

**The Impact of Household Registration Restrictions and the Integration Reform
on Urban-Rural Disposable Income Disparity in China**

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Abstract

This thesis studies the effects of the restrictions on the agriculture and non-agriculture household registration system often called urban and rural hukou, and its abolition on the disposable income disparity between urban and rural areas in China. This thesis uses the difference between the non-agriculture hukou and urbanization rates to measure the hukou limitation and its impact on income disparity in urban and rural areas. As for the integration reform, the study uses a dummy variable about before and after the integration reform and a dummy variable with additional regression specification of year to estimate the impact of such dichotomy on the income gap among Eastern, Western, and Central China. The results suggest that the stronger the hukou limitation, the more significant the income inequality between urban and rural areas, but the results are not valid in Eastern developed regions. The dual-track system has a more substantial impact on increasing the income gap in economically underdeveloped Western China. However, the thesis suggests that the integration reform cannot significantly diminish the income disparity between cities and the countryside.

Keywords: Household Registration, Disposable Income Disparity, Urban and Rural China.

The Impact of Household Registration Restrictions and the Integration Reform on Urban-Rural Disposable Income Disparity in China

Introduction

These theses study two questions about the agricultural and non-agricultural household registration system (hukou) in China: what is the impact of hukou limitation on the income disparity between urban and rural areas? Moreover, what is the impact of the hukou integration reform on the income disparity between urban and rural areas? According to the State Council Information Office (2021), Chinese people's mean income has significantly risen. The per capita disposable income has increased from 171 yuan in 1978 to 32,188 yuan in 2020 since the country adopted the reform and opening-up policy. From 1978 to 2020, the urban Engel coefficient decreased from 57.5% to 29.2%, and the rural Engel coefficient of rural residents fell from 67.7% to 32.7%. However, according to the Office for National Statistics (2022), the long-existed problem of the urban-rural income disparity has not been solved. The urban-rural disposable income ratio exceeded 3.00 in 2002 and even reached a historical peak of 3.14 in 2007. Although this incredible disparity no longer exists, the urban-rural income gap was still above 2.5 until 2021. The income gap between cities and the countryside is the most severe and long-standing problem that is difficult to solve in Chinese society. According to previous studies, hukou restrictions can increase the income gap between urban and rural areas.

After founding the People's Republic of China in 1949, China employed the Soviet Stalinist model with industrialization as its aim: using the rural surplus to support urban development. In 1958, to diminish migration from rural to urban areas, the Chinese government issued *Regulations on Household Registration of the People's Republic of China* to restrict rural-urban mobility. The Chinese government classified all people as agricultural or non-agricultural

hukou based on the regulations. The government tied rural people to their land, and if they wanted to convert their rural hukou to urban hukou, it was severely limited and challenging. As a decree to support industrialization, it aimed to limit the unwelcome rural to urban mobility (Chan, 2010). Urban citizens could enjoy better welfare than rural citizens, including better education, medical care, pension, and employment. During the planned economy period, rural people needed to get urban hukou if they wanted to settle in cities because of the enormous welfare differences. After the reform and opening-up policy, the welfare gap based on household registration gradually decreased, but it still existed (Zhou et al., 2022). Because of the relaxed restrictions, After the 1980s, millions of people could work in cities even if they had rural hukou (Fields and Song, 2013).

In Table 5, the government used five-stage reform policies to relax the hukou limitations after the opening-up and reform. The social mobility from rural to urban areas was not strictly restricted. From 1978 to 2001, eligible farmers could get non-agricultural hukou, and the government gradually reduced the requirement for obtaining a non-agricultural hukou. After 2002, some provinces no longer recorded residents' hukou nature, but most provinces still showed their hukou locations, and the integration reform cannot wholly diminish the welfare gap between urban and rural residents. In order to further reduce the hukou restrictions, The State Council issued *opinions on further promoting the reform of the household registration system* in 2014. Until January 1, 2017, all provinces have abolished the division of agriculture and non-agriculture hukou and unified registration as resident hukou. The reform also includes establishing education, health, employment, social security, housing, and population statistics systems compatible with the resident household registration system.

This thesis uses panel data from 31 province-level administrative regions in China from 2007 to 2019. This thesis employs the urban and rural disposable income ratios to compare income

differentials. It also used dummy variables with additional year regression specifications to examine the long-term and short-term effects of the household registration integration reform on the urban-rural income ratio. At the same time, the methodology adds control indicators such as some primary macro data, such as the education gap between urban and rural areas, age structure, etc. It controls the province fixed effects and year fixed effects in the methodology.

Previous studies have studied the effect of hukou restrictions on the rural-urban development disparity, which is the result of principal component analysis of different indicators rather than just the income gap (Li & Hu, 2015). Compared with previous studies, this thesis analyzes the impact of hukou restrictions on the urban-rural income gap at the macro level and the change in the annual income gap before and after the hukou integration reform to study whether this policy would have a significant impact on the income gap. Compared with Song (2015), his study suggests that there is gender discrimination on income, but this paper indicates that the impact of gender ratio on wage differences between urban residents and rural residents is not significant. This thesis also studies the impact of age structure, family size, agricultural modernization, educational level, economic growth, divorce rate, urbanization rate, healthcare, and infrastructure on urban-rural income inequality in China.

