CHAPTER 6

Partially Awakened Giants: Uneven Growth in China and India

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The emergence of China and India on the global economic stage has understandably been the subject of much discussion in international media, business and policy circles. The nearly 9 percent annual rate of real per-capita GDP growth that China has averaged over the last quarter century is unprecedented. And with an average growth rate of GDP per-capita of nearly 4 percent per annum since 1981, India's "takeoff" seems less than spectacular only in comparison with China's.

In both countries, this growth has been accompanied by substantial—in the case of China, dramatic—reductions in the aggregate incidence of absolute poverty measured in terms of income or consumption. Figure 6.1 displays these two trends for the two countries over the period from 1981 to 2001.[1] The headcount rates of poverty are calculated on as comparable a basis as is currently feasible with the data available. The poverty line is the World Bank's dollar-a-day global standard of about $32.74 per month at 1993 Purchasing Power Parity. China started this period with the higher poverty rate, but soon overtook India.

However, concerns are being expressed about the distributional impacts of the growth processes in both countries. The domestic debate about growth-promoting reforms has become increasingly contentious. It is widely felt that the gains from growth have been spread too unevenly, with some segments of the population left behind in relative and even absolute terms. This unevenness has shown up as rising income inequality by conventional measures in both countries. These developments in turn have led some to question the sustainability of growth.

What is one to make of this? In what ways has growth been uneven? Are the data suggesting rising inequality to be believed? If so, should the fact that segments of the population appear to have been left behind (at least in relative terms) be of concern? And does this pose a risk to the sustainability of growth and poverty reduction?

This paper tries to shed some light on these questions. While of undeniable interest in both countries, these questions also merit attention elsewhere because the impact that the rise of China and India is going to have on the rest of the world—a topic that has received enormous attention in the press over recent years—depends very much on whether these two giants are able to sustain the growth rates they have achieved over the last quarter century. And that in turn hinges on whether the concerns about the unevenness of the growth thus far are legitimate and whether that unevenness poses a risk to future growth.

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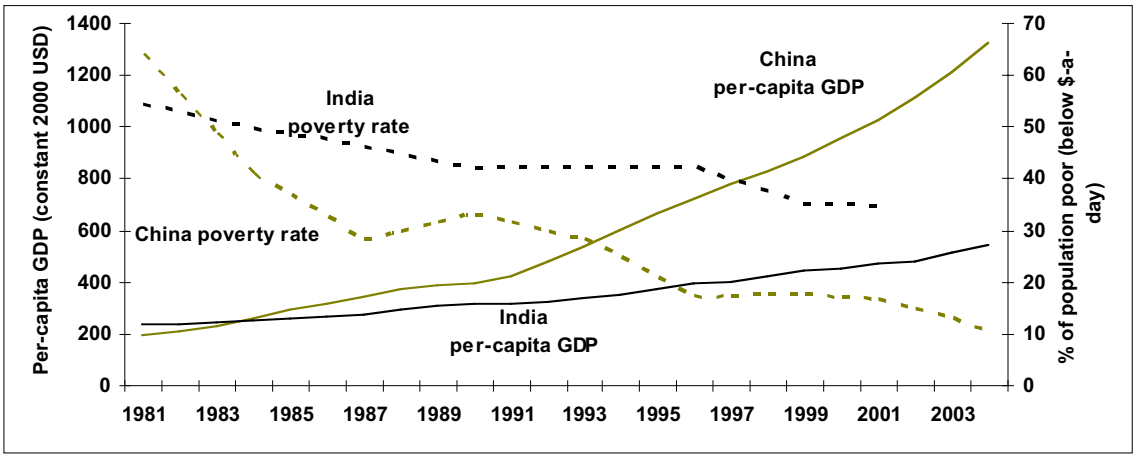
[*]These are the views of the authors, and should not be attributed to the World Bank. For their comments, the authors are grateful to Richard Cooper, David Dollar, Assar Lindbeck, T. N. Srinivasan, Alan Winters and participants at the Dragon and the Elephant Conference, Shanghai 2006.

[1] At the time of writing, only preliminary data were available for India for 2004/05 and this data point is not plotted in Figure 1. The preliminary data suggest that the overall trend poverty rate in India indicated in Figure 1 has been maintained, although it has not accelerated (in percentage points per year) since the early 1990s.

Figure 6.1 Growth and Poverty Reduction in China and India, 1981–2003



Source: Poverty measures from Chen and Ravallion 2004.

After noting a number of data issues, we examine the ways in which growth has been uneven in China and India and what that has meant for inequality and poverty. Drawing on analyses based on existing household survey data and aggregate data from official sources, we show that growth has indeed been uneven—geographically, sectorally and at the household-level—and that this has meant uneven progress against poverty, less poverty reduction than might have been achieved had growth been more balanced, and an increase in income inequality. We then turn to why growth was uneven and why this should be of concern. Here, we draw on the evidence that is available, but because of the complexity of the underlying issues and the difficulties of settling them in an empirically rigorous manner, the discussion is necessarily somewhat more speculative. We structure the discussion around the idea that there are both "good" and "bad" inequalities—drivers and dimensions of inequality and uneven growth that are good or bad in terms of what they imply for both equity and long-term growth and development. The evidence we review suggests that the development paths of both India and China have been influenced by, and have generated, both types of inequalities and that while good inequalities—most notably those that reflect the role of economic incentives—have been critical to the growth experience thus far, there is a risk that bad inequalities—those that prevent individuals from connecting to markets and limit investment and accumulation of human capital and physical capital—may undermine the sustainability of growth in the coming years. We argue that policies are needed that preserve the good inequalities—continued incentives for innovation and investment—but reduce the scope for bad ones, notably through investments in human capital and rural infrastructure that help the rural poor connect to markets.

Clarifying Data Issues

There are always reasons to be skeptical about economic statistics and measures of inequality and poverty are no exceptions. The issues are rather different in these two countries.

A number of data problems have clouded past assessments of what has been happening to poverty and inequality in China. Some of these problems are common to other countries (developing and developed) while others are seemingly unique to China. Comparability between urban and rural areas is a greater problem in China where the National Bureau of Statistics (NBS) uses different survey instruments for urban and rural areas (whereas it is a unified survey instrument in India, as elsewhere). The two nationally representative annual surveys for China that we will draw on are the annual Rural Household Survey (RHS) and the annual Urban Household Survey (UHS).

For the RHS there are also comparability problems over time, as discussed in Ravallion and Chen (2006). One of the more serious problems is that there was a change in valuation methods for consumption of own-farm production in the RHS in 1990 when public procurement prices (held below market prices) were replaced by local selling prices.[2] For 1990 (the only year for which the two methods can be compared), Ravallion and Chen (2006) show that the new valuation method generates slightly lower inequality; for 1990 the aggregate Gini index for rural China drops from 31.5 percent to 29.9 percent; the rural headcount index of poverty drops substantially, from 37.6 percent to 29.9 percent. This reflects the high share of consumption from own-farm product among China's poor.

Another problem in past work has been the failure to adjust for spatial cost-of-living differences. This can affect distributional comparisons over space and time. The extent of urban–rural disparities drops appreciably once one corrects for the fact that the urban cost of living is higher (Ravallion and Chen, 2006). Also the positive trend in urban–rural inequality since around 1980 (noted by many authors in the literature) vanishes once one allows for the fact that the rate of inflation has been higher in urban areas than rural areas, although a marked positive trend in urban–rural inequality since the mid-1990s is still evident.

In common with most countries, the bulk of the analysis of poverty and inequality in China (and India) has relied on repeated cross-sectional surveys, in which the samples at each date are treated as independent. Thus one does not track the living standards of the same households over time. We do not then know how much of the poverty at one date is persistent, and how much is transient (reflecting fluctuations in living standards, including movements in and out of poverty). (Some lessons from panel data studies will be reviewed later in this paper.)

Lack of public access to the micro data for China has restricted the ability of researchers to try to address these data concerns. However, the micro data have been available for some selected provinces and time periods. Ravallion and Chen (1999) used the micro data for four provinces of southern China to correct for both the valuation methods for consumption of own product and the deflators. The corrections to the original survey data tend to entail lower measured inequality and they attenuate the rate of increase in inequality over time.

Not all the likely data problems mean a lower true level of inequality or a lower rate of increase over time. For example, if we could correct for selective compliance (whereby the relatively well off are less well represented in surveys) then we may well find higher inequality.[3] However, we currently have no basis for correcting for this possible problem in China; we suspect the compliance problem is of greater concern in urban China than in rural areas.

Poverty monitoring in India since the 1960s has been mainly based on the household expenditure surveys done as part of the National Sample Surveys (NSS). The salient features are

[2] Until the mid-1990s, public procurement prices for grain were held below market prices. Using these prices to value own consumption over-estimates the true extent of both poverty and inequality. This practice was largely abandoned from 1990s onwards in favor of using local selling prices for valuation.

[3] This is not necessarily the case, but there is supportive evidence for the US (Korinek et al., 2006).

that household consumption expenditure per person is used as the individual welfare indicator and the poverty line that is intended to have a fixed real value across time and space (urban and rural areas of states) is determined by combined geographic and inter-temporal deflators. The main data issue is that assessing what has been happening to poverty and inequality in India during the 1990s has been clouded by a comparability problem between the two main surveys available for the 1990s (Deaton 2001; Sen and Hiamnshu, 2004a).[4]

There are concerns about how well surveys measure incomes or consumption. Survey-based consumption and income aggregates for nationally representative samples typically do not match the aggregates obtained from national accounts (NA). This is to be expected for GDP, which includes non-household sources of domestic absorption. Possibly more surprising are the discrepancies found with both the levels and growth rates of private consumption in the NA aggregates; Ravallion (2003) provides evidence. The discrepancies between levels and growth rates of consumption as measured by India's NSS and NA have been of particular concern, Yet here too it should be noted that (as measured in practice) private consumption in the NA includes sizeable and rapidly growing components that are typically missing from surveys (Deaton, 2005).[5] However, aside from differences in what is being measured, surveys do encounter problems of under-reporting (particularly for incomes; the problem appears to be less serious for consumptions) and the aforementioned problems of selective non-response.[6]

There are also a number of data problems in making comparisons between these countries. These include that fact that China has traditionally used household income (per capita) as the ranking variable while India has used consumption (per capita). (We return to this point when we compare inequality measures.) Also, the available data on spatial differences in the cost-of-living are still rather weak in both countries. And purchasing power comparisons between the two countries are confounded by a number of concerns about the underlying price data and standard index-number problems. We will largely ignore these data problems in this paper, although that is not because we think them unimportant; rather, it is because this paper is not the place to dwell on them.

