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## Essays on trends in income distribution and redistribution in affluent countries and China

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## ABSTRACT

The issue of income inequality in China has attracted world-wide attention, leading to a sizable literature. This paper attempts to provide a non-exhaustive literature review on China's inequality trends and determinants, and suggested government interventions. It discusses profiles of income inequality along three dimensions: inter-household disparity, regional divide and urban-rural gaps. This is followed by exploring driving forces of rising inequality in China, including the notorious *hukou* system, policy biases, location or geographic factors, globalization, education and so on. Finally, the paper summarizes and proposes government interventions for containing or reducing income inequality in China. Important areas for future research are also suggested in the final section of the paper.

Key words: China; Income distribution; Inequality

## 7.1 INTRODUCTION

Pre-reform China is perceived to be an egalitarian society despite the existence of significant urban-rural gap and inequality across rural households. In 1978, China began her reforms with the introduction of the agricultural production responsibility system. Under this system, farming land was decollectivized and allocated to individual households based on household labour force and household size. Any surplus above the state taxes and procurement quota were kept by individual farmers rather than pooled for distribution across households as in the past. These introduced incentives into the rural economy which

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were previously absent, leading to inclusive growth due to fairly equal distribution of land (Wan 2007).

Inequality<sup>1</sup> started to rise in the mid-1980s when the government shifted its reform focus to the urban sector (Wan 2008a, 2008b). Faster urban growth implies enlarging urban-rural gap. Meanwhile, urban production relies more on investment and fixed assets such as machinery and equipment which, unlike farm land, were not divisible. These assets were leased or sold to a minority when state- or collective-owned enterprises were reformed, causing inequality hikes among urban residents. It is important to point that the investment or asset-induced inequality tends to self-reinforced itself overtime. Finally, the open-door strategy implemented around mid-1980s raised regional inequality as it came with preferential policies biased towards the coastal region, which already has location and cultural advantages<sup>2</sup> to engage in international trade and attract foreign direct investment (FDI).

Consequently, China went from a relatively egalitarian society to one of the most unequal countries in the world within a short period of three decades. According to Wan and Sebastian (2011), there were still more than 100 million Chinese who merely survived on no more than \$1.25 a day (purchasing power parity or PPP-adjusted) in 2008. In the same year, the number of the poor living under \$2.0/day (PPP-adjusted) is estimated to be 336 million. On the other hand, China had 960,000 millionaires in 2010, each with more than 10 million Yuan (\$1.6 million) in personal wealth. In 2011, there were 146 billionaires in China, each with more than \$1 billion of assets.<sup>3</sup>

The high and rising inequality has many profound repercussions. It has dampened domestic consumption, having generated pressures on China's exports and contributed to the trade imbalance. As noted by Milanovic (2005), inequality trends and patterns in China determine, to a large extent, the profile and changes of the global inequality and poverty. From the perspective of the Chinese government, high inequality undermines social cohesion and political stability. Some of the widely reported crimes were related to inequality (Tian, Wan and Huo, 2009). Historically, lessons abound where unequal distributions led to civil unrest and government demises.

In addition, the growth effects on poverty reduction become smaller when inequality is high. In other words, the same growth rate leads to larger poverty reduction, the more equal a society is. In a highly unequal economy, growth benefits may accrue to the rich only, with little impact on poverty. On the other hand, rising inequality offsets poverty-reducing impacts of growth (Zhang and Wan, 2006). This is because any given poverty reduction can be de-

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1 In this paper, the words of gap, divide and disparity are used as synonymies of inequality.

2 Coastal residents are known to be more business-minded and have more trade and entrepreneurship skills. Most overseas Chinese are from the coastal areas and they provide a significant share of FDI.

3 [www.chinadaily.com.cn/bizchina/2012-02/07/content\\_14549447.htm](http://www.chinadaily.com.cn/bizchina/2012-02/07/content_14549447.htm).

composed into growth and redistribution effects. The redistribution effect is poverty-increasing if distribution worsens, and vice versa. As Wan (2008c) demonstrates, redistribution is more important than growth in combating poverty in China.

Finally, rising inequality hinders economic growth in China (Wan, Lu and Chen, 2006). Besides the various arguments presented in the preceding two paragraphs, high inequality means those at the bottom of the society cannot afford investment in financial or human capital. Also, health as a major component of human capital is shown to be adversely affected by inequality (Li and Zhu, 2006). Moreover, high inequality exerts pressure for redistribution which may distort incentive mechanisms in the economy and induce considerable transaction cost. Worst of all, high inequality may have strengthened and be reinforced by the ally between the rich and the politically powerful, eroding efficiency, equity and even justice.

It is thus not surprising that inequality has been ranked among the top three socio-economic issues in China for many years. In response, the Chinese government launched the Great Western Development Strategy in 2000 to tackle the regional divide. This is followed, in the mid-2000s, by the “socialist new countryside development” movement to reduce urban-rural gaps. In 2006, “building a harmonious society” became a central development goal in the 11th Five-Year Plan, 2006–2010. More recent interventions include expansion of social protection to the rural population, improvement of the living conditions of migrant workers, and increases in public funding on education and health services. In November 2013, the Third Plenum of the 18th Central Committee of the Chinese Communist Party outlined a systematic approach to improve income distribution through reforms in areas including the household registration system (*hukou*), social protection, access to public services, taxation, and governance.

This paper aims at providing a non-exhaustive literature review on China’s inequality trends and determinants, and suggested government interventions. Section 7.2 will focus on inequality profiles, starting with inter-household disparity, then regional divide and urban-rural disparity. Section 7.3 presents research findings on drivers or causes of these inequalities. This is followed by a summary of suggested policy interventions in Section 7.4. Section 7.5 concludes.

## 7.2 INEQUALITY PROFILES

To construct an inequality profile, the popular Gini and/or Theil index are commonly estimated using observations on consumption, income or salary. In theory, the finest unit of a distribution study is an individual. The individual or inter-person inequality consists of inter-household and within-household gaps. In practice, however, the finest unit is usually a household, particularly

when analyzing inequalities in developing economies, owing to the lack of data for individuals. The inter-household inequality encompasses regional or urban-rural inequalities as its components. In this section, we will start with inter-household disparity and then move on to regional inequality and urban-rural gaps.

### 7.2.1 Profile of Inter-Household Inequality

To date, no official estimates of inter-household inequality exist for consecutive years over a long period as the central government does not permit release of China's household survey data collected by the National Bureau of Statistics (NBS). This is why early literature on China's income distribution largely focused on regional disparity or urban-rural gaps.

In 1986, the Chinese Academy of Social Sciences surveyed 5000 urban households in 28 provinces and 5000 rural households in 10 provinces.<sup>4</sup> After data cleaning up, 7464 household observations (3811 urban and 3653 rural) were used by Hussain, Lanjouw and Stern (1994) to derive the earliest inter-household inequality estimates for China. They computed the Theil indices for urban (0.0931) and rural (0.1805) China. Both indices were found to be dominated by the intra-provincial component. Inter-provincial components only accounted for 5% (urban) and 15% (rural) of the total. They also estimated Gini indices for individual provinces, ranging 0.19-0.22 for urban provinces, and 0.19-0.28 for rural provinces. It is not surprising that urban inequalities were lower than the rural counterparts as the egalitarian distribution was only applicable in urban China in the pre-reform period. Clearly, these findings are subject to considerable sampling errors as the survey sample is far too small for China.

In 1988, the first spell of the Chinese income distribution project (later known as the China Household Income Project or CHIP) was conducted.<sup>5</sup> The project covered 10,258 rural and 9,009 urban households. The sampling framework follows that of the National Bureau of Statistics (NBS). Different survey instruments and different sampling strategies were used for urban and rural areas because of the difference in the composition of urban and rural incomes (Eichen and Zhang, 1993). The CHIP widens the definition of income to include noncash income such as in-kind payments and agricultural products for self-consumption. Based on this data set, Khan, Griffin, Riskin, and Zhao (1992) produced the first comprehensive Gini estimates: 0.382 for China, 0.338 for rural China and 0.233 for urban China. They also decomposed the Gini es-

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4 There are 34 province-level administrative units in China, including 23 provinces, 5 autonomous regions, 4 metropolitan municipalities, and 2 special districts (HK and Macao).

