

Inequality in China

An Overview

John Knight

The World Bank
Development Economics Vice Presidency
Partnerships, Capacity Building Unit
June 2013



Abstract

This paper provides an overview of research on income inequality in China over the period of economic reform. It presents the results of two main sources of evidence on income inequality and, assisted by various decompositions, explains the reasons income inequality has increased rapidly and the Gini coefficient is now almost 0.5. This paper evaluates the degree of income inequality from the perspectives of people's subjective

well-being and government concerns. It poses the following question: has income inequality peaked? It also discusses the policy implications of the analysis. The concluding comments of this paper propose a research agenda and suggest possible lessons from China's experience that may be useful for other developing countries.

This paper is a product of the Partnerships, Capacity Building Unit, Development Economics Vice Presidency. It is part of a larger effort by the World Bank to provide open access to its research and make a contribution to development policy discussions around the world. Policy Research Working Papers are also posted on the Web at <http://econ.worldbank.org>. The author may be contacted at john.knight@economics.ox.ac.uk.

The Policy Research Working Paper Series disseminates the findings of work in progress to encourage the exchange of ideas about development issues. An objective of the series is to get the findings out quickly, even if the presentations are less than fully polished. The papers carry the names of the authors and should be cited accordingly. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent.

Inequality in China: An Overview

John Knight¹

JEL Classification: D31, D63, O15.

Keywords: China, Gini coefficient, Household surveys, Income inequality, Social instability, Subjective well-being.

¹ Emeritus Professor, Department of Economics, Manor Road Building, University of Oxford, OX1 3UQ, john.knight@economics.ox.ac.uk, and China Institute of Income Distribution, School of Economics and Business Administration, Beijing Normal University. I am grateful to Ravi Kanbur, Li Shi, Martin Ravallion, Terry Sicular, and the editor and three referees for their helpful comments.

When China embarked on economic reform, it had too much income equality. The egalitarian arrangements in the communes and factories stifled incentives and produced enormous inefficiency. The new Chinese leadership recognized that greater income inequality was necessary to provide the incentives essential to a marketizing economy that was in the process of making the challenging transition from a central planned economy to a market-driven, private-sector-based economy. Inequality increased rapidly over the reform period. The Gini coefficient of household income per capita was 0.49 in 2007 (Li et al. 2013), and China was found to have the joint highest inequality in Asia (Asian Development Bank 2007: figure 1). Income inequality had become a matter of concern to the Chinese leadership.

It is notoriously difficult to make reliable intercountry comparisons of income inequality or its change. Nevertheless, table 1 reports the Gini coefficient in the 15 largest developing countries (for which data are available) in the late 1980s and the late 2000s. The table suggests that China is outstripped in its recent inequality only by Brazil and South Africa and in the rise of its inequality only by the Russian Federation.

This paper is a timely and reflective overview of recent economic changes in income inequality. It is not designed to provide a comprehensive and thorough empirical survey; rather, it concentrates on the aspects of China's income inequality and its rise that are likely to be of most interest beyond or outside China. This paper

focuses on the period of economic reform beginning in 1978 and is largely concerned with inequality of income and factors that generate this inequality.

We address a series of timely, important, and serious questions. How well can China's income inequality be measured? Can discrepancies in the evidence from alternative sources be explained? How and why has wealth inequality increased? What are the dimensions and components of increasing income inequality? How do the different components help to explain the remarkable rise in income inequality? What is the relationship of inequality to poverty? Why and how is income inequality of concern to people and to the government? Can China's past and likely future income inequality be interpreted in terms of the inverted-U of the Kuznets curve? What are the implications for Chinese policy? Are there lessons for research and for other developing countries?

<<A>>Measuring Inequality

Some knowledge and understanding of the data sources and their limitations is necessary. There are two main sources of information on income inequality over time: the annual national household income and expenditure surveys of the National Bureau of Statistics (NBS) and the periodic national household surveys of the China Household Income Project (CHIP). The NBS surveys contain many observations but a limited number of questions. They cannot be used as a panel (namely, longitudinal study over two or more points in time), and they are generally not available to researchers at disaggregated household and individual levels. Therefore, measures

of income inequality such as the Gini coefficient, when derived from official statistics, must be based on province-level or percentile data. The CHIP surveys relate to the years 1988, 1995, 2002, and 2007, they use a subsample of the NBS surveys, and they ask many more questions. There is an edited volume on each of the CHIP surveys (Griffin and Zhao 1993; Riskin et al. 2001; Gustafsson et al. 2007a; Li et al. 2013). The two sources use different definitions of income; the CHIP definition is more comprehensive.

Because of the sharp administrative and economic divide between urban and rural China and the need for different survey questionnaires, measures of inequality are generally reported for urban and rural areas separately as well as with a weighted national measure. The NBS surveys are based on urban or rural residence registration (*hukou*), so they exclude most rural-urban migrants (who normally retain rural *hukou*) from the urban sample. By 2002, the number of rural-urban migrants exceeded 100 million. The 2002 and 2007 CHIP surveys added a separate sample of rural *hukou* households in urban China.

China's poverty and inequality decreased dramatically in 1978–1985 during the years of rural reform, when farming was decollectivized, household production was restored, and farm incomes responded. It is possible to obtain a fairly consistent set of Gini coefficients from the 1988–2007 CHIP surveys. In 1988, the urban Gini (0.24) was very low by international standards, the rural Gini (0.33) reflected regional income disparities, and the national Gini (0.38) was higher than both the urban and

the rural Gini coefficients because of the high ratio of urban to rural household income per capita. There appeared to be a lull in this increase because the national Gini was 0.45 in both 1995 and 2002. However, in 2007, the urban Gini was 0.34, the rural Gini was 0.36, and the national Gini was no less than 0.50.¹ Adjusted for regional price differences, the Gini was 0.43 in 2007, having risen from 0.40 in 2002 (Li et al. 2013).

