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Urbanization and Income Inequality in China: An Empirical Investigation at Provincial Level

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Abstract Trends in inequality in China suggest that there has been a significant increase in inequality in the distribution of income from around 0.30 in 1980 to 0.55 in 2012. Research over the last two decades has focused on identifying the main drivers of the increase in inequality. The main objective of this paper is to examine the relationship between urbanization and income inequality in China using provincial level data over the period 1987–2010. Using a panel of data for 20 provinces collected from the Chinese Statistical Yearbooks for five selected years. The empirical analysis based on OLS, fixed and random effects models, show a robust inverted-U relationship between inequality and urbanization. A threshold rate of urbanization of 0.53 has been identified with the implication that provinces with levels of urbanization higher than the threshold will experience reductions in income inequality. The second objective of the paper investigates the role of urbanization and the rural–urban wage differential on provincial inequality. Based on data from a representative cross-section of six provinces covering the period 1987–2005, we find that well-developed or income rich regions tend to have lower rural–urban inequality and higher migrant inflows and the rural–urban wage gap make significant contributions to income inequality.

Keywords Urbanization · Income inequality · Gini coefficient · Rural–urban wage gap

JEL Classification O15 · O53 · J61 · C23

1 Introduction

Since 1978, when China opened its economy, significant changes have taken place in the labour market and urbanization. Millions of people laid down their hoes and flooded into the cities from remote areas. They were involved in building thousands of bridges and

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roads, high-rise buildings and greatly contributed to production in the industrial sector. It is their efforts that stimulated the growth of Chinese economy from 364.5 billion Yuan in 1978 to 47 trillion Yuan by the end of 2012 (NBS 2013). However, with rapid growth of the economy, income inequality in China has increased significantly.

Using multiple data sources, Xie and Zhou (2014) report that the Gini coefficient—a commonly used measured of income inequality—increased from under 0.30 before 1980 to 0.55. They identify three main sources for income inequality in China: regional disparities, the rural–urban divide and education (accounting, respectively, for about 12, 10 and 15 % of overall inequality).

In terms of wealth inequality, a report conducted by the Beijing University used China Family Panel Studies (CFPS) found that the top 1 % of households hold one-third of total assets, while the bottom 25 % hold only 1 % (ISSS 2014). Another household survey, China Household Financial Survey (CHFS), conducted by South-Western University of Finance and Economics (CHFS 2013) claimed that the Gini Index is 0.58 and 0.61 in 2010 for rural and urban areas respectively.

Reviewing the economic growth history of China since 1978, a significant feature is that millions of cheap labourers have migrated from agricultural sector in rural areas to industrial sector in urban areas. This growth pattern is similar to the "Dual Sector Model" proposed and discoursed by Sir William Arthur Lewis in 1954 (Lewis 1954). In this model, he assumes that the surplus labour existing in the agricultural sector is unlimited. It is an appropriate assumption for China because China is a big country with a large population. In 1978, 82.08 % of Chinese residents (a total close to 800 million) lived in rural areas. The migrated labour from rural areas to urban areas helped the economy achieve fast economic growth from 1978 until now. However, when all the surplus labour from rural areas is employed by industrial sector, the fast-growing economy is expected to slow down. This is the "turning point" identified by Lewis (1954). Thus, for China, the question to be considered is: is there still any labour surplus left in the agricultural sector? Is there a turning point in the growth of China? If yes, when will it be reached?

Robinson (1976) provides a framework to answer these questions. Based on the Kuznets Hypothesis, Robinson (1976) studies income inequality under the framework of a dual economy. He assumes that the economy can be divided into rural and urban sectors with different income distributions and population shares. Under this assumption, he found that inequality will remain relatively high when urbanization rate ranges from 0.4 to 0.6. This conclusion might be useful to explain why many developing countries have experienced high income inequality for extended periods.

Thus, we attempt to build a theoretical framework based on the Lewis (1954) Dual Sector Model and the Robinson (1976) model and conduct empirical analysis using provincial level data to determine whether there is an inverted U-shaped relationship between inequality and urbanization and also determine the critical level of urbanization. Besides, the paper also studies the effect of urbanization and rural–urban income differential on provincial inequality and check whether rural–urban income inequality is driven by labour migration from rural to urban areas or by the increasing income gap between rural and urban areas.

The rest of the paper is divided into 4 sections and each section is organized as follows: Sect. 2 offers a brief review of literature on studies that focus on the relationship between urbanization and income inequality in China. Section 3 describes the dataset that has been assembled to conduct the empirical work. Section 4.1 describes the Robinson model as a framework for the analysis. Section 4.2 describes the econometric model that underpins our empirical work. Section 5 reports the empirical results on the relationship between urbanization and income inequality and Sect. 6 draws conclusions and remarks based on the empirical results.

2 Income Inequality and Urbanization in China: An Overview

During the last three decades, the process of urbanization, income inequality have increased in every region in China. The China International Urbanization Development Strategy Research Committee (CIUDSRC 2009) claims that "semi-urbanization" existed during the process of urbanization in China. This "semi-urbanization" occurs when immigrants from rural areas to urban areas are not treated on par with urban residents. Most of immigrants work in the labour-intensive informal sector, receive relatively low wage, and are not covered by the nation's welfare system like urban residents. The CIUDSRC (2009) report states that it will cost the government more than 10,000 yuans for each immigrant to improve the socioeconomic status of the immigrants. This unequal treatment is mainly caused by the Hukou System[1] which differentiates Chinese citizens into two groups—"agricultural" and "non-agricultural". Lu and Weimer (2005) report that in the 1980s and 1990s, local government levied heavy taxes on the agricultural-Hukou citizens, which increases urban–rural income differential in China. Moreover, Whalley and Zhang (2007) study the effect of labour mobility restriction on income inequality. Because it is fairly difficult for a rural immigrant to change their Hukou status into "non-agricultural", the movement of labour slows down and overall income inequality increases. There is plenty of literature which discusses the role of rural–urban immigration and Hukou system on income inequality, including Hu (2002), Li (2010), Knight and Song (2003) Knight et al. (1999).

The Chinese Household Income Project (CHIP) provides data on rural and urban income distribution collected through four household surveys in 1988 (Griffin and Renwei 1993), 1995 (Riskin et al. 2000) 2002 (Shi 2008) and 2007 (Li et al. 2011) separately. Based on data from CHIP surveys, Zhao and Li (1997) find that labour mobility from rural to urban areas significantly reduces income inequality between rural and urban areas. Moreover, the fast development of non-state owned sector in the urban areas and non-agricultural sector in rural areas increased income inequality in urban and rural areas respectively. Knight and Song (2003) conducted further research on income inequality in urban areas. They find that the wage gap between the informal sector in urban area (mainly supplied by immigrants) and the formal sector (mainly supplied by local) increased in 1995 compared to 1988. Besides, Li et al. (2012) find that annual wages of high-education workers are twice as high as those of low-education workers in 2009.

Some researchers study the relationship between income inequality and urbanization rate directly using quantitative methods. Chen and Zhou (2005) find that overall income inequality follows an inverted U-shaped curve with the development of the economy. They predict that income inequality would peak during 2008–2010. Yang and Xu (2010) examine the relationship between urban–rural income inequality and urbanization in west China and find that urbanization helps reduce urban–rural income inequality in this region.

[1] Hukou System is a household registration system enforced in China. It classifies individuals into "agricultural" and "non-agricultural" where "agricultural" individuals were mostly born and living in rural areas and "non-agricultural" individuals in urban areas. The change of Hukou status is controlled by the government so that it is difficult for rural migrants to get a urban Hukou.

Kanbur and Zhuang (2013) investigate how urbanization affects inequality in Asia. They find that the turning point of income inequality is around 36 % of urbanization rate.

Most of the existing literature focus on the measuring of income inequality in China and the effect of economic development and urbanization on income inequality at national level. Since China is a country with large regional disparities and more than 1.3 billion population, the role of urbanization is still unclear with respect to income inequality at provincial level. Therefore, in our study, we investigate the relationship between urbanization and income inequality using provincial level data.

3 Data Sources and Description of the Variables Used

The dataset used in our empirical analysis comes from various Chinese Statistical Yearbooks (NBS 2013) from 1987 to 2010 and provincial level statistical yearbooks (NBS 2012). These yearbooks are published every year by the National Bureau of Statistics and the Bureau of Statistics in most provinces. They cover key statistical data in recent years which provides a comprehensive review of the economic and social development in China at both national and provincial level. Figure 1 shows the administrative division and the population density in China.

Due to the lack of inequality data at the provincial level necessary to undertake the panel data analysis, we collected income distribution data for 20 provinces in China in the form of average income for quintile groups and calculated Gini coefficient based on quintile group data.

We collected data from twenty provinces in five selected years: 1998, 2000, 2002, 2005, 2010, because if more years were included into the dataset, then the coverage of provinces would have reduced. Some particular provinces like Hebei province do not provide any average income in different quintile groups. Thus, the data used are from the provinces for which the average incomes at different levels are available. The data are listed in Table 1.

In Table 1, *gini* is the Gini coefficient computed using data on income quintile groups. u and u^2 stand for the urbanization rate and its square. *gdp*, *agri*, *fdi* are GDP per capita, the share of agriculture in GDP and foreign direct investment respectively.

In Table 1, Gini coefficient is computed using average income for quintile groups with the formula: (Chotikapanich 1994, pp. 91)

$$G = \sum_{t=1}^{n-1} \pi_t \cdot \eta_{t+1} - \sum_{t=1}^{n-1} \eta_t \cdot \pi_{t+1} \quad (1)$$

where π_t is cumulative share of population, η_t is cumulative share of average income in one group and n is the number of income groups which is equal to 5. Note that $\pi_n = \eta_n = 1$. Using the fact that we have quintile groups, G in Eq. (1) can be simplified as:

$$G = 0.8 - 0.4\eta_4 - 0.4\eta_3 - 0.4\eta_2 - 0.4\eta_1 \quad (2)$$

The estimated Gini coefficients based on quintile groups' data along with the average income for the quintile groups are listed in "Appendix 1".

