CHINESE REGIONAL INEQUALITIES IN INCOME AND WELL-BEING

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Dividing China into seven regions reveals rural income and consumption divergence for both 1980–2005 and 2000–05. But while real rural consumption growth averaged 7.7 percent over 1985–2005 in the eastern coastal region, it averaged 6.5 percent uniformly in the interior. In evaluating well-being, such rapid improvement in all regions arguably overshadows negative connotations of divergence. Twenty years of household survey data reveal dramatic increases in rural household savings, as rural consumption improved more slowly than income in some periods. This raises questions about the suitability of consumption as a basis for measuring well-being and its distribution. Increased savings appear to be transient, as some households save while others dissave to purchase durables and afford lumpy services like education and healthcare—supplies of which became more plentiful in the 1990s. The paper argues that more meaningful measures of regional disparities come from differences in regional poverty headcounts. It also suggests that higher regional inequality and accompanying interregional migration indicate that inequality plays an important positive role in inducing economic actors voluntarily to move to more productive locations and activities as a mechanism for ensuring sustainable improvements in individual well-being.

SUMMARY

Comparison of China's major regions, detailed below, shows that in official GDP per capita terms and for rural income and consumption, disparities appear large. Furthermore, both over 20 years and over the 2000–05 five-year period, Chinese rural income and consumption disparities increased, as measured by the ratios of per-capita rural household statistics representative for major regions. Hence, regional rural household income and consumption levels in China are diverging (at least through 2005) and have been, whether measured since 1985 or 2000.

Correctly interpreting these results is an important challenge. Although disparities are growing, the extraordinarily rapid improvement in rural household income and consumption levels in all regions over both longer-term (1985–2005) and more recent (2000–05) periods is notable. Average annual real growth in rural household income was at least 6.0 percent for all seven regions over the period 1985–2005, and for consumption the corresponding average growth rate was at least 6.5 percent over all regions.

Compared to static measures of well-being, the sustained speed of improvement in income and consumption in all regions and provinces supports the conclusion that regional disparities are less severe than consumption levels make them seem. This would be so if well-being reflects something other than an absolute consumption level and is instead linked to timely satisfaction of expanding citizen

expectations, regardless of the absolute level. Giving significant weight to this dynamic indicator of well-being must influence research conclusions about inter-regional inequality in recent decades.

A second qualification of conclusions garnered from measured consumption level differences obtains when household savings rates are high and increasing, as has been the case in China. In such cases, paradoxically, slower consumption growth seems to indicate expansion of a short-to-medium-term cycle of saving for large expenditures. Growing prevalence of such a savings pattern implies greater increases in well-being than static consumption levels would indicate. Households engaged in such savings patterns arguably enjoy greater well-being than if they had neither the related consumption choices nor necessary savings mechanisms nor the higher incomes required in the first place. Higher savings rates of this sort enable households to convert their increased incomes into consumption choices for expensive consumer durables, expected or potential medical and educational expenses, and costly family celebrations. The paper argues more generally that a growing prevalence of such periodic or "transient" saving undermines the reliability of using consumption levels as a measure of shifts in poverty and well-being.

In a third dimension, poverty incidence comparisons between coastal and interior provinces reveal clear differences in well-being in this context, especially when poverty incidence calculations use an appropriate poverty-line standard. Revisions to the World Bank's "dollar-a-day" poverty standard consistent with the December 2007 release of revised Chinese purchasing power parity statistics (World Bank, 2007b, 2007c) make this traditional poverty standard more useful than its unrevised predecessor.

Finally, an additional challenge for interpreting these data must consider how levels and trends in regional inequality provide incentives for voluntary labor migration from low-productivity areas to regions with higher-productivity and higher income work opportunities. The persistence of high regional inequality also indicates that rapid rates of internal migration—and their potential for enhancing productivity and earned income growth—could continue in China for some time.
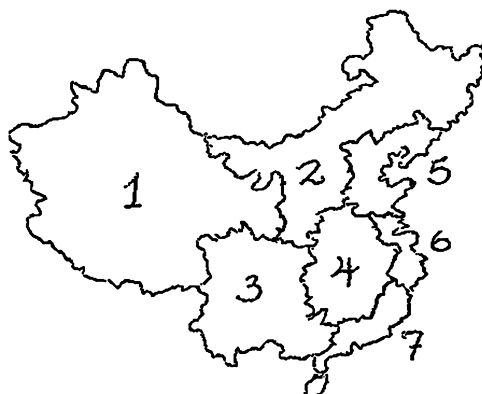
Measurement Challenges

Research on regional disparities in China immediately ushers in a host of data difficulties.

An initial challenge is the definition of regions themselves. A great deal of empirical research on China's regions uses published statistics on China's 31 provincial-level administrative units (hereafter "provinces"), four of which are "municipalities." But three of these municipalities (Beijing, Tianjin, and Shanghai) have limited rural economies, making comparison with full-fledged provinces of questionable use for most purposes. Conversely, a province like Hebei, out of which both Beijing and Tianjin have been carved, has no real major urban area comparable to those of other provinces, undermining meaningful comparisons with more robust provinces having both major metropolitan and rural areas.

China's regional statistical reporting includes some aggregated statistics, but at the other end of the aggregation spectrum. Official analysis since the 1980s has referred to summary data on three "belts," "East," "Center" and "West," with a

Map 1. China's Seven Economic Regions and their Constituent Entities

1	2	3	4	5	6	7
Far West	North Hinterland	South Hinterland	Central Core	North Coast	East Coast	South Coast
Xinjiang	Heilongjiang	Sichuan	Henan	Liaoning	Jiangsu	Fujian
Tibet	Jilin	Chongqing	Anhui	Hebei	Shanghai	Guangdong
Qinghai	Inner Mongolia	Guizhou	Jiangxi	Beijing	Zhejiang	Hainan
Gansu	Shanxi	Yunnan	Hubei	Tianjin		
Ningxia	Shaanxi	Guangxi	Hunan	Shandong		

more recent break-out of a fourth "Northeast" region. But these large regions include such a diversity of geographical and economic circumstances that they reveal too little about trends in regional inequality.

Consequently, for this paper, provinces are aggregated—first into 26 robust provinces, including "greater" provinces for Hebei, Jiangsu, Sichuan and Guangdong where urban jurisdictions and a small island province are included in surrounding full-fledged provinces (see note to Table 14 in the Appendix). Most of the analysis, however, relies on further aggregation of these 26 robust provinces into seven regions with roughly similar geographical characteristics (see Map 1 and Table 14).

An especially challenging second difficulty is the impact on regional measurements of poorly documented migration between regions. The concern is that administratively reported data—on population especially—cannot keep up with the rapid pace of migration. This paper provides one of the few available robust national pictures of the direction of migration flows—from the 2005 national population census' 1% supplementary survey. It adds a separate qualifying warning about the importance of migration by noting that a majority of current urban residents come from families that were rural 25 years ago.

The best research solution to the migration challenge for regional research is to use household survey data, which at their grass-roots reporting level are already in per-household and per-capita terms. China's surveys include remittance income from members in other locations, which clouds the picture of regional

productivity-based income gaps. But for assessing regional inequality in well-being, this inclusion is valuable.

Third, China's system of household surveys itself provides its own substantial measurement challenges. As explained below, China has not one but two surveys, so-called "rural" and "urban," with very different instruments that make comparison and national aggregation difficult. For national compilations, the researcher has to decide on appropriate "rural" and "urban" population shares with which to weight the two survey results. The migration issue here is paramount. For poverty and low-end well-being comparisons, however, research can focus on the "rural" survey, because comparison of urban and rural income and consumption distribution patterns indicates that most rural survey respondents have significantly lower standards of living that even the poorest urban respondents.

Rural survey data availability is a significant difficulty. Raw data for the country as a whole are not made publicly available at all. China's National Bureau of Statistics (NBS) only regularly releases summaries of national and provincial size distribution data by income categories, and even then not for all provinces. Consumption distribution reports are extremely rare. One exception, used later in this analysis, is publication of summary consumption distribution data for a subset of counties known as poverty counties. A second, indirect, exception is permission NBS has given to the World Bank to acquire from NBS regression results on consumption-based Lorenz curve data. The World Bank then converts these regression results into its own consumption size distribution data (e.g. for its consumption-based "dollar-a-day" poverty incidence indicators) and into its "POVCAL" online facility allowing researchers to calculate their own percentage headcount results for selected years (http://www.worldbank.org/html/prdph/lsms/tools/povcal/).

