15 Is China's development success transferable?

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China's recent advances have multiplied the real incomes of a considerable fraction of mankind. As China's long boom enters its fourth decade, it is natural to ask what Chinese experience can contribute to the continuing search for accelerated income growth to benefit those who still lag behind. The "lessons" of China's development success appear rather limited. China's reform effort underscores general principles that apply to any development effort. China's economic gains also rest on unique elements that are unlikely to appear elsewhere. We discuss each in turn.

Transferable elements from China's ongoing growth spurt

The following discussion highlights several characteristics that emerge from China's recent economic experience: the importance of opportunity cost, openness, and competition, and also the limited applicability of popular generalizations that purport to capture the essence of the development process.

Opportunity cost

Economists routinely identify structures as "optimal" or "efficient" and contrast these outcomes with "inefficient" alternatives. In a dynamic world, the pursuit of Pareto or static efficiency can easily become counterproductive. Attaining efficient outcomes is unlikely; the theory of the second-best shows that merely approaching them need not improve performance. Generations of theorists have found no firm link between static efficiency and growth. Economic success stories are studded with massive deviations from Pareto efficiency: think of German labor markets, Japanese agriculture, Korean banks, or US elementary and secondary schools. Static efficiency is surely desirable – after all, who can applaud the waste of resources. But there is an economics of economizing on waste that economists are prone to overlook.

The key element is time. As the seventeenth century English poet Andrew Marvell put it:

> But at my back I always hear
> Time's winged chariot hurrying near;
> And yonder all before us lie
> Deserts of vast eternity.
> (From "To His Coy Mistress")

While analysts dither and bureaucrats joust, opportunity costs – the "road not taken" in the words of Robert Frost – mount in the form of unbuilt factories and roads, uneducated children, and untreated illnesses. Examining the history of India's steel industry, Robert Repetto found that "the combined effect of faster completion and faster rise to full capacity" was comparable to "the potential economies to be realized by selecting the best possible site … instead of the worst" and substantially larger than the savings arising from a 50 percent reduction in labor costs (Repetto 1971: 37–39).

From this perspective, Chinese experience does appear instructive. Both before and during the reform period, policy implementation often preceded thorough analysis. This was certainly true of China's First Five-Year Plan, which covered 1953–1957 but was published only in 1955. Cabinet-level officials articulated a strategy of first solving the "problem of existence or absence" of some desired product or technique and then focusing on the "problem of advanced or backward" – i.e. stretching the economy into new areas with limited attention to either static or X-efficiency (Rawski 1980: 203, citing documents from 1957 and 1958). China's post-1978 reform began under similar circumstances: "reformers literally did not know where they were going: they were reforming 'without a blueprint' and merely *seeking ways to ameliorate the obvious serious problems* of the planned economy" (Naughton 2007: 86, with emphasis added).

Seeking ways to "ameliorate the obvious serious problems" summarizes the analytic approach of the late Hollis Chenery, "who insisted that pinpointing and ameliorating key obstacles could accelerate growth in the absence of conditions that are widely seen as essential for development" (Brandt and Rawski 2008: 9). The same phrase highlights key elements of the World Bank's recent Spence Report, as summarized by Rodrik (2008):

> the new policy mindset starts with relative agnosticism about what works. Its hypothesis is that there is a great deal of "slack" in poor countries, so simple changes can make a big difference. As a result, it is explicitly diagnostic and focuses on the most significant economic bottlenecks and constraints. Rather than comprehensive reform, it emphasizes policy experimentation and relatively narrowly targeted initiatives in order to discover local solutions, and it calls for monitoring and evaluation in order to learn which experiments work.

This summary, which clearly reflects Chinese experience, should encourage policies that seek to create successions of profitable opportunities such as those described decades ago by Scitovsky (1954: 148–149) and Hirschman (1958: 65ff.) under the heading "Development as a Chain of Disequlibria."

China's initial post-1978 reform of agriculture, for example, retained far greater state control than existed in the early 1950s (not to mention the full market system of the 1920s and 1930s), but nonetheless unleashed an array of favorable consequences: greater incentive and effort; leading to improvements in output, yields, income, consumption, nutrition, and individual energy. These changes quickly relaxed long-standing foreign exchange constraints and encouraged the expansion of rural marketing, the release of labor from farming, accelerated growth of rural industry, and, following what began as small and hesitant reforms of the international sector, the gradual expansion of exports from rural factories.