Ravallion and Chen (2007), who had partial access to the NBS microdata, found growing income inequality: all three Gini coefficients increased by 3 percentage points over the six years between 1995 and 2001. These authors' estimate of the national Gini in 2001 was 0.45. NBS statistics for urban China show that income inequality continued to rise after 2001. The share of the lowest three quintiles fell monotonically over the period of 2000–2008, whereas that of the highest quintile increased sharply. Moreover, the national Gini coefficient based on grouped NBS data was estimated to rise by 5 percentage points between 2000 and 2008 (Lin et al. 2010).

Although there is no indication that income inequality in urban areas stopped increasing in the NBS data, the CHIP data suggest that it was no higher in 2007 than it had been in 1995. The explanation for this discrepancy is likely to be found in the definition of income. In contrast to the NBS's definition, CHIP's definition includes various regressive subsidies received by urban *hukou* residents, particularly

housing subsidies. The phasing out of subsidies over this period may have reduced urban income inequality.

The various estimates of income discussed so far are for disposable income, which includes various private and public transfers as well as factor incomes (derived from productive activities). In fact, taxes and subsidies have done nothing to remedy factor income inequality, although the degree of fiscal regressivity (in which the effect on income is disproportionately greater on poorer than richer people) has fallen as reforms have progressed (Khan and Riskin 2007). In 2007, the urban Gini for income after the deduction of direct taxes was only 1 percentage point lower than its pretax counterpart (Xu and Yue 2013).

A rich entrepreneurial class emerged remarkably rapidly in China. There were above-normal profits to be earned, and the combination of a semimarketized economy, weak legal system, and ill-defined or insecure property rights provided room for corruption, cronyism, and rent seeking. Because not all income derived from such activities is detectable in the NBS or CHIP surveys, incomes at the top of the income distribution are likely to be understated. An ingenious attempt to measure this effect claimed to find much “grey income” in the highest income group (Wang and Woo 2010)².

During the period of central planning, there was almost no personal wealth in China. Economic reform brought not only rapid accumulation but also considerable

inequality of wealth. China thus provides an excellent case study of the various processes that generate wealth inequality. The Gini coefficient of wealth in 2002 was 0.55 (rural 0.40, urban 0.48), which was considerably higher than the coefficient of income per capita (Zhao and Ding 2007). The main cause of the higher Gini coefficient in both rural and urban areas was differences in the quality and value of housing, which, in the latter case, represented two-thirds of the inequality of net wealth. Urban dwellers who acquired ownership of the houses that they had occupied (while paying nominal rents) made huge capital gains; the housing subsidy was merely capitalized. Rationed access to cheap loans from state-owned banks provided opportunities for capital accumulation. More generally, the acquisition or appropriation of state assets at below-market prices was a powerful disequalizing or destabilizing force. The divergence of wealth was assisted by the fact that the household saving rate increases sharply with income.

<<A>>Decomposing Inequality

To better understand income inequality in China, we need to decompose the complexity of the data. Thus, we consider the various dimensions and components of income inequality, starting with the urban sector. Under central planning, the work unit (*danwei*) served as a mini welfare state, providing lifetime employment, housing, pensions, and medical care to its members. Workers were allocated bureaucratically; wages were determined administratively and were highly egalitarian. As an urban labor market gradually emerged, the wage structure

widened and wage inequality increased. For instance, the Gini coefficient was 0.21 in 1988, 0.33 was in 1995, but was still 0.33 in 2007 (Deng and Gustafsson 2013).

The increase was partly due to increasing rewards for productive characteristics and incentives for efficiency. For instance, the wage premium of a college degree over primary schooling was 9 percent, 39 percent, and 88 percent in 1988, 1995, and 2002, respectively. However, the increase was partly due to new or growing forms of discrimination and segmentation (Knight and Song 2007). For instance, these authors found that wages were increasingly sensitive to enterprise profitability due to informal profit sharing. Knight and Yueh (2008) identified an important and continuing role for social connections despite the growing strength of market forces. Appleton et al. (2004) showed that urban workers who had been retrenched as a result of the reform, privatization, and closure of state-owned enterprises had to enter a difficult new labor market and, if reemployed, were at a considerable wage disadvantage in comparison with nonretrenched urban workers. The same was true of rural-urban migrants, who generally retained their rural *hukou* (residence registration) and were treated as second-class citizens in the cities. Such distinctions were grounds for perceptions of distributive injustice.

The presence of rural-urban migrants complicates the accuracy of estimates of urban inequality. Many of these people are temporary migrants who retain close links with their rural households and expect to return to them. Measures of rural household income include migrant remittances. Only the recent CHIP surveys

include samples of urban resident households with rural *hukou*. The 2002 CHIP survey permitted an estimate of the urban Gini coefficient both with and without migrants. The inclusion of migrants raised the Gini by 2 percentage points (Khan and Riskin 2007), but this result may be an understatement if migrants living in households have higher incomes than independent sojourners.

Nonfarm employment is important for rural household income and its distribution. Both average and, especially, marginal income are higher in local nonfarm and migrant activities than in farming. The share of wages in rural income rose sharply as rural industry burgeoned and migration accelerated. Processes of cumulative causation were initially at work as some villages industrialized and some became migration villages. Wage income contributed 21 percent of rural income inequality in 1988, 40 percent in 1995, and 41 percent in 2007.³ The slowdown was due to the reduction in rural spatial income inequality as wage employment opportunities spread more widely across provinces and counties. In principle, migration can either increase or decrease inequality depending on whether poor households, which have the greatest incentive to send migrants, have the ability to do so. An analysis of the effect of migrant members on the income of rural households using the 2007 CHIP survey showed that it reduced rural poverty and, by implication, inequality (Luo and Yue 2010). Benjamin et al. (2005) analyzed rural income inequality using a Ministry of Agriculture annual survey of 100 villages. Between 1987 and 1999, the (spatially price-deflated) Gini coefficient rose from 0.29 to 0.35. Most of this increase was at the local level. Whereas household access to local

nonfarm employment increased inequality in this period, temporary migrant employment decreased it.