The World Bank's POVCAL instrument for reporting Chinese consumption distribution patterns has its own shortcomings, however. Because it is a regression on a Lorenz curve rather than an interpolation between actual data points, its accuracy at the low end of distributions is open to question. Interpolation, on the other hand, such as for the available summary income distribution data, is quite accurate at the lower income end because price inflation has left original low-income categories used in national and many provincial reports with very small shares of total households—for example, they report small fractions of 1 percent of all households in each of the lowest six income categories published for 2007 (see NBS, 2008, p. 339).

Finally, regional comparisons in this paper highlight the significance of China's rapidly rising household savings rates, especially in the latter 1990s. With average consumption growth slower than income growth, even in poorer rural areas, does this rising savings rate raise questions about the quality and accuracy of the household data? A host of complementary trends indicates that it does not. Analysis of bank deposit growth and real interest rates in Keidel (2007a), as well as conclusions in Modigliani and Cao (2004) and Horioka and Wan (2007) indicate that the main reasons for rapidly rising savings rates are improved choices over long-term purchases such as durables, education and healthcare, rapidly rising incomes, and high real deposit interest rates, especially in the latter 1990s.

Explanations based on cultural factors, life-cycle hypotheses and per-capita income differences fail to explain the rapid rise.

As mentioned above and detailed below, the scale of "transient" saving by better-off households, lends strength to conclusions that rapidly rising incomes encourage expansion of a short-to-medium-term cycle of first saving and then consumption that generates a high *average* rate of savings for the population as a whole. This paper briefly notes statistical patterns showing that high average savings rates for low-consumption families are a feature not only of household behavior in China but in selected other developing countries as well.

REGIONAL INEQUALITIES

Whether one uses regional GDP per capita or household survey data, the static gap between China's richer coastal regions and the interior is clear. The analysis below will show, however, that the speed of improvement in well-being for all regions compromises a negative conclusion one might draw from static differences.

An overview of regional disparities in GDP per-capita (see Table 1) shows significant inequality between the seven regions as well as between the 26 individual "greater" provinces (see Table 13 in the Appendix). The overriding gap is between coastal and interior regions. On the large seven-region level, with all but one region larger than 140 million persons, the highest-to-lowest GDP per capita ratio is over 3.5. At the "robust" provincial level, i.e. provinces combined with their constituent provincial-level municipalities, it is more than 5.5 (between Greater Jiangsu and Guizhou).

Several factors qualify the usefulness of per-capita GDP comparisons for measuring differences in regional well-being. First, GDP includes industrial profits and retained earnings, which in China have very little connection with contemporary household well-being. Second, and related, GDP includes investment, which in China is such a high share of GDP and varies so much over time that its usefulness for gauging inequalities in income and well-being is limited. Third, the accuracy of inter-regional comparisons based on GDP per capita statistics is

TABLE 1
REGIONAL POPULATION AND GDP COMPARISONS, 2005

	Population (million)	Total GDP (bil.US$*)	GDP Per Capita (US$*)	GDP Sector Shares (%)		
				Primary	Secondary	Tertiary
China total	1,308	2,246	1,717	12.5	47.3	40.2
Far West	60	72	1,204	16.9	44.0	39.1
N. Hinterland	160	255	1,594	12.4	50.4	37.2
S. Hinterland	239	244	1,023	19.5	40.5	40.0
Central Core	318	403	1,267	18.0	45.6	36.4
North Coast	229	576	2,516	9.7	50.6	39.7
East Coast	142	499	3,528	6.0	53.8	40.3
South Coast	236	648	2,749	8.6	49.5	41.9

Note: *US$ figures at 2005 average commercial exchange rate of 8.1917 Yuan/$.
Source: China National Bureau of Statistics (NBS), 2006 Statistical Yearbook, with calculations.

suspect—not because of concerns about GDP data, but rather because of the population data.

China's implementation of a system of national accounts (SNA) compilation of GDP improved significantly relative to shortcomings in the early 1990s (World Bank, 1992; Keidel, 2004), such that by the end of the decade the World Bank's official reporting switched from its own adjusted estimates to official Chinese statistics. The 2004 economic census (NBS, 2006) also backed up provincial reporting as being more accurate than previously thought (NBS, 2005).

But the denominator in China's regional GDP per capita statistics, regional population, has questionable accuracy due to the unknown scale of migration flows not fully included in (or deducted from) official regional population data. Migrants away from their officially registered domicile are arguably responsible for significant parts of GDP output in their new locations, where they are frequently not counted in local population statistics.

The scale of inter-provincial migration in China is the subject of numerous local municipal surveys in China, but discussions with specialists in Beijing confirm that there is still considerable disagreement about the overall scale—whether it is 100 million persons working away from home or 150 million or even 200 million.

The definition of what one means by "migrant" is also important. Given the absolute decline in China's rural population over more than 20 years, amidst resurgence in the natural rural population increase rate, all of what would have been increases in the rural population must now be reported as living in urban areas. One conservative calculation shows that more than half of China's current urban residents must be in families whose members originally migrated from rural areas at some point since China's economic reforms began in 1978—either recently or in the persons of parents or grandparents (Keidel, 2007a). By this calculation, most of today's urban residents in China are rural in origin. This requires an adjustment in thinking about urban–rural distinctions.

If the scale and meaning of migration in China are open to discussion, the direction is not. Chinese have been moving from interior to coastal provinces in significant numbers. Official census-frame-based survey results to this effect were clear as early as 1990 (Keidel, 1996). The 1 percent sample survey from the census frame for 2005 shows similar results (see Table 2). It is unlikely that the respondents to this survey represent all the "migrants" living in China's various provinces, because Table 2 shows this figure to amount to only 29.9 million persons. But the movement is unquestionably from interior to coastal regions. Note that migrants move in all directions, but on a *net* basis as calculated from this survey, coastal provinces had 27.5 million persons who had permanently moved from other provinces during the five years through 2005. The indicated direction of migration toward more productive regions implies an upward bias in measured GDP-per-capita disparities.

One way of avoiding migration-induced measurement complications is to make comparisons based on household survey data.

China's household survey system is well developed and has been in place in its modern form since the early 1980s. As we have seen, the surveys nevertheless pose significant research challenges—in design, interpretation, and the general availability of data generated by the surveys.

TABLE 2

PERMANENT* OUT-MIGRATION, 2000–05 (MILLION PERSONS, NET)

Migration Destination	Migration Start							Total by Destination
	Far West	N. Hinterland	S. Hinterland	Central Core	North Coast	East Coast	South Coast	
Far West	*0.2*	..	0.1	0.2	..	..	..	0.5
N. Hinterland	..	*0.4*	..	0.1	..	..	..	0.5
S. Hinterland	..	..	*0.8*	0.1	..	..	..	0.9
Central Core	..	..	..	*0.5*	..	..	..	0.5
North Coast	0.1	1.4	0.3	1.1	*1.5*	..	..	4.4
East Coast	0.1	0.3	2.6	5.7	0.2	*1.2*	0.2	10.3
South Coast	0.1	0.4	4.8	6.8	0.2	..	*0.5*	12.8
Total by Start	0.5	2.5	8.6	14.5	1.9	1.2	0.7	29.9

Notes: *The original census 1% survey data record the survey respondent's current residence and usual residence five years earlier. Figures on the diagonal (italicized) are inter-provincial movements within each region.

Source: NBS (2007), with calculations.

Since at least the early 1960s, China's population has been divided into two matrilineal categories, rural and urban—or as originally termed, "agricultural" and "non-agricultural." A Chinese citizen's population registration status has traditionally been crucial to determining educational, employment and social safety net opportunities—urban registered citizens were educated in urban areas and could expect jobs in the modern non-farm sector. Rural registered persons originally received none of these benefits—unless they could change their legal status through educational performance or some other kind of promotion.

These household registration categories are currently going through rapid reform with a goal to eliminating the distinction and with it the variance in subsidized privileges between the two groups. But household survey instruments, originally designed to meet the different circumstances of the two groups, continue with their basic differences.

