

The Impact of Urban and Rural Residents' Basic Medical Insurance on Migrant Workers' Entrepreneurship — An Empirical Study Based on CMDS

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Abstract: Based on 2018 data from the National Dynamic Monitoring of Migrant Population, this paper employs the probit model to examine the impact of urban and rural residents' basic medical insurance on migrant workers' entrepreneurship, exploring its mechanisms and heterogeneity. The study finds that participation in urban and rural residents' basic medical insurance significantly increases the probability of migrant workers starting a business, and this result is robust across various testing methods. The promotion of entrepreneurship by this insurance mainly occurs through reducing health risks and alleviating financial constraints. In the heterogeneity analysis, the positive effect of the insurance on "self-employed" entrepreneurship dominates. For migrant workers with higher household incomes and better social integration, the insurance has an even greater impact on promoting entrepreneurship. The findings have practical implications for accelerating the construction of an integrated urban-rural medical insurance system, promoting high-quality urbanization, continuously optimizing the entrepreneurial environment, and enhancing social welfare.

Keywords: Urban and Rural Residents' Basic Medical Insurance, Migrant Workers' Entrepreneurship, Heterogeneity Analysis, Entrepreneurial Incentives.

1. Introduction

Since 2014, China's State Council has introduced a number of policies, such as the Policies and Measures to Vigorously Promote Mass Entrepreneurship and Innovation and the Policies and Measures to Promote the Continuous and Healthy Development of Venture Capital, to incentivize entrepreneurship and guide capital into the field of innovation, and the entrepreneurial activities of migrant workers are an important part of China's development. Medical insurance, as an important health protection mechanism, not only enhances the convenience of migrant workers' access to medical care, but also reduces their financial burden and stimulates their entrepreneurial willingness. Focusing on the medical protection provided to migrant workers by basic medical insurance for urban and rural residents and analyzing its influence mechanism, we aim to provide a theoretical basis for the implementation of related policies.

By analyzing the 2018 National Mobile Population Dynamic Monitoring data, this study explores the positive impact of the Urban-Rural Resident Basic Medical Insurance (URRBMI) on the

entrepreneurial intentions of migrant workers using Probit modeling and propensity score matching methods. It is found that the insurance significantly increases the probability of entrepreneurship among migrant workers, especially for groups with higher family income and better social integration, and that URRBMI is particularly effective in promoting self-employment entrepreneurship. The innovative aspects of this study are that it analyzes the entrepreneurial characteristics of the migrant worker group, adds a new perspective to the related literature, employs a variety of matching methods to ensure the robustness of the findings, and delves into how the URRBMI promotes entrepreneurship by reducing health risks and financial constraints. These findings not only provide empirical support for optimizing health insurance policies, but also point the way to promoting economic growth and social welfare.

A strand of literature directly related to this paper discusses the impact of health insurance on migrant workers' entrepreneurial choices. Existing studies have concluded that the prevalence of health insurance significantly increases the probability of entrepreneurship among migrant workers. Studies such as Qu Yi[1] find that health insurance provides a more favorable entrepreneurial environment for migrant workers by improving health status, reducing financial constraints, increasing risk tolerance, and increasing employment expectations. Guo Jingguang et al.[2] and Guo Yunan et al.[3] found that the impact of health insurance on promoting entrepreneurship among migrant workers varied according to individual characteristics and regional differences, including age, education level, family size, and generational differences. Gao Jian et al.[4] hypothesized that the impact of health insurance on entrepreneurial activity is mainly reflected in "self-employment" entrepreneurship, and that migrant workers who choose survival entrepreneurship are more likely to be promoted by URRBMI than those who choose opportunity entrepreneurship. The research in this paper is also closely related to the market participation literature based on the entrepreneurial choices of migrant workers, migrant workers' entrepreneurial choices are important indicators of their willingness and ability to participate in the market. Existing literature has found that the popularization and reform of health insurance can lower the market entry barriers and increase the degree of competition for migrant workers, thus promoting their entrepreneurial activities. A study by Dai Yun et al.[5] indicates that medical insurance reduces the cost of health-related entrepreneurial risks and encourages migrant workers to participate in venture capital and entrepreneurial activities, thereby influencing their entrepreneurial choices. The studies of Zhang Longyao[6] and Gan Yu et al.[7], on the other hand, show that health insurance influences the entrepreneurial behavior of migrant workers by mitigating the restrictive effects of financial constraints.

The remainder of the paper is structured as follows: Section 2 describes the empirical design; Section 3 provides the regression results and analysis; Section 4 discusses heterogeneity analysis and mechanism testing; and Section 5 concludes with policy recommendations.