Under central planning, China was characterized by a severe rural-urban divide. This divide was not reduced by the reform and marketization of the economy; the ratio of urban to rural household income per capita was greater than ever in 2007, at 4.10 according to the CHIP survey. However, it decreased to 2.91 after adjustment for spatial differences in prices. The corresponding CHIP ratios in 2002 were 3.35 and 2.28 (Li et al. 2013: table 2.8). Including various disguised subsidies (for health care, education, and pension contributions), the 2002 ratios were 4.35 and 3.10, respectively (Li and Luo 2010: 119). Rural-urban differences in the cost of living were offset by subsidies to urban people. The explanation for the high ratio is the underlying political economy that favors urban dwellers and the control of migration (Knight and Song 1999). The contribution to overall inequality made by the mean difference in rural and urban incomes rose from 37 percent in 1988 to 54 percent in 2007. Even adjusting for spatial price differences, which reduces the 2007 figure to 41 percent (Li et al. 2013), this is far higher than that in most other developing countries. Much of China's income inequality would vanish if mean income per capita in rural and urban China were equal.

<<A>>Regional Inequality

It is inevitable that a country as large as China will have large spatial or geographical differences in income levels. The more interesting question is whether there is

regional divergence or convergence over time—that is, whether the processes of cumulative causation that produce “polarization” are outweighed by “spread effects.” The former are likely to be significant in the initial stages of economic development but eventually give way to the latter as competitive advantages are eroded by rising costs. There is a good deal of research on this question in relation to China. The evidence tends to favor absolute divergence, but in line with economic theory, conditional convergence exists. This pattern was found by Lau (2010) in an examination of the GDP per capita among provinces over the 1978–2005 period.

Unfortunately, the use of province-level GDP per capita as the dependent variable is liable to produce biased results (Tsui 2007; Li and Gibson 2012). Whereas GDP data relate to production in the province, population data generally refer to the population registered in the province and exclude rural-urban migrants from other provinces who retain their rural *hukou* registration. This approach overstates the GDP per capita in the richer provinces that attract migrants. Because migration has grown rapidly, the GDP per capita growth rates of these provinces are exaggerated. Thus, evidence of absolute divergence might be an artifact.

Income or consumption based on representative household surveys is therefore probably a more reliable guide to changes in regional income inequality. Kanbur et al. have studied regional income inequality in China using consumption per capita figures derived from the NBS annual household surveys (for instance, Kanbur and Zhang 2005; Fan et al. 2008, 2011). These authors generate a series for China’s

income inequality aggregated to the province level (and thus exclude income inequality among households within a province). Over the period from 1980 to 2007, the Gini coefficient rose from 0.27 to 0.34 (Fan et al. 2011). Econometric analysis shows that fiscal decentralization and trade liberalization contributed to the rise in inequality (Kanbur and Zhang 2005). Fiscal decentralization enabled the richer coastal provinces to increase their revenues and thus to promote economic development. Trade liberalization enabled the coastal provinces to grow more rapidly through both their geographic advantage and preferential treatment from the central government (with respect, for instance, to infrastructure and foreign direct investment). Fan et al. (2011:50) found that inequality attributable to income differences between the coastal and inland regions increased from 3 percent to 10 percent of the total province-level inequality between 1980 and 2007.

A further reason for the rise in income inequality among provinces in recent years involves the fiscal relationship between central and provincial governments. After the fiscal recentralization of 1994, the central government had greater power to redistribute revenue to the poorer provinces. Rule-based transfers tend to be equalizing, but the two-thirds of transfers that are specific and subject to negotiation are found to be disequalizing because they require matching funds or produce rent seeking (Huang and Kang 2012). In recent years, fiscal transfers from the center to the provinces have done nothing to correct the income divergence among provinces.

Inequality among provinces makes a larger contribution to inequality among households in rural China than in urban China. Using the CHIP surveys, Gustafsson et al. (2007b) found that the proportion of household inequality in urban China due to between-province inequality fell from 29 percent in 1988 to 19 percent in 2002. The main gain came from within eastern China, where this more developed economy was becoming more spatially integrated. The contribution of between-province inequality to rural income inequality rose from 22 percent in 1988 to 39 percent in 1995 and remained at 39 percent in 2002 (Gustafsson et al. 2007b). It appears that the initial polarization effects were offset by the spread effects that were created by the growing scarcity of local resources.

<<A>>Evaluating Inequality

It is well known that absolute income poverty in China has fallen dramatically. For instance, Ravallion and Chen (2007) report that the proportion of households who were under the official absolute poverty line decreased from 53 percent in 1980 to 18 percent in 1988 and to 8 percent in 2001. In each year, the great majority of the poor were rural. However, if poverty is defined in terms of relative income, it did not decrease. For instance, the proportion of households with no more than half of the national median household income per capita edged up from 13.2 percent to 13.3 percent in the five years from 2002 to 2007 (Li et al. 2013). Ultimately, the choice of how to measure poverty requires a value judgment. Concern for income inequality implies the introduction, wholly or partly, of a relative concept. Sen (1983 and elsewhere) has argued that concern for absolute poverty in terms of people's

“capabilities” (to be and to do things of intrinsic worth) can imply concern for more relative income equality—a reduction in relative poverty. The dramatic fall in absolute poverty in China over the reform period, reflecting the overall rise in personal income, strengthens the case for switching to the use of a poverty line that is expressed in relative terms.

The evaluation of income inequality requires a normative judgment. The economic literature on inequality commonly proceeds from the judgment that income inequality at the national level is the appropriate criterion and that the degree of inequality measured in this way is too high and should be reduced. This section delves more deeply into the basis for such a judgment. How much concern is there about income inequality in China? We focus first on the people and then on the government.

