22 Synthesis: Lessons and Challenges

SHENGGEN FAN, ASHOK GULATI,
AND SARA DALAFI

China and India have achieved enormous successes in promoting their economic growth for the past two decades. The rapid rise of these, the two most populous countries in the world, has led to the sudden increase of total world wealth in a short period of time. This rise has no precedent in history. However, there is still a large gap between these two countries and more developed countries of the world in terms of many development indicators. Their per capita income, even measured in terms of more comparable measures such as purchasing power parity, is still a small fraction of that of many advanced countries. Their social development indicators, such as literacy rate, infant mortality rate, access to safe and clean drinking water, access to social services, and many environmental indicators lag far behind the world average. Both countries still have a long way to go to reduce the number of their poor—a total of 300 million.

Therefore, continued rapid economic growth is needed to further improve the social development indicators of China and India and to reduce the poverty in those countries. But such growth is also necessary for their stability, because their citizens are expecting continued high rates of growth regardless of their different political and economic systems. If their high growth rates cannot be maintained, social unrest or even breakdown of the existing social, political, and economic systems will inevitably occur. Both countries are also facing gigantic challenges in maintaining their current growth rates and in the meantime improving their various development indicators.

Continuing on the path of reform, both China and India have to learn from their own failures and successes as well as the other's. To this end, both need to set their economies firmly on the path of faster yet more efficient, equitable, and sustainable growth. Here we summarize the main lessons that have emerged from the review of the reforms made so far from various chapters of this book and underline the key challenges in the way of further change. The first section provides a synthesis of the lessons learned, and the second presents a review of the major challenges that lie ahead. Finally we offer some brief concluding remarks.

Lessons Learned

Here we discuss the factors that provide the similarities as well as the disparities between the reform experiences of China and India. Such an analysis yields some common lessons from the reform measures adopted so far, including those that are still works in progress.

To Reduce Poverty Faster, Begin with Agriculture Reforms

From the trend in the growth rates of agriculture and the incidence of poverty in the pre- and postreform periods in China, it is clear that the acceleration in agricultural growth during 1978–2002 (4.6 percent a year as opposed to 2.5 percent a year over 1966–77) was the primary factor influencing the sharp drop in the number of poor in that country, from 33 percent of the population in 1978 to 3 percent in 2001 (NBS 2002). The better part of this decline occurred in the first reform phase, 1978–84, when agricultural GDP jumped to 7.1 percent a year and rural poverty dropped from 33 percent to 15 percent (NBS 2002). In India, the most rapid poverty reduction occurred from the late 1960s to the late 1980s. This was the period of the so-called green revolution, and the rate of agricultural growth was high due to the use of modern technologies and the strong policy support given to agriculture. In contrast to the situation in China, agriculture was *not* a major factor behind poverty reduction in India during the era of reforms. In fact, farm growth fluctuated and remained around the same levels as in the 1980s, if not marginally lower. From 1991 to 2003, agricultural GDP grew at a rate of 2.7 percent a year compared to 2.9 percent a year between 1980 and 1990 (India, CSO, 2004). Agricultural growth did rise immediately after reforms began in 1991, at a rate 4.1 percent a year, and continued until 1997 before dipping again to 2 percent. However, this higher growth rate for six years did not have a noticeable impact on rural poverty, which reduced only slightly, from 37.4 percent in 1990–91 to 35.7 percent in 1997.[1] That is partly because agriculture growth was induced in India not by reforms that directly affect the farm sector, but primarily by interventions outside agriculture, including currency depreciation and reduction of protection in industry, leading to an improvement of the terms of trade for agriculture.

By making agriculture, the sector that gave the majority of the people their livelihood, the starting point of market-oriented reforms, China could ensure the widespread distribution of gains and build consensus and political support for the continuation of reforms. Reform of incentives resulted in greater returns to the farmers and in more efficient resource allocation, which in turn strengthened the domestic production base and made it more competitive. Besides, prosperity in agriculture favored the development of a dynamic rural nonfarm

1. The first data are from the 46th National Sample Survey (NSS) round, July 1990–June 1991, and the second from the 53rd NSS round, January–December 1997 (IFPRI 2004).

(RNF) sector, which is regarded as one of the main reasons for the rapid poverty reduction in China because it provided additional sources of income outside farming (Fan, Zhang, and Zhang 2002). The rapid development of the RNF sector also encouraged the government to expand the scope of policy changes and put pressure on the urban economy to reform as well, because nonfarm enterprises in rural areas had become more competitive than the state-owned enterprises (SOEs). Reforms of the SOEs in turn triggered macroeconomic reforms, opening up the economy further.

The comfortable domestic food supply achieved through the various incentive reforms ensured a critical level of grain production before liberalization could begin and allowed Chinese policymakers to abandon the old agricultural policy framework geared toward self-sufficiency in foodgrains (Vyas and Ke 2004). The procurement system was dismantled everywhere except for the main grain-producing regions, and the food rationing system was abolished in the early 1990s. As a result, private agricultural trade is now flourishing.

In India, reforms were actually prompted by macro imbalances and thus started with macroeconomic and nonagricultural reforms. These led to impressive rates of economic growth in the 1990s, but, because they were limited to the nonagricultural sectors, did not have as significant an impact on poverty as in China. Policy changes related to agriculture were carried out much later, and even then were only partial. India continues state food procurement and distribution, mainly because these are seen as forms of affirmative action for over two-thirds of the population, including the poorest, who are dependent on agriculture and the rural economy for their livelihood.

Make Reforms Gradually and Carefully

The Chinese policymakers first created the incentives and institutions required by the market economy and then, in the mid-1980s, they began to slowly open up markets (Chapter 11) by withdrawing central planning and reducing the scope of procurement while expanding the role of private trade and markets. Studies show that the impact on growth of incentive reforms of land use rights, agricultural production management through the Household Responsibility System, and rising procurement prices during 1978–84 was larger than that of the market liberalization reforms made after 1984 (Lin 1992; Fan, Zhang, and Zhang 2004). Ke (Chapter 11) felt this was because incentive reforms in China aided the gradual emergence of markets, which kept at bay the negative effects of the sudden collapse of the old central planning system in the absence of market-based allocative mechanisms, as experienced in other transitional countries.

It is not that the Chinese policymakers had planned this sequence meticulously; rather, it evolved out of a "trial-and-error" approach to implementing reforms. The adoption of new measures through experimentation rather than a predetermined blueprint increased the likelihood of the success of reforms, because it implied a "learning-by-doing" approach or, in the words of Deng

Xiaoping, one of "crossing the river while feeling the rocks" (Chow 2002). This was peculiar to the Chinese reform process, in which the government made sure that each new policy was field-tested at length and determined to be successful in selected experimental districts before it could be applied nationwide and the next measure introduced (Chen, Wang, and Davis 1999).