2. Data, Model and Methodology

2.1. Data Source

This study uses data from the 2018 China Migrants Dynamic Survey (CMDS), which reflects a sample survey of the migrant population across 31 provinces in China (excluding Hong Kong, Macau, Taiwan, Tibet, and Hainan). The survey targets migrants without local household registration who have lived in the destination for over a month, with a total of 169,989 original samples. Referring to the sample processing method of Qin Lijian and Chen Bo [8], this study selects individuals whose household registration is in rural areas, retaining those whose purpose of migration is for work, employment, or business, with a household income greater than zero, and aged between 16 and 60. Additionally, a 1% winsorization is applied to household savings data at both ends, resulting in a final valid sample of 109,069 individuals.

2.2. Model Specification

To test the aforementioned hypotheses, this study employs a Probit model to analyze the impact of URRBMI on the entrepreneurial behavior of migrant workers. The specific model is as follows:

$$P(Y_i = 1) = \gamma(\alpha_1 T_i + \alpha_2 X_i + \delta_i) \quad (1)$$

The equation above defines Y_i as the entrepreneurial status of the respondent, where 1 represents entrepreneurship by farmers, and 0 indicates that farmers choose to be employees. T_i refers to whether migrant workers have purchased URRBMI, the core explanatory variable in this study. This includes the New Rural Cooperative Medical System and the Urban Resident Basic Medical Insurance. X_i represents other control variables that influence the probability of the dependent variable changing. Specifically, drawing from Qu Yi's [1] research, the following variables are selected: gender (male = 1, female = 0), age, education level (never attended school = 1, primary education = 2, junior high = 3, high school/vocational school = 4, college = 5, undergraduate = 6, postgraduate = 7), marital status (first and remarried = 1, unmarried, divorced, widowed, cohabiting = 0), health status (healthy = 1, basically healthy = 2, unhealthy but able to live independently = 3, unable to live independently = 4), migration range (inter-provincial = 1, intra-provincial inter-city = 2, intra-city inter-county = 3), willingness to settle down (willing = 1, otherwise = 0), social integration (completely disagree = 1, disagree = 2, basically agree = 3, completely agree = 4), and policy suggestions (none = 1, occasionally = 2, sometimes = 3, frequently = 4). Additionally, domestic research has found that a higher level of household wealth promotes individual entrepreneurship. Therefore, this study uses "average total monthly household expenditure in the past year" and "average total monthly household income in the past year" from the questionnaire to represent household wealth. Family monthly income is logarithmically transformed, and monthly savings is divided by 1000. α_1 and α_2 are estimated coefficients, while δ_i represents random error terms, capturing the effects of other omitted variables beyond the independent variables that might influence the model results.

3. Results and Discussions

3.1. Baseline Regression

To examine the impact of URRBMI on migrant worker entrepreneurship, this study first conducts a baseline regression analysis, with the results shown in Table 1. Column (1) controls for gender and age factors, revealing that male migrant workers are more inclined to choose entrepreneurship, possibly due to their relatively stronger risk-taking tendencies. Additionally, older migrant workers also exhibit a stronger preference for entrepreneurship. Column (2) further controls for variables such as education level, marital status, and mobility, with results consistent with existing literature [9], showing that married and less-educated farmers are more likely to choose entrepreneurship, and the coefficient for mobility is significantly positive, confirming that individuals with shorter migration distances are more likely to engage in entrepreneurial activities. Columns (3) and (4) introduce household income and savings based on Model (2), with the regression coefficient of household income being significantly positive, indicating that higher household income promotes migrant worker entrepreneurship. In contrast, the coefficient for household savings is significantly negative, suggesting that higher savings reduce the likelihood of entrepreneurship. Columns (5) and (6) add social integration and policy suggestion variables commonly used in the literature as control variables, showing that higher levels of social integration and engagement in policy suggestions have positive effects on promoting migrant worker entrepreneurship.

The baseline regression results in Table 1 show that the regression coefficients of URRBMI on migrant worker entrepreneurship are significantly positive, ranging from 0.523 to 0.566. This indicates that URRBMI can increase the probability of migrant worker entrepreneurship. This positive effect remains stable as covariates are continuously added, indicating a certain level of robustness.