Research on subjective well-being in China shows why people are concerned about income inequality: “relative deprivation” is a common phenomenon (for instance, Knight and Gunatilaka 2011, using the 2002 CHIP survey). Regression analyses of happiness (or life satisfaction, or subjective well-being—we use the terms interchangeably) in China produce well-fitting equations with understandable and significant coefficients.⁴ Two consistent findings are the importance of relative income and the importance of the chosen reference group.

In rural China, where the happiness score ranges from 0 to 4 with a mean of 2.7, those who report being “much below” the mean income of the village (five answers are possible) have a happiness score that is 1.06 below those who report being “much above” the mean (Knight and Gunatilaka 2010). Respondents were asked with whom they compared themselves; in rural China, two-thirds of respondents claimed to compare themselves with others living within the village. This finding indicates that the reference groups are narrow. In rural China, the “relevant others” are households in the same village, and in urban China, the “relevant others” are households in the same city. In the cities, where a doubling of income raises the happiness score by 0.10 units, the happiness of respondents whose households fall into the lowest quarter of city income per capita is 0.81 points below those in the highest quarter (Knight and Gunatilaka 2010).⁵ Thus, income inequality matters, but it is inequality at the local and not the national or regional level that matters to people.

The finding that subjective well-being in China is sensitive to relative income is in line with the evidence for many countries (surveyed by Clark et al. 2008, and by Graham and Felton 2006). The coefficient on group income is generally negative, but there are cases in which it is positive. For instance, Senik (2004) found a positive coefficient for Russia (on income in the region), and Kingdon and Knight found a positive coefficient (2007) for South Africa (on income in the close neighborhood). The (usual) negative coefficient is normally interpreted to indicate feelings of relative deprivation, and the (unusual) positive coefficient is normally interpreted

to indicate local opportunities for improvement (Russia) or fellow feeling (South Africa). The reference group may be crucial. In rural China, the negative effect of being low in the village's income distribution coexists with a positive effect of income inequality in the county in which it is located, as measured by the Gini coefficient (Knight et al. 2009). The former may represent relative deprivation, and the latter may represent perceived room for self-advancement.

Over the period from 1990 to 2010, China's income grew substantially, yet life satisfaction was no higher in 2010 than it had been in 1990 (Easterlin et al. 2012). This finding is based on an examination of the six available time series of life satisfaction in China over that period (including, for instance, the World Values Survey and the Gallup World Poll). The explanation for the stagnation in life satisfaction can be found in the increase in the reference group's income, which offsets the effect of the increase in one's own income, as well as the powerful socioeconomic changes that accompanied China's rapid growth (Knight and Gunatilaka 2011). These changes included higher unemployment and redundancy, greater economic uncertainty and insecurity, and changing reference groups.

Easterlin et al. (2012) found that inequality of income and inequality of the life satisfaction score rose over those two decades. This finding is consistent with the positive association between income and happiness found in the cross-section. However, it is plausible that subjective well-being becomes more sensitive to income inequality and that average subjective well-being decreases as income

inequality at the national level rises and social cohesion is weakened. These hypotheses have yet to be tested for China, but if they were correct, they would strengthen the case for the central government to use policies to address and reduce income inequality.

The failure of subjective well-being to rise across two decades should be a matter of concern for the Chinese government. China does not rank high in various recent international rankings reported in the *World Happiness Report*, being in the 27th percentile for quality of life, the 28th percentile for life satisfaction, and the 30th percentile for happiness (Helliwell, Layard, and Sachs 2012: figures 2.3, 2.5, 2.9). Inequality is very likely to explain, in part, this relatively lower subjective well-being.⁶

The Chinese government's overriding objective of rapid economic growth has two implications for its policy on income inequality. On the one hand, there is some evidence that spatial income inequality has been bad for economic growth. For instance, Ravallion (1998) showed for rural China that asset inequality in the locality retarded the growth of individual household consumption, and Ravallion and Chen (2007) found that provinces with higher income inequality experienced slower economic growth. On the other hand, economic reforms, marketization, and institutional arrangements that promoted economic growth contributed to increases in inequality in various dimensions.

The government's unwillingness or inability to prevent income inequality from increasing signals a clear risk of rising social discontent. In common with leaders in many other countries, China's leadership is concerned with its own political survival. Specifically, in recent years, China's leaders have expressed their concern about the possibility of "social instability," which can impede China's continued rapid growth (Knight and Ding 2012: 295–306). One potential source of social instability is income inequality.

We have seen that the increase in China's income inequality takes three main forms: among households, across regions, and between rural and urban areas. However, comparisons in these dimensions of inequality at the national level may not be important. Because of the narrowness of people's reference groups, it may be more important for a government concerned about social instability to remedy the causes of income inequality at the local level. However, extra-local orbits of comparison are widening owing to the increasing use of the Internet and the growth of "the greatest migration in human history." The analysis of rural-urban migrants living in households showed that this group had the lowest mean happiness—owing to the transfer of their reference group to the city, with its higher incomes, and the unequal treatment of rural *hukou* households in matters of employment, residence, education, and other services (Knight and Gunatilaka 2011). A qualification is in order: unhappiness does not necessarily translate into social discontent. This relationship might depend on the extent to which people perceive their unhappiness to be manmade and capable of being remedied by the government.

Government strategies for much of the reform period can be summed up in the words of a high official, Du Runsheng (1989: 192): “Prosperity to few, then to many, then to all.” Wherever there has been a tradeoff, efficiency considerations have taken precedence over equity considerations. In creating a “developmental state,” the government overwhelmingly prioritized economic growth. However, it appears that the leadership became more sensitive to rising income inequality in the mid-2000s, when policies to promote a more “harmonious society” were introduced. We examine the policies that have been introduced and those that seem promising for the future.

