



# New Urbanization and Residents' Wage Income: Data from China's Urban Level

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**Abstract.** It is an important issue at the present stage in China that the new type of urbanization helps the residents' income increase. This paper examines the impact of the new urbanization level on residents' wage income by using the data at the urban level in China from 2007 to 2020. The results show that there is an obvious N-type relationship between the level of new urbanization and wages. The process of new urbanization has a significant role in promoting wages at a lower and higher level, and has a significant inhibitory effect at a medium level. This study provides important enlightenment for China's new urbanization reform from the perspective of wage income.

**Keywords:** New urbanization · Wage income of residents · High quality development

## 1 Introduction

New urbanization is an important means to expand domestic demand and an important driving force for economic growth. According to the news data of the National Bureau of Statistics, by the end of 2022, China's urban permanent population reached 920.71 million, an increase of 6.46 million over 2021; The urbanization rate of permanent residents was 65.22%, 0.50 percentage points higher than that in 2021. At the same time, the rapid progress of urbanization has also exposed a series of problems, the essence of which is that the quality of people's life needs to be improved. It is worth noting that wages are the material premise for workers to pursue the quality of life, so how to provide good public infrastructure services, do a good job in "hardware" work, and improve the income status of residents in the process of promoting the new urbanization has become the focus of current academic circles. At the same time, promoting the benign interaction between the new urbanization process and residents' wage income is also the due meaning of achieving high-quality development of China's economy.

According to the theory of labor economics, the increase of wage income is the internal driving force of economic growth. At the micro level, it can help families to increase their fertility desire, expand human capital investment, and improve their long-term income. At the macro level, it can stabilize the size of China's labor force, achieve the improvement of the quality and skill structure of the labor force, and avoid falling into the middle-income trap. In particular, at present, the contraction of China's labor force

causes the lack of economic growth impetus, the decline of population size causes the expansion of domestic demand to face hard constraints, the rise of the anti-globalization trend and the turbulence of the international situation cause the expected crisis and the lack of external demand increment. In view of the systematic weakening of the economic growth impetus, we should adhere to the people-oriented approach to promote the construction of new urbanization and help improve the rights and interests of workers. It is from this perspective that this paper tries to explore the relationship between new urbanization and residents' income, so as to provide feasible policy recommendations for achieving high-quality development of China's economy.

## 2 Literature Review

From the existing literature, there is a lack of research on China's new urbanization and wages, but there is a rich discussion on the relationship between agglomeration and wages. These documents discuss the wage effect of urbanization from the perspective of labor (population) agglomeration and industrial agglomeration, and have different views. In general, the wage premium of agglomeration is mainly based on three types of channels: industrial agglomeration, labor market agglomeration and derived knowledge spillover (Ridhwan, 2021), while the literature this paper focuses on the first two basic channels. The wage effect of industrial agglomeration is controversial. Some scholars hold the theory that the wage of industrial agglomeration has no effect. For example, Guido & Sabrina (2005) used the data based on the Italian National Bureau of Statistics to conduct empirical tests and found that there is no wage premium effect in industrial agglomeration. The reason is that although industrial agglomeration can promote the improvement of labor productivity, this value-added will not be transferred to workers (Rand et al., 2019). Another part of researchers believe that industrial agglomeration has wage premium effect. Long et al. (2016) showed that industrial agglomeration has a significant positive effect on per capital wage.

The impact of labor agglomeration on wages mainly includes positive theory and nonlinear theory. Scholars with a positive view, such as Christopher H. Wheeler (2006), found that the expansion of the labor market has a positive effect on wages. Liqun Pan & Pundarik (2016), using the data of China's household income survey, found that the dual segmentation of the labor market has an inhibitory effect on the wage premium of urban scale. Similar literature also includes Gilles Duranton (2015). This positive effect is regulated by the level and type of labor skills. The wage premium of labor agglomeration increases with the improvement of the level of labor skills (Edivaldo et al., 2017). The orientation of labor professional skills will have a heterogeneous impact on the wage premium of labor agglomeration. Among them, workers in the occupation oriented by cognitive skills will gain the most benefits, The occupations oriented by technology and physical skills take the second place (Taelim Choi, 2020).

Some scholars believe that the wage effect of labor agglomeration is nonlinear. For example, Sabrina & Eleonora (2008) believed that there was a spatial threshold effect in the wage premium capacity of labor agglomeration, and the wage decreased with the extension of the service site from the city center, and disappeared at a distance of 12 km. In addition, Shuhong Peng (2019), taking Chinese cities as an example, found that

large cities with a population of 1 million to 5 million and megacities with a population of more than 5 million have significant wage premiums, while small and medium-sized cities have no significant wage premiums. Similarly, Shihe Fu (2004) found that the wage premium of labor agglomeration decreased with the increase of commuting time. Further research shows that women's wages decrease with the decrease of labor market agglomeration density. The reason is that the areas with low labor concentration density lead to longer commuting distance and higher commuting time cost. Compared with men, the stronger preference for child care makes women tend to choose the work place closer to them. Therefore, commuting time leads to the restriction of women's wage maximization, so as to reduce their wage level (Bernard & Simonta, 2013).

In general, the above research is valuable for evaluating the wage premium generated by agglomeration, and also provides some reference and inspiration for this paper to analyze the impact of new urbanization on wages. However, there are still some deficiencies in the existing research. First, the existing research mainly analyzes the relationship between population agglomeration (population urbanization) and industrial agglomeration and wages, and less directly discusses the impact of new urbanization on wages. Second, the current research on urbanization mainly focuses on population urbanization, land urbanization and industrial agglomeration, and lacks the study of new urbanization from the perspective of fiscal expenditure structure. In fact, people-oriented fiscal expenditure adjustment is the essence of new urbanization that is different from existing urbanization.