However, one data-related issue that should be flagged is how well conventional inequality measures capture the significance that is often attached to *between-group* inequalities. Naturally, any conventional inequality measure puts weight on such differences. However, it is far from obvious that those weights accord well with the significance attached to between-group inequalities, as argued by Kanbur (2001). While this raises a number of deeper questions about individualism and the role of group identities that are beyond our present scope, we will note the extra significance attached to certain between-group disparities in both China and India.

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[4] Since the NSS began in the 1950s, it has used 30-day recall for consumption. This changed in 1999/00 with the 55th round for which food consumption (on average about 60 percent of consumption) was obtained by both 7-day and 30-day recall for the same set of households, with the question on the last seven days' consumption of each commodity coming before that on the last 30 days. (The columns for 7- and 30-day recall appear side by side on the same page in the questionnaire.) By contrast, spending on low-frequency nonfood consumption items (about 20 percent of the average consumption) was obtained using a one-year recall period, unlike earlier rounds. The 30-day recall period was only used for the high-frequency nonfood items.

[5] Deaton and Kozel (2005) provides a useful compilation of papers on this and related issues of poverty measurement in India.

[6] In measuring poverty some researchers have replaced the survey mean by the mean from the national accounts (GDP or consumption per capita); see, for example, Bhalla (2002) and Sala-i-Martin (2002). This assumes that the discrepancy is distribution neutral, which is unlikely to be the case; for example, selective non-response to surveys can generate highly non-neutral errors (Korinek et al., 2005). For further discussion in the context of poverty measurement in India see Ravallion (2000).

The Ways in Which Growth Has Been Uneven

Growth in China and India over the last quarter century has indeed been uneven, which has been apparent in several (related) dimensions, with implications for inequality, poverty reduction and human development in the two countries. This section makes four claims:

- Growth was uneven across states in India and provinces in China and this has meant uneven progress against poverty.
- Growth has been sectorally uneven, with primary sector growth rates lagging behind growth rates in the secondary and tertiary sectors in both China and India, and with rural incomes growing more slowly than urban incomes.
- There has also been uneven growth at the household level. In particular, incomes at the top of the distribution increased much faster than those at the bottom in both countries. That has meant rising inequality—dramatically so in the case of China.
- Because the more rapid growth of both countries has been so uneven in these dimensions, it has sometimes brought disappointing outcomes in terms of progress against poverty and other ("non-income") dimensions of well-being.

Growth Has Been Geographically Uneven

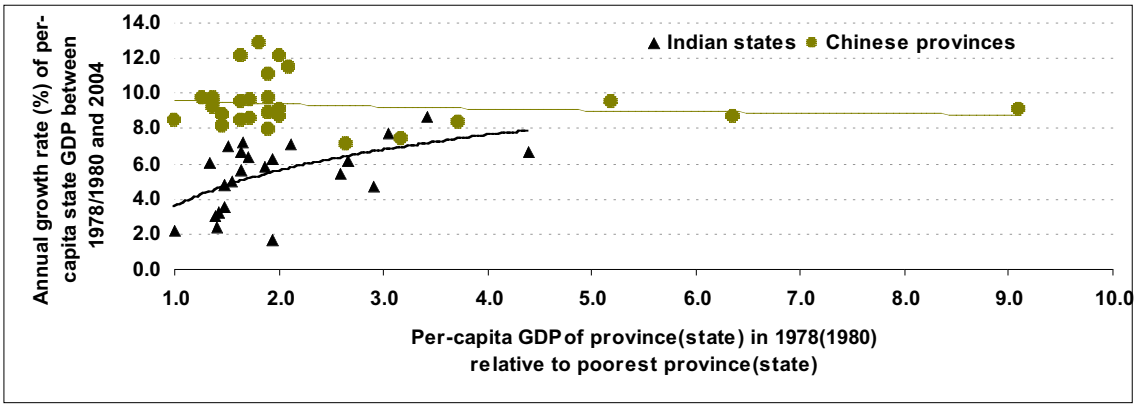
The aggregate growth performances of China and India mask considerable unevenness of growth at the sub-national level. Chinese provincial GDP growth rates (between 1978 and 2004) ranged from a low of 5.9 percent in Qinghai to a high of 13.3 percent in Zhejiang. In India, growth rates of state domestic product between 1980 and 2004 ranged from a low of 1.7 percent in Jammu and Kashmir to a high of 8.7 percent in Goa. Among the 16 major states, Bihar (including the newly created state of Jharkand) had the lowest growth rate, namely 2.2 percent, while Karnataka had the highest, 7.2 percent.

While state and provincial-level growth rates in the last twenty five years have been higher and less volatile than in prior decades—for instance, in India, except for the Green Revolution states of Punjab and Haryana and the state of Maharashtra, growth rates before the 1980s were at most 2 percent per annum—the variation in growth rates has meant increasing regional disparities in both countries. The increase has been more pronounced in the case of India where states that were initially poorer have grown more slowly, resulting in unconditional divergence in both absolute and relative terms.[7] This is apparent in figure 6.2, which plots the average annual growth rate of real per-capita state GDP against a state's initial per-capita GDP relative to the poorest state. India's poorer states are still experiencing positive growth, but the high growth rates, post reform, have been elsewhere.

In China, provinces that were initially poorer have managed to keep pace with the initially wealthier provinces in terms of aggregate growth rates (figure 6.2). That has meant no divergence in relative terms, but absolute differences across provinces have increased. There have also been signs of divergence regionally between the coastal and inland areas of China.[8]

[7] Econometric tests indicating more marked growth divergence for India in the post-reform period can be found in Ghosh (2006).
[8] See Chen and Fleisher (1996), Jian et al. (1996), Sun and Dutta (1997), Raiser (1998) and Kanbur and Zhang (1999).

Figure 6.2 Growth rates at the Subnational Level in China and India



Sources: China Statistical Yearbook, various years; Central Survey Organization, Government of India.

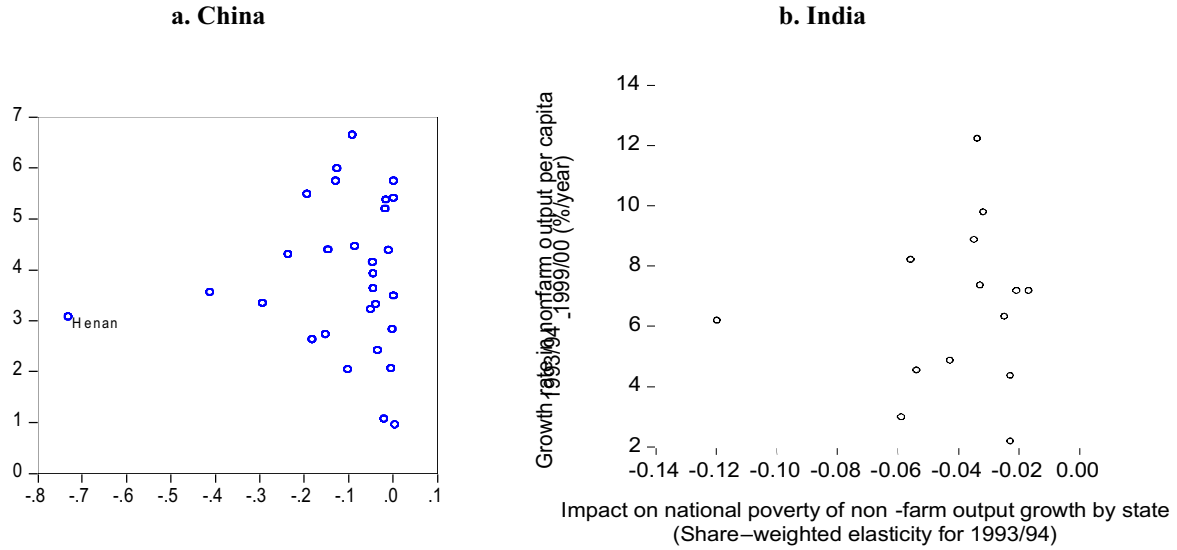
...and That Has Meant Uneven Progress against Poverty

The spatial unevenness of growth has contributed to uneven progress against poverty in two ways. Firstly, because household-income growth has been closely associated with poverty reduction at the sub-national level in both India and China,[9] the fact that growth was geographically uneven has meant that progress against poverty was uneven as well, with some states and provinces seeing far more rapid reduction in poverty than others. In China, the coastal areas fared better than inland areas. The trend rate of decline in the poverty rate between 1981 and 2001 was 8 percent per year for inland provinces, versus 17 percent for the coastal provinces. In India, most of the western and southern states—peninsular India (with the exception of Andhra Pradesh)—did comparatively well, while the more backward BIMARU states of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh, along with states in the eastern region, achieved relatively little poverty reduction between 1993–94 and 1999–2000.

Secondly, in both countries, the most rapid growth did not occur where it would have had the most impact on poverty. Figure 6.3(a) gives the scatter plot for Chinese provinces of growth rates (between 1981 and 2001) against the total elasticities (ratio of the trend in the headcount index to the trend in the mean) weighted by the 1981 shares of total poverty. (The weights assure that this gives the impact on national poverty of growth in a given province.) Had the pattern of growth favored provinces where growth would have had the greatest impact on poverty, the scatter-plot would have suggested a negative correlation, which it clearly does not.

[9] This is clearly documented for India by Datt and Ravallion (1996, 2002) and Deaton and Dreze (2002), and by Ravallion and Chen (2006) in the case of China.

Figure 6.3 Most Rapid Growth Did Not Occur Where It Would Have Had the Greatest Impact on Poverty



Sources: Ravallion and Chen 2006 for China; Datt and Ravallion 2002 for India.