<<A>>Policy Implications

Policy can be addressed at two levels: the redistribution of primary income through income transfers and alterations in the primary income generation processes. We focus on both of these in turn. “Harmonious society” policies have concentrated on the former and on people at the bottom of the national income distribution. In 2007, no less than 97 percent of poor households (defined as those with real income per capita of less than 1.25 dollars a day [purchasing power parity]) were rural dwellers (Li et al. 2013). There was a series of pro-rural policies. One of these policies concerned agricultural taxes and fees, which had been oppressive and regressive, averaging 5.3 percent of rural household income overall and 13.9 percent for the lowest income decile in the 1995 CHIP survey. Agricultural taxes and fees were abolished in 2006, so the average tax rate on rural household incomes was only 0.3

percent in the 2007 CHIP survey (Li 2012). Several other policies were introduced to benefit farmers during the first decade of the new century. These included compensation policies to return farmland to forest, a farm support program involving agricultural subsidies, and rural infrastructure development. From 2004 to 2011, the growth rate of central government funds to support agriculture grew by nearly 30 percent per annum (Li 2012).

In 2002, the poorest quintile of rural households spent a quarter of their income on education (Knight et al. 2009:317). An important redistributive policy with short- and long-term consequences was the abolition of all school fees in compulsory (nine-year) education. This policy was introduced in poor rural areas in 2005 and was extended to all rural areas in 2007.

The minimum income guarantee (*dibao*) system became important in rural China only after 2005, reaching 52 million people in 2010. The *dibao* system had been introduced earlier in the cities; by 2010, it covered 23 million urban people (Li 2012). *Dibao* helped the unemployed, those in ill health, and the elderly. However, because of poor coverage and low benefit levels, it had a limited effect on urban poverty (Ravallion 2012) and even less of an effect on income inequality. Another form of intervention in urban China that was intended to be redistributive was the introduction and extension of minimum wages in many cities. Real minimum wages have risen rapidly in recent years, reflecting the central government's directions and incentives.

Direct taxation is low in China. Because it is based on the individual and not the household and is open to evasion by high-income groups, it has little effect on urban income inequality. In 2008, personal income tax represented less than 0.01 percent of the household income of those in the lowest income decile, 0.12 percent in the sixth decile, and 2.1 percent in the highest decile (Li 2012). Personal income tax accounted for less than 7 percent of government revenue in 2010; indirect taxation was much more important. There is room to make direct taxation a more important source of revenue and to make it more progressive.

There are institutional reasons why China's social security provision remains highly segmented. Under central planning, the social security system was largely confined to urban residents, who enjoyed an "iron rice bowl" provided by employing enterprises. With enterprise reform, which began in earnest in the late 1990s, the enterprise provision of social security disintegrated. Unemployment insurance, health care insurance, and pension schemes were belatedly and incompletely taken over by broader groupings that were normally based on locality or an ownership sector. Urban informal sector workers and rural-urban migrants were poorly covered. Social security provision in rural China remains limited in both coverage and quality, although rural health care insurance expanded rapidly in just a few years to achieve a participation rate of 95 percent in 2010 (Li 2012). Although this type of inequality is not reflected in the measure of income inequality, its inclusion could be expected to exacerbate rather than diminish the extent of inequality in

economic welfare. Movement toward a comprehensive system of social security provision within a common and progressive framework would reduce inequalities in Chinese society.

Income inequality among provinces can be addressed by increasing the importance of (the equalizing) rule-based general revenue transfers from the central government and by reducing the importance of (the disequalizing) specific transfers. However, there should be specific transfers solely or preferentially to the poorer provinces for development-promoting expenditures, such as infrastructure investment, education, and health care. The stimulus package introduced in response to the world financial crisis of 2007–2008 marks some movement in that direction (Fan et al. 2011).

We now focus on the policies that may be needed to equalize the distribution of factor income. The institutional arrangements that divide China's society into urban (households with urban residence registration, *hukou*), rural-urban migrants (most of whom retain rural *hukou*), and rural (with rural *hukou*) create unequal access to various income-earning opportunities, including jobs and human capital acquisition. Some of this income inequality could be reduced by permitting rural-urban migrants the freedom to settle and to compete on equal terms with urban residents in the labor market. Some of the inequality, however, is deep rooted and long lasting and requires attention to education policies. There is a great disparity in the quantity and quality of education that urban and rural children receive (for instance, Knight

and Song 1995: ch.4). Moreover, there is inequality in access to education within rural China based mainly on the income and educational attainment of households and on the locality (Knight et al. 2009).

Given the importance of education for income generation, this difference in access to education can give rise to a poverty trap (Knight et al. 2010). The transmission of education from one generation of a household to another is a powerful phenomenon in reform-era China and has become stronger in recent years (Knight et al. 20123). This phenomenon tends to carry forward or extend educational inequality, and thus income inequality, from one generation to the next. Although the abolition in 2007 of school fees for compulsory schooling in rural China helped to equalize educational opportunities, policy measures are needed to address unequal access to high-quality education at all levels, including high school and higher education.

Little policy attention has been paid to inequality at the top of the income distribution. China's system of governance is open to rent seeking and corruption and to profit opportunities for those with power or influence. According to the World Bank's *Worldwide Governance Indicators*, China was ranked 148th on "control of corruption" and 220th on "voice and accountability" out of 235 countries in 2009 (World Bank 2011). Policies to reduce the inequalities that arise in these ways would require reforms in China's governance, such as the creation of a powerful anticorruption agency, the strengthening of the rule of law, greater press or media freedom, and arrangements that accord more "voice" to citizens.

Primary income distribution also depends on the relative demand for and supply of the factors of production, including labor and human capital. Although China's rapid economic growth and marketization have contributed to the rise in income inequality, they may eventually generate equalizing market forces. Between 1995 and 2007, the labor force, affected by the one-child policies that were introduced at the beginning of economic reform, rose by only 1.3 percent per annum, and urban employment rose from 28 percent to 37 percent of the labor force. Much of this increase was due to increased rural-urban migration; the employment of rural migrants in urban areas rose from 30 million to 132 million over that period (Knight et al. 2011). When unskilled labor eventually becomes scarce, unskilled wages can be predicted to rise relative to other incomes. The priority accorded to promoting rapid economic growth may thus eventually prove to be the policy responsible for the most dramatic equalization of income.