In the case of India, agricultural trade reforms were a point of departure in agricultural policy. It can be argued that this sequence was a natural choice for India because it had a much larger scope for the role of markets than China. But, as has been pointed out in earlier chapters, the incentive structure of Indian agriculture was highly distorted at the outset of reforms; the sector was, and still is, burdened with excessive regulations on private trading and most market activities. There is an enormous potential for growth only if these constraints are removed.

In India, the liberalization of agricultural trade policies created a series of imbalances by preceding incentive and market reforms in the domestic arena. Lowered protection against a backdrop of low international prices increased imports, although in the case of wheat there was already excess supply from domestic production induced by a high MSP. While broad-based economic and trade reforms resulted in the new export orientation of the sector and improved the incentive framework of agriculture, they also left the sector more exposed to international competition because of persisting constraints to productivity improvement in the domestic front.[2] As a result, India is now focusing on marketing reforms and the removal of regulatory constraints, at least in some of the states.

Initial Conditions Matter

In 1970 the likelihood that an Indian child would die before age five was twice that for a Chinese child. Life expectancy was 49 years in India against China's 62 years, and 70 percent of India's rural population was illiterate as opposed to 49 percent of China's (WDI 2003). One important reason for China's edge over India in health and education was the collective system, whereby the government provided these basic amenities free. In China, rural electrification had made headway in the prereform years; rural electricity consumption grew at a rate of 27 percent a year over 1953–80 as opposed to 10 percent a year over 1980–90, and government investment in power grew at a rate of 27 percent a year during 1953–78 (Fan, Zhang, and Zhang 2002). Egalitarian access to land was ensured by the land distribution and tenure system, which also performed a crucial welfare function by limiting the number of the landless, providing the bulk of the rural population with subsistence, and helping to widely distribute

2. See Elbehri, Hertel, and Martin (2003) for a case study on the impacts of trade liberalization in the cotton sector.

the benefits of agricultural price and market reform. The resultant improvements in efficiency and productivity were major triggers to poverty reduction in China.

In India, on the other hand, land reforms to make the agrarian structure more equitable were not as successful and left a relatively larger number of landless agricultural laborers exposed to the harsh impact of unemployment and underemployment. In the power sector, too, although public investments were substantial, an annual growth rate of 12 percent during 1981–90 (Fan, Thorat, and Rao 2004) was not as high as in China, and thus rural electrification and even the establishment of telecommunications connections proceeded more slowly in the Indian villages. This slow pace severely affected the growth of agroprocessing and cold storage in India's rural nonfarm sector. The levels of processing remain abysmal even now, with over 80 percent of fruit and vegetables produced going to waste, and the government is currently designing policies to encourage this sector.

Thus, the relatively more favorable initial conditions in China help explain why, despite the private and economic restrictions imposed on the Chinese rural population, the country could achieve sustained growth even before reform (NBS 2003).[3] However, China could not fully realize the benefits of the physical and social infrastructure available in the prereform period because of lack of incentives under the commune system. Once economic reforms were introduced, they released the latent energy in the system, resulting in a very high rate of growth and a rapid reduction in poverty after the 1970s (Rao 2003).

Both countries recorded a slowdown in meeting their health and education goals after reforms began (Rao 2003). In India this was primarily due to the fiscal disciplines imposed by the macroeconomic crisis, while market-oriented reforms in China introduced the concept of profit in the management of social services. In China this implied a progressive privatization of supply agencies, a decline in government subsidies, and an increase in education and health costs, which caused more school dropouts and rising health vulnerability (Rao 2003). In devising mechanisms to address the risks involved in increased privatization of social services, China could perhaps learn from India's long experience of a vast system of government safety nets and welfare programs for the rural population.

With regard to land, both countries have high population-land ratios, but distribution is less skewed in China than in India, and landlessness is virtually absent. As in the case of education and health, in China equal access to land was a product of the egalitarianism inherent in the collective era, which played a vital role in minimizing risks and ensuring the availability of means of minimum subsistence. In India, replication of the Chinese agrarian system is not politically

3. Between 1952 and 1977, Chinese agricultural GDP increased at a rate of about 2.3 percent a year.

feasible, so marginal and landless farmers will require a strong social protection system provided through well-targeted social security and employment policies (Srivastava and Yao 2004). Effective social protection measures will also be required in China, where land distribution is likely to become skewed and more concentrated following the adoption of the new agricultural lease law, which enables farmers to transfer lease rights.

Both China and India—especially China—are characterized by the predominance of small farms (smaller than 2 ha), which has implications for rural employment (Srivastava and Yao 2004). China's experience shows that small farms support more intensive use of family labor resources, while in India owners of holdings larger than 2 ha, who account for less than 20 percent of total landholdings but over 60 percent of cultivated area, often lack the incentive to practice labor-intensive cultivation (Srivastava and Yao 2004). Therefore, reforms are required to optimize land use and eliminate distortions such as the concealed tenancy in Indian land markets. Land leasing is restricted in India, affecting private investment as well as the scope for consolidation of smallholdings into larger and more efficient operational holdings (Landes and Gulati 2003). However, given the high population-land ratio, India's approach to deregulation is naturally cautious, allowing a minimum set of safeguards (for example, liberalizing leasing within ceilings) to prevent absentee landlordism and an increase in landlessness (Chapter 4; Haque and Sirohi 1986).

Focus on Public Investments, Technology, and Irrigation

In China, the correlation between the initial conditions and postreform achievements in poverty reduction and growth makes a convincing case for stepping up government investments in rural infrastructure and social services. In India, on the other hand, the decline in rural public investment as a result of fiscal profligacy and rising subsidies on fertilizers, power, water, and price support is regarded as a primary cause of slower growth after 1997. Because both these countries have budget pressures and are unlikely to be able to increase public investments significantly, they would just have to invest the available resources more efficiently. Returns to public investments vary drastically across different types of investment and regions even within the same country. This implies a great potential for achieving more growth and less poverty even with the same amount of investment, assuming public resources can be allocated optimally on the basis of reliable information on the marginal returns of different types of government spending. Studies have found that spending on agricultural research, education, and rural roads is the most effective for promoting agricultural growth and poverty reduction (Chapter 6; Fan, Hazell, and Thorat 1999).

Then again, both countries will find it tough to expand their cultivable land and water resources, so yield-based farm growth will become important and will call for increased agricultural research and technology development. Agricultural research and development (R&D) takes place in both the public and the

private sectors, but managing public versus private R&D can be tricky. China promoted the development of the public business sector through the commercialization of technologies by public research institutes (Chapter 7), but this often led to duplication of research and overlap of efforts with SOEs. The Chinese experience can provide valuable lessons in this sector for other countries in transition.

