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# APPENDIXES

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## APPENDIX A

### Comments from Meghnad Desai<sup>1</sup>

#### **Introduction**

The two documents before us—the Draft Final Report and Policy Directions—are comprehensive and detailed. The Report carries out an extensive quantitative and qualitative analysis of the Western Region of the People’s Republic of China (PRC) with a view to aiding the Great Western Development Strategy (GWDS). The 19 chapters of the Report cover a range of topics—natural resources, human development including gender and minorities, industrial and financial policies, transport, water and the environment, labor and competition policies, fiscal policy, and institutional reform. The 290 pages of the Report will constitute a valuable resource for future study and planning of the Western Region as well as the PRC economy. In my remarks I want to get away from details, but using the Report I want to frame the issues involved in the GWDS, which may help clarify the policy recommendations contained in the Policy Directions document.

#### **Objectives of the Strategy: Statics and dynamics**

The Report begins by stating that the two primary objectives of the GWDS are:

- reducing income disparities
- preventing further degradation of the environment

These objectives have to be pursued, however, in the broader context, as the Report makes clear, of the PRC’s overall modernization and the response to globalization, especially the membership in the World Trade Organization (WTO). Thus, the GWDS is part of a general strategy and is subject to many of the same forces as the PRC economy as a whole is subject to. The important point in any regional strategy is to be able to combine the specific regional interest with the general national interest. This is more than a cliché. If we are pursuing the goal of improving the share of a region in national gross domestic product (GDP) then a static view will tell us to transfer resources from the richer to the poorer regions. But in a dynamic context where the richer regions are facing structural challenges as much as the poorer regions, we have to think differently.

An example of the dynamic view is as follows. Income inequality between regions is a summary of income inequality between individuals and households. But if there were to be a large-scale migration from the poor to the rich areas, interpersonal incomes of the population as measured by their region of “origin” will equalize while the published numbers measuring regional inequality may not improve. Thus, we have to take a view as

to whether we wish to improve incomes of regions or of people. Of course, migration flows may be limited, as seems to be the case in the PRC (Report, Table 11-2), in which case we have to pursue a joint strategy of equalizing both regional and personal incomes.

But there is another dimension of inequality of incomes. In a static or steadily growing economy (both fictions of economists, of course), income inequalities can be reduced by resource transfers. The idea here is that the productive system generates a particular income outcome and then resource transfers enter to correct the outcome. But in reality, economies do not change steadily. Certainly the PRC, along with many other countries that are both developing and effecting a transition to a market economy, is undergoing a profound structural change. Income distribution is changing rapidly even before one can speak of transfers. Industries are facing competition and closure while other industries are growing. An increase in inequality has been experienced by many countries, rich as well as poor, because with globalization and the rise of the knowledge economy, rewards to education are rising much faster than rewards to unskilled or semiskilled labor. In such a situation, reducing inequality may require not so much resource transfer of the textbook variety but equipping the population with skills and education to adapt to new opportunities. Industries that are losing competitiveness need to be wound down and their employees retrained to earn better and more secure incomes. This is a painful process in the short run but effective eventually.

### **Inequality in the Western Region**

Against this general background let me examine the twin issues of redressing income inequality and reversing environmental degradation. The Report describes the specificities of the Western Region in great detail. It is a natural resource-intensive area with a predominance of primary industries in which state enterprises are still important and where foreign direct investment is scarce. Relative to the Eastern Region the disparity ratio (population share ratio divided by GDP share ratio) of the Western Region is 2.2. There is also some indication (Table 1-5) that the ratio is getting worse.

Several remarks are in order here. Across the world, regions that have fallen behind are regions with characteristics similar to those of the Western Region. Natural resource intensity is often a sure sign of relative backwardness. The northeast regions of England or Wales are examples in the United Kingdom where coal mining and heavy industries trapped the regions into relative decline. In India, Bihar is an example of a resource-rich region that is income-poor. Coal and iron and oil were important assets in the early era of the Industrial Revolution. Today they are still useful but no longer high-value-added sectors. They are also typically capital-intensive. This means not only that they generate limited local employment but that the multiplier effects of their presence are felt more outside the region than within the region. (These are the backward and forward linkages that have been known in the development literature through the work of Hirschman.) Although I state this proposition as obvious, it could be empirically demonstrated if we had the input-output tables for the relevant regions and industries.

In this respect, it has to be noticed that that within the Western Region, the north and the south have different characteristics. The Report does mention some of these (Tables

1-4, 1-11, 1-12). But much more needs to be made of these differences. The southwest has an industrial structure in terms of the ratio of heavy to light industries—57.6:42.4, which is more typical of the national ratio of 58:42 than is the northwest with 75.1:24.9. One gets the impression that the southwest economy is not tied as much into mineral resources as the northwest is. In terms of value added the activities in the southwest may need less restructuring than those in the northwest. One indication of this is given in the Report where it discusses the likely impact of WTO membership. It says in Chapter 1, in the section “Economic Growth in the Western Region”:

Primary industry will encounter competition in the international market, especially in food, cooking oil, sugar, and cotton—the so-called four “pillar” products of the Western Region.

The reference here to “pillars” of the Western Region as being four agricultural rather than mineral products is quite revealing. The Report does not match agricultural output data on the two subregions sufficiently for me to follow up this insight. But we do have some information. Thus, Table 4-8 shows the data on food output and the southwest is the bigger area in terms of output of all food items except milk. There are no comparable data on cotton but for sugar Table 4-16 shows the much larger contribution of the southwest relative to the north—5.44 metric tons compared with 0.69.

Thus, it would seem that the structural reasons for relative low income could be different in the south as against the north in the Western Region. By the same token, in the response to globalization and larger structural changes ahead, the south may be more adaptable than the north though I should add that this is my guess. The southwest seems to be producing exportable goods for final consumption while the northwest is into industrial raw material that is an input to further production at home or abroad. As the buyers and sellers are firms, markets in intermediate products are more competitive than those in final consumption goods. Raw-material industries have also had to face intense substitution in recent years as the “weightless economy” has grown. The material content of output is going down in physical terms and even faster in value terms.