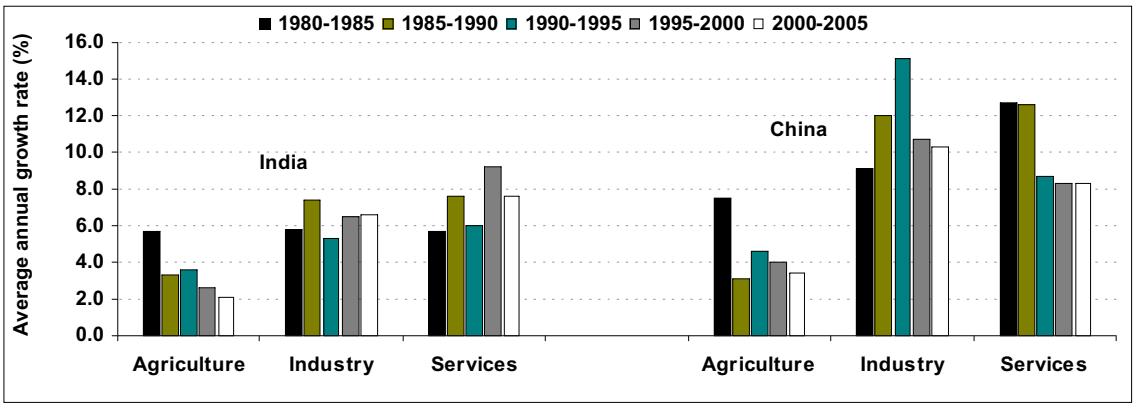
In India as well, the geographic pattern of economic growth has not been particularly pro-poor. Figure 6.3(b) illustrates this in the case of non-farm growth by plotting the state-specific non-farm growth rates between 1993/94 and 1999/00 against the (share-weighted) elasticity of poverty reduction with respect to non-farm economic growth at the beginning of the period. Non-agricultural growth has not been higher in the states with higher elasticities. A more pro-poor geographic pattern of growth in India's non-agricultural economy would have required higher growth in states such as Bihar, Madhya Pradesh, Orissa and Uttar Pradesh. As a result, the overall non-farm growth process in India has tended to become less pro-poor over time, echoing the results for China. Nor has the geographic pattern of agricultural growth in India been particularly pro-poor. The states with higher growth in agricultural yields were not the states with higher shares of India's poverty;[10] indeed, there is a mild negative correlation, although not statistically significant (Datt and Ravallion, 2002).

Growth Has Been Sectorally Uneven

A second dimension of uneven growth in both countries is found across sectors. Growth rates in the primary sector (agriculture) have not only lagged behind those in the secondary (industry) and tertiary (services) sector, but have actually declined over the last quarter century (figure 6.4).

[10] Unlike the non-farm sector, elasticities of poverty reduction with respect to agricultural growth were similar between Indian states (Ravallion and Datt, 2002).

Figure 6.4 Sectoral GDP Growth Rates in China and India, 1980–2005



Sources: China Statistical Yearbook, various years; Central Survey Organization, Government of India.

...and the Gap between Rural and Urban Incomes Has Increased

In nominal terms, urban incomes and expenditures have clearly increased faster than rural incomes over the past quarter century in both countries. In the case of India, this has been reflected in a steady increase in the ratio of urban to rural mean real consumption levels from just below 1.4 in 1983 to about 1.7 in 2000. Even in 1981, the urban-to-rural ratio of nominal mean incomes in China was around 2.5—much higher than it has ever been in India. And since then, while there have been periods when the ratio of urban-to-rural mean incomes fell, the overall trend has been upward.

Adjusting for cost-of-living differences clouds these trends somewhat. For China, the urban rate of inflation has been higher than for rural areas and once one allows for this fact, one no longer finds a trend increase over time in the ratio of the urban mean to the rural mean (Ravallion and Chen, 2006).[11] However, there have been sub-periods, including the period from 1997 to the present, during which the relative urban-rural disparity has risen. Moreover, even allowing for cost-of-living differences, the absolute gap between rural and urban incomes has increased appreciably. This is also true of India.

...and That Meant Less Poverty Reduction Than If Growth Had Been More Sectorally Balanced

The sectoral composition of growth mattered for poverty reduction in both countries. This can be seen from table 6.1, which provides regressions of the rate of change in poverty over time (that is, the difference in the log of the headcount rate of poverty) on both the overall rate of per-capita GDP growth (that is, the change in the log of GDP per-capita), as well as the share-weighted rates

[11] There are other data problems with ambiguous implications for urban-rural disparities. The undercounting of rural migrants in China's urban areas is likely to lead to an overestimation of the level and growth rate in the ratio of the urban mean to the rural mean. Against this effect, urban survey response rates tend to be lower than for rural areas and it be safely assumed that the rich tend to have lower response rates. Our discussions with the staff of China's National Bureau of Statistics suggest that this problem is growing over time in China.

of growth of GDP in each of the three sectors. The sector-specific growth rates are share-weighted, to allow for the fact that sectors growing at the same rate are unlikely to have the same aggregate impacts when one accounts for a much smaller share of aggregate income than the other. When share-weighted, one obtains a straightforward testable hypothesis for whether the composition of growth matter, namely that the regression coefficients across growth components would be roughly equal (Ravallion and Datt, 1996). Note that these regressions are best viewed as decomposition tools rather than causal models of poverty reduction. Deeper explanations must endogenize growth rates and their composition; Ravallion and Chen (2006) provide models of poverty reduction in China that try to make some progress in that direction.

Table 6.1 Poverty Reduction and the Sectoral Composition of Growth

	China			India	
Growth rate of GDP per capita	–2.60	n.a.	n.a.	–0.99	n.a.
	(–2.16)			(–3.38)	
Primary (share-weighted)	n.a.	–8.07	–7.85	n.a.	–1.16
		(–3.97)	(–4.09)		(–2.96)
Secondary (share-weighted)	n.a.	–1.75	n.a.	n.a.	3.41
		(–1.21)			(1.84)
Tertiary (share-weighted)	*n.a.*	*–3.08*	*n.a.*	*n.a.*	*–3.42*
		(–1.24)			*(–2.74)*
Secondary + tertiary	*n.a.*	*n.a.*	*–2.25*	*n.a.*	*n.a.*
			(–2.20)		
R^2	*0.21*	*0.43*	0.42		0.75

Source: Ravallion and Chen 2006 for China (1981–2001); Ravallion and Datt 1996 for India (1951–91).
Note: The *t*-ratios are in parentheses.

For China, the overall elasticity of the headcount index to GDP growth was –2.6. However, when one decomposes growth by sector, it is clear that its composition mattered greatly to the rate of poverty reduction. The impact of growth in the primary sector was far higher (by a factor of about four) than for growth in either the secondary or tertiary sectors. The impacts of the latter two sectors are similar.

For India, too, the sectoral composition of growth was important, although tertiary sector growth was relatively more important than in the case of China.[12] This probably reflects the difference between the two countries in the distribution of agricultural land, which is clearly more unequal in India, and which naturally attenuates the impact of agricultural growth on poverty relative to that found in China. (We return to this point.) Note also that for India the overall growth elasticity of poverty reduction is appreciably lower than for China (table 6.1).

Rural economic growth was also a key factor in overall poverty reduction. Table 6.2 gives regressions of the rate of change in poverty over time (difference in the log headcount index) on the share-weighted growth rates of rural and urban mean incomes and a term capturing the effect of any shifts in population from rural to urban areas. It can be seen that in both countries, growth in rural incomes is the only statistically significant correlate of poverty reduction. Ravallion and Chen (2006) also report an alternative decomposition for China, which exploits the analytic (additivity) properties of the headcount index, whereby the national index is the population-

[12] Note that the coefficients on secondary and tertiary-sector growth for India are of approximately equal size but opposite sign (table 1). This suggests that the (share-weighted) difference in growth rates is picking up a distributional effect on poverty reduction.

weighted mean of the urban and rural indices. This decomposition makes somewhat different assumptions to the regression decomposition. However, it confirms the quantitative importance of rural economic growth; about 72 percent of the reduction in the headcount index that occurred in China between 1981 and 2001 is attributable to rural poverty reduction, versus 5 percent due to urban and 23 percent due to the population shift from rural to urban areas.

Table 6.2 Poverty Reduction and the Urban–Rural Composition of Growth

	China	India
Growth rate of mean rural income (share-weighted)	–2.56	–1.46
	(–8.43)	(12.64)
Growth rate of mean urban income (share-weighted)	0.09	–0.55
	(0.20)	(–1.37)
Population shift effect	0.74	–4.46
	(0.16)	(–1.31)
R^2	*0.82*	*0.90*

Sources: Ravallion and Datt 1996 for India; Ravallion and Chen 2006 for China.
Note: The *t*-ratios are in parentheses.

These aggregate results do not tell us about the source of the poverty-reducing impact of primary sector growth. With a relatively equitable distribution of access to agricultural land and higher incidence and depth of poverty in rural areas, it is plausible that agricultural growth will bring large gains to the poor. There is evidence for China that this may also involve external effects at the farm-household level. One important source of externalities in rural development is the composition of economic activity locally. In poor areas of southwest China, Ravallion (2005) finds that the composition of local economic activity has non-negligible impacts on consumption growth at the household level. There are significant positive effects of local economic activity in a given sector on income growth from that sector. And there are a number of significant cross-effects, notably from farming to certain non-farm activities. The sector that matters most as a generator of positive externalities turns out to be agriculture.

The results in tables 6.1 and 6.2 imply that the particular form of sectorally uneven growth China and India experienced—primary sector growth rates lagging behind growth rates in the secondary and tertiary sectors, and rural incomes growing more slowly than urban incomes—has meant less poverty reduction than might have been the case otherwise. A sense of how much extra poverty reduction might have been achieved from a more balanced growth path can be obtained through counterfactual simulations in which it is assumed that all three sectors grow equally—meaning that the sector shares of GDP in 1981 would have remained constant over time—and the estimates from table 6.1 are used to calculate the implied rate of poverty reduction under different assumptions about the overall (common) rate of GDP growth. So, for instance, had it been possible to achieve a balanced growth path while maintaining the GDP growth rates China actually achieved between 1981 and 2001, the mean rate of poverty reduction would then have been 16.3 percent per year, rather than 9.5 percent. Instead of 20 years to bring the headcount index down from 53 percent to 8 percent it would have taken about 10 years.

Of course one can question whether in fact a more sectorally balanced growth path could have been achieved without lowering the overall growth rate, and so this exercise should be viewed as an upper bound on what might have been possible. And there do appear to be signs of a sectoral tradeoff in that the correlation between China's primary sector growth rates and the combined growth rate of the secondary and tertiary sector was –0.414 over this period, implying that a more balanced growth path in which the growth rate of the primary sector was higher might

have meant less growth overall. But it is worth noting that the negative correlation is statistically quite weak—a significance level of 6 percent—and that there were sub-periods (1983–84, 1987–88 and 1994–96) in which both primary sector growth and combined growth in the secondary and tertiary sectors were *both* above average.