Reform is difficult and contentious. Vested interests will battle to protect their customary benefits. There are no magical policies that ensure success. Would-be reformers must therefore attempt to follow the strategies that worked in China: look for areas in which feasible change may deliver quick results and also embody some potential for subsequent rounds of improvement. There is no guarantee of success – rapid diagnosis increases the likelihood of policy error, as seems to have occurred during China's slowdown of 1998/1999, when policymakers applied Keynesian remedies to what some observers viewed as structural difficulties.

The exact nature of growth-igniting reform will vary with the context. In Africa today, for instance, growth-minded governments might beneficially encourage the expansion of labor-intensive production for home and especially for overseas consumption. Given the ongoing increase of Chinese wages and currency values, efforts to lure Chinese garment entrepreneurs, perhaps by establishing a single export zone or industrial park, might push some unlikely jurisdiction toward a new career as the coming exporter of baby clothes.

Economic openness

Influenced by the Great Depression and the Soviet Union's success in enlarging its economic and military power prior to World War II, many economists (e.g. Rosenstein-Rodan 1943) believed during the 1940s and 1950s that participation in international trade and investment was unlikely to stimulate development. Despite ample evidence that economic openness has delivered immense benefits to formerly poor nations, especially in Asia, during the ensuing decades, anti-globalization sentiments seem to be on the rise, especially among European and American politicians.

While involvement with global markets may damage the material well-being of some low-income economies and their residents, China's experience points in the opposite direction. This is nothing new. A recent historical review concludes that "interaction with global markets has consistently contributed to the growth and commercialization of China's economy and to the material well-being of its populace" (Rawski and Rawski 2008). Peter Lindert conjectures "that common folk were among the greatest gainers from the rise in China's terms of trade, and her volume of trade, between the 1910s and the 1930s" (1996: 229).[2] Of course,

the consequences of globalization are not all beneficial, for they include the spread of narcotics and infectious disease as well as the decline of specific firms, industries, occupations, and even whole regions. Given these unpleasant realities, the argument must be that, on balance, openness to global influences raises living standards and provides new opportunities.

Some of these opportunities are readily apparent, including access to new commodities (e.g. imported computers, software, and color televisions in the 1980s), cost-reducing imports (e.g. crude oil and iron ore in the current decade), and export-linked employment opportunities. Others work their way through the economy along paths that are not readily visible.

China's historic and contemporary interaction with the international economy confirms Paul Romer's notion that information blockage (rather than resource misallocation arising from price distortions) dominates the total cost of officially imposed isolation, such as occurred during the early Qing period and again during China's twentieth-century era of socialist planning. The astonishing ignorance displayed even by highly educated elites[3] prior to China's reform underlines Romer's view of "how costly it is in terms of domestic welfare when a poor nation indulges a taste for self-sufficiency and righteous indignation in its dealings with the rest of the world" (1993: 548). Increased awareness of new arrangements, technologies, and possibilities arising from global interaction, whether it be clocks, maps, and variolation during the Qing era or e-commerce, NGOs, voluntary blood donation, and double majors for college students, illustrate the extent to which the benefits of openness extend beyond the conventional analysis of "gains from trade."

Foreign direct investment was initially confined to modest ventures, mostly by overseas Chinese entrepreneurs, in a handful of tiny and isolated "Special Economic Zones" in the southern coastal provinces of Guangdong and Fujian. As reform deepened, foreign direct investment from multinational corporations and overseas travel and study soon emerged as additional channels for knowledge acquisition. In recent years, multinational firms' expansion of China-based R&D centers as well as China's own outbound FDI, especially funds destined for the purchase or construction of manufacturing assets (rather than widely publicized efforts at resource acquisition), have further enlarged the inward flow of knowledge and information.[4]

Growing participation of foreign business has contributed to China's development in many ways. Rapid dismantling of barriers to commodity imports and to foreign direct investment, which preceded China's 2001 entry into the World Trade Organization (see Branstetter and Lardy 2008), injected international standards of quality and design into a broad array of domestic sectors. The efforts of foreign manufacturers to build local supply chains, encouraged by a combination of government policy and cost pressures, has encompassed a growing proportion of domestic firms, especially in China's coastal provinces. A single example can illustrate this trend. Johnson Controls, a US-based firm, established a green-field plant to supply auto seats to the Hyundai car assembly firm located in Beijing. The plant was completed in March 2004. When visited

in July 2005, this plant had developed a network of 60 suppliers, including ten Korean firms designated by Hyundai along with 50 private domestic firms located within an hour's drive of the Johnson Controls facility in Beijing's suburbs.