### **How unequal is the Western Region**

In light of the above considerations let me reverse the argument and ask if the degree of inequality is serious enough to worry about. This may seem surprising since the stated objective of the GWD Strategy is to reduce inequality. I would argue that relative to other countries, regional inequality in the PRC is not excessive. This is not to say it does not exist or that it should not be reduced. But as an objective to be pursued with other objectives such as rapid structural adjustment and growth in the PRC to face a rapidly globalizing world, the inequality objective should not be pursued unless it is compatible with the overall objective.

My reasons for saying that the regional inequality is not excessive is to contrast the PRC with India as the only other similar-size economy that has a comparable record of development though with different outcomes. The PRC has lower poverty than India, as the Report points out (Chapter 5, in the section “The Nature of Rural Poverty”), but it is also clear that in terms of the Human Development Index (HDI) the range of HDI values

is much smaller in the PRC than in India or South Africa or even the USA (I shall provide numbers later for this assertion). The PRC's HDI range is 0.877 to 0.512. This means that all of the PRC is either in high or middle HDI level. It may be that HDI levels should be calculated for the minorities. The data in Table 13-2 are tantalizing in this respect. Of course, the two areas with a majority non-Han population, Xinjiang and Tibet, contrast markedly in this respect, with the HDI for Xinjiang being 0.685 and that for Tibet 0.512. The other three regions with substantial non-Han population (Table 13-1)—Ningxia, Inner Mongolia, and Guangxi—all have also reasonable HDI scores of 0.603, 0.645, and 0.649.

Thus, while there is inequality, its extent is less than in other countries. Another indication of the truth of this assertion is in Table 7-38.<sup>2</sup> It shows that the per capita income in the Western Region is 65 percent of the national average. Tibet as the poorest area has just around half the national average (53.5 percent). The range between the highest per capita income (3,952 yuan in Beijing) and the lowest (1,232 yuan in Tibet) is 3.2 but again this is much less than in other developing countries. The most impressive statistic in my view is the savings ratio. The average savings rate for the PRC is 46 percent; for the Western Region it is 52 percent. (The figure for savings per household is divided by the figure for household income arrived at by taking per capita income times number of members in a family.) This is for rural households. If these numbers are to be believed Tibet saves 62 percent.

In their paper, Khan and Riskin<sup>3</sup> argue that “China was among the more unequal societies in developing Asia by the middle of the 1990s.” They, however, deal with interpersonal income inequality across the PRC and discuss rural-urban inequality but not interregional inequality. It is easily possible for interpersonal inequality to be high, with interregional inequality being moderate. This will be the case if within regions inequality is similarly large across the PRC. But the assertion of Khan and Riskin comparing the PRC with other Asian countries is dubious, as they themselves admit in a footnote. They have a Gini coefficient for income for the PRC and Pakistan but only for expenditure for India and Indonesia. There is reason to doubt the accuracy of high income reporting in Pakistan in any case, and expenditure distributions are less unequal than income distributions for obvious reasons. Thus, the Khan-Riskin conclusion about the PRC as compared with other Asian countries should be taken with a pinch of salt.<sup>4</sup>

I would maintain that interregional inequality in the PRC seems to be relatively less acute a problem than the other challenges facing the PRC such as the impact of membership in the WTO. It is in the PRC's response to the structural changes that will be forced upon it that the outcome on regional incomes will emerge. Inasmuch as it is efficient to relocate industries to the west or to facilitate the move out of primary products to tertiary products and services, it should be followed. There is no scope for correcting mistakes of the past as the economy needs to move on in new directions in any case.

### **Environmental degradation**

The Report gives some idea of the environmental degradation. The Policy Directions document does list environmental policies under headings 4 (agriculture and natural

resources), 7 (energy), 16 (water resources management), and 17 (environmental conservation and pollution control). The policy recommendations are a combination of institutional reform and price adjustments. In general, this is quite correct. I have a few additional remarks in this respect which supplement rather than replace those recommendations.

Firstly, there is likely to be not conflict but synergy in reconciling the environmental agenda with the WTO competitiveness agenda. Pollution has become an important dimension of quality of products, and environmentally efficient products will sell better in the markets of developed countries than dirty products. Secondly, the restructuring of the economy will require either a shift away from extractive industries or the adoption of cleaner technology in their operations. Natural resource industries are notoriously dirty polluting industries. In the developed countries they have been forced to adopt cleaner technologies or have been eliminated (coal mining in the United Kingdom, for example). Thirdly, the WTO regime will enforce a reliance on market-based incentives rather than quantitative restrictions by administrative fiat. This is the surer and more efficient way of arresting ecological degradation. As the Report and Policy Directions indicate in several places, price distortions need to be removed and environment has to be priced into the product. In this respect it may be helpful in the future to recalculate value added after allowing for the environmental effects which are currently hidden.

Environmental degradation is eventually tackled by changing the product mix and the technological processes used. Thus, foreign direct investment incorporating the latest technology will be less polluting than older technology. The energy efficiency of Organization for Economic Cooperation and Development (OECD) countries has improved enormously since the early 1970s, thanks to the technology that was installed as a response to the quadrupled oil prices. Similarly, in other respects such as effluents, production technology has improved. This requires a combination of tough legislation and smart incentives. This combination is reflected in the Policy Directions document.

### **Conclusion**

The PRC faces enormous challenges ahead as it joins the WTO. In this context industrial changes will be required across the entire economy. The laudable objectives of the GWDS can be pursued only within this overall context. As the economy adapts there will be new and different income outcomes. Migration, hitherto a trickle, will become a big flow. This will alter interpersonal and interregional incomes in many ways. It is only at the margin after these changes have been allowed their play that income and resource transfers should be used to mitigate the relative income inequality between the regions. The Report and the Policy Directions document have to be read in this context.