A similar exercise for India suggests that were it not for the sectoral and geographic imbalance of growth, the national rate of growth since reforms began in full force in the early 1990s would have generated a rate of poverty reduction that was double India's historical trend rate (Datt and Ravallion, 2002). The evidence also suggests that states with relatively low levels of initial rural development and human capital development experienced lower elasticities of poverty reduction to economic growth (Ravallion and Datt, 2002).

Income Growth Has Been Uneven across Households

The unevenness of economic growth across households at different levels of living can be seen clearly in the growth incidence curve (GIC), which gives the annualized rate of growth over the relevant time period at each percentile of the distribution (ranked by income or consumption per person).[13] Figure 6.5 displays the growth incidence curves for China and India, for the periods 1990 to 1999 and 1993 to 1999, respectively. In both cases, growth rates at the bottom of the distribution were lower than those at the top. The gradient is less steep for India.[14] Growth rates in China in the 1990s rise sharply as we move up the income ladder, with the annual rate of growth in the 1990s increasing from about 3 percent for the poorest percentile to over 10 percent for the richest. While the growth rate in the overall mean was 6.2 percent, the mean growth rate for the poorest 20 percent (roughly according with China's "$1 a day" poverty rate in 1995) was 4.0 percent. The GIC for the 1990s shows a slight U shape, with the lowest growth rates—around 1 percent—for people around the 10th percentile, and a smaller difference between growth rates at the top (close to 4 percent) and those at the bottom (just over 1 percent) than was the case for China.

As we have noted, large sample nationally representative surveys (such as used to construct figure 6.5) do not typically pick up what is happening at the extreme upper tails of the distribution. In the case of India, evidence from other sources indicates that incomes at the top end have risen dramatically. For instance, Banerjee and Piketty (2005), based on a study of tax returns, report that the super-rich in India—that is, those at the 99.99th percentile—experienced growth in incomes of over 285 percent between 1987/88 and 1999/00, resulting in annual PPP incomes of around P$160,000 per person.

[13] On the precise definition and properties of the GIC see Ravallion and Chen (2003).

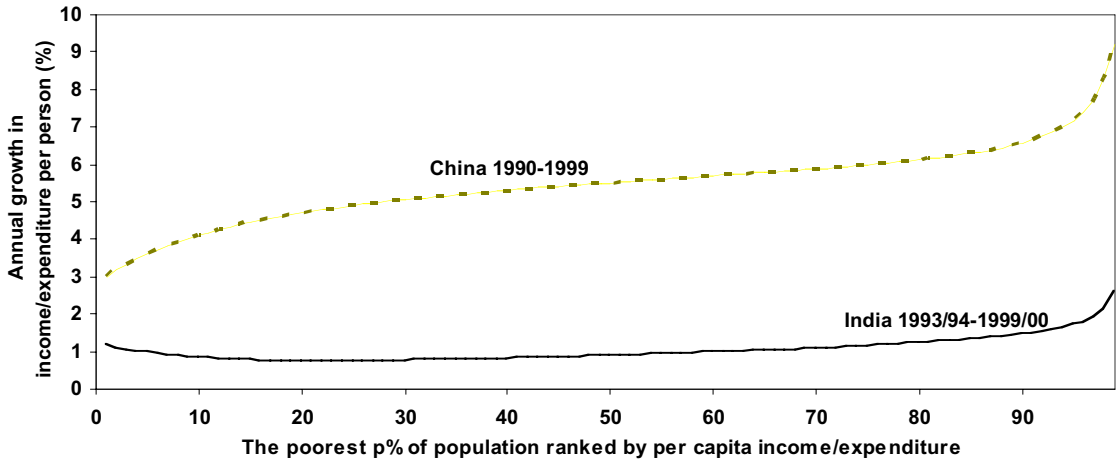
[14] The shape of the expenditure-GIC for India for the 1990s depends critically on what adjustment is made for the comparability problems between the 1999/2000 survey and earlier surveys. The GIC shown in Figure 5 is based on the estimates produced by Sundaram and Tendulkar (2003), who resolve the comparability problem by estimating consumption expenditures based on a common "mixed reference period" for categories of consumption. The rural and urban distributions were then aggregated assuming urban-rural cost-of-living differentials of 33 percent and 38 percent for 1993/94 and 1999/00 respectively, based on updated poverty lines as used in Ravallion and Datt (2002). This roughly matches the GIC implied by estimates obtained by Deaton (2001), who uses an alternative method, based on a "common reference period," to make the surveys comparable. If, however, no attempt is made to correct for the comparability problem, and one simply uses the "unadjusted" primary estimates from each of the surveys, the GIC suggests a much more pro-poor pattern of growth, with growth rates declining from over 2 percent for the poorest percentile to around 1 percent at the top of the distribution (Ravallion, 2004).

...and That Has Meant Rising Inequality

Figure 6.6 displays the trends in income inequality for the two countries. From a cross-country perspective, India remains a relatively low-income inequality country (World Bank, 2005, 2006), although this is no longer true of China. The Gini index of income inequality for China rose from 28 percent in 1981 to 41 percent in 2003, though not continuously, and more in some periods and provinces.[15]

Note that the fact that the inequality measures for China use income while those for India use consumption (per capita) does not account for the difference in measured inequality as in figure 6.6. For a few years it is possible to measure inequality using consumption for China. When one does, the consumption-based inequality measure is only slightly lower than that based on incomes, and it is still appreciably higher than for India (Chen and Ravallion, 2006).

Figure 6.5 Growth Incidence Curves for China, 1990–99, and India, 1993–99



Sources: Ravallion and Chen 2003 for China (using household income); Ravallion 2004a for India (household expenditure on consumption).

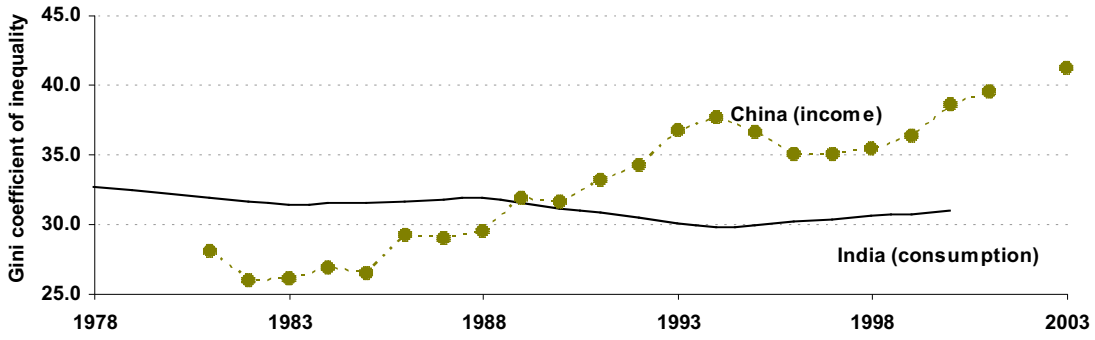
In the case of India, one finds that the Gini index rose in the 1990s, although the increase was less pronounced than in China (figure 6.6).[16] However, it is too early to say if India is undergoing a trend increase in inequality similar to what China has experienced. As can be seen from figure 6.6, on looking back over time, rising inequality in India is seen to be a recent

[15] Note that the latter figure is somewhat lower than past estimates for China; this is because corrections have been made for changes in survey-valuation methods (as discussed above) and urban-rural cost-of-living differences, which have tended to rise over time because of higher inflation in urban areas (as price controls and subsidies were progressively removed on certain goods, including housing). Without these corrections, the estimate of the Gini index for 2003 rises to over 45 percent instead of 41 percent.

[16] Figure 5 uses the NSS "thick samples" only. The thin samples for the 1990s also confirm the increase in inequality (Ravallion, 2000).

phenomenon.[17] Indeed, there is no statistically significant trend increase in consumption inequality in India up to the early 1990s (Bruno et al., 1998).[18]

Figure 6.6 Trends in Income Inequality for China and India



Sources: Authors' calculations for India; Ravallion and Chen 2006 for China.

Perceptions "on the ground" that inequality is rising markedly in India do not appear to sit easily with the impression given by figure 6.6. Popular opinion can be mistaken, but nor are the data perfect. As we have noted, the survey-based numbers may well understate the relative gains to the rich, and that is consistent with the evidence from tax returns. The visible changes in consumption patterns and lifestyles that the rich have achieved may well not be reflected properly in the survey-based inequality measures. Also, and possibly more importantly, the perception of sharply rising inequality in India may well also reflect rising *absolute inequality,* as reflected in the absolute gaps between the rich and the poor, as distinct form the proportionate gaps. There is evidence that many people view inequality in absolute terms rather than relative terms (Amiel and Cowell, 1999).[19]

The Sectoral and Geographic Unevenness of Growth Has Contributed to Rising Inequality

Since both countries started their reform periods with sizeable rural–urban gaps in mean living standards, one expects that a subsequent growth process in which urban incomes increasing faster than rural incomes would put upward pressure on aggregate inequality. But it would also seem that the rising urban–rural gap now has a salience in popular and governmental circles that far exceeds its likely contribution to a conventional inequality or poverty metric. This appears to stem in part from the (plausible) belief that the urban–rural divergence reflects (in part at least) urban biases in the reform processes and complementary public spending choices. This is

[17] Note that longer term comparisons are only possible using the uniform recall period data, using the Deaton method of correcting for the comparability problem in the 1999/00 data.
[18] At the time of writing, the 61st round of the NSS, for 2004/5, has not yet been released. This will give a (keenly awaited) indication of whether the signs of rising inequality in the 1990s have been sustained.
[19] For further discussion of the implications of the absolute-inequality concept for assessments of economic growth and reform see Ravallion (2004b) and Atkinson and Brandolini (2004).

reinforced by actual or perceived abuses of local political powers at the expense of poor farmers or the landless rural poor (the recurrent land disputes of land contracts and land-use conversions in rural China are examples). Similarly, regional inequality concerns loom large in both countries, although the quantitative importance of increasing disparities across regions (provinces and states) appears to be greater in India. While these between-group inequalities have carried weight in policy discussions, it is important to note that growing inequality *within* both urban and rural areas have been a major component of the increase in overall inequality; for China rising inequality within rural areas has been an important dynamic in overall inequality while in India inequality has risen more within urban areas than rural areas.