The most fundamental survey distinction is between the rural household survey, designed for families engaged in a family-owned business (i.e. farming), and a different, simpler survey for urban families, traditionally characterized as wage-earning families. Both surveys use a well-developed system of family ledgers and statistical workers who regularly check and assist with the record keeping. Ironically, China's dramatic reforms since 1978 have turned many rural workers into wage earners and many urban households into sole proprietorships. The original rationale for two separate survey instruments is thus no longer operational, and introduction of a single unified household survey instrument is long overdue.

The rural survey's business-oriented instrument has data on gross earnings from sales, costs of production, and "net income," which is household enterprise income minus production costs and taxes, but including remittances from persons away from the home, government transfers, interest income, and in-kind income from own-production—mostly food, in recent years valued at close to local selling prices (Ravallion and Chen, 2004). In 2007, 14 percent of rural gross income and 14 percent of rural living expenditures were non-cash in nature (NBS, 2008). This

reported "net" income is basically a cash-basis calculation, except it does not include borrowings and debt principal repayments to financial institutions or other creditors. This "net income" measure is the basic income figure used for standard of living calculations for households not registered as urban.

Consumption in the rural survey is from the reported summation of "Expenditures for daily household living needs." One of its most serious shortcomings is the lack of imputed rent for owner-occupied rural housing while it generally includes home-improvement expenses more appropriately considered to be investment outlays. There are also no corrections for interregional cost of living indicators, and detailed data are too few to adjust for unreported scale advantages enjoyed by large families sharing a house and its durables. Research on a subset of southern Chinese provinces indicates that such shortcomings result in household survey statistics overstating somewhat the actual degree of regional inequality (Ravallion and Chen, 1998). A recent study by China's rural household survey team made a different but related point, showing that while pay for migrants from the interior is higher on the coast than elsewhere, when living costs are factored in, migrants from the interior make less net income on the coast than do migrants who go to interior locations (NBS, 2005).

A main point to stress is that the "rural" designation for households covered by this part of China's household survey system is not a geographical designation at all, and neither is it an agricultural designation, since many so-called rural persons work in cities for long periods of time or engage in non-farm businesses or wage income in non-farm businesses in small-town and suburban areas. Of course, most of "rural" China by this survey is indeed involved in agriculture as was more than 40 percent of China's workforce in 2005, but given its heterogeneous nature, "rural household survey" is in many ways a misnomer.

Despite shortcomings, household survey data tell a great deal about regional inequality. In income terms, rural households in China's coastal regions—especially the East Coast region centered on Shanghai—are far and away better remunerated than those in the interior. By 2005, rural households in the relatively small East Coast region, with total population of 142 million people, had at least double the rural income level of those in any interior region (see Table 3).

Not only are income disparities large, they have been growing larger over time. On average for both 1985–2005 and for 2000–05, the regions that were already leading in terms of per-capita rural income at the outset of the period also grew faster in real terms during that period. The rankings for both levels and growth rates are the same, implying divergence (see Tables 3 and 4). What is more, the differences in growth rates are substantial. All of the interior regions sustained average growth between 6.0 and 6.7 percent over the 20 years after 1985 (see Table 4). During this same period, coastal regions averaged rural household real income growth rates between 7.4 and 8.5 percent, a growth gap that is especially large when compounded over 20 years.

Both China's regional rural income disparities and the pace of their increase appear more clearly in log-normal plots of their 20-year trends (see Figures 1 and 2), for which the slopes of the lines represent growth rates. Figure 1 shows clearly that the highest-income regions in 1985 also grew the fastest on average to 2005.

TABLE 3

REGIONAL REAL PER CAPITA RURAL INCOME*
(CONSTANT 2000 YUAN)

	1985	1990	1995	2000	2005
China total	943	1,306	1,700	2,253	3,556
Far West	748	1,027	1,058	1,514	2,410
N. Hinterland	846	1,228	1,405	1,867	3,062
S. Hinterland	743	1,052	1,271	1,733	2,662
Central Core	879	1,141	1,476	2,083	3,218
North Coast	1,004	1,336	1,895	2,613	4,196
East Coast	1,258	2,007	2,940	3,879	6,404
South Coast	1,113	1,764	2,628	3,411	4,901

Note: *Income is "net" income.

Source: NBS household survey data, published in *2006 China Yearbook of Rural Household Survey* (in Chinese), China Statistics Press, 2006.

TABLE 4

REGIONAL RURAL INCOME GROWTH* 1980–2005

Ave. Annual %	1985	1990	1995	2000	2005	1985–2005
China Total	14.1	6.7	5.4	5.8	9.6	6.9
Far West	n/a	6.5	0.6	7.4	9.7	6.0
N. Hinterland	13.0	7.7	2.7	5.9	10.4	6.6
S. Hinterland	10.7	7.2	3.8	6.4	9.0	6.6
Central Core	13.6	5.3	5.3	7.1	9.1	6.7
North Coast	14.4	5.9	7.2	6.6	9.9	7.4
East Coast	16.7	9.8	7.9	5.7	10.5	8.5
South Coast	12.4	9.6	8.3	5.4	7.5	7.7

Notes: *Annual averages—except for 1985–2005, data show averages of real growth over five years, e.g. 1985 is for 1980–85.

Source: See Table 3.

Figure 2 shows, however, that this diverging path was not at all uniform during the four five-year sub-periods. Indeed, there were periods of convergence between 1995 and 2000. This short-lived convergence path is also clear from the growth rates in Table 4, which show that for the five years ending in 2000, the two highest-income regions grew more slowly than all the other regions. Regional rural income levels in the subsequent five-year period, ending in 2005, are also not uniformly divergent, with growth rates for the South Coast in particular failing to recover the way they did in the North and East Coast regions.

A detailed discussion of the causes of these trends is beyond the scope of this paper, but it is important to note that the 1990s were more complicated than the overall trends indicate, with relatively poor performances in particular during 1990–95 for the lower-income regions of the Far West and North Hinterland.

Switching from income to consumption inequality patterns and trends for rural household provides evidence of weaker divergence and of possible difficulties in the latter 1990s not apparent in income statistics. Overall, regional rural
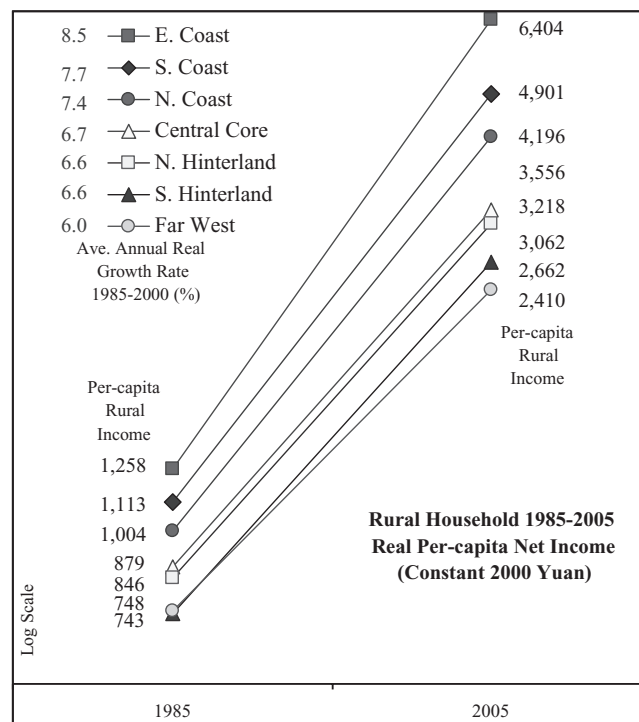
Figure 1. Twenty-Year Income Divergence

Note: Both income levels and growth are in real terms.
Source: See Tables 3 and 4.

household consumption disparities are in many ways similar to the income patterns already described, except that the disparities and rates of divergence are somewhat lower, the North Coast region's levels are more like those in interior regions, and the five-year growth patterns show substantially more difficulties for all regions in the latter half of the 1990s. We will see below that shifts in savings rates offer important insights into this consumption trend.