5 CHIP was initiated by the Chinese Academy of Social Sciences and later transferred to Beijing Normal University.

timates by income sources. The results indicate that the most important sources of nation-wide income inequality are urban wages and in-kind subsidies to urban workers, contributing 36% and 32% to the nation-wide Gini estimate, respectively. For urban inequality, the two most important contributors are wage (34%) and housing subsidies (24%). On the other hand, income from production activities explains more than 60% of rural income inequality.

By now, the CHIP provides household data for 1988, 1995, 2002 and 2007. Rural-to-urban migrants were added to the 2002 and 2007 CHIP. In 2007, the sample sizes increased to 13,000 rural households, 10,000 urban households, and 5,000 rural-to-urban migrant households. Using 1988 and 1995 CHIP data, Zhao (2001) and Gustafsson and Li (2001) discovered increases in inequality. The latter study concluded that the rise in inequality is general, not limited to a particular region or population group. Li, Lou, and Sicular (2011) analyzed the 2002 and 2007 CHIP data, showing that when rural-to-urban migrant are included the 2002 Gini estimate drops slightly to 0.460 from 0.462. The same happens to the 2007 Gini estimate: 0.483 with migrants included and 0.487 without migrants.

Other studies using the CHIP data include Griffin and Zhao (1993), Khan and Riskin (1998 and 2005), Gustafsson and Li (1998 and 2001), Zhao (2001), Li and Wang (2005), Sicular, Yue, Gustafsson and Li (2007), Gustafsson, Li and Sicular (2010), and Li et al (2011).

Ravallion and Chen (2007) obtained yearly Gini coefficient for 1980-2001 using grouped income data published by the NBS (various years). Lin et al (2010) followed the similar approach. As tabulated in Table 7.1, both studies came up with two sets of estimates: one with and one without adjusting income observations by spatial price differences. Since the affluent regions have higher prices, such an adjustment leads to smaller inequality estimates, as Wan (2001) discovered earlier. The upward bias is about 15 percent according to Ravallion and Chen (2007) or Lin et al (2010), but much larger according to Sicular, Yue, Gustafsson, and Li (2007). In addition to using different data, Sicular et al (2007) used disaggregated deflators to capture price differences between urban and rural areas in each province and also among provinces while the other two studies only differentiated urban and rural China.

In early 2013, the Chinese government released official Gini estimates for years 2003-2011, which were later updated.<sup>6</sup> The NBS estimates show a broadly stable trend. Inequality peaked in 2008 with a Gini estimate of 0.491, and has since been declining marginally each year, reaching its lowest level of 0.473 in 2013. Whether this represents the beginning of the end of worsening income distribution is debatable.

Table 7.1 presents eight sets of estimates of the Gini coefficient for inter-household inequality in China. The World Income Inequality Database (WIID) set was collected from different publications and may be based on different

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6 [http://www.stats.gov.cn/english/PressRelease/201401/t20140120\\_502079.html](http://www.stats.gov.cn/english/PressRelease/201401/t20140120_502079.html).

datasets, which could explain why they vary considerably from one year to another. The Gini estimates from the World Development Indicators (WDI) database are inconsistent because post-1989 estimates are expenditure- or consumption-based, while the earlier estimates are income-based. Further, WDI estimates are likely to be biased downwards as they are weighted averages of rural and urban estimates. Technically, such weighted averages fail to consider the urban-rural gap, which have been rather substantial. Consequently, these two sets of estimates will be discarded hereafter. Among the remaining six sets of estimates, two were obtained after adjusting for spatial price differences. Since most researchers, particularly the government, do not consider spatial price differences, it seems appropriate to focus on the unadjusted estimates. Note, however, that the adjusted and unadjusted share the same trends.



Table 7.1 Inter-household Inequality for Whole China: Gini Estimates

Year	WDI <sup>a</sup>	Ravallion and Chen (2007)		WIID	CHIP <sup>b</sup>	Lin et al (2010)		NBS
		Data not adjusted by spatial price index	Data adjusted by spatial price index			Data not adjusted by spatial price index	Data adjusted by spatial price index	
1978	...	...	...	0.317	...	...	...	...
1979	...	...	...	...	...	...	...	...
1980	...	...	...	...	...	...	...	...
1981	0.291	0.310	0.280	...	...	...	...	...
1982	...	0.285	0.259	...	...	...	...	...
1983	...	0.283	0.260	0.284	...	...	...	...
1984	0.277	0.291	0.269	...	...	...	...	...
1985	...	0.290	0.265	0.224	...	...	...	...
1986	...	0.324	0.292	...	...	...	...	...
1987	0.299	0.324	0.289	...	...	...	...	...
1988	...	0.330	0.295	0.382	0.395	...	...	...
1989	...	35.2	0.318	...	...	...	...	...
1990	0.324	0.349	0.316	...	...	0.345	0.287	...
1991	...	0.371	0.331	0.341	...	...	...	...
1992	...	0.390	0.342	...	...	...	...	...
1993	0.355	0.420	0.367	...	...	...	...	...
1994	...	0.433	0.376	...	...	...	...	...
1995	...	0.415	0.365	0.290	0.469	0.397	0.329	...
1996	0.357	0.398	0.351	0.390	...	...	...	...
1997	...	0.398	0.350	...	...	...	...	...
1998	...	0.403	0.354	...	...	...	...	...
1999	0.392	0.416	0.364	...	...	...	...	...
2000	...	0.438	0.385	0.390	...	0.411	0.347	...
2001	...	0.447	0.395	...	...	...	...	...
2002	0.426	...	...	0.454	0.468	...	...	...
2003	...	...	...	0.449	...	...	...	0.479
2004	...	...	...	...	...	...	...	0.473
2005	0.425	...	...	...	...	0.457	0.388	0.485
2006	...	...	...	...	...	...	...	0.487
2007	...	...	...	...	0.497	...	...	0.484
2008	0.426	...	...	...	...	...	...	0.491
2009	0.421	...	...	...	...	...	...	0.490
2010	...	...	...	...	...	...	...	0.481
2011	...	...	...	...	...	...	...	0.477
2012	...	...	...	...	...	...	...	0.474
2013	...	...	...	...	...	...	...	0.473

Note: ... = data not available, WIID = World Income Inequality Database of UNU-WIDER.

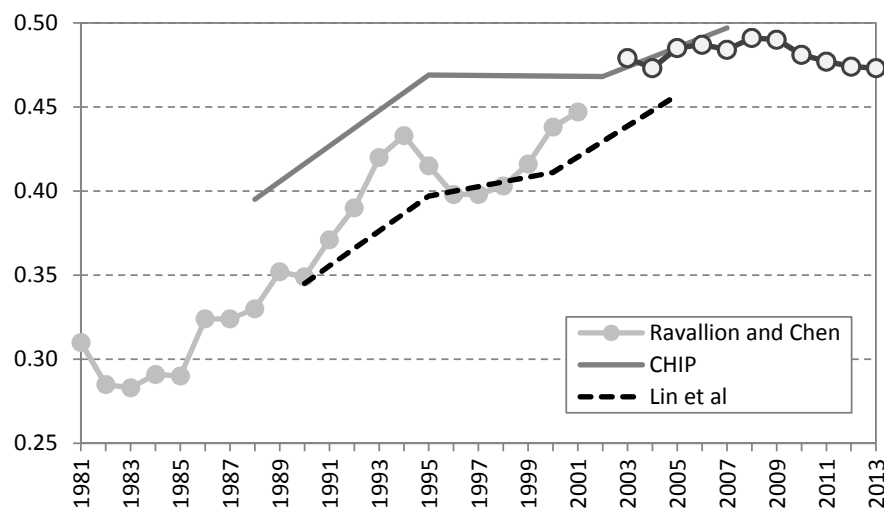
<sup>a</sup>Based on income (1981-1987) and consumption (1990-2009); <sup>b</sup>China Household Income Project.