China's proportion of labor with higher education has been small by international standards, and access to higher education has been rationed. This scarcity raised the premium on higher education as market forces began to operate in the labor market. However, in the late 1990s, a dramatic change took place in China's higher education policy. In 1998, higher education enrollment was 3.4 million; in 2008, it was 20.1 million, nearly six times its level a decade earlier. Short-term labor market consequences take the form of a rise in unemployment among graduates and the gradual acceptance of jobs previously entered by nongraduates or of "graduate" jobs

at lower pay. The long-term graduate wage premium is also affected. The demand for university graduates is likely to grow rapidly as China responds to the rising price of unskilled labor and with industrial upgrading to technologically advanced processes and products. However, a policy of rapidly expanding the supply of graduates in relation to their demand will likely narrow the wage structure.

<<A>>Whither Inequality?

Inequality decreased during the brief period of dramatic rural reform but rose rapidly as urban reform progressed. The initial changes in national inequality were related much more closely to economic reforms than to the level of income, but the rise was consistent with the upward-sloping part of the hypothesized Kuznets curve relating inequality to income level (Kuznets 1955). Can China be predicted to follow the downward-sloping part of the hypothesized Kuznets curve as well? That is, will inequality decrease as income increases in the future?

The answer to this question will depend on the balance of countervailing forces. On the one hand, various processes that have increased China's income inequality during the reform period will continue to operate. On the other hand, there are three main equalizing forces that may weaken or entirely offset these processes. It is predictable that the labor market will tighten as China enters the second stage of the Lewis model and the fruits of economic development are extended. It appears very likely from projections of the labor force and of urban employment that this transition will occur in the 2011–2020 decade (Knight et al. 2011). The growing

scarcity of labor and other resources can be predicted to transfer production from the coastal provinces to the poorer interior provinces. These processes may have already begun; the NBS household surveys show that since 2009, rural household income per capita has grown faster than its urban counterpart and that overall provincial income inequality appears to have leveled off and even slightly declined since 2005 (Fan et al. 2011). There are signs that Chinese society is becoming more sophisticated and better informed and that people's aspirations are rising. In this situation, the government may selectively introduce stronger policies to diminish various dimensions of inequality as a protection against social disorder or instability.

<<A>>Concluding Comments

It was inevitable that income inequality would increase significantly as China moved from a centrally planned economy, in which egalitarianism was a cornerstone, to a market-based economy. Material incentives were needed to induce greater effort, saving, investment in physical and human capital, and entrepreneurship. Similarly, economic efficiency was likely to be enhanced by disequalizing processes of cumulative causation. Nevertheless, some of the increase in income inequality was difficult to justify in terms of either efficiency or equity. Much of this unjustified inequality stemmed from the complex institutional framework within which China's semimarketized economy operated.

The research agenda on income inequality in China (and other developing countries) could productively move in the following direction. A distinction can be made between inequality that is based on rewards for productive characteristics and inequality that is based on market discrimination or segmentation and unequal access to income opportunities. In 2004, Whyte (2010) conducted a sociological survey of Chinese attitudes toward income inequality and concluded that Chinese people were not averse to the degree of inequality that they observed, particularly if it was based on merit, effort, or risk taking. Indeed, income inequality appeared to offer people incentives or other opportunities for improving their economic positions. This interpretation corresponds to the first stage of the “tunnel effect” (see below) hypothesized by Hirschman and Rothschild (1973).

By contrast, inequality based on unfairness or inequity in access to opportunities was generally disliked. Whyte (2010) found that farmers, despite being the poorest group, were the least discontented. Actual income is not necessarily a good guide to perceived distributional injustice because people’s information sets and aspirations not only matter but also vary. It is an important question whether China will enter the second stage of Hirschman’s tunnel effect—that is, whether or when a critical mass of people will begin to see inequality not as a sign of available opportunities but as a sign of unequal opportunities and distributional injustice.

For the first quarter century of economic reform, China’s leaders gave overriding priority to the achievement of rapid economic growth, even at the cost of rising

income inequality. When there was a policy tradeoff between equity and efficiency, the efficiency objectives normally won out. One of the few exceptions—to be explained by the government’s concern for maintaining social stability—is the retention of leasehold arrangements in farming and the continued refusal to permit land ownership in rural China. The system of fiscal decentralization and the *nomenklatura* system of state appointments created incentives at all levels to promote economic growth. Thus, China became a “developmental state” (Knight and Ding 2012). Only within the last decade have efforts to promote a “harmonious society” brought issues of income inequality—other than landlessness—to the policy agenda. We have argued that the new policies to redress inequality can be taken further by strengthening transfers of income and by equalizing opportunities for income generation.

The powers given to officials in pursuit of economic growth and their lack of accountability generated rent seeking, corruption, and procedural injustice, all of which contributed to the growth of localized and national income inequality. Can other developing countries follow China’s example to create a developmental state that drives rapid economic growth and yet avoids the rise in income inequality that this process has produced in China? The most important lesson that China’s experience offers other countries lies in the answer to this question.