To understand these developments one must first understand how the sectoral and geographic composition of economic growth interacted with initial conditions. An important stylized fact is that starting conditions at the outset of the reform process in rural China entailed relatively low levels of inequality in access to land. The de-collectivization process that started in the late 1970s achieved a relatively equal allocation of access to agricultural land, at least within communes. (Between communes, the only way to equalize land allocation would have been to allow mobility of people, which was not considered a desirable option.) This meant that agricultural growth was a powerful instrument against poverty and inequality in China (Ravallion and Chen, 2006).

The urban–rural disparities in living standards are also relevant. At the outset of the reform period, mean household income per capita in urban areas was more than double that in rural areas, and 90 percent higher when one adjusts for the higher urban cost of living. Naturally then, the extent to which the post-reform growth favored the urban economy will matter to the evolution of aggregate inequality. It will also matter to poverty. Indeed, around 1980, a staggering 98 percent of China's poor lived in rural areas. While there are various ways (trade, migration, transfers) that non-farm economic growth will spillover to the farm economy, the sheer weight of the rural sector in absolute poverty at the outset of China's reform period means that agricultural and rural economic growth would inevitably matter to how distribution evolved.

The evidence confirms one's expectation that growth in China's urban economy has tended to be inequality increasing, while growth in the rural economy has been inequality decreasing. Controlling for growth in these two sectors, the rising urban population share has had no significant effect on aggregate inequality. The time series data and regressions presented in Ravallion and Chen (2006) indicate that the periods when the urban–rural disparity in mean income rose (fell) were the periods when overall inequality rose (fell).

The sectoral composition of GDP growth—cutting across the urban and rural divide —is also a significant predictor of the changes in inequality. For instance, regressions of the sort reported in table 6.1, with share-weighted sectoral GDP growth rates as covariates, but with the change in inequality (change in the log of the Gini index) as the dependent variable indicate that in China, primary sector growth has been associated with lower inequality overall, while there is no correlation with growth in either the secondary or tertiary sectors (Ravallion and Chen, 2006). The regression coefficient of the change in log Gini index on the growth rate in primary sector GDP (without share-weighting) is –0.478, with a t-ratio of –2.76. There is also evidence of a lagged primary-sector growth effect, with a similarly sized impact as the current year's effect. Regressing the change in log Gini index on the two-year moving average of the primary sector growth rate one obtains an elasticity of the Gini index to primary-sector growth of about –0.75:

$$\Delta \ln G_t = \underset{(4.563)}{0.0522} - \underset{(3.723)}{0.746}(\Delta \ln Y_{1t} + \Delta \ln Y_{1t-1})/2 + \hat{\varepsilon}_t^G \quad R^2 = 0.463;\ n = 20, \qquad \text{Eq. 6.1}$$

where G_t denotes the Gini index at date t and Y_1t is the primary sector component of GDP. The intercept indicates that there is a strong positive trend in inequality, of about 5 percent per annum.

How much higher would the rate of primary sector growth need to have been to stem the rise in aggregate inequality? The above regression implies that a (moving average) growth rate of 7.0 percent per annum would be needed to avoid rising inequality, whereas the mean primary-sector growth rate was 4.6 percent per annum between 1981 and 2001. Only in two periods, the early 1980s and the mid-1990s, were agricultural growth rates high enough to prevent rising inequality. The divergence between the actual growth rates in the primary sector GDP and the minimum needed to prevent rising inequality is particularly striking in the most recent period. The recent composition of economic growth in China has clearly been inequality increasing.

There are also some important distributional inter-linkages across sectors. We cannot (of course) calculate inequality measures for the sectors based on GDP source, but we can do so for urban and rural areas. For China, Ravallion and Chen (2006) report regressions of the annual change in the log of the Gini index separately to urban and rural areas, with the growth rates (log differences) of *both* rural and urban mean incomes on the right-hand side. They find that growth in urban incomes is inequality increasing in the aggregate and within urban areas, but not within rural areas. Higher rural incomes were inequality reducing nationally. This happened in three ways. Firstly, rural economic growth reduced inequality between urban and rural areas; secondly it reduced inequality within rural areas; thirdly, rural economic growth also reduced inequality within urban areas. The last channel is less obvious than the other two. As in other developing countries, the fortunes of China's urban poor are linked to rural economic growth through migration, transfers and trade. These linkages can readily entail distributional effects of rural economic growth on urban areas, given that it is more likely to be the urban poor (rather than urban non-poor) who gain from rural economic growth (such as by reduced the need for remittances back to rural areas).

It is too early to say with confidence that India's (more recent) rise in inequality stems from similar factors. Nonetheless, we can be reasonably sure that the "urban bias" in India's growth process since reforms began has put upward pressure on overall inequality.

Why Growth Was Uneven and Why This Matters

Why was growth uneven—in the aggregate as well as sectorally and geographically—and what is one to make of this unevenness? Should the fact that in both India and China, segments of the population appear to have been left behind (at least thus far) be of concern? And should we worry that inequality has risen?

These questions are more easily posed than answered because of the multiple complex processes through which uneven growth and inequality are generated and reproduced. Policies play a role but so do initial conditions in the form of history (for example, inherited institutions) and geography (as a determinant of access to markets and public services). Economic forces are undoubtedly important, but so too are political and social factors. Answering these questions in a rigorous fashion is beyond the scope of this paper. What we can do, however, is provide an assessment based on our interpretation of the evidence from various sources.

We structure the discussion a distinction between *good and bad inequalities*—drivers and dimensions of uneven growth that are good or bad in terms of what they imply for how the living standards of poor people evolve over time. We argue that the post-reform development paths of both India and China have been influenced by and have generated both types of inequalities.

Good Inequalities

Good inequalities are those that reflect and reinforce market-based incentives that are needed to foster innovation, entrepreneurship and growth. Scattered evidence suggests that the rise in inequality with the introduction of market reforms in both India and China is at least in part a reflection of newly-unleashed market-based incentives at work, in contrast with the earlier period of artificially low levels of inequality brought about by regulatory distortions and interventions that suppressed incentives for individual effort and innovation.

Perhaps the leading example of the role that good inequalities (and the economic incentives that underlie them) have played in China's growth is the stimulus to agricultural production in the early 1980s provided by the Household Responsibility System (HRS). Under the HRS, rural households were assigned plots of land and became the residual claimants on the output from that land, significantly enhancing the incentives for production. Prior to that, land had been farmed collectively, with all members sharing the output more-or-less equally. Incentives for individual effort in this setting were naturally very weak, and the reforms to this system were critical in stimulating rural economic growth at the early stages of China's transition (Fan, 1991; Lin, 1992). Initially these reforms are likely to been inequality-reducing, by raising rural incomes relative to urban areas. However, soon some farm-households did better than others—depending on farming acumen, agro-climatic conditions and access to markets—putting upward pressure on inequality within rural areas.

Another piece of evidence is provided by Park et al. (2004) in their analysis of the substantial increase in urban wage dispersion in China during the current reform period. At the outset of that period, urban China had a system of fixed wage scales, allocation of labor by government and (hence) low returns to schooling (Fleisher and Wang, 2004). There were few incentives for work-performance or skill-acquisition. From this legacy of wage compression and low labor mobility, China moved gradually in the 1990s to a market-based system featuring a dynamic non-state sector and an increasingly open labor market. With reforms that expanded the scope for employment in a growing private sector and the emergence of a competitive labor market, wage dispersion within skill categories and experience cohorts has increased considerably and returns to schooling have also risen (Park et al., 2004; Heckman and Li, 2004). In India, too, one sees growing wage inequality, in part attributable to increasing wage disparities within educational attainment categories, which in turn reflect increasingly competitive product and labor markets (Dutta, 2005).

Yet another example of how increasing disparities might reflect the growth-enhancing role of incentives comes from considering the increasing disparities in growth performance across Indian states during the 1990s, when some states significantly accelerated their growth, while others lagged behind. Both Ahluwalia (2000) and Kohli (2006) conjecture that the increase can be attributed, at least in part, to the greater responsiveness of private investment flows to differences in the investment climate in different states. As Kohli (2006) notes, that in turn appears to have provided—subject to the constraints imposed by state-level political considerations and capacity—some incentives to state leaders to adopt measures to improve the business environment, to woo private investment. This stands in contrast to earlier periods when the share of public investment in total investment was much larger.

There is evidence that the impact of incentives was magnified by the presence of agglomeration economies in industrial activity in India. Lall and Chakravorty (2005) show that industrial diversity (which is higher in metropolitan and mixed industrial regions) has cost-reducing effects, through agglomeration economies. Because of this, private industrial units favored locating in existing high-density industrial areas, increasing the degree of industrial clustering. On the other hand, the location decisions of state-owned industry appeared to have

been much less driven by these cost considerations and were possibly motivated by a desire for greater regional balance. The conclusion that Lall and Chakravorty draw is that the reforms and the scaling back of public investments, and the emergence of the private sector as the primary source of new industrial investments that was associated with it, contributed to higher levels of spatial inequality in industrial activity.

Bad Inequalities

The processes underway in India and China are almost certainly less benign and less automatic than the account above suggests. Geographic poverty traps, patterns of social exclusion, inadequate levels of human capital, lack of access to credit and insurance, corruption and uneven influence can all conspire to simultaneously fuel rising inequality and prevent certain segments of the population from making the transition out of traditional low-productivity activities. Credit market failures often lie at the root of the problem; it is poor people who tend to be most constrained in financing lumpy investments in human and physical capital. These bad inequalities—rooted in market failures, coordination failures and governance failures—prevent individuals from connecting to markets and limit investment in human and physical capital.[20]

We focus on two dimensions of bad inequalities. The first relates to location in the presence of externalities, impediments to mobility and heavy dependence of local states on local resources. These features can generate geographic poverty traps whereby living in a well-endowed area entails that a poor household can eventually escape poverty, while an otherwise identical household living in a poor area sees stagnation or decline. This is one possible reason why initially poorer provinces have often seen lower subsequent growth (figure 6.7). In both countries, but especially China where public spending is heavily decentralized, there are large and rising disparities in public spending per capita between rich and poor areas, with rather weak fiscal redistribution and (hence) heavy dependence of local governments on local resources.