Despite the less dramatic disparities and speeds of divergence, the rankings of the regions are, not surprisingly, the same as those for income. The East Coast and South Coast have average levels of rural household consumption too much higher than those in other regions to be adequately accounted for by regional price differences (see Table 6). Furthermore, even though the North Coast's household consumption levels are much closer to levels in the interior, especially if possible price differences are considered, they are still higher, so that as a general conclusion the data show that all coastal regions enjoy rural household consumption levels higher than those in the interior.

As mentioned at the outset of this paper, however, the striking pattern in regional rural household consumption is for growth rates (see Table 5). In particular, while on average over 20 years real consumption growth rates are highest on the coast, confirming some degree of long-term divergence, the 1990s exhibit
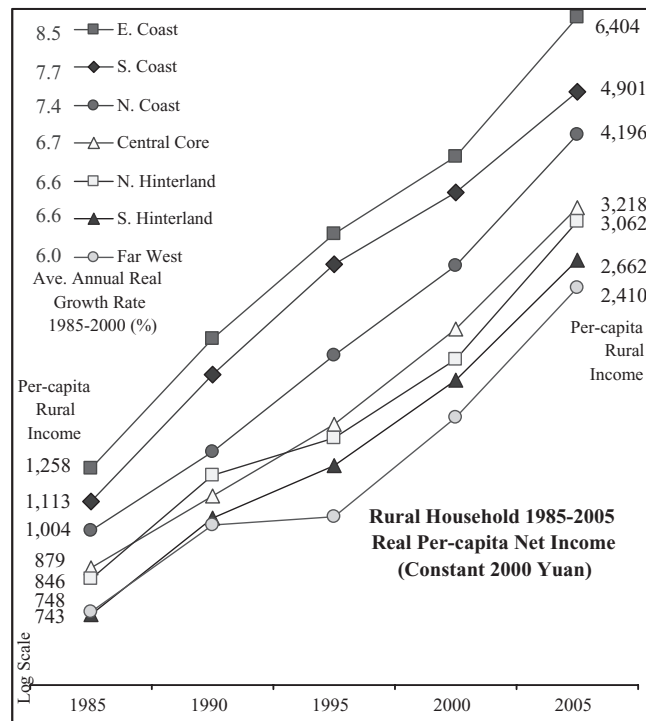
Figure 2. Five-Year Income Divergence Paths

Note: Both income levels and growth are in real terms.
Source: See Tables 3 and 4.

TABLE 5

RURAL CONSUMPTION GROWTH* 1980–2005

Ave. Annual %	1980–85	1985–90	1990–95	1995–2000	2000–05	1985–2005
China total	n/a	8.1	4.9	3.4	10.8	6.8
Far West	n/a	6.6	4.7	3.1	11.9	6.5
N. Hinterland	10.8	8.2	4.3	2.3	11.4	6.5
S. Hinterland	11.0	8.0	4.1	3.6	10.3	6.5
Central Core	12.1	7.2	3.9	4.4	10.4	6.4
North Coast	14.0	6.1	5.9	3.3	11.4	6.6
East Coast	16.2	9.8	6.1	2.9	12.0	7.7
South Coast	11.7	11.9	7.0	2.4	8.7	7.4

Notes: *Annual averages; except for 1985–2005, data show averages of real growth over five years, e.g. 1985 is for 1980–85.
Source: See Table 3.

dramatic slowing in the interior during the first half of the decade and in all regions during the second half. Secondly, while all regions recovered rapid growth of rural consumption during 2000–05, recovery in the South Coast region was weaker, while growth in the interior basically matched rates in the North Coast and East Coast regions.

TABLE 6

REGIONAL REAL PER CAPITA RURAL CONSUMPTION*

(CONSTANT 2000 YUAN)

	1985	1990	1995	2000	2005
China total	753	1,112	1,412	1,670	2,792
Far West	n/a	800	1,007	1,174	2,059
N. Hinterland	675	1,003	1,238	1,384	2,369
S. Hinterland	641	942	1,154	1,374	2,248
Central Core	717	1,016	1,230	1,524	2,495
North Coast	787	1,059	1,407	1,658	2,840
East Coast	1,084	1,734	2,337	2,697	4,749
South Coast	897	1,576	2,211	2,485	3,763

Source: See Table 3.

Figure 3. Rural Consumption Divergence

Note: Both consumption levels and growth are in real terms.
Source: See Tables 3 and 4.

The levels, trends and variations in growth rates for household consumption by regions are clearest in Figures 3 and 4. Long-term divergence is less than for income, and in the period 2000–05, except for the South Coast, there is essentially neither divergence nor convergence.

Considering both income and consumption, however, real growth rates are so high, both over 20 years and for the most recent five-year period, that issues of
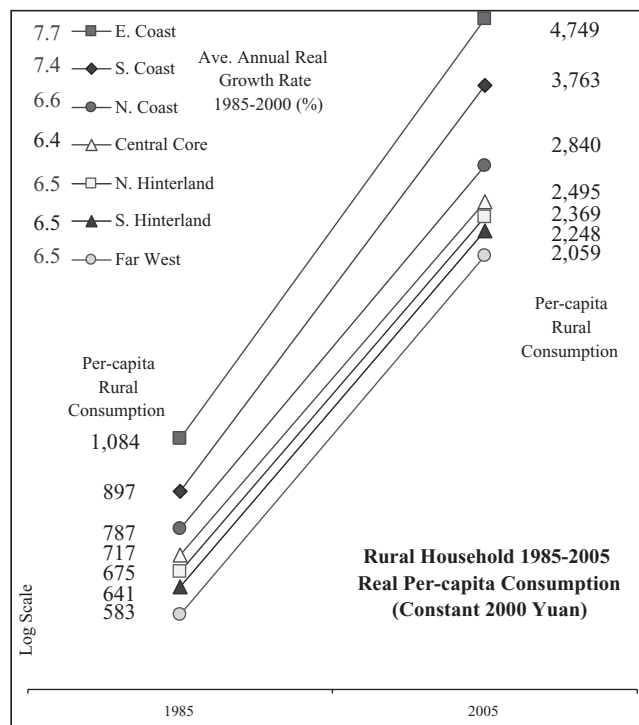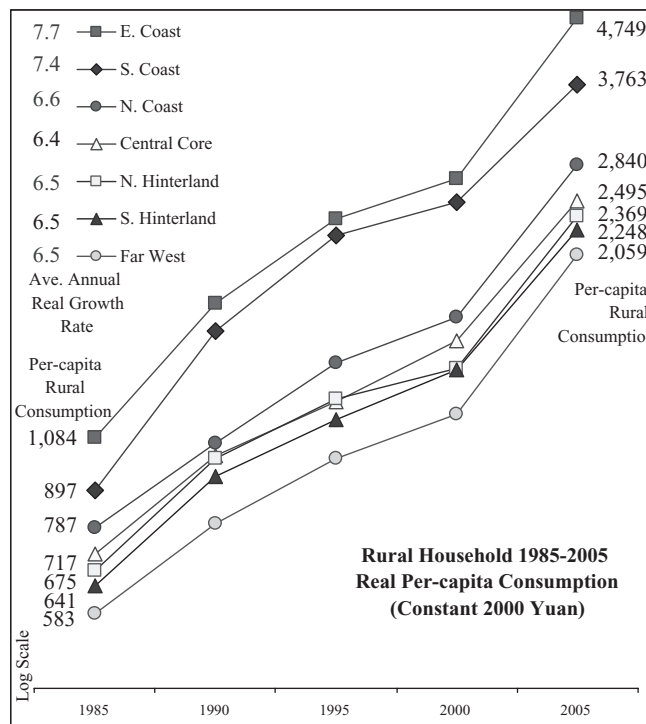
Figure 4. Consumption Divergence Paths
Note: Both consumption levels and growth are in real terms.
Source: See Tables 3 and 4.

convergence or divergence are arguably less important than they otherwise would be. All of rural China appears to have improved dramatically its well-being, as measured by consumption, since economic reforms in the early 1980s broke up Maoist-era communes in favor of family farming.

These data for rural household income and consumption disparities, however, raise questions about the usefulness of basing inequality and poverty analysis on consumption in countries with rapid changes over time in household savings rates. Indeed, these data show just such changes and interregional differences for all of China's regions since the 1980s. Table 7 shows the decline in savings rates from the early 1980s to the early 1990s (from the period ending in 1985 to that ending in 1995). Nationwide, the population-weighted average of provincial savings rates (Total #2 in Table 7) dropped from an average of roughly 17 percent in 1980–85 to under 13 percent in 1990–95. But the decline was especially sharp in the deep interior—the Hinterland and Far West regions—while savings rates actually increased in coastal provinces during 1990–95.