The improved intellectual property rights (IPR) regime under the World Trade Organization (WTO) stimulated private research and patenting activity in both countries (Chapter 7; Pal 2004). However, weak implementation of IPR in the two countries and the high costs of maintaining patents in China are obstacles to the entry of private players. The Chinese experience also shows that protection of plant varieties can help improve resource generation by the poorer public research institutes, because the number of IPR applications filed was effectively higher for resource-poor institutions than for better-funded national institutes. In terms of increasing the scope for private research, India's case indicates that the IPR regime is more effective if complemented by favorable policies in the areas of tax, investment, and input imports (Pal 2004).

Private agricultural R&D provides both opportunities and challenges. Significant opportunities can arise for public-private partnerships in the areas of funding, research, and extension (Pal 2004). However, policymakers need to be aware that the private sector tends to privilege higher-value crops and concentrate on areas where agriculture is already advanced (Pal 2004). Given agriculture R&D's potential to reduce poverty in marginal regions, public research spending should target poorer farmers in less favored environments such as India's semiarid tropics and rain-fed areas and China's poor western regions.

In the water sector of each country, government spending in irrigation effectively promoted growth and poverty reduction, but the marginal returns of such spending have decreased over time (Chapter 6). Indeed, studies have shown that investments in rain-fed areas have had high marginal returns for agricultural growth and poverty reduction (Chapter 6; Fan, Hazell, and Thorat 1999). Major investments in harvesting rainwater by means of watersheds, through public-private partnerships, may help usher in a "multicolored revolution" (not just a "green" one) in agriculture (Chapter 9).

In both countries, water use efficiency can be vastly improved through institutional and management reforms of existing water systems. India's experience with water users' associations (WUAs) in some states, participatory watershed schemes, and community-based rain harvesting can provide a good learning experience (Chapter 9; Rao 2002). The transfer of the management of these systems to user groups was more successful in India, although the coverage of irrigated areas by these user associations remains low in India compared to other Southeast Asian countries (Rao 2002). Insufficient administrative and political will to devolve management powers to the local WUAs and inadequate infrastructure for building capacity inhibited the involvement of farmers in India (Rao 2000). On the other hand, the Chinese experience shows that reforms

aimed at giving incentives to irrigation system managers to improve use efficiency had a positive effect on crop yields, groundwater tables, and cereal production (Wang et al. 2003). The question is whether the strategy of transforming water bureaucrats into managers is possible in India.

Providing the right incentives to farmers is crucial to promoting water saving. Low water prices and profligate power subsidies for operating tubewells have encouraged wasteful use of water and depletion of groundwater resources. Ambiguous water use rights following decollectivization in China and laws linking water rights to land ownership in India also led to inefficiencies (Chapter 9). These included the emergence over time of unfair water markets where rich landholders with modern water extraction technology profited from selling water to poorer cultivators (Chapter 9).

Increasing water use charges may not be feasible in the short to medium term without changes in the institutional set-up. In India, irrigation is affected by realpolitik in that free electricity for pumping water is offered for political rent-seeking. In both countries, given the booming numbers of private tubewell owners and the weak institutions and infrastructure that make monitoring of water withdrawals and revenue collection difficult,[4] the impact of reforms such as withdrawal permit systems and volumetric charging can only be limited (Wang, Huang, and Rozelle 2003; Shah, Scott, and Buechler 2004). Improved crop yields can also lead to more efficient use of scarce water resources in agriculture. For that, inputs other than water, such as credit and agricultural research on water-saving and yield-improving technologies, need to be deployed (Chapter 10). This is particularly true in India, where both irrigated and rain-fed crop yields are lower than those in China (Chapter 10). In both countries, this may also call for trade and price policies favorable to high-value, less water-intensive crops. In India, technological innovations to improve yields seem more feasible in the short and medium terms than management reforms for improving water use efficiency, given the political and institutional constraints (Rao 2002).

Reform Incentives before Opening Markets and Trade

China's experience with marketing reforms holds valuable lessons for other transitional economies. Farm support policies lose their rationale when there is an oversupply of food and agricultural trade is free and open. India's minimum price supports (MSPs) and input subsidies were intended to encourage the adoption of new technologies and fuel growth, but they turned into inefficient and costly income-support interventions encouraging the buildup of vested interests because they were not abolished after their aim was realized. China could learn from this experience and seek to encourage agricultural growth in the fu-

4. There were nearly 20 million private tubewell owners in India as of 2003 and 3.5 million in China as of 1997.

ture yet avoid the large, inefficient Indian subsidies. This issue is important because India has recently introduced a costly direct transfer program for rural areas and also because late, increasing government support to agriculture and rural areas is finding many takers among scholars and government officials alike.

Despite limited reforms in agricultural marketing in India, the impact of policy changes has slowed down because state governments are reluctant to implement them (Landes and Gulati 2003). In addition, a host of outdated domestic regulations, such as those of the Agricultural Produce Marketing Committee, regulation of agricultural produce market sales, restrictive land laws, and license requirements for food processing units, continue to weaken the environment for agribusiness and private sector involvement in agricultural marketing, which could boost employment and efficiency (Landes and Gulati 2003). Against the backdrop of increasing, diversified food demand and the opening up of agricultural trade, legal and regulatory reform remains critical given its capacity to directly impact the sector adjusting to the changing environment. Given that smallholder agriculture is predominant in both countries, farmers could be excessively penalized because they do not possess sufficient capital and information to manage the risks inherent in agricultural activities (Chapter 12). While China and India are reconsidering the current forms of agricultural and input subsidies, they should also put in place well-targeted and innovative cost-effective crop insurance policies to protect farmers vulnerable to drastic supply and price shocks. Such shocks can only intensify as trade policies are further liberalized. In India, the abolition of restrictions on trading on the futures markets in major agricultural commodities is a step in this direction.

One other important area for reform is the strengthening of the network of support services to small farmers related to information, credit, and extension (Chapter 12). India is ahead of China in these areas, especially in the institutional infrastructure of rural credit and marketing. The Indian experience shows that smallholder agriculture needs strong institutional support in these areas to grow and prosper (Vyas and Ke 2004).

With regard to broad trade liberalization, both countries made progress in reducing protection levels. Still, India's weighted average tariff, at 29 percent, is double that of China, at 16 percent (Ahluwalia 2002). India was able to sustain its current growth rate with lower inflows of foreign direct investment (FDI) and relatively less export orientation than in China. But if it is to attain the target of 8 percent GDP growth (Ahluwalia 2002), it needs to further reform the FDI climate in view of its potential to transfer know-how, managerial skills, and new technologies. China can offer valuable lessons in this area.