### 3 Empirical Analysis

#### 3.1 Econometric Model

This paper will conduct benchmark regression analysis based on the following models:

$$Income_{it} = \alpha_0 + \alpha_1 New_{it} + \alpha_2 New_{it}^2 + \alpha_3 New_{it}^3 + \beta X_{it} + \varepsilon_{it} \quad (1)$$

where  $Income_{it}$  is the level of wage in city  $i$  of the year  $t$ ;  $New_{it}$  is the level of new urbanization in city  $i$  of the year  $t$ , measured by The expenditure on science, technology and education accounts for a percentage point of the fiscal expenditure budget,  $New_{it}^2$  is the Quadratic terms of  $New_{it}$  and  $New_{it}^3$  is the Cubic items of  $New_{it}$ ;  $X_{it}$  represents a series of control variables that affect the wage level, such as  $Cap_{it}$  represents the capital stock of city  $i$  in year  $t$ , measured by the logarithm of annual per capital fixed investment,  $Stru_{it}$  represents the industrial structure of city  $i$  in year  $t$ , measured by the sum of the annual ratio of labor in the secondary and tertiary industries to the total labor force,  $Fdi_{it}$  represents the direct investment of city  $i$  in year  $t$ , measured by the actual utilization of foreign capital in the year, and  $Den_{it}$  represents the agglomeration level of city  $i$  in year  $t$ , measured by annual population density;  $\varepsilon_{it}$  is a regression residual term.

#### 3.2 Descriptive Statistics

The data in this paper are from the China Urban Statistical Yearbook, the EPS data platform, and the city's annual development bulletin, with a time span of 2007–2020. After removing the outliers, a total of 2138 samples were obtained, and the specific descriptive statistics are shown in Table 1.

**Table 1.** Descriptive statistics

Variable	N	Mean	Std
Income	2138	10.760	0.324
New	2138	3.152	6.310
Cap	2138	10.305	0.691
Fdi	2138	11.960	1.819
Stru	2138	87.907	7.844
Den	2138	454.312	310.162

### 3.3 Analysis of Empirical Results

The basic regression results are shown in the model (1) in Table 2. It can be seen that there is a significant N-type relationship between the new urbanization level and the urban wage level during the sample period, and it is significant at the level of 1%. This shows that the impact of the new urbanization level on wages is nonlinear, and has a significant positive effect on wages in the lower and higher levels of new urbanization, while has a significant inhibitory effect in the middle level. For other control variables, urban capital stock and direct investment are significant at the level of 1%, industrial structure is significant at the level of 5%, and agglomeration level is significant at the level of 10%.

In order to verify the robustness of the results of this paper, considering the different measurement indicators of the level of new urbanization and industrial structure, Table 2 model (2) is based on model (1), and the level of new urbanization is measured by the sum of per capita science and technology and education costs; The industrial structure is measured by the percentage of the output value of secondary and tertiary industries of city  $i$  in the ratio of GDP in the  $t$ th year; Table 2 Model (3) Based on model (1), the level of new urbanization is measured by the sum of per capita science and technology and education costs. The empirical results show that the conclusion of this paper is robust, as shown in the models (2) and (3) in Table 2. It can be seen from the results that the N-type relationship between new urbanization and urban wage level is still valid, and the agglomeration level variable and industrial structure variable in model (2) are significant at the level of 5%, the other control variables are significant at the level of 1%, the agglomeration level in model (3) is significant at the level of 5%, and the other control variables are significant at the level of 1%.

**Table 2.** Empirical results and robustness test.

	Income	Income	Income
Variable	(1)	(2)	(3)
New	0.107*** (0.00920)	4.349*** (0.359)	4.513*** (0.349)
New <sup>2</sup>	-0.00444*** (0.000474)	-8.241*** (1.065)	-8.716*** (1.030)
New <sup>3</sup>	0.0000590*** (0.00000710)	5.512*** (0.847)	5.859*** (0.827)
Cap	0.357*** (0.0343)	0.291*** (0.0352)	0.299*** (0.0322)
Fdi	-0.0536*** (0.00966)	-0.0368*** (0.00925)	-0.0360*** (0.00871)
Stru	0.0250*** (0.00694)	0.0152** (0.00698)	0.0230*** (0.00575)
Den	0.000654** (0.000316)	0.000748** (0.000332)	0.000795** (0.000331)
_cons	4.778*** (0.708)	6.260*** (0.574)	5.214*** (0.611)
N	2138	2138	2138
R <sup>2</sup>	0.619	0.677	0.689

**Note:** \*\*\*, \*\* and \* are significant at the level of 1%, 5% and 10%, respectively. The brackets are robust standard errors

## 4 Conclusion and Enlightenment

Based on the data of Chinese cities from 2007 to 2020, this paper examines the impact of new urbanization level on wage income. The study found that there is a N-type relationship between the level of new urbanization and the wage income of Chinese residents. This conclusion is still valid on the basis of controlling foreign capital, industrial structure and other variables.

The specific policy recommendations of this paper are as follows: First, in fiscal expenditure, more emphasis should be placed on the improvement of living service expenditure on residents' lives, so as to better play the role of attracting labor flow, and then give play to the advantages of agglomeration economy and promote the improvement of wages. Second, in fiscal expenditure, adjust the proportion of living services expenditure to a reasonable range, give full play to the positive role of such expenditure, and avoid wage losses caused by the deviation of such expenditure proportion from the optimal level.

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