This thesis has found that hukou limitations can increase the urban-rural income ratio in economically underdeveloped Western and Central regions. However, there is insufficient evidence to show that the integration reform can reduce the income disparity after using a dummy variable to compare the income gap change before and after the reform, especially by adding additional specifications of year. Urbanization, infrastructure, and agricultural mechanization developments can positively reduce the urban-rural income inequalities. Reducing the education level and healthcare differences between urban and rural areas can also reduce income inequalities.

However, the impacts of economic growth, age structure, gender ratio, family size, gender ratio, and divorce rate on the urban-rural income gap are not significant.

Literature Review

(Li & Hu, 2015) used the panel data from 31 different province-level regions from 1981 to 2010 to analyze the impact of institutional change on the urban-rural integration development since the Open and Reform. Their methodology studies the impacts of investment, the price of agricultural production, and rural industrialization on the urban-rural development gap. In their methodology, the response variable is IURD, which measures the level of urban-rural development disparity after a principal component analysis of three different indicators: the urban-rural income ratio, the Engel coefficient, and the urban-rural supply of primary public goods ratio. (Li & Hu, 2015) also considers the province-specific and year-specific effects.

The results show that a one percent increase in the difference between the urbanization and urban hukou rates can decrease by 0.8-unit IURD at the 5% level significance. To avoid measurement error in developing countries, the authors constructed a new panel data by averaging the data over five years in each province. The robustness reveals that a one-unit increase in hukou is estimated to decrease 1.52-unit in IURD at the 10% significance level. In the economically underdeveloped Western and Central regions, the negative impact of hukou on the urban-rural gap is much higher than that in economically developed Eastern China. One unit increase in hukou is estimated to decrease by 3.33 and 2.60 in Western and Central provinces at a one percent significance level. Investment and rural industrialization can positively decrease the urban and rural development gap, but there is insufficient evidence showing that price reform could help urban-rural inequality (Li & Hu, 2015).

A regression analysis paper studied the social and economic inequalities caused by urban-rural hukou for decades in China (Liu, 2005). Urban hukou residents had higher incomes than rural hukou residents, and the earlier people got into urban hukou, the higher their income. The sample consists of 14,365 urban and rural people aged 18-65 and had positive income in 1995 from cities and towns of various sizes in 11 provincial-level regions. The author divided them into two groups: people who got urban hukou before the age of 15 and after the age of 15 because the author stated that it was unlikely that an individual who obtained urban hukou after the age of 15 would be able to go to better schools in the cities.

According to the critical findings from Liu (2015), In 1995, those who obtained hukou before the age of 15 had 2.43% higher gross income and statistically significant at the 1% level, urban hukou owners had higher employer-provided healthcare coverage, more years of schooling, lower unemployment rate, and less possibility of self-employed. After the robustness check, the results remain statistically significant.

As an economically developed city, urban and rural hukou holders live in the same environment in Beijing. Therefore, individual samples from Beijing can easily interpret the impact of hukou differences on income disparity. The study shows that an urban hukou increased the holders' income by 26% in Beijing. The return on education was different in rural and urban areas. There was only a 2.5% increase in income for each year of education increase in rural areas, but the return on education in urban areas was double that in rural areas. (Liu, 2005).

According to a study utilized in a survey in some state-owned enterprises and private firms in 2008, urban hukou holders had higher wages than rural hukou holders, especially in state-owned enterprises, particularly in female employee groups (Song, 2015). Hukou-based wage discrimination existed in all these kinds of firms. The same educational level and work experience

would also be treated differently depending on their hukou. In state-owned enterprises, the monthly earnings of workers with urban hukou were 2294.63 yuan, but the monthly earnings of workers with rural hukou were 1529.76 yuan; in private firms, the monthly earnings of workers with urban hukou were 2018.49 yuan, but the monthly earnings of workers with rural hukou were 1500.99 yuan.

Gender discrimination was more severe in private firms than that in state-owned firms. Male workers in private firms with urban hukou had 34.3% higher wages than female workers at a 1% significant level, while male workers with urban hukou in state-owned enterprises were estimated to have 24.7% higher wages than female workers at a 1% level of significance. In all those firms, one unit increased in years of schooling, and social capital can increase their wage higher than rural workers' at the 1% level of significance (Song, 2015).

Most of the previous studies used wages to compute the urban-rural income disparity, but Lee (2012) used urban-rural hourly income compensation, which included earnings, bonuses, and insurance value in calculating the disparity. The data used by Lee (2012) was from a survey conducted by the Institute for Population and Labor Economics at the Chinese Academy of Social Science in 2005, including 7445 urban locals and 5618 rural-to-urban migrants in five large cities in China: Shanghai, Wuhan, Shenyang, Xian, and Fuzhou. Compared with a simple wage comparison, the compensation method could significantly show the discrimination toward migrant workers.

