

The Influence of Floating Population's Identity on Hukou Transfer Intention: Evidence from China Migrants Dynamic Survey

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Abstract

In the process of deepening the new urbanization strategy with people as the core and speeding up the citizenization of floating population, how to improve floating population's hukou transfer intention (HTI) in the inflow area is a field worth studying. Based on the China Migrants Dynamic Survey (CMDS) data in 2017, this study constructs the floating population identity (FPI) index, and uses the logistic regression model to study the influence of FPI on HTI. The empirical results show that the higher the FPI, the stronger the HTI. Besides, personal characteristics, family characteristics and floating characteristics of floating population have a significant impact on their HTI, while the FPI with different educational background, marital status and floating range has a significant difference on their HTI.

Keywords

Floating Population Identity; Hukou Transfer Intention; Logistic Regression; Personal Characteristics; Floating Characteristics.

1. Introduction

As one of the three remaining countries with hukou system in the world, China attaches the highest importance to the hukou system. The dual hukou system makes the move of citizens controlled. The hukou system is a household-based population management policy implemented by China for its citizens. Hukou shows the legitimacy of natural persons living in the local area. For a long time, the formulation and implementation of population management policies in China are based on this system. The characteristic of China's hukou system is that the hukou attributes are divided into agricultural hukou and non-agricultural hukou according to the region of family members. This practice played a positive role in the early days of the China founding, but with the increasingly extensive communication between urban and rural areas, the system has caused more and more extensive controversy and accusations. This dual hukou system in urban and rural areas is an unfair hierarchical definition of citizenship, which is discriminatory to some extent.

The Key Tasks of New Urbanization Construction in 2019 issued by the National Development and Reform Commission puts forward tasks such as deepening the reform of hukou system and promoting the coordinated development of large, medium and small cities. This is of great positive significance for optimizing the layout and form of urbanization and promoting the high-quality development of new urbanization. Since 1995, China's urbanization has experienced the fastest development stage in history, but it has also brought a serious problem, the house price has entered a period of rapid rise. Behind the house price problem, there are still noteworthy data. In the 10 years from 2000 to 2010, the domestic urban construction land expanded by 83%, but the urban population including migrant workers only increased by 45% in the same period. The speed of land urbanization and population urbanization is extremely

mismatched. Urbanization is not a city-building movement, but to protect the rights of the population entering the city. The data shows that there are 279 million people separated from their hukou in China, including 236 million floating population. China will face more severe challenges if it continues to promote urbanization. Therefore, it is necessary to make overall arrangements for urban transportation, environment and livability, and also to consider the coordinated development within urban agglomerations. Problems in the process of urbanization will affect the floating population identity (FPI) to some extent.

With the unbalanced development of regional economy, China's long-standing hukou system has restricted the circulation of population, leaving a deep regional lable on China residents. This has led to differences in culture, language, customs and living habits in different regions. Due to the different living environment, residents' recognition of another region and their adaptability to their own identity in a certain region will be important factors in determining the hukou transfer intention (HTI). This study will use the government's questionnaire survey data to study the influence of FPI on HTI under three control variables which are personal characteristics, family characteristics and mobility characteristics.

2. Literature Review

George introduced the concept of identity into the framework of economic analysis, and constructed a function containing identity. The study holds that personal identity determines its own social type, and identity will correspond to social behavior norms, which will ultimately affect personal economic decision-making [1]. Xie explores the influence mechanism of rural land circulation on urban settlement intention of rural floating population by constructing structural equation model. The results show that rural land circulation has a significant positive impact on the urban settlement intention, and professional prestige and identity play a partial intermediary role in it [2]. Liu used logit regression model to investigate the determinants of floating workers' willingness to settle down. The results show that the sense of belonging and social identity play an important role in the settlement decision. In addition, wages, education and health will also affect the willingness of floating workers [3]. Zhou found that migrant children who share a kitchen with other families, study in schools sponsored by immigrants instead of local children's regular schools, and feel discriminated against by local peers tend to have low self-esteem [4]. Bhuiyan pointed out that the poverty of floating population mainly occurs in the dimension of social security and education, among which social security has become the most severe poverty dimension of floating population. From the perspective of group differences, compared with the floating population in cities, the poverty of floating workers is more serious [5]. Ai pointed out that the floating population is a unique group, facing many problems arising from cultural and lifestyle differences. The huge floating population in China has promoted economic development, redistributed population and promoted changes in social structure, lifestyle and cultural values. Understanding the distribution characteristics and patterns of floating population is very important for formulating effective social policies [6]. Ma pointed out that China's rapid urbanization and unique hukou system have created a huge floating population. Due to low social and economic status, labor-intensive work and lack of portability of medical insurance, floating population is often at a disadvantage in medical care. The insurance coverage and utilization rate of floating population were low. A variety of personal characteristics are considered to be significantly related to insurance utilization and medical expenditure [7]. You found that human capital, economic conditions, family stability, social life security and social and cultural environment will all affect the floating population's willingness to settle in cities [8]. Li pointed out that the payment of housing provident fund can effectively reduce the incidence of catastrophic health expenditure. In contrast, the increase of per capita housing financial expenditure will significantly increase the family medical economic