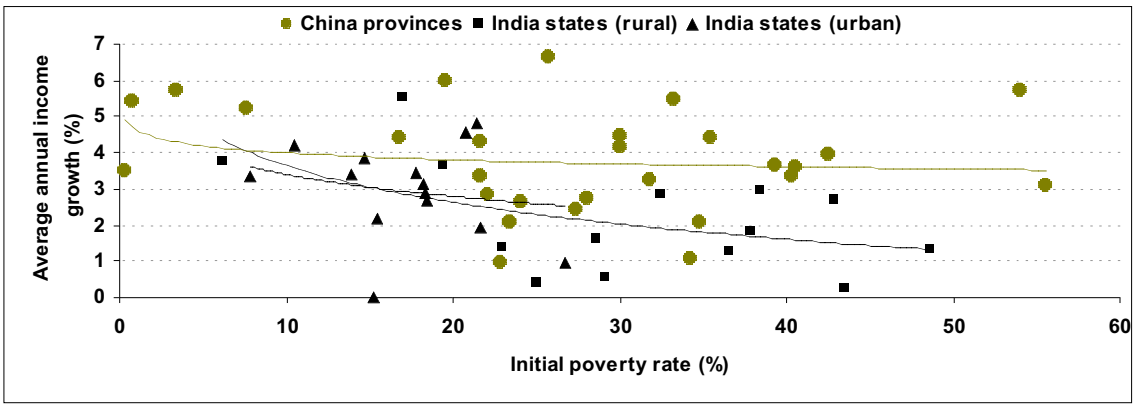
While these observations from aggregate data are suggestive that such traps might exist, they can hardly be considered conclusive. More rigorous micro evidence of the geographic externalities that underlie such traps can be found in Jalan and Ravallion (2002) and Ravallion (2005), using farm-household panel data for rural China. The geographic attributes conducive to individual prospects of escaping poverty include both publicly-controlled endowments (such as the density of rural roads) and largely private ones (such as the extent of agricultural development locally).

The second dimension of undoubted importance relates to inequalities in human resource development—often linked to credit market failures on the demand side but also reflecting governmental failures in service delivery. These inequalities have clearly played an important role in retarding poverty reduction through growth in both countries. Basic schooling was far more widespread in China at the outset of the reform period than in India. And the labor-market returns to the schooling differences that did exist were artificially compressed in China. This changed over time. In both rural and (particularly) urban China, the reform process started with a legacy of considerable wage compression under socialism, and (hence) low returns to schooling; see, for example, Fleisher and Wang (2004). Thus, a strong inequality-increasing force stemming from the economic reforms is likely to have been the de-compression of wages and (hence) rising returns to schooling. Naturally, those with relatively little schooling and few assets, or little access to credit, were less well positioned to take advantage of the new opportunities unleashed

[20] World Bank (2005) provides a useful overview of the arguments and evidence on how certain inequalities can be inefficient, notably when they entail unequal opportunities for advancement.

by market-oriented reforms. While returns to schooling were initially low at the outset of the reform period—reflecting the prior wage compression—it is clear that they have increased over time. (Heckman and Li, 2004, provide the most convincing evidence on this point that we have seen.) Lack of schooling is now a very important constraint on prospects of escaping poverty in China, as elsewhere.

Figure 6.7 Growth Rates at the Subnational Level in China and India



Sources: China Statistical Yearbook, various years; Central Survey Organization, Government of India.

The contribution of education to the level of inequality within rural areas and its rise over time is less clear. Within rural areas of four provinces, Ravallion and Chen (1999) find that education was not an important contributing factor to inequality in 1985–1990, though its contribution is undoubtedly higher today. The relatively equal allocation of land has meant that the unskilled (primarily agricultural) labor market is thin in rural China (since a relatively equitable allocation of land naturally generates a low aggregate demand and supply for agricultural labor). However, the real opportunities for China's rural poor have been in non-farm work, particularly in urban areas, where wages far exceed the shadow wages in farming. China's urban–rural wage gap—itself the result (in part) of government policies, which we return to—means that much higher returns to schooling are possible from migration, and this same gap is likely to be a key factor in aggregate inequality, We have noted the large difference in mean household income per capita between urban and rural areas. This reflects other factors besides the wage gap at given worker characteristics. However, on controlling for worker experience and schooling, a large differential persists; the estimates of Shi et al., (2004) suggest that urban wages are about 50 percent higher, controlling for worker characteristics and the cost-of-living differences. The high costs of migration underlying these gaps have probably been both poverty and inequality increasing.

Looking forward, a further implication of the emergence of a more convex structure of returns to education in post-reform China (whereby the increase in returns to education has tended to be at higher levels of schooling) is that generalized increases in the level of schooling will put upward pressure on aggregate inequality, though they will probably be poverty reducing.

India's schooling inequalities are clearly larger than those of China (both at the beginning of the reform period and since).[21] Inequality of schooling attainments has clearly been an important factor inhibiting pro-poor growth. The differences we have seen in the impacts of non-farm economic growth on poverty reflect inequalities in a number of dimensions; low farm productivity, low rural living standards relative to urban areas and poor basic education all inhibited the prospects of the poor participating in growth of the non-farm sector (Ravallion and Datt, 2002). Interstate differences in initial levels of schooling appear to have been the dominant factor in explaining the subsequent impacts of non-farm economic growth on poverty. Those with relatively little schooling and few assets, or little access to credit, were less well positioned to take advantage of the new opportunities unleashed by market-oriented reforms.

Policy Impediments, Policy Biases, and Policy Neglect

Errors of both omission and commission in policy have contributed to the unevenness of growth in both countries, and the failure of growth to translate into larger impacts on poverty and human development. These errors have taken one of three forms: first, policies that have impeded the functioning of markets; second, policies that have been biased in favor of particular regions or industries; and third, policies that have neglected certain spheres of activity where public interventions were in fact necessary.

In India, it has been argued that restrictive labor regulations and widespread preferences in favor of small-scale industries are impediments to more broad-based growth. While motivated (ostensibly) by distributive considerations, these policies are believed to have instead restricted firm growth, dampened job creation and hindered the movement of labor out of agriculture in India (World Bank, 2006). Only eight million workers are protected by this legislation, in a country of one billion; "Current labor regulations seem to be protecting workers in jobs by 'protecting' other workers from having jobs." (World Bank, 2006, p.17). These regulations are unlikely to have helped labor absorption, and may well have helped create a situation in which the fraction of the labor force in India that remains in agriculture far exceeds that of other countries with similar shares of agricultural value added (Virmani, 2005). And despite the increase in GDP growth, the rate of job creation in India has failed in recent years to keep up with increases in the size of the labor force, which has led some to characterize India's growth experience as "jobless growth" (Mehta, 2003). While these observations are suggestive, the costs to the poor of these policies have yet to be rigorously quantified.

In China, impediments to the movement of labor out of agriculture through internal migration have come in part from governmental restrictions under the *houkou* system, whereby a person has to have an official registration to reside in an urban area and use its facilities. Those born with an agricultural registration have historically had a hard time obtaining urban registration.[22] Other costs of migration facing rural households include the risk of losing one's (administratively allocated) land allocation at the origin and various forms of discrimination against rural migrants in urban areas. There are also similar restrictions on within-rural and within-urban migration. Au and Henderson (2006) attribute sizeable aggregate output losses to these restrictions, which have made it harder for China to realize agglomeration economies. Under the (plausible) assumption that these costs of migration lower earnings in the poorer

[21] Evidence supporting this claim can be found in World Bank (2005).

[22] In spite of this, China has still had a more rapid rate of urbanization than has India. China's urban population share rose from 19 percent in 1980 to 39 percent in 2002. In India (with no such restrictions) the urban share of the population rose from 23 percent to 28 percent over the same period.

(labor-surplus) sector, they will increase poverty and inequality. Other policy biases against the poor have included public spending and industrial policies that have favored China's coastal areas over the (poorer) inland regions.

In both countries, an important area of policy neglect has been service delivery. The deficiencies of India's education system (and not just from the point of view of the poor) are well known (Drèze and Sen, 1995; PROBE, 1999). Issues of service quality loom large in these concerns (World Bank, 2006). While starting from greater equity in service delivery (though even then with large gaps between urban and rural areas) China has also seen growing inequalities in access to health and education (Zhang and Kanbur, 2005).

Dynamics: How Good Inequalities Can Turn into Bad Ones

Without the appropriate institutional checks and balances, rising inequality, even if it is initially of the "good" variety, can itself engender phenomena such as corruption, crony capitalism, rent-seeking or efforts by those who benefit initially from the new opportunities to preserve these newly realized rents by restricting access to these opportunities or by altering the rules of the game (along the lines emphasized by North, 1990). Thus bad inequalities can emerge over time.

The growth and subsequent performance of China's township and village enterprises (TVEs) provides an example of this dynamic at work. The emergence and growth of TVEs in various parts of China starting in the mid-1980s is often cited as a successful example of the country's strategy of incremental institutional innovation—in this case, economic decentralization under which local governments were given the right to establish TVEs and retain the profits generated by them (Oi, 1999). The implied autonomy and control, combined with a hard budget constraint imposed from above provided exactly the right incentives at the outset to invest and operate efficiently. The resultant increase in rural non-farm output and employment, was spatially uneven, but probably inequality reducing overall (given the rural base for this innovation) and contributed to China's growth up to the mid-1990s.

However, with the proliferation of TVEs and the increased competition this implied in various product categories, pressures emerged for local and provincial governments to protect the (local) markets of the TVEs and enterprises under their control. The result was increasing impediments to inter-jurisdictional trade and to entry by outside firms, leading to fragmentation of China's domestic product and factor markets and a deterioration in the investment climate in many localities (World Bank, 2005).

Perceptions and tolerance for Inequality: The "Bad" Can Drive Out the "Good"

Bad inequalities are doubly harmful. First, they directly reduce the potential for growth because segments of the population are left behind, lacking the opportunity to connect and contribute to the growth process. Second, on top of these direct human and economic costs, persistent bad inequalities in a setting of heightened aspirations can yield negative perceptions about the benefits of reform. Because it is difficult for citizens to disentangle the sources of the aggregate inequality in observed outcomes—to determine whether the underlying drivers are good or bad—societal intolerance for inequality of *any* kind emerges. And that can trigger social unrest or harden resistance to further needed reforms, thereby (indirectly) threatening the sustainability of growth. In effect, the persistence of bad inequalities drives out the good ones.