Sources: Gustafsson, Li, and Sicular (2010) and Li, Luo, and Sicular (2011) for CHIP data; Lin et al (2010); Ravallion and Chen (2007); National Bureau of Statistics, *Provincial Statistical Yearbooks* in various years; World Bank, *World Development Indicators*.

The four sets of estimates in columns 3, 6, 7, 9 of Table 7.1 are compatible. Ravallion and Chen (2007) and Lin et al (2010) used NBS data in grouped form. The CHIP data piggy-backed the NBS surveys. However, the inequality estimates based on the CHIP data are consistently larger and Lin et al consistently smaller than other estimates. The discrepancies can be attributed to the approximation Lin et al (2010) used to obtain unit-record data from grouped data. The CHIP data have a smaller coverage or sample size than the data used by others.

Figure 7.1 plots the four compatible sets of inequality estimates, all showing a rising trend of income inequality. It is interesting to note that the unadjusted estimates of Ravallion and Chen (2007) appear to be fairly consistent with the official estimates. Thus, one can combine the two sets of estimates to form a more complete time series. Doing this shows that income inequality declined at the onset of economic reform until the mid-1980s and since then has been rising amid some fluctuations. Over a short period of 30 years inequality as indicated by the Gini coefficient grew by more than 50% from 0.283 in 1983 to 0.491 in 2008 or 0.473 in 2013.

Figure 7.1 Gini Coefficients based on Household Survey Data



Note: Gini coefficients from Ravallion and Chen (2007) and Lin et al (2010) are based on non-adjusted data. CHIP = Chinese Household Income Project; NBS = National Bureau of Statistics.

Sources: Gustafsson, Li, and Sicular (2010) and Li, Luo, and Sicular (2011) for CHIP data; Lin et al (2010); Ravallion and Chen (2007). National Bureau of Statistics, *Provincial Statistical Yearbooks*.

Apart from these nation-wide estimates, researchers attempted to estimate inter-household inequality at the sub-national level. These studies all using the CHIP data include Zhao (2001) and Li et al (2011) on rural inequality, and Khan, Griffin, and Riskin (2001), Demurger, Fournier, and Li (2006), and Li et al (2011) on urban inequality. Zhao (2001) found that the Gini coefficient

for rural China rose from 0.338 in 1988 to 0.416 in 1995. This inequality dropped to 0.354 in 2002 and 0.358 in 2007 (Li et al 2011). Turning to urban inequality, Khan et al (2001) estimated the Gini coefficient to be 0.233 in 1988 and 0.332 in 1995. Demurger et al (2006) accounted for spatial price differences and their Gini estimates are 0.191 in 1988, 0.298 in 1995, and 0.284 in 2002. Li et al (2011) produced Gini estimates of 0.331 in 2002 and 0.340 in 2007.

### 7.2.2 Profile of Regional Inequality

Balanced regional development has been a major government goal in China for hundreds of years. This is not surprising as under-development of border areas has been considered a major threat to national security or sovereignty. Looking back at China's long history, the authority has frequently encountered revolutions or uprisings arising from unequal distributions and relied on border prosperity to enhance national sovereignty.<sup>7</sup> Also, regional inequality is closely related to ethnic tensions. Today, around 75 percent of China's minorities live in the poor inland areas which are home to only 22 percent of the national population. Rising regional gaps may undermine national unity. This is one of the major considerations underlying the massive west development campaign launched in late 1999.

Regional inequality usually refers to inter-province gaps. Lardy (1978) estimated coefficient of variation (CV) using provincial data on gross value of industrial output (GVIO) for years 1952, 1957 and 1974. The results showed declining inequality. There are two problems with this analysis. The coefficient of variation (CV) is not an appropriate inequality measure as it violates the important transfer axiom which states that any progressive transfer leads to reduction in inequality. Also, the variable of GVIO used to represent living standard or welfare failed to include agricultural output, which occupied a large proportion of national output until late 1970s. To rectify the second problem, Paine (1981) compiled gross value of agricultural output data for 1952 at the provincial level, and discussed inter-provincial output differentials. However, he did not estimate inequality by any indices.

Lyons (1991) extended the work of Lardy (1978) by estimating CVs and standard deviations (SDs) using provincial accounts data from 1952 to 1987. Instead of gross output, he used the variables of per capita consumption and net material product (NMP).<sup>8</sup> He found that the CV of net material product declined from 1952 to 1967, was stable from 1967 to 76 and resumed the

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7 China had frequently been invaded, particularly from the north and west. Border prosperity was expected to nurture loyalty of border residents and could help raise border population which formed the basis for national defense.

8 This is equivalent to value added in the first or secondary industry. Service sector was not considered to produce material outputs.

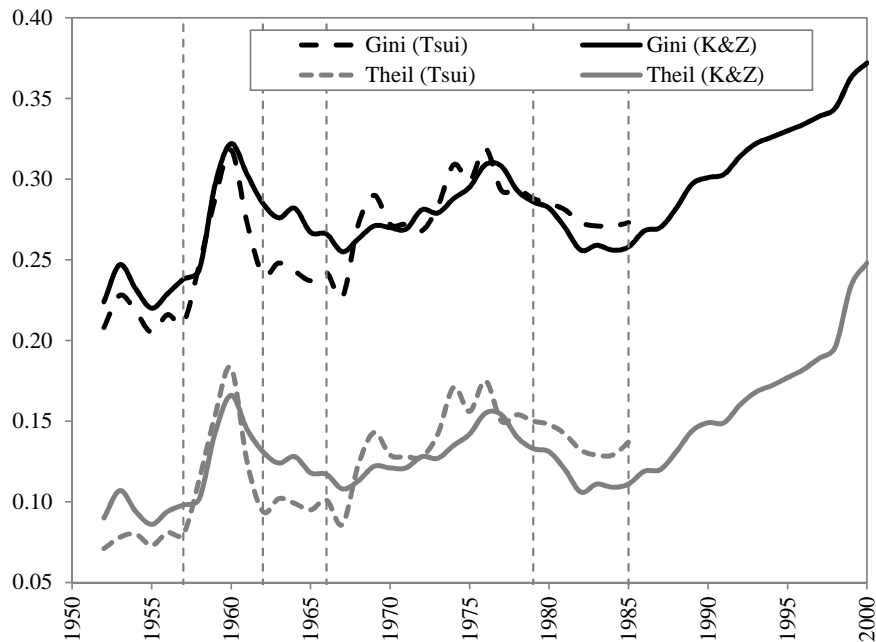
declining trend over 1976-1987. On the other hand, SDs increased almost continuously since 1962, accelerating in the 1980s. This is not surprising as SD is not only scale-dependent but also mean-dependent. It is very rare to use SD to measure inequality. When the consumption variable is used, its CV displayed a clear downward trend over the period under study, at least until the early 1980s.

Tsui (1991) employed the Gini, the Theil and CV indices to estimate regional inequality over 1952-1985, using NMP and NIU (national income utilized) data. Discrepancies in inequality based on these two data sets reflect the redistributive effects of government transfers (T) as  $NIU = NMP_{agri} + NMP_{nonagri} + T$ . Regional inequality had no apparent long-term trend before the 1970s but had since been increasing, and not surprisingly, government transfers led to lower inequality. The inequality trends by different indicators are very similar, which is understandable as inequality estimates based on different inequality indicators are highly correlated (Sharrocks and Wan 2005).

Kanbur and Zhang (2005) updated regional inequality estimates using consumption data from 1953 to 2000. This period can be divided into six sub-periods: (1) Pre-socialism (1949-56), (2) the Great Leap Forward and the Great Famine (1957-61), (3) Post-famine recovery (1962-65), (4) Cultural Revolution (1966-78), (5) Rural reform (1979-84), and (6) Post-rural reform and opening up (1985-2000).