risk [9]. Tan pointed out that more welfare, self-occupied housing and better social integration are representative signs of long-term settlement plans. Intangible neighborhood characteristics, such as social participation, interaction with local people and immigrants' attitude towards destination cities, are also important factors in settlement intention [10].

3. Variable Declaration

3.1. Floating Population Identity and Hukou Transfer Intention

The explained variable in this study is the floating population's HTI, which is based on the questionnaire "If you meet the local settlement conditions, are you willing to move your hukou to the local area?", excluding samples that do not clearly indicate the willingness to move. Set the value of the willing option to 1, and the value of the unwilling option to 0.

The explanatory variable of this paper is the FPI. This study selects 11 specific indicators in the questionnaire from three dimensions: subjective identity, social inclusion and employment status to construct the FPI index, as shown in Table 1.

Table 1. FPI index

Primary index	Secondary index	Three-level index
subjective factor	City preference	Totally agree =4, basically agree =3, disagree =2, totally disagree =1.
	City attention	Totally agree =4, basically agree =3, disagree =2, totally disagree =1.
	City integration	Totally agree =4, basically agree =3, disagree =2, totally disagree =1.
	City identity	Totally agree =4, basically agree =3, disagree =2, totally disagree =1.
social factor	City acceptance	Totally agree =4, basically agree =3, disagree =2, totally disagree =1.
	City discrimination	Totally agree =1, basically agree =2, disagree =3, totally disagree =4.
	Custom dependence	Totally agree =1, basically agree =2, disagree =3, totally disagree =4.
	Habitual difference	Totally agree =1, basically agree =2, disagree =3, totally disagree =4.
Employment factors	Nature of employment	Public enterprises=4, non-mainland ventures =3, private enterprises =2, individual industrial =1.
	Employment status	Employer =4, employees with fixed employers =3, self-employed workers =2, Workers without fixed employers =1.
	Rights protection	Yes =2, No =1.

3.2. Control Variable

In this study, the control variables are divided into three categories: the first category is the personal characteristic variables of floating population, including gender (GE), age (AG) and education level (ED), the second control variable is the family characteristic variable of floating population, including marital status (MA), the number of families living together (NUL), monthly income of families (IN), whether they own real estate (ES), whether they have contracted land in their household registration (CO) and whether they have homestead in their household registration (HO). The third control variable is the flow characteristic variable of floating population, including the number of floating cities (NUC) and the flow range (FL). See Table 2.

Table 2. Control variable

Control variable	Variable declaration
GE	Male =1, female =0
AG	Age of interviewee
ED	High school =0, undergraduate =1.
MA	Married =1, unmarried =0
NUL	Number of households
IN	Monthly household income
ES	With property =1, no property =0.
CO	No contracted land =1, with contracted land =0.
HO	No homestead =1, with homestead =0
NUC	Cities where the interviewee have moved in total
FL	Cross-city within the province =0, cross-county within the city =1

3.3. Data Source

The data in this study comes from China Migrants Dynamic Survey (CMDS). The samples with abnormal values, extreme values and unclear answers are excluded, and finally 12,553 samples from 31 provinces are selected. See Table 3 for the statistical description of the variables.

Table 3. Descriptive statistics of variable

Variable	N	mean	sd	min	max
HTI	12553	0.505	0.500	0	1
FPI	12553	2.976	0.338	1.480	3.890
GE	12553	0.566	0.496	0	1
AG	12553	31.60	7.847	16	70
ED	12553	1.120	0.325	1	2
MA	12553	0.743	0.437	0	1
NUL	12553	2.947	1.197	1	10
IN	12553	7427	5362	-30000	83000
ES	12553	0.341	0.474	0	1
CO	12553	0.426	0.495	0	1
HO	12553	0.285	0.452	0	1
NUC	12553	1.908	1.489	1	30
FL	12553	0.339	0.473	0	1

4. Research Method

4.1. Principal Component Analysis

$$F_i = w_{i1}X_1 + w_{i2}X_2 + w_{i3}X_3 + \dots + w_{in}X_n$$

Where F_i is the score of each principal component, w_{ij} is the weight of each principal component, X_n is the variance percentage of principal component i , n is the number of principal components.

