Contextual Determinants on Migrant Workers' Household Intentions –Interacting with Hukou Status and Migration Distance

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Abstract

The reform of household registration (*hukou* in Chinese word) system in China will help migrant workers settle down in their working cities. Based on the data of 2010 from the large survey of trans-regional migrant workers in the Pearl River Delta and the Yangtse River Delta and China Statistical Yearbook for Regional Economy, the paper shows that migrants with a higher ratio of GDP per capita or urban unemployment rate in destination city to origin city, or migrants who are working in cities with smaller population size tend to have positive or ambiguous attitude towards changing *hukou* versus a clear "no." Rural-to-urban migrants and inter-provincial migrants have similar patterns with the overall sample. Urban-to-urban migrants' household intention is mainly determined by the GDP ratio. For intra-provincial migrants, those with a higher GDP ratio or a higher unemployment rate ratio are more willing to change *hukou*.

Introduction

During the urbanization process in China, numerous migrant workers left their hometown and went to metropolitan areas for jobs. However, the long-existing dichotomy of the household registration system (*hukou* in Chinese word) has kept the rural migrant workers away from urban welfare and caused other problems (Zhang 2011). It is imperative to reform the *hukou* registration system to promote and protect the rights of those new migrants, eliminating the binary opposition between rural and urban regions. In July 2014, the Chinese State Council published the "Advice on Further Advancing the Reform of Household Registration System," setting up the guidelines to remove the limitations on the *hukou* registration of migrants in cities. According to the National Development and Reform Commission, about one hundred million rural migrants will be settled in cities and towns by 2020 (Li 2014). However, the true desire of migrant workers to change for an urban *hukou* and its influential factors, which matters to the efficacy of the reform policy, are still unclear and need to be explored.

There are many researchers and scholars concerned about the willingness of migrant workers to change their household registration and relative influential factors. It is found that though some migrants were willing to settle in the city, this intention would be significantly reduced when migrants were asked to give up their lands (Zhang 2011; Yang 2013; Lu and Xiang 2013). Migrant workers who are working in megalopolis or who migrated intra-provincially are more willing to seek long-term residence in the current working city (Xiao and Xu 2017; Li, Wang and Liu 2017). Generally, migrant workers' household intention is contradictory: they appear to

have both strong willingness of obtaining urban *hukou* and also strong intention of returning home (Fan 2016). In terms of influential factors, most studies focused on migrants' personal characteristics. People who have higher education, work for a longer time, own home in cities, have children at school age, and have better psychological adaptation and social integration of urban life are more willing to change their *hukou* (Huang 2012; Lu and Xiang 2013; Yang 2013; Zhang, Hao and Chen 2014). Macro-level factors including local policy, social security, social welfare institutions of cities also have a significant positive impact on people's settlement intention (Cai and Wang 2007; Li and Wang 2017; Zhang, Zhou and Yao 2018).

There are limitations with the previous studies. Firstly, most of relative studies didn't pay attention to the category of people's household intention between "want to" and "not want to." Secondly, they only examined the individual-level factors of the migrant workers' household intentions. The regional differences, local conditions and migration distance are often omitted. Thirdly, there is little research on different influential factors for the different groups of migrants.

To fill these gaps, this paper explores the impacts of contextual factors on migrant workers' household intention. Data used here are from the large survey of trans-regional migrant workers in the Pearl River Delta (PRD) and the Yangtse River Delta (YRD), which are held by Linping Liu in 2010. Multinomial logistic models will be developed to investigate the effects of individual, household and city level factors as well as their interaction with current *hukou* status and migration distance. The micro level variables include demographic background factors such as age, education, wage, family income structure and the ownership of urban housing and rural lands. The

geographic factors encompassing the ratio of GDP per capita in destination to origin city (hereinafter referred to as "GDP ratio"), the ratio of urban unemployment rate in destination to origin city ((hereinafter referred to as "unemployment rate ratio"), and the population size of destination city. The results are instructive to policymakers since they reflect not only how contextual characteristics impact migrants' willingness to change *hukou* but also the different determinants for different types of migrants.

Theoretical Background on Household Intention

Studies usually placed the household intention within the framework of migration (Huang 2012; Wei 2015). Considering the special household registration system (*hukou*) in China, Goldstein (1987) divided migration types into circulatory and permanent migration and regarded obtaining the household registration (*hukou*) of the destination place as a legal permanent migration. Cai and Wang (2007) also argued that changing household registration is the indicator of institutional permanent migration intention. Traditional theories that provide explanations of migration phenomenon are mainly from macro and micro perspectives. The macro paradigm regards migration as a social process, while the micro one focuses more on factors at smaller levels.

