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Terry Sicular

Shi Li

Ximing Yue

Hiroshi Sato

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Changing Trends in China's Inequality: Key Issues and Main Findings

Terry Sicular
Professor, Department of Economics
University of Western Ontario

Shi Li
Professor, Department of Economics, Business School, Beijing Normal University
Acting Director, China Institute for Income Distribution
Research Fellow, Institute for the Study of Labor (IZA)

Ximing Yue
Professor, School of Finance
Renmin University of China

Hiroshi Sato
Professor, Graduate School of Economics
Hitotsubashi University

Abstract

This introductory chapter provides background to and summarizes key findings from the chapters in this book, all of which share in common their use of household data from the latest round of the China Household Income Project (CHIP) survey to analyze recent trends in inequality in China. We begin with an overview of relevant economic and policy developments in China and discuss data and measurement issues. We discuss our central estimates of national income inequality based on the 2007 and 2013 CHIP survey data and make comparisons to estimates from official and other sources. Drawing on the various chapters in the book, we identify six key findings. First, during the period of study income inequality in China declined, a reversal of the several decades-long trend of rising inequality; however, the measured decline not entirely robust. Adjustments for geographic differences in costs of living or for understatement of incomes at the top of the income distribution reduce or even reverse the decline. Second, the urban-rural income gap narrowed, also representing a change from past trends. Third, income gaps within, rather than among, the East/West/Center regions remained the main source of national inequality. Fourth, household wealth rose markedly and became a key factor contributing to income inequality. Fifth, growing numbers of Chinese households attained levels of income comparable to those of middle-class households in the developed world. Sixth, absolute poverty in China continued to decline and by 2013 absolute poverty was relatively low, but poverty among the remaining poor and rising relative poverty pose continuing challenges.

Keywords: China, household incomes, inequality, income distribution

JEL Classification: D31, O15, O53, P36

I. Introduction

In the early 2000s, China's leaders announced a shift in development strategy.   During earlier decades, China had emphasized growth of the "productive forces," that is, growth of GDP and its underlying inputs and production processes. GDP was growing rapidly, but the benefits of that growth were not distributed equally.   Consequently, growth was accompanied by rising inequality. By the late 1990s, income inequality in China was approaching levels found in relatively unequal countries by international standards.

In 2002–3, under the new leadership of President Hu Jintao and Premier Wen Jiabao, China launched the "Hu-Wen New Policies" (*Hu-Wen xinzheng*) and the "Scientific Outlook on Development" (*kexue fazhan guan*) development strategies, sometimes referred to as the "harmonious society" (*hexie shehui*) programs, which emphasized sustainable and equitable growth. Over the following decade, China actively implemented a range of policy measures to reduce income disparities and promote shared growth, including social welfare programs, social insurance programs, agriculture support, minimum wage and labor regulations, and poverty interventions.

According to official statistics, initially income inequality continued to rise during the first half of the Hu-Wen era, but in about 2008 inequality peaked and thereafter it declined moderately. If true, the official statistics reveal a new direction in Chinese

inequality trends and suggest that China's harmonious society policy program may have begun to yield fruit. Yet, China's official statistics contain biases, raising the question of whether or not the turnaround in Chinese inequality is real. Furthermore, if it is real, what explains such a turnaround?

This book addresses these questions based on empirical analyses of household survey data. The chapters in this book all share the use of household-level data from the latest round of the Chinese Household Income Project (CHIP) survey, carried out in 2014 and containing data for 2013, with comparisons to earlier years using data from previous rounds of the CHIP survey, especially 2007 but in some cases also going back to 2002 and 1995. Each chapter examines a different aspect of household income and inequality. Together, they provide a new, in-depth picture of trends in household incomes and inequality in China during the Hu-Wen period, thus providing a baseline for the Xi Jinping era, which began in 2013.

Since their inception in the 1980s, the CHIP surveys have allowed researchers to undertake empirical analyses of trends in China's household income and inequality. Such analyses can be found in four previous books based on the CHIP data: *The Distribution of Income in China* (edited by Keith Griffin and Zhao Renwei, 1993), *China's Retreat from Equality: Income Distribution and Economic Transition* (edited by Carl Riskin, Zhao Renwei, and Li Shi, 2001), *Inequality and Public Policy in China* (edited by Björn A. Gustafsson, Li Shi, and Terry Sicular, 2008), and *Rising Inequality in*

China: Challenges to a Harmonious Society (edited by Shi Li, Hiroshi Sato, and Terry Sicular, 2013). Yet, much has changed in China over time. The economic choices and opportunities for households, as well as the institutional, economic, and policy environments, are very different today than they were three decades ago. This book, a sequel to the previous CHIP volumes, analyzes recent trends in income and inequality in the context of these changes.

This first, introductory chapter provides the background to and summarizes the key cross-cutting findings from the various chapters of this book. We begin with an overview of recent economic and policy developments that covers the period spanned by the two most recent CHIP surveys—2007 to 2013. Data and measurement issues of a general nature as well as those specific to the CHIP survey data are the topic of the next section. Here we describe the CHIP surveys and discuss the challenges of accurately measuring household income and inequality. In the third section, we report on our estimates of national income inequality based on the CHIP survey data, in comparison to the official estimates and in comparison to estimates by independent researchers who use other data sources.

We then highlight six key, cross-cutting findings that emerge from the analyses presented in the various chapters of this book. The first and central finding is that income inequality, as measured using the CHIP survey data, did indeed decline during the period of study; however, the decline was not entirely robust. Adjustments for geographic

differences in the cost of living or for an understatement of incomes at the top of the income distribution can reduce or reverse the decline in income inequality. Second, the urban-rural income gap also declined. Other studies have also noted this finding; the analyses in this book provide insights into those factors that produced this narrowing gap. Third, income gaps within, rather than among, the East/West/Center regions remain the main source of national inequality. Fourth, household wealth has grown markedly, and during the period of study it became a key factor contributing to income inequality. Fifth, rising household incomes have led growing numbers of Chinese households to attain levels of income comparable to those of middle-class households in the developed world. By 2013 such households constituted a substantial share of the population. Sixth, absolute poverty in China continued to decline, and by 2013 the rate of absolute poverty was relatively low. But stubborn poverty among the remaining poor and rising relative poverty still pose continuing challenges.

The chapters in this book provide much substance beyond these six findings, and they provide detailed insights into different aspects of China's changing distributional picture. Topics covered include the factors underlying national trends in income inequality (Chapter 2), the nature of China's emerging middle class (Chapter 3), changes in the distribution of wealth (Chapter 4), patterns of income, inequality, and poverty in rural (Chapters 5 and 6) versus urban (Chapters 7 and 8) China, income gaps between the Han and the minorities (Chapter 9) and between women and men (Chapter 12), and the

effects of distributional policies, such as social welfare programs and the minimum wage, on income distribution (Chapters 10, 11, and 13).

II. Recent Economic and Policy Developments

In recent years, China has experienced a wide range of new economic and policy developments, many of which have had implications for income inequality. In this section, we provide a brief, selective survey of relevant developments. The individual chapters will examine aspects of these developments in more depth.

Since 2007 China has experienced both short-term and long-term macroeconomic shifts. The 2008 Global Financial Crisis was a major worldwide economic event that also affected the Chinese economy. To some extent, China's international trade and finance policies insulated the domestic economy from the brunt of the crisis. In addition, a large government stimulus program moderated its short-term impact. Nevertheless, over the short term, China experienced a sharp drop in exports and in inflows of foreign direct investments. Infrastructure construction under the stimulus program helped sustain domestic employment, especially for migrant and low-skilled workers. Urban jobs were also protected to varying degrees by government employment policies. For example, in some cities local governments introduced policies to assist "zero-employment families" to find work, provided training programs for the unemployed, gave subsidies to

enterprises to reduce the costs of hiring workers, and enforced restrictions on firings and layoffs.