The inevitable restructuring and adjustments involved in opening up agricultural trade flows will produce both winners and losers. Domestic producers of crops in which each country lacks comparative advantage (for example, edible oils in the case of India and wheat and maize for China) are likely to suffer increasingly from the falling prices resulting from higher levels of imports

(Chapter 13). They will also be negatively affected when pressure is placed on the governments to reduce their support for inefficient national producers. Broad-based structural adjustments in the economy may depress rural incomes, increase opportunities in manufacturing as well as services primarily located in urban areas, and widen rural-urban inequality. These intersectoral adjustments will progressively shrink the size of the primary sector, which will release additional unskilled labor into the labor markets.

The rural population in each country will gain if it is able to shift to more profitable off-farm occupations (Chapter 15). Here, investment in rural education can help farmers move out of traditional occupations. It will also be important to increase investments in rural R&D and infrastructure to enhance productivity. These investments fall under the WTO "green box" and are therefore exempted from reduction commitments, although their positive impact will be realized over the longer run. On the positive side, WTO membership can provide the much-needed external pressure to improve efficiency and implement reforms in tradable inputs such as seeds, fertilizers, farm machinery, and pesticides, where markets are inefficient due to either government intervention or lack of infrastructure. It can also highlight the facilitating role of the government in the provision of services such as providing information and technical assistance, making marketing facilities available, and establishing standards and quality control regulations. Finally, WTO membership also offers the two countries an opportunity to join hands and create a third force of countries besides the giant European Union and the United States in negotiations within the framework of the Uruguay Round Agreement on Agriculture.

Promote Rural Diversification and Vertical Integration

A major shift in farm production toward nonfoodgrain products such as livestock, fishery, and horticulture products has been well under way in China and India since the 1980s. In China, achievement of food self-sufficiency and the extraordinary growth in basic grain production by the late 1970s immensely helped diversification. This is because food surpluses provided the government with enough leeway to feed the increasing population and relax controls on the foodgrain sector (Vyas and Ke 2004). China gradually abandoned the policies biased in favor of rice and wheat, such as the food rationing system for urban areas and the mandatory levy quotas, which encouraged farmers to diversify production. Developing countries affected by chronic food shortages can learn from this experience. In contrast, steadily growing MSPs in India artificially increased the production of major cereals, discouraging diversification toward nongrain commodities (Zhong and Joshi 2004).

A comparison of the shares of government expenditure to the pace of growth in output in different agricultural subsectors of the two countries indicates that despite high rates of growth, some high-value products (such as livestock and horticulture products) are underfunded relative to traditional food

crops (Pal 2004). Policymakers must encourage higher levels of investment in research to boost yields and expand cultivation given the export potential of these crops, the positive impact on smallholders, and growing domestic demand.

Postreform, rising per capita income, influencing food consumption patterns, has been a major driver of diversification into nonfood crops. Without vertical integration between production, processing, and marketing—that is, between "plate and plough"—the potential for growth inherent in the diversification process may remain underexploited (Chapter 18). Vertical integration reduces risks by providing assured markets, cuts transactions costs, and helps improve quality standards and food safety. In both countries, new and innovative institutional arrangements have emerged, promoting the development of new products, and these need to be strengthened. India's successful experiments with contract farming, which helped cut risk, promote the production and export of high-value foods, and raise the income and level of employment of smallholders, can be valuable for China. On the other hand, the experience of growth in the retail food chains and supermarkets in China in recent years could benefit India, where restrictions on FDI and infrastructure bottlenecks are limiting progress (Zhong and Joshi 2004).

In smallholder-dominated farming, diversification has important implications for poverty reduction. Not only is the labor-intensive nature of the production of high-value products well suited to the small farm economy, but there is also great potential for employment creation in agroprocessing and retail chains. Strengthening vertical integration through innovative institutional arrangements without tackling the other major obstacles faced by small farmers would not be effective in reducing poverty. In fact, India's case shows how institutional deficiencies such as weak enforcement of contracts and the high transaction costs faced by small cultivators often prompt agrofirms to deal directly with large farmers (Srivastava and Yao 2004).

Acceleration of diversification in favor of small farmers is also hindered by lack of access to markets, technology, and information; poor rural infrastructure; and inadequate marketing facilities. Future reforms need to address these issues through increased investments in basic rural infrastructure and marketing facilities such as cold storage chains. Finally, small cultivators often lack sufficient marketable surplus. Nor can they raise production at will due to their lack of access to technology and financial services. Well-targeted government support services are needed in credit markets and extension services designed specifically for smallholders.

Looking away from crops, as the Chinese experience has amply demonstrated, the evolution of a dynamic rural nonfarm sector offers great potential for rural diversification. Rapid growth of rural enterprises in China is one of the most striking differentiators between the reform processes of the two countries, especially because township and village enterprises (TVEs) provided increasing numbers of jobs outside agriculture by diversifying and expanding the sources

of household income. Agricultural growth and favorable demand conditions were critical to the development of the RNF sector in China because, after 1978, reforms triggered a surge in demand from prospering rural areas for TVE products (Bhalla, Chadha, and Zhang 2004). TVEs also benefited from the close connection with dynamic urban markets established since the early stages of their development (Bhalla, Chadha, and Zhang 2004). The connection with urban markets brought TVEs in competition with SOEs and stimulated the latter to increase their productivity and unit scale (ILO 1998).[5] In India, however, farm output growth rates decelerated, dampening demand as well as farm and nonfarm employment.

India's nonfarm economy produces low-profit services of the informal sector primarily for the rural markets and is dominated by tiny own-account family-operated units. These are characterized by low productivity brought about by their poor technological base and by policies aimed at protecting rural employment by reserving certain activities for small units (Chapter 16). The limited growth of RNF job opportunities is also related to the poorly educated rural labor force (Chapter 16). This is a challenge that will increasingly confront both China and India as they adjust to greater market and trade liberalization leading to economic restructuring and the replacement of traditional and low-productivity jobs by new and more productive occupations requiring more educated laborers. Thus, spending on rural education will be crucial.

The role of nonfarm employment is expected to become increasingly significant as the average size of farms becomes smaller. Small farms may be efficient in terms of land productivity but not in labor productivity, which is more closely linked to farmers' income. Greater off-farm opportunities and migration to urban areas are required to increase average farm size, labor productivity, and farmers' income.

Establish Well-Targeted Antipoverty Programs and Safety Nets

The role of antipoverty programs (APPs) and safety nets in poverty alleviation was brought into sharp focus in the 1990s to address the negative impact of liberal policies on income distribution (Chapter 21; Parikh, Dev, and Shariff 2004). The need for fiscal stabilization in India meant the reduction in transfers to the states and in capital expenditures on rural infrastructure (Jha 2000), to counterbalance which the government stepped up funding for several existing APPs

5. TVEs' size varies considerably by both province and ownership. In some of the more developed provinces, such as Jiangsu, the smaller TVEs employ fewer than 100 people, while the largest one employs more than 15,000 workers. Generally, township-owned enterprises are relatively large and village-owned and collectively owned ones are smaller. For instance, construction TVEs employ, on average, 86 workers in township-run enterprises and 36 in village-run enterprises. In garment and leather goods TVEs, employees number, on average, 108 in township-run enterprises and 52 in village industries (personal communication, Peter Hazell, IFPRI).

and created new ones (Jha 2000). In China, the government was strongly committed to addressing the poverty problem, and government initiatives, as announced in official plans and government conferences starting in the mid-1990s, were revived (Chapter 20).