Theories from the macro perspective emphasize that it is the different characteristics of the origin and destination areas that caused migration. Lewis (1954) developed the Dual Economy Structure Theory, arguing that the gap of labor demand and supply between the subsistence (agriculture) sector and capitalist (industry) sector led to workers' rural-urban migration. This

theory, along with the extension and modification by Ranis and Fei (1961), established a precedent for explaining labor migration in a macro perspective (Massey 1993; Taylor and Martin 2001). Another widely used theory is Push and Pull Theory, which was proposed by Lee in 1966, serves as a schema of examining positive and negative factors associated with the areas of origin and destination in the migration process. The economic and social development factors of migration places are underlined in this theory. Furthermore, the Dual Labor Market Theory argues that the migration of labor force has more to do with the demand of destination areas ("pull" power) than the low wages and high unemployment ("push" power) of origin areas (Cai and Wang 2007; Massey 1993). Other than the economic factors, there is also a growing concern about the social networks, social relations and community structures in both origin and destination areas since 1990s (Piotrowski and Tong 2013).

The macro theories provided valuable dual-area model and inspired further migration studies; however, their assumption of perfect markets does not conform to the reality (Taylor and Martin 2001). The relations and interactions between individuals and households have been omitted. Theories from the micro perspective consider the individual-and household-level factors in migration process analysis, making up the limitations of macro theories.

Incorporating the labor-market imperfections, Todaro (1969) modified the neoclassical migration model and regarded the migration decision-making as an individual rational choice. Based on the variables of the urban-rural income differential and the probability of getting a job, he formulated a behavior model to explain people's calculation of migration costs and benefits. As

an advanced version of Todaro's model, Human Capital Theory takes the non-economic factors such as skill-related attributes and migration networks into consideration. Distance, contributing to migration costs, has negative association with migration decision (Taylor and Martin 2001). Later on, Stark and Bloom (1985) enlarged the analyzing unit from individual to household by the New Economics of Labor Migration (NELM) model, arguing that the decision of migration can also be based on the discussion of the whole family and the aim is not only maximizing the income but also minimizing the risks caused by the imperfect markets in the origin place. The model also points out a positive association between distance and migration since there is a possibility for long-distance migration when households have higher income risk (Taylor and Martin 2001), which is in contradiction to Human Capital Theory. These theories instruct scholars to add the individual- and household-level factors as well as migration distance into migration studies.

Studies on Migration in China

The ideas of both macro and micro theories have been applied into studies on the migration phenomenon in China. At the individual-level, many researchers found that migrant workers with higher education level had stronger intention to change their *hukou* since they have more abilities and human capital (Lu and Xiang 2013; Yang 2013; Chunyu et.al 2013). The ownership of land in hometown and the ownership of apartment in urban areas also have significant impacts, in a negative and positive way respectively (Huang 2012; Lu and Xiang 2013; Yang 2013). The current *hukou* status, which is highly related to the land ownership (one should stay in rural *hukou* to keep

the land), has been discouraging people from obtaining urban *hukou* in general based on the consideration of survival in cities (Zhang and Jiang 2017). Occupation planning that represents the individual development also matters: people who are going to stay in the same city in next 5 years will have a stronger *hukou* desire than those who have other plans (Wei 2015). Some research also indicated that the better psychological adaption and social integration of urban life could enhance the migrant household intentions (Huang 2012; Zhang et al. 2014; Zhang et al. 2018). In addition, the household characteristics are found highly correlated with household intention. Migrant workers whose children is at school age or spouse is in the same city are more willing to change their *hukou* (Huang 2012; Yang 2013; Wei 2015).

Despite the main stream of discussing micro-level factors, some studies are aware of the influence of regional differences on migration intention, extending the basic idea of macro theories. For the contextual factors of origin cities, Zhang (2011) highlighted that people from different kinds of places (metropolitan areas; middle and small cities) had different appreciation of land; the greater the appreciation of the land in the origin place, the weaker the willingness to change *hukou*. Yang et al. (2016), however, argued that villagers in more developed areas were more willing to give up their land and resettle in the city rather than those in less developed areas, since they benefited more from the farmland acquisition and thus build material foundation of resettlement. The conditions of the current working city also have significant impacts on migrants' household intention. Migrant workers who are current in mega-cities have stronger desire on urban *hukou* than those in other smaller cities; and the attractiveness of the mega-cities are primarily the high

economic development level (Li et al. 2017; Xu and Xiao 2017). In general, the social welfare institutions, including housing, medication and education, have the most important impact on people's household intention (Zhang et al. 2018). Studies on other kinds of migration phenomenon—such as the studies of "return migration" conducted by Piotrowski and Tong (2013) and Chunyu et al. (2013)—also emphasized the important roles of regional factors, including labor market conditions and migration networks in destination areas. Another important determinant on people's willingness of changing *hukou* is the migration distance. The intra-provincial migrants are more desiring *hukou* in the destination city since they are seeking better life conditions, not merely earn money to support family as most inter-provincial migrant workers do (Li et al. 2017; Ouyang, Zhang, Teng and Zou 2018).