Consequently, household employment and earnings weathered the Global Financial Crisis relatively well. During the crisis, urban employment increased gradually but continuously, at an average annual growth rate of 3.5 percent, that is, from 310 million in 2007 to 382 million by the end of 2013. As shown in various chapters of this book, the wage earnings of urban, rural-to-urban migrants, and rural households were all higher in real terms in 2013 than they were in 2007.

In the wake of the Global Financial Crisis, China's longer-term macroeconomic growth path has shifted to what Chinese official sources refer to as the "New Normal," with GDP growth rates of approximately 7 percent per year as compared to their earlier double-digit rates. This downshift in macroeconomic growth has been accompanied by slower growth in household incomes, but the extent of the slowdown in household incomes has been uneven, with rural household incomes showing continued rapid growth whereas urban (including migrant) household incomes have grown more slowly (Chapters 2, 5, and 7).

Three decades of rapid economic growth have brought major structural changes to the Chinese economy. One such change has been the rise of rural-urban migration and urbanization. Although China's household registration (*hukou*) system still constrains long-term migration and disadvantages rural migrants, the reforms have significantly

weakened barriers to labor mobility. Estimates of the scale of migration vary, but by 2013 the population with rural *hukou* living for six months or longer in towns and cities was roughly 140 to 180 million, equivalent to about 10 percent of the national population.

In 2012 China introduced the "New Urbanization Program," and in early 2014 it launched the "National New Urbanization Plan (2014–2020)," which contains a concrete urbanization program involving *hukou* reform, the resettlement of rural communities, and the conversion of rural populations to urban, so as to achieve the target of an urban population constituting 60 percent of the national population by 2020 (see Zhou 2015 for a summary of the plan). The increase in urbanization is evident during the CHIP survey years. According to official statistics, the share of China's urban population rose from 46 percent in 2007 to 54 percent in 2013.[1]

Rising urbanization, together with demographic shifts, has contributed to changes in China's labor supply. Several studies find that China's pool of surplus rural labor has declined (Das and N'Daiye 2013; Cai and Wang 2013; Knight, Deng, and Li 2011; Zhang, Yang, and Wang 2011). Concurrently, progressively smaller cohorts of young people imply declining numbers of new entrants to the labor force. Demographers predicted that China's working-age population would reach a turning point and begin to shrink in absolute size around 2015 (Lam, Liu, and Schipke 2015; Wang 2011). The official population statistics show that the size of the working age (15–64) population

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[1] See Table 2-1, http://www.stats.gov.cn/tjsj/ndsj/2016/indexeh.htm. Accessed June 14, 2017.

peaked in 2013, and it has since declined.[2]   In recent years, there have been reports of labor shortages and difficulties in recruiting migrant workers in the cities (e.g., Pomfret and Ruwitch 2014; Rein 2010; Wong 2010; Xinhua 2015). These shifts in labor supply have created upward pressures on wages and improved employment opportunities, especially for unskilled and migrant workers.[3]

The levels of education of both the urban and rural workforces have been rising, a reflection of government efforts since the late 1990s to expand rural secondary education and university enrollments. The progression rate from junior to senior secondary school rose from 50 percent in 2000 to 81 percent in 2007 and further to 91 percent in 2013.[4] According to UNESCO data, gross enrollment rates in secondary education rose from 61 percent in 2000 to 73 percent in 2007 and further to 96 percent in 2013; tertiary enrollment rates rose from 8 percent in 2000 to 21 percent in 2007 and 30 percent in 2013.[5] The expansion of secondary and tertiary education has helped narrow gaps in education levels (e.g., between women and men). As discussed in some chapters, these changes in educational attainment have implications for recent trends in income and inequality.

During the period under study, China experienced a sharp rise in housing prices. This

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[2] See Table 2-5, http://www.stats.gov.cn/tjsj/ndsj/2016/indexeh.htm. Accessed June 14, 2017.
[3] For example, Li et al. (2016) report that the wages of rural migrant workers increased by around 15 percent in 2010 and 2011.
[4] See Table 21-23, http://www.stats.gov.cn/tjsj/ndsj/2016/indexeh.htm.   Accessed June 14, 2017.
[5] See http://data.worldbank.org/indicator/SE.SEC.ENRR?locations=CN. Accessed June 14, 2017.

increase was partly related to urbanization, which increased the demand for housing in the cities, and partly related to the manipulation of the supply of land by local governments so as to generate local-government revenue from land sales. Housing price increases have been most extreme in large cities, although reports indicate that price increases are spreading to medium and small cities as well (Chen and Woo 2017).

Rising housing prices can have both direct and indirect effects on household incomes and inequality. The standard definitions of household income include imputed rents from owner-occupied housing (see below). Imputed rents increase as housing prices increase because they are estimated using data on market rents or the sale prices of housing. Changes in the level and pattern of housing prices thus directly affect levels of household income. In addition, since housing is a major component of household wealth, rising housing prices influence the level and distribution of wealth (see Chapter 4), which in turn may influence household opportunities and household choices to earn income.

The previous CHIP book (Li, Sato, and Sicular 2013) discusses changes in China's distributional policies during the period from 2002 to 2007. Under Hu Jintao, China's leadership put forward the idea of building a "Harmonious Society" and embarked on an ambitious program to improve the social welfare system and to expand coverage of social security and social insurance programs to those previously not covered, especially the rural, migrant, and urban informal and unemployed populations. As of 2007, these efforts were still underway, and during the current period under study these initiatives

continued to influence household income growth and income inequality. Social programs are the focus of Chapters 10 and 11, which provide details as well as analyses of their impact on income and inequality; here we provide some background on the major changes to these programs since 2007.

In 2009, the New Rural Pension Scheme began to provide pensions to rural residents who were not participating in the urban workers' basic pension insurance program. Participation is voluntary, and the program runs at the family rather than the individual level, so whether an older (over age 60) family member receives a pension depends on the participation of other family members in the system. The rural pension system expanded rapidly after 2009; coverage increased from 10 percent of Chinese counties in 2009 to 100 percent in 2012 (Wang 2014). The amount of pension payments has been low but increasing over time; in addition, payment levels differ among provinces and counties, with higher payments in the more developed regions. In 2015, for example, the rural pension income was 470 yuan per person per month in Beijing and 85 yuan in the western province of Gansu.[6]

In 2011 China introduced a basic urban pension scheme aimed at urban residents without formal employment who are ineligible for the employee pension programs. In 2014 the new rural and urban basic pension schemes were merged. Enrollment in the combined rural and urban basic pension programs rose from essentially zero in 2007 to

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[6] For pension income in Gansu, see http://www.10zk.com/news/194566.html. Accessed July 17, 2017; for Beijing, see http://www.spicezee.com/zhishi/yanglao/103950.html. Accessed July 5, 2017.

497.5 million in 2013. As of 2015, enrollment exceeded 500 million people, and pension recipients numbered 148 million.[7] Analyses of the CHIP data reveal evidence of the impact of these pension programs on household income, inequality, and poverty (Chapters 2, 5, 6, 10, and 11).