The same message goes for the other dimension of environmental degradation. Here again the dominant force will be the adaptation to the WTO discipline but this is likely to be helpful rather than not. Price signals will have to be used along with uniform environmental standards to achieve high-quality exportable outputs.

The change will not be easy nor will it be painless but it will be worth making if the PRC is to be a prosperous economy with a high level of human development.

## APPENDIX B

### Comments from Carl Riskin<sup>5</sup>

This valuable and comprehensive Report is a response to the decision of the Government of the People's Republic of China (PRC) to concentrate on the economic development and opening up of the Western Region. That decision itself was a natural reaction to the unevenness of the rapid development that has been taking place in the PRC for the past two decades. The policy of Great Western Development is a response to growing regional inequality and the persistence of poverty especially in the Western Region. As such, the initiative deserves to be taken seriously as a major poverty reduction effort, and it is worth asking how the poverty reduction aspects of this initiative might be made as effective as possible.

In the PRC it is widely acknowledged that, despite rapid growth and years of poverty alleviation efforts, there are still many poor people. I do not think it is useful to implicitly marginalize the problem of poverty by characterizing it as “residual.” I don't wish to play the numbers game but, in fact, the available estimates of the rural income poverty rate vary widely, and to my mind the most persuasive ones are still quite high. The estimate for 1995 that A. R. Khan and I derived from a subsample of the National Bureau of Statistics' rural household income survey, using the lowest of our three poverty thresholds, came to 15.5 percent of the rural population, or about 133 million people. The low-income rural population is heavily bunched in the area of the poverty threshold, so that a 14 percent increase in the threshold produced a 35 percent increase in the poverty rate (to 21 percent of the rural population).

Even if one accepts a lower figure for the poverty rate, one must recognize that, while it is obviously better for people to be above than below it, the official income poverty threshold itself represents an extremely meager standard of living; also, that very small decreases in rural income can put many people back below it. The plunge in farm prices in the late 1990s (by some 30 percent between 1997 and 2000) and the deterioration in agriculture's terms of trade probably pushed many farm families back into poverty. As the title of a recent article in the journal *Dushu* (Reading) put it, “Farmers are really suffering, villages are really poor” (*Nongmin zhen ku, nongcun zhen qiong*). And such downward pressure on farmers is expected to increase with the PRC's accession to the World Trade Organization (WTO).

Moreover, as the present draft report fully recognizes, the problem of poverty is particularly acute in the Western Region. An analysis in *The China Quarterly* (by B. Gustaffson and W. Zhong) of the same 1995 survey that I already alluded to, and of an earlier one in 1988, concluded that the Western Region was the only region in which the rural poverty rate *rose* between 1988 and 1995—from 27 percent to 31 percent of the rural population. Also, the average *depth* of poverty (the average distance from a poor person's income to the poverty threshold) rose in the west, unlike elsewhere in the PRC where the average depth of poverty fell sharply. In other words, the problem of rural poverty

remains a substantial one in the PRC, and especially in the Western Region. In attacking the long-run problem of eliminating it, let us begin by giving it its due and not make it appear smaller than it is.

There are two additional themes that I should like to address today. They arise from my understanding of the now fairly long history of the PRC's poverty alleviation efforts in general. These efforts, which gathered force toward the end of the 1990s, showed an admirable commitment to eliminating poverty and no doubt played an important role in enabling many poor rural residents to rise above the absolute poverty threshold used by the PRC.

At the same time, some observers have suggested ways in which these efforts might be augmented and adjusted in the hope of having an even greater impact, and the PRC's poverty alleviation programs have been very receptive to such suggestions. My two themes are taken from these suggestions. The first is the desirability of bringing poverty considerations into the core policymaking process, that is, giving some attention to the ways in which mainstream policies themselves affect poverty. The second is the importance of what has come to be called "empowerment"—that is, giving poor people the capability of improving their lot through their own efforts.

### **Mainstreaming the antipoverty effort**

Environmentalists distinguish between end-of-line policies and those designed to influence economic activity from the start. End-of-line policies stand by while environmental degradation occurs, then try to clean it up. Far better to put in place incentives to eliminate or minimize the degradation in the first place (especially since some kinds of degradation cannot be reversed at all, or only after very long periods of time).

As in the case of pollution, the effect of economic activity on poverty depends greatly upon the nature of that activity, which is why some have advocated making "poverty impact assessments" a regular part of economic policy formation.

In the case of the PRC the link between poverty trends and broad economic policies is particularly clear. For instance, when policy has successfully promoted rural income growth (as through farm price increases), rural poverty has receded rapidly, whereas it has remained stubbornly intransigent when rural incomes have stagnated. Similarly, state enterprise reform that produced growing unemployment has correlated with an increase in urban poverty. The latter result was of course an unintended (if not unanticipated) result of the policies that produced it.

The reason that macro policies may have a far greater impact on poverty alleviation (or its absence) than specific antipoverty programs is that vastly more resources are likely to be involved and on a broader scale. An improvement in agriculture's terms of trade with industry in the early 1980s, for instance, put significant amounts of money in the hands of tens of millions of farmers. Not coincidentally, that was the period during the last twenty-odd years in which the number of rural poor declined fastest. Conversely, partly owing to the stagnation in agriculture's terms of trade during the second half of the 1980s and the siphoning of resources away from the interior that occurred then in response to the new coastal development strategy, farm incomes declined and the poverty

rate failed to improve. Again in the late 1990s, the deterioration in absolute and relative farm prices greatly increased economic hardship for many farm families that remain dependent on sales of farm products and purchases of industrially produced farm inputs.

Another example, relevant to the Western Development Strategy, concerns the pricing of natural resources. The coal produced in Shanxi province fuels eastern factories and is exported to many foreign countries. Yet, local poverty alleviation officials in Shanxi a few years ago complained that little or no revenue from coal sales was returned to the poor localities where it was mined, while the mining process itself uses prodigious amounts of scarce water in this dry province, which negatively affects agricultural incomes.