In China, Han and Whyte (2006) report results of a survey of over 3,000 Chinese adults interviewed in 2004; 40 percent of respondents "strongly agreed" that inequality in the country as a whole is "too large" while a further 32 percent "agreed somewhat" with this view. An

astonishing 80 percent favored "governmental leveling" to assure a "minimum standard of living" (split roughly equally between "strong agree" and "agree somewhat"). Interestingly, the correlates of perceptions of unfair inequalities did not suggest that the concern was greatest among those most disadvantaged, such as farmers or migrants from rural areas. Also notable is that most respondents did feel that education, ability and effort were rewarded in China.

Such high levels of concern about inequality do not imply dissatisfaction with the distributive outcomes of economic reforms. However, there are also signs that perceptions of (or direct experience with) bad inequalities is translating into growing dissatisfaction with reforms in both countries. Social protests about various perceived injustices are becoming common in China. In a poll conducted by the Chinese Academy of Social Sciences in 2002, 60 percent of the 15,000 respondents thought that party and government officials had benefited the most from reforms, while other polls (cited in Pei, 2006) consistently rank corruption as one of the most serious problems facing China. In examining the economic underpinnings of social unrest in China, Keidel (2005) makes the point that dissatisfaction with the economic dislocations caused by reforms, which are a necessary part of engendering good inequalities, have been amplified by corruption and malfeasance within state-owned enterprises and local governments. Police records reported in official bulletins cited by Gill (2006) indicate that the number of collective protests, violent confrontations and demonstrations deemed to be incidents of social unrest has risen nearly tenfold from 8,300 in 1993 to almost 80,000 in 2005. Pei (2006) argues that these indications of social discontent have made it that much more difficult for China to undertake the reforms needed to address remaining structural weaknesses, notably in the financial system—reforms that a study by the IMF (2003) suggest might be critical to sustaining growth. Thus, Pei (2006) talks of China's "trapped transition."

In India, the political failure of the "Shining India" electoral campaign of the BJP in 2004 has been widely attributed to its neglect of the emerging inequalities in the wake of pro-growth reforms. Such attributions are always questionable, but there is also evidence from attitudinal surveys suggesting that rising inequality is a popular concern in India. In a 2004 National Election Survey, three quarters of the respondents indicated that the reforms of the past decade and a half had only benefited the rich (Suri, 2004). Within India's democratic polity, such sentiments have resulted in political pressures that have forced the government to postpone needed reforms (Bardhan, 2005). For instance, last year the government had to withdraw plans to privatize 13 leading industrial public-sector undertakings. The concerns about rising inequality and slow progress against poverty have also led to various new antipoverty programs, which we return to.

Preserving the Good Inequalities and Reducing the Bad Ones

Putting in place the right mix of policies and institutions to ensure that growth is sustained *and* broad-based is now high on the policy agenda of both governments. While inequality has been prominent in (at least) the rhetoric of Indian politics for decades, it is a relatively new concern in China, although it has emerged as a major concern in recent years.[23]

Should policy makers be so worried about rising inequality? This is inevitable to some degree. Over five decades ago, Arthur Lewis (1954) observed that the defining feature of

[23] Han and Whyte (2006) quote results of a survey in 2004 of senior public officials done by the Communist Party's Central Party School which found that income inequality was the highest expressed concern, dominating all other issues..

structural transformation in economies with large pools of surplus labor is the gradual transfer of surplus labor from "traditional" low-productivity activities to "modern" high-productivity activities. Lewis argued that this process is inevitably accompanied initially by rising levels of inequality as some make the transition and others are, at least temporarily, left behind.[24] As Lewis put it: "Development must be inegalitarian because it does not start in every part of the economy at the same time."

If indeed what we are witnessing in China and India is such a process of structural transformation, it may only be a matter of time before those left behind catch up. The rise in inequality would then be a transitional phenomenon, although because the transition is occurring on a decadal scale (even for a rapidly changing society and economy such as China's), inequality might continue to rise for several more years. And even when the transition is complete, because of the good drivers of inequality set in motion by the reforms, there will almost certainly be an increase in the steady-state inequality relative to that in the pre-reform period.

However, as this paper has argued, there are also a number of reasons to suggest that policy makers concerned with assuring rising absolute levels of living, especially for the poor, should be concerned about the "bad inequalities." In the this section we try to provide a simple conceptual framework for thinking about what policy makers in China and India should do about rising inequality, and review some of the policy options, including those recently implemented in both countries.

Defining the Challenge and Avoiding Misdiagnoses

We take it to be self-evident that that the objective is sustainable pro-poor growth, by which we mean growth that benefits poor people, so as to bring large and lasting reductions in the extent of absolute poverty.[25] Efforts to attenuate the bad inequalities should not then undermine the drivers of good inequality to the point where the longer-term living standards of poor are threatened. The challenge will be to identify the mix of policies that directly target the bad inequalities without undermining the good ones.

From that starting point, it is clear that we should not accept redistributive policies that come at the expense of lower longer-term living standards for poor people. Accepting that there is no aggregate trade-off between mean income and inequality does not mean that there are no trade-offs at the level of specific policies. Reducing inequality by adding further distortions to an economy may well have ambiguous effects on growth and poverty reduction. But nor should it be presumed that there will be such a trade-off with all redistributive policies. The potential for "win-win" policies stems from the fact that some of the factors that impede growth also entail that the poor share less in the opportunities unleashed by growth. More rapid poverty reduction requires a combination of more growth, a more pro-poor pattern of growth and success in reducing the antecedent inequalities that limit the prospects for poor people to share in the opportunities unleashed by a growth economy.

[24] The dimensions along which this productivity divide are manifested—rural vs. urban, traditional vs. modern agriculture, agriculture vs. industry, etc.—will naturally vary from context to context, even within a country. And which dimensions are most relevant will clearly matter for thinking about policy. The larger point, however, is that there is some axis along which the dualism is manifested.

[25] On the definition of "pro-poor growth" and alternatives see Ravallion (2004).

Learning from the Past: Avoiding False Tradeoffs

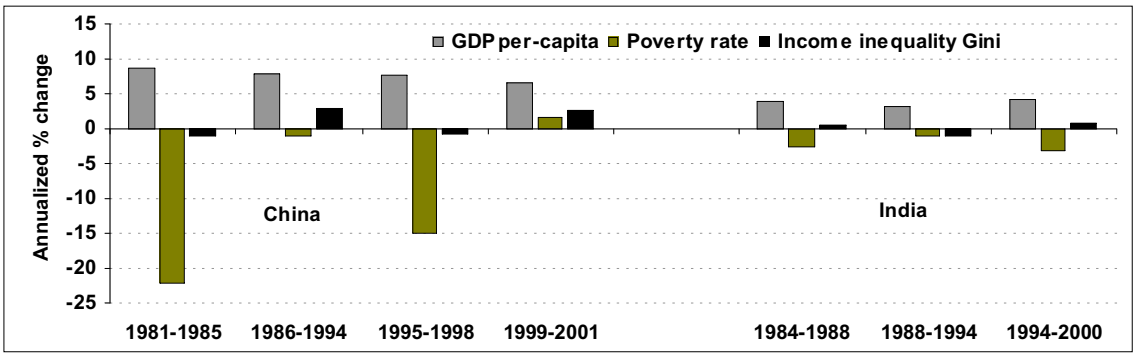
The experience of China and India over the last quarter century offers important lessons regarding the broad policy directions that are necessary and possible. The first is that the idea of an aggregate tradeoff between growth and equity is often, though not always, a false one. As we have argued above, the trade off exists for certain inequalities but not others. The right combination of policies can yield win-win-win combinations of growth, reduction in poverty and declining (or at least non-increasing) inequality.

Testing for the existence of an aggregate growth-equity trade off poses a number of analytic problems. In the case of China, it is at least suggestive that on comparing growth rates with changes in inequality over time one finds no sign that higher inequality has been the price of China's high growth. The correlation between the growth rate of GDP and log difference in the Gini index is only –0.05; the regression coefficient has a t-ratio of only 0.22. This test does not suggest that higher growth per se meant a steeper rise in inequality. While the level of inequality rose at the same time that average income rose, this reflects their common time trends rather than genuine co-movement. The periods of more rapid growth did not bring more rapid increases in inequality; indeed, the periods of *falling* inequality (1981–85 and 1995–98) had the highest growth in average household income (figure 6.8). Also, the sub-periods of highest growth in the primary sector (1983–84, 1987–88 and 1994–96) did not come with lower growth in other sectors (Ravallion and Chen, 2006). Nor does one find that the provinces with more rapid rural income growth experienced a steeper increase in inequality; if anything it was the opposite.

The sources of higher primary sector growth rates in China were probably very different between the early 1980s and the mid 1990s. In the former period, agricultural growth was stimulated (in large part we expect) by the much-enhanced incentives for production achieved by the introduction of the household-responsibility system (as discussed above), whereby farmers became the residual claimants on farm output.[26] In the second period (the mid-1990s) the higher agricultural incomes appear to have come from a substantial reduction in implicit taxation of the sector. From the early 1980s to the mid-1990s, the government has operated a domestic food grain procurement policy by which farmers are obliged to sell fixed quotas to the government at prices that are typically below the local market price (but were left free to sell the remainder at market prices). For some farmers this was an infra-marginal tax, given that they produce more food grains than their assigned quota, but for others it will affect production decisions at the margin; Ravallion and Chen (2006) provide evidence that the reduction in this implicit tax brought substantial income gains to the rural economy and especially to the poor.

[26] The literature has pointed to the importance of the reform to this system in stimulating rural economic growth at the early stages of China's transition (Fan, 1991; Lin, 1992).

Figure 6.8 There Have Been Periods with Win-Win-Win Combinations of Growth, Poverty Reduction, and Decreases in Inequality



Source: Authors' calculations.

Helping the Rural Poor Connect to Markets

Attenuating the rise in inequality and assuring more rapid poverty reduction will require higher rates of agricultural growth in the lagging rural areas of both countries and this will require improved access to markets. The share of agriculture in GDP is bound to decline in both countries, but how quickly this happens will crucial to the distributional outcomes.