In recent years, the government also expanded its health insurance programs. In 2003 the government launched the New Rural Cooperative Medical Scheme so as to reduce the burden of health-care costs on rural households. According to official statistics, the program's coverage increased from 252 million people in 2007 to 487 million people in 2013, with a coverage rate exceeding 95 percent; during the same period, contributions from individuals and governments rose from about 50 yuan per person to over 300 yuan per person (Meng and Xu 2014).[8] In 2007, the government initiated Urban Resident Basic Medical Insurance, a voluntary program providing health insurance to urban residents who do not have formal employment. The program was offered in seventy-nine cities in 2007, but it was increased to 229 cities in 2008 (about one-half of China's cities), and further to almost all cities in 2009 (Liu and Zhao 2014). Enrollment in the program rose from 43 million people in 2007, its first year, to 296 million people in 2013, and further to 377 million people in 2015.[9]

These health insurance programs are financed by a combination of participant

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[7] Statistics on pension program enrollments are from Tables 24-29 and 24-31, http://www.stats.gov.cn/tjsj/ndsj/2016/indexeh.htm. Accessed June 15, 2017.

[8] See Table 22-28, http://www.stats.gov.cn/tjsj/ndsj/2014/indexch.htm. Accessed June 15, 2017.

[9] See Table 24-29, http://www.stats.gov.cn/tjsj/ndsj/2016/indexeh.htm. Accessed June 16, 2017.

contributions and local- and central-government subsidies. Participant contributions and levels of reimbursement vary regionally, so the impact of the programs is not uniform. Nevertheless, by increasing the affordability of medical care, these programs can improve health outcomes and labor productivity, and thus they can reduce the use of household savings for self-insurance. Through these channels, the programs can have an indirect but positive impact on household income.

If health insurance reimbursements for medical care are counted as a type of income, these programs will also have a direct impact on measured household income. Prior to 2013, the National Bureau of Statistics (NBS) did not count such reimbursements as income, but this changed in 2013. Consequently, part of the growth in household incomes shown in the official statistics from 2007 to 2013 reflects changes in the treatment of health insurance reimbursements in the official definition of household income. As discussed below, this and other changes in the NBS definition of income affect the comparability of NBS household income statistics before and after 2013. For this reason, the CHIP has constructed alternative estimates of household income that treat medical reimbursements and other income components consistently during the two years.[10]

A third development in China's social security system has been the implementation of a cash transfer program targeting low-income rural households. The Minimum Livelihood Guarantee, or "*dibao*" program, was first established in cities in 1999, and it

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[10] The CHIP datasets contain information on medical reimbursements in 2013 but not in 2007, so the alternative CHIP income definitions exclude medical reimbursements from income in both years.

was expanded significantly in urban areas in the early 2000s. By 2007, the number of nationwide recipients in the urban *dibao* program was 23 million, declining modestly to 21 million in 2013. A similar, rural *dibao* program was initiated on a pilot basis in 2004 and was adopted in rural areas nationwide in 2007. The rural *dibao* program grew rapidly during the period under study, from 36 million recipients in 2007 to 54 million recipients in 2013, an overall increase of 51 percent during a period when the rural population decreased by 12 percent. Concurrently, the generosity of the program rose, with rural *dibao* expenditures per recipient increasing from 446 yuan per person per year in 2007 to 1,609 yuan per person per year in 2016 (Golan, Sicular, and Umapathi 2017).[11] *Dibao* transfers have consistently been counted as part of household income; therefore, the expansion of this program has had both direct and indirect impacts on measured income levels and inequality.

At the same time, the government pursued a "pro-rural" (*huinong*) program to support rural households engaged in agriculture through a set of subsidies, referred to as the "four subsidies," for grain production, agricultural inputs, purchases of improved seed varieties, and purchases of agricultural machinery. An additional production subsidy for the conversion of crops to forests on sloped land has been in place since the late 1990s. As discussed in more detail in Chapter 5, the subsidies for grain production, inputs, and sloped land conversion take the form of direct cash transfers and are identifiable

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[11] See Tables 22-24 and 2-1, http://www.stats.gov.cn/tjsj/ndsj/2016/indexeh.htm. Accessed June 16, 2017.

components of rural household income in the CHIP 2013 data. In 2013, nearly one-half of the rural households received income from these programs (Chapter 5). The improved seed and machinery subsidies are implicit, that is, deducted from prices based on actual purchases. Not all households receive the latter subsidies, and although they influence net income from farming, the amounts are not directly identifiable in the data.

Minimum wage policies, initially adopted in the 1990s, target the low-wage segment of China's urban labor market. In the early years, minimum wage levels were low and not strictly enforced. After implementation of the New Labor Contract Law in 2008, both minimum wage levels and enforcement have increased. For instance, in July 2010 Hainan province and Henan province increased their provincial minimum wages by 30 percent and 33 percent, respectively. In 2011, at least five provinces raised their minimum wages by more than 20 percent, and in 2012–13 twenty-seven provinces increased their minimum wages (Li, Ye, and Xiong 2014). To some extent, these minimum wage increases have been the result of political competition by local governments that are responding to the central government's call for a higher wage share in national income. Chapter 13 investigates the consequences of these minimum wage policies on the urban wage distribution (see also Lin and Yun 2016; Li and Ma 2015).

China has pursued an active poverty reduction policy agenda in the rural areas since the 1980s. In the early years, China's rural poverty programs followed a strategy of reducing poverty by developing the local economy. The principal approach was to

promote economic development in designated poor rural regions and counties, with the idea that low economic development in the poor localities was the main cause of poverty. This strategy was successful, but by the 2000s poverty had become more dispersed and required a different approach. In response, China's policy alleviation strategy began, targeting smaller areas (e.g., villages, instead of counties) and even households, as in the rural *dibao* program.

In 2010 the government put forward a new strategy for poverty alleviation in rural China, as outlined in the "Poverty Alleviation Program for 2011–2020." Additionally, it increased the rural poverty line to 2300 yuan per person per year, which in purchasing power parity (PPP) terms is close to US$2 per person per day. At the end of 2013, the government put forward a "precise-targeting" poverty alleviation strategy, which emphasized targeting poor households rather than poor localities. One of the major measures of the new strategy is *dibao*, along with other interventions such as poverty alleviation through industrial development, providing relief to households whose members have serious illnesses, and relocating poor households in unfavorable environments to better locations. As discussed in more detail below and in the ensuing chapters of this volume, absolute poverty in rural China continued to decline during the period of study. There are new challenges, however, to assist the remaining poor and to address the rising levels of relative poverty.

III. Data and Measurement Issues

All the chapters of this book use data from the CHIP surveys, which have collected Chinese household income and related data for the years 1988, 1995, 2002, 2007, and 2013. Descriptions of the first four waves of the CHIP survey can be found in Eichen and Zhang (1993), Li et al. (2008), and Luo et al. (2013). Here we highlight some key features of the CHIP 2013 data.

The CHIP datasets contain information from two sources. Some of the variables were collected by the NBS as part of its nationwide annual household survey and then provided to the CHIP. These variables include household income and expenditure data. In addition, using an independent survey questionnaire designed by the CHIP research team, the CHIP collected complementary variables relevant for analyses of income and inequality. The CHIP questionnaire was administered to the sample households in mid-2014. Together, these two sets of variables contain rich information about both households and individual household members—including household income and its components; household expenditures and its components; the gender, age, education, employment, and *hukou* registration of the household members; ownership of housing and other assets; participation in social programs and insurance, and so on. All data in CHIP 2013 are for the 2013 calendar year.