There are limitations with the previous studies. Firstly, most of relative studies didn't pay attention to the category of people's household intention between "want to" and "not want to." Since migrant workers have contradictory intention on changing hukou and quite a lot of them are hesitating with vague views (Wei 2015; Fan 2016), it's important to include this category. Secondly, most of researchers only focused the individual-level factors of the migrant workers' household intentions; while those who examined the aggregate level units merely considered one side of the origin and destination places, not the difference between them. Thirdly, there are few discussions on the different influential factors, especially the contextual factors, on the household intention of different migrant groups (such as rural-to-urban or urban-to-urban migrants).

Filling the gap of previous literature, this study incorporates the characteristics of the origin and destination places as well as the differences between their impacts on migrants with different *hukou* and different migration distance. Based on the macro-level theories such as the Push and Pull theory (Lee 1966), migrants who are from less developed area with insufficient job opportunities to more developed area with more job opportunities. Thus, it is logical to make the following hypotheses:

H1. Migrant workers with a higher GDP ratio are more willing to change hukou.

H2. Migrant workers with a lower unemployment rate ratio are more willing to change hukou.

Since there are many studies found that the mega-cities are more attractive to migrants (Xiao and Xu 2017), I also made the third hypothesis:

H3. Migrant workers in cities with larger population size are more willing to change hukou.

The different types of migrant workers are also considered in this study. According to previous literature, people with rural *hukou* are less willing to change due to the land ownership or other benefits related to rural *hukou* (Zhang and Jiang 2017). However, there is a positive association between the development level of the origin city and the permanent settlement desire for people who own lands (Yang et al. 2016). Furthermore, intra-provincial migrants have stronger household intention and they treasure the development of the working city more than others (Ouyang et al. 2018). Thus, the last two hypotheses are made as follows (the "differences between origin and destination cities" here indicates the GDP ratio and the unemployment rate ratio):

H4: The differences between origin and destination cities have stronger effects on the household intention of urban-to-urban migrants than that of rural-to-urban migrants.

H5. The differences between origin and destination cities have stronger effects on the household intention of intra-provincial migrants than that of inter-provincial migrants.

Data and Methods

The setting of this research is in Pearl River Delta (PRD) and Yangtze River Delta (YRD), which are the most developed areas and the main concentration of inter-provincial population migration in China. The total proportion of floating population in these two regions is 35.4%. Particularly, the inter-provincial floating population makes up over 50% of the whole country, though the relative ratio of the population proportions of PRD to YRD changed from 35.5: 22.1 to 25.0: 32.8 (%) respectively during the first decade of 21st century (Liang, Li and Ma 2014). Thus, it is meaningful to focus on these two areas to get a sense of migration process all over the country.

The data used in this study are from a large survey project of migrant workers in PRD and YRD areas, which was conducted by Liu in July and August of 2010. This project focused on migrant workers who were involved in cross-county or cross-district migration. The sample allocation of this survey is based on the proportion of the urban migrant population in these two regions, controlling the distributions of gender, occupation and region. The study collected 4151 valid questionnaires, including 2046 for PRD area and 2106 for YRD area (Liu, Yong and Shu 2011; Wei 2015). I also use other resources to gauge the development level of the migrant worker's

origin city and destination city: the information of GDP per capita, urban unemployment rate and population size of cities are obtained in the 2011 China Statistical Yearbook for Regional Economy.

The dependent variable for this study is the household intention of migrant workers, which comes from the question "do you want to change your *hukou* to your current working city." The negative responses (don't want or dare not want) are coded as 2; the positive responses (want very much or more likely want) are coded as 1; other vague responses (never think about that; don't know; hard to express) are coded as 0. This simplified coding method has been used in Wei's research in 2015, which is based on the same survey with this study.