Figure 7.2 plots the estimates by Tsui (1991) and Kanbur and Zhang (2005). Their estimates share a similar trend, including peaks. While Kanbur and Zhang's estimates are slightly higher during the first and third periods, estimates from both studies became almost identical for the period of Cultural Revolution. For the post-reform period, Tsui's estimates became higher. Figure 7.2 demonstrates an overall upward trend of regional inequality in China. It was low during the early years of the communist rule but increased sharply during the Great Leap Forward, peaking in 1960. It then started steady declining till the post-famine recovery. The Cultural Revolution saw inequality rises, peaking before the start of the rural reform. Possible reasons include the disruption of central planning, stagnation of agricultural regions and continued industrialization push in the Northeast and the East (Zhang and Zou, 2012).

Figure 7.2 Regional Inequality in China



In the first few years of the post-reform period, regional inequality declined because of the improvements in agricultural productivity and procurement prices of grains. Rapid development of the township and village enterprises (TVEs) also helped boost rural income (Zhou, Dillon and Wan, 1992). Fast rural growth led to the narrowing of the urban-rural gap, a large component of overall regional inequality (Wan 2007). But regional inequality rose from mid-1980s, by which time, reform focus was shifted to urban areas while the impacts of the household production responsibility system leveled off.<sup>9</sup> Meanwhile, region-biased policies were instituted to attract foreign direct investment and promote trade in coastal areas. In 2000, regional inequality reached its highest level in the People's Republic era.

The latest regional inequality estimates are provided by Wan (2013), as shown in Figure 7.3. Wan (2013) used income data (net income for rural residents and disposable income for urban residents) at provincial level to estimate the Theil index over 1978-2010. Again, Figures 7.2 and 7.3 share a

<sup>9</sup> The household production responsibility system was the very first step in igniting China's reforms. It replaced the inefficient commune system by allocating land to individual farmers and households who became decision makers for agricultural production, marketing and output distribution. By the end of 1986, all households in rural China adopted the household production responsibility system.

broadly similar trend for the overlapping years although the Theil index of Wang and Wan (2014) are more conservative than Kanbur and Zhang (2005). Also, Kanbur and Zhang's estimates are consistently on the uptrend for the latest period while Wang and Wan's Theil values exhibited a downward trend from 1994 to 1998. The decrease in inequality from 1995 to 1998 can be attributed to the major reform to the taxation system in 1994 which corrected some of the regional imbalances, the provincial governor grain-bag responsibility system<sup>10</sup> implemented in 1995 (Wan and Zhou, 2005) which helped raise rural income, and the Asian financial crisis which adversely affected the rich regions more.

Figure 7.3 Regional Inequality in China: Theil Index

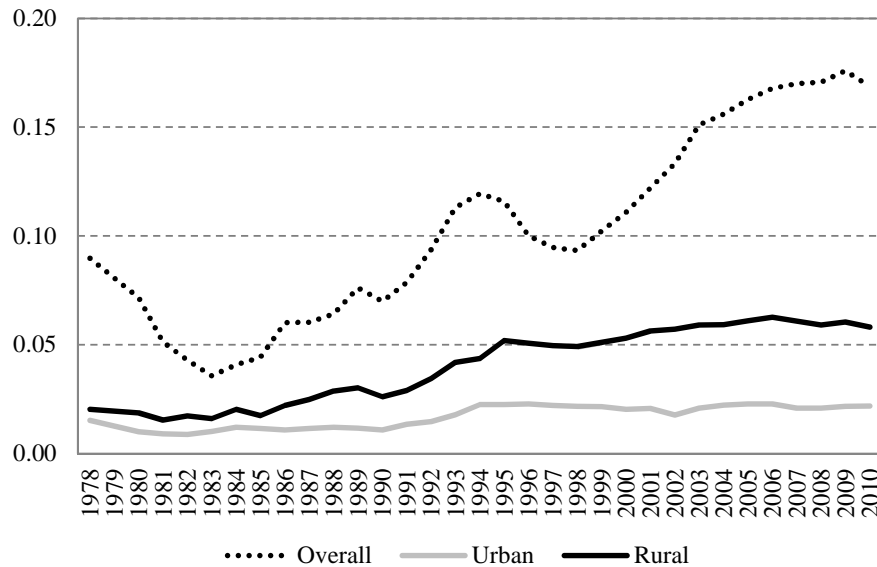


Figure 7.3 also shows regional inequality within rural and urban China. Very much like the inter-household inequality, rural inequality across provinces has always been higher than the urban counterpart. However, unlike the inter-household inequality where urban inequality has been growing faster and approached the rural counterpart, regional inequality within rural China has diverged away from the urban counterpart.

10 Introduced for food security reasons and also called the "rice bag" system, it mandates that provincial leaders are responsible for maintaining an overall balance of grain supply and demand within their provinces, stabilizing grain production area, output, and stocks, and using local reserves to regulate grain markets and stabilize grain prices." (OECD, 1999).

A commonly-discussed component of regional inequality is the east-central-west divide. China's provinces are often classified into three groups geographically.<sup>11</sup> How important is this divide to total regional inequality? As demonstrated by Wan (2007), this divide contributed around 30% to total regional inequality and the contribution is fairly stable over time. Another widely-discussed component of the regional inequality is the coast-inland disparity, where the central and west provinces are merged to form the inland area and the east is taken as the coastal area. In addition to its location advantages, the latter has had better infrastructure and economic bases even before the reform (Song, Chu and Cao, 2000). These were exacerbated from mid-1980s when the opening up strategy was implemented, providing the coastal provinces with favorable fiscal, investment and taxation policies. Consequently, the coast-inland gap increased over time. According to Zhang and Zhang (2003), the coast-inland ratio in terms of per capita GDP rose from 1.12 in 1985 to 1.45 in 1998. In terms of per capita domestic capital investment, the ratio increased by 26 percent, from 1.2 in 1985 to 1.52 in 1998.

### 7.2.3 The Profile and Importance of the Urban-rural Disparity

Urban-rural gap is a common feature in many developing economies (Shorrocks and Wan, 2005). However, it takes on special significance in China because of the notorious *hukou* system, which prevents free movement of population, especially between urban and rural areas. This institutional segregation naturally aggravates the urban-rural divide. Nolan (1979) pioneered the study on urban-rural gaps in China, based on average income and consumption data from Guangdong, Guangxi, Hubei and Zhejiang in 1955 and 1956. Considerable efforts were made by Nolan (1979) to understand the rationale or justifications for these gaps. Since the *hukou* system was established in late 1958, it is not surprising that the gaps documented in Nolan (1979) were not very large, but increased substantially after 1958. For example, the urban-rural consumption ratio reached 3.1 in 1959 (Yang and Zhou, 1999).

Using 1986 and 1988 data from the NBS, Kwong (1994) estimated urban-rural income ratios for 29 provinces. Based on his computations, the urban-rural income ratios were high in the poor regions in 1986, reaching 6.91 in Xizang (Tibet), and 5.51 in Gansu. In the same year, the ratios were only 1.7 and 1.81 in Shanghai and Beijing, respectively. This pattern was maintained in 1988 but the ratios worsen for 23 out of the 29 provinces, e.g., rising to 7.55

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11 The West includes Sichuan, Shannxi, Guizhou, Xinjiang, Tibet, Yunan, Gansu, Qinghai, and Ningxia. The Central includes Heilongjiang, Jilin, Inner-Mongolia, Shanxi, Henan, Anhui, Jiangxi, Hubei, and Hunan. The East includes Beijing, Tianjin, Liaoning, Shanghai, Hebei, Shandong, Zhejiang, Jiangsu, Fujian, Guangdong, Hainan, and Guangxi (Zhang and Zou, 2012).

in Xizang and 1.75 in Shanghai. For China as a whole, the ratio increased by almost 4 percent, from 3.27 in 1986 to 3.39 in 1988.