Similarly, the fiscal decentralization of the early reform decades deprived poorer regions of significant central subsidies on which they had depended to fund basic education and other services. A predictable result is that it became harder for the rural poor to send their children to school. It appears, too, that the local interaction between the state and collective, on the one hand, and the household, on the other, is quite regressive, with poor households paying much higher fractions of their incomes as net taxes and fees than better-off households. This, too, is related to fiscal decentralization and the resultant inability of local governments in poor areas to finance basic services without imposing taxes that represent very heavy burdens for their poor constituents.

Also, the disappearance of the cooperative medical system from the countryside and the general shift from a public health orientation to a fee for service approach to healthcare left most rural residents dependent on their own pocketbooks to finance their medical needs. A predictable result is a decline in crucial perinatal care in some poor communities.

The PRC's rapid economic growth from the mid-1980s would no doubt have produced greater income inequality in any case, but the kinds of institutional and policy-related factors I have alluded to probably caused the rise in inequality to be substantially greater than it would otherwise have been. And because the head-count rate of income poverty is a function not only of the rate of growth of income but also of the change in its distribution, much of the beneficial effect that rapid income growth would have had on the poverty rate was canceled out by mounting inequality of income distribution.

For instance, according to a simple calculation made by my colleague, A. R. Khan, had the distribution of rural income remained constant between 1988 and 1995, the head-count rate of "broad" poverty (poverty defined in terms of a relatively high income poverty threshold) would have fallen by 50 percent between those dates, rather than the 19 percent that it actually did decline.

In viewing the great Western development initiative as a poverty reduction strategy, we might want to look for ways to avoid the replication *within* the Western Region of the disequalizing effect that rapid growth produced for the PRC as a whole, by addressing these kinds of issues.

### **Poverty reduction and empowerment**

As the PRC moves to a market economy, the people will benefit to the extent that they are capable of competing vigorously in the market. Of course, they need to have access to the market, and the Great Western Development Strategy promises to greatly enhance

market access for the region by investing heavily in transport, communications, and energy infrastructure. Still, much attention should be given to directing infrastructure projects toward meeting the particular needs of the poor, such as local access roads, safe drinking water supply, irrigation, electricity, and telecommunications, all of which are crucial to the ability of poor people to access and participate in markets.

However, even with better roads and railroads, electrification, and modern communications in place, people must be able to make productive use of this infrastructure. In particular, they need to be healthy, well nourished and well educated, and able to participate fully in the social life around them. In other words, they must be free of what the United Nations Development Program (UNDP) calls “human poverty”—the deprivation of the opportunities and choices most basic to human development, such as the opportunity to lead a long and healthy life, enjoy freedom, dignity, self-esteem, and the respect of others.

The concept of “human poverty” is multidimensional and puts emphasis on the importance of improving the quantity and quality of assets actually possessed by the poor, their personal, social, environmental, and institutional resources. This is an aspect that was somewhat neglected in the PRC’s early approach to poverty reduction, with its emphasis on increasing production and raising incomes. It is important that the reduction of human poverty, in its several dimensions, be a fully recognized and even emphasized part of the long-run initiative for developing the Western Region.

The dismantling of collective rural structures in the early 1980s led to the disappearance of the rudimentary rural cooperative medical system that had previously covered about 80 percent of villages. While the quality of healthcare improved greatly in better-off regions, individuals in poorer areas of the countryside often found themselves unable to afford the medical care that was now available only on a fee-for-service basis. The Leading Group for Poverty Reduction, World Bank, and UNDP have labeled as “deplorable” the “educational, health and nutritional status of China’s remaining absolute poor.” Several studies have found a strong link between poverty and the existence of ongoing health problems. People in poor health who are prevented by poverty from obtaining the medical care they need will not be in a position to take advantage of new infrastructure and new market opportunities and will remain in poverty.

Poor counties and townships do not have the resources to finance basic healthcare for their residents. They cannot pay for the control of infectious disease, the monitoring of health and nutritional status and disease prevalence, and the provision of health information. The decentralization of the fiscal system has left them dependent on their own very limited revenue base to finance all public services, including public health. This they must do by raising local taxes or imposing fees. The World Bank reported that in the mid-1990s about 80 percent of health care payments in poor counties were made out-of-pocket, whereas the figure for the PRC as a whole was only 40 percent. Public health comes rather far down the list of priorities in county budgets, composing an average of only 4 percent of expenditures.

Calls for reestablishing a rural cooperative medical insurance system and for training more students from the countryside in secondary medical schools are unlikely to be enough

to address this problem effectively. There needs to be a substantial increase in central and provincial government assistance in providing basic public health services in poor areas.

The PRC is committed to achieving general nine-year basic education by 2010, but only to three to four years of basic education for the poorest 5 percent of the population within that time frame. Education in poor regions has suffered on a number of counts. Poor areas cannot afford to pay teachers and provide school materials without charging fees. Parents in poor areas cannot afford these fees: a survey in a rural Hubei county, for instance, found that if all children in a family are at school, the expenses would absorb 40 percent to 50 percent of the family's net income. Small wonder that the enrollment rate in that county had fallen below 50 percent (*Nongmin ribao*, 13 Oct. 1999). Jonathan Unger, the scholar who cites that example, has found that in several poor Qinghai villages where annual per capita incomes come to less than 600 yuan, school expenses during the 2000–2001 school year averaged 120 to 160 yuan per year at the primary school level, and up to 400 yuan for ninth grade. Unger also finds in his fieldwork that poor parents are often eager for their children to get an education, knowing that without it they will be greatly disadvantaged in whatever they do. But the financial reality is such that poor children, and especially girls, drop out of school early or are never sent.