References

- Appleton, Simon, John Knight, Lina Song, and Qingjie Xia 2004). "Contrasting Paradigms: Segmentation and Competitiveness in the Formation of the Chinese Labour Market." *Journal of Chinese Economic and Business Studies* 2 (3): 185-205.
- Asian Development Bank. 2007. *Inequality in Asia*. Manila: ADB.
- Benjamin, Dwayne, Loren Brandt, and John Giles. 2005. "The Evolution of Income Inequality in Rural China." *Economic Development and Cultural Change* 53 (4): 769–824.
- Clark, Andrew, Paul Frijters, and Michael Shields. 2008. "Relative Income, Happiness and Utility: an Explanation for the Easterlin Paradox and Other Puzzles." *Journal of Economic Literature* 46 (1): 95–114.
- Deng, Quheng, and Bjorn Gustafsson. 2013. "A New Episode of Increased Urban Inequality in China." in *Rising Inequality in China: Challenge to the Harmonious Society*, eds. Li Shi, Luo Chuliang, and Terry Sicular, ch.7. Cambridge and New York: Cambridge University Press.
- Du, Runsheng. 1989. *China's Rural Economic Reform*. Beijing: Foreign Languages Press.
- Easterlin, Richard, Robson Morgan, Malgorzata Switek, and Fei Wang. 2012. "China's Life Satisfaction, 1990–2010." *Proceedings of the National Academy of Sciences* 109, (25): 9775–80.
- Fan, Shenggen, Ravi Kanbur, and Xiaobo Zhang. 2008. "Regional Inequality in China: an Overview." In *China's Regional Disparities: Experience and Policies*, eds. Fan, Shenggen, Ravi Kanbur, and Xiaobo Zhang. Ithaca, New York: Cornell University Press.
- Fan, Shenggen, Ravi Kanbur, and Xiaobo Zhang. 2011. "China's Regional Disparities: Experience and Policy." *Review of Development Finance* 1: 47–56.
- Graham, Carol and Andrew Felton. 2006. "Inequality and Happiness: Insights from Latin America." *Journal of Economic Inequality* 4: 107–22.
- Griffin, Keith and Zhao Renwei (eds.). 1993. *The Distribution of Income in China*. Basingstoke and London: Macmillan.
- Gustafsson, Bjorn, Li Shi, and Terry Sicular. 2007a. "Inequality and Public Policy in China: Issues and Trends." In *Inequality and Public Policy in China*, eds. Gustafsson, Bjorn, Li Shi, and Terry Sicular, 1–34. Cambridge and New York: Cambridge University Press.

Gustafsson, Bjorn, Li Shi, Terry Sicular, and Yue Ximing. 2007b. "Income Inequality and Spatial Differences in China, 1988, 1995, and 2002." In *Inequality and Public Policy in China*, eds. Gustafsson, Bjorn, Li Shi, and Terry Sicular, 35–60. Cambridge and New York: Cambridge University Press.

Helliwell, John, Richard Layard, and Jeffrey Sachs (eds), 2012. *World Happiness Report*. New York: The Earth Institute, Columbia University.

Hirschman, Albert, and Michael Rothschild. 1973. "The Changing Tolerance for Income Inequality in the Course of Economic Development." *Quarterly Journal of Economics* 87 (4): 544–66.

Huang, Behong, and Kang Chen. 2012. "Are Intergovernmental Transfers in China Equalizing?" *China Economic Review* 23: 534–51.

Kanbur, Ravi, and Xiaobo Zhang. 2005. "Fifty Years of Regional Inequality in China: A Journey Through Central Planning, Reform and Openness." *Review of Development Economics* 9 (1): 87–106.

Khan, Aziz, and Carl Riskin. 2007. "Growth and Distribution of Household Income in China between 1995 and 2002." In *Inequality and Public Policy in China*, eds. Gustafsson, Bjorn, Li Shi, and Terry Sicular, 35–60. Cambridge and New York: Cambridge University Press.

Kingdon, Geeta, and John Knight. 2007. "Community, Comparisons and Subjective Well-being in a Divided Society." *Journal of Economic Behavior and Organization* 64: 69–90.

Knight, John, and Lina Song. 1995. *The Rural-Urban Divide: Economic Disparities and Interactions in China*. Oxford: Oxford University Press.

Knight, John, and Lina Song. 2007. "China's Emerging Wage Structure, 1995–2002." *Inequality and Public Policy in China*, eds. Gustafsson, Bjorn, Li Shi, and Terry Sicular, 221–42. Cambridge and New York: Cambridge University Press.

Knight, John, and Linda Yueh. 2008. "The Role of Social Capital in the Labour Market in China." *Economics of Transition* 16 (3): 389–414.

Knight, John, and Ramani Gunatilaka. 2010. "The Rural-Urban Divide: Income but not Happiness?" *Journal of Development Studies* 42(7): 1199–224.

Knight, John, and Ramani Gunatilaka. 2011. "Does Economic Growth Raise Happiness in China?" *Oxford Development Studies* 39 (1): 1–24.

- Knight, John, and Sai Ding. 2012. *China's Remarkable Economic Growth*. Oxford: Oxford University Press.
- Knight, John, Deng Quheng, and Li Shi. 2011. "The Puzzle of Migrant Labor Shortage and Rural Labor Surplus in China." *China Economic Review* 22: 585–600.
- Knight, John, Li Shi, and Deng Quheng. 2009. "Education and the Poverty Trap in Rural China: Setting the trap." *Oxford Development Studies* 37 (4): 311–32.
- Knight, John, Li Shi, and Deng Quheng. 2010. "Education and the Poverty Trap in Rural China: Closing the Trap." *Oxford Development Studies* 38 (1): 1–24.
- Knight, John, Lina Song, and Ramani Gunatilaka. 2009. "Subjective Well-Being and its Determinants in Rural China." *China Economic Review* 20: 635–49.
- Knight, John, Terry Sicular, and Yue Ximing. 2013. "Educational Inequality in China: the Intergenerational Dimension." in *Rising Inequality in China: Challenge to the Harmonious Society*, eds. Li Shi, Luo Chuliang, and Terry Sicular, ch.4. Cambridge and New York: Cambridge University Press.
- Kuznets, Simon. 1955. "Economic Growth and Income Inequality." *American Economic Review* 45: 1–28.
- Lau, C.K.M. 2010. "New Evidence about Regional Income Divergence in China." *China Economic Review* 21: 295–309.
- Li, Chao, and John Gibson. 2012. "Rising Regional Inequality in China: Fact or Artefact?" University of Waikato, Department of Economics Working Paper 09/12.
- Li, Shi. 2012. "Making More Effective Income Distribution Policy for Inclusive Development: China's Experience." Beijing Normal University.
- Li, Shi, and Luo Chuliang. 2010. "Re-Estimating the Income Gap between Urban and Rural Households in China." In *One Country, Two Societies: Rural-Urban Inequality in Contemporary China*, ed. M. Whyte. Cambridge, MA: Harvard University Press.
- Li, Shi, Luo Chuliang, and Terry Sicular. 2013. "Overview: Income Inequality and Poverty in China, 2002–2007." In *Rising Inequality in China: Challenge to the Harmonious Society*, eds. Li Shi, Hiroshi Sato, and Terry Sicular, 24–59. Cambridge and New York: Cambridge University Press.
- Lin, T., J. Zhuan, D. Garcia, and F. Lin. 2010. "Income Inequality in the PRC, 1995–2008." In *Poverty, Inequality and Inclusive Growth in Asia*, ed. J. Zhuang. London: Anthem Press.