Poverty funds and programs have documented shortfalls and inefficiencies in terms of targeting and cost-effectiveness, but their significant contribution to limiting the severity and the extent of poverty is inescapable (Chapter 20). There are still more than 300 million rural poor in China and India (more than 100 million in China and more than 200 million in India), based on the international standard of U.S.$1 a day. In China, the bulk of the rural poor are primarily in the remote, mountainous, or natural resource–poor western provinces (Fan 2004). In India, they are concentrated in the eastern (Bihar, Orissa, and West Bengal), central (Madhya Pradesh), and northern (Uttar Pradesh) states, where the level of rural poverty is higher than the all-India average of 24 percent as of 1999–2000 (IFPRI 2004).

Radical redistributive measures such as land reforms are relatively impractical in India due to their potential for social conflict, while public investments take a long time to translate into employment and economic growth. Compared to these, APPs are a more agile instrument in the short run, provided their shortcomings are removed.[6] Poor design, targeting, and implementation and fund misuse are key causes of ineffective APPs. To improve targeting, one lesson that China may draw from the experience of India is to use a greater variety of targeted programs directed to specific sections of the poor as opposed to its own traditional, broader income- or area-based approaches. Self-targeting schemes such as rural public works and plans targeting women, children, and the elderly are more pro-poor, because identification of the beneficiaries is easier, faster, and less costly.

To strengthen the impact of APPs, decentralized and participatory approaches are more effective than top-down strategies because they involve a greater variety of agents—nongovernmental organizations (NGOs), civil society, and international aid organizations—in the fight against poverty besides the government. India is a good point of reference in this respect, because the extensive participation of *panchayats* and civil society at various stages of the formulation and implementation of the programs ensures the tailoring of programs to local needs, thereby improving their impact and effectiveness.

Work on the Right Institutions, Regulations, and Political Governance

In both countries there was political will to carry out reforms, but in practice outcomes were shaped by the different patterns of governance. India is a "debating

6. Jha (2001) provides a comprehensive analysis of the financial, regulatory, and political ways to improve the effectiveness of poverty reduction programs.

society" (IFPRI 2004) in which political differences are expressed freely. Policymaking is exposed to the pressure of various interest groups, and there are long debates before decisions are made. The lengthy bureaucratic procedures, intended to ensure checks and balances in the system, often delay decisionmaking and implementation. This exercise is compatible with the needs of a free and dynamic polity but in practice is a key reason for the slow pace of India's economic reforms.

China, on the other hand, is a "mobilizing society" in which decisions are made faster and state power is backed by mass mobilization (IFPRI 2004). As a result, implementation of decisions is more effective, although the lack of more elaborate debate on major reforms can sometimes lead to disastrous actions, as in the case of the Great Leap Forward in 1958 and the Cultural Revolution of 1966–76. Interestingly, as China's economic system opens up further and its prosperity increases, it will become harder and harder to reconcile the centralized political set-up with the more liberal economic system. Indeed, this is one of the most important challenges before China today (Prabhu, Kathel, and Dev 2004).

However, in China the ideology-induced commitment to build an equitable society in the prereform years created a strong political will to provide the population with nearly universal access to basic healthcare and education services, while the administrative set-up of the communes proved an effective mechanism of resource mobilization and service delivery. Although similar administrative machinery is not replicable in the Indian context, that country can still try to strengthen the initial conditions in terms of rural electrification, roads, access to education and healthcare services, and so on.

A critical factor in explaining dissimilar reform outcomes in China and India is the difference at the level of reform implementation, which is shaped by their different institutional, regulatory, and political settings. Investments in rural infrastructure and other key public services are crucial, but it is equally critical to develop suitable institutional arrangements for their delivery. Major failures in public provision notwithstanding, the government continues to be the major supplier of infrastructure services in both countries (Herath and Gulati 2003). Input suppliers such as the state electricity boards (SEBs) in India and the SOEs (including grain bureaus) in China do not function efficiently due to the lack of transparency and accountability. Instead of the required 3 percent return on investment, SEBs have recorded negative returns since 1981. By 2000–2001, their returns were a negative 27 percent after subsidies (Gulati and Narayanan 2003). In the case of power and water, underpricing of user fees does not allow recovery of costs sufficient even to meet the costs of operation and maintenance, and this leads to deterioration in the quality of water and power services to farmers. Strengthening public institutions that provide public goods and services and making them cost-efficient can lead to both fiscal sustainability and long-term growth. These goals can be achieved in different ways, such as

privatization, unbundling, decentralization, and contracting (Herath and Gulati 2003).[7] Effective public institutions also require an adequate supply of trained and motivated personnel and investments in training to increase the supply.

Another reason for slower implementation of reforms in India relates to the regulatory environment and the enforcement bureaucracy there. Although streamlining the regulatory apparatus through delicensing has begun, much inefficiency remains. Several private investment decisions still require government approval, entailing lengthy procedures encouraging corruption.

During the reform years China relaxed regulations on mobility between rural and urban areas, which promoted the development of the nonfarm sector and abetted economic migration. Recently it has also started to relax the complex system controlling broad-based personal mobility, removing state interference in private life and creating a more mobile and open social environment in tune with the freer economic setting (The Economist 2003b).[8] One bit of fallout from these changes is the faster issue of passports and visas.

Finally, a key factor in the effective implementation of reforms in China was the ability of the leadership to set both clear objectives and time frames for transition to the reformed regime (Ahluwalia 2002), which was no doubt helped by the centralization of decisionmaking, which minimizes dissent. In the context of a highly pluralist society like that of India, consent is more difficult to achieve, so neither clear objectives nor time frames for transition can be set. This has been the case, for instance, in phasing out subsidies, tariff reduction, price increases for economic services, and so on (Ahluwalia 2002). There is also a tendency toward populist policymaking in India, as is clear in the case of subsidies, which, although acknowledged as inefficient and iniquitous, have been tough to remove or minimize (Ahluwalia 2002). This slows the pace of

7. With privatization, firms have a stronger incentive to build and run infrastructure industries effectively and at low cost. Unbundling in sectors such as the power, irrigation, telecommunications, and roads sectors involves the separation of activities such as generation, distribution, retailing, and other activities that can be subjected to competition. Decentralization can be an effective alternative to monopolistic utilities when the benefits of an infrastructure service are mostly local and there is little scope for economies of scale such as those found in water supply, road maintenance, and urban transit. Besides, recent technological innovations are gradually eliminating the need to centralize infrastructure and reducing the need for services to be provided by monopolistic utilities. An added advantage is the participation of the users who have stronger incentives than bureaucrats to run and maintain community infrastructures efficiently. In another option, private firms can be contracted to build and maintain schools, health centers, roads, and the like. Establishment of partnerships between the public, private, and NGO sectors through contracting arrangements can be much more cost-effective and may offer better possibilities for involving local people and communities.