Under such circumstances of rapidly shifting savings rates, how useful is it to compare household well-being based in consumption—when consumption levels may be maintained under income stress? Conversely, when savings rates soar, as they did for China's rural households in the latter 1990s (1995–2000), are resulting

TABLE 7

REGIONAL RURAL HOUSEHOLD SAVINGS RATES, 1980–2005

	1980	1985	1990	1995	2000	2005
China Total #1	n/a	20.2	14.8	16.9	25.9	21.5
China Total #2*	n/a	16.5	13.6	12.7	22.6	17.1
Far West	n/a	22.2	22.1	4.8	22.5	14.5
N. Hinterland	11.9	20.2	18.4	11.9	25.9	22.6
S. Hinterland	14.8	13.7	10.5	9.2	20.7	15.5
Central Core	12.9	18.5	11.0	16.7	26.8	22.4
North Coast	20.5	21.7	20.7	25.7	36.5	32.3
East Coast	12.1	13.8	13.6	20.5	30.5	25.8
South Coast	16.7	19.4	10.7	15.9	27.1	23.2

Notes: *Two different national savings rate calculations give substantially different answers. Total #1 is the ratio of national total rural household savings to national total rural household income; it gives greater weight to regional savings rates in the highest-income regions; Total #2 is a population-weighted average of individual provincial savings rates and hence is a better average of nationwide household savings *behavior* patterns.
Source: See Table 3.

lower-than-otherwise consumption levels accurate measures of the change in relative well-being? This may be the case, if higher savings rates resulted from a sudden increase in uncertainty over costs of education, healthcare and other necessities, and such anxieties are considered important. In general, however, when savings rates differ so much over time and between regions for the same period, such patterns introduce doubts about interpretations of interregional gaps in household consumption and their trends over time.

Further inquiry into distributional patterns of household savings emphasizes concerns about making consumption a standard for assessing poverty levels in a region or a country with rapidly shifting savings rates. Based on a summary report (NBS, 2000b) of both income *and* consumption distribution information for a subset of Chinese counties known as "poverty counties," we can compare distributions and savings rates by both measures in Table 8. Population shares are distributed as one would expect, with larger shares of the population in each of the lower categories by the consumption measure than by the income measure. This accords with the notion that typical households have lower consumption levels than income levels.

The surprise in Table 8 is that low-consumption households have high average savings rates. This contradicts the general understanding that poor households save less, often dissaving to meet consumption needs. The income categories distribution shows just such a pattern in Table 8. Here, poor households have negative savings rates.

What could explain the high savings rates for households with low average levels of consumption? The joint distribution shown in Table 9 provides one indication. It shows the population of China's 1999 poor counties identified by *both* income and consumption levels. Shares on the diagonal represent households with roughly equal income and consumption. They have something close to a zero savings rate. Shares below the diagonal represent households with positive savings

TABLE 8

"Poor County" Population Distributions by Income and Consumption, with Savings Rates, 1999 (percent)

Sorted by:	Income		Consumption	
Chinese RMB Yuan	Population Share	Savings Rate	Population Share	Savings Rate
0–300	2.3	−244.0	2.2	73.7
300–500	5.4	−58.4	9.3	52.0
500–800	17.4	−8.8	28.8	36.5
800–1000	13.6	5.0	18.4	28.5
1000–1500	28.9	18.5	25.7	21.0
1500–2000	16.3	29.1	9.1	12.3
2000–2500	7.9	35.9	3.2	3.6
>2500	8.1	45.3	3.1	−33.3
Total	100.0	22.7	100.0	22.7

Notes: See note to Table 9. Savings rates as a percent are the ratios of average income levels consumption expenditure levels, minus one.

Source: NBS (2000b) and author simulations and calculations.

TABLE 9

"Poor County" Population Distribution by Income and Consumption Categories, 1999

Income Categories	Consumption Distribution Categories								
	0–300	300–500	500–800	800–1000	1000–1500	1500–2000	2000–2500	>2500	Total
0–300	..	..	1.3	..	0.9	..	..	..	2.3
300–500	..	..	2.4	1.1	2.0	..	..	..	5.4
500–800	0.3	2.0	*4.6*	3.3	4.2	1.9	0.6	0.6	17.4
800–1000	..	1.4	4.1	*2.8*	3.7	1.4	0.1	0.1	13.6
1000–1500	1.7	3.4	6.0	4.7	*5.6*	3.3	2.1	2.0	28.9
1500–2000	0.2	1.8	4.4	3.1	4.1	*1.8*	0.5	0.4	16.3
2000–2500	..	0.3	3.0	1.7	2.6	0.3	..	..	7.9
>2500	..	0.4	3.0	1.7	2.6	0.4	..	..	8.1
Total	2.2	9.3	28.8	18.4	25.7	9.1	3.2	3.1	100.0

Notes: NBS (2000a, 2000b) and author's iterative share calculations generating convergence to totals. Compared to official data, the approximation maintains population shares, income means and consumption means by the income distribution and produces virtually identical population shares and consumption means by the consumption distribution. Income means by the consumption distribution are not officially available and are a result of the simulation. Note that all households on the diagonal (italicized) have roughly equal income and consumption expenditures, while households below the diagonal have more income than consumption and are net savers; households above the diagonal are have consumption levels higher than income levels and are net dissevers.

rates, while shares above the diagonal are for households that have more consumption spending than income in this year.

One clear conclusion is that significant shares of the population are in households with low consumption levels but higher incomes. For 1999, an 800 Yuan poverty line is in between China's domestic poverty line and the old dollar-a-day line for that year. One possible explanation is that a considerable number of low-consumption households are saving considerable sums because they either want to make a large expenditure in the future, or because they want to accumulate funds to use in the case of a medical need. One must ask if these households are

really as poor as their consumption levels would lead one to believe. In the case of medical emergencies or required costly educational outlays, perhaps yes. In other cases, perhaps no.

Is this pattern of high incomes and low consumption unique to China? A quick set of calculations for countries from which one can obtain the complete household dataset shows that China is not unique. Converting sets of individual respondent data from South Africa, Hungary and Azerbaijan into format similar to Tables 8 and 9 for China reveals savings rates and joint income–consumption distribution patterns essentially similar to China's (see Tables 17–20 in the statistical appendix). All three countries show negative average savings rates for households in low income categories, but significantly high positive average savings rates for households in low consumption categories.

A final consideration regarding regional inequality is the incidence of poverty in different regions, and in particular differences in the incidence of poverty in coastal and interior areas. Comparisons between the seven aggregated regions introduced earlier are beyond the scope of this research, in part because not all provinces publish household income size distribution statistics. Comparisons for five representative provinces, however, illustrate both the level of differences and the importance of using a relevant poverty line for measuring inequality and informing policy making.

In December 2007 the World Bank released revised purchasing power parity (PPP) conversion factors for the world, including China (World Bank, 2007b). An appropriate poverty line for regional comparisons within China is potentially one of three choices: the domestic Chinese poverty line, the newly revised PPP one-dollar-a-day poverty line, and the newly revised two-dollar-a-day line. These three poverty line standards for 2005, along with the old dollar-a-day poverty line for comparison, are presented in Table 10. Analysis below shows that of the three, the revised one-dollar-a-day standard is best for making interregional comparisons.

Using the World Bank's POVCAL facility for estimating China's national consumption-based size distribution, and based on estimates of the new PPP dollar-a-day poverty standard consistent with the new World Bank PPP statistics, China's consumption-based dollar-a-day poverty incidence is roughly 300 million rural persons, compared to roughly 100 million using the old dollar-a-day standard (Keidel, 2007b).

TABLE 10

2005 CHINA POVERTY LINES

(Annual levels)	US$*	Yuan*
Chinese poverty line	83	683
Old PPP $1/day line	117	955
New PPP $1/day line	201	1,649
New PPP $2/day line	403	3,298

Notes: * US$ at 2005 average commercial exchange rate; Yuan are 2005 Yuan.
Source: World Bank (2007a, 2007b), NBS (2007), with calculations.