CHIP's sample of households is a subset of the NBS's 2013 annual household

sample survey, which covered 160,000 households in 1,650 county-level administrative units (city districts [*shiqu*] and counties [*xianyu*]) in all thirty-one provinces and provincial-level municipalities. The NBS sampling method changed in 2013, when the NBS adopted a nationally integrated household survey sampling frame to replace the separate urban and rural household surveys that had been in use for more than three decades. Full details about the new NBS integrated survey framework and methodology have not been released publicly,[12] but considerable information is available in published sources such as NBS (2014).

Due to budget constraints, the CHIP survey samples contain fewer households and cover fewer provinces than the large NBS household survey. CHIP 2013 was designed to contain 20,000 households, of which 10,000 were urban and 10,000 were rural, in 233 county-level administrative units of fifteen provinces.[13] China is often viewed as being composed of three distinct regions, East, Center, and West. For CHIP 2013, provinces were selected to span the three regions so that the survey would be representative for each of the three regions. To the extent possible, the CHIP selected provinces for the 2013 survey that were consistent with those in the 2007 survey. All provinces covered in 2013 except Xinjiang are present in the 2007 survey, and all but three of the provinces covered in the 2007 survey (Hebei rural, Shanghai urban, and Fujian) are present in the 2013 survey. Table 1.1 shows CHIP 2013's planned and actual composition of households by province and

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[12] Details have been published in internal work documents, e.g., NBS (2012).
[13] NBS data are available for all fifteen provinces. The independent CHIP questionnaire was not administered in Xinjiang.

region.

The procedure used to select the CHIP 2013 sample from the larger NBS survey sample consisted of several steps. First, the planned sample size for each CHIP sample province was set roughly in accordance with its population. Within each province, the planned number of urban n_u versus rural n_r households in the CHIP sample was based on the shares of urban versus rural populations in the 2010 population census.

Second, separately for the NBS sample city districts (*shiqu*) and counties (*xianyu*) in each province, we calculated the average number of NBS sample households per district or county (m_u and m_r, respectively). Third, the number of urban districts ($c_u=n_u/m_u$) and counties ($c_r=n_r/m_r$) to select from the NBS sample in each province was calculated as the ratio of the above numbers. Fourth, using systematic random sampling (*suiji qidian, deng ju chouyang*), within each sample province we selected c_u city districts from the NBS sample city districts, and c_r sample counties from the NBS sample counties. All NBS sample households in these selected city districts and counties are in the CHIP 2013 sample.

The independent CHIP questionnaires for the CHIP 2013 survey were designed differently for formal urban, rural, and rural-urban migrant households. To decide which questionnaire to use for which households, at the beginning of the survey interview the enumerators asked the household head for information about his or her *hukou* registration

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and location of residence. This information determined which questionnaire was used, as explained in Table 1.2.

[Table 1.2 about here]

In order to allow separate analyses by population subgroup, individuals in the CHIP 2013 survey are classified as urban, rural or migrant based on the classification of their households as shown in Table 1.2. For example, all members of households that are classified as rural based on the criteria in Table 1.2 are also classified as rural. Membership within the household is based on the time spent living within the household. Individuals who reside within the household for six or more months of the year are counted as household members.[14]

Some unanticipated challenges arose during the process of collecting the survey data. First, Xinjiang was selected as one of the CHIP sample provinces, but the CHIP survey questionnaire could not be administered to the sample households in Xinjiang. However, the NBS provided additional information from its annual survey for the sample households in Xinjiang.

Second, although the new, unified NBS sampling method was supposed to capture

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[14] Prior to adoption of the unified sample frame, the NBS annual household surveys classified individuals who lived away from their households for more than six months as residents of their place of residence, unless they returned most of their income to or maintained a close economic relationship with their households of origin. In these cases, they were reclassified as residents in the location of their households. Analyses of the CHIP 2002 and 2007 surveys followed this practice (see Song, Sicular, and Yue 2013). After adoption of the unified sample frame in 2013, the NBS no longer reclassifies individuals who return income or maintain a strong economic connection with their households of origin. The location of residence is based solely on the time spent in the location. The analyses in this book consistently use the new NBS classification method for both the CHIP 2007 and 2013 datasets.

rural-to-urban migrant households better than the earlier sampling method, the number of

migrant households in CHIP 2013 was smaller than expected (Table 1.3). Migrant

households accounted for 4 percent of the CHIP 2013 sample households and they

contained 3.6 percent of the CHIP 2013 sample individuals. In the official population

statistics, however, the migrant population is about 15 percent of the national population.

In view of the under-representation of migrant households in the CHIP sample, and

also because the composition of the CHIP sample among regions/provinces and

urban/rural/migrants is not proportional to the composition of the population as reported

in the national population census and sampling surveys, the CHIP team developed

regional/provincial and urban/rural/migrant sampling weights to use when analyzing the

survey data. Most chapters of this book employ these weights in their analyses.

[Table 1.3 about here]

IV. Measurement of Income

A major aim of the CHIP has been to provide estimates of Chinese household income per

capita and of income inequality that are consistent over time and in line with

international income measurement practices. The NBS, which collects extensive income

and expenditure data for its annual household surveys by means of daily household

income and expenditure diaries, constructs estimates of household income and its

components. The NBS has provided its household income estimates, along with their major components to the CHIP, and these NBS variables are included in the CHIP datasets.

The NBS estimates of household income are widely used and benefit from being based on data collected using real-time diaries rather than end-of-year recall. However, the NBS estimates are not entirely consistent over time and do not follow the accepted international definition of household income. To address these problems, the CHIP has constructed alternative estimates of household income.

With respect to the latest round of the CHIP survey, an important concern was that in 2013 the NBS changed its definition of household income and changed the classification of some income items among the various components of income. Consequently, the 2013 NBS estimates of income and its components are not consistent with those for earlier years. To the extent possible given the information available in the CHIP 2007 and CHIP 2013 datasets, the CHIP team constructed an alternative measure of the 2007 NBS income that is largely consistent with the 2013 definition. For one or two relatively minor items, the necessary data are available for 2013 but not for 2007; for such items, 2013 income is adjusted to follow the 2007 NBS income definition. In addition, the CHIP team corrected some errors in the 2013 NBS income variable. Further discussion of and details about these income adjustments can be found in Chapter 2. Hereafter, we refer to the original, unadjusted NBS income variables as "NBS income" and the adjusted, consistent

NBS income variables as "adjusted NBS income."

The CHIP team also constructed a second alternative measure of income that is closer to standard international practice. In recent years, the major difference between the NBS income definition and standard international practice has been the treatment of imputed rents on owner-occupied housing. Standard international practice includes imputed rents on owner-occupied housing in household income. In 2007 NBS income did not include imputed rents. In 2013 NBS income included an estimate of imputed rents, but the calculation of imputed rents was not consistent with standard estimation methods.

The CHIP team estimated imputed rents using standard methods. For urban (including migrant) homeowner households, imputed rents equal the expected market rent for the dwelling (as self-reported by the household). For rural homeowner households, imputed rents are equal to the self-reported expected market sales price or the expected replacement cost of the dwelling, multiplied by the rate of return on a long-term safe asset.[15]

NBS income does not include the value of certain implicit subsidies associated with subsidized or in-kind income. The proper treatment of implicit subsidies in income

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[15] The market-rent approach is used for urban households so that estimates of imputed rents are not skewed by the recent rapid increases in housing sales prices. The housing price approach is used for rural households because rental markets are not well developed in the rural areas. In areas where housing markets are not well developed, the households were asked to estimate the cost of replacing the dwelling. The CHIP team also calculated the imputed rents for urban households using the housing price approach, which yielded a somewhat larger urban-rural gap and a higher level of inequality, but it did not alter the trend in inequality over time.

measurement is a complex issue and the subject of much scholarly debate (e.g., Li and Luo 2010; Sicular et al. 2010). The CHIP team constructed estimates for one such subsidy—housing subsidies for urban households—that has historically been important in China. Using the 2007 and 2013 data for the subsample of urban renter households, the CHIP team conducted a multivariate hedonic regression of rents as a function of housing characteristics and location/neighborhood of residence. The results of this regression were used to predict market rent for each urban renter household. The housing rental subsidy was set equal to the difference between the predicted and actual rent values (self-reported by the households) in cases where the actual rent paid was less than the predicted rent.