Figure 2 shows the national urbanization rate from 1978 to 2011. In 1978 when China opened its markets, the urbanization rate was below 20 %, while in 2011 it has already exceeded 50 %. It means that during 1978–2011, 30 per cent of total population moved from rural to urban China. Notice that from 1978 to 1995, the increase of urbanization rate

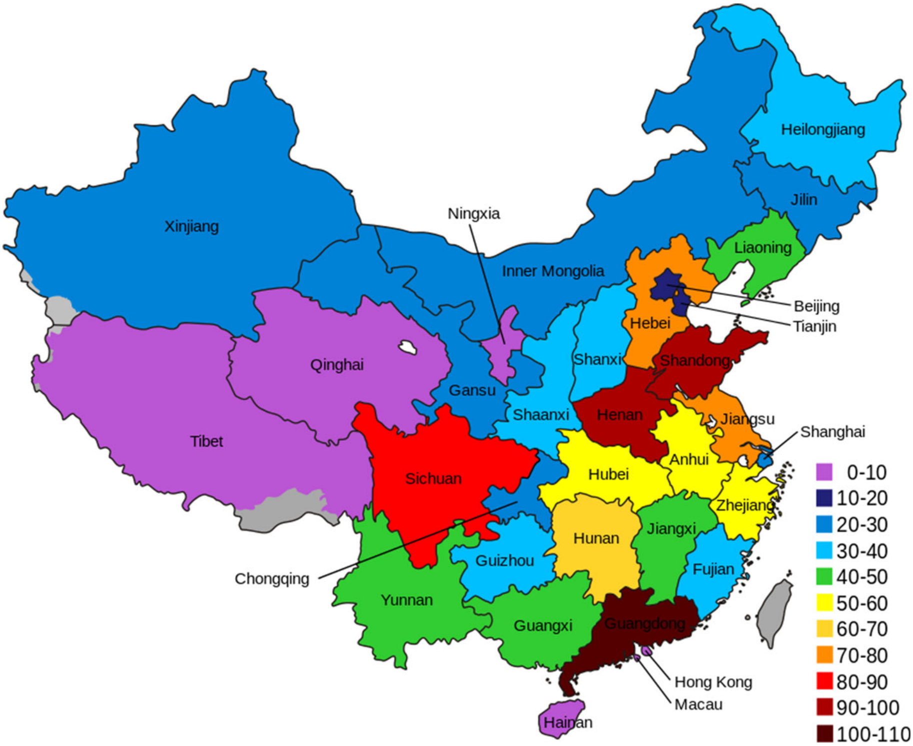

Fig. 1 The administrative division and the population density in China. *Source*: Wikipedia.org. *Note* Map of the provinces by population in millions

Table 1 Data description

Variable	Obs	Mean	SD	Min	Max
Gini	100	.2649	.0389	.1944	.3667
u	100	.4283	.1833	.1404	.893
u^2	100	.2167	.1829	.0197	.7974
gdp	100	17,081.16	14,210.96	2318	66,115
fdi	100	345,843.9	566,618.1	1899	330,269,2
agri	100	.1496	.0784	.0066	.3088

Source: NBS (2013) and 20 Provincial Statistical Yearbooks.

The data refers to years 1998, 2000, 2002, 2005, 2010 and number of provinces equals to 20

was relatively slow (over 10 % in 17 years), while from 1996 to 2011, the urbanization rate accelerated and increased by more than 20 % (urbanization rate more than doubled). Our research focus for analysis is the urbanization during the accelerated period 1996–2011.

However, in China, due to the restriction of household registration system—Hukou System, a large proportion of immigrants from rural to urban areas cannot be registered as local residents. Even though the NBS reported that urbanization rates are 36.22 and 49.95 % in 2000 and in 2010 respectively, the Hukou status data collected by the Census in 2000 and 2010 shows that the share of citizens who hold non-agricultural Hukou is 24.73 and 29.14 % in 2000 and in 2010 respectively in the whole country.

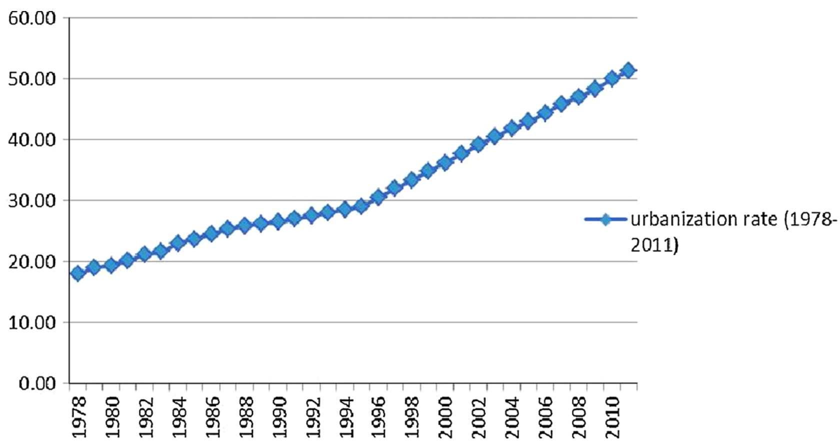

Fig. 2 Urbanization rate in China from 1978 to 2011. *Source*: China Statistical Yearbook 2012. *Note* Urbanization is measured by the proportion of urban residents to total population

Table 2 GDP per capita, urbanization rate, FDI and share of agriculture in 20 province in 2010

Province	Urbanization rate (%)	GDP (per capita)	FDI (Yuan)	Share of agriculture (%)
Anhui	44.8	33,341	197,108	13.99
Beijing	86.2	65,158	774,838	0.88
Fujian	58.1	32,340	811,399	9.25
Guangdong	66.5	40,432	273,819,2	4.97
Guangxi	41.8	30,673	181,825	17.50
Guizhou	35.0	30,433	26,857	13.58
Hebei	45.6	31,451	262,262	12.57
Heilongjiang	56.5	27,735	127,513	12.57
Henan	40.6	29,819	246,129	14.11
Hubei	51.8	31,811	278,619	13.45
Jiangsu	61.9	39,772	330,269,2	6.13
Jiangxi	45.7	28,363	285,463	12.77
Jilin	53.4	29,003	144,682	12.12
Shaanxi	47.3	33,384	117,284	9.76
Shanghai	89.3	66,115	220,600,2	0.67
Sichuan	41.8	32,567	353,492	14.45
Tianjin	80.5	51,489	712,553	1.58
Xinjiang	43.5	32,003	33,988	19.84
Yunnan	36.8	29,195	116,666	15.34
Zhejiang	62.3	40,640	119,101,5	4.91

Table 2 shows the urbanization rate, GDP per capita, FDI and the share of agriculture in GDP in 20 selected provinces in 2010. The data for the remaining years are available on request.

Since the economic system can be divided into three parts: primary sector, secondary sector and tertiary sector, we define the share of agriculture as the primary sector divided by the total which is a measure of the importance of agriculture in the economy. It also reflects the level of industrialization of the economy. The relationship between share of agriculture and income inequality demonstrates the contribution of industrialization to income inequality. Foreign Direct Investment (FDI) describes the level of market openness. At the provincial level, a region with higher FDI tends to develop faster than regions with lower FDI. Thus, adding this variable can not only reveal overall income inequality but also help explain regional disparities reflected by the differential levels of FDI.

Table 2 indicates that regions with high rates of urbanization are more likely to have a high GDP per capita, a high FDI and a low share of agriculture.

For the second part of our study, we use data for a longer period covering the period 1987 to 2005 and six representative provinces for different regions in China to examine the dynamics between urbanization and rural–urban income inequality.

To compare income levels between rural and urban areas, we use per capita disposable annual income of urban households in regions and per capita annual net income of rural households.[2] An intuitive approach is to use a measure of relative nominal wage rate—net income per capita of rural households relative to disposable income of urban households.

Figure 3 shows nominal relative wage for all the provinces during 1987–2005. It is obvious that nominal relative wages in most rural provinces are decreasing. This phenomenon indicates that the income gap between urban and rural areas has been increasing leading to increased between rural–urban inequality.

Figure 4 shows the trends in relative wage at the national level during the period 1985–1994. The figure shows a sharp decline from over 0.45 to around 0.35, while during 1994–1997, the level of nominal relative wage rose from 0.35 to 0.4. After 1997, it has decreased from 0.4 to about 0.3. The fluctuation in the nominal relative wage indicates that the income gap between rural and urban households has widened over the study period.

For the purpose of our econometric analysis, we compute Gini coefficient to measure rural–urban income inequality by applying Eq. (1). If there are two groups—rural with population n_1 and urban with population n_2, and if r is the relative wage rate, the Gini coefficient can be calculated by the following equation derived using:

$$G = [1/(rn_1 + n_2) - 1] \times n_2 \quad (3)$$

Estimates of rural–urban inequality are shown in “Appendix 2”. We make use of this panel of inequality estimates in our empirical analysis.

4 Methodology

In this section, we establish and clarify the Robinson (1976) model on the relationship between inequality and urbanization and use it as a basis to develop a panel regression model to examine the relationship between inequality and urbanization in the presence of other covariates accounting for unobserved heterogeneity across provinces and overtime.

2 Disposable income of urban households refers to the actual income at the disposal of members of the households which can be used for final consumption, other non-compulsory expenditure and savings. Net income of rural households refers to the total income of rural households from all sources minus all corresponding expenses which is mainly used as input for reinvestment in production, consumption, saving and non-compulsory expenses of various forms (NBS 2013).

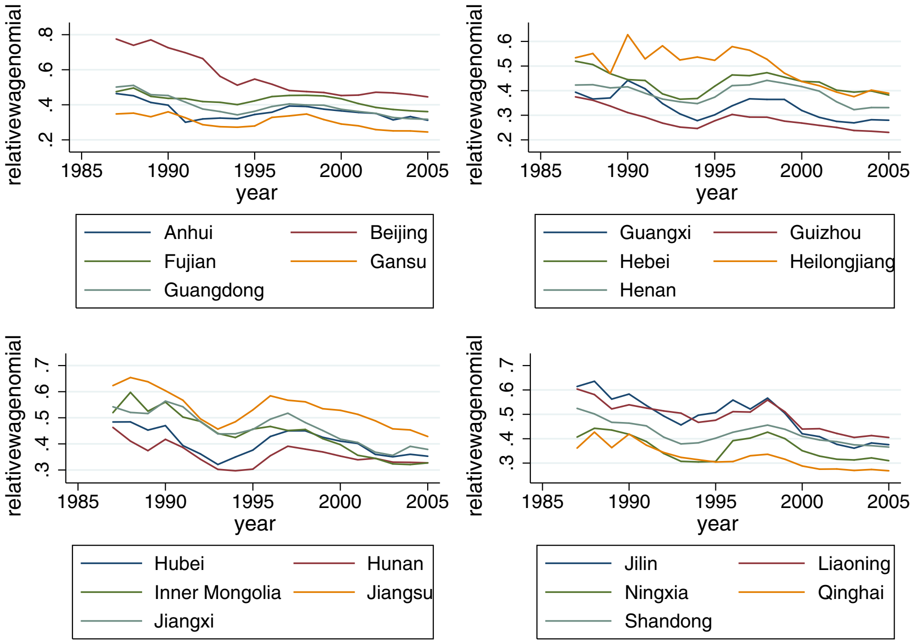

Fig. 3 Nominal relative wages by each province from 1987 to 2005. *Source*: Chinese Statistical Yearbooks (NBS 2013). *Note* Nominal relative wage is the ratio of net income per capita of rural household relative to disposable income of urban households