As China's policy elites gradually came to appreciate the benefits associated with international trade and investment, numerous legislative and regulatory changes smoothed the path to attaining these gains. In the 1980s, for example, foreign firms persuaded Chinese administrators to allow the use of newspaper advertisements to recruit staff and to allow workers to change jobs without their employers' permission. During the 1990s, China permitted the establishment of wholly owned foreign firms; this in turn led to enhanced pressure to grant "national" treatment to domestic private firms. The predilection of foreign firms for leased equipment led to provisions facilitating the spread of leasing to the domestic economy. The special legal/regulatory regime established to manage activity in the special economic zones, reminiscent of the mixed Sino-foreign regimes that governed China's nineteenth and early-twentieth century treaty ports, gradually spilled into the domestic economy. The initial success of the special zones encouraged local and provincial governments across China to campaign for permission to establish new zones aimed at encouraging foreign trade, foreign investment, technology start-ups and other forms of enterprise that could benefit from the favorable regulatory environment provided to the initial zones.

The cumulative impact of these developments is enormous. Over a period of three decades, China has vaulted from near-autarchy into the ranks of global trade and investment leaders. China's share of world trade outstripped Japan's in 2004. WTO data for 2006 rank China as the world's third largest exporter and importer of merchandise, trailing only the United States and Germany in both categories. China's trade ratio (combined value of exports and imports as a percentage of GDP) rose from 5 percent in 1970 to 12, 30, and 40 percent in 1980, 1990, and 2000. The 2005 trade ratio reached 63.9 percent, far in excess of comparable figures for other large nations (with populations above 100 million – see Brandt *et al.* 2007). Foreign-linked firms regularly transact more than half of China's overall imports and exports. China ranks among world leaders as a destination for FDI and is rapidly emerging as a mid-sized capital exporter.

During the past three decades, China's increasing economic openness not only contributed to the growth of exports, imports, employment, productivity, and wages,[5] but unleashed a torrent of new products, ideas, knowledge, and opportunities. By intensifying competition, openness inflicted pain, but at the same time beneficially spurred enterprises in every sector to sharpen their focus, accelerate innovation, raise productivity, and reduce costs. China's membership in WTO, which forbids the sort of protection that Japan and Korea have applied to agriculture, finance, and other sectors, eliminates potentially useful policy options, but also closes off a Japan-style bimodal outcome in which world-class industries (autos, consumer electronics) may be held back by uncompetitive weaklings (finance, food processing).

The benefits of openness extend in surprising directions. Analysis of firm-level data from the World Bank's investment climate survey "strongly supports the conjecture that the expansion of manufacturing exports lessens gender differentials in wages and productivity" (Dong and Zhang 2008: 25).

The channels through which information and competitive pressures percolate continue to multiply. In addition to commodity trade, incoming foreign direct investment, the creation of China-based research facilities by multinational firms, and overseas travel and study, we can anticipate new flows of benefits from China's growing stock of overseas investments, especially in manufacturing and finance.

Ownership and competition

Economists have definite ideas about competition and ownership. They view economic rivalry as productive of effort, improvement, and innovation. They disparage public ownership and favor the private sector. While we can agree that an ideal economic system would largely exclude state ownership of business enterprise, how damaging is public ownership in reality?

China's experience suggests that competition trumps ownership in the hierarchy of institutional desiderata. The disadvantages of public ownership are well understood. Many accounts demonstrate the high costs attributable to the state sector's large share in China's capital stock and investment spending. Most recently, Brandt, Hsieh and Zhu have used provincial data to show that a large state sector erodes regional growth dynamics by channeling capital into low-payoff projects and slowing the growth of non-farm employment: their data link high (low) state-sector shares in provincial economies with high (low) state-sector investment shares, low (high) growth of provincial non-farm output, and low (high) growth of non-farm employment (Brandt *et al.* 2008: 714–719). When privatization does occur, Gan *et al.* (2008) link the absence of a large state sector with management buyouts that typically improved firm-level performance. In regions with large state sectors (or weak fiscal conditions – surely related to state sector dominance), local authorities tend to favor privatization strategies that often failed to improve firms' performance.