Lee (2012) employed the decomposition approach by Blinder (1973) and Oaxaca (1973) to compare the wage differentials. The regression result shows that the mean wage of urban residents was 6.03 yuan while the mean wage of migrants was 4.12, so urban hukou holders earned 46.36% higher wages than rural hukou holders. However, after adding the contributions of bonus

and insurance, urban hukou holders' mean compensation was 76.14% higher than that of non-agricultural households.

(Gravemeyer et al., 2010) focused on some discriminatory factors that caused the income differences in Shenzhen, the city was called the "center of the Chinese factory." Meanwhile, this was one of the cities with the most significant income inequality in China. The study adopted data from 1056 households and 3,256 individuals in 2005. Their methodology includes some personal characteristics as the control variables so that the model can explain other income disparities caused by policy discrimination. Hold other factors fixed. A rural hukou holder had a 62.4% lower income than an urban hukou holder at the 1% significant level. The authors also used the Oaxaca-Blinder (Oaxaca, 1973; Blinder, 1973) decomposition method to test the income gap between urban and rural hukou holders. The results showed that 52.9% of income differences were due to hukou discrimination if we used the urban hukou as the reference group, while 46.5% of income differences were due to hukou discrimination if we used the rural hukou as the reference group.

Rural hukou negatively influenced one's job opportunities in Shenzhen. Marital status and gender also impact people's income. The analysis showed that a male had a 40.8% higher income than a female, and the married person was estimated to have a 35.6% higher income than others. The income gap between married women was higher than unmarried women. The Chinese communist party members had a 16.6% higher income, and a worker with long educational years also had a higher income (Gravemeyer et al., 2010).

One of the most direct results of hukou integration was to lower the barriers to urbanization. Urbanization can positively decrease the income gap between urban and rural China. (Yuan et al., 2020) Summarized 29 empirical studies and stepwise meta-regression from 94 direct effect-size estimates. Those researchers suggest urbanization correlated with smaller urban-rural income gaps

when using urban and rural income/consumption ratios to measure the differences. They concluded that the increase in the urbanization rate could generally diminish the urban and rural income disparity.

(Yuan et al., 2020) states that urbanization was not the only factor that could reduce the income gap. Human capital level, agriculture support policy, and farmland scale could also reduce the urban-rural differences. However, financial development positively correlated to the income gap.

Data

The sample employs province-year panel data, consisting of 31 provinces from 2007 to 2019. Those data are from China's economic and social big data research platform, the National Bureau of Statistics of China, *China Population and Employment Statistics Yearbook* from 2008 to 2020, *Yearbook of Health of the People's Republic of China* from 2008 to 2020, and different 31 provinces' announcement about the integration their integration reform. Since China adopted different measurement standards for urban and rural incomes before 2013, this paper takes the recent disposable income results calculated by the National Bureau of Statistics according to the previous rural net income as the rural income indicator to compare urban and rural income disparity. The observation of the largest income ratio is Tibet in 2001, where the income of urban residents was 5.65 times that of rural residents. The lowest income ratio observation was Tianjin in 2015, but the ratio was still over 1.80, and it was still a huge income gap.

After the hukou reform, there was still some welfare gap between urban and rural residents, but the hukou nature was no longer distinguishable in the hukou register, a certificate contains household information. The implementation time of the hukou reform of the provincial government is different in the lower administrative regions. The hukou department at the city level

will not distinguish the difference between urban and rural hukou in a short period or many years after the hukou reform or many years before the reform, and the specific time interval in province regions is different. For example, Sichuan province started the reform in 2003 (People's Government of Sichuan Province, 2003). However, Chengdu, the capital city in Sichuan province, implemented the integration policy in 2010 (Fang, 2015).

Figure 1 shows that the urban-rural disposable income ratio decreased after the reform and opening-up policy in 1978, but it started to increase until 1994. The income ratio continued to decrease in the next five years, and then it increased again. The highest income ratio even reached 3.00. After peaking in 2007, the income ratio has continued to drop. In 2020, the urban-rural income ratio dropped to nearly 2.50, which was still a huge income disparity. Figure 2 shows that the urban-rural disposable income ratio in developed Eastern China was closed to 2.50 between 2007 to 2014, but the ratio was nearly 3.50 in underdeveloped Western China during the same period. Figure 3 indicates that after the reform, the income ratio keeps decreasing, but the results are the same as before the reform. Therefore, the figure cannot reveal that the integration reform can decrease the income gap between urban and rural areas.