Luo, Chuliang, and Ximing Yue. 2010. "Rural-Urban Migration and Poverty in China." In *The Great Migration: Rural-Urban Migration in China and Indonesia*, eds. X. Meng and C. Manning, 117-34. Cheltenham: Edward Elgar.

Luo, Chuliang, Yue Ximing, and Li Shi. 2012. "Querying Professor Wang Xiaolu's Survey and Calculation of Grey Income in China." *China Economist* 7 (1): 116-24 (in Chinese).

Ravallion, Martin. 1998. "Does Aggregation Bias Hide the Harmful Effects of Inequality on Growth?" *Economics Letters* 61: 73-7.

Ravallion, Martin. 2012. "The Emerging New Form of Social Protection in 21st Century China." World Bank.

Ravallion, Martin, and Shaohua Chen. 2007. "China's (Uneven) Progress against Poverty." *Journal of Development Economics* 82 (1): 1-42.

Riskin, Carl, Zhao Renwei, and Li Shi. 2001. *China's Retreat from Equality*. New York: M.E. Sharpe.

Sen, Amartya. 1983. "Poor, Relatively Speaking." *Oxford Economic Papers* 35 (2): 153-69.

Senik, Claudia. 2004. "When Information Dominates Comparison: Learning from Russian Subjective Panel Data." *Journal of Public Economics* 88: 99-123.

Sicular, Terry, Yue Ximing, Bjorn Gustafsson, and Li Shi. 2008. "The Urban-Rural Income Gap and Income Inequality in China." *Review of Income and Wealth* 53 (1): 93-126.

Tsui, Kai-yuan. 2007. "Forces Shaping China's Interprovincial Inequality." *Review of Income and Wealth* 53(1): 61-92.

Wang Xiaolu, and Wing Thye Woo. 2007. "The Size and Distribution of Hidden Household Income in China." *Asian Economic Papers* 10 (1): 1-26.

Whyte, Martin K. 2010. *Myth of a Social Volcano: Perceptions of Inequality and Distributive Injustice in Contemporary China*. Stanford: Stanford University Press.

World Bank. 2011. *Governance Indicators of the World Bank Group*, Country Data Report on China, info.worldbank.org/governance/wgi/sc_country.asp.

Xu, Jing, and Yue Ximing. 2013. "Redistributive Impacts of Personal Income Tax in Urban China." In *Rising Inequality in China: Challenge to the Harmonious Society*, eds. Li Shi, Luo Chuliang, and Terry Sicular. Cambridge and New York: Cambridge University Press.

Zhao Renwei, and Ding Sai. 2007. "The Distribution of Wealth in China." in *Inequality and Public Policy in China*, eds. Bjorn Gustafsson, Li Shi, and Terry Sicular, 118–44. Cambridge and New York: Cambridge University Press.

TABLE 1. The Gini coefficient of income inequality for selected large developing countries, circa 1988 and circa 2007

	Circa 1988	Circa 2007	Change
China (World Bank)	0.30	0.43	0.13
(CHIP surveys)	0.38	0.49	0.11
Bangladesh	0.29	0.32	0.03
Brazil	0.61	0.56	-0.05
Egypt	0.32	0.31	-0.01
India	0.32	0.33	0.01
Indonesia	0.29	0.34	0.05
Iran	0.44	0.38	-0.06
Nigeria	0.39	0.49	0.10
Pakistan	0.33	0.30	-0.03
Philippines	0.41	0.43	0.02
Russian Federation	0.24	0.43	0.19
South Africa	0.59	0.63	0.04
Thailand	0.44	0.41	-0.03
Turkey	0.44	0.39	-0.05
Vietnam	0.36	0.36	0.00

Source: worldbank.org/indicator/SI.POV.GINI; Griffin and Zhao (1993), Li et al. (2013).

Note: All earlier figures fall within the 1986–1990 period except Vietnam (1993) and South Africa (1993), and all later figures fall within the 2005–2010 period. The (alternative) CHIP estimates for China will be explained below.

Notes

¹ Migrants are excluded for comparison with earlier years. Including migrants, the urban and national Ginis were 0.33 and 0.49 in 2007 (Li et al. 2013).

² The authors' methodology was criticized in Luo et al. (2012), but their general conclusion was not disputed.

³ These figures are derived from the CHIP volumes for the 1995, 2002, and 2007 surveys. There are discrepancies among the sources, but it is clear that the percentage rose strongly and then remained fairly constant.

⁴ Five categories of happiness are converted into a cardinal score, with "very happy" having a value of four and "not at all happy" having a value of zero.

⁵ It is possible to distinguish between absolute and relative income because of the wide range of mean household income per capita among cities and among villages.

⁶ Figures 2.3 and 2.5 are derived from the Gallup World Poll, and figure 2.9 is derived from the World Values Survey.