Using these estimates of imputed rents for owner-occupied housing and implicit subsidies for urban-rented housing, the CHIP constructed an alternative measure of income, referred to as "CHIP income." CHIP income is equal to the adjusted NBS income plus the CHIP estimates of imputed rents and urban rental housing subsidies. For 2013, the incorrect NBS estimate of imputed rents is subtracted. By 2007 and 2013 the amount of urban housing rental subsidies was small (increasing average urban incomes by less than 1 percent in both years), so most of the difference between the CHIP income and the adjusted NBS income is due to the imputed rents.

The choice among the three income definitions—NBS income, adjusted NBS income, and CHIP income—depended on the researchers' judgment, the research

question, and the purpose of the analysis. The various chapters in this book use different income definitions. The overview chapter (Chapter 2) compares and evaluates the calculated estimated levels of income and income inequality using the three different income definitions.

Most of the analyses in this book examine inequality among individuals rather than among households, and they measure individual income as household income divided by the number of household members. This approach gives more weight to the larger households in the analyses. It also treats all household members as identical in terms of their utility and needs, and it ignores economies of scale. Therefore, the resulting estimates of inequality are understated; however, if the intra-household distribution is stable, this approach will accurately identify changes in inequality over time. Some researchers suggest the use of equivalent scales, which assign different weights to different household members (e.g., higher weights for adults versus children, or for the first versus additional household members). The chapters in this book do not use equivalent scales; this task is left to other interested researchers.

Calculation of income per capita requires defining membership in the household. The analyses in this volume follow the NBS definition, which counts as household members all individuals residing in the household for more than six months of the year. This approach allows easy comparison of the estimates with those of the NBS and other studies, most of which follow the NBS definition. The CHIP dataset contains information

on individuals, such as the length of time resident in the household, that allow for alternative approaches. Again, this task is left to other researchers.

V. Estimates of China's Income Inequality

In recent years, we have seen an increase in the number and range of estimates of China's national Gini coefficient, with lively debates about the true level of China's income inequality. Official estimates of China's Gini coefficient were not available until 2013. Previously, the NBS published separate Gini coefficients for urban and rural income inequality but it did not publish a Gini coefficient for national income inequality. The apparent reason for this was that the urban and rural household surveys were conducted separately using different sampling methods and somewhat different definitions of household income, and the NBS did not want to combine the two sets of data. Some observers, however, have speculated that the absence of an official estimate of the national Gini coefficient was because income inequality had risen to the point of being politically sensitive.

Despite—or perhaps because of—the absence of official estimates of national inequality, independent researchers stepped in to provide estimates. Some of these estimates employed published NBS data about China's urban and rural income distributions in its statistical yearbooks; others used data from independent household

surveys. Of course, the estimated level of inequality depended on the choice of data and the methods.

The CHIP, which has published estimates of China's national Gini coefficient for the years 1988, 1995, 2002, 2007, and now 2013, provides the longest-running set of independent estimates of China's national income inequality. Past CHIP studies have indicated a steady increase in the national Gini coefficient, from 0.38 in 1988 to 0.45 in 1995, 0.46 in 2002, and 0.49 in 2007 (Griffin and Zhao 1993, p. 50; Riskin, Zhao, and Li 2001; Gustafsson, Li, and Sicular, 2008, p. 19; Li, Sato, and Sicular 2013, p. 31). These results have been widely cited. As will be discussed below, the estimates for 2013 show for the first time a decline in national income inequality.

In 2013, after publication of some surprisingly high estimates of China's Gini coefficient by researchers at Southwest University of Finance and Economics, the NBS finally released official estimates of the national Gini coefficient for 2003 through 2012. Since then, each year the NBS has published an estimate of the national Gini coefficient. According to these official estimates, the national Gini coefficient rose from 0.479 in 2003 to 0.491 in 2008, after which it gradually declined to 0.462 in 2015. But in 2016 it increased slightly to 0.465 (see Figure 1.1).

[Figure 1.1 about here]

Southwest University of Finance and Economics has published estimates of China's national Gini coefficient based on its independent household survey, the China

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Household Financial Survey (CHFS). Its high estimates of the Gini, which exceed 0.60 (Southwest University of Finance and Economics 2012), have attracted wide attention; however, some observers have critiqued these high numbers. For example, Yue and Li (2013a, 2013b) point out that the Gini coefficients estimated using the CHFS data are overstated because of a sampling bias in the survey and defects in the CHFS data. One of the defects is an oversampling of households in more developed urban and less-developed rural areas. Another defect is that the CHFS questionnaire contains few questions about household income, asking households to recall aggregated categories of their income. Such questions would cause an understatement of income for rural households that have income from farming and sidelines.

Other independent estimates, including those by the CHIP, are lower than those based on the CFHS. Since 2010, the Institute of Social Science Survey of Peking University has conducted the China Family Panel Study (CFPS) household survey, which collects more detailed information than the CFHS on household income. Another independent household survey is the China General Social Survey (CGSS), conducted by researchers at Renmin University of China in collaboration with the University of Minnesota and Hong Kong University of Science and Technology.   Using data from these two surveys, researchers have calculated estimates of China's national Gini coefficient for household income.

Figure 1.2 shows alternative estimates of the national Gini coefficient during several

recent comparable years. The CHIP estimates are similar to those published by the NBS, which is not surprising given that the CHIP uses a subsample of the NBS household survey sample and calculates income using income data from the NBS household survey. Differences in measured inequality between the CHIP income definition and other estimates are partly due to the inclusion of imputed rents on owner-occupied housing. Other independent estimates based on data from the CHFS, CGSS, and CFPS surveys generally give higher levels of inequality than the CHIP, but most show a decline in inequality in recent years.

[Figure 1.2 about here]

Different estimates of national inequality have different strengths and weaknesses. The CHIP estimates have several advantages. First, the CHIP income variables are based on data collected in real time using diaries, which is better able to capture household earnings from a wide variety of sources and amounts, including both cash and in-kind, than the year-end recall method used in most independent household surveys. This feature allows for a more accurate measurement of the income of households with multiple and informal sources of income, such as those engaged in farming, self-employment, and household businesses. Such households, for example, rural and migrant households, tend to be at the middle and lower end of the income distribution. Consequently, estimates of inequality using income data based on the recall method tend to be overstated.

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Second, the CHIP researchers have paid close attention to definition and measurement issues of household income and use the CHIP data to develop alternative income measures (adjusted NBS income, CHIP income) that are more consistent across time and with international standards. Comparisons of estimates of the Gini coefficient calculated using the alternative measures of income provide information about the robustness of the Gini and its sensitivity to different assumptions (see Chapter 2).

Additional strengths of the CHIP estimates include (a) the household interviews were conducted by professional survey enumerators with oversight by the CHIP research team; (b) the CHIP surveys cover a long span of years in a consistent, transparent way; (c) the sample size of the CHIP survey is large and has broad provincial and regional coverage; and (d) the CHIP datasets contain detailed information on income and consumption components, which allows substantiation and analysis of inequality estimates. Most alternative, independent surveys do not share all these features. Of course, the CHIP survey data are not perfect. For example, they share many of the same weaknesses as the NBS household surveys. Several chapters in this book use methodologies to address some of these weaknesses, for example the under-representation of migrant households and of ultra-rich households.