Zhao (1993) explored urban-rural income gaps over 1978-1990 and found a v-shaped trend: a reduction in the early 1980s, followed by fast increases. As discussed elsewhere in this paper, two factors can explain the early decline: the rise in the procurement prices for cereals and faster improvement in farming productivity than in urban productivity. The widening of the gap after mid-1980s was due to the shift of reform focus to urban sectors and waning effects of policy shocks to the rural economy. Instead of income, Yang and Zhou (1999) explored urban-rural consumption ratios. They found that the ratio reached its lowest level of 2.2 in 1985 and started increasing since then. Using the 1995 and 2002 CHIP data, Sicular et al (2007) computed the urban-rural income ratios. Adding housing-related income (an income component not included in the NBS definition),<sup>12</sup> the urban-rural income ratio rose from 3.11 in 1995 to 3.18 in 2002. These values are 10 percent and 6 percent higher than those with housing-related income excluded. After adjusting for spatial price differences, the ratio became 2.24 in 1995 and 2.27 in 2002.

Wan, Ye and Zhuang (2012) obtained urban-rural income ratios for individual provinces for the period 1978-2009. The ratio declined from 1978 to 1985 but has generally risen since 1985. The correlation between the overall inequality and the urban-rural ratio is quite visible. In particular, the ratio was low for 1983 and 1984, forcefully demonstrating the impact on rural income of government support in terms of grain price rises in the early years of China's reform. The declines after mid-1990s can be attributed to the introduction of the so-called "provincial governor grain bag responsibility system". Despite this policy shock, the urban-rural income ratio maintained a generally increasing trend until 2009. At the national level, the ratio almost doubled from 1.9:1 in 1985 to 3.3:1 in 2009.

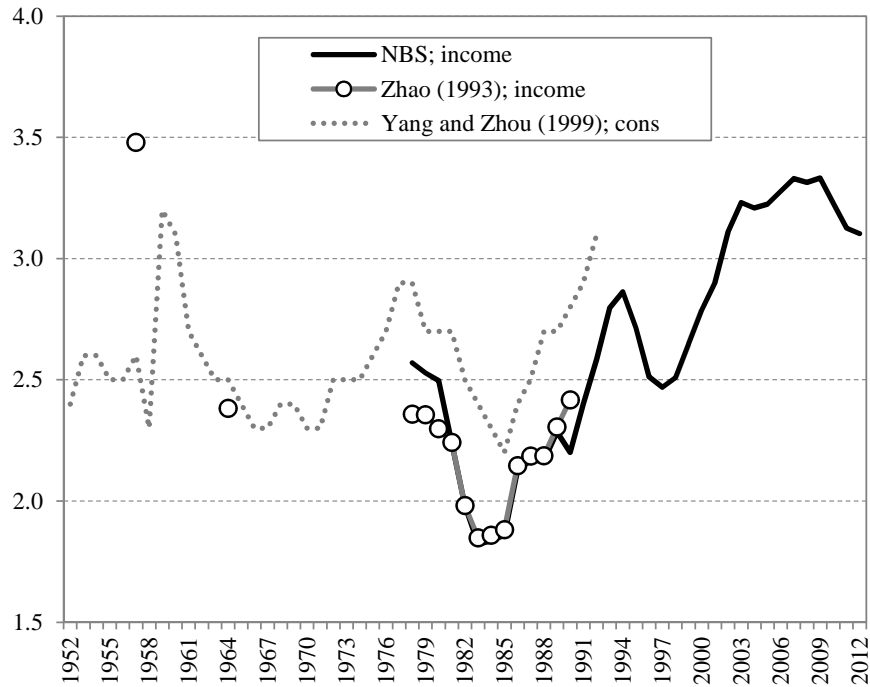
Figure 7.4 shows the ratio of average urban disposal income over average rural net income from 1952 to 2012 and the urban-rural consumption ratio from 1952 to 1992. Clearly, the gaps had widened since the mid-1980s. It was close to 3 in 1995 and moved beyond 3 since 2002. By international standards and even after various adjustments such as spatial price deflation and including migrants in the urban sample, China's urban-rural inequality is high (Sicular et al, 2007).

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12 This refers to the imputed rental value of owner-occupied housing and imputed subsidies on publicly-owned rental housing.



Figure 7.4 China's urban-rural income and consumption ratios, 1952-2012



Sources: National Bureau of Statistics (various years); urban-rural consumption ratio from Yang and Zhou (1999).

China's urban-rural income gap has a distinct regional dimension. It is present in all provinces, rich or poor, eastern, central, or western. In 2007, it was largest in western and eastern China, 3.85 and 3.44, respectively. Sicular (2013) observed that between 2002 and 2007, excluding large municipalities such as Beijing and Shanghai, this ratio rose by a remarkable 43 percent in the east, as compared to 27 percent in central China, and only 3 percent in the west. The reason for these regional differences merits further investigation.

It is worth noting that Figures 7.1-7.4 share a similar trend. This highlights the importance of the urban-rural gap in constituting both regional and inter-household inequalities. In fact, it is possible to gauge the contribution of the urban-rural gap to the total regional and nation-wide inter-household inequalities. For example, according to Wan (2007), China's urban-rural income gap has been a central factor underlying regional income inequality, contributing 70-80% to total regional inequality. Using the NBS data of cities and counties for the year 1994, Lee (2000) found that the urban-rural disparity accounted for 26 percent of overall regional inequality in per capita GVIAO, and 37.7 percent in per capita consumption. These contributions are smaller than those produced by Wan (2007) and Liu (2010). Similar to Wan (2007), Liu (2010)

showed that in terms of regional income inequality the contribution of the urban-rural gap was 57.98% in 1997, increasing over time and reached 72.84% in 2006. In terms of regional consumption inequality, the gap contributed no less than 75% over the entire period of 1995-2006, reaching as high as 79.460% in 2006.

The contribution of the urban-rural gap to total inter-household inequality was investigated by Sicular et al (2007), using the CHIP data. Without adjusting for spatial price differences, the urban-rural gap accounted for about 40% of regional income inequality in 1995, rising to 45 percent in 2002. Adjusting for spatial price differences, however, reduces the contribution noticeably, to less than 30 percent in 1995 and about 30–32 percent in 2002. This is consistent with Gustafsson and Li (1998) who concluded that if average income in rural and urban was equalized, holding inequality within urban and rural unchanged, almost one-third of inequality in China would disappear.

### 7.3 SOURCES OR CAUSES OF THE RISING INEQUALITIES

Despite a growing literature on China's inequality, there continues to be a lack of analytical research on sources or causes of the rising inequality in China. In particular, little is known about the relative importance of potentially relevant contributing factors. Following the recent advance of the regression-based inequality decomposition technique (see Wan (2004) for a review), research outputs are emerging which quantify sources of rising inequality in China (Wan and Zhou, 2005; Chen, Wan and Lu, 2010) and elsewhere (Gunatilaka and Chotikapanich, 2009).

At the outset, the famous Kuznets curve is dismissed as a way to explain the rising inequality in China because it heavily relies on the key assumption that population flow from low-inequality sector into high-inequality sector. In China, however, the inequality in the urban sector has been low relative to the rural counterpart although urban inequality has been rising, approaching the level of rural inequality. In addition, labour mobility has been restricted due to the *hukou* system. Clearly, the theory or mechanism underlying the Kuznets hypothesis contradicts realities and cannot explain rising inequality in China.

To gauge the determinants of inequality, several approaches can be employed. The conventional decomposition of Shorrocks (1982) breaks down the overall inequality into the within-group (e.g., within-rural and within-urban) and between group (e.g., urban-rural) components. The latter is often taken as the contribution of the grouping variable. Tsui (1993) applied this decomposition to the 1982 county- and city- level data on gross value of industrial and agricultural output (GVIAO). He found that the between province component constituted only 36% of the total. Grouping the data into rural and

urban areas, the total inequality consists of 52% from urban-rural gaps, 40% from within-rural gaps and 8% from within-urban gaps.

Using the same approach, Kanbur and Zhang (1999), Bhalla, Yao and Zhang (2003) and Wan (2007) confirm the dominance of the rural-urban component in total regional inequality. However, this component is found to be increasing over time by Wan (2007) but stable by Kanbur and Zhang (1999). On the contrary, the contribution of the inland-coastal gaps to total regional inequality is found to be stable over time by Kanbur and Zhang (1999) but increasing by Wan (2007). These different results may arise from the use of different data. Generally speaking, income data used by Wan (2007) is better than GDP or other gross output variables as a wellbeing measure.