TABLE 11

INCOME POVERTY COMPARISONS, SELECTED CHINESE PROVINCES, 2005 (% OF RURAL POPULATION)

	Jiangsu	Liaoning	Hunan	Sichuan	Shaanxi	Total*	All China*
Chinese poverty line	0.7	4.2	1.1	7.6	5.6	4.2	2.9
Old PPP $1/day line	1.8	5.9	4.8	13.4	11.7	8.2	4.0
New PPP $1/day line	6.1	18.1	14.9	28.9	45.1	22.1	13.7
New PPP $2/day line	33.4	55.4	59.7	75.8	87.6	63.1	47.1

Notes: *"Total" is for the five provinces; "All China" is for China's 2005 rural population.
Results are rough approximations because of the likelihood that PPP price comparisons for China as a whole are not accurately representative of price comparisons and income weights of poor household budget patterns. Nevertheless, the general orders of magnitude are almost certain to reflect actual provincial poverty differences.
Source: NBS (2006), Provincial yearbooks for each province, NBS China Statistical Yearbook 2007, Dikhanov (1999), and calculations.

There are, however, no available consumption-based distribution data for individual provinces, limiting poverty comparisons to those based on income-based rather than consumption-based distribution data. Given China's relatively high household savings rates, most households have significantly higher incomes than consumption levels, so many fewer households fall under an income dollar-a-day standard than under a dollar-a-day consumption standard. For China as a whole, the difference for 2005 is roughly between 300 million poor by a consumption dollar-a-day poverty standard and 100 million poor by an income dollar-a-day standard. In light of the potential disadvantages of using consumption-based distribution data, the good availability of income-based distribution data is perhaps not a handicap after all.

Table 11 shows poverty incidence comparisons between five provinces for four different poverty-line standards. Jiangsu and Liaoning are both coastal provinces, but while Jiangsu is part of greater Shanghai and the dynamic East Coast region, Liaoning is part of Manchuria and has a significant portion of its rural population living on difficult interior terrains with long winters. Hunan is a quintessential grain-base province in China's Central Core region, while Sichuan (representing the South Hinterland region) and Shaanxi (in the North Hinterland region) are even more isolated. It is clear that the new dollar-a-day poverty standard reveals higher poverty levels across the board, but the percentage-point gap it reveals between Jiangsu and all the other provinces shown is substantial.

This poverty-based measure of regional disparities is arguably the most accurate gauge of inter-regional differences in well-being, because regardless of the speed of improvement in income and consumption in a poorer region, the scale of those left in absolute poverty is an irreducible index of the degree to which the most basic household expectations remain unmet.

Table 12 presents the same comparisons of provincial poverty in terms of millions of rural citizens. This head-count comparison supports conclusions similar to the incidence data in Table 11—the thriving coastal provinces, represented by Jiangsu, have substantially lower numbers of poor people, especially by the new dollar-a-day measure. It is important to emphasize, therefore, that the choice of an appropriate poverty-line standard is crucial for using poverty data to assess inter-regional differences in well-being. Too high a poverty line, like the new

TABLE 12

INCOME POVERTY COMPARISONS, SELECTED CHINESE PROVINCES, 2005 (MILLION RURAL PERSONS)

	Jiangsu	Liaoning	Hunan	Sichuan	Shaanxi	Total*	All China*
Chinese poverty line	0.3	0.9	0.5	5.0	1.3	8.0	21.8
Old PPP $1/day line	0.7	1.3	2.0	8.9	2.7	15.6	29.9
New PPP $1/day line	2.3	3.9	6.3	19.1	10.5	42.2	103.0
New PPP $2/day line	12.3	12.0	25.3	50.2	20.5	120.3	354.0
Rural Population	37.0	21.6	42.4	66.3	23.4	190.6	751.2

Notes and Source: See Table 11.
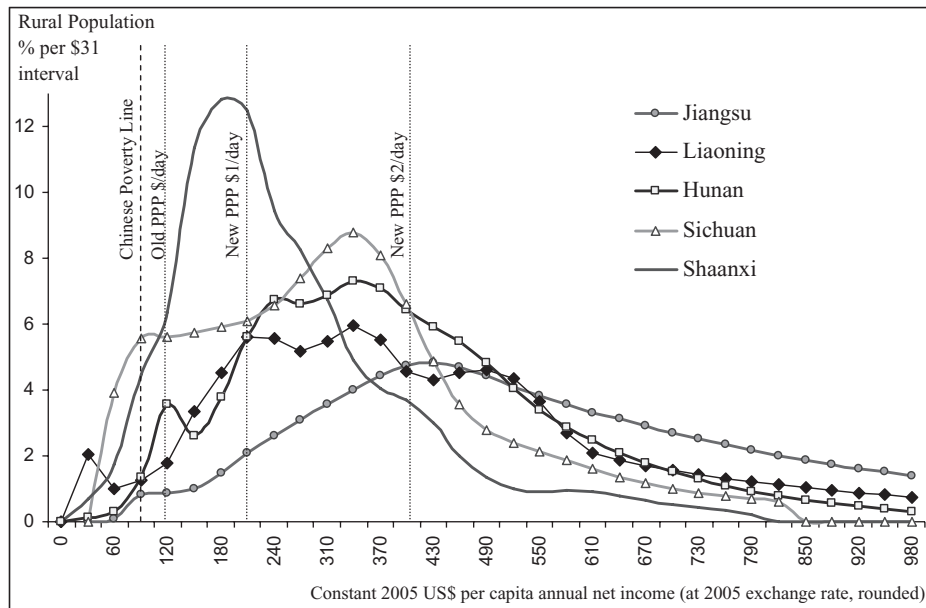
Figure 5. Rural Income Poverty Incidence for Selected Provinces, 2005

Note: For details on the New PPP $1/day and $2/day poverty lines, see Table 11.
Source: See Table 12.

two-dollar-a-day standard, tends to hide meaningful interregional disparities. These points are reinforced by review of the different provincial distributions presented in Figure 5.

This concludes the brief introduction to regional inequality in rural China. To summarize, disparities are large, with rural household income and consumption on average much higher in coastal provinces than in the interior. What is more, the gap is widening—especially for incomes. The sustained high rates of improvement in all regions over 20 years, however, heavily qualify the seriousness of these gaps for making comparisons in well-being. The rapid increases in savings rates, especially in the late 1990s, cast serious doubts about using consumption levels as a measure of changes in well-being over time. A shift to slower consumption growth while income growth continues at a more rapid pace appears to reflect increased

savings activity on the part of the non-poor as they take advantage of medium-term savings programs intended to enable significant lumpy expenditures one or more years hence. A more meaningful measure of regional differences in well-being is arguably the incidence of absolute poverty in different provinces, especially when measured with a policy line appropriate for China in the first decade of the 21st century.

STATISTICAL APPENDIX

TABLE 13
REGIONAL POPULATION AND GDP COMPARISONS, 2005

	Population (million)	Total GDP (bil. US$*)	Per Capita GDP ($)	Sector Shares (%)		
				Primary	Secondary	Tertiary
China total	1,308	2,246	1,717	12.5	47.3	40.2
Far West	60	72	1,204	16.9	44.0	39.1
Xinjiang	20	32	1,582	19.6	44.7	35.7
Tibet	3	3	1,107	19.1	25.3	55.6
Qinghai	5	7	1,221	12.0	48.7	39.3
Gansu	26	24	910	15.9	43.4	40.7
Ningxia	6	7	1,241	11.9	46.4	41.7
N. Hinterland	160	255	1,594	12.4	50.4	37.2
Heilongjiang	38	67	1,761	12.4	53.9	33.7
Jilin	27	44	1,627	17.3	43.6	39.1
Inner Mongolia	24	48	1,993	15.1	45.5	39.4
Shanxi	34	51	1,521	6.3	56.3	37.4
Shaanxi	37	45	1,206	11.9	50.3	37.8
S. Hinterland	239	244	1,023	19.5	40.5	40.0
Greater Sichuan	110	128	1,159	18.6	41.4	40.0
Guizhou	37	24	648	18.6	41.8	39.6
Yunnan	45	42	953	19.3	41.2	39.5
Guangxi	47	50	1,068	22.4	37.1	40.5
Central Core	318	403	1,267	18.0	45.6	36.4
Henan	94	129	1,378	17.9	52.1	30.0
Anhui	61	66	1,072	18.0	41.3	40.7
Jiangxi	43	50	1,149	17.9	47.3	34.8
Hubei	57	80	1,394	16.6	43.1	40.3
Hunan	63	79	1,257	19.6	39.9	40.5
North Coast	229	576	2,516	9.7	50.6	39.7
Liaoning	42	98	2,316	11.0	49.4	39.6
Greater Hebei	94	252	2,677	8.3	45.0	46.7
Shandong	92	226	2,444	10.6	57.4	32.0
East Coast	142	499	3,528	6.0	53.8	40.3
Greater Jiangsu	93	335	3,623	5.6	53.9	40.4
Zhejiang	49	164	3,349	6.6	53.4	40.0
South Coast	236	648	2,749	8.6	49.5	41.9
Fujian	35	80	2,268	12.8	48.7	38.5
Greater Guangdong	100	284	2,833	7.4	49.7	42.9