Methodology

This paper uses two different key variables to measure the impact of hukou on the income disparity. The first key variable is the limitation: the difference between the urbanization rate and the non-agricultural hukou rate, which is invented by (Li & Hu, 2015). Because of the welfare gap between urban and rural hukou holders, there was an incentive for rural hukou holders to get urban hukou if they worked in cities. The higher the difference, the stronger the limitation of hukou. The second variable is about the hukou reform. Reform=1 means the observation is after the reform. On the contrary, reform=0 means the observation is before the reform. The third key independent

variables are P_{it} and L_{it} , the dummy variables of hukou reform with year specifications. For example, $P1=1$ means one year after the hukou reform, $P2=1$ is two years after the hukou reform, $L3=1$ is three years before the reform, and the base group is the year the hukou reform began. The dependent variables are all *income.ratios*: the disposable income ratios between urban and rural areas.

$$income.ratio_{it} = \beta_0 + \beta_1 limitation_{it} + \sum_{j=2}^k \beta_j X_{jit} + \alpha_i + \delta_t + \varepsilon_{it}$$

$$income.ratio_{it} = \beta_0 + reform_{it} + \sum_{j=2}^k \beta_j X_{jit} + u_i + \varepsilon_{it}$$

$$income.ratio_{it} = \beta_0 + \sum P_{it} + \sum L_{it} + \sum_{j=2}^k \beta_j X_{jit} + \alpha_i + \varepsilon_{it}$$

i refers to each province, and t refers to different years. δ_t are province-fixed effects, α_i are year-fixed effects, u_i are random effects, and ε_{it} is the disturbance term. This thesis uses the impact of hukou limitation on Eastern, Western, and Central China.

Key variables

Urbanization:

The urbanization rate is calculated by the ratio between the number of urban residents and the total number of residents at the year-end of each province.

Expenditure:

Urban and rural community affairs expenditure. According to the definition of the National Bureau of statistics. Urban and rural community affairs include urban and rural community management affairs expenditure, urban and rural community planning and management expenditure, urban and rural community public facilities expenditure, urban and rural community housing expenditure, urban and rural community environmental sanitation expenditure, construction market management, and supervision expenditure, government housing fund expenditure, paid land use

expenditure, additional expenditure of urban public services, and other urban and rural community affairs expenditure.

Machinery:

China has not yet fully modernized its agriculture, and manual labor is still very common. This variable measures agricultural mechanization by the total power consumed by agriculture equipment.

literacy:

The literacy rate is the proportion of people who have never received more than primary education, and the literacy in this thesis is the urban-rural literacy ratio.

Dependency:

The dependency ratio is calculated as the ratio of people aged under 15 and over 65 to those people aged 15 to 65, and the dependency in this thesis is the urban-rural dependency ratio.

Healthcare:

It measures the medical resources by the number of doctors per 10,000 people, and the healthcare in this thesis is the urban-rural healthcare ratio.

CPI:

CPI is a good indicator to measure inflation in each province.

GDP:

GDP is a good indicator to measure the economic growth rate in each province.

Family:

Urban-rural family size ratio.

Divorce:

Urban-Rural divorce Ratio

Gender:

The gender ratio is the male population divided by the female population, and the gender in this thesis is the urban-rural gender ratio.

Results

According to table 1, The increase in hukou restrictions will increase the income disparities between urban and rural areas. In the first regression, for every 1% increase in hukou limitation, the income gap is predicted to increase by 0.91%, which is statistically significant at the 5% level. The increased machinery and urban and rural affairs expenditure can significantly reduce the income gap between urban and rural areas. In the second regression, the decrease in healthcare and literacy gaps can also reduce the income disparity. Modernization of agricultural production could also reduce income disparities. For every 1% increase in electricity consumption of agricultural machinery in rural areas, the income gap will be reduced by 17.47%. This model can explain 47% of the urban-rural income gap.

In table2, the impact of household registration restrictions is more significant in Western China. In the economically underdeveloped western region, the income gap is estimated to increase by 1.57% for every 1% increase in hukou limitation. The expenditure on urban and rural affairs has the most significant impact in the Central region. Every 1% increase in urban and rural affairs will reduce the urban-rural income gap by 18.20%. Compared with the economically developed Eastern region, improving educational levels in rural areas can reduce the income gap in the Western region. For every 1% increase in the literacy rate in rural areas, the income gap can decrease by 0.23%.

In Table 3, the income gap after the household registration reform is 2.96% lower than that before the household registration reform. However, the result is not significant, so there is not

enough evidence to conclude that hukou integration reform can reduce the income gap between cities and the countryside is correct. In regression 1 of table 4, the income gap five years before the reform was 15.92% higher than the income ratio when the reform began, and then the income gap would gradually decrease. After the household integration reform, the income would decrease, but the result is not significant in the short run. Six years after the reform, the income is 5.72% lower than the income ratio at the beginning of the household reform, and ten years later, the income ratio would continue to decrease by 15.22%. In regression 2, the household registration reform also failed to show a similar result in the income disparity. However, this model cannot explain the impact of household registration integration reform on the income disparities between urban and rural areas because the trend of income ratio before and after reform has not changed.

Discussion

Compared with previous studies, this paper uses the same income standard to measure the income gap between urban and rural areas, which benefits from the adjustment of the National Bureau of statistics on the income survey in rural areas after 2013, so it helps to compare the income ratio more accurately.