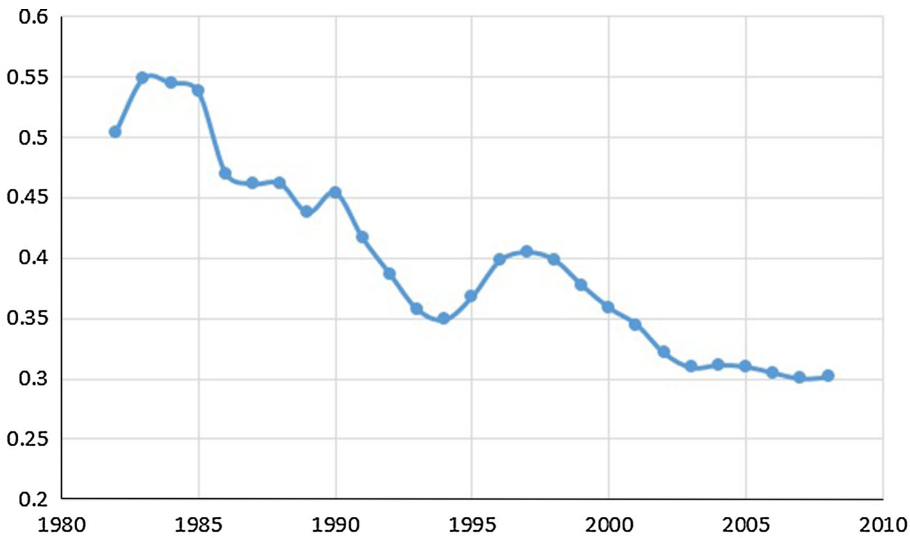

Fig. 4 Nominal relative wages in China from 1987 to 2006 *Sources*: Per capita annual net income of rural households and per capita annual disposable income of urban households are collected from China Statistical Yearbook 2012; the relative wages are calculated by the Author

4.1 Robinson Model

Based on the Kuznets Hypothesis, Robinson (1976) studies income inequality under the framework of a dual economy. The Robinson model assumes that the economy can be divided into two sectors identified as 1 and 2 with different income distributions. Then, the overall income inequality measured by the overall log variance is given by:

$$\sigma^2 = W_1\sigma_1^2 + W_2\sigma_2^2 + W_1(Y_1 - Y)^2 + W_2(Y_2 - Y)^2 \tag{4}$$

where Y_1 and Y_2 and σ_1^2 and σ_2^2 are the log mean and the log variance of incomes in two sectors respectively and W_1 and W_2 are the population shares of the two sectors.

$$Y = W_1Y_1 + W_2Y_2 \tag{5}$$

and

$$W_1 + W_2 = 1(W_1, W_2 \geq 0) \tag{6}$$

Then substituting Eqs. (5) and (6) into Eq. (4), one can get:

$$\sigma^2 = AW_1^2 + BW_1 + C \tag{7}$$

where

$$\begin{aligned} A &= -(Y_1 - Y_2)^2 \\ B &= \left(\sigma_1^2 - \sigma_2^2\right) + (Y_1 - Y_2)^2 \\ C &= \sigma_2^2 \end{aligned}$$

Under the assumption of differential income levels in rural and urban sectors and the signs of A, B and C, Eq. (7) shows an inverted U-shaped relationship between income inequality as measured by log-variance and the population shares in the urban sector. The maximum value of σ^2 occurs when $W_1 = -B/2A = (\sigma_1^2 - \sigma_2^2)/2(Y_1 - Y_2)^2 + \frac{1}{2}$, which means that the maximum value of overall income inequality depends on the population shares of the two sectors. Moreover, this population share is close to 0.5, when the rural–urban income inequality is relatively large and the difference between urban inequality and rural inequality is relatively small as measured by $\sigma_1^2 - \sigma_2^2$. Robinson's study also suggests that the U-shaped relation is flat around $W_1 = 0.5$, which indicates that changes in W_1 from 0.4 to 0.6 will have negligible effect on inequality (Robinson 1976). Thus, Robinson concludes that under the assumption of a dual economy, income inequality will increase or stay unchanged for a relatively long period during the process of urbanization. This conclusion might be useful to explain why many developing countries have suffered high income inequality for a long time.

4.2 Specification of the Regression Model

For testing the Robinson model, we establish the following regression model:

$$G(Y) = Af(u, u_2, lngdp, agri, lnfdi) + \varepsilon \tag{8}$$

where $G(Y)$ is a measure of income inequality; u denotes urbanization rate; $lngdp$ is the natural logarithm of GDP per capita; $agri$ is the share of agriculture sector to total GDP;

and *lnfdi* is the natural logarithm of Foreign Direct Investment and ε is a random disturbance term.

More specifically, since we use panel data, we transform Eq. (8) into a panel equation which is linear in parameters:

$$G_{it} = \alpha + \beta_1 u_{it} + \beta_2 u_{it}^2 + \beta_3 lngdp_{it} + \beta_4 lnfdi_{it} + \beta_5 agri_{it} + v_{it} \quad (9)$$

where G_{it} is the Gini coefficient for province i in year t; u_{it}^2 is the square of urbanization rate and v_{it} contains the unobserved variables. A threshold level exists when $\beta_2 < 0$, $\beta_1 > 0$ and $\frac{-\beta_1}{2\beta_2}$ is in the range (0, 1).

There could be two different kinds of unobserved variables—the variables that do not vary across time and the variables that vary across time. Thus, v_{it} can be written as $v_{it} = \mu_i + \omega_{it}$ where μ_i are unobserved provincial effects and ω_{it} includes other unobserved variables. The estimation strategy depends on whether the unobserved provincial effects relate to the Gini coefficient. If they do, we need to examine the relationship between the unobserved provincial effects and the independent variable. Thus, we have three models to examine: the simple pooled regression model, fixed effects model and random effects model. We compare results from these three models.

To distinguish whether fixed effect model or random effect model is more appropriate, we use the Hausman test. This specification test, devised by Hausman (1978), is able to test for orthogonality of the common effects or controls and the regressors (Greene 2012), which is a useful device for determining whether the random effects model is better than the fixed effects model or not. The test statistic is given by:

$$H = \left(b_{FE} - \hat{\beta}_{RE}\right)'\left[V_{FE} - V_{RE}\right]^{-1}\left(b_{FE} - \hat{\beta}_{RE}\right) \sim \chi^2(h) \quad (10)$$

where b_{FE} and $\hat{\beta}_{RE}$ are the estimated coefficient vector from the fixed effects and the random effects results respectively, while V_{FE} and V_{RE} are the estimated asymptotic covariance matrix from the fixed effects results and the random effects results respectively.

To test whether OLS or random effect model is more appropriate, we use LM test(-Breusch and Pagan 1980) to test the null hypothesis $\mu_i = 0$. If we reject the null hypothesis, we can conclude that random effect model is more appropriate than OLS.

To test whether other variables such as *lngdp*, *lnfdi* and *agri* have relationships with Gini coefficient, we can test significance of the variables separately and also jointly test $H_0 : \beta_3 = \beta_4 = \beta_5 = 0$. If the null hypothesis is not rejected, we can ignore the effect of these variables on the inequality as measured by the Gini coefficients.

5 Empirical Results

In this section we report results from our empirical analysis and examine its implication through the Robinson model.

5.1 Panel Data Analysis of Inequality and Urbanization Using Gini Measures

The results from panel data analysis are shown in Table 3. We run the regression using not only OLS and random effects model but also fixed effects model. The LM test suggests that OLS is more appropriate and the Hausman test reject the null hypothesis concluding that the Fixed effect is more appropriate. Notice that the other three variables—*lngdp*, *lnfdi* and *agri* are not

Table 3 The effect of urbanization on income inequality measured by Gini coefficients

	(1) OLS	(2) FE	(3) RE
u	0.2895*	0.0108	0.2847*
	(0.1301)	(0.1632)	(0.1315)
u2	−0.3248**	0.1635	−0.3089**
	(0.0959)	(0.1880)	(0.0971)
lngdp	0.0094	−0.0251	0.0098
	(0.0079)	(0.0120)	(0.0083)
lnfdi	−0.0006	0.0006	−0.0011
	(0.0033)	(0.0073)	(0.0034)
agri	−0.0776	−0.7012***	−0.0890
	(0.1296)	(0.1677)	(0.1418)
_cons	0.1415	0.5587**	0.1428
	(0.0928)	(0.1455)	(0.1028)
N	100.0000	100.0000	100.0000
r2	0.1696	0.4072	
r2_o		0.0162	0.1653
r2_b		0.0159	0.1144
r2_w		0.4072	0.1961
sigma_u		0.0706	0.0107
sigma_e		0.0304	0.0304
rho		0.8432	0.1104
LM test for v_i = 0			Not reject
Hausman test			Reject

OLS is the pooled regression; FE and RE are fixed and random effects model respectively. Robust standard errors are presented in parentheses

Standard errors in parentheses
* $p<0.05$”; ** $p<0.01$; *** $p<0.001$

significant in OLS and random effect model, we did a joint F-test for the significance and we do not reject and conclude that these three variables can be omitted. Thus, we dropped these three variables and estimate the regression model again. The results are shown in Table 4.

It is obvious that OLS and random effect model generate similar results, however, the result from FE model is very different from other two. The urbanization rate is neither significant nor consistent with the inverted-U relationship with *gini*. This bias may come from the large sample of provinces (20 provinces) with only 5 available years. Another explanation is that the inverted-U relationship between urbanization rate and Gini is determined by the unobservable fixed effects. Once the unobservable fixed effects are removed by the fixed effect model, we cannot observe this inverted-U relationship. In Table 4, we list the result from the between model [the column (4)]. The regressors are still significant and the inverted-U relationship remains unchanged in this model.

Figure 5 shows the relationship between Gini and urbanization rate.The scatter points are from the real sample and the inverted-u curve is the fitted value from the OLS model. Based on the Robinson Model and Eq. (7) and the estimated coefficient of u and u^2, the maximum value of Gini occurs when $W_1 = -B/2A = 0.5352$.[3] Therefore, the Gini coefficient and inequality are peaked at 53.52 % urbanization rate according to the OLS model. The urbanization rates derived using the RE and BE models are respectively 54.74 and 48.13 %.