The observation that China has attained spectacular development despite the drag of a large state sector need not discomfit observers familiar with the United States system of post-graduate education. Here is a global industry in which the United States outperforms all rivals by a wide margin. The organization of the US branch of this sector is a hodgepodge of private (Harvard, Princeton), public (Michigan, UCLA) and hybrid (Cornell, Pittsburgh) institutions – all of which continue to thrive amidst fierce competition for faculty, students, and research funds.

If public ownership condemns producers to a fate of low or declining productivity and efficiency, why has Berkeley not crumbled in the face of competition from nearby Stanford? Although public institutions benefit from direct government appropriations, a careful accounting would surely pinpoint private schools

(which receive tax-deductible donations and accumulate untaxed returns on endowments) as the biggest recipients of governmental largesse, mainly in the form of tax expenditures. The apparent answer to the conundrum of successful U.S. public universities is that competitive pressures squeezed out enough of the characteristic public-sector shortcomings to allow them to keep pace with private-sector rivals. After studying, teaching, and visiting at numerous universities, it is my observation that operating methods, the pace of work, internal discipline, academic standards, the degree of shirking and slack, the ability of managers and employees to appropriate institutional property, etc. hardly differ across top-ranking North American institutions regardless of ownership.

If we agree that competitive pressures have sufficiently muffled the disadvantages of full or partial government ownership to allow Ohio State and San Diego (not to mention Singapore Airlines, POSCO and Volkswagen) to hold their own in long-term competition with powerful private-sector rivals, can we expand this perspective to whole economies, and suggest that the forces of competition, by reducing the inherent shortcomings of public ownership, have enabled China's economy to thrive despite the large share of public-sector firms in both production and investment?

Before embracing this proposition, we must confront the well established view that regional protectionism has sharply curtailed domestic trade and hence competition, especially in manufacturing. I call this the "cellular" perspective, in honor of Audrey Donnithorne's widely cited 1972 paper on "China's Cellular Economy." Whatever its merits, Donnithorne's view of China's economy as a collection of largely self-sufficient regions surely made more sense in 1970 than in 1990 or 2005. Recent cellular proponents, notably Kumar (1994), Young (2000) and Poncet (2003, 2004), seem to be victimized by excessive aggregation, bad data, or both.

Young finds measures of cross-provincial differences in the commodity composition of manufacturing to be small and declining. Chinese researchers report similar results. These findings seem extremely unlikely. Since the start of reform, China has moved from near-autarchy to become one of the world's great trading nations. The bulk of China's exports, which include the products of many new or vastly enlarged industries (televisions, power tools, auto parts) originate in a few coastal provinces (which, for example, accounted for 84–85 percent of China's exports in 2002 and 2003 – see External 2004: 105). How can these very large shifts fail to increase properly constructed measures of cross-provincial differences in the composition of manufacturing? Indeed, subsequent work by Naughton (2003) and Bai *et al.* (2004) contradicts the cellular economy perspective derived from Young and others.

In a series of imaginative papers, Poncet (2003, 2004) uses provincial input-output tables to examine changes in the scale of cross-provincial commodity flows. Her conclusion: the ratio of inter-provincial "imports" to provincial absorption is low and declining. This too, defies common sense – think of China's growing truck fleets and expanding network of highways. Bad data arising from incomplete measurement of transport activity offers the most likely

explanation for what I see as a clash between Poncet's results and Chinese reality. There is considerable evidence that standard statistical sources "grossly underestimate the level and growth of transport activity," especially for traffic along China's highways and inland waterways (see Rawski and Mead 1998; Huenemann 2001; Rawski 2006: 115–118; and Brandt *et al.* 2008).

The wholesale transfer of truck, bus, and inland waterway transportation into the hands of private owners or operators has created a large and growing gap between official measures and the (presumably much larger) actual traffic totals. Chinese sources ascribe the underreporting problem to the desire of private operators to avoid taxation: since individual entrepreneurs "keep no proper accounts, revenue and cost, profit and loss reside only in the mind of the operator, which creates grave difficulties for supervisors and tax collection and translates into big fiscal losses" (Hubei 1995: 263).