VI. Key Findings

The chapters in this book all use the CHIP 2013 survey data, and most chapters also use data from previous rounds of the CHIP to understand changes over time. Each chapter analyzes a different topic. Most chapters analyze aspects of household income and inequality, but several examine other, related topics, such as patterns of consumption, wealth, and poverty. Several key findings and cross-cutting themes emerge from the chapters.

Finding 1: Income inequality declined, but the decline was not entirely robust.

Estimates based on the CHIP household survey data show a decline in national inequality from 2007 to 2013. This decline is a new and notable departure from the secular increase in inequality in earlier decades. The magnitude of the decline is in the range of 5 percent to 11 percent, depending on the definition of income (see Chapter 2). This decline is evident in the official as well as most independent estimates (Figure 1.2). The official (NBS) estimates, for example, indicate that the national Gini coefficient was down slightly, by 2 percent, from 2007 to 2013; if measured from 2008 to 2013, the decline was 4 percent (Figure 1.2 and NBS 2016).

Further analysis, however, reveals that the decline was not entirely robust. As discussed in Chapter 2, adjusting for geographic differences in the cost of living reduces, and possibly eliminates, the decline; moreover, adjustments for an undercounting of the

income of ultra-rich households may yield an increase in inequality. Although these adjustments rely on incomplete information and fairly strong assumptions, they indicate that the measured decline in inequality reflects, at least in part, differential changes in the cost of living among regions and the growing importance (and under-representation) of the top tail of the income distribution. In addition, one may question the statistical significance of the measured decline in inequality. Yang and Yang (2015), who use bootstrap methods and the CHIP 2007 data to estimate confidence intervals for the official estimates of the national Gini coefficient from 2008 to 2013, conclude that some but not all of the five annual declines in the Gini during these years are statistically significant.

Regardless, the decline in the CHIP's base estimates of national inequality is a new and important finding that points to equalizing processes. The decline reflects across-the-board reductions in inequality for most components of household income (Chapter 2), as well as narrowing gaps between some subgroups, for example, urban/rural (Finding 2), the East/Center/West regions (Finding 3), rural Han/minorities (Chapter 9), and urban male/female (Chapter 12). Factors contributing to the decline in national inequality include the large government stimulus program and recent demographic shifts, which have benefited lower-income earners, and the expansion of distributional policies and social welfare programs that were initiated under Hu Jintao and Wen Jiabao and have continued and expanded under Xi Jinping. Such contributing

factors are examined elsewhere in this volume (for example, Chapters 2, 10, 11, and 13).

Nevertheless, the sensitivity of the estimated decline to different adjustments and

assumptions, as well as the presence of disequalizing processes (e.g., Finding 4), indicate

that the decline in China's national inequality remains fragile.

Finding 2: The urban-rural income gap narrowed.

Past increases in national inequality have been closely associated with an ongoing and

substantial widening of the gap between urban and rural incomes. According to CHIP

estimates, by 2007 the average urban household income per capita had reached 4.0 times

that of rural households, an extremely high ratio by international standards.[16] From 2007

to 2013, however, the trend was reversed and the income gap between rural and urban

households narrowed markedly to 2.6, a ratio not seen in the CHIP data since the first

round of the survey in 1988. This reversal is robust across different income definitions

and adjustments for cost of living differentials (Chapter 2); it is also evident in the

official data published by the NBS. This narrowing of the urban-rural gap is an important

factor underlying the decline in national inequality.

    The narrowing urban-rural income gap after 2007 is the result of relatively slow

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[16] The gaps reported here are calculated as the ratio of average per capita income of formal urban households to the average per capita income of rural households. Including rural-to-urban migrant households in the calculation somewhat reduces the ratio but it does not change the trend over time. See Chapter 2 for estimates that include migrants.

income growth in urban households and rapid income growth in rural households (Chapters 2, 5, and 7). From 2007 to 2013 rural incomes rose at an average annual rate exceeding 10 percent (in constant prices), substantially outpacing growth in previous years. The largest contributor to rural income growth was wage income, reflecting the tightening labor market for lower-skilled and rural workers after the financial crisis; however, rapid growth is also seen in most other sources of rural income, including income from assets, transfers, pensions, and non-agricultural businesses. The only major source of rural income that grew slowly was income from farming. Further analysis of patterns in rural income growth can be found in Chapters 2 and 5.

Although the urban-rural income gap narrowed, income inequality within urban areas and within rural areas continued to expand. From 2007 to 2013 the Gini coefficient of income inequality within urban areas rose from 0.34 to 0.37, and that within rural areas rose from 0.37 to 0.41 (Chapters 2, 5, and 7).

Finding 3: Income gaps within, rather than between, the East/West/Center regions remained the main source of national inequality.

During the first decades of the reform period, economic growth in eastern China outpaced that in the other regions, leading to a widening of the regional income gaps. After 2000, the West and Center regions began to catch up. Analyses of the CHIP data for

2002 and 2007 reveal that the regional income gaps narrowed (Li, Luo, and Sicular 2013).

This trend continued from 2007 to 2013. Notably, from 2007 to 2013 household income

in the West basically caught up with that in the Center, and the East`s lead over the other

regions continued to shrink. In 2007 the average household income per capita in the East

was nearly double that in the Center and more than double that in the West. In 2013

income in the East was only 50 to 60 percent higher than that in the Center and West

(Chapter 2). After adjusting for regional differences in cost of living, in 2013 income in

the East was only 20–30 percent higher than that in the other regions. (See Chapter 2.)

The ongoing narrowing of the regional income gaps contributed to the decline in

national inequality from 2007 to 2013. By 2013, interregional income gaps contributed

less than 10 percent of national inequality (4 percent after adjustments for regional

differences in the cost of living) (Chapter 2; Li, Luo, and Sicular 2013).[17]

The shrinking regional income gaps reflect several factors. One is the expanding

interregional flow of labor, which has led to a gradual narrowing of regional wage gaps.

A second factor is the government's regional development policies, including the Western

Development Strategy, implemented during the past ten years (see Li, Sato, and Sicular

2013), which have supported economic growth in the West (Liu, Wang, and Hu 2009). A

third factor is the recent trend of relocating factories and businesses from higher-wage

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[17] Different income definitions and adjustments for differences in the cost of living among regions change the size of the regional income gaps but do not alter the trends.   Adjustments for differences in the cost of living reduce the contribution of regional income gaps to national inequality to less than 5 percent. See Chapter 2.

eastern provinces to lower-wage central and western provinces. Considering these circumstances, national inequality in the foreseeable future will likely remain a reflection of inequality within, rather than among, the East/Center/West regions.

Finding 4: Household wealth has grown markedly over time and is now a key factor contributing to income inequality.

The CHIP 2002 and CHIP 2013 datasets contain detailed information on the components of household wealth, including the value of household holdings of real estate, financial assets, productive assets, and durable consumer goods. As a result, for these two years it is possible to estimate the total value and distribution of household net wealth. Chapter 4, which discusses this issue, reports that from 2002 to 2013 Chinese household wealth grew at an average annual rate of 17 percent, outpacing the growth in household income and GDP. Income derived from wealth also grew rapidly, thus, on average, by 2013 asset income accounted for 17 percent of total household income.[18]

Household wealth in China is not distributed equally. Inequality of wealth as measured by the Gini coefficient and calculated using the CHIP data was 0.62 in 2013 (Chapter 4). The actual level of wealth inequality is likely much higher than this due to an under-representation of the wealthiest households in the CHIP sample. Chapter 4,

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[18] Asset income here includes income from imputed rents on owner-occupied housing plus income from other assets. See Chapter 2.

using several different approaches to adjust the estimates for non-responses and under-reporting, reports that such adjustments yield a Gini coefficient of wealth inequality in the range of 0.63–0.72. With or without such adjustments, inequality of wealth remains considerably higher than inequality of income.