Notes: *US$ figures at 2005 average commercial exchange rate of 8.1917 Yuan/$. Greater Sichuan combines Sichuan and Chongqing; Greater Hebei combines Hebei, Beijing and Tianjin; Greater Jiangsu combines Jiangsu and Shanghai; Greater Guangdong combines Guangdong and Hainan.
Source: NBS (2006), with calculations.

TABLE 14

"Greater" Provincial Real Rural Household Per-capita Income Levels, 1980–2005

2000 Constant Yuan	1980	1985	1990	1995	2000	2005
China total	488	943	1,306	1,700	2,253	3,556
Far West	*n/a*	748	1,027	1,058	1,514	2,410
Xinjiang	505	935	1,300	1,224	1,618	2,712
Tibet	*n/a*	837	1,236	1,293	1,331	2,270
Qinghai	*n/a*	814	1,065	1,110	1,491	2,351
Gansu	391	605	820	948	1,429	2,163
Ningxia	455	762	1,100	1,076	1,724	2,741
N. Hinterland	459	846	1,228	1,405	1,867	3,062
Heilongjiang	524	943	1,446	1,903	2,148	3,519
Jilin	603	981	1,529	1,734	2,023	3,566
Inner Mongolia	463	855	1,155	1,302	2,038	3,265
Shanxi	398	850	1,148	1,302	1,906	3,158
Shaanxi	364	700	1,010	1,037	1,444	2,242
S. Hinterland	447	743	1,052	1,271	1,733	2,662
Greater Sichuan	480	747	1,061	1,248	1,901	3,064
Guizhou	412	683	828	1,171	1,374	2,051
Yunnan	383	802	1,029	1,089	1,479	2,231
Guangxi	443	719	1,217	1,558	1,865	2,725
Central Core	464	879	1,141	1,476	2,083	3,218
Henan	410	781	1,003	1,327	1,986	3,136
Anhui	472	876	1,026	1,404	1,935	2,885
Jiangxi	462	895	1,274	1,656	2,135	3,418
Hubei	434	999	1,276	1,628	2,269	3,386
Hunan	561	938	1,264	1,536	2,197	3,406
North Coast	513	1,004	1,336	1,895	2,613	4,196
Liaoning	697	1,110	1,591	1,892	2,356	4,032
Greater Hebei	487	1,005	1,293	1,952	2,655	4,151
Shandong	496	968	1,294	1,848	2,659	4,294
East Coast	582	1,258	2,007	2,940	3,879	6,404
Greater Jiangsu	595	1,237	1,966	2,779	3,681	5,925
Zhejiang	559	1,301	2,091	3,196	4,254	7,276
South Coast	621	1,113	1,764	2,628	3,411	4,901
Fujian	438	940	1,454	2,207	3,231	4,862
Greater Guangdong	700	1,175	1,928	2,809	3,495	4,919

Note: Greater Sichuan combines Sichuan and Chongqing; Greater Hebei combines Hebei, Beijing and Tianjin; Greater Jiangsu combines Jiangsu and Shanghai, and Greater Guangdong combines Guangdong and Hainan.

TABLE 15

"Greater" Provincial Real Rural Household Per-Capita Consumption Levels, 1980–2005

2000 Constant Yuan	1980	1985	1990	1995	2000	2005
China total	*n/a*	753	1,112	1,412	1,670	2,792
Far West	*n/a*	583	800	1,007	1,174	2,059
Xinjiang	384	689	964	1,014	1,236	2,102
Tibet	*n/a*	639	934	966	1,117	1,883
Qinghai	*n/a*	652	903	985	1,218	2,159
Gansu	323	485	646	986	1,084	1,988
Ningxia	346	629	920	1,146	1,417	2,288
N. Hinterland	405	675	1,003	1,238	1,384	2,369
Heilongjiang	419	727	1,114	1,594	1,540	2,780
Jilin	552	865	1,204	1,610	1,553	2,519
Inner Mongolia	400	691	936	1,272	1,615	2,673
Shanxi	343	647	928	1,000	1,149	2,051
Shaanxi	357	554	908	984	1,251	2,072
S. Hinterland	381	641	942	1,154	1,374	2,248
Greater Sichuan	407	655	969	1,178	1,462	2,453
Guizhou	357	604	767	1,003	1,097	1,696
Yunnan	318	633	924	1,057	1,271	1,955
Guangxi	386	636	1,022	1,296	1,488	2,567
Central Core	404	717	1,016	1,230	1,524	2,495
Henan	346	616	833	1,001	1,316	2,067
Anhui	416	709	980	1,153	1,322	2,399
Jiangxi	398	719	1,098	1,353	1,643	2,713
Hubei	390	794	1,156	1,341	1,556	2,655
Hunan	492	827	1,158	1,473	1,943	3,011
North Coast	408	787	1,059	1,407	1,658	2,840
Liaoning	582	953	1,292	1,586	1,754	3,065
Greater Hebei	394	760	997	1,302	1,512	2,599
Shandong	372	764	1,041	1,442	1,771	2,989
East Coast	512	1,084	1,734	2,337	2,697	4,749
Greater Jiangsu	525	1,065	1,702	2,195	2,415	4,098
Zhejiang	490	1,124	1,800	2,563	3,231	5,936
South Coast	517	897	1,576	2,211	2,485	3,763
Fujian	402	832	1,347	1,933	2,410	3,597
Greater Guangdong	567	920	1,697	2,331	2,520	3,839

Note: Greater Sichuan combines Sichuan and Chongqing; Greater Hebei combines Hebei, Beijing and Tianjin; Greater Jiangsu combines Jiangsu and Shanghai, and Greater Guangdong combines Guangdong and Hainan.

TABLE 16

"Greater" Provincial Rural Household Savings Rates, 1980–2005

2000 Constant Yuan	1980	1985	1990	1995	2000	2005
China total		20.2	14.8	16.9	25.9	21.5
Far West		22.2	22.1	4.8	22.5	14.5
Xinjiang	23.9	26.4	25.9	17.1	23.6	22.5
Tibet		23.6	24.5	25.3	16.1	17.0
Qinghai		19.9	15.2	11.3	18.3	8.2
Gansu	17.4	19.8	21.3	−4.0	24.1	8.1
Ningxia	23.9	17.4	16.3	−6.4	17.8	16.5
N. Hinterland	11.9	20.2	18.4	11.9	25.9	22.6
Heilongjiang	20.1	22.9	22.9	16.2	28.3	21.0
Jilin	8.5	11.9	21.2	7.1	23.2	29.4
Inner Mongolia	13.6	19.2	19.0	2.3	20.8	18.2
Shanxi	13.7	23.9	19.2	23.2	39.7	35.0
Shaanxi	1.9	21.0	10.1	5.1	13.3	7.6
S. Hinterland	14.8	13.7	10.5	9.2	20.7	15.5
Greater Sichuan	15.2	12.3	8.7	5.6	23.1	19.9
Guizhou	13.4	11.5	7.3	14.4	20.2	17.3
Yunnan	17.0	21.1	10.2	3.0	14.1	12.4
Guangxi	13.0	11.5	16.0	16.8	20.2	5.8
Central Core	12.9	18.5	11.0	16.7	26.8	22.4
Henan	15.7	21.2	16.9	24.6	33.7	34.1
Anhui	11.9	19.1	4.5	17.8	31.7	16.8
Jiangxi	13.8	19.7	13.8	18.3	23.1	20.6
Hubei	10.1	20.6	9.4	17.6	31.4	21.6
Hunan	12.2	11.8	8.4	4.1	11.6	11.6
North Coast	20.5	21.7	20.7	25.7	36.5	32.3
Liaoning	16.4	14.2	18.8	16.2	25.6	24.0
Greater Hebei	19.1	24.4	22.9	33.3	43.1	37.4
Shandong	24.9	21.1	19.6	22.0	33.4	30.4
East Coast	12.1	13.8	13.6	20.5	30.5	25.8
Greater Jiangsu	11.9	13.9	13.4	21.0	34.4	30.8
Zhejiang	12.5	13.6	13.9	19.8	24.0	18.4
South Coast	16.7	19.4	10.7	15.9	27.1	23.2
Fujian	8.2	11.6	7.4	12.4	25.4	26.0
Greater Guangdong	19.0	21.7	12.0	17.0	27.9	22.0