4.2. Logit Regression Model

$$\log \frac{p}{1-p} = \beta_0 + \beta_1 FPI + \sum_{i=1}^n \gamma_i Z_i + \varepsilon$$

where p is the probability that the floating population is willing to move their hukou, FPI is the independent variable, β_1 is the independent variable coefficient, the control variable representing the characteristics of individuals, families and floating, and γ_i is the coefficient of the control variable. β_0 is a constant term and ε is an error term.

5. Empirical Analysis

Table 4 reports the logit regression results, and columns (1) to (4) examine the influence of the FPI on HTI. Column (1) is a benchmark regression model, and columns (2), (3) and (4) add individual characteristics, family characteristics and floating characteristics variables in turn on the benchmark model (1). The results show that the FPI coefficients of columns (1) to (4) are all positive and significant, indicating that the higher the FPI, the stronger the HTI. Specifically, the results in column (4) show that the FPI has a significant positive effect on the HTI, and the regression coefficient is 1.136, which is that when other conditions remain unchanged, the FPI increases by one unit, and the occurrence ratio of the HTI is 3.114 times ($e^{1.136}$) that of the original.

For personal characteristics, the occurrence ratio of male floating population's HTI is 0.92 times ($e^{-0.084}$) than that of female floating population, female floating population is more inclined to move their hukou. Age has a negative effect on the HTI. The reason may be that with the increase of age, the floating population began to return to family of origin and have children, which required a relatively stable economic and social environment, and their willingness to return to their hometown for a long time increased. Education has a significant negative effect on the HTI. The higher the education, the lower the HTI. The possible reason is that a high degree of education means higher work skills, wider social resources and potential job opportunities, and will make a better living in their hometown.

For family characteristics, marital status has a significant positive effect on the HTI. The possible reason is that marriage means that the floating population has a closer social relationship in the inflow area, and the sense of responsibility brought by marriage strengthens the floating population's willingness to pursue citizen status, thus improving the willingness to move their hukou. There is no significant relationship between the number of families living together and the willingness to move their hukou, because more family members have eliminated the insecurity caused by floating. The monthly family income has a positive effect on the HTI. The possible explanation is that the monthly family income represents the economic ability of the floating population families, and the economic ability directly determines the ability to live in the place. The higher the monthly family income, the stronger the HTI. The floating population without real estate is more willing to move their hukou, because they are more inclined to obtain the corresponding rights and guarantees. The floating population with homestead and contracted land has a stronger willingness to move their hukou, because they also tend to get more benefits.

The number and scope of floating cities have positive and negative effects on the HTI respectively. The possible explanation is that the number of floating cities reflects the uncertainty of floating population about the future, and the floating population who frequently change cities is not willing to stay in the same inflow place, which leads to the weak willingness to move their hukou. In terms of floating scope, compared with inter-provincial floating, the HTI among cities in the province is greater than that among counties in the city, the greater the floating scope of the floating population, the stronger the HTI, which may be due to the little difference in living and welfare benefits in the same city and the weaker the HTI.

Table 4. Benchmark regression result

VARIABLE	(1)	(2)	(3)	(4)
FPI	1.038***	1.011***	1.115***	1.136***
	(0.055)	(0.055)	(0.058)	(0.058)
GE		-0.156***	-0.090**	-0.084**
		(0.038)	(0.038)	(0.039)
AG		-0.012***	-0.011***	-0.011***
		(0.002)	(0.003)	(0.003)
ED		-0.215***	-0.215***	-0.190***
		(0.057)	(0.059)	(0.059)
MA			0.098*	0.108*
			(0.057)	(0.057)
NUL			-0.034*	-0.029
			(0.019)	(0.019)
IN			0.000***	0.000***
			(0.000)	(0.000)
ES			-0.439***	-0.408***
			(0.042)	(0.043)
CO			0.565***	0.530***
			(0.041)	(0.042)
HO			0.218***	0.225***
			(0.046)	(0.047)
NUC				-0.036***
				(0.013)
FL				0.476***
				(0.040)
_cons	-3.069***	-2.319***	-2.949***	-3.284***
	(0.164)	(0.191)	(0.201)	(0.207)
N	12553.000	12553.000	12553.000	12553.000
Pseudo R ²	0.0214	0.0257	0.0510	0.0598

(Standard errors in parentheses * p < 0.1, ** p < 0.05, *** p < 0.01).