Based on the hypotheses, there are three key independent variables: GDP ratio, unemployment rate ratio and population of destination city. The GDP ratio is the computed ratio of GDP per capita in the destination city to the origin city of migrants. Similarly, the unemployment rate ratio is the computed ratio of urban unemployment rate in destination to origin city. The population size of destination city is measured in million. These three consist of contextual factors of migration destination and origin cities. Current *hukou* status and migration distance are two binary variables that are used to divide the sample into two groups; rural-to-urban migrating (migrants currently hold rural hukou) or intra-provincial migrating is coded as 1.

The control variables are the individual and household characteristics of workers. Individual-level factors include the personal features of respondents, including age, gender, education years, income, migration duration, land ownership and subjective deprivation index. Age is a continuous variable measured in years, ranging from 15 to 67. Gender is a binary variable

and female is coded as 1. As Liang (2014) suggested, respondents in this investigation tended to exaggerate their education level, so I use 5, 8, 11, 12, 15, 16 to measure the education years of migrant workers who are graduated from primary school or below, junior high school, senior high school, technical secondary school, associate college and college respectively. Measured in thousand RMB, the income variable here is the monthly average income of the respondent since January 2010. The migration duration is the number of months since the respondent's first job started. In terms of land ownership, having land in hometown is coded as 1. The subjective deprivation index is the summation of frequency scores on 6 questions about migrant workers' psychological feelings, such as "I don't belong here." The answers "never," "sometimes," "often," "always," and "hard to say" are coded as 0, 2, 4, 6 and 1 respectively. Thus, the higher the score, the worse the migrant workers' adaptation. This way of coding was used in Liang's study in 2014.

The family structure and household conditions of migrants are also considered. For marital and spouse status, I created two dummy variables for respondents who are married and live with spouse and who are married but separated from spouse, while respondents who have no spouse consisted the reference group. For another dummy variable, having children under 14 is coded as 1. The proportion of labor wage income in the total family income is used to indicate the family income structure, which ranges from 0 to 1. In terms of the original region of migrant workers, two dummy variables of central and western areas are included while the group from the eastern area is regarded as reference. The eastern, central and western areas are divided according to the China Statistical Yearbook over the years.

Since there is not much variation between destination cities (there are only 19 cities) and the sample sizes of each origin city are also not large enough (there are only 15 people in one group on average), the multi-level analysis is not necessary. One-level logistic model will be more appropriate. To test the effects of contextual characteristics, I firstly conducted the multinomial logistic model for the entire sample; then four separate models are developed for respondents who currently hold rural *hukou* (rural-to-urban migrants), who hold urban *hukou* (urban-to-urban migrants), who came from the same province (intra-provincial migrants) and from other provinces (inter-provincial migrants) to examine the effects by different groups.

Results

After deleting of observations with missing data, the final sample included 3820 cases nested in 19 destination cities and 268 origin cities. Table 1 presents the descriptive statistics for the overall samples and the comparisons by different migrant groups. Generally, nearly a half of migrant workers don't want to change their *hukou* and one fourth of them are not sure about that. Regarding to different groups, we can see that fewer urban-to-urban migrants and intra-provincial migrants are not willing to change *hukou* (39.60% and 37.44% respectively) compared to rural-to-urban migrants and inter-provincial migrants, which is consistent with previous studies. The mean values of GDP per capita ratio of urban-to-urban migrants and that of intra-provincial migrants are smaller than the other two groups (the differences are 0.76 and 1.39 respectively, both significant), indicating that these two kinds of migration may not be driven by simple economic factors. Intra-

provincial migrants have significantly larger average unemployment rate ratio, but they prefer smaller cities than inter-provincial migrants, which may because they migrate for better life quality, not for livelihood maintenance (Li et al. 2017; Ouyang et al. 2018). For migrants with different *hukou* status, rural-to-urban migrants have smaller urban unemployment rate ratio and their destination cities are larger than urban-to-urban migrants; but the differences are trivial.

In addition to the key differences above, I find differences between intra-provincial migrants and inter-provincial migrants in almost all other covariates, except for age, gender and wage. Not surprisingly, intra-provincial migrants suffer lighter subjective deprivation (the difference is 1.58 and significant) than inter-provincial migrants since they don't need much adjustment on culture and life styles. With respect to the differences by current *hukou* status, urban-to-urban migrants stayed in their working cities for a shorter time (7.16 years on average), but they have higher education level and earn more than others, which kind of reflects the advantages of holding urban *hukou*. The descriptive statistics and comparisons in Table 1 provide preliminary support for the potential differences in the effects of contextual factors on household intention by different *hukou* status and migration distance.