Note: Greater Sichuan combines Sichuan and Chongqing; Greater Hebei combines Hebei, Beijing and Tianjin; Greater Jiangsu combines Jiangsu and Shanghai; Greater Guangdong combines Guangdong and Hainan.

TABLE 17

Comparisons of Savings Rates by Income and Consumption Sorts for Three Countries

	Income Distribution Savings Rates (%)				Consumption Distribution Savings Rates (%)		
Income Groups	South Africa	Hungary	Azerbaijan	Consumption Groups	South Africa	Hungary	Azerbaijan
Lowest	−668.5	−196.6	−844.7	Lowest	63.4	28.1	59.9
2	−133.2	−47.5	−267.7	2	29.8	19.3	45.2
3	−58.4	−29.2	−132.5	3	4.9	10.5	28.1
4	−26.3	−20.5	−78.6	4	−11.3	.2	31.7
5	−5.8	−13.7	−31.5	5	−18.0	−9.0	13.4
6	8.3	−9.6	−18.3	6	−37.9	−12.6	5.4
7	19.3	−0.7	−12.8	7	−53.9	−22.5	18.4
8	24.9	1.4	4.7	8	−58.9	−25.7	0.8
9	32.9	2.6	10.8	9	−79.6	−26.3	−4.6
Highest	37.7	17.0	50.8	Highest	−93.0	−39.1	−7.4
National average	−25.4	−12.7	5.2	National average	−25.4	−12.7	5.2

Source: See Tables 18–20.

TABLE 18

SOUTH AFRICA POPULATION SHARES BY JOINT SIZE DISTRIBUTION OF INCOME AND EXPENDITURE, 1994

Percent of Population	Total	Sorted by Household Expenditure Per-capita (Rand/month)*									
		<400	800	1200	1600	2000	2400	2800	3200	3600	>3600
Total	100.0	3.6	18.3	20.8	18.1	12.2	9.0	6.5	5.1	3.8	2.5
<400	21.4	*1.2*	6.3	5.1	3.8	1.8	1.2	0.8	0.6	0.4	0.2
800	23.2	1.3	*5.1*	5.8	4.0	2.5	1.8	1.3	0.6	0.3	0.4
1,200	16.5	0.5	3.2	*3.8*	3.3	1.6	1.4	1.0	0.6	0.6	0.3
1,600	11.5	0.2	1.6	2.4	*2.5*	1.4	1.2	0.6	0.9	0.5	0.3
2,000	7.7	0.2	0.7	1.4	1.5	*1.6*	0.7	0.6	0.5	0.2	0.3
2,400	6.5	0.1	0.6	1.0	1.2	1.0	*1.0*	0.5	0.4	0.5	0.3
2,800	4.8	0.1	0.4	0.5	0.8	0.9	0.6	*0.5*	0.4	0.3	0.2
3,200	3.7	0.1	0.2	0.5	0.4	0.6	0.5	0.4	*0.4*	0.5	0.2
3,600	2.5		0.2	0.2	0.5	0.4	0.5	0.3	0.2	*0.2*	0.2
>3,600	2.4		0.1	0.2	0.2	0.4	0.3	0.3	0.4	0.3	*0.2*

Note: *Categories mark the upper bound; i.e. 1200 represents the range 800–1200. The diagonal (italicized) generally represents break-even (i.e. income roughly equal to expenditure) except for the highest and lowest categories.
Source: National Statistical Office of South Africa and World Bank LSMS (Living Standard Measurement Survey) database, with author calculations.

TABLE 19

HUNGARY POPULATION SHARES BY JOINT SIZE DISTRIBUTION OF INCOME AND EXPENDITURE, 1994

Percent of Population	Total	Sorted by Household Expenditure Per-Capita (Forint/month)*									
		<4000	6000	8000	10,000	12,000	14,000	16,000	18,000	20,000	>20,000
Total	100.0	1.5	7.0	12.7	17.8	18.3	14.1	9.5	7.1	4.3	7.7
<4,000	2.7	*0.5*	0.7	0.3	0.3	0.4	0.2	0.1	0.1	0.0	0.1
6,000	8.1	0.7	*2.5*	1.9	1.3	0.8	0.3	0.2	0.1	0.1	0.1
8,000	17.8	0.2	2.4	*4.6*	4.5	3.0	1.4	0.9	0.4	0.1	0.1
10,000	22.9	0.0	0.9	3.8	*6.1*	5.5	2.9	1.7	0.8	0.6	0.6
12,000	19.7		0.4	1.4	3.7	*4.8*	4.0	2.2	1.6	0.8	0.8
14,000	11.2		0.0	0.3	1.3	2.1	*2.6*	1.8	1.4	0.6	1.1
16,000	6.8			0.2	0.5	1.1	1.2	*1.4*	1.1	0.5	0.8
18,000	3.9		0.0	0.0	0.2	0.4	0.7	0.7	*0.4*	0.6	0.9
20,000	2.1				0.0	0.2	0.3	0.2	0.4	*0.4*	0.8
>20,000	4.8				0.0	0.1	0.4	0.4	0.8	0.7	*2.4*

Note: *Categories mark the upper bound; i.e. 8000 represents the range 6000–8000. The diagonal (italicized) represents break-even.
Source: World Bank HEIDE database of income and expenditure surveys for transition economies, with author's calculations.

TABLE 20

AZERBAIJAN POPULATION SHARES BY JOINT SIZE DISTRIBUTION OF INCOME AND EXPENDITURE, 1995

Percent of Population	Total	Sorted by Household Expenditure Per-Capita (000 Manat/month)*									
		<50	100	150	200	250	300	350	400	450	>450
Total	100.0	0.5	5.7	12.0	13.9	11.9	12.1	7.9	7.5	5.2	23.4
<50	10.3	*0.3*	1.8	1.6	1.0	1.6	1.2	0.4	0.6	0.2	1.6
100	14.3	0.1	*1.5*	2.4	2.9	1.7	1.5	1.0	0.8	0.4	2.0
150	14.6	0.1	0.9	*2.4*	2.3	2.0	2.3	1.0	1.0	0.7	1.9
200	12.2		0.7	2.2	*1.5*	1.6	1.4	0.8	0.8	1.0	2.1
250	8.7		0.1	1.4	1.7	*1.0*	1.1	1.0	0.6	0.3	1.5
300	6.5	0.0	0.2	0.8	1.1	0.8	*0.6*	0.6	0.6	0.3	1.6
350	5.4		0.2	0.3	0.6	0.6	1.1	*0.5*	0.7	0.4	1.2
400	4.4			0.2	1.3	0.3	0.7	0.3	*0.4*	0.2	1.0
450	2.3			0.1	0.3	0.5	0.2	0.2	0.2	*0.2*	0.6
>450	21.3	0.0	0.2	0.5	1.3	1.7	1.9	2.2	1.7	1.6	*10.0*

Note: *Categories mark the upper bound; i.e. 150 represents the range 100–150. The diagonal (italicized) represents break-even.
Source: State Statistical Committee of Azerbaijan Republic and World Bank LSMS (Living Standard Measurement Survey) database, with author's calculations.

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