[3] $W_1 = -\frac{B}{2A} = -\frac{0.3711}{2\times -0.3467} = 0.5352.$

Table 4 The effect of urbanization on income inequality measured by Gini coefficients

	(1) OLS	(2) FE	(3) RE	(4) BE
u	0.3711**	0.2379	0.3753***	0.2992*
	(0.1011)	(0.1210)	(0.0988)	(0.1379)
u2	−0.3467**	−0.0185	−0.3428***	−0.3108*
	(0.0912)	(0.1511)	(0.0896)	(0.1335)
_cons	0.1811***	0.1670***	0.1784***	0.2041***
	(0.0248)	(0.0215)	(0.0243)	(0.0312)
N	100	100	100	100
r2	0.1472	0.2965		0.2610
r2_o		0.0264	0.1460	0.1162
r2_b		0.0232	0.1442	0.2610
r2_w		0.2965	0.1634	0.0781
sigma_u		0.0432	0.0080	
sigma_e		0.0325	0.0325	
rho		0.6379	0.0573	
Hausman test				Reject

BE between effect model

Standard errors in parentheses

* $p<0.05$; ** $p<0.01$; *** $p<0.001$

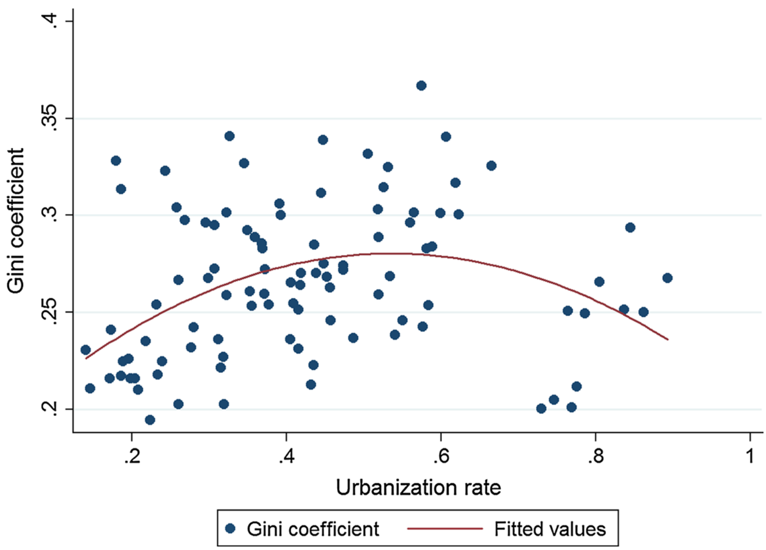

Fig. 5 The observed and fitted relationship between Gini coefficient and Urbanization rate

5.2 Effect of Urbanization and Rural–Urban Income Differential on Provincial Inequality

In this section, we report results on the role of urbanization and wage relatives in rural and urban areas in different provinces on provincial inequality. While the analysis can be conducted for all the provinces, results are presented for six selected provinces Guangdong, Yunnan, Henan, Sichuan, Beijing and Inner Mongolia. These provinces are selected so as to provide a broad cross-section of provinces from the Eastern and Western China. In these six provinces, Guangdong Province is a coastal province; Beijing is the capital city; Sichuan Province is located in west China. Yunnan and Inner Mongolia are located in the south and north of China respectively, and Henan Province is in the middle of China. Thus, they can be recognized as representative of different region in China.

Table 5 presents the basic macroeconomic indicators for these six provinces. It is clear that Guangdong, Beijing and Inner Mongolia have relatively high GDP per capita. Besides, these three rich provinces also have higher FDI, inflow of immigrants (except Inner Mongolia) and lower share of agriculture than the other three provinces.

In Table 5, migration effectiveness is calculated by the difference between out-migration and in-migration divided by the sum of out-migration and in-migration in one province. These data are collected from 2005 1% Population Census (NBS 2005). Residents who hold Hukou from other provinces are counted as the in-migration population while local Hukou holders who are not in their original provinces are counted as out-migration population. The migration effectiveness with the range from −100 to 100 % can clearly show labour mobility in any one particular province. If migration effectiveness is negative, labour flows into the province; while if it is positive, labour flows out of the province. Besides, if the value is close to zero, it indicates that the population gap between in-migration and out-migration is small, while if the value is close to 1 or −1, the population gap between in-migration and out-migration is large. In Table 5, the migration effectiveness of Guangdong Province is closest to −1. According to the 2005 1 % National population sample survey, the number of immigrants in China totalled 66,181,000 and 21,599,500 of them (which is 32.6 %) chose to migrate to Guangzhou province .

In order to examine the role of urbanization we compute Gini coefficients for each province for the period 1987–2005. In particular, we compute, for each province, these sets of inequality measures. The first denoted by *gini* is the rural–urban Gini measure of inequality. Then we compute the Gini measure of rural-urabn inequality denoted by $gini_u$, by keeping the urbanization rates fixed at the levels observed in 1987. Finally, we compute the Gini measure by keeping the rural–urban relative wage fixed at 1987 levels. This is denoted by $gini_w$. Table 6 is the result of the computation.

Compared to the poor provinces (Sichuan, Yunnan and Henan), the rich provinces (Beijing, Guangzhou and Inner Mongolia) have lower rural–urban Gini coefficients and $gini_u$ is much bigger than $gini_w$, which indicates that the rural–urban Gini coefficients is mostly due to the increasing gap between rural and urban wage. While in poorer provinces, changes in urbanization rates also play a significant role on the increase of rural–urban Gini coefficient. In Sichuan and Henan, $gini_w$ is even bigger than $gini_u$ in 2005. Notice that in these two provinces, the net outflow of the immigrants is much larger compared to other provinces, which indicates that net outflow of the immigrants may have positive relationship on the rural–urban income inequality when the relative nominal wage is kept fixed.

Besides, as a city, the rural–urban Gini coefficients are much smaller in Beijing compared to other provinces, while Yunnan province with the lowest GDP per capita and FDI among six provinces also has the highest rural–urban income inequality. It suggests that well-developed regions tend to have lower rural–urban income inequality (Fig. 6).

Table 5 The basic condition of six provinces in China in 2005

Province	GDP per capita	FDI	Migration effectiveness	Agrishare
Guangdong	24,435	123,639,1	−0.9498	0.0639
Yunnan	7835	17,352	−0.1071	0.1929
Henan	11,346	122,960	0.8842	0.1787
Sichuan	9060	88686	0.8427	0.2006
Beijing	45,444	352,638	−0.9159	0.0142
Inner Mongolia	16,331	140,007	−0.0261	0.1513
Average(All provinces)	16,833.39	310,198.6	0	0.1313

Source: GDP per capita, FDI and share of agriculture presented by Agrishare are collected from National Statistical Yearbook 2006; data related to migration is collected from 2005 National Census

6 Conclusion

The main objective of the paper is to conduct an investigation into the relationship between inequality and urbanization. Based on a carefully constructed panel data set, our empirical results show that income inequality and urbanization rate have an inverted U-shaped relationship at the provincial level and based on these results, overall income inequality attains maximum around 53 % as the threshold point in 2008. According to Robinson (1976), as long as urbanization rate is in the range of 0.4–0.6, income inequality will remain high. Thus, it is necessary to keep urbanization and industrialization growing over the next several years so that the threshold of 60 % is achieved.

Furthermore, the empirical analysis based on provincial and rural–urban income inequality shows that the rural–urban income inequality is influenced by two factors: the internal migration across provinces and the wage gap between rural and urban areas. This raises questions as to what extent and how these two effects contribute to between rural–urban income inequality. In our analysis, we use the data from six provinces and find that in richer provinces, the wage effects contribute more to rural–urban income inequality than the migration effect; while in poorer provinces, the migration effect contribute more.

In conclusion, this paper finds that inequality has increased since 1987 and may have plateaued or reached maximum when urbanization rate is around 53 %. Urbanization and rural–urban wage relativities appear to be major determinants of inequality. This is consistent with most dual sector models. Moreover, time series data on inequality for the whole China has shown an inverted-U relationship with urbanization, which is consistent with the Robinson (1976) model. The OLS and random effects panel models show a robust inverse-U relationship between inequality and urbanization. Based on the inverted-U relationship and Robinson model, a threshold level for urbanization which is around 0.5 is identified and on this basis, provinces with higher level of urbanization are likely to experience a reduction in inequality.

Our empirical analysis has been severely limited by the availability of data at the provincial level. Consequently, we observe that despite the importance attached to inequality and poverty, availability of comparable data covering rural and urban regions and for provinces is limited. The NBS must channel efforts into regular compilation and dissemination of inequality data. We hope that increased availability of a panel of Gini measures in the future would facilitate a more in depth and rigorous econometric investigation.

Table 6 Three alternative rural–urban inequality measures

Year	Sichuan			Beijing			Inner Mongolia			Guangdong			Yunnan			Henan		
	gini	$gini_u$	$gini_w$	*gini*	$gini_u$	$gini_w$	*gini*	$gini_u$	$gini_w$	*gini*	$gini_u$	$gini_w$	*gini*	$gini_u$	$gini_w$	*gini*	$gini_u$	$gini_w$
1987	0.1585	0.1585	0.1585	0.0587	0.0587	0.0587	0.151	0.151	0.151	0.1407	0.1407	0.1407	0.1496	0.1496	0.1496	0.1452	0.1452	0.1452
1988	0.1552	0.1545	0.1593	0.0688	0.0691	0.0584	0.1181	0.117	0.1523	0.1391	0.1364	0.1435	0.1502	0.1489	0.1509	0.1454	0.1445	0.1461
1989	0.1733	0.1718	0.16	0.0594	0.0601	0.058	0.1505	0.1484	0.1531	0.1669	0.162	0.1453	0.1527	0.1508	0.1514	0.1528	0.1511	0.1469
1990	0.1686	0.1671	0.16	0.0576	0.0732	0.0466	0.1347	0.1326	0.1533	0.1697	0.1645	0.1454	0.1593	0.1561	0.1527	0.1513	0.1488	0.1477
1991	0.1848	0.1823	0.1608	0.0635	0.0819	0.0461	0.1619	0.1592	0.1536	0.1929	0.1852	0.1473	0.1726	0.168	0.1538	0.1675	0.1627	0.1497
1992	0.2093	0.2025	0.1643	0.0702	0.0923	0.0455	0.1705	0.1676	0.1539	0.2211	0.2094	0.1504	0.1993	0.1921	0.1556	0.1835	0.1762	0.1516
1993	0.2349	0.2244	0.167	0.0928	0.1257	0.045	0.1962	0.1923	0.1547	0.2369	0.2191	0.1556	0.2387	0.2271	0.1584	0.193	0.1832	0.1535
1994	0.2423	0.2268	0.1711	0.1036	0.1438	0.0444	0.206	0.2015	0.1554	0.2545	0.2324	0.1597	0.2634	0.2476	0.1611	0.1998	0.1877	0.1554
1995	0.244	0.2249	0.1741	0.0939	0.1313	0.0438	0.1882	0.1831	0.1559	0.2415	0.2182	0.1608	0.252	0.2334	0.1636	0.1854	0.1718	0.1574
1996	0.2157	0.1949	0.1769	0.0993	0.1418	0.0432	0.1833	0.1777	0.1565	0.2244	0.2004	0.1619	0.2569	0.2351	0.1661	0.165	0.1464	0.1637
1997	0.1984	0.1799	0.1756	0.1062	0.155	0.0427	0.1923	0.1862	0.157	0.2159	0.1913	0.1626	0.2603	0.2346	0.1691	0.1693	0.1449	0.1696
1998	0.2109	0.1824	0.1848	0.1061	0.1572	0.0421	0.1906	0.1839	0.1576	0.2199	0.195	0.1629	0.281	0.2519	0.1711	0.1648	0.1362	0.1751
1999	0.2216	0.1904	0.1865	0.1057	0.1593	0.0416	0.2112	0.2042	0.158	0.2209	0.1958	0.163	0.2832	0.2488	0.1753	0.1761	0.1418	0.1801
2000	0.2701	0.1996	0.2235	0.1086	0.1659	0.0412	0.2256	0.2179	0.1591	0.2155	0.2105	0.1591	0.3323	0.2477	0.2191	0.1883	0.1483	0.1847
2001	0.2797	0.2072	0.2253	0.1059	0.1649	0.0405	0.2521	0.245	0.1596	0.2172	0.2188	0.1566	0.346	0.256	0.2245	0.2037	0.1578	0.189
2002	0.2768	0.2026	0.2279	0.1004	0.1587	0.0398	0.2601	0.2533	0.16	0.2192	0.2262	0.1548	0.3526	0.2596	0.2281	0.237	0.1831	0.1932
2003	0.2792	0.2041	0.2292	0.0992	0.1601	0.039	0.2749	0.2691	0.1605	0.2267	0.2436	0.1527	0.3541	0.2597	0.2298	0.2645	0.2044	0.1971
2004	0.2668	0.1916	0.2303	0.0991	0.1637	0.0383	0.2763	0.271	0.1613	0.2256	0.2491	0.1504	0.3693	0.2728	0.2337	0.2619	0.1984	0.2011
2005	0.2667	0.1919	0.2313	0.0836	0.1688	0.0319	0.271	0.2662	0.1619	0.2225	0.2513	0.148	0.36	0.2615	0.2367	0.2652	0.1986	0.2046