This paper uses macroeconomic data to analyze the impact of household registration restrictions on the urban-rural income ratio and the impact of the cancellation on the income ratio. Household registration restrictions are predicted to expand income inequality, but the reduction of income after removing restrictions is not significant. There are many reasons. Some cities started to cancel the restrictions before the start of reform in their provinces. This is a kind of typical policy experiment in China. Some cities would begin the cancellation many years after the provincial-level government issued the policies because the municipal government would introduce specific reform policies according to the instructions of the provincial government,

which would take a long time. Therefore, the time when provincial governments announce the household registration reform is not necessarily the same as the actual time. In other words, using a city-level survey database can better measure the impact of household registration reform on the income disparity.

The second reason is that the cancellation of urban and rural hukou distinguish cannot reduce employment discrimination. Employers can still guess the nature of job seekers' hukou by their address or place of birth. Although the nature of agriculture and non-agriculture hukou has been canceled in the household register, only the government knows the exact nature of hukou.

The housing price in urban areas, the imperfect rental system, and the low education level of rural residents also reduce the opportunities for rural people to find jobs in cities. Rural residents can get farmland allocated by the government to live or engage in agricultural production activities in rural areas. Even after the household registration integration reform, this land allocation policy has not been canceled. The degree of marketization in rural areas is far lower than that in urban areas. This marketization difference is a fundamental reason for income inequality, but the difference cannot be changed in the short run.

Conclusion

As a policy issued in the 1950s, the purpose of agriculture and non-agriculture distinguish was to limit population mobility and use rural resources to support urban industrialization. However, this policy has caused an enormous income gap between urban and rural areas, and the income disparity is hard to resolve now.

This paper proves that the higher the household registration limitation is estimated to lead to the more serious urban-rural income gap, which is more significant in western China. However, there is insufficient evidence to prove that the income gap between urban and rural areas can

decrease because of the abolition of urban and rural hukou differences. In this study, the income disparity before the household registration reform was larger than after the income reform, but the income gap decreased was not due to the integration reform. If the household registration reform can reduce the income gap, it should be that the gap continues to rise before the reform, and then the income decreases after the reform or decreases after a short rise, but this result is not obtained in this paper. However, this does not mean that the household registration reform has failed. For example, the household registration reform requires increasing the education level in rural areas, and the decline of the rural illiteracy rate has significantly reduced the income gap. Other factors such as the expenditure on urban and rural affairs and the improvement of agriculture mechanization have also significantly reduced the urban-rural income gap. Adjusting the population structure can also change this gap. The increase in the urban-rural young people ratio is predicted to decrease the income disparity. The urbanization rate is also an essential factor in reducing the income gap.

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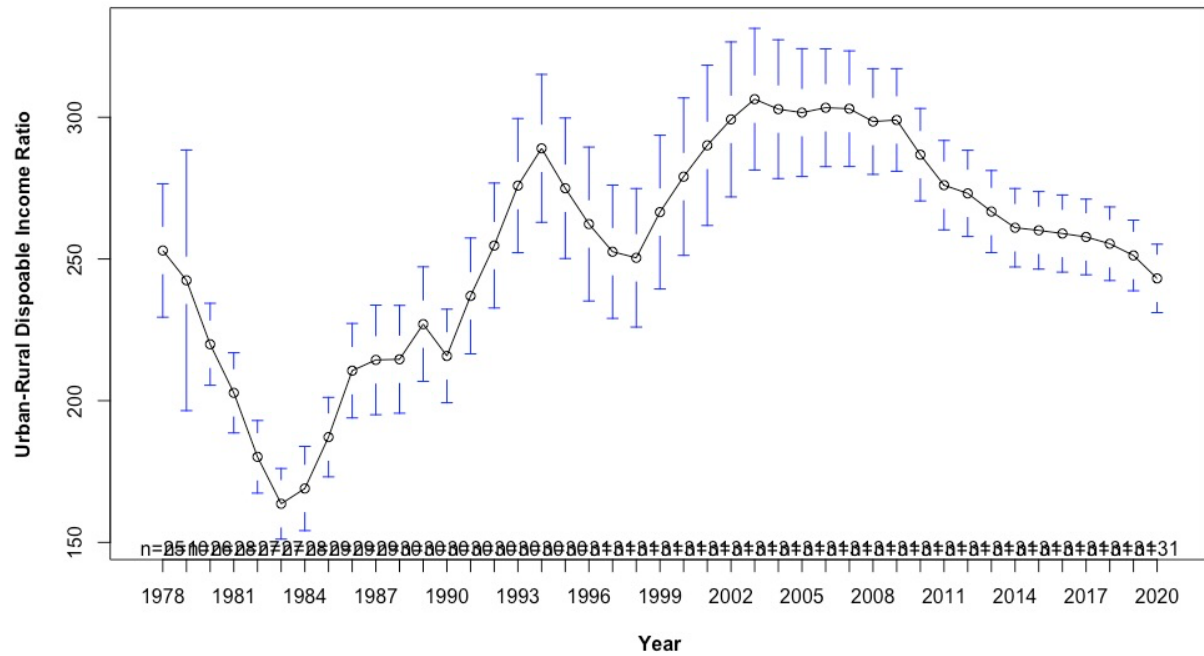
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Figure 1