Table 1: Baseline Regression Results

Variables	(1)	(2)	(3)	(4)	(5)	(6)
URRBMI	0.566*** (0.010)	0.523*** (0.010)	0.540*** (0.011)	0.542*** (0.011)	0.543*** (0.011)	0.552*** (0.011)
gend	0.061*** (0.008)	0.100*** (0.008)	0.099*** (0.008)	0.099*** (0.008)	0.097*** (0.008)	0.098*** (0.008)
age	0.022*** (0.000)	0.010*** (0.000)	0.012*** (0.001)	0.012*** (0.001)	0.012*** (0.001)	0.011*** (0.001)
edu		-0.072*** (0.005)	-0.108*** (0.005)	-0.110*** (0.005)	-0.111*** (0.005)	-0.114*** (0.005)
marr		0.644*** (0.012)	0.511*** (0.013)	0.490*** (0.013)	0.491*** (0.013)	0.486*** (0.013)
range		0.022*** (0.005)	0.057*** (0.005)	0.054*** (0.005)	0.054*** (0.005)	0.036*** (0.005)
lninc			0.715*** (0.018)	0.943*** (0.028)	0.942*** (0.028)	0.949*** (0.028)
sav				-0.021*** (0.002)	-0.021*** (0.002)	-0.021*** (0.002)
advice					0.069*** (0.014)	0.063*** (0.014)
integr						0.104*** (0.005)
Con	-1.604*** (0.018)	-1.494*** (0.030)	-4.102*** (0.072)	-4.872*** (0.101)	-4.935*** (0.101)	-5.186*** (0.102)
Pseudo R2	0.045	0.067	0.078	0.078	0.079	0.081
Obs	109,609	109,609	109,609	109,609	109,609	109,609

Note: ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. The values in parentheses represent the standard errors of the estimated regression coefficients.

3.2. Heterogeneity Analysis

Existing literature indicates that both physical and human capital significantly influence entrepreneurship [10,11]. Drawing on the study by Zhou Guangsu and Li Lixing [12], this paper uses household income and education level as variables to measure physical and human capital, respectively. Additionally, the age variable is introduced to further explore the impact of URRBMI on the entrepreneurial decisions of migrant workers with different personal characteristics. Referring to the method used by Gao Jian et al. [2], the first group divides the age variable into two categories: those above 45 years old and those below 45 years old. The second group splits income at the median, creating high-income (top 50%) and low-income (bottom 50%) groups. In the third group, the sample is divided based on the migrant workers' level of social integration into high social integration and low social integration.

The regression results are shown in Table 2, and the results from group (1) show that the regression results for health insurance participation of migrant workers over and under 45 years of age are

significantly positive, with coefficients of 0.444 and 0.576 respectively, indicating that health insurance promotes entrepreneurial choices of migrant worker groups of all ages, with a slightly stronger positive effect on entrepreneurial choices of the group under 45 years of age than that of the group over 45 years of age. The results from the social integration grouping in group (2) indicate that urban and rural health insurance mainly works on households with a higher degree of social integration.

Table 2: Heterogeneity Test Results

Variables	Group (1): Age		Group (2): Integr	
	45 and above	Below 45	High Integration	Low Integration
URRBMI	0.444*** (0.021)	0.576*** (0.012)	0.572*** (0.012)	0.460*** (0.021)
Control	Y	Y	Y	Y
Pseudo R2	0.031	0.102	0.081	0.080
Obs	27247	82362	79804	29805

Note: Control variables omitted.

Group (3) is divided into high-income (top 50% of income) and low-income (bottom 50% of income) using the median income as the cut-off; Group (4) draws on Zhou Guangsu et al.[12]’s classification method, and divides the types of entrepreneurship in the sample into “self-employed” and “employer”. and “employer” respectively, and analyzed them in comparison with “non-entrepreneurial” employees.

The results of Table 3 show that the high-income group of migrant workers (Group 3) is promoted more than low-income migrant workers by health insurance. The regression results for the fourth group are all significantly positive, indicating that URRBMI promotes both “self-employed” and “employer” types of entrepreneurship, but mainly affects “self-employed” types of entrepreneurship. Entrepreneurship. In fact, entrepreneurs who choose to become employers are more motivated, their entrepreneurial activities are of a certain scale, and the mode of “hiring others” indicates that the business has reached a certain stage of development and has completed the formal business registration and tax registration process. In contrast, the self-employed tend to be more passive in choosing to start a business when there are no better career options, and they are more on the fringes of the informal economy, lacking a clear status within the statutory framework.

Table 3: Heterogeneity Test Results

Variables	Group (3): lninc		Group (4): choice	
	Top 50% Income	Bottom 50% Income	Self-employment vs. Not starting a business	Employer vs. Not starting a business
URRBMI	0.622*** (0.014)	0.475*** (0.016)	0.564*** (0.011)	0.383*** (0.012)
Control	Y	Y	Y	Y
Pseudo R2	0.090	0.096	0.070	0.098
Obs	56421	53188	104,205	73,239

Note: Control variables omitted.

