some areas, migrants are more educated than local urban citizens.

For this research project, the wages of almost 14 thousand migrant and urban citizens were compared (while controlling for separate independent variables like education, age,

gender, and occupation). Based on the data, the wage equations for urban and migrant workers can be expressed as:

$$\text{Urban Wage} = 118.427 + 6.647 * \text{Age} + 418.267 * \text{Male} + 272.289 * \text{Level of Education} - 1.129 * \text{Hours Worked per Week} - 229.492 * \text{Manufacturing} - 88.096 * \text{Construction} - 90.031 * \text{Transportation} - 260.486 * \text{Retail} - 284.428 * \text{Hotel} - 598.425 * \text{Services to Households}$$

$$\text{Migrant Wage} = 585.094 + 4.519 * \text{Age} + 347.878 * \text{Male} + 134.238 * \text{Level of Education} - 2.084 * \text{Hours Worked per Week} + 95.526 * \text{Manufacturing} + 271.920 * \text{Construction} + 235.743 * \text{Transportation} + 162.712 * \text{Retail} - 41.767 * \text{Hotel} + 70.196 * \text{Services to Households}$$

We can recall that there are essentially two theories about the divergences of wages between migrant workers and urban workers. One side of the previously examined research shows that the mere possession of Urban Hukou can result in premiums in the labor market. The other side of the research posits that differences in income are simply a result of the lack of human capital. Consider the two equations above, as produced by Model IV of my inquiry. Quite surprisingly, urban workers are initially paid less than migrant workers. The constant value for urban wage is 118 while the constant value is 585 for migrant wage. Additionally, any occupation variable will result in a decrease of urban wage. However, it is important to point out that there is a significantly larger return on education for urban workers than for migrant workers. Therefore, while migrants may initially have a higher wage than urban workers for low levels of education, the wages of urban workers will surpass migrant workers at some level of education.

Based on this data, it appears that there is no premium on urban Hukou for low levels of education. For the uneducated in urban labor markets, it seems that having rural Hukou commands a pay premium. However, we should not conclude that urban Hukou does not

convey any benefits to workers. Although the wage regressions show that holding urban Hukou will reduce wages per month by 466.667 yuan, there is still a significant return to education for urban residents. In this case, the actual Hukou status itself does not confer any benefits, but there is still the indirect benefit associated with the quality of education in urban areas. By having better education than migrant workers, urban workers may be able to command higher wages.

This thesis is by no means a conclusive end to the ongoing research into labor market discrimination in China. Further explorations are necessary into the effects of Hukou on education and the quality of human capital obtained by urban citizens. Additionally, further research should be given to highlight any differences in total income between migrant and urban workers. This study only examined wages earned in a primary job. It is possible that urban workers benefit even more through various sources of compensation.

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