Gini is the rural–urban gini coefficient, $gini_u$ stands for gini coefficient keeping the urbanization rate fixed to 1987 and $gini_w$ stands for gini coefficient keeping the rural and urban wage fixed to 1987. Gini coefficients are computed using Eq. (3) and data on rural–urban wage rates and rates of urbanization obtained from provincial statistics yearbooks

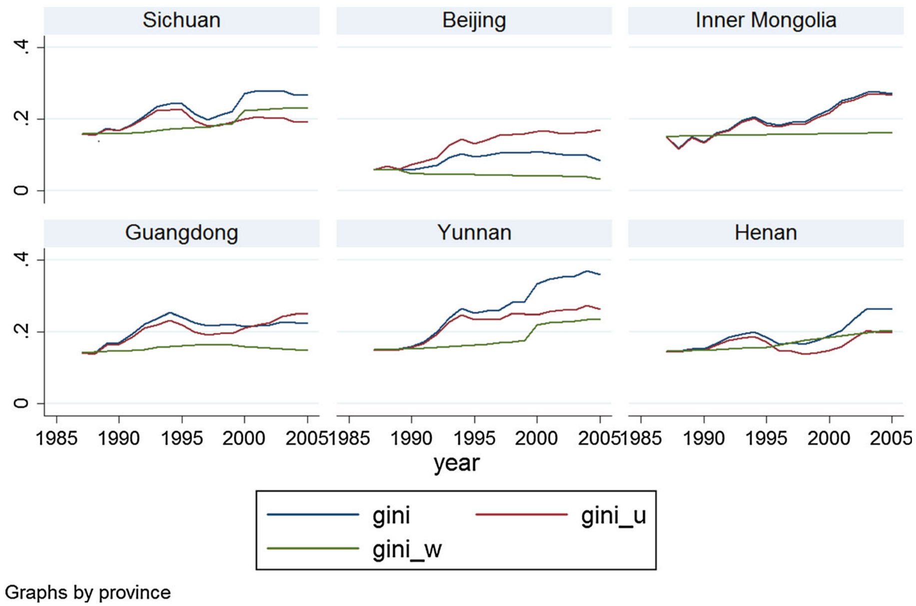

Fig. 6 Urban–rural Gini coefficients and its decomposition in six provinces. *Source*: Calculated by the authors. *Note gini* is the rural–urban gini coefficient, $gini_u$ stands for gini coefficient keeping the urbanization rate fixed to 1987 and $gini_w$ stands for gini coefficient keeping the rural and urban wage fixed to 1987. Gini coefficients are computed using Eq. (3) and data on rural–urban wage rates and rates of urbanization obtained from provincial statistics yearbooks

Appendix 1

See Table 7.

Table 7 Basic inequality data for urban households in China (a) 1998, (b) 2000, (c) 2002, (d) 2005 and (e) 2010

Province	Lowest	Lower	Middle	Higher	Highest	Quintile ratio	Gini
a							
Anhui	2757	3755	4628	5617	7794	2.8263	0.1944
Beijing	4973	6623	7959	9651	14,409	2.8978	0.2009
Fujian	3591	4956	6011	7377	11,362	3.1646	0.2158
Guangdong	4458	6514	8243	10,448	15,954	3.5788	0.2361
Guangxi	2873	4141	5169	6472	9245	3.2175	0.2161
Guizhou	2375	3433	4381	5494	8246	3.4721	0.2307
Hebei	2783	3878	4771	5920	8893	3.1959	0.2174
Heilongjiang	2296	3380	4402	5492	8377	3.6484	0.2384
Henan	2275	3273	4038	5018	7100	3.1213	0.21
Hubei	2647	3800	4692	5755	7971	3.0112	0.2027
Jiangsu	3240	4534	5578	7152	10,524	3.2481	0.2216
Jiangxi	2447	3342	4032	4907	7230	2.9546	0.2028

Table 7 continued

Province	Lowest	Lower	Middle	Higher	Highest	Quintile ratio	Gini
Jilin	2257	3250	4041	4985	7157	3.1712	0.2127
Shaanxi	1980	3233	4122	5026	7514	3.7949	0.2352
Shanghai	4887	6740	8132	9997	14,289	2.9239	0.2003
Sichuan	2669	3858	4857	6108	8986	3.3672	0.2248
Tianjin	3488	5150	6667	8400	12,997	3.7266	0.2427
Xinjiang	2612	4350	5689	7162	11,375	4.3559	0.2609
Yunnan	3166	4718	5873	7287	10,083	3.1849	0.2108
Zhejiang	4250	5873	7353	9136	13,423	3.1587	0.2159
b							
Anhui	2589	3885	5055	6495	9668	3.7335	0.2422
Beijing	5775	7916	9624	11,861	17,831	3.0878	0.2117
Fujian	3757	5502	7130	8990	13,153	3.5013	0.2313
Guangdong	4776	7127	8990	11,609	18,074	3.7841	0.2458
Guangxi	3882	5826	7575	8883	14,652	3.7741	0.241
Guizhou	2526	3952	5049	6237	8866	3.5101	0.2248
Hebei	2961	4340	5433	6824	10,094	3.4094	0.226
Heilongjiang	2321	3459	4597	5985	9404	4.0522	0.2592
Henan	2210	3447	4524	5848	8941	4.045	0.2541
Hubei	2766	4097	5160	6516	9975	3.6064	0.2362
Jiangsu	3307	4930	6350	8230	12,870	3.8912	0.2514
Jiangxi	2639	3822	4798	6110	9194	3.4838	0.2319
Jilin	2454	3688	4687	5859	8341	3.3982	0.2228
Shaanxi	2465	3701	4707	6042	10,012	4.0622	0.259
Shanghai	6888	8815	10,529	12,892	19,992	2.9023	0.2049
Sichuan	2549	4113	5531	7193	11,259	4.4172	0.2676
Tianjin	3922	5681	7494	9630	15,275	3.8944	0.2538
Xinjiang	2612	4350	5689	7162	11,375	4.3559	0.2609
Yunnan	3287	4864	6115	7582	10,823	3.2923	0.2178
Zhejiang	4539	6801	8650	10,959	16,510	3.6378	0.2368
c							
Anhui	2574	4169	5583	7500	13,007	5.0535	0.2948
Beijing	6058	8941	11,316	14,211	23,349	3.8546	0.2496
Fujian	3804	5989	7908	10,310	16,777	4.4101	0.2703
Guangdong	3664	6197	8713	12,857	27,218	7.429	0.3667
Guangxi	2643	4666	6453	8676	16,671	6.3085	0.328
Guizhou	2070	3827	5283	6991	13,123	6.3382	0.323
Hebei	3146	4596	5779	7266	10,758	3.4199	0.2269
Heilongjiang	2339	3713	5196	7295	12,908	5.519	0.3144
Henan	2677	4433	6057	8027	14,405	5.3811	0.3039
Hubei	2599	4484	6113	8011	14,066	5.4119	0.3001
Jiangsu	2820	4977	6939	9647	18,763	6.6541	0.3389
Jiangxi	2630	4261	5608	7406	13,727	5.219	0.3014
Jilin	2190	4065	5613	7493	13,128	5.9955	0.3116

Table 7 continued

Province	Lowest	Lower	Middle	Higher	Highest	Quintile ratio	Gini
Shaanxi	2154	3797	5097	6778	13,422	6.2305	0.3266
Shanghai	6683	9294	11,629	14,488	25,185	3.7687	0.2509
Sichuan	2070	4106	5737	7915	14,991	7.2413	0.3406
Tianjin	4045	6317	8327	10,863	19,000	4.6966	0.2839
Xinjiang	2784	5416	7256	9365	15,282	5.4883	0.2887
Yunnan	3031	5085	6732	8544	13,657	4.5055	0.2668
Zhejiang	2784	5416	7256	9365	15,282	5.4883	0.2887
d							
Anhui	4228	6421	8343	10,654	16,830	3.9807	0.2534
Beijing	8581	12,485	16,063	20,813	32,968	3.842	0.2512
Fujian	5275	7938	10,275	13,486	22,817	4.3258	0.2718
Guangdong	5176	8350	12,084	17,542	33,000	6.3755	0.3406
Guangxi	3552	5989	8614	12,121	20,302	5.7153	0.3134
Guizhou	3063	5311	7356	10,022	16,366	5.3429	0.2974
Hebei	4136	6588	8254	10,501	16,909	4.0887	0.254
Heilongjiang	3097	5209	7314	10,298	18,654	6.0243	0.3249
Henan	3855	6321	8449	10,940	17,606	4.5671	0.2724
Hubei	3967	6332	8153	10,623	16,249	4.096	0.2546
Jiangsu	4267	7260	10,295	14,401	26,841	6.2902	0.3317
Jiangxi	4116	6271	8116	10,568	16,879	4.1012	0.2596
Jilin	3972	6397	8256	10,793	17,522	4.4112	0.2684
Shaanxi	3408	5452	6997	8973	15,311	4.4933	0.2723
Shanghai	7851	11,800	15,668	21,313	37,722	4.8047	0.2936
Sichuan	3231	5622	7767	10,422	18,088	5.5979	0.3059
Tianjin	5088	8112	10,890	14,901	26,271	5.1635	0.3013
Xinjiang	3009	5620	7653	10,070	15,633	5.1957	0.2829
Yunnan	3341	5981	8478	11,433	18,158	5.4358	0.2962
Zhejiang	6279	10,212	13,978	18,989	32,075	5.1083	0.2962
e							
Anhui	7652	11,895	15,367	20,011	34,244	4.4755	0.275
Beijing	13,692	20,842	25,990	32,595	53,739	3.9248	0.2502
Fujian	9804	14,614	19,049	24,943	44,605	4.5499	0.2829
Guangdong	8610	14,536	21,158	30,057	52,417	6.0876	0.3254
Guangxi	7573	11,713	15,564	20,284	32,063	4.2341	0.264
Guizhou	5587	9748	13,558	18,147	29,263	5.2374	0.2923
Hebei	7389	11,950	15,390	19,489	31,903	4.3176	0.2627
Heilongjiang	5659	9650	12,907	16,899	30,555	5.3996	0.3015
Henan	7024	11,575	15,428	20,010	31,036	4.4186	0.2655
Hubei	6645	10,578	13,856	18,576	34,544	5.1987	0.3031
Jiangsu	8677	14,149	19,246	26,141	49,112	5.6602	0.3166
Jiangxi	7552	11,595	15,164	19,100	29,175	3.8632	0.2458
Jilin	6969	11,554	15,160	19,956	31,299	4.4911	0.2687
Shaanxi	6263	10,521	13,853	17,935	29,230	4.6668	0.2743