[Table 1]

Then I conducted a multinomial logistic model (Model 1) for the overall sample to see the true effects of influential factors on people's household intention. The result is shown in Table 2. As expected, the difference between GDP per capita in the origin and destination city is the main driving force of wanting local *hukou* versus not sure: for each additional unit of the GDP ratio, the

odds of wanting *hukou* versus not sure increase 11.1% (Exp(0.105)-1=0.111). For "not wanting to change *hukou*" versus "not sure", interestingly, the unemployment rate ratio becomes the main driving force. If the unemployment rate ratio is larger, people's attitude towards changing *hukou* becomes vaguer rather than "no," while the size of the effect is 35.2% (Exp(0.302)-1=0.352). The direction of the effect here is different from the hypothesis: people are more willing to settle down when there is higher unemployment rate in origin city and lower unemployment rate in destination city. There are two possible reasons for this: firstly, cities with higher unemployment rate also have more of job opportunities and larger worker flows, like Shanghai; additionally, migrant workers without local *hukou* suffer more than local workers from high unemployment and have higher level of relative deprivation, thus it is understandable that they have stronger desire of local *hukou* to hold their job (Chan, 2010; Hu 2015). However, the higher unemployment rate ratio could only push people from "no" to "not sure" instead of a certain "yes."

In addition, migrants working in destination city with larger population tend to have a clearer intention instead of an ambiguous one, but are inclined to want local *hukou*, though the difference is not significant when I compared the odds of wanting versus not wanting. That may because larger cities usually implement strict rules of obtaining *hukou* so that there is no room for vacillation. But after all, larger cities do have more attraction.

Some individual and household level factors also have significant effects. After controlling for all other factors, migrants with higher wage and education level and migrants whose family income depends more on labor wage income have higher odds of wanting local *hukou* in the

destination city versus not sure. Those who are separated from spouse or from the central part of China are significantly less willing to change their *hukou* than others. Being elder, having children under 14 or feeling more deprivation increases the odds of having a clearer attitude of changing *hukou* versus not sure.

[Table 2]

To compare different migrant groups, I firstly examine the models of household intention for rural-to-urban and urban-to-urban migrants in Table 3. From Model 2, we can find that the influential factors for rural-to-urban migrants are quite similar with that the overall sample. Additionally, among this group, migrants who are married and live with spouse are more likely to have an ambiguous attitude towards changing *hukou* versus a negative one compared to those who have no spouse, showing that single rural-to-urban migrants don't want to permanently settle down, which is perhaps because that most of them are working for saving money but the benefits of local *hukou* are not attractive enough for them.

Model 3 focuses on urban-to-urban migrants. Consistent with our preliminary findings, only the GDP ratio among the contextual factors has significant impact here. The larger the GDP ratio, the more likely the respondent have a clearer plan of whether change *hukou* or not versus be not sure about that. A possible explanation is, if the economic conditions between destination and origin city are similar, it's difficult for urban-to-urban migrants to decide where to settle down. However, one additional unit of the GDP ratio increases the odds of wanting local *hukou* versus not sure by 33.5% (Exp(0.289)-1=0.335), which is significantly larger than the increase on the

odds of not wanting local *hukou*, showing that the difference of GDP per capita is also the main driving force of urban-to-urban migrants' household intention. In addition, though the difference is marginally significant, migrants who are from the western area are less willing to change *hukou* compared to those from eastern area, which may result from cultural difference (Nie and Wan 2018). Lastly, the family completeness is also an important factor for urban-to-urban migrants, but the direction of the effect is opposite with rural-to-urban migrants: urban-to-urban migrants who are married are more likely to have clearer household intention, but those who live with spouse have more positive attitude while those who are separate from spouse have more negative attitude.

[Table 3]

Model 4 and 5 for intra- and inter-provincial migrants are listed in Table 4. For intra-provincial migrants, the household intention is influenced by the GDP ratio and the unemployment rate ratio, and the magnitudes of the coefficients are quite large (for one unit increase of the two variables, the odds of being willing to change *hukou* versus not sure will increase by a factor of 1.42 (Exp(0.352)=1.42) and 5.05 (Exp(1.620)=5.05) respectively). It indicates that intra-provincial migrants do seek for better life in their working city and that would attract them to settle down permanently. Being more educated and having children at school age also increase the odds of wanting local *hukou* versus not sure, which also shows these migrants are attracted by the advantages such as social welfare that are attached to local *hukou*. However, the contextual variables cannot explain the difference between not wanting to change *hukou* and not sure about

that; only being married and separate from spouse, owning land and feeling more subjective deprivation have marginal effects to make people not want to change *hukou*.