Urban-Rural Disposable Income Ratio by Year



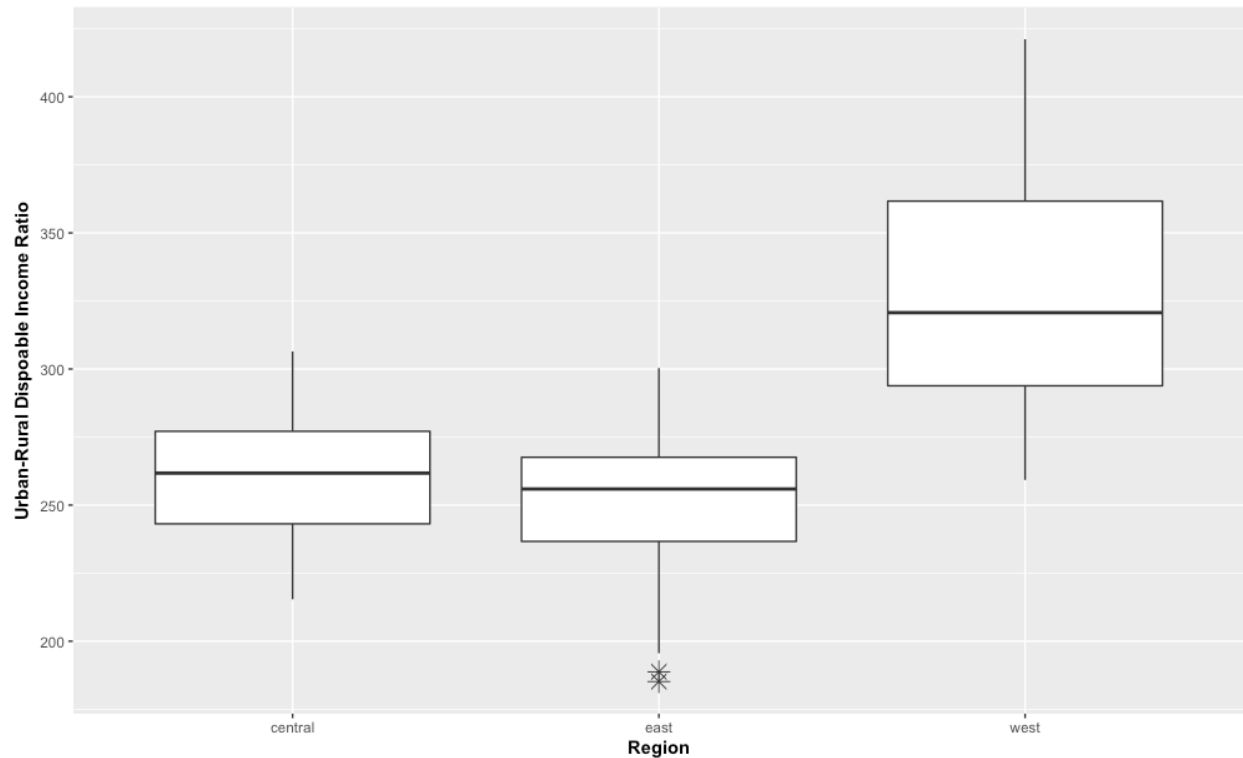
Note. Number of provinces = 31, year interval: 1978-2020, total N=1273

Adapted from *People's Living Conditions*, by National Bureau of Statistics of China, 2022.

<https://data.stats.gov.cn/english/easyquery.htm?cn=E0103> Copyright 2022 by National Bureau of Statistics of China.