To accept gross inequality in basic educational targets for rich and poor regions is to ensure the perpetuation and even the widening of existing regional inequalities. As the PRC moves forward to develop the Western Region, it should find ways to integrate improved access to basic education, as well as healthcare, into poverty reduction projects, as has successfully been done with multisectoral projects supported by international donors. Beyond that, both the central and provincial governments should take direct aim at regional inequalities in access to basic education by providing the resources needed to bring all children up to a defined minimum standard of schooling. A substantial increase is needed in the funds earmarked for education in poor counties.

Finally, the idea of empowerment suggests providing opportunities for poor communities and people to participate more fully in designing the poverty reduction and local development programs that affect them. In recent years, the spread of village elections to a majority of the PRC's villages and the formation of local social organizations around microfinance provision have put increased participation on the agenda. Bringing poor people into the process of planning, implementing, and supervising poverty programs can sharpen the programs' focus on real needs, promote local enthusiasm and initiative in realizing their goals, and reduce costs of implementation and monitoring.

The idea that education, health, nutrition, and participation should be given increased emphasis in the long-term mission of developing the Western Region suggests a shift of emphasis from economic growth to human or—as the PRC prefers to call it—social development. The prevailing view used to be that the first must precede the second; that economic growth is the foundation on which social development can proceed. A more modern view is that they can and should proceed together, each contributing to and strengthening the other. The Great Western Development Strategy provides an opportunity for the PRC to activate this human development paradigm and, in so doing, to vastly improve the life chances of its poorest citizens.

## Comments from Keijiro Otsuka<sup>6</sup>

### Introduction

There is no question that it is socially imperative to develop the Western Region of the People's Republic of China (PRC) to reduce regional parity between the coastal and inland regions, alleviate the incidence of poverty, and improve ecological environments in this region. It is, however, a major and difficult challenge in view of the dominance of inefficient state-owned enterprises (SOEs) in industrial sectors, the overwhelming importance of employment in agriculture, and deteriorating trends in the natural resource base, such as deforestation and desertification. Furthermore, social infrastructure, such as roads, railways, and telecommunication networks, are underdeveloped and human capital investment is far from adequate in the Western Region. Since the development of social infrastructure and human resources is the necessary condition for economic development, the focus of the Great Western Region Development Strategy on investments in social infrastructure and human capital can be justified.

Yet there is no guarantee that rates of return on such investments will have high social payoffs unless they accompany the development of the manufacturing sectors. Indeed, it is my contention that the social rates of return on the general development strategy contemplated by the PRC Government will be sufficiently high only if a complementary industrial development strategy is also implemented. More specifically, I argue that a clear strategy to develop labor-intensive industries in the Western Region (such as the garment, shoe, simple electric appliances, and machine parts industries) must be properly designed to achieve the goal of the overall economic development and the improvement of the environment in the Western Region. There are several justifications for my emphasis on the development of labor-intensive industries. First, given low grain prices and, hence, the low profitability of crop farming at present, it is likely to be unfeasible to develop agriculture to provide ample employment opportunities for the rural poor.<sup>7</sup> Second, it is the rule, rather than the exception, that the development of industrial sectors leads to the development of the service sectors in developing economies, implying that the service sectors cannot be a leading sector of the economy. Third, and most importantly, there is a great opportunity to develop the industrial sectors in selected cities in the Western Region, such as Chongqing, Chengdu, Mianyang, Xi'an, and Lanzhou.<sup>8</sup> While I admit that the development of selected cities may not be enough to develop the whole region, it must also be true that the development of the Western Region cannot be possible without developing labor-intensive industries to the maximum extent.

It is a major purpose of this paper to demonstrate that rapid industrial development is possible around major cities in the Western Region if appropriate development policies are implemented. For this purpose, we first review the thrust of the existing models of industrial development in the PRC, such as the Sunan, Wenzhou, and Guangdong-Fujian

models, in the next section. On the basis of these models and considering the specific conditions for industrial development in the Western Region, I propose a new model of industrial development for the Western Region in the third section. The fourth section considers the appropriate policies required for the achievement of rapid, equitable, and environment-friendly industrial development in the Western Region. Finally, I conclude this paper by clarifying the wider implications of my development strategy for poverty alleviation and the improvement of the natural and urban environments.

### Models of industrial development in the PRC<sup>9</sup>

In order to initiate the operation of a new industrial enterprise, knowledge of production technology, management knowhow, and marketing capacity must be acquired in the first place.<sup>10</sup> Thus, the sources of technological knowledge, knowhow, and marketing channels characterize the patterns of industrial development. This is clearly the case in the PRC, as shown in Table C-1.

One of the earliest successful development models in the PRC was the Sunan model of development. In the 1980s, the Sunan area, or southern areas of Jiangsu province, developed rapidly owing to the development of collective enterprises run by township and village governments (TVEs).<sup>11</sup> As is demonstrated by Otsuka et al. (1998), the key to the successful development in this area lay in the utilization of production and marketing capacities of SOEs, particularly those in Shanghai. TVEs often employed retired managers and engineers of SOEs, purchased their used machines, and engaged in subcontracting with them. Furthermore, some TVEs became “branch factories” of SOEs, in which managers and engineers were sent from SOEs and profits were shared in accordance with their investment shares. In this way, TVEs produced machines and machinery parts, which used to be produced by SOEs, and sold them often through established marketing channels of SOEs. Since free-market transactions were underdeveloped, the management of TVEs was assisted by local governments, which helped face-to-face transactions between TVEs and SOEs. The cooperation between

**Table C-1 Models of Industrial Development in the PRC**

Model	Entrepreneurs/Leaders	Ownership	Characteristics of Original Industries
Sunan	Former SOE employees, including engineers	Collective TVEs	Copies of SOEs (machinery, parts, and miscellaneous products)
Wenzhou	Local merchants and farmers <sup>a</sup>	Private	Unskilled, labor-intensive (such as shoes, apparel, simple electric appliances)
Guangdong-Fujian	Foreigners	Joint ventures	Light industries and comparatively advanced industries
Zhongguan	Scientists	Private	High-tech (IT-related)

<sup>a</sup> Although the numbers are relatively small, former employees of SOEs also made important contributions to the Wenzhou model of development.