8. In recent years some cities, including Beijing, were allowed to relax the "*danwei*" system of permits, a government-controlled work unit to which urban citizens had to apply for permission to receive housing, wedding licenses, passports, and so on. The decline of the *danwei* system is a consequence of the restructuring of the SOEs during the reform years.

change in the short and medium terms. Although democracy and participation have intrinsic value and are not mere instruments of development, the role of democracy in enhancing or hampering economic change and poverty reduction remains a complex subject for development research. Comparisons of China and India on these broad political matters may produce a fascinating set of insights in the coming years.

Future Challenges

Although both China and India have made remarkable progress in terms of growth and poverty reduction, much remains to be done given the sizable share of their populations still living in poverty. The two countries are confronted with three formidable challenges: accelerating growth, improving efficiency, and ensuring that growth is equitable, sustainable, and environmentally friendly.

Accelerating Growth

There are three major sources of rural growth that can further push the two countries' production frontiers in the future. The first is agricultural research and technology, which can increase crop yields. Although average yields in China are double those in India, there is still potential to increase them in the poorer western provinces (Chapter 10). The same is the case in India, where the highly irrigated areas of Punjab and Haryana show average yields of 5–6 tons/ha as opposed to 2 tons/ha in the eastern states, which have yet to benefit from the green revolution. Future agricultural growth will rely heavily on yield improvement because of increasing population pressure on land and the lack of scope to bring more land under cultivation. Research focus needs to be reoriented toward rain-fed regions for their higher returns relative to irrigated areas. New breakthroughs in biotechnology (such as genetically modified organisms) are vital. So is the establishment of regulatory bodies in charge of creating and enforcing biosafety standards and regulations for the new technology. These are critical preconditions for the effective use of R&D spending in this sector.

The second source of rural growth is broader government investment in rural areas. This applies particularly to education and rural infrastructure such as roads, because these are the two areas, besides agricultural research, in which both countries have shown the highest returns. Higher literacy rates as a result of increased spending on education will encourage the adoption of new technology and, in turn, improvement in agricultural productivity as well as occupations in nonfarm sectors. Investment in rural infrastructure will boost productivity and foster both farm and nonfarm diversification by reducing transaction costs, favoring market integration, and strengthening urban and rural linkages. A study by the International Food Policy Research Institute on pro-poor infrastructure that sought to estimate the effects of different types of roads on growth and poverty reduction in China found that the marginal returns from investments

in lower-quality roads (mostly rural roads) are more than four times higher than those from high-quality roads (Fan and Chan-Kang 2005b). In India, another sector in which public spending is expected to translate into higher growth is irrigation. The country's potential of gross irrigated area is 140 million ha, while the actual irrigated area is only around 90 million ha. What needs to be determined now is the direction of the resources: should it be toward improving the management of existing water systems through watershed development and user groups or toward the expansion of irrigation systems through new projects. Similar inefficiencies need to be corrected in the power sector, where the states are now losing nearly 1 percent of their GDP due to a whopping 35–50 percent distribution loss rather than 10–15 percent at the most (Ahluwalia 2002).

The third source of future rural growth is high-value agriculture and vertical integration through contract farming. Diversification from low-value foodgrains to high-value commodities needs to be encouraged because horticulture, livestock, and fishery products provide high returns and are labor-intensive in nature. Such products also have the potential to generate employment in agroprocessing and retail chains. In both countries, but more so in India, the challenge is how to reorient the policy environment, which continues to be tied to wheat and rice, toward perishable and high-value products that would entail the establishment of new institutions and marketing facilities. Further, diversification should not be restricted to farming alone, because rural income enhancement requires growth in nonfarm employment (Chapter 17). In India, this calls for overcoming infrastructure bottlenecks, which severely affect the development of rural industries and services, and increasing human capital through education for the poor. To respond to the increased competitiveness due to globalization, the rural TVEs in China need to gear up in terms of management and technical efficiency. The reform of macropolicies aimed at enhancing access to credit and specialized firm services, which are less favorable to labor-intensive enterprises, is an additional challenge.

Promoting Efficient Growth

An increase in total factor productivity is conducive to higher levels of growth and is a challenging goal in itself. Such an increase will come from three sources. First, funds are needed for productive investments. Inefficient agricultural subsidies need to be phased out to free up such funds. This is more the case in India, where subsidies are about five to six times higher than investments in rural areas (Gulati and Narayanan 2003). The issue here is to eliminate inefficient support without creating political turmoil. The second source is a strong institutional environment of agricultural policies, a precondition for making the provision of public investments and services more efficient and pro-poor. The third source is the economic integration of global markets in India and China as a follow-up to the economic integration of local markets in the two countries. Further opening up the two economies would involve a host of reforms on various

fronts—in investment; access to foreign inputs, technology, and managerial skills; reduction in price gaps between domestic and world markets; improvement of quality and safety standards—all of which would lead to structural improvements in efficiency.

This increase in productivity needs to be accompanied by increased bilateral and multilateral trade. The trade relations between China and India are currently much below their potential, especially in agricultural products (Agrawal and Sahoo 2003). Similarly, cooperation under the WTO can help change policies in developed countries that adversely affect producers in China and India (von Braun 2003). Such cooperation is necessary because of the major commonality between the two economies, where agriculture is still the major single source of employment. The other rationale comes from the potential benefits of international trade. If the efforts of developing countries—under the leadership of India and China, and perhaps of Brazil—to improve trade liberalization are successful, the WTO can improve export and employment prospects in the labor-intensive production of the horticulture, livestock, and fishery sectors. These are areas in which China and India have comparative advantage (Lin 2003; Sharma 2003).[9] WTO membership can also accelerate the growth of employment in labor-intensive industries, facilitating the shift of rural workforce out of agriculture (Lin 2003).