6. Heterogeneity Test

Table 5. Heterogeneity test

Variable	(5)	(6)	(7)	(8)	(9)	(10)
	Senior high school student	Undergraduate	Married	Unmarried	Cross-city in the province	Cross-county in the city
FPI	1.186***	0.716***	1.086***	1.257***	1.316***	0.792***
	(0.062)	(0.176)	(0.067)	(0.116)	(0.072)	(0.098)
individual characteristics	YES	YES	YES	YES	YES	YES
family characteristics	YES	YES	YES	YES	YES	YES
floating characteristics	YES	YES	YES	YES	YES	YES
_cons	-3.606***	-2.426***	-2.820***	-4.505***	-3.393***	-2.138***
	(0.208)	(0.653)	(0.254)	(0.444)	(0.252)	(0.348)
N	11045.000	1508.000	9321.000	3232.000	8301.000	4252.000

There are differences in the influence of floating population with different individual characteristics, family characteristics and floating characteristics on the HTI. Columns (5) and (6), (7) and (8), (9) and (10) in Table 5 are used to test the differences in the influence of FPI on HTI under different educational background, different marital status and different floating ranges. For Table 5, it can be seen that in six cases, the coefficient of FPI is significant and the sign and size are consistent with the benchmark regression, so the logit regression in this study passes the heterogeneity test.

7. Robustness Test

In this study, the ordinary least square method is used to carry out regression analysis of variables to test the robustness. The results are shown in Table 6. The results show that the FPI has a significant positive correlation with the HTI, which is consistent with the benchmark regression results and passes the robustness test.

Table 6. Robustness test

Variable	(11)
FPI	0.262***
	(0.013)
individual characteristics	YES
family characteristics	YES
floating characteristics	YES
_cons	-0.260***
	(0.047)
N	12553.000

8. Conclusion

This study constructs a floating population's identity (FPI) index from three dimensions: subjective factors, social factors and employment factors, and empirically tests the influence of the FPI on hukou transfer intention (HTI). The results show that, firstly, there is a significant positive correlation between the FPI and the HTI, which means that the stronger the FPI, the greater the possibility of HTI into the inflow area. Secondly, the FPI is significantly positively correlated with the HTI under the circumstances of different personal characteristics, family characteristics and floating characteristics. Thirdly, the female floating population has a higher willingness to move their hukou than men, and the higher their educational background, the weaker their willingness to move their hukou. The greater the floating range, the weaker the willingness of the HTI.

References

- [1] G. A. Akerlof, R. E. Kranton. Economics and Identity. *The Quarterly Journal of Economics*, 2000, 3: 715-753.
- [2] Xie, Y., Y. Yao, B.B. Zhang, X.Y. et al. Mechanisms of Agricultural Land Transfer Influence on the Urban Settlement Intention of Rural Floating Population in China. *Discrete Dynamics in Nature and Society*, 2022, 2022: 10.
- [3] Liu X.C., Q. Sun, S.C. Yao, et al. Disparities in the Outcomes Following Ischemic Stroke Between the Floating Population and Indigenous Population of Shanghai. *Frontiers in Neurology*, 2021, 12: 10.
- [4] Zhou Y.H., T. Wang, J.X. Fu, et al. Access to reproductive health services among the female floating population of childbearing age: a cross-sectional study in Changsha, China. *Bmc Health Services Research*, 2019, 19: 10.

- [5] Bhuiyan M.A., Z.H. Liu and F.Q. Meng: Measurement and difference analysis of multidimensional poverty of floating population. *Kybernetes*, 2023: 13.
- [6] T.H. Ai, M.J. Zhou, J. Tian, et al. Origin-destination (OD) of the interprovincial floating population of China. *Journal of Maps*, 2016, 12: 577-583.
- [7] Ma, C.J., Y.M. Zhang, Y. Li, et al. Healthcare, Insurance, and Medical Expenditure of the Floating Population in Beijing, China. *Frontiers in Public Health*, 2020, 8: 13.
- [8] You, Z., H.B. Yang, and M.C. Fu: Settlement intention characteristics and determinants in floating populations in Chinese border cities. *Sustainable Cities and Society*, 2018, 39: 476-486.
- [9] Li T., Y.T. Zhang, H.W. Zhu, et al. Floating Population, Housing Security and Family Medical Economic Risk. *Sustainability*, 2022, 14: 17.
- [10] Tan, S.K., Y.A. Li, Y. Song, et al. Influence factors on settlement intention for floating population in urban area: a China study. *Quality & Quantity*, 2017, 51: 147-176.