The expansion of household wealth in China is a relatively new phenomenon that emerged in the early 2000s following the privatization of housing and the development of housing and financial markets. Substantial price increases for real estate and other assets in the ensuing years led to rapid increases in the value of household-owned assets, especially in the urban areas (see Chapter 4). Owned housing remains the largest single component of wealth. Although housing wealth is not distributed equally, near universal home ownership in China indicates that virtually all households, both rich and poor, hold wealth.

This expansion of household wealth has implications for income inequality. CHIP estimates reveal that in 2007 income from assets contributed 11 percent to national income inequality and in 2013 income from assets contributed 19 percent to national income inequality (Chapter 2). This increase occurred even though during this period income from assets became more equally distributed   because asset income remains one of the most unequally distributed components of income (Chapter 2). Short-term measures to cool real-estate markets or to fight corruption may have had a temporary cooling effect on inequality due to wealth, but without longer-term, systematic policies,

such as property or inheritance taxes, growing wealth will continue to pose a challenge for China's income distribution.

Finding 5: The number of households attaining levels of income comparable to those of middle-class households in the developed world grew rapidly and for the first time such households constituted a substantial share of the population.

Due to the rapid macroeconomic growth, between 2007 and 2013 China moved up the ranks in the World Bank's country classifications from a lower-middle-income country to an upper-middle-income country. Concurrently, a growing proportion of Chinese households joined the ranks of the global middle class. Chapter 3 analyzes trends in China's middle class as defined in relation to an international standard, that is, as being neither poor nor rich relative to the median income in the developed world (the EU). By this definition, China's middle class was equal to 7 percent of the population in 2007, but it expanded to 19 percent of the population in 2013. Thus, the period of study saw a new development in China—the emergence of a substantial middle class, with incomes comparable to those of the middle classes in higher-income countries.

Further analysis reveals that the Chinese middle class is largely an urban phenomenon. In 2013 90 percent of China's middle-class population was urban. One-third of China's urban population was middle class, as compared to only 4 percent

of the rural population (Chapter 3). China's middle class, so defined, remains in the top deciles of China's income distribution and thus is relatively well-off by domestic standards. Consequently, growth of this middle class does not explain the decline in national income inequality from 2007 to 2013, which instead reflects a rapid growth of incomes in the bottom half of China's domestic income distribution (Chapter 2).

Finding 6: The population living in absolute poverty continued to decline and it is now relatively small, but the severity of poverty among those who remain poor and rising relative poverty pose continuing challenges.

In the past decades, China has made great strides in reducing the number and proportion of people living in absolute poverty. For example, as measured using the current official absolute poverty line, the incidence of absolute poverty in rural China fell from 76 percent in 1988 to 31 percent in 2002, 19 percent in 2007, and then it halved again to only 9 percent in 2013 (Chapter 6). The level of those living in absolute poverty in the urban areas is much lower than that of those living in absolute poverty in the rural areas but shows a similar downward trend (Chapter 7).

Estimates of poverty depend on the choice of the poverty line and the poverty index. The poverty line can be set equal to an absolute level of income (an absolute poverty line) or it can set relative to the median income (a relative poverty line). In addition, the

poverty index can measure the proportion of the population living below the poverty line (the poverty rate or the headcount ratio) or it can measure the depth (the poverty gap) or the severity (the squared poverty gap) of poverty.

As discussed in Chapters 6 and 7, poverty declined in terms of some of these alternative measures. Estimates of the depth and severity of absolute poverty in both rural and urban areas, however, revealed only a minor change, and in some cases, they increased. These results point to the challenges of addressing the stubborn causes of poverty among those households that remain poor. Furthermore, most estimates of relative poverty increased from 2007 to 2013. As countries develop and move into upper-middle and high levels of GDP per capita, policy makers turn their attention from absolute to relative deprivation.

VII. Conclusions

The analyses in this book reveal new, promising trends in China's inequality since 2007. Importantly, national inequality (at least by standard estimates) has declined, the urban-rural income gap has narrowed substantially, and a significant middle class relative to that in the developed world is emerging. Some recent patterns are continuations of positive past trends, for example, the ongoing decline of absolute poverty and the catching up of household incomes in the Center and West.

Nevertheless, challenges remain. The decline in national inequality is not robust to adjustments for changes in the relative costs of living or for the under-representation of incomes at the top tail of the distribution. This sensitivity suggests that the decline in inequality at best is fragile. In addition, growth in holdings of household wealth has emerged as an increasingly disequalizing force. Much of this wealth originated from non-market, non-transparent processes such as the housing reforms, and as yet few mechanisms or policies exist to counteract the rising wealth inequality. Poverty among the remaining poor and the rising relative poverty continue to pose stubborn problems.

Since 2000 and continuing through 2013, the Chinese government pursued a broad array of policies to address income inequality and poverty. Analyses of the CHIP 2013 data suggest that such programs benefit lower-income households and they have contributed to the decline in inequality. Still, the impact of China's distributional policies is uneven and it has differed among programs, regions, and groups. For example, the redistributive impact of public transfer payments was much greater in the urban areas than it was in the rural areas, and urban pension income widened national income inequality, whereas rural transfers under the minimum income guarantee (*dibao*) and the rural pension programs narrowed national income inequality.

The analyses in this book provide a starting point for understanding recent trends in inequality and poverty in China, but they leave many questions unanswered. What factors underlie the recent rapid growth in rural incomes, and is such growth sustainable?

How exactly do specific policy programs, e.g., *dibao*, pensions, and taxation, influence incomes? What are the implications for inequality of broader macroeconomic trends in China, such as the slowing GDP growth, migration and urbanization, rising levels of education, and the aging population? Further research and ongoing data-collection efforts, such as those in the CHIP project, are needed to answer these questions as well as to determine whether inequality in China has indeed passed a turning point and will continue to decline in the future.

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Table 1.1. CHIP 2013 household sample: Composition by region and province

Province	Region (1=East; 2=Center; 3=West)	Number of administrative units (city districts and counties)	Planned number of sample households	Actual number of sample households
Beijing	1	7	1,200	1,145
Shanxi	2	16	1,300	1,276
Liaoning	1	19	1,300	1,108
Jiangsu	1	21	1,600	1,485
Shandong	1	18	1,600	1,196
Anhui	2	18	1,300	1,526
Henan	2	22	1,800	1,614
Hubei	2	16	1,400	1,289
Hunan	2	16	1,300	1,267
Guangdong	1	16	1,600	1,534
Chongqing	3	8	1,000	988
Sichuan	3	19	1,600	1,351
Yunnan	3	11	1,000	1,105
Gansu	3	11	1,000	1,006
Xinjiang	3	16	1,000	1,058
Total	1, 2, and 3	234	20,000	18,948

Notes:

1. The actual number of sample households shown in the last column are the number of households for which data were collected using the independent CHIP questionnaire (except for Xinjiang, where the CHIP questionnaire could not be administered, but the NBS provided additional data from its survey for 1,058 households). Note that the actual number of sample households for which the NBS provided data to the CHIP is slightly different from these numbers.