TVEs and SOEs was mutually beneficial because the management of SOEs was subject to strict regulations, whereas TVEs did not possess production knowledge and marketing capacity, even though they faced relatively unregulated management environments.

As TVEs acquired the production knowledge and marketing capacity of SOEs and free-market transactions became efficient, the advantages of the Sunan model faded away, resulting in the slowdown of development in the Sunan region in the 1990s. Inspired by the successful industrial development led by private enterprises in Zhejiang province, the privatization of collective enterprises became the major issue in the Sunan area in the late 1990s (Sonobe, Hu, and Otsuka 2001a).

More conspicuous industrial growth was achieved in Zhejiang province in the 1990s, centered particularly on Wenzhou city located in the southern part of this province. In Wenzhou, only a small number of SOEs existed during the pre-reform period. Consequently, reliance on SOEs was not a feasible development strategy. Farmers had been very poor in Wenzhou owing to the meager endowment of fertile farmland. In order to sustain their livelihood, farmers began to produce simple products, such as pillowcases and low-quality garments, in their houses by hand, and these were then sold by local merchants in large cities in the late 1970s. Also, some farmers repaired simple parts for SOEs in Zhejiang province and Shanghai even though it took them a day or so to go to those cities where SOEs were located.

Gradually they accumulated capital and production knowledge to expand the scale of their enterprise operations. Furthermore, marketplaces were established in which even new enterprises could purchase the necessary materials and sell their products to local merchants as well as merchants coming from a number of large cities in the PRC. Leading enterprises in Wenzhou are all private enterprises, which are profit seeking and, hence, highly efficient. Another major characteristic is the clustering of industries in concentrated areas, which confers benefits of agglomeration economies in the form of production information spillovers, subcontracting between small and specialized enterprises, and the development of skilled labor markets.<sup>12</sup> The quality of their products and the efficiency of their production gradually improved over time, resulting in accelerated development in the 1990s. Thus, the Wenzhou model of development led by private enterprises became well known in the PRC, and began to be recognized widely as a new model of successful industrial development

Sources of advanced production knowledge and marketing capacity do not have to be confined to domestic sources. In fact, Guangdong and Fujian provinces have successfully developed because of the inflow of technology and management knowhow resulting from the geographical and cultural proximity to Hong Kong, China and Taipei, China. Shenzhen, Guangzhou, Pearl River Industrial District, and Tongguang are examples of areas where joint ventures mushroomed successfully in both high-tech and low-tech industries.

Another successful development has been taking place in Zhongguang Village in Beijing, where information technology-oriented venture-businesses have grown remarkably rapidly. This model is similar to the Silicon Valley model, in which scientific capacities of universities and research laboratories were transferred to private enterprises

through cooperative research projects and the employment of scientists. Such development has been possible in Zhongguang because of the clustering of first-rate, internationally competitive PRC universities in Beijing.

This brief review of successful development models suggests that in order to fuel the development of industries in the Western Region, utilization of production and management knowhow, marketing network, or scientific knowledge accumulated outside the present TVE sectors is needed.

### **Toward a new model of industrial development in the Western Region<sup>13</sup>**

Although SOEs still dominate in the Western Region, we must not overlook the fact that TVEs began to develop rapidly in large cities in this region in the mid-1990s. Indeed, there is little exaggeration in saying that the current view of downtown Chongqing is reminiscent of that of Shanghai around 1995. TVE development in the western cities lagged behind by nearly a decade partly because of the early focus of the PRC Government on the development of the Eastern Region and partly because of the time lag in information dissemination on industrial reforms to this region.

There are several notable features of this development. First, like the Sunan model, TVEs copy products of local SOEs, such as motorcycles, and develop new products based on the technology used in SOEs, such as industrial machineries and commercial vehicles based on the production of tractors. Second, extending the Sunan model, TVEs not only employ retired managers and engineers but also recruit the staff of SOEs that tend to suffer from deficits. There are TVEs where most, if not all, engineers and managers have come from SOEs. The engineers transfer technology in the same industrial areas from SOEs to TVEs, and the managers, who came from SOEs engaged in various fields, transfer general management knowhow. Third, more often than not, the successful TVEs used to be collective TVEs but were reformed into private TVEs in the late 1990s, similar to the Wenzhou model. Unlike the Wenzhou model, however, there is a tendency that enterprises producing the same and related products do not locate in the same areas, reflecting the fact that the intention of township and other local governments, and not the profit motives of private enterprises, determine the locational choice of enterprises. Fourth, unlike the Guangdong-Faijian and Zhongguang models, there are a relatively small number of TVEs jointly managed by foreign enterprises and supported by universities and scientific research institutions.<sup>14</sup> It is likely that these two models are difficult to follow in the Western Region partly because of the geographical disadvantages and partly because of the paucity of strong scientific institutions. Thus, in general, products currently produced by private enterprises in the Western Region are labor-intensive and relatively simple products, even though there are exceptions. From the viewpoint of poverty reduction, this development is desirable because the Guangdong-Faijian and Zhongguang models are not conducive to the development of labor-using industries.

Because of the policy to develop industries to serve military purposes in the Western Region during the socialist periods, SOEs in this region employed engineers and scientists who are as capable as those in the Eastern Region. In other words, SOEs in

large cities in the Western Region can be powerful sources of technological information and management knowhow, which can be effectively utilized for the development of TVEs in this region.