Figure 2

Urban-Rural Disposable Income Ratio by Region



Note. Number of provinces = 31, year interval: 2007-2014, total N=248

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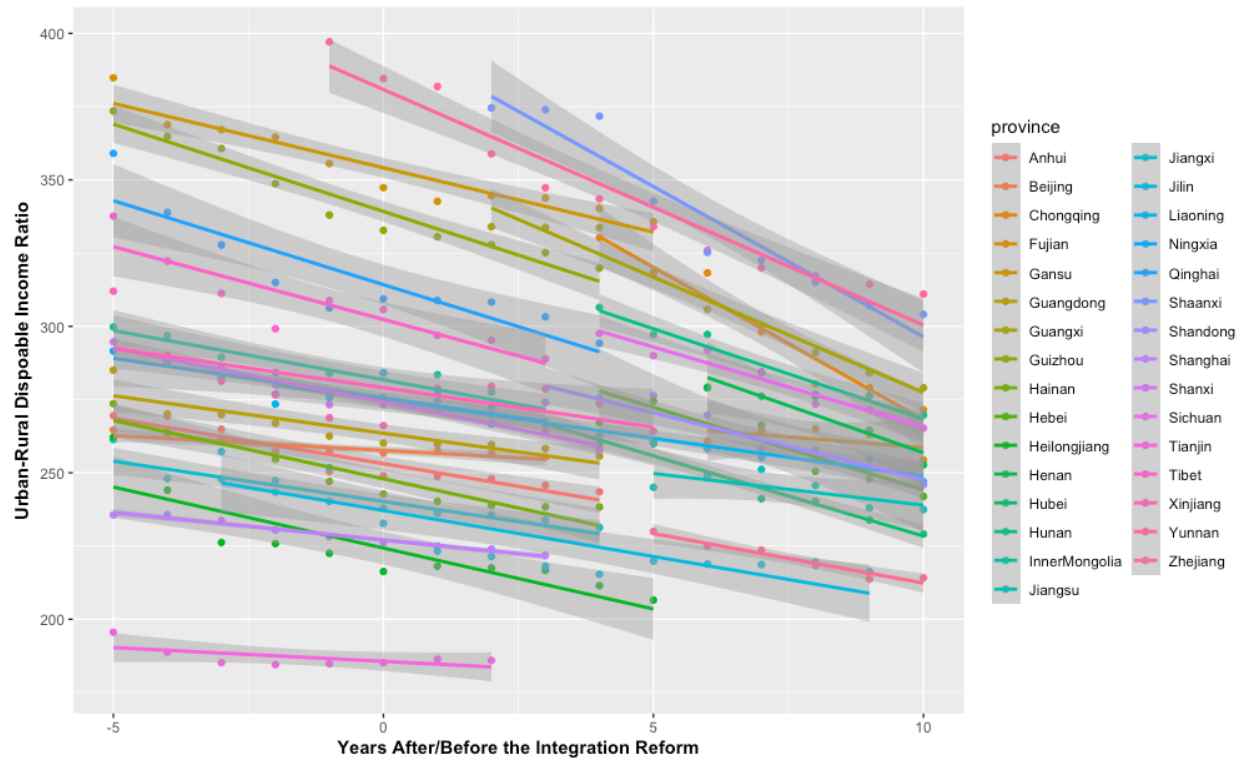
Statistics of China, and *Three Economic Regions*, by National Bureau of Statistics of China, 2022.

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Statistics of China.

Figure 3

Urban-Rural Disposable Income Ratio Before/After the Integration Reform



Note. Number of provinces = 31, year interval: 2007-2019, total N=278

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Table 1: Hukou Limitation and Urban-Rural Disposable Income Ratio

	<i>Dependent variable:</i>	
	income	
	(1)	(2)
limitation	1.044** (0.262)	1.041** (0.260)
log(expenditure)	−16.696*** (2.713)	−15.183*** (2.464)
healthcare	0.003*** (0.001)	0.003*** (0.001)
literacy	0.277*** (0.068)	0.267*** (0.059)
urbanization	−1.563* (0.462)	−1.651* (0.440)
CPI	−1.355*** (0.312)	−1.349*** (0.283)
log(machinery)	−21.826** (5.756)	−22.097** (5.668)
GDP	−0.291 (0.406)	
family	0.104 (0.080)	
dependency	−0.033 (0.085)	
divorce	0.003 (0.012)	
gender	0.080 (0.087)	
Observations	248	248
R ²	0.830	0.827
Adjusted R ²	0.795	0.796
F Statistic	83.155*** (df = 12; 205)	142.971*** (df = 7; 210)

Note:

1

*p<0.1; **p<0.05; ***p<0.01

Table 2: Hukou Limitation and Urban-Rural Disposable Income Ratio by Region

	<i>Dependent variable:</i>		
	income		
	(1)	(2)	(3)
limitation	−0.431 (0.473)	1.607*** (0.451)	0.175 (0.622)
log(expenditure)	−14.942*** (3.215)	−11.902*** (4.161)	−25.955*** (3.512)
log(machinery)	−10.009 (8.668)	−71.007** (18.108)	−2.889 (4.890)
healthcare	−0.003** (0.001)	0.002*** (0.001)	0.002 (0.001)
literacy	−0.009 (0.107)	0.304*** (0.085)	0.160 (0.094)
urbanization	−0.933 (0.598)	−1.057 (0.802)	0.118 (0.945)
CPI	−0.706** (0.340)	−1.322*** (0.526)	−1.170*** (0.366)
Observations	88	96	64
R ²	0.742	0.893	0.919
Adjusted R ²	0.680	0.868	0.896
F Statistic	28.829*** (df = 7; 70)	91.630*** (df = 7; 77)	79.268*** (df = 7; 49)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 3: Hukou Reform and Urban-Rural Disposable Income Ratio

	<i>Dependent variable:</i>	
	income	
	(1)	(2)
reform	−3.089 (1.426)	−3.397 (1.411)
log(expenditure)	−13.626*** (1.281)	−14.282*** (1.241)
log(machinery)	−14.456*** (2.792)	−14.487*** (2.682)
healthcare	0.004*** (0.001)	0.004*** (0.001)
literacy	0.243*** (0.058)	0.192** (0.051)
urbanization	−0.928*** (0.208)	−0.938*** (0.176)
CPI	−1.364*** (0.289)	−1.319*** (0.273)
dependency	−0.114* (0.063)	
GDP	−0.040 (0.309)	
family	0.005 (0.070)	
divorce	0.025 (0.010)	
gender	−0.035 (0.071)	
Observations	403	403
R ²	0.850	0.846
Adjusted R ²	0.832	0.830
F Statistic	169.675*** (df = 12; 360)	286.466*** (df = 7; 365)
<i>Note:</i>	3	*p<0.1; **p<0.05; ***p<0.01