For inter-provincial migrants, the result of model 5 is quite similar with the model of rural-to-urban migrants and the model of the overall sample. Higher GDP ratio have power for enhancing the household intention of this group while higher unemployment rate ratio makes them more likely to be not sure. Compared to intra-provincial migrants, we can see that longer migration distance will make people be less sensitive to the change of economic contextual factors but more affected by the population size of the destination city: the larger the city, the clearer household intention they have. Regarding to other variables, those who are married and separate from spouse and those who are from central area have vaguer attitude, but elder age and more subjective deprivation will increase the clarity of migrants' attitude. Higher proportion of labor wage income in total family income will increase the odds of wanting to change *hukou* versus not sure. The similarity of the results of the models for rural-to-urban migrants and inter-provincial migrants show that for migration process with a larger span or more obstacles, age, family income structure, subject deprivation and all contextual factors significantly impact the household intention, showing that most of those migrants are migrating for supporting their families and suffered more from the subjective deprivation, though it's not sure whether the deprivation will lead them to a positive or negative attitude toward local *hukou*.

[Table 4]

Conclusion

This study examines the determinants, especially the contextual factors, of migrants' household intention in PRD and YRD areas of China. The results support part of my previous hypotheses, showing that the patterns of migration in China are still basically "from rural to urban" and "from less developed area to developed area". Firstly, the difference between the development level of destination and origin city as well as the population size of destination city have impacts on migrants' household intention, after controlling for micro-level variables. The ratio of GDP per capita in destination to origin city is the main driving force for people's willingness of changing *hukou*. People who are working in smaller cities have more ambiguous attitude towards changing *hukou*, which makes them potential objects to settle down in current working city. It is also hard for migrant workers with higher urban unemployment rate ratio to decide whether change *hukou* or not, which may because of their disadvantages and severe relative deprivation. Thus, we can conclude that the difference between destination and origin places will continue to attract floating population to permanent settle down (i.e. obtaining local *hukou*).

However, the influential factors on household intention of different types of migrants are divergent, suggesting that there should be different policies for different groups. Rural-to-urban migrant group and inter-provincial migrant group have similar patterns with the overall sample since they consist the largest part of migrants in China. Most of these migrants are migrating for supporting their families and suffered more from the subjective deprivation and the large-span migration with more obstacles of permanent settle down. It also should be aware that the influential

factors for urban-to-urban migrants and intra-provincial migrants are totally different though they both show more interests in local *hukou* registration. Urban-to-urban migrants' household intention is mainly determined by marital status and family completeness, while their attitude will be more positive when their destination and origin city has larger differences on GDP per capita. Intra-provincial migrants' household intention is mostly driven by education years, whether having children at school age as well as the difference between destination and origin places, which may because these migrants are more care about the education benefits attached to local *hukou*.

This paper has contributed to previous literature from several aspects. Filling the gap between micro-level and macro-level studies on migrants' household intention, it explores the contextual factors related to origin and destination places of the migration process. The creative method of incorporating characteristics of both sides of the endpoint instead of one side provides more information on the "push" and "pull" power of migration. Taking the category of "not sure" into account also sets up a valuable demonstration for household intention research since there is a considerable proportion of migrants who hold ambiguous attitude. Finally, using separate models generates a clear comparison between groups with different migration types, which provides more understanding on how the influence of factors changes by different groups. Therefore, this study made valuable instructions for policy-makers.

Due to the limitation of time and available data, this study could be improved as follows. Firstly, the contextual factors used here only reflect the economic development but cannot capture other conditions of origin and destination places, such as the migrant social networks. As discussed

before, the data are not suitable for multi-level analysis since there is not enough variation within the destination cities and within the origin cities. However, it is worth to try with more adequate data. Lastly, this study merely focused on two most developed areas in China, thus may not reflect the entire picture of the country. There is also a large number of migrants who are working in moderately developed places (e.g. migrants in Shandong and Hebei provinces). The determinants on household intention of those migrants may be different and thus deserve more exploration.