Ensuring Equitable Growth

Neither in China nor in India has reform-induced growth benefited all and/or benefited people equally. Inequality as measured by the Gini coefficient rose sharply, from 0.21 in 1978 to 0.46 in 2000, in China (Fan and Chan-Kang 2003), more than doubling in the past 25 years. This placed China among the highly unequal economies of the world, marking a great paradox for one of the most

9. Against this background, the visit of India's Prime Minister Shri Atal Bihari Vajpayee to China in June 2003 and the common stance adopted by the two countries along with Brazil on the occasion of the WTO negotiations in Cancún in November 2003 were positive developments showing the willingness of both countries to take steps to bring their positions closer for their mutual benefit as well as in the interest of the developing world at large. During the official visit of Prime Minister Bihari Vajpayee to Beijing, a number of initiatives were proposed with a view to adopting a common stance in the WTO in areas such as investment policy, dispute settlement, and trade-related aspects of intellectual property rights. The Chinese and Indian leaders agreed to call a meeting of the Joint Economic Group by the end of 2003 and to establish an Indo-China Business Forum. They also decided to boost bilateral trade up to U.S.$5 billion by 2005. To this end, they decided to reopen the route through the post of Nathu La in the bordering region of Sikkim. Another promising step was the recent establishment of an Indo-China Study Group by the Indian government in 2004 to explore concrete ways to intensify economic cooperation and analyze the merit of establishing a free trade area between India and China. The April 2005 visit to New Delhi by the China's Premier Wen Jiabao and the signing of various agreements has further strengthened the possibility of establishing long-term as well as mutually beneficial economic relations between the two countries.

egalitarian societies (WDI 2003).[10] Inequality worsened between rural and urban areas and among regions as well as different age groups. The average rural income was 60 percent of urban income in 1984, but declined to 33 percent in 2002. The per capita GDP in Shanghai was 10 times higher than that in the southwestern province of Guizhou (Fan and Chan-Kang 2003). New graduates employed in joint ventures with foreign businesses and working in cutting-edge sectors of the new economy earn up to five times more than their parents with fewer educational opportunities or those employed in the SOEs (Fan and Heerink 2004). Regional inequality increased because of the preferential policies implemented in eastern China in the areas of infrastructure, TVEs, export-oriented enterprises, and foreign investment, all of which led to higher rates of productivity growth in that region. Institutional reforms aimed at dismantling the commune system increased urban-rural inequality because they scrapped the mechanisms for the egalitarian distribution of resources (e.g., food, land, education, and healthcare services) embedded in the communes. The rural-urban gap was accentuated by failure to eliminate the prereform urban policy bias. In several areas, such as labor mobility, housing, welfare, inflation subsidies, and investment credits to the urban sector, policies continue to be more favorable to urban dwellers, thus perpetuating the rural-urban divide.

Between 1978 and 1993, employment grew by 2.5 percent per annum in China, but dropped to just over 1 percent per annum between 1993 and 2004.[11] The share of agriculture in total employment also declined, from 70 percent in 1978 to 50 percent in 1996. This is partly because of the demise of TVEs, but mainly because of a very slow relocation of farm labor because of controlled migration policies and a very high capital-output ratio in industry. This slow shift of labor out of agriculture has been responsible for a low rate of per capita rural income growth, eventually leading to a wide rural-urban income disparity.

In India, the reform process was accompanied by rising income inequality as well, although it was less marked than in China. The World Bank found the Gini coefficient in India to be 0.33 in 2000 (WDI 2004). The milder impact in India is explained by that country's cautious approach to liberalization and by the partial reforms. Labor legislation still offers considerable guarantees to workers, shielding their jobs from adverse business cycles in manufacturing (Jha 2000). One of the reasons for the rise in inequality was the concentration

10. In terms of inequality, China joined the ranks of Thailand (0.43), Russia (0.45), and Latin American countries such as Venezuela (0.49) and Peru (0.46). China's Gini coefficient is higher than that of Germany (0.38) and the United States (0.40), but is still lower than that of Brazil (0.606), Nicaragua (0.603), and Namibia (0.70), the countries with the highest levels of income inequality as of the late 1990s. The honor of being more egalitarian economies rests at present with the northern European countries, the Scandinavian countries, and Japan, all with Gini coefficients of around 0.25 throughout the 1990s.

11. China's pattern of growth is provided by Kujis and Wang (2006).

of new growth in the service sector, which enormously benefited skilled workers and specialized factors of production and was not shared with the bulk of the workforce employed in agriculture (Jha 2000). In addition, reforms in investments and industrial policies were conducive to greater opportunities to earn capital income rather than wage income (Jha 2000).

Even if worsening inequality in the two countries is viewed as a natural corollary of the growth process, addressing this issue is critical for social stability, equity, and even future growth. This calls for a mix of effective redistributive mechanisms such as targeted fiscal transfers, safety nets, and public investments for less advantaged groups and areas. In China, the 11th five-year plan has adopted a goal of "construction of the new socialist countryside" by increasing productivity.

Promoting Sustainable Growth and Protecting the Environment

It is widely agreed that China's remarkable growth has been resource-intensive in recent years, drawing heavily on physical capital, energy, and natural resources (Kujis and Wang 2006). There will be heavier demands on natural resources in the future due to the imperative of increasing growth, and even the high savings rate is expected to plateau. Coupled with slowing employment growth, especially in the agricultural sector, leading to a decline in productivity, these factors have given rise to several concerns about the quality and sustainability of China's growth. The high degree of favor shown to industry and investment resulted, in effect, in the subsidization of agriculture in terms of input prices, which in turn encouraged a noneconomic and nonsustainable use of energy and primary commodities as well as degradation of the environment.

The challenge of sustainable growth relates in particular to the four aspects of energy consumption, water resource use, environmental degradation, and financial sustainability. Demographic issues, especially the rise in the number of aged people in China in the future and its implications for the economy, are important concerns, although this study does not deal with these issues directly and in detail.

Economic and population growth have together helped to lift energy consumption in India and China to the fastest-growing rates in the world in the past two decades. It is feared that this frantic pace will continue and may even accelerate. However, such fast growth in energy consumption may not be sustainable in the future due to its fiscal and environmental implications.

China's energy consumption accounts for approximately 53 percent of East Asia's total, excluding that of Japan. The country's energy consumption grew by 130 percent from 1980 to 2001, when China became second in the world, behind the United States, in both total energy consumption (9.8 percent of the world's total) and carbon emissions (12.7 percent of the total). In 2002, China was the third-largest consumer of oil products, following the United States and Japan, with total demand of 5.26 million barrels per day (bpd) and net im-

ports of 1.87 million bpd. China's oil demand is projected to reach 10.9 million bpd by 2025, with net imports of 7.5 million, making it a major player in the world oil market. India's energy consumption grew by 208 percent between 1980 and 2001, and India ranks fifth after Germany, Japan, China, and the United States. India's oil use was 2 million bpd in 2002, of which 1.2 million bpd are net imports.