Figure 7.5a provides an update to Wan (2007). It shows the dominance of the urban-rural component throughout the entire period. Figure 7.5b confirms the constancy of the east – central-west divide in terms of its contribution to total regional inequality, implying that it is a less important contributor relative to the urban-rural gap.

Figure 7.5a Contribution of Urban-rural Gap to Regional Inequality in China, 1980-2009

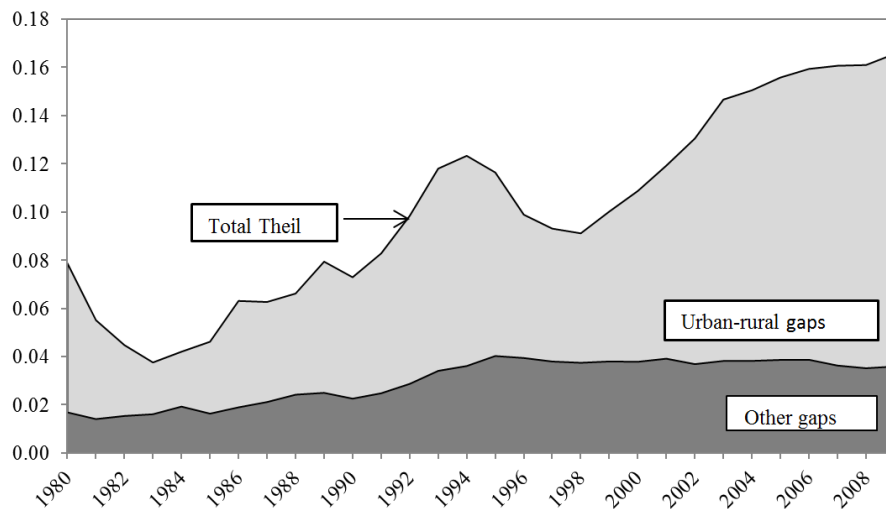
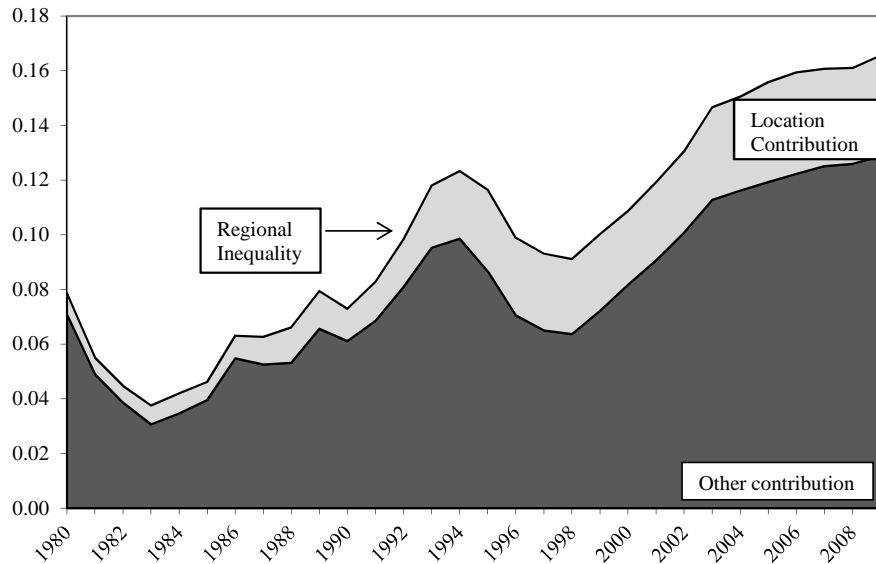


Figure 7.5b Contribution of Location to Regional Inequality in China, 1980-2009



However, the conventional decomposition is problematic for identify fundamental determinants of inequality. For example, if one uses gender to group a sample and find a very large between-sex component, this component cannot be exclusively attributed to gender discrimination unless everything else remains the same for the male and female sub-sample. If males possess higher human capital, its impact on income would be captured by the between component. In other words, the between group component is usually contaminated.

The approach of conditional convergence modelling requires estimation of growth regressions, with variables such as location, physical and human capital, infrastructure, institutions and policies controlled for (Chen and Fleisher 1996). These conditioning variables, which represent the heterogeneous steady states, are considered to drive income inequality. Ding, Haynes and Liu (2008) provide evidence on conditional convergence in China over the period 1986 to 2002. According to them, it would take 40-60 years to eliminate half of the gap between the lagging and leading regions. Nevertheless, a vital deficiency of this approach is that one cannot rank inequality determinants in terms of their contributions to total inequality. In fact, this approach does not really measure or model inequality itself.

The regression-based inequality decomposition of Wan (2004) allows both identification of driving forces of income inequality and quantification of their contributions to total inequality. This approach permits use of any inequality index, any model specification, and the contributions always adding to 100 percent. In the empirical part of Wan (2004), a combined Box-Cox and Box-

Tidwell income-generating function was estimated, which was used to quantify the contributions of dependency ratio, capital input, education land, TVEs and other variables to inequality.

Assuming all markets are complete with full factor mobility, inequality would be low in the long run. However, markets in China are fragmented (Poncet, 2003; Fu 2004; Zhang and Zou, 2012), far from being perfectly integrated and competitive. There are many barriers to factor mobility. Apart from local protectionism (Zhang and Zou, 2012), the most notorious institutional barrier is the household registration or *hukou* system (Cai, Wang and Du, 2002), to which we now turn.

### 7.3.1 Institutional Factor: the Hukou System

The household registration or *hukou* system was established in 1958 and remains effective today. Until the mid-1990s, *hukou* was reinforced by grain and other rations thus little labour mobility could occur. Consequently, rural labour surplus in China, unlike elsewhere, could not migrate to the cities despite faster urban growth since mid-1980s. The same holds for regional development and cross-region migration. The abolishment of grain rations in late 1993 made labour mobility possible, leading to the emergence of rural-to-urban and regional migration. However, these migrants, in the order of 260 million today, mostly do not have urban *hukou*.

In addition to being discriminated on the labour market, migrants without the urban *hukou* are denied most basic social services and benefits including pension, unemployment and health insurances. Also, *hukou* interacts with other policy factors in raising inequality. Even today, migrants have little chance to gain employment in government or monopoly industries which usually pay well. Whalley and Zhang (2007), by simulating a general equilibrium model, confirm the significant role of *hukou* in preventing labour mobility. Bao, Bodvarsson, Hou and Zhao (2011) demonstrate that a 1% increase in the perceived probability of securing *hukou* will induce 11.85% increase in the migration rate whereas average provincial migration rate was 3.775 for 1985 to 1990, 3.589 for 1995-2000, 3.655 for 2000-2005.

Clearly, *hukou* prevents many more potential migrants to share the growth dividends in urban or coastal areas (Zhao, 1999; Zhang and Zhou, 2012). Therefore, it represents a cause of enlarged urban-rural and regional income gaps. Conversely, migration is expected to help moderate these gaps as it not only offers migrant workers better job opportunities or allows them to share urban outputs, but also helps lessen the pressure of land shortage in the rural areas and allows those left behind with more work and investment opportunities (Zhu and Luo, 2010). Moreover, remittance from migrants helps raise rural income and promote investment and consumption in rural China (Sicular, 2013).

However, Sicular et al (2007) noted that overall inequality shows no clear upward or downward trend as the migrant population share increases. They argue that migrants tend to have characteristics more similar to urban residents (younger, better educated, smaller households), so relocation of this subset of rural population does not significantly alter the urban–rural gap as much as would movement of “average” rural residents. But, their inference holds constant all other things and does not take into account the effects of migration on incomes of those remaining behind in rural areas or those with urban *hukou*. Also, Ito (2008) suggested that the removal of *hukou* may not help eradicate rural–urban inequality, because migration may lead to the decline of the rural industrial sectors. It is not clear if the decline of TVE (town and village enterprises) in terms of its output share in the rural economy from 52% in 1995 to 28% in 2000 as documented by Ito (2008) is caused by migration. The decline can be driven by firm relocations or competition of urban industries.