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Table 1. Descriptive Statistics for the Overall Sample and the Separate Samples

	Overall		Rural-to-urban migrants		Urban-to-urban migrants		Diff.	Intra-provincial migrants		Inter-provincial migrants		Diff.
Variable	Mean	S.D.	Mean	S.D.	Mean	S.D.		Mean	S.D.	Mean	S.D.	
Want to change *hukou* (%)	25.16		24.30		29.70		-5.4**	32.00		22.81		9.19***
Not sure about change *hukou* (%)	27.98		27.47		30.69		-3.22	30.56		27.10		3.46*
Not want to change *hukou* (%)	46.86		48.23		39.60		8.63***	37.44		50.09		-12.65***
Age	30.78	9.46	30.90	9.67	30.18	8.27	0.72	30.37	9.74	30.93	9.36	-0.56
Female (%)	44.55		44.77		43.40		1.37+	46.26		43.97		2.29
Duration in working city (years)	7.90	6.51	8.04	6.58	7.16	6.09	0.88**	8.48	7.59	7.70	6.08	0.78**
Wage per month (1000 RMB)	2.02	1.28	1.94	1.17	2.42	1.71	-0.48***	2.03	1.15	2.02	1.32	0.01
Education years	9.24	2.95	8.81	2.72	11.56	3.01	-2.75***	10.13	3.06	8.94	2.84	1.19***
Marriage status												
No spouse (%)	40.10		39.30		44.39		-5.09*	45.85		38.14		7.71***
Married and live with spouse (%)	47.67		48.51		43.23		5.28*	43.59		49.07		-5.48**
Married and separate from spouse (%)	12.23		12.20		12.38		-0.18	10.56		12.79		-2.23+
Owning land (%)	76.96		85.25		33.00		52.25***	67.18		80.32		-13.14***
Having children under 14 (%)	40.81		41.10		39.27		1.83	33.64		43.27		-9.63***
Family income structure	0.85	0.24	0.85	0.24	0.85	0.25	0.00	0.83	0.24	0.85	0.24	-0.02*
Subjective deprivation assessment	8.71	6.59	8.78	6.58	8.35	6.66	0.43	7.53	6.34	9.11	6.63	-1.58***
Rural-to-urban migrating (%)	84.14							80.10		85.52		-5.42***
Intra-provincial migrating (%)	25.52		24.30		32.01		-7.71***					
Region												
Eastern (%)	32.83		31.05		42.24		-11.19***			9.81		
Central (%)	42.25		42.72		39.77		2.95			56.73		
Western (%)	24.92		26.23		17.99		8.24***			33.46		
GDP ratio	3.79	2.03	3.91	2.04	3.15	1.83	0.76***	2.75	1.49	4.14	2.06	-1.39***
Unemployment rate ratio	0.87	0.37	0.86	0.36	0.88	0.38	-0.02	0.91	0.19	0.85	0.41	0.06***
Population of destination city (million)	10.11	5.89	10.18	5.98	9.73	5.41	0.45+	7.98	2.77	10.84	6.47	-2.86***
N	3820		3214		606			975		2845		

+p<0.1; *p<0.05; **p<0.01, ***p<0.001

Table 2. Multinomial Logistic Regression Model of Household Intention for the Overall Sample

	Model 1			
	Want to change *hukou*		Not want to	
	Coef.	S.E.	Coef.	S.E.
Age	0.015*	0.008	0.012+	0.007
Female	-0.120	0.098	-0.124	0.085
Duration in working city	0.008	0.009	-0.010	0.008
Wage per month	0.067+	0.038	-0.040	0.042
Education years	0.041*	0.018	-0.005	0.016
No spouse (Reference)				
Married and live with spouse	0.046	0.169	-0.147	0.148
Married and separate from spouse	-0.563**	0.216	0.011	0.176
Owning land	0.002	0.119	0.174	0.106
Having children under 14	0.266*	0.131	0.198+	0.115
Family income structure	0.451*	0.208	-0.104	0.167
Subjective deprivation assessment	0.021**	0.007	0.023***	0.006
Rural-to-urban migrating	-0.044	0.139	0.124	0.127
Intra-provincial migrating	0.233	0.194	-0.098	0.175
Eastern (Reference)				
Central	-0.379+	0.194	0.045	0.171
Western	-0.060	0.208	0.208	0.183
GDP ratio	0.105***	0.026	0.035	0.022
Unemployment rate ratio	-0.080	0.140	-0.302*	0.122
Population of destination city	0.025**	0.009	0.022**	0.008
Constant	-2.186***	0.458	-0.108	0.392
Pseudo R^2	0.029			
N	3820			

Category "not sure about changing *hukou*" as reference; +p<0.1, *p<0.05, **p<0.01, ***p<0.001

Table 3. Multinomial Logistic Regression Model of Household Intention for Rural-to-Urban and Urban-to-Urban Migrants