It is also possible to transfer the production capacity of enterprises in the Eastern Region, where wages are higher, to the Western Region, where wages are lower. In fact, there are a nonnegligible number of enterprises that have already moved to the Western Region. Of course, such locational moves are desirable for the development of industries in the Western Region. Enterprises in the Western Region can also learn from the experience of more advanced enterprises in the Eastern Region by inviting engineers and managers. We should not overemphasize, however, the possibility of interregional technology transfer, because wage rates of a similar quality of industrial workers in large cities are not widely different between the two regions because of the active interregional migration of workers from the west to the east.<sup>15</sup>

My recommended strategy of industrial development in the Western Region is to go beyond the existing models of successful development in the PRC in terms of the fuller utilization of the potential capacities of SOEs and human resources based on the development of private enterprises. A caveat is in order here. Although I strongly recommend the development of new or modern labor-intensive industries, in no way do I deny the importance of traditional industries in the Western Region, such as the food processing and building material industries. Particularly important is the food processing industries, which are sometimes located in rural areas and often employ the poor rural labor force. I believe that there is a large room for these industries to gain from the fuller utilization of the management and technology capacities of local SOEs.

### **Strategy for industrial development in the Western Region**

While there is a great potential for developing manufacturing industries in the Western Region, the potential will remain mere potential unless supporting industrial policies are implemented. In my view, there are three sets of critically important supporting policies. They are: (i) further reform of SOEs; (ii) the construction of industrial parks in suburbs of large cities and new satellite cities; and (iii) the establishment of secure individual land rights on farmland.

### **Further reform of SOEs**

In order to trigger the development of private enterprises in the Western Region, perhaps the most important policy is to undertake the complete privatization of SOEs. Needless to say, potentially efficient SOEs will prosper after the reform, a good example being the Changhong Electric Company in Mianyang City.<sup>16</sup> Such SOEs will offer expanded employment opportunities, so long as the Western Region has a comparative advantage in labor-intensive industries. Furthermore, as in the case of Changhong, such SOEs will develop subcontracting networks with labor-using and often low-tech private SMEs because subcontracting has proven to be cost-saving not only in Japan and Taipei, China but also in Wenzhou and other cities in Zhejiang province. Therefore, this development will provide further employment opportunities.

A considerable number of privatized SOEs will be closed or merged with private enterprises after the reform. In this process, a large number of workers will lose employment, at least temporarily. It must be emphasized, however, that a large number of capable workers will find new employment in private enterprises and that this is precisely the prerequisite for the development of private enterprises in the Western Region. Eventually those who suffer from unemployment for prolonged periods will find new employment opportunities not only in growing enterprises, including low-tech subcontracting sectors, but also in service sectors, which will certainly develop as a result of the development of the manufacturing industries. I conceive with much confidence that without the political will to reform SOEs and tolerate the painful transition process, the development of industrial sectors in the Western Regions will never be realized.

### **Construction of industrial parks**

Although most former TVEs in the Western Region have been privatized, the legacy of TVEs remains an obstacle to the further development of industries, namely, the generally dispersed location of enterprises producing similar and vertically related products. This implies that private enterprises fail to enjoy the benefits of agglomeration economies to the same extent. Therefore, local governments should create clusters of industries in industrial parks. The relocation of enterprises to industrial parks is no longer difficult because they are now privatized so that they can make locational choices independent of the influence of local governments. The construction of social infrastructure should be concentrated in industrial parks in the suburbs of large cities and newly created satellite cities, consistent with the guiding principle of the industrial policy of the PRC Government (*Report 2001*, p. 15-7-8). In the course of industrial development in Japan and Taipei, China for the last several decades, industries moved from congested large cities to their suburbs and neighboring towns to form industrial clusters (Mano and Otsuka 2000; Sonobe and Otsuka 2001).

In order to stimulate the entry of new enterprises and to lessen the costs of transactions, local governments should invest in the construction of marketplaces. This policy is not so costly and can precede the construction of industrial parks. It is expected that the establishment of marketplaces will promote the shipping of relatively simple products and low-quality products from industrial centers in the Western Region to other areas of the same region and the Central Region.

Aside from the private gains from the relocation of enterprises, there are two additional advantages in the construction of industrial parks. First, the congestion of urban areas, which is a major source of environmental problems, can be lessened. Second, the concentration of the same and similar industries in one location will make it easier to implement environmental regulations.

### **Strengthening of individual land rights**

One of the major purposes of developing industries is to absorb the poor rural labor force. Since the majority of rural workers are uneducated and, hence, not qualified to be productive industrial workers, investment in their schooling must be an integral part of

the industrial policy. Another important but often-neglected policy is to strengthen individual land rights on farmland. Because of the weak individual rights to transfer their farmlands through rental and outright sale, those rural workers who want to move to industrial areas cannot earn land rentals or land sale revenue. As a result, they are forced to hold land-use rights by cultivating their lands during weekends and lending them without charging rental fees. If those workers can freely rent out their lands with land rentals or sell their land rights, the benefit of rural-to-urban migration can be enhanced. I wonder if the weak land rights currently perceived by farmers greatly reduce the geographical mobility of rural workers. I anticipate that strengthened individual land rights will promote the geographical mobility of the cheap rural labor force for the development of industries.

Furthermore, the transfer of land rights to those who remain in rural villages will benefit them simply because they can expand the size of their cultivation. This, in turn, will contribute to the reduction in rural poverty. In addition, the reallocation of land from those who do not want to continue farming to those who do will improve the allocative efficiency of scarce farmland (Hayami and Otsuka 1993). Therefore, I recommend the implementation of the policy to establish secure individual rights on farmland for both industrial development and the alleviation of rural poverty.

### **Concluding remarks**

People in the Western Region are generally poor, but particularly poor are the rural labor force. Thus, in order to reduce poverty, it is imperative to create sufficient employment opportunities for those dependent on labor earnings. Herein lies the most fundamental reason to advocate the private sector-led, labor-intensive industrial development strategy in the Western Region.

Although not mentioned explicitly so far, the absorption of the rural labor force in suburban areas and new satellite cities is necessary to conserve highly degraded natural resources. This is because a major factor affecting the deterioration of natural environments is population pressure on marginal lands not only in the PRC (*Report 2001*, p. 17-8) but also in other developing countries (Otsuka and Place 2001).