### 7.3.2 Policy Issues

China’s regional development policies and the opening up of the coastal cities contributed directly to the rising inequalities (Zhang and Zou, 2012). Preferential investment, taxation and banking policies for the coastal region expedite its economic growth and technological leadership. Industrial agglomeration then took place. By comparison, it was not until 1991 that the government opened up inland areas. By then, the inland area may have already lost the capability to compete with the coast (Feng, 2004).

The fiscal system in China is dis-equalizing. Before the reforms, China had a highly centralized fiscal system where the central government alone prepared budget and collected revenue. Even the state-owned enterprises (SOEs) were part of state finance. After the major decentralization reform to the fiscal system in 1994 (Lin and Liu, 2000) aiming at arresting the free fall of the ratio of government revenue to GDP and the share of central government in the total government revenue (Wang 1997), fiscal disparities have increased (Zhao, 2009). In 1995, the government introduced the equalization grant to curb the fiscal disparity. Unfortunately, the grants and other discretionary transfers failed to redistribute resources. The grants, instead of targeting the poorer provinces, were used to reward local governments who are loyal to the upper governments (Shen et al 2012).

Now, China has one of the most decentralized fiscal systems in the world, particularly on the spending side. More than half of all expenditure takes place at the sub-provincial level. Poor areas have very little tax collection and hence cannot fund basic social services. The richest province has more than 8 times the per capita public spending than the poorest province. The situation is worse at the sub-provincial level. The richest county, the level that is most important for service delivery, has about 48 times the level of per capita spending of

the poorest county (Dollar and Hofman 2008). These differences in public spending translate into differences in social outcomes such as health and school enrolment rate, with profound implications for current and future inequalities.

The *hukou* related urban biases represent another determinant of inequality (Yang 1999). For example, rural households received much less transfers and subsidies than urban households. Although removing the agriculture tax in 2006 is a step in the right direction, tax and subsidy payments still favor the urban residents (Wang and Piesse 2010). The urban biases also interact with biases towards SOEs because few rural residents can gain employment in SOEs. The latter biases, particularly in terms of energy and credit subsidies, reinforce inter-sector gaps which have risen significantly over time (Chen et al 2010).

### 7.3.3 Location or Geographic Factors

Geography matters. In addition to preferential policies, coastal provinces benefit from location advantages for exports, better infrastructure and more human capital although the inland areas have more natural resources and higher population growth rates (Lu 2008). Demurger, Sachs, Woo, Bao, and Chang (2002) quantified the effect of both policy (preferential policy index) and geography (ability to participate in international trade) variables, finding that geography and policy had about equal influence on coastal growth. Geography also plays a major role in determining the urban-rural income gap (Gustafsson and Li, 1998). According to Sicular et al (2007), about 46% of the urban-rural gap in 1995 can be attributed to the location dummy variables and the constant term. The contribution increased to 81% in 2002.

Nevertheless, the contribution of location to regional inequality may be declining over time. According to Wan, Lu and Chen (2007), the contribution of East-Central-West gaps in composing regional inequality has dropped from less than 18% in 1987 to just over 15% in 2001. These results are broadly in line with the decomposition results shown in Figure 7.5b. The between-component (largely indicating location impacts) is small and may decline further as infrastructure develops, labour mobility improves and urbanization proceeds. This finding corroborates well with Chen and Zheng (2008) who used data from 100 villages of 9 provinces to study rural inequality. They found that less than half of inequality is due to factors between villages.

### 7.3.4 External Factors: Trade and FDI

The benefits of trade and capital flows to economic development are well-known and they can be amplified indirectly via the multiplier effect. Of course, coastal China gained much more than the inland area (and urban more than rural) from the open-door policies (Fujita and Hu, 2001). In 1999, the degree

of openness,  $(\text{imports} + \text{exports} + \text{FDI})/\text{GDP}$ , was 64.47% for the eleven coastal provinces, but under 10% for the 8 central and 12 western provinces (Yin, 2004). It is thus not surprising for Wei, Yao, and Liu (2009) to find that FDI generated a consistent and positive effect on growth differences between regions. In addition, firms with FDI usually offer higher salaries, thus FDI contributes to the wage gap between firms and individuals (Wu, 2005; Tian, Lo, Lin and Song 2011). Further, Kanbur and Zhang (2005) regressed the coastal-inland inequality component on various determinants and showed that openness and decentralization contributed to the rapid increase in inland-coastal disparity in the reform period of the 1980s and 1990s.

According to Wan et al (2007), trade accounts for 12% of regional inequality in the late 1980s and grew to more than 14% in early 2000s. The contribution of FDI also rose, from 5% to almost 7% during 1987–2001. Adding these two together, globalization contributes more than 20% to the total regional inequality in China since 1999, overtaking capital as the sole most important driver of inequality. These findings are consistent with those of Zhang and Zhang (2003) who used CV as a measure of inequality.

### 7.3.5 Other Factors

Education and skills are the major means for earnings thus their inequalities must help drive inequality. Ito (2008) noted that human capital-related factors are largely responsible for the increased rural-urban disparity, more than 25% of which can be explained by the schooling variable (Sicular et al, 2007). Based on the 2002 CHIP data, educational inequality accounts for as high as 36 percent of self-employment income inequality. But it only accounts for 2 percent of the rural inequality (Liu and Sicular 2009). Thus, as urbanization proceeds, education is expected to play a much more significant role in affecting inequality.

Unfortunately, regional gaps in human capital are large. As Yin (2004) highlighted, in 2000 the eastern region had 5.98% population with college or higher degrees, relative to only 2.97% in the western region. As another example, 7.4% of employees were illiterate in the eastern region in 1999, much lower than 16.25% in the western region. Using enrolment data, Lee (2008) finds deteriorating educational inequality across provinces and the deterioration becomes worse at higher levels of the education ladder. Meanwhile, returns to education are found to be on the rise in China, further aggravating the inequality impacts of the educational endowments.

Worse still, educational attainment is highly correlated with provincial innovation activities (Chi and Qian, 2010). Controlling for a set of variables, Wang and Zhang (2003) found a significant correlation between knowledge disparity (particularly on public spending on knowledge advancement and educational attainment) and economic inequalities.



Finally, a number of studies show that households headed by a member of the Communist party are on average better off than others. But decomposition results show that gaps in average household income between households headed by party members and those by non-party members contributed little to total inter-household inequality. The same can be concluded regarding ethnicity (Gustafsson and Li, 1998).

#### 7.4 SUGGESTED INTERVENTIONS

As far as policy options are concerned, the urban-rural gap and regional inequality deserve priority considerations. Eliminating the former is possible and will cut inter-household inequality by one third. While it is not possible to eliminate regional inequality, encouraging migration and developing transport and telecommunication infrastructure can help lower the total inequality considerably. When combined with other interventions, China can contain and eventually reverse the rising trend of inequality.

##### 7.4.1 Tackling the urban-rural gaps: Urbanization

Since the urban-rural gap has been the largest component of income inequality in China, tackling this should be a policy priority. It is important to point out that fiscal policy intervention or redistribution alone would not be sufficient because only a little more than one third of China's population can be classified as being urban with absolute majority of China's population being poor rural residents. Thus, the government must abolish the *hukou* so as to alleviate various kinds of discriminations and allow migrants to enjoy some social protection.

However, abolishing *hukou* is only a necessary but not sufficient condition for bridging the urban-rural gap. In other words, the urban-rural gap will not automatically disappear after abolishing *hukou*. This is demonstrated by the persistence of urban-rural disparity in India, Mexico, and many other countries where labour and population movement is free. Other policy measures (fiscal policy, taxation policy, social protection programmes) are needed to support urban settlement of rural residents. In this context, the inability to sell or mortgage rural land represents an obstacle to urbanization. Allowing farmers to trade their land plots not only helps facilitate permanent migration but also helps defray cost of urban settlement and promote agricultural development. In addition, migrants must be provided with education and training opportunities to enable them to acquire or upgrade skills so they can compete with original urban residents.