Table 7 continued

Province	Lowest	Lower	Middle	Higher	Highest	Quintile ratio	Gini
Shanghai	14,996	21,780	27,484	35,120	62,465	4.1654	0.2676
Sichuan	6967	11,253	14,918	19,730	31,077	4.4606	0.2702
Tianjin	10,983	16,747	21,704	28,311	46,432	4.2274	0.2656
Xinjiang	5541	9931	13,593	17,728	28,410	5.1273	0.2847
Yunnan	6625	11,148	15,121	20,139	32,765	4.9454	0.2857
Zhejiang	10,850	17,259	22,955	30,694	55,829	5.1455	0.3006

Source: Provincial Yearbooks (NBS 2012)

Columns (2)–(6) show the average household income in the quintile groups; Quintile ratio in column (7) = column (6) ÷ column(2). Gini coefficient in the last column is computed using Eq. (2)

Appendix 2

See Table 8.

Table 8 Rural–urban Gini coefficients by provinces from 1987–2005

Year	Province	Gini	Gini_u	Gini_w	Province	Gini	Gine_u	Gini_w
1987	Anhui	0.137	0.137	0.137	Jiangxi	0.1156	0.1156	0.1156
1988	Anhui	0.1444	0.1428	0.1386	Jiangxi	0.1249	0.1244	0.116
1989	Anhui	0.1658	0.1623	0.1401	Jiangxi	0.127	0.1262	0.1164
1990	Anhui	0.1751	0.1708	0.1408	Jiangxi	0.1083	0.1071	0.1168
1991	Anhui	0.242	0.2366	0.1409	Jiangxi	0.1192	0.1155	0.1193
1992	Anhui	0.2286	0.2218	0.142	Jiangxi	0.1471	0.1402	0.1217
1993	Anhui	0.2266	0.2182	0.1433	Jiangxi	0.1737	0.1632	0.1239
1994	Anhui	0.2313	0.221	0.1447	Jiangxi	0.1761	0.163	0.1261
1995	Anhui	0.2154	0.2038	0.1461	Jiangxi	0.169	0.1545	0.1277
1996	Anhui	0.2196	0.1952	0.1569	Jiangxi	0.1514	0.1358	0.1297
1997	Anhui	0.1977	0.1735	0.1581	Jiangxi	0.1426	0.1257	0.1316
1998	Anhui	0.2007	0.175	0.1592	Jiangxi	0.1619	0.1417	0.1334
1999	Anhui	0.2236	0.1842	0.1708	Jiangxi	0.18	0.1566	0.1351
2000	Anhui	0.2355	0.1902	0.1759	Jiangxi	0.201	0.174	0.1371
2001	Anhui	0.2447	0.1961	0.1787	Jiangxi	0.2147	0.1815	0.1422
2002	Anhui	0.2509	0.1996	0.1813	Jiangxi	0.2411	0.2043	0.145
2003	Anhui	0.2799	0.226	0.1834	Jiangxi	0.2513	0.2125	0.1473
2004	Anhui	0.2672	0.2122	0.1855	Jiangxi	0.23	0.1903	0.1489
2005	Anhui	0.2834	0.2277	0.1875	Jiangxi	0.2379	0.1976	0.1501
1987	Beijing	0.0587	0.0587	0.0587	Jilin	0.1194	0.1194	0.1194
1988	Beijing	0.0688	0.0691	0.0584	Jilin	0.1112	0.1107	0.1198
1989	Beijing	0.0594	0.0601	0.058	Jilin	0.1419	0.1414	0.12
1990	Beijing	0.0576	0.0732	0.0466	Jilin	0.133	0.1323	0.12
1991	Beijing	0.0635	0.0819	0.0461	Jilin	0.1539	0.1532	0.1202
1992	Beijing	0.0702	0.0923	0.0455	Jilin	0.1747	0.174	0.1204
1993	Beijing	0.0928	0.1257	0.045	Jilin	0.1935	0.1931	0.1208

Table 8 continued

Year	Province	Gini	Gini_u	Gini_w	Province	Gini	Gine_u	Gini_w
1994	Beijing	0.1036	0.1438	0.0444	Jilin	0.1733	0.1724	0.121
1995	Beijing	0.0939	0.1313	0.0438	Jilin	0.1682	0.1672	0.1211
1996	Beijing	0.0993	0.1418	0.0432	Jilin	0.1446	0.1431	0.1211
1997	Beijing	0.1062	0.155	0.0427	Jilin	0.1612	0.1601	0.1212
1998	Beijing	0.1061	0.1572	0.0421	Jilin	0.1411	0.1395	0.1212
1999	Beijing	0.1057	0.1593	0.0416	Jilin	0.1691	0.1684	0.1212
2000	Beijing	0.1086	0.1659	0.0412	Jilin	0.2118	0.2131	0.1212
2001	Beijing	0.1059	0.1649	0.0405	Jilin	0.2181	0.22	0.1213
2002	Beijing	0.1004	0.1587	0.0398	Jilin	0.2352	0.2391	0.1212
2003	Beijing	0.0992	0.1601	0.039	Jilin	0.2438	0.2492	0.1212
2004	Beijing	0.0991	0.1637	0.0383	Jilin	0.2311	0.2356	0.1212
2005	Beijing	0.0836	0.1688	0.0319	Jilin	0.2351	0.24	0.1212
1987	Fujian	0.1295	0.1295	0.1295	Liaoning	0.1251	0.1251	0.1251
1988	Fujian	0.1211	0.1206	0.13	Liaoning	0.1348	0.1346	0.1252
1989	Fujian	0.1436	0.1418	0.1312	Liaoning	0.161	0.1609	0.1253
1990	Fujian	0.1475	0.1473	0.1297	Liaoning	0.1532	0.1531	0.1253
1991	Fujian	0.1489	0.1481	0.1302	Liaoning	0.1594	0.1593	0.1253
1992	Fujian	0.1594	0.1566	0.132	Liaoning	0.1648	0.1648	0.1254
1993	Fujian	0.1668	0.1588	0.1365	Liaoning	0.1689	0.1692	0.1254
1994	Fujian	0.1767	0.166	0.1386	Liaoning	0.187	0.188	0.1254
1995	Fujian	0.1655	0.1547	0.1391	Liaoning	0.1826	0.1836	0.1254
1996	Fujian	0.1549	0.1423	0.1413	Liaoning	0.1656	0.1662	0.1254
1997	Fujian	0.1529	0.1393	0.1425	Liaoning	0.1662	0.167	0.1253
1998	Fujian	0.1544	0.139	0.1442	Liaoning	0.1441	0.1443	0.1253
1999	Fujian	0.1582	0.1407	0.1461	Liaoning	0.1654	0.1665	0.1252
2000	Fujian	0.2051	0.1484	0.1839	Liaoning	0.1996	0.2025	0.1252
2001	Fujian	0.2201	0.1629	0.1838	Liaoning	0.1985	0.2016	0.1251
2002	Fujian	0.2313	0.175	0.1833	Liaoning	0.208	0.2123	0.125
2003	Fujian	0.2364	0.182	0.1826	Liaoning	0.2161	0.2216	0.1248
2004	Fujian	0.2391	0.1866	0.1818	Liaoning	0.2111	0.2172	0.1246
2005	Fujian	0.2401	0.1896	0.1809	Liaoning	0.1911	0.2217	0.1148
1987	Gansu	0.2158	0.2158	0.2158	Ningxia	0.191	0.191	0.191
1988	Gansu	0.2173	0.2126	0.2206	Ningxia	0.173	0.1705	0.1936
1989	Gansu	0.2366	0.2273	0.225	Ningxia	0.1789	0.1744	0.1957
1990	Gansu	0.2192	0.2075	0.2278	Ningxia	0.19	0.1843	0.1967
1991	Gansu	0.2449	0.2315	0.2289	Ningxia	0.2085	0.2021	0.1971
1992	Gansu	0.2784	0.2634	0.2301	Ningxia	0.2423	0.2352	0.1976
1993	Gansu	0.2898	0.2736	0.2312	Ningxia	0.2681	0.2602	0.1983
1994	Gansu	0.293	0.2762	0.2318	Ningxia	0.2772	0.2622	0.2053
1995	Gansu	0.2871	0.2699	0.2322	Ningxia	0.2766	0.2609	0.206
1996	Gansu	0.2473	0.23	0.2327	Ningxia	0.2155	0.2	0.2063
1997	Gansu	0.2414	0.2237	0.2334	Ningxia	0.2106	0.1934	0.2081
1998	Gansu	0.2344	0.2161	0.234	Ningxia	0.1975	0.1792	0.2096