Table 4: Hukou Reform and Urban-Rural Disposable Income Ratio by Year

	<i>Dependent variable:</i> income	
	(1)	(2)
L5	15.924*** (3.306)	15.524*** (3.025)
L4	9.835*** (2.999)	9.280*** (2.818)
L3	5.481** (2.543)	5.373** (2.446)
L2	1.531 (2.279)	1.084 (2.210)
L1	1.678 (2.053)	1.456 (2.031)
P1	-0.152 (2.010)	-0.299 (2.000)
P2	0.751 (2.112)	0.013 (2.052)
P3	-0.097 (2.290)	-0.748 (2.208)
P4	-0.585 (2.660)	-1.120 (2.542)
P5	-3.959 (3.107)	-4.878* (2.930)
P6	-5.718 (3.508)	-6.504** (3.275)
P7	-9.869*** (3.795)	-9.960*** (3.526)
P8	-9.941** (4.209)	-10.674*** (3.934)
P9	-10.388** (4.671)	-11.122** (4.300)
P10	-15.219*** (5.091)	-15.416*** (4.638)
log(expenditure)	-7.495*** (1.861)	-7.720*** (1.777)
log(machinery)	-10.248*** (2.788)	-9.507*** (2.707)
healthcare	0.003*** (0.001)	0.003*** (0.001)
urbanization	-0.970*** (0.267)	-0.863*** (0.249)
CPI	-1.567*** (0.318)	-1.446*** (0.280)
divorce	0.033*** (0.010)	0.031*** (0.010)
gender	0.092 (0.064)	0.123** (0.062)
literacy	-0.056 ⁴ (0.060)	
GDP	-0.060 (0.366)	
family	0.079 (0.075)	
dependency	-0.083 (0.056)	
Observations	278	278
R ²	0.855	0.851
Adjusted R ²	0.818	0.817
F Statistic	50.147*** (df = 26; 221)	58.621*** (df = 22; 225)
Note:	*p<0.1; **p<0.05; ***p<0.01	

Table1*hukou reform policies in different periods in China*

Period	Reform Policy Names	Reform Summaries
1957-1978	<i>Instructions on curbing blind outflow of the rural population in 1957</i> <i>Household Registration Regulations of the People's Republic of China in 1958</i> <i>Nine ways to reduce urban population and reduce grain sales in cities and towns in 1961</i> <i>Suggestions on strengthening household registration management in 1962</i> <i>Regulations of the Ministry of Public Security on handling household migration in 1977</i>	Strictly implement the urban and rural household registration system, strictly limit the flow of population from rural to urban areas, strictly limit the conversion of the agricultural households to non-agricultural households, and strictly limit the social mobility from other cities to Beijing, Shanghai, and Tianjin.
1978-1984	<i>Provisions concerning the provision of grain by the state to solve the problem of some professional and technical cadres' family members moving to cities and towns were made in 1980</i> <i>Circular of The State Council on the settlement of Peasants in market towns in 1984</i>	The hukou policy started to relax, and the government allowed professionals' rural family members to switch their hukou from agricultural to non-agricultural, but the number of conversions was limited.
1985-1996	<i>Regulations on the Administration of urban Temporary Resident Population in 1985</i> <i>Circular on the implementation of the effective local urban household registration system in 1992</i>	The government continued to reduce the conversion limitations from agricultural to non-agricultural hukou. Businessmen who invest in factories and farmers whose land has been eminent could get "blue seal hukou," which gave them the same rights as non-agriculture hukou.

(Continued)

1997-2001	<i>Pilot plan for reform of household Registration system in small towns in 1997</i> <i>Opinions on solving several outstanding problems in current account management in 1998</i> <i>Opinions on promoting the Healthy Development of small towns in 2000</i>	Conditions for hukou conversion in small towns were further relaxed. Farmers with legal permanent residence, occupation, or income in small towns can switch their rural hukou to urban hukou. Their children enjoy equal treatment in education, employment, and military service.
2002-2014	<i>Zhengzhou relaxed hukou restrictions in big city in 2001.</i>	Conditions for settling in large cities were further relaxed. Although some provinces have abolished the urban and rural hukou registration system. However, the welfare gap between urban and rural hukou has not been totally eliminated, and most provinces still showed their hukou location.
2014-2017	<i>Opinions of The State Council on furthering the reform of the household registration System in 2014</i>	In order to solve the huge gap between urban and rural areas caused by the urban-rural dual system, The State Council required the unification of the urban and rural household registration system, the total cancellation of residence restrictions in small cities, gradually cancel the residence restrictions in medium-sized cities, determine the residence conditions of large cities, and strictly control the population size of megacities (Beijing, Shanghai), and gradually cancel the welfare difference between urban and rural residents.

Note. Adopted from *the evolution of China's household registration system: five adjustments and six stages* by Fang, 2015. http://cn.chinagate.cn/news/2015-08/20/content_36365295.htm

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