To minimize the social and environmental problems potentially associated with massive migration, a step-by-step procedure is necessary where migrants

with long-term jobs or secure housing should be given priority. Those with better education should also enjoy concessions. In fact, some cities such as Shenzhen have recently adopted a scoring system, with demographic and other characteristics of potential migrants being taken into consideration. To ease fiscal pressure, new migrants may be provided with limited access to financial assistance in housing, education, health care, and other welfare provisions. Community colleges could be set up in the cities to provide training and education to temporary and long-term migrants and their family members.

#### 7.4.2 Tackling regional inequality

Underlying regional inequality are cross-region differences in human and physical capital endowments and other economic conditions (such as proximity to the global market). According to Wan et al (2007), equalization of domestic capital stock on a per capita basis across regions will cut regional inequality by 20%. To narrow these gaps, greater public investment in infrastructure, and productive capabilities in the lagging regions should be prioritized. In particular, continued financial reform is necessary in order to improve access to finance in inland provinces and rural areas. While various government entities and financial institutions are experimenting with micro-credit schemes, such schemes must cater for capital formation.

Meanwhile, it is important to promote trade and FDI in inland China. Policy biases that helped expand trade and FDI but are gradually being phased out in coastal China should be implemented in inland provinces to create a better environment for attracting and absorbing FDI (Wei et al, 2009). Since firms are attracted to locations with better infrastructure (Sridhar and Wan, 2010), infrastructure investment in China shall continue in the backward regions (Ding et al, 2008; Demurger, et al, 2002). Such public infrastructure investments are effective in reducing regional disparities (Vijverberg, Fu and Vijverberg 2011). Zou, Zhang, Zhuang and Song (2008) found that reducing road inequality would lead to a reduction of income inequality. The infrastructure investment, particularly in the rural areas, could facilitate rural-urban migration and make technological progress in the rural sector faster (Liu and Zou, 2011).

Fundamental changes are needed in the collection and allocation of fiscal resources across regions (Gao 2008). An equalization in fiscal support would lead to an almost 15% drop in regional inequality and a progressive fiscal scheme would result in a much larger impact (Wan et al 2007). Fiscal transfers should be conditional, geared toward capital formation and education of the young. Public research and development (R&D) investment in agriculture should be increased to improve farming productivity as agriculture has been the major part of the economy of the inland areas. Special attention shall be paid to the quality of schooling in poor areas where school fees in compulsory education have been abolished since 2005.

Reform in fiscal system shall include centralization of public spending on basic services to eliminate their disparities. In the US, the poorest state has about 65 percent of the revenues of the average state, and in Germany, any state falling below 95 percent of the average level gets subsidized through the “*Finanzausgleich*”, and any receiving more than 110 percent gets taxed (Dollar and Hofman 2008).

#### 7.4.3 Hukou reform and social protection

There is consensus that the *hukou* system must be reformed, as highlighted in the *Decision on Major Issues Concerning Comprehensively Deepening Reforms* that was adopted at the Third Plenum of the 18<sup>th</sup> Central Committee of the Chinese Communist Party. While experiments have been undertaken in a couple of provinces, they are largely designed to reform *hukou* for residents within provincial borders. How to reform *hukou* at the national level remains a daunting task.

Besides ensuring a minimum living standard for all which is already in place, a well-functioning social protection system helps the poor and the vulnerable to invest in human and possibly physical capital, which is essential for improving income distribution in the long run. This will become increasingly important as aging and migration gains momentum. While social protection in terms of pension, health care and unemployment benefits are more advanced in urban areas, the rural sector is significantly lagging behind, not only in terms of breadth and depth of coverage, but also in terms of level of benefits. Similar differences also exist between provinces which may adversely affect labour mobility across provincial borders. These differences must be addressed.

One of the most serious problems lies in the non-portability of various benefits. Overcoming this problem appeals for a centralized social welfare system where individuals can have access irrespective of their location of residence and *hukou* status. While still a long way to go as far as social protection is concerned, it is important not to develop into a welfare state. The lessons of overshooting experienced by Australia and Canada ought to be borne in mind.

#### 7.4.4 Other proposed remedies

It is widely accepted that job creation will help moderate income inequality as the poor and vulnerable mainly possess labour as the only resource, while the rich often have capital and other resources. To enhance job creation, growth must be maintained, particularly in the labour intensive tertiary sector. At present, the services sector contributes about 40% of GDP and around 35% of total employment, both low. If international experience is any guide, the

services sector should account for 50-60% of national GDP and total employment at the current stage of development. A simple calculation projects 400-456 million jobs in the services sector, implying a gap of 150-200 million. It must be pointed out that these calculations have not taken into account new jobs to be generated by economic growth, which is expected to remain high and sustainable for the next 20-30 years.

The roles of the central and local governments should be clear and properly defined to help in the reallocation of fiscal resources (Shen et al, 2012). Local governments should focus on public services and social development while the national government should focus on regional equalization.

Further ownership reform is needed to break down state monopoly by removing various subsidies to SOEs and introducing private investment in the currently protected sectors (Feng 2004). As the state sector still accounts for a major share of the economy in inland China, such ownership reforms are expected to boost growth more in inland areas and help bridge regional inequality (Yin 2004). Also, concerted effort should be made to promote the private sector as the rapid economic growth of the eastern region is closely associated with the development of the private sector (Hao and Wei, 2010).

Meanwhile, anti-protection regulations shall be enacted to remove inter-regional trade protections (Zhang and Zou, 2012). An integrated domestic market with less government interventions not only helps promote economic development but also facilitate factor mobility and improvement of income distribution (Hao and Wei, 2010).

## 7.5 SUMMARY AND AREAS FOR FUTURE RESEARCH

In pre-reform China, egalitarian distribution was only implemented in the urban sector and within production teams of the rural sector. Thus, sizable income inequality existed, largely attributable to urban-rural gaps and disparities within the rural sector. Economic reforms broke the "iron rice bowl" in the urban areas and the egalitarian distribution within production teams. Consequently, within-rural and within-urban inequalities have been increasing until recently. However, the overall inequality declined in the first several years of reform due to the narrowing down of the urban-rural gap which represents a dominant component of the overall inequality. From mid-1980s till early 2000s, inequalities along all dimensions in China exhibited increasing trends, leading to a voluminous literature and policy interventions. To what extent these interventions are effective in containing the rising inequalities is subject to further research.

Further research is also needed on the impacts of inequality on growth, consumption, crimes, health, human capital formation and so on. There is a lack of analytical work on the consequences of inequality in general, particularly in China. Unless these consequences are properly documented and brought

to the attention of policy makers, the urgency and significance of tackling income inequality may be undermined.

Of course, before appropriate policy interventions can be initiated, it is vital to pin down the causes or sources of worsening income distribution. Towards this purpose, many studies have employed conventional decomposition techniques to quantify the components of inequality or its changes in China, as reviewed in this paper. Unfortunately, such decompositions cannot identify fundamental determinants of inequality and the decomposition results are most likely to be contaminated. The more recently advanced regression-based inequality decomposition offers a promising alternative (see Wan 2004), but its empirical applications to China are limited and shall be expanded.

One important research area which so far has attracted little attention relates to the evaluation of various policy interventions. These include the introduction in 2000 of the great western development strategy to tackle regional divide and in 2005 of the “socialist new countryside development” movement aiming at reducing the urban-rural gaps. In 2006, the government adopted the goal of “building a harmonious society” in its 11<sup>th</sup> Five-Year Plan. In November 2013, the Third Plenum of the 18<sup>th</sup> Central Committee of the Chinese Communist Party has outlined a systematic approach to tackling the issue of income distribution, through reforms in a wide range of areas including the *hukou* system, social protection, access to public services (particularly education and health care), taxation, and governance.