Table 8 continued

Year	Province	Gini	Gini_u	Gini_w	Province	Gini	Gine_u	Gini_w
1999	Gansu	0.259	0.2395	0.2348	Ningxia	0.2141	0.1949	0.2101
2000	Gansu	0.2808	0.26	0.2359	Ningxia	0.2472	0.2272	0.2104
2001	Gansu	0.2916	0.269	0.2377	Ningxia	0.2642	0.2434	0.2112
2002	Gansu	0.316	0.2891	0.2424	Ningxia	0.2748	0.2533	0.2121
2003	Gansu	0.3262	0.2962	0.2463	Ningxia	0.2822	0.2558	0.219
2004	Gansu	0.3287	0.2964	0.2492	Ningxia	0.2762	0.249	0.2198
2005	Gansu	0.3364	0.3027	0.252	Ningxia	0.2847	0.2581	0.2203
1987	Guangdong	0.1407	0.1407	0.1407	Qinghai	0.247	0.247	0.247
1988	Guangdong	0.1391	0.1364	0.1435	Qinghai	0.2065	0.2061	0.2473
1989	Guangdong	0.1669	0.162	0.1453	Qinghai	0.2464	0.2457	0.2476
1990	Guangdong	0.1697	0.1645	0.1454	Qinghai	0.2117	0.2108	0.2476
1991	Guangdong	0.1929	0.1852	0.1473	Qinghai	0.2397	0.239	0.2476
1992	Guangdong	0.2211	0.2094	0.1504	Qinghai	0.26	0.2594	0.2476
1993	Guangdong	0.2369	0.2191	0.1556	Qinghai	0.2742	0.2739	0.2473
1994	Guangdong	0.2545	0.2324	0.1597	Qinghai	0.2813	0.281	0.2474
1995	Guangdong	0.2415	0.2182	0.1608	Qinghai	0.2883	0.2881	0.2474
1996	Guangdong	0.2244	0.2004	0.1619	Qinghai	0.2871	0.2867	0.2476
1997	Guangdong	0.2159	0.1913	0.1626	Qinghai	0.2697	0.269	0.248
1998	Guangdong	0.2199	0.195	0.1629	Qinghai	0.2654	0.2646	0.2479
1999	Guangdong	0.2209	0.1958	0.163	Qinghai	0.2801	0.2795	0.2479
2000	Guangdong	0.2155	0.2105	0.1591	Qinghai	0.3013	0.301	0.248
2001	Guangdong	0.2172	0.2188	0.1566	Qinghai	0.3113	0.3117	0.2487
2002	Guangdong	0.2192	0.2262	0.1548	Qinghai	0.3098	0.3111	0.2489
2003	Guangdong	0.2267	0.2436	0.1527	Qinghai	0.314	0.3161	0.2488
2004	Guangdong	0.2256	0.2491	0.1504	Qinghai	0.3106	0.3128	0.2488
2005	Guangdong	0.2225	0.2513	0.148	Qinghai	0.3138	0.3171	0.2486
1987	Guangxi	0.1404	0.1404	0.1404	Shandong	0.0924	0.0924	0.0924
1988	Guangxi	0.1576	0.1548	0.143	Shandong	0.1162	0.1002	0.1074
1989	Guangxi	0.1576	0.1524	0.1452	Shandong	0.1404	0.1131	0.1158
1990	Guangxi	0.1245	0.1187	0.147	Shandong	0.1439	0.1145	0.1174
1991	Guangxi	0.1406	0.1337	0.1475	Shandong	0.1524	0.119	0.12
1992	Guangxi	0.1742	0.1652	0.1484	Shandong	0.1828	0.1397	0.1244
1993	Guangxi	0.2107	0.1925	0.1551	Shandong	0.2065	0.1539	0.1295
1994	Guangxi	0.2396	0.2133	0.1606	Shandong	0.2117	0.1516	0.1358
1995	Guangxi	0.2258	0.1952	0.1651	Shandong	0.2029	0.1419	0.1384
1996	Guangxi	0.203	0.1709	0.1686	Shandong	0.1913	0.1303	0.1409
1997	Guangxi	0.1875	0.1543	0.1715	Shandong	0.1839	0.1237	0.1419
1998	Guangxi	0.1909	0.1557	0.1732	Shandong	0.1752	0.1177	0.1411
1999	Guangxi	0.1913	0.1557	0.1736	Shandong	0.185	0.1249	0.1415
2000	Guangxi	0.2229	0.1829	0.1742	Shandong	0.2038	0.1382	0.1431
2001	Guangxi	0.2453	0.2027	0.1745	Shandong	0.2158	0.1455	0.1454
2002	Guangxi	0.2632	0.2156	0.1775	Shandong	0.2229	0.1491	0.1478
2003	Guangxi	0.2706	0.2206	0.1791	Shandong	0.2351	0.1559	0.1515

Table 8 continued

Year	Province	Gini	Gini_u	Gini_w	Province	Gini	Gine_u	Gini_w
2004	Guangxi	0.262	0.2102	0.1815	Shandong	0.2389	0.1578	0.1531
2005	Guangxi	0.2635	0.2119	0.1812	Shandong	0.2448	0.1611	0.1556
1987	Guizhou	0.1487	0.1487	0.1487	Shanghai	0.065	0.065	0.065
1988	Guizhou	0.1559	0.1561	0.1485	Shanghai	0.0595	0.0601	0.0643
1989	Guizhou	0.1703	0.1699	0.1491	Shanghai	0.0552	0.0564	0.0636
1990	Guizhou	0.1874	0.187	0.149	Shanghai	0.0566	0.0581	0.0633
1991	Guizhou	0.2016	0.2005	0.1495	Shanghai	0.0454	0.0468	0.063
1992	Guizhou	0.2227	0.2195	0.1511	Shanghai	0.0619	0.0643	0.0626
1993	Guizhou	0.2385	0.2337	0.1522	Shanghai	0.0873	0.0931	0.0613
1994	Guizhou	0.2519	0.239	0.1583	Shanghai	0.0991	0.1086	0.0598
1995	Guizhou	0.2252	0.2119	0.1592	Shanghai	0.0957	0.1067	0.0589
1996	Guizhou	0.2081	0.1925	0.1618	Shanghai	0.0937	0.1061	0.058
1997	Guizhou	0.2178	0.2002	0.1632	Shanghai	0.0839	0.0967	0.0569
1998	Guizhou	0.2181	0.2005	0.1632	Shanghai	0.0844	0.0994	0.0558
1999	Guizhou	0.2332	0.2129	0.1648	Shanghai	0.1108	0.1353	0.0546
2000	Guizhou	0.3001	0.2194	0.2169	Shanghai	0.1147	0.144	0.0534
2001	Guizhou	0.3093	0.2274	0.2172	Shanghai	0.1174	0.151	0.0524
2002	Guizhou	0.3185	0.2349	0.2184	Shanghai	0.1097	0.146	0.0506
2003	Guizhou	0.3325	0.2467	0.22	Shanghai	0.1095	0.1532	0.0486
2004	Guizhou	0.3398	0.2497	0.2247	Shanghai	0.0958	0.1559	0.0423
2005	Guizhou	0.3459	0.2545	0.2264	Shanghai	0.0793	0.1533	0.036
1987	Hebei	0.0998	0.0998	0.0998	Shannxi	0.1965	0.1965	0.1965
1988	Hebei	0.1061	0.1048	0.101	Shannxi	0.1827	0.1813	0.198
1989	Hebei	0.1222	0.1192	0.1024	Shannxi	0.2089	0.2058	0.1995
1990	Hebei	0.1302	0.1295	0.1004	Shannxi	0.1851	0.1821	0.1997
1991	Hebei	0.1328	0.1311	0.1012	Shannxi	0.2059	0.2015	0.2009
1992	Hebei	0.1653	0.158	0.105	Shannxi	0.2288	0.2215	0.2034
1993	Hebei	0.1803	0.1703	0.1065	Shannxi	0.2436	0.2344	0.2049
1994	Hebei	0.1821	0.1686	0.109	Shannxi	0.2548	0.243	0.2072
1995	Hebei	0.1592	0.142	0.113	Shannxi	0.2652	0.2505	0.2099
1996	Hebei	0.1542	0.1213	0.1283	Shannxi	0.255	0.2383	0.212
1997	Hebei	0.1436	0.1225	0.1178	Shannxi	0.2453	0.2264	0.2143
1998	Hebei	0.1397	0.1175	0.1194	Shannxi	0.2376	0.2176	0.2157
1999	Hebei	0.15	0.1251	0.1209	Shannxi	0.2548	0.2327	0.2173
2000	Hebei	0.1616	0.1327	0.1233	Shannxi	0.3015	0.2539	0.2442
2001	Hebei	0.1665	0.134	0.1261	Shannxi	0.31	0.2624	0.2452
2002	Hebei	0.2191	0.15	0.155	Shannxi	0.3313	0.2858	0.2463
2003	Hebei	0.2261	0.1541	0.1572	Shannxi	0.3359	0.2917	0.2469
2004	Hebei	0.225	0.1517	0.1596	Shannxi	0.3327	0.2888	0.2472
2005	Hebei	0.2358	0.1606	0.1609	Shannxi	0.3328	0.2899	0.2474
1987	Heilongjiang	0.1553	0.1553	0.1553	Shanxi	0.1697	0.1697	0.1697
1988	Heilongjiang	0.1473	0.1476	0.1549	Shanxi	0.1737	0.1711	0.1724
1989	Heilongjiang	0.1835	0.1851	0.1543	Shanxi	0.1915	0.1862	0.1749