3.3. Endogeneity Test

To solve the endogeneity problem caused by omitted variables and bi-directional causality, this paper the approach of Chen Yian and Chen Gang [13], selects the participation rate of URRBMI among

migrant workers in different regions as instrumental variables for medical insurance. The rationality of this instrumental variable lies in the fact that the differences in policy implementation between regions are mainly determined by local economic conditions rather than individual health status or medical needs. The health insurance participation rate of migrant workers is closely related to their utilization of health care services and their health status, which suggests that the participation rate can influence individual health care behavior. At the same time, since participation decisions may be influenced by policy advocacy, this provides a natural experimental condition for instrumental variables. In addition, the participation rate in each region is not directly related to the entrepreneurial choices of migrant workers, which satisfies the exogeneity requirement of the instrumental variable.

Table 4 demonstrates the regression and instrumental variable test results of the Ivregress 2SLS model, and the Wald test shows significant endogeneity of the pension insurance equation after the inclusion of income and social integration factors in models (2) and (3). The inclusion of instrumental variables makes the F statistic significantly higher than the critical value and the coefficients of the variables are significant at the 1% level, confirming the validity of the instrumental variables. The regression coefficients of the basic medical insurance for urban and rural residents are 0.927, 0.992 and 0.987, respectively, indicating that the promotion effect of basic medical insurance for urban and rural residents on the entrepreneurship of rural migrant workers still exists after the endogeneity problem is ruled out, which further proves that the conclusions of this paper have strong robustness.

Table 4: Endogeneity Treatment — Instrumental Variable Method

Variables	(1)	(2)	(3)
URRBI	0.927*** (0.018)	0.992*** (0.019)	0.987*** (0.019)
gend	Y	Y	Y
age	Y	Y	Y
edu	Y	Y	Y
marr	Y	Y	Y
range	Y	Y	Y
lninc		Y	Y
sav		Y	Y
advice			Y
integr			Y
First-Stage F	5737.58	5664.74	5699.10
Wald Test	2505.61***	2717.82***	2731.77***
Observations	10657	10657	10657

3.4. Robustness Test

In real life, migrant workers who choose to become employees often resolve their medical insurance issues through their respective employers. In contrast, migrant workers who choose entrepreneurship may face greater economic pressures and have limited ability to bear medical insurance costs, leading them to opt out of insurance or choose lower contribution standards. This situation not only results in medical insurance influencing migrant workers' entrepreneurial choices, but also their entrepreneurial choices in turn affect their medical insurance status, thereby introducing sample selection bias. To address this issue, this paper employs the Propensity Score Matching (PSM) method to overcome sample self-selection bias and further verify the reliability of the aforementioned regression results. In the specific operational process, covariates such as gender, age, marital status, years of education, migration range, household income, household savings, health status, policy

advice participation, and social integration are selected. Three matching methods are used: nearest neighbor matching (1:1), radius matching (radius = 0.01), and kernel matching. Table 5 reports the ATT values estimated by the nearest neighbor matching method.

Table 5: Results of the Propensity Score Matching Test

	Category	Treated	Controls	ATT	S.E	T-start
1 : 1 neighborhood matching	Pre-Matching	0.427	0.217	0.210	0.003	59.98
	Post-Matching	0.427	0.260	0.168	0.004	37.98
1 : 2 neighborhood matching	Pre-Matching	0.427	0.217	0.210	0.003	59.98
	Post-Matching	0.427	0.260	0.166	0.004	42.20
1 : 4 neighborhood matching	Pre-Matching	0.427	0.217	0.210	0.003	59.98
	Post-Matching	0.427	0.260	0.167	0.004	45.28
Radius matching	Pre-Matching	0.427	0.217	0.210	0.003	59.98
	Post-Matching	0.427	0.259	0.168	0.003	49.01
Nuclear matching	Pre-Matching	0.427	0.217	0.210	0.003	59.98
	Post-Matching	0.427	0.256	0.170	0.003	49.75

According to the matching results in Table 5, the average positive effect of Urban and Rural Residents' Basic Medical Insurance on entrepreneurship after nearest neighbor matching is 0.167, which is significant at the 1% statistical level. The results from radius matching and kernel matching are similar to those from nearest neighbor matching, with ATT values around 0.168, averaging approximately 0.1678. All three matching results passed the significance test, further indicating that URRBMI acts as a "catalyst for entrepreneurship" for migrant workers. These research findings further verify the robustness of results.