Rural infrastructure should have a high priority in both countries. China started its reform period with very poor rural infrastructure. Fiscal and borrowing constraints meant that it was some 10 years before it was feasible to embark on a massive expansion of infrastructure, such as the roads program that started around 1990. The differences in rural infrastructure across counties have strong explanatory power for subsequent consumption growth at the farm-household level in rural China (Jalan and Ravallion, 2002). Quite reasonable rates of return are possible from well-designed programs for developing infrastructure in poor rural areas (Ravallion and Chen, 2005b).

In India, the poor quality of rural infrastructure is widely acknowledged as an impediment to growth and poverty reduction. It is believed that there are high returns in terms of achieving more equitable growth from better rural finance and infrastructure in India, although this is not simply a matter of building facilities but raises deeper issues about the need for reforming existing institutional arrangements and provider incentives (World Bank, 2006).

A recurrent policy question is the choice between investing in poor-area development and facilitating out-migration. Posing the choice this way almost certainly over-simplifies the problem. Migration to urban areas is likely to be pro-poor in both countries. However, out-migration will often not be feasible for poor rural households without the right sort of investments in poor areas, both in human resource development and agriculture, in the latter case to assure that household living standards are secure at the origin (recognizing that it will rarely be the case that a whole household migrates). That security will also require legal reforms to allow a market in land-use rights in rural China, giving farmers titles over land-use rights that they can sell, mortgage or pass onto their children. China has resisted embarking on agricultural land market reform. Neighboring Vietnam did take this step in the 1990s, and the available evidence suggests that, on balance, this reform has helped in reducing poverty (Ravallion and van de Walle, 2006).

There is a potentially important role for public spending in fighting poverty and attenuating inequality, but much depends on fiscal resource mobilization and exactly how that spending is

done. The time series evidence suggests that public spending by provincial and local governments in China has helped reduce poverty but not inequality; central government spending (by contrast) has had no evident effect on either poverty or inequality (Ravallion and Chen, 2006). In identifying spending priorities, we would suggest that the starting point should be to recognize that it is typically the poor rather than the rich who are locked out of profitable opportunities for self-advancement by the failures of markets and governments; interventions that make these institutions work better for poor people today can also help promote pro-poor growth in the future. Successful policies can focus on either correcting the underlying market and governmental failures or on directly intervening to redress the asset inequalities, by fostering accumulation of (physical and human) assets by poor people. There are policies that can help redress inequalities *within* places and sectors, and these can be perfectly consistent with sustained growth and poverty reduction. In both China and India, priority should be given to sound public investments in rural infrastructure, better policies for delivering quality health and education services to poor people, and policies that allow key product and factor markets (for land, labor and credit) to work better from the point of view of poor people.

Removing biases against the poor in taxation, spending and regulatory (including migration) policies can also play an important role. As we have noted, reducing the government's implicit taxation of farmers through food grain procurement quotas has been a powerful instrument against poverty in China. From this point of view, China's recent policy to give tax breaks to farmers in poor regions is surely welcome, although without alternative revenue sources in poor areas one can expect either a decline in the local public investments and services needed for poverty reduction, or further poorly-compensated expropriations of farm-land by local authorities aiming to profit by selling the land to non-farm activities. Improving local-level fiscal resources must be a high priority for assuring more equitable future growth.

Recent Initiatives

Policy makers and political leaders in both countries are clearly trying to find ways to help the rural poor connect to the process of growth. In China, the reduction and progressive elimination of agricultural taxes and fees and the limited introduction of subsidies for primary education in poor counties during the latter half of the 10th Five-Year Plan were early indications of a significant shift in the government's priorities towards a greater emphasis on improving welfare in the countryside.[27] A key component of the plan is a package of measures aimed at what the leadership has termed, "building a new socialist countryside."[28] The package calls for a systemic elimination of all agricultural taxes. But the elimination of agricultural taxes and fees raises new concerns. As we have noted, for many rural local governments, particularly in interior provinces and in poorer areas, these taxes and fees have been the main source of revenues from which to finance local public services, notably health and education. Not only does this potentially jeopardize access to and the quality of health and education services, given the huge disparities in the revenue bases of local governments, there are also implications for consumption poverty. China has been relatively unique in the high savings rates found among the poor. The number of

[27] First announced at the meeting of the Central Party Committee of the Chinese Communist Party in October 2005, the reorientation in policy has been written in to the 11th Five Year Plan formally adopted by the National People's Congress in its 2006 annual session.

[28] According to the budget tabled at the National Peoples Congress, the Chinese government plans to spend 340 billion yuan (US$42 billion) in agriculture, rural areas and farmers in 2006, which is 14 percent more than the previous year, and represents 22 percent of the increase in government spending from last year.

consumption poor—that is, those whose consumption levels are below the poverty line—has tended to be much greater than the number of income poor (by the same poverty line).[29] While a complete and detailed analysis of this question is yet to be done, common sense and conventional wisdom suggest that (apart from any intrinsic cultural proclivities for thrift) precautionary saving for uninsured health (and other) shocks, savings to finance educational costs, and life-cycle savings to fund old-age living expenses all play an important role in explaining why China's poor save so much.

The government appears to be well-aware of this concern, and a large part of the increased spending under the "building a new socialist countryside " initiative is to be directed towards education and health services in the countryside. Among the initiatives mentioned are plans to provide several billion Yuan in supplementary funding for tens of millions of poor primary and junior middle school students and to offer free nine-year compulsory education to rural students. The central government also plans to double its subsidies for farmers if they join a state-backed medical cooperative fund designed to reduce the financial burdens of farmers. Other elements of the plan include increased subsidy payments for farmers and further government investment in rural public works.

The "Minimum Livelihood Guarantee Scheme," popularly known as *Dibao,* has been the government's main response to the new challenges of social protection in the more market-based economy. This aims to guarantee a minimum income in urban areas, by filling the gap between actual income and a "*Dibao* line" set locally. While in theory this would eliminate *Dibao* poverty, the practice appears to fall well short of that goal due largely to imperfect coverage of the target group (Chen et al., 2006). Reforming the program and expanding coverage—including to (risk-prone) rural areas—pose a number of challenges.

If indeed these plans are implemented effectively and targeted to poorer areas and poorer households in rural China, the prospects for poverty reduction, especially reduction in the number of consumption poor, during the 11th Five-Year Plan look promising.

There have also been a number of new initiatives in India. The Rural Employment Guarantee Act of 2005 guarantees 100 days of work a year at the minimum agricultural wage rate to at least one member of every family. This is expected to have a large impact of rural poverty, although it is far from obvious that the scheme is the most cost-effective option for this purpose, once one considers all of the costs involved, including the forgone incomes of program participants (Murgai and Ravallion, 2005). The government's 2006-2007 budget also calls for substantially increased spending on rural infrastructure, job creation, health and education. New programs include *Bharat Nirman* (Building India) project to provide electricity, all-weather road connectivity and safe drinking water to all of India's villages and *Sarva Siksha Abhiyan,* which aims to assure a minimum standard of elementary education. These programs are not explicitly targeted to poor areas, but in all likelihood that will be the outcome given that villages lacking these services and facilities will tend to be poor.

[29] For instance, in 2001, the number of consumption poor, at 183 million, was slightly more than double the number of income poor, which stood at 90 million. And while the decline in consumption poverty over the last five years has been more pronounced than the decline in income poverty, the number of consumption poor in 2005 is still estimated to be almost double that the number of income-poor.

Conclusions

Aggregate economic growth is rarely balanced across regions or sectors of a developing economy, and neither China nor India is an exception. We have seen that the post-reform pattern of growth has not been particularly pro-poor in either country. In China, growth in the primary sector (primarily agriculture) did more to reduce poverty and inequality than growth in either the secondary or tertiary sectors. In India, with higher initial inequality in access to land than China, agricultural growth was less important than tertiary sector growth. In both countries, there has been a marked geographic unevenness in the growth process, with numerous lagging regions, including some of those that started off among the poorest.

Income inequality is rising, although India has not yet experienced the same trend increase in inequality that China has seen. Poverty in both countries is not becoming any more responsive to aggregate economic growth and is becoming more responsive to rising inequality. India's poor did not start the reform period with the same advantages as China's poor, in terms of access to land and education. Persistent inequalities in human resource development and access to essential infrastructure within both countries, but probably more so in India, are clearly impeding the prospects for poor people to share in the aggregate economic gains spurred by reforms. The geographic dimensions of their inequalities and the associated disparities in fiscal resources and governmental capabilities loom large as policy concerns for the future in both countries.

In the future, it will be harder for either country to maintain its past rate of progress against poverty without addressing the problem of high and rising inequality. However, it is not particularly useful to talk about "inequality" as a homogeneous entity in this context. Policy needs to focus on the specific dimensions of inequality that create or preserve unequal opportunities for participating in the gains from future economic growth. Arguably both countries are seeing a rise in these bad inequalities over time as the good inequalities (conducive to efficient growth) turn into bad ones, and the bad inequalities drive out the good ones.

While both countries need to be concerned about the "bad inequalities" we have pointed to, we suspect that it is China where the near-term risk that rising inequality will jeopardize growth is greater. Arguably, the Chinese authorities have been able to compensate for rising inequality by achieving high growth rates; by this view, it is the rising inequality that fuels growth in China, through the political economy of maintaining "social stability." The "catch 22" is that the emerging bad inequalities in China will make it harder to promote the growth that will be needed to compensate for those inequalities. Maintaining sufficient growth will require even greater efficacy of the policy levers used to promote growth.

Whether or not the problem of rising inequality is successfully addressed, there are likely to be implications for the rest of the world. If the problem is not addressed, then there is a risk that the high growth rates will become much harder to maintain, with spillover effects for trade and growth elsewhere. If they are addressed, and depending on exactly how this is done, there may be some short-term costs to growth, although (as we have argued) redressing the bad inequalities would actually be good for growth. There may also be consequences for the pattern of trade, such as through a change in the sectoral composition of growth; for example, in both countries there appears to be potential for cash crop expansion, which would attenuate one important source of concern about rising inequality, and it can be expected that a non-negligible share of this expansion in domestic cash-crop output would be exported.

The new initiatives underway in both countries are probably steps in the right direction, although continuous evaluative research will be needed on the efficacy of these approaches relative to alternatives. There are important but poorly resolved issues concerning the appropriate balance between types of interventions. But an even harder challenge remains, namely to improve

governance—capacity, accountability and responsiveness—notably (but not only) at the local level. If this challenge is left unmet, the ultimate efficacy of any of these initiatives will be questionable.

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