Table 8 continued

Year	Province	Gini	Gini_u	Gini_w	Province	Gini	Gine_u	Gini_w
1990	Heilongjiang	0.1153	0.116	0.1537	Shanxi	0.1761	0.1695	0.1763
1991	Heilongjiang	0.1549	0.1574	0.1529	Shanxi	0.2137	0.2064	0.1766
1992	Heilongjiang	0.1319	0.1342	0.1519	Shanxi	0.2245	0.2168	0.1771
1993	Heilongjiang	0.1546	0.1593	0.1508	Shanxi	0.2378	0.2296	0.1776
1994	Heilongjiang	0.1483	0.154	0.1495	Shanxi	0.254	0.2453	0.1781
1995	Heilongjiang	0.1521	0.1599	0.1479	Shanxi	0.2399	0.2306	0.1787
1996	Heilongjiang	0.1298	0.1356	0.1477	Shanxi	0.2055	0.1957	0.1792
1997	Heilongjiang	0.1355	0.1419	0.1476	Shanxi	0.1972	0.1869	0.1798
1998	Heilongjiang	0.1498	0.1579	0.1475	Shanxi	0.1877	0.177	0.1803
1999	Heilongjiang	0.1731	0.1846	0.1472	Shanxi	0.2145	0.2031	0.1808
2000	Heilongjiang	0.1926	0.2018	0.15	Shanxi	0.2223	0.206	0.1862
2001	Heilongjiang	0.1998	0.2108	0.1495	Shanxi	0.2475	0.2325	0.1856
2002	Heilongjiang	0.2119	0.225	0.1493	Shanxi	0.2599	0.2452	0.1875
2003	Heilongjiang	0.2211	0.2355	0.1493	Shanxi	0.2709	0.2575	0.1878
2004	Heilongjiang	0.2076	0.2206	0.149	Shanxi	0.2707	0.2579	0.188
2005	Heilongjiang	0.2131	0.2277	0.1486	Shanxi	0.2706	0.2605	0.1879
1987	Henan	0.1452	0.1452	0.1452	Sichuan	0.1585	0.1585	0.1585
1988	Henan	0.1454	0.1445	0.1461	Sichuan	0.1552	0.1545	0.1593
1989	Henan	0.1528	0.1511	0.1469	Sichuan	0.1733	0.1718	0.16
1990	Henan	0.1513	0.1488	0.1477	Sichuan	0.1686	0.1671	0.16
1991	Henan	0.1675	0.1627	0.1497	Sichuan	0.1848	0.1823	0.1608
1992	Henan	0.1835	0.1762	0.1516	Sichuan	0.2093	0.2025	0.1643
1993	Henan	0.193	0.1832	0.1535	Sichuan	0.2349	0.2244	0.167
1994	Henan	0.1998	0.1877	0.1554	Sichuan	0.2423	0.2268	0.1711
1995	Henan	0.1854	0.1718	0.1574	Sichuan	0.244	0.2249	0.1741
1996	Henan	0.165	0.1464	0.1637	Sichuan	0.2157	0.1949	0.1769
1997	Henan	0.1693	0.1449	0.1696	Sichuan	0.1984	0.1799	0.1756
1998	Henan	0.1648	0.1362	0.1751	Sichuan	0.2109	0.1824	0.1848
1999	Henan	0.1761	0.1418	0.1801	Sichuan	0.2216	0.1904	0.1865
2000	Henan	0.1883	0.1483	0.1847	Sichuan	0.2701	0.1996	0.2235
2001	Henan	0.2037	0.1578	0.189	Sichuan	0.2797	0.2072	0.2253
2002	Henan	0.237	0.1831	0.1932	Sichuan	0.2768	0.2026	0.2279
2003	Henan	0.2645	0.2044	0.1971	Sichuan	0.2792	0.2041	0.2292
2004	Henan	0.2619	0.1984	0.2011	Sichuan	0.2668	0.1916	0.2303
2005	Henan	0.2652	0.1986	0.2046	Sichuan	0.2667	0.1919	0.2313
1987	Hubei	0.1584	0.1584	0.1584	Tianjin	0.1096	0.1096	0.1096
1988	Hubei	0.1625	0.1582	0.1627	Tianjin	0.0954	0.096	0.1088
1989	Hubei	0.1829	0.1745	0.1664	Tianjin	0.0885	0.0892	0.1086
1990	Hubei	0.1739	0.1654	0.1667	Tianjin	0.1011	0.1022	0.1085
1991	Hubei	0.2117	0.2091	0.1607	Tianjin	0.1074	0.1087	0.1084
1992	Hubei	0.2411	0.2301	0.1684	Tianjin	0.1086	0.11	0.1082
1993	Hubei	0.2727	0.2599	0.1708	Tianjin	0.1281	0.1301	0.1081
1994	Hubei	0.2467	0.2386	0.1657	Tianjin	0.1604	0.1636	0.1079

Table 8 continued

Year	Province	Gini	Gini_u	Gini_w	Province	Gini	Gine_u	Gini_w
1995	Hubei	0.2346	0.2203	0.1718	Tianjin	0.1512	0.1544	0.1077
1996	Hubei	0.2057	0.1881	0.1753	Tianjin	0.1455	0.1491	0.1074
1997	Hubei	0.1901	0.1761	0.1719	Tianjin	0.1413	0.145	0.1072
1998	Hubei	0.191	0.176	0.1729	Tianjin	0.1369	0.141	0.1068
1999	Hubei	0.2072	0.1899	0.1751	Tianjin	0.1425	0.1477	0.1063
2000	Hubei	0.2188	0.1986	0.1795	Tianjin	0.1394	0.145	0.1059
2001	Hubei	0.2242	0.204	0.1791	Tianjin	0.1385	0.1443	0.1057
2002	Hubei	0.2497	0.2313	0.1793	Tianjin	0.1268	0.1324	0.1053
2003	Hubei	0.2555	0.238	0.1794	Tianjin	0.1263	0.1328	0.1047
2004	Hubei	0.249	0.2312	0.1795	Tianjin	0.1256	0.1325	0.1044
2005	Hubei	0.2534	0.2364	0.1795	Tianjin	0.1249	0.1322	0.1041
1987	Hunan	0.1384	0.1384	0.1384	Xinjiang	0.1702	0.1702	0.1702
1988	Hunan	0.1664	0.1648	0.1399	Xinjiang	0.1848	0.1842	0.1708
1989	Hunan	0.1866	0.186	0.1389	Xinjiang	0.1858	0.1847	0.1713
1990	Hunan	0.1622	0.1611	0.1394	Xinjiang	0.1564	0.1559	0.1706
1991	Hunan	0.1857	0.1786	0.1445	Xinjiang	0.1787	0.1781	0.1708
1992	Hunan	0.2208	0.2073	0.149	Xinjiang	0.2355	0.2348	0.171
1993	Hunan	0.2486	0.2362	0.1476	Xinjiang	0.276	0.2754	0.1714
1994	Hunan	0.2648	0.2405	0.1567	Xinjiang	0.2959	0.2953	0.1718
1995	Hunan	0.2711	0.2355	0.1663	Xinjiang	0.3135	0.3132	0.1722
1996	Hunan	0.2344	0.1983	0.1686	Xinjiang	0.31	0.3096	0.1727
1997	Hunan	0.2108	0.1758	0.1691	Xinjiang	0.285	0.2839	0.1728
1998	Hunan	0.2201	0.1824	0.1711	Xinjiang	0.2773	0.2761	0.1729
1999	Hunan	0.2287	0.189	0.1725	Xinjiang	0.3104	0.3101	0.1728
2000	Hunan	0.2477	0.1992	0.1802	Xinjiang	0.3026	0.3021	0.1728
2001	Hunan	0.2596	0.2088	0.1821	Xinjiang	0.3117	0.3115	0.1731
2002	Hunan	0.2573	0.2051	0.184	Xinjiang	0.3043	0.304	0.1734
2003	Hunan	0.2692	0.2153	0.186	Xinjiang	0.2916	0.2909	0.174
2004	Hunan	0.2707	0.2158	0.1881	Xinjiang	0.2926	0.292	0.174
2005	Hunan	0.2721	0.2172	0.1891	Xinjiang	0.2841	0.2831	0.1741
1987	Inner Mongolia	0.151	0.151	0.151	Yunnan	0.1496	0.1496	0.1496
1988	Inner Mongolia	0.1181	0.117	0.1523	Yunnan	0.1502	0.1489	0.1509
1989	Inner Mongolia	0.1505	0.1484	0.1531	Yunnan	0.1527	0.1508	0.1514
1990	Inner Mongolia	0.1347	0.1326	0.1533	Yunnan	0.1593	0.1561	0.1527
1991	Inner Mongolia	0.1619	0.1592	0.1536	Yunnan	0.1726	0.168	0.1538
1992	Inner Mongolia	0.1705	0.1676	0.1539	Yunnan	0.1993	0.1921	0.1556
1993	Inner Mongolia	0.1962	0.1923	0.1547	Yunnan	0.2387	0.2271	0.1584
1994	Inner Mongolia	0.206	0.2015	0.1554	Yunnan	0.2634	0.2476	0.1611
1995	Inner Mongolia	0.1882	0.1831	0.1559	Yunnan	0.252	0.2334	0.1636
1996	Inner Mongolia	0.1833	0.1777	0.1565	Yunnan	0.2569	0.2351	0.1661
1997	Inner Mongolia	0.1923	0.1862	0.157	Yunnan	0.2603	0.2346	0.1691
1998	Inner Mongolia	0.1906	0.1839	0.1576	Yunnan	0.281	0.2519	0.1711
1999	Inner Mongolia	0.2112	0.2042	0.158	Yunnan	0.2832	0.2488	0.1753

Table 8 continued

Year	Province	Gini	Gini_u	Gini_w	Province	Gini	Gine_u	Gini_w
2000	Inner Mongolia	0.2256	0.2179	0.1591	Yunnan	0.3323	0.2477	0.2191
2001	Inner Mongolia	0.2521	0.245	0.1596	Yunnan	0.346	0.256	0.2245
2002	Inner Mongolia	0.2601	0.2533	0.16	Yunnan	0.3526	0.2596	0.2281
2003	Inner Mongolia	0.2749	0.2691	0.1605	Yunnan	0.3541	0.2597	0.2298
2004	Inner Mongolia	0.2763	0.271	0.1613	Yunnan	0.3693	0.2728	0.2337
2005	Inner Mongolia	0.271	0.2662	0.1619	Yunnan	0.36	0.2615	0.2367
1987	Jiangsu	0.1175	0.1175	0.1175	Zhejiang	0.0845	0.0845	0.0845
1988	Jiangsu	0.1046	0.1057	0.1161	Zhejiang	0.0927	0.0919	0.0853
1989	Jiangsu	0.1083	0.1118	0.1136	Zhejiang	0.0949	0.0936	0.0857
1990	Jiangsu	0.0972	0.1253	0.0904	Zhejiang	0.0926	0.0915	0.0856
1991	Jiangsu	0.1155	0.1404	0.0944	Zhejiang	0.0944	0.0927	0.086
1992	Jiangsu	0.1483	0.1724	0.0958	Zhejiang	0.1127	0.1092	0.0873
1993	Jiangsu	0.1688	0.1915	0.0963	Zhejiang	0.1303	0.1243	0.0889
1994	Jiangsu	0.1566	0.1778	0.0978	Zhejiang	0.1526	0.1434	0.0906
1995	Jiangsu	0.1416	0.1567	0.1029	Zhejiang	0.1369	0.1263	0.0923
1996	Jiangsu	0.1183	0.1334	0.103	Zhejiang	0.1297	0.1175	0.0939
1997	Jiangsu	0.1302	0.1405	0.1072	Zhejiang	0.1313	0.1164	0.0961
1998	Jiangsu	0.1354	0.1431	0.1095	Zhejiang	0.1409	0.122	0.0987
1999	Jiangsu	0.1517	0.1547	0.1134	Zhejiang	0.1529	0.1299	0.1011
2000	Jiangsu	0.158	0.1573	0.1173	Zhejiang	0.1874	0.1344	0.1296
2001	Jiangsu	0.1652	0.1644	0.1175	Zhejiang	0.1941	0.1441	0.1281
2002	Jiangsu	0.1763	0.1759	0.1176	Zhejiang	0.2	0.1521	0.1273
2003	Jiangsu	0.1898	0.191	0.1173	Zhejiang	0.2024	0.1571	0.1264
2004	Jiangsu	0.1903	0.1931	0.1168	Zhejiang	0.1969	0.1534	0.1254
2005	Jiangsu	0.1993	0.206	0.1157	Zhejiang	0.1969	0.1589	0.1231

Gini is the Gini coefficient calculated by urbanization rate and nominal relative wage using the method discussed in Sect. 3; *Gini_u* is the Gini coefficient calculated by keeping urbanization rate fixed; and *Gini_w* is the Gini coefficient calculated by keeping nominal relative wage fixed

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