Despite government efforts to mitigate pollution, both countries suffer from major energy-related environmental problems. Heavy reliance on coal (which supplies more than 50 percent of the energy needs in both countries) has meant that carbon emissions are rising fast. A 1998 report by the WHO indicates that 7 of the 10 most polluted cities in the world are located in China, owing primarily to coal combustion. China accounts for 12.7 percent of the world's carbon emissions (832 million metric tons or m mt) and India for 3.8 percent of the total (251 m mt), which is lower than Japan's 4.8 percent (316 m mt) and the United States' 24 percent (1,565 m mt). Between 1990 and 2001, China's and India's carbon emissions increased by an astonishing 111 percent and 61 percent, respectively. Their carbon emissions are expected to continue to increase throughout the decade, offsetting the planned reduction in carbon and greenhouse gases (GHGs) under the Kyoto Protocol. Both China and India are "non–Annex I countries" under the United Nations Framework Convention on Climate Change, meaning they are not obligated to comply with the Kyoto Protocol mandating reduction requirements in the emissions of carbon GHGs because of the high priority placed on their economic development. In the case of China, doubts have been raised about whether its current growth pattern, which is energy-intensive and trade-led, especially in manufacturing, can be supported in the long run. This also implies that future growth in the agricultural sector should be energy-efficient and that the agricultural sector soon needs to develop innovative ways to provide renewable energy for the manufacturing and service sectors. It also requires more actively promoting the job-creating service sector, removing barriers to labor mobility, and decreasing subsidies to manufacturing and investment therein. The 11th five-year plan takes these factors into consideration and signals a change to more balanced growth, with more attention to the environment and income distribution. However, the plan's targeted reduction in the energy intensity of the economy by over 20 percent over the next five years may be too ambitious to achieve easily (World Bank 2006).

Sustainable use of water resources is another major challenge in the environmental context of economic growth. Water use in agriculture is highly inefficient in China and India (Chapter 10) because of policies treating inexpensive water and power supply as welfare measures (Meinzen-Dick, Raju, and Gulati 2000). Booming groundwater irrigation in China following the tubewell privatization wave in the 1990s, like underpricing and in some cases the provision of free power in India, caused problems of groundwater depletion and lowering

of water tables and thus needs policy attention. Similarly, providing inexpensive water for irrigation and fertilizers in India will lead to further waste of scarce water resources and aggravate the problems of waterlogging and salinity of land if it is not addressed soon. In addition, as development progresses, domestic and industrial uses will increase dramatically and compete with the primary sector for scarce water resources. Against this backdrop, China and India have to seek to reduce water use without affecting food production and farmers' incomes (Chapter 9).

Although increasing water charges is expected to have a positive influence on water conservation and the environment without compromising food production, implementation of such a policy remains a great challenge in China and India. Implementing an increase in prices without parallel improvement in the institutional shortcomings of supplying agencies will prove difficult. In China, an increase in water prices may be carried out administratively overnight, but the welfare effects on poorer farmers will be no less painful than in India in the absence of adequate safeguards.

The challenge of financial sustainability applies in India, particularly to the budget deficit. As a result of reforms, the problems of double-digit inflation and shortages of foreign exchange were brought under control in India (Srinivasan and Tendulkar 2003; IMF 2004).[12] However, the budget deficit, one of the major triggers of the macroeconomic reforms in 1991, remains alarmingly high. After declining to 7 percent of GDP right after the 1991–93 reforms, the consolidated budget deficit has climbed back to the prereform level of 9 percent (India, Ministry of Finance, *Economic Survey,* 2001–2). This is regarded as one of the prime reasons that economic growth slowed down after 1996–97 and why, overall, Indian GDP growth during the postreform period was not very different from that in the 1980s. Although the growth rate climbed back to 8 percent levels in 2005, sustaining it calls for cutting expenditures, particularly subsidies, and improving revenue collection by both the tax system and input suppliers such as SEBs and Water Canal Authorities (India, Ministry of Finance, *Economic Survey,* 2001–2), which can incidentally increase the pool of resources available for productive public investment. Of late, the savings rate has inched up to 29 percent, bringing India closer to China, where the savings rate hovered around 35–40 percent throughout the reform period (WDI 2004). One encouraging development has been the passage of the Fiscal Responsibility and Budget Management Act, which mandates the elimination of the government's revenue deficit by 2009.

China has so far managed to maintain the fiscal deficit of the central government at 3–4 percent of GDP (NBS 2003). The imbalance in the sectoral com-

12. In 1990–91 inflation was 11.6 percent, and foreign exchange was $1.5 billion. By 2000–2001 inflation was brought down to 3.8 percent, and by October 2004 foreign reserves had jumped to $120 billion.

position of GDP growth—between the contributions of industry and services to GDP growth—has narrowed after a recent revision. Compared to what was seen as a disproportionate 53 percent, industry's share in GDP is now 47 percent. And the service sector has gained, from 32 percent according to the old accounting system to a little over 40 percent. China's high investment and savings rates, which have major contributions from government and SOEs, are also expected to moderate in the future, even though the economy has been booming in recent years (Kujis 2005). But the banking system and the exchange rate regime require serious reform, considering the need to conform to WTO requirements and rules. However, even agriculture's contribution to GDP is down, from 15 percent to only 12.5 percent now. The revaluing does not change the causes of concern much, though, because the differential between productivities in agriculture and in other sectors continues to grow.

Concluding Remarks

A number of factors help to explain the differences in growth between China and India during the reform era: the initial conditions, the sequencing and pace of reforms, and the political system, institutions, and regulatory environment. Yet special mention must be made of the fact that China and India achieved remarkable development and growth even though aid as a percentage of GDP in the two countries remained low. This is in direct contrast to the situations in most other developing countries and regions, where the amount of aid is much higher, while development and poverty reduction lag far behind. This is an important lesson for developing and developed countries, multilateral agencies, and local NGOs and groups. It questions the very basis of current policy prescriptions that accompany aid packages, not only raising issues related to the efficiency and effectiveness of external aid but also, conversely, revealing the extraordinary and often underestimated capacity of national initiatives and policy actions to turn—and in fact halt—the tide of poverty.

Both countries still face tremendous challenges on the path to further prosperity. Continued growth is a must, owing to pressure from growing populations and the need for jobs for them. It is also a condition for a more stable society. Given the high expectations of their citizens, the lack of growth or even slower growth could lead to unrest in both countries. The limited natural resource base can be a critical constraint to growth. The future economic growth of both countries increasingly depends on imports of energy, for which future prospects are uncertain. Both countries are also among those most severely affected by water shortages.

Consequently, future growth must be based on higher efficiency and will require China and India to invest in science and new technologies to harness their energy and water, optimize their economic structures for allocative efficiency, and reform their fiscal, financial, banking, and insurance systems. Both

countries must also pursue more pro-poor growth, which is not only a development objective in itself but also a precondition for future growth in the long term.

China and India can both gain tremendously by learning from each other, because both have a long way to go. The dragon is breathing competitive fire over a large part of the world, and the elephant is ambling briskly, but both need to address their weaknesses and build on their strengths in order to achieve their national goals and fulfill the aspirations of their people. The lessons learned from the experiences of China and India will also help other developing countries and provide direction in the global fight against hunger and poverty.