As I pointed out earlier, the development of industries in suburbs and satellite cities will help improve urban environments. It is also worth emphasizing that ultimately it is an increase in the living standards of people that enhances the people's preference for a better urban environment. This is amply demonstrated in the literature on urban environment, which finds that urban environments deteriorate initially with income growth but improve with further increase in income, a phenomenon known as an "inverted-U" relationship between the emission of pollutants and per capita income. Thus, industrialization is not only an engine of economic growth but also a catalyst of environmental improvement.

The upshot is that there is no tradeoff between poverty reduction and the improvement of urban and natural environments. In all likelihood, there is no substitute for the successful industrialization recommended in this paper that can both alleviate poverty and improve environments in the Western Region of the PRC.

## Notes

### Appendix A

1 London School of Economics.

2 Editors' note: Table 5-3 in the Final Report replaces Table 7-38 in the Draft Final Report but without data on savings, for which reliable data are not available.

3 There is some discussion of the reliability of the income estimates of the State Statistical Bureau (SSB) in A. R. Khan and C. Riskin, "Income and Inequality in China: Composition, Distribution and Growth, 1988 to 1995 (in *China Quarterly*, 1998, no. 154, pp. 221–253). The authors of the article find that relative to their survey, the SSB underestimates income (Table 4). This may account for the high ratios in poor areas if for some reason savings are much more accurately measured than income, especially in poor rural areas.

4 Carl Riskin responds as follows:

Meghnad Desai criticizes a published statement by A. R. Khan and me to the effect that the PRC has become one of the more unequal societies in Asia, and he argues that the degree of inequality in the PRC is not "serious enough to worry about." A brief reply is in order.

From the mid-1980s on, the PRC has had one of the fastest increases in income inequality on the historical record. As the World Bank puts it, "China's steep rise in inequality is exceptional in international perspective" (World Bank, *China 2020: Development Challenges in the New Century*, 1997, p. 8). The PRC Government's attitude toward fast-rising inequality was at first fairly complacent, but in recent years it has become more concerned about the potential threat to social stability posed by growing regional polarization. Although Meghnad Desai urges the Government back toward its former complacency on this issue, the PRC has good reason to want to stem the rapid growth of regional inequality before it becomes excessive and threatening. "Is China's inequality still low by the standards of the region? The point of the Khan/Riskin statement to which Meghnad Desai takes exception was to dramatize the fact that income inequality in China, as measured by the Gini coefficient, was in fact near the top of the range of available such estimates by 1995, whereas a few years earlier it had been at the bottom of the range. The caveats given by Lord Desai, and, indeed, by Khan and Riskin, (Khan, Azizur Rahman and Carl Riskin, "Income and Inequality in China: Composition, Distribution and Growth of Household Income, 1988 to 1995," *China Quarterly*, 154, 1998) do not change this broad conclusion. It is true that the available Gini ratios of some countries are for consumption expenditures rather than income, and thus would be expected to be somewhat lower. However, it is quite implausible that an income Gini as high as the 0.45 that we calculated for China could be consistent with expenditures Ginis of 0.34 (India) or 0.32 (Indonesia). "It is also true that inequality between Chinese provinces is smaller than inequality within provinces. However, inter-provincial inequality has been growing much faster, its contribution to total rural inequality increasing from 22 percent in 1988 to 31 percent in 1995 (see Zhang Ping, "Rural Interregional Inequality and Off-Farm

Employment,” in C. Riskin, R. Zhao and S. Li, *China’s Retreat from Equality: Income Distribution and Economic Transition*, Armonk, NY, M.E. Sharpe, 2001). Moreover, if we focus not on average inter-provincial inequality but specifically on the disparity between the developed east coast and the backward western provinces, then regional inequality takes on much greater dimensions.

“Finally, a note of agreement: It is certainly true that China faces major problems coming from its accession to WTO and the need for structural adjustments to cope with globalization. However, it is not evident that the need to face these issues conflicts with attempts to stem growing regional inequalities by investing in human and physical resources in the west. On the contrary, there would appear to be important synergies between the demands of globalization and the human development policies needed to improve the competitiveness of China’s western residents.”

### Appendix B

5 Queens College and Columbia University.

### Appendix C

6 Foundation for Advanced Studies on International Development, Japan.

7 In the case of rice farming in Asia including the PRC, employment capacity is limited even after the introduction of improved rice varieties. See David and Otsuka (1994).

8 It seems to me that the *Draft Final Report* (Asian Development Bank 2001) is overly pessimistic about the possibility of industrialization in the Western Region. (Editors’ note: The *Final Report* is less pessimistic than the *Draft Final Report*).

9 This section draws on my ongoing project entitled “Models of Industrial Development in China,” jointly being carried out with T. Sonobe and D. Hu.

10 Another important factor that affects the initial development of industries is the availability of investment funds. According to the development experience of small and medium enterprises (SMEs) in Japan, Taipei, China, and Zhejiang province, the limited availability of funding is not a critical constraint since enterprise operation can begin with labor-intensive production methods and small-scale facilities.

11 Note that township and village enterprises (TVEs) include both collective and private enterprises in rural areas or areas outside large cities.

12 Other cities in Zhejiang province followed the Wenzhou model in later periods. See, for example, Sonobe, Hu, and Otsuka (2001b).

13 Perspectives developed in this section depend on my brief visits to the Chongqing municipality and two cities in Sichuan province—Chengdu, and Mianyang.

14 We found, however, a few exceptions in Mianyang city in Sichuan province.

15 According to my interviews with enterprise managers in Chongqing, Chengdu, and Mianyang, monthly wages of ordinary workers are 600–800 yuan in these cities and 800–1,000 yuan in major cities in Zhejiang and Jiangsu provinces. Considering migration costs and the higher costs of living in the Eastern Region, such wage differentials are surprisingly small.

16 Strictly speaking, Changhong has not been fully privatized. In practice, however, this company can be considered fully privatized.

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