	Model 2 (for rural-to-urban migrants)				Model 3 (for urban-to-urban migrants)			
	Want to change *hukou*		Not want to		Want to change *hukou*		Not want to	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Age	0.022**	0.008	0.020**	0.007	-0.007	0.020	-0.017	0.018
Female	-0.208+	0.109	-0.118	0.093	0.350	0.232	-0.125	0.217
Duration in working city	0.003	0.010	-0.013	0.008	0.031	0.024	-0.001	0.023
Wage per month	0.080+	0.048	-0.037	0.051	0.057	0.068	-0.017	0.076
Education years	0.036+	0.021	0.006	0.018	0.060	0.041	-0.060	0.037
No spouse (Reference)								
Married and live with spouse	-0.179	0.190	-0.358*	0.163	0.950*	0.384	0.849*	0.374
Married and separate from spouse	-0.850**	0.244	-0.211	0.195	0.568	0.484	1.065*	0.449
Owning land	-0.017	0.140	0.171	0.123	-0.061	0.241	0.175	0.221
Having children under 14	0.385**	0.145	0.318*	0.125	-0.271	0.322	-0.415	0.315
Family income structure	0.471*	0.232	-0.002	0.184	0.220	0.483	-0.660	0.409
Subjective deprivation assessment	0.024**	0.008	0.028***	0.007	0.007	0.017	0.001	0.016
Rural-to-urban migrating								
Intra-provincial migrating	0.283	0.222	-0.057	0.197	0.004	0.404	-0.261	0.393
Eastern (Reference)								
Central	-0.326	0.221	0.095	0.192	-0.566	0.414	-0.117	0.387
Western	0.050	0.235	0.216	0.205	-0.874+	0.494	0.284	0.441
GDP ratio	0.079**	0.028	0.015	0.024	0.289***	0.073	0.180**	0.068
Unemployment rate ratio	-0.110	0.155	-0.347**	0.133	0.187	0.340	0.059	0.323
Population of destination city	0.027**	0.010	0.022*	0.008	0.016	0.025	0.025	0.023
Constant	-2.217***	0.500	-0.244	0.422	-2.528*	1.013	0.955	0.880
Pseudo R^2	0.028				0.064			
N	3214				606			

Category "not sure about changing *hukou*" is the reference group; +p<0.1, *p<0.05, **p<0.01, ***p<0.001

Table 4. Multinomial Logistic Regression Model of Household Intention for Intra- and Inter-provincial Migrants

	Model 4 (for intra-provincial migrants)				Model 5 (for inter-provincial migrants)			
	Want to change *hukou*		Not want to		Want to change *hukou*		Not want to	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Age	0.006	0.015	0.005	0.014	0.019*	0.009	0.015^{+}	0.008
Female	0.039	0.182	-0.282	0.173	-0.180	0.117	-0.074	0.098
Duration in working city	0.016	0.016	-0.020	0.015	0.008	0.011	-0.004	0.009
Wage per month	0.099	0.080	0.000	0.083	0.062	0.043	-0.056	0.049
Education years	0.096**	0.033	0.036	0.032	0.020	0.022	-0.021	0.019
No spouse (Reference)								
Married and live with spouse	0.009	0.316	-0.145	0.302	0.038	0.203	-0.154	0.172
Married and separate from spouse	-0.573	0.438	0.620^{+}	0.375	-0.567*	0.252	-0.155	0.202
Owning land	0.102	0.192	0.351^{+}	0.188	-0.045	0.155	0.080	0.131
Having children under 14	0.579*	0.247	0.251	0.239	0.138	0.157	0.153	0.134
Family income structure	0.490	0.377	-0.212	0.337	0.470^{+}	0.254	-0.038	0.195
Subjective deprivation assessment	0.022	0.014	0.022^{+}	0.013	0.021*	0.008	0.024**	0.007
Rural-to-urban migrating	0.016	0.226	0.357	0.230	-0.047	0.181	0.058	0.155
Intra-provincial migrating								
Eastern (Reference)								
Central					-0.362^{+}	0.197	0.010	0.173
Western					-0.052	0.212	0.167	0.186
GDP ratio	0.352***	0.070	0.108	0.069	0.072*	0.028	0.033	0.024
Unemployment rate ratio	1.620**	0.475	0.677	0.467	-0.256^{+}	0.151	-0.408**	0.127
Population of destination city	-0.056	0.035	-0.021	0.034	0.034***	0.010	0.026**	0.008
Constant	-4.288***	0.932	-1.361	0.881	-1.820**	0.523	0.135	0.437
Pseudo R^2	0.053				0.022			
N	975				2845			

Category "not sure about changing *hukou*" is the reference group; $^{+}p<0.1$, $^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$