2. Discrepancies between the planned and actual numbers of sample households are due to several reasons; in most cases it was because survey workers were unable to find household members at the time of the survey, e.g., due to migration or no adult members of a rural household were at home.

2. The NBS variables are available for all the sample provinces. The CHIP variables are available for fourteen of the fifteen sample provinces (not for Xinjiang).

Table 1.2. Criteria used to decide which CHIP survey questionnaire was administered to which household

| Questionnaire administered	Criteria	
	English	Chinese
Urban	Head of household has a non-agricultural *hukou*; place of residence can be either the same or not the same as the place of the *hukou* registration.	户主有非农业户口（包括改为居民户口时的户口性质是非农业户口），包括本地非农业户口(包括改为居民户口时的户口性质是非农业户口）和外地非农业户口(包括改为居民户口时的户口性质是非农业户口）。
Rural	Head of household has an agricultural *hukou*, and the place of residence and the place of the *hukou* registration are the same.	指户主有农业户口(包括改为居民户口时的户口性质是农业户口)而且户口所在地是现住的乡镇（街道）内。
Migrant	Head of household has an agricultural *hukou*, and the place of residence and the place of the *hukou* registration are different.	指户主有农业户口(包括改为居民户口时的户口性质是农业户口)而且户口所在地是现住的乡镇（街道）外。

Note: In locations that carried out the *hukou* reform that eliminates an agricultural versus non-agricultural distinction, the choice of questionnaire was decided based on whether the household head had an agricultural or a non-agricultural *hukou* at the time of the *hukou* reform.

Table 1.3. Composition of the CHIP samples in urban, rural, and migrant households

|	Number of households	% of sample
Urban	7,174	38.0
Rural	10,973	58.1
Migrant	726	3.9
Total	18,873	100.0

Source: CHIP 2013 survey, unweighted.

Figure 1.1: Official estimates of China's national Gini coefficient, 2003–2016
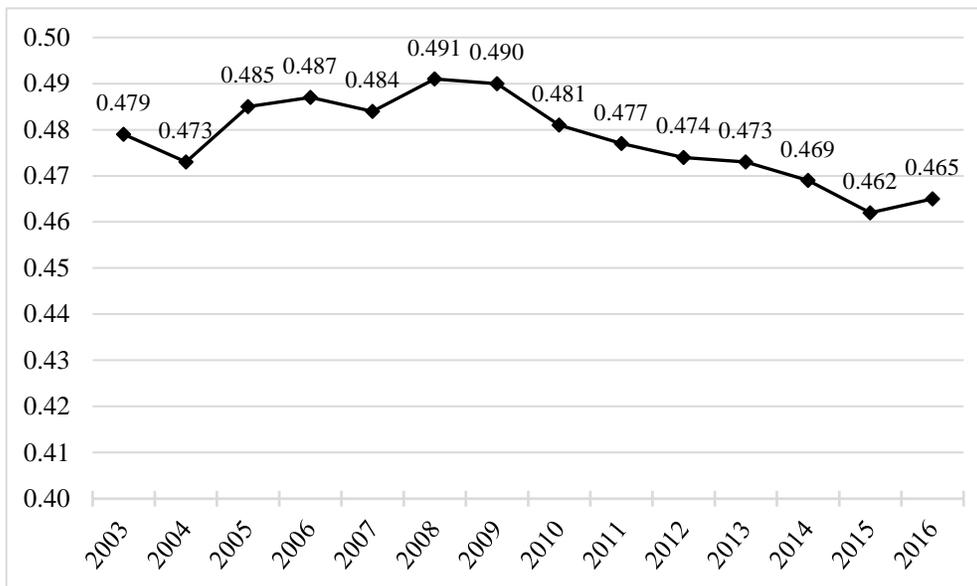
Sources: The Gini coefficients for 2003–2015 come from Department of Household Surveys, National Bureau of Statistics (2016, p. 407). The 2016 estimate is from the press conference on China's economic situation, Director of the NBS Ning Jizhe, January 20, 2017. See http://finance.china.com.cn/news/gnjj/20170120/4077373.shtml.
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Figure 1.2: Alternative estimates of China's national Gini coefficient
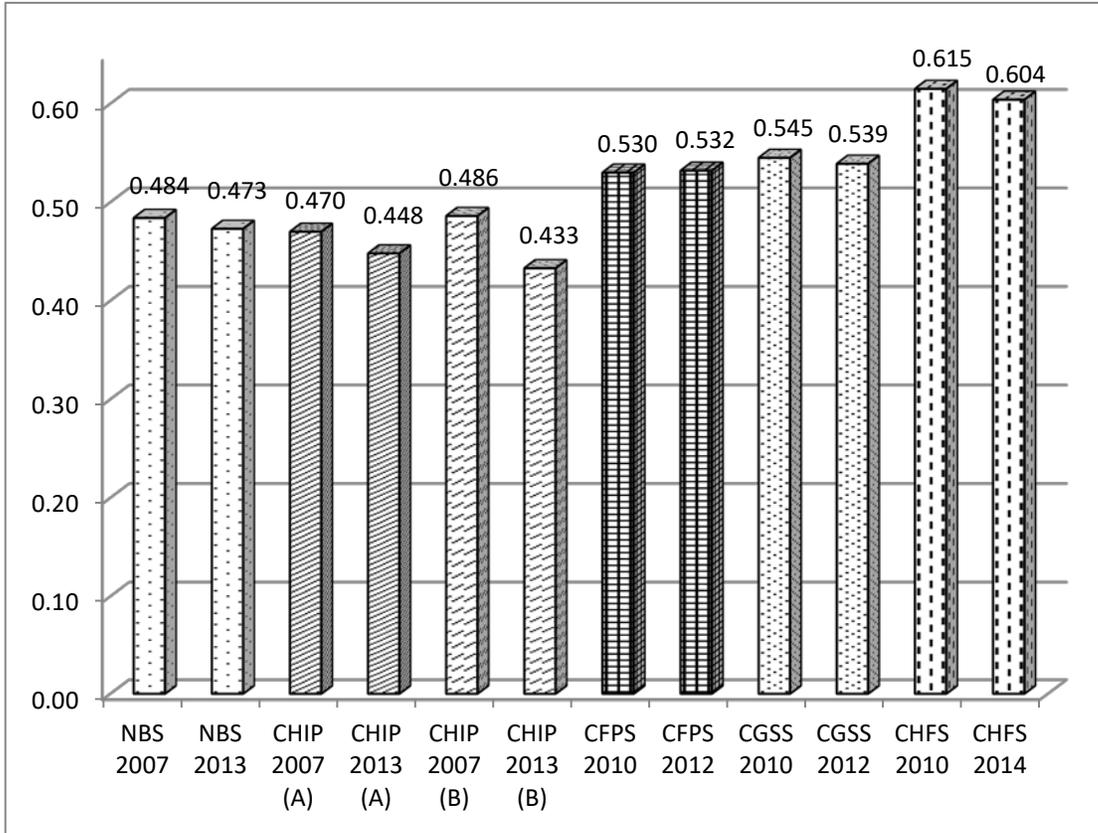
Notes: CHIP estimates (A) are for the NBS definition of income (unadjusted NBS income), and (B) are for the CHIP income definition (CHIP income). See text and Chapter 2 for more details.
Sources: NBS estimates are from Department of Household Surveys, National Bureau of Statistics (2016); CHIP estimates are from Chapter 2; CFPS and CGSS estimates are from Xie and Zhou (2014); CHFS estimates are from Gan (2017).