4. Mechanism Analysis

URRBMI profoundly influences the entrepreneurial decision-making paths of migrant workers through various channels. This study focuses on health status and financial risk, aiming to analyze the intrinsic mechanisms of influence. Previous research [14] has clearly pointed out that participation in medical insurance can enhance individual health levels.

$$\text{choice}_i = \beta_0 + \beta_1 \text{insurance}_i + \beta_2 \text{unhealth}_i + \beta_3 (\text{insurance}_i \times \text{unhealth}_i) + \gamma X_i + \epsilon_i \quad (2)$$

- Health risk effects. As shown in column (2) of Table 6, with migrant workers' entrepreneurial choices as the explanatory variable, an interaction term analysis reveals that URRBMI has a more positive effect on the entrepreneurial choices of migrant workers with better health status, while the positive effect on those with poorer health status is weaker. Specifically, rural migrant workers in poor health may be more inclined to start a business to increase their income due to concerns about healthcare costs, but the presence of health insurance does not significantly increase their entrepreneurial intentions because health problems remain the main obstacle. On the contrary, migrant workers in better health are more likely to utilize health insurance coverage to take entrepreneurial risks, which enhances their entrepreneurial propensity.

$$\text{choice}_i = \beta_0 + \beta_1 \text{insurance}_i + \beta_2 \ln \text{income}_i + \beta_3 (\text{insurance}_i \times \ln \text{income}_i) + \gamma X_i + \epsilon_i \quad (3)$$

- Financial constraint effects. Column (3) of Table 6 measures the effect of financial constraints on the entrepreneurial choices of rural migrant workers through monthly household income (taking logarithm). The results of the analysis show that the interaction term between URRBMI and migrant workers' household income is positive, indicating that URRBMI plays a significant role in promoting entrepreneurship among migrant workers with higher household income. Health insurance provides additional financial security and reduces financial uncertainty when starting a business, making migrant workers with higher household incomes more likely to attempt entrepreneurship. This segment of the population typically has more resources and is better able to take on entrepreneurial expenses and financial risks. By alleviating financial bottlenecks in the early stages of entrepreneurship, health insurance mitigates the potential limitations of financial constraints on entrepreneurial activity.

Table 6: Mechanism Analysis of the Impact of Urban and Rural Medical Insurance on Migrant Workers' Entrepreneurship

Variables	(1)	(2)	(3)
URRBMI	0.545*** (0.011)	0.693*** (0.031)	-0.182 (0.161)
URRBMI*unh		-0.126*** (0.025)	
URRBMI*lninc			0.191*** (0.042)
Control variables	Control	Control	Control
Pseudo R-squared	0.0831	0.0833	0.0833
Observations	109609	109609	109609

Note: Control variables omitted.

5. Conclusion

Entrepreneurship is a key driver of economic growth, and migrant workers play a central role in this process, especially in urbanization and innovation activities. Therefore, stimulating their entrepreneurial potential is crucial for improving the quality of urbanization and exploring new avenues of economic growth. This paper theoretically explores the impact of URRBMI on the entrepreneurship of migrant workers and its mechanism, and analyzes the differential impact of medical insurance on the entrepreneurial behaviors of migrant workers with different characteristics based on the data of CMDS in 2018 using the Probit model. The study finds that health insurance has a more significant positive impact on migrant workers with higher incomes, better social integration, and "self-employed" entrepreneurship, and provides them with more favorable conditions for entrepreneurship by improving their health and reducing their financial constraints, a finding that is robust under a variety of tests. The popularization of health insurance is particularly important given the health risks and associated medical expenses faced by migrant workers.

The research in this paper offers the following suggested insights to further improve related policies: 1. Develop differentiated health insurance policies to better meet the needs of different groups of migrant workers, such as providing more comprehensive coverage for the elderly and financial subsidies for low-income earners. 2. Conduct entrepreneurial knowledge and skills training, including knowledge of health insurance, in order to reduce the expectation of health risks and increase confidence in entrepreneurship. 3. Enhance the level of rural healthcare services to improve the health status of rural migrant workers, reduce economic losses, and increase confidence in entrepreneurship. 4. Establish a health risk assessment and intervention mechanism to provide early

intervention and health management programs for high-risk rural migrant workers to reduce medical and entrepreneurial risks. In the future, reform of the health insurance system should continue to be deepened to ensure that migrant workers enjoy comprehensive and convenient health insurance services, promote their social integration and increase the overall probability of entrepreneurship.

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