Despite these criticisms, proponents of the cellular economy view have produced substantial empirical work to buttress their position. The key question is not whether local protectionism exists – everyone agrees that it does – but whether it is important. We know that foreign and domestic firms have established new manufacturing facilities in which productivity is far higher, and unit cost far lower, than in many incumbent producers. My question: how do incumbents respond to the arrival of low-cost, high-productivity rivals?

Under the "cellular economy" hypothesis, there is little need for low-end incumbents to respond. Their markets are safe, because official patrons will prohibit interlopers from selling into protected local markets. Customers in isolated sub-economies cannot escape the clutches of incumbent suppliers. As a result, the productivity gap between low-end and high-end suppliers in specific industries must expand.

If competition rather than restriction prevails, the story is different. When products from new, high-end producers enter the market, incumbent producers quickly feel pressure to respond – because new competition threatens their market share and even their survival. For this reason, we expect the productivity gap between strong and weak firms to first expand (upon the entry of new, strong firms) and then to decline (as weak firms either reform their operations or exit through bankruptcy, closure, or merger).

This dichotomy suggests a statistical test using enterprise-level data. China Industrial Microdata, compiled by the National Bureau of Statistics, records information about all "above-norm" industrial firms – meaning all state-owned firms and others whose annual sales exceed ¥5 million. The calculation shown here focuses on data for 1993 and 2002 – a period in which the classification of industries into sub-sectors remained virtually unchanged. For both years, and for each of 535 manufacturing sub-sectors, our test involves the following:

- Calculate the coefficient of variation for sales per worker among all firms in each of 535 sub-sectors in 1993 (CV93) and again in 2002 (CV02) (the roster of firms is not necessarily the same in the two years).
- Calculate the ratio R = CV02/CV93 for each of 535 sub-sectors.

- Examine the distribution of the ratio R. If the 535 sub-sector observations cluster in the region R > 1, the test supports the cellular economy perspective. A preponderance of observations in the range R < 1 supports the view that open markets prevail.

Results appear in Figure 15.1 (prepared with invaluable assistance from Professor Yifan Zhang of Lingnan University). With the median value of R at 0.78 and with 70.7 percent of observations falling below 1, the outcome runs strongly counter to predictions linked to the cellular economy approach.[6]

I conclude that, despite the work of cellular economy proponents, vigorous competition is a key feature of most Chinese product markets. In my judgment, strenuous competition has facilitated the capacity of state enterprises to contribute beneficially to China's overall development, particularly (but not exclusively) during the initial stages of reform, despite the well documented shortcomings associated with state ownership as practiced in China. In the Chinese case, contrary to the expectations of many economists, competition seems to have reduced the costs of public ownership sufficiently to allow the genesis and extension of a massive growth spurt despite the slow pace of privatization.

Sweeping generalizations

China's protracted boom, like its Asian predecessors, has left in its wake a considerable roster of intellectual casualties – theories or prescriptions that dissolve in the face of Chinese realities.

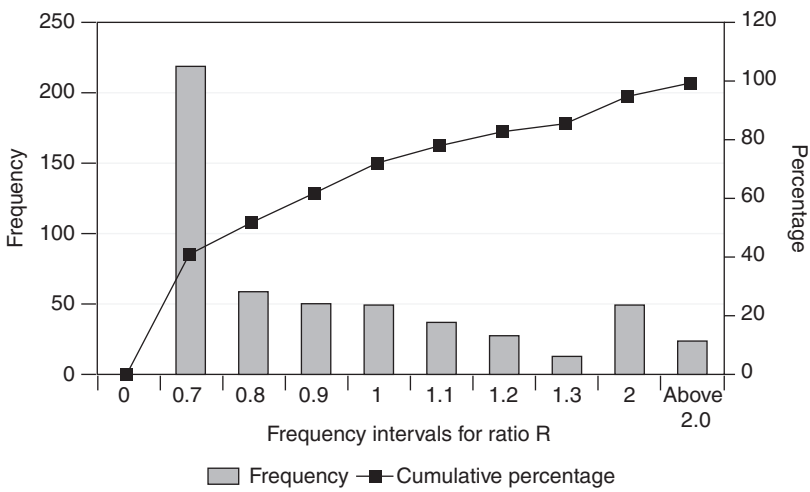

Figure 15.1 Distribution of ratio R for 535 four-digit industries (R < 1 ⇒ reduced dispersion of productivity during 1993–2002, R > 1 fits cellular economy approach).

Prominent among these victims is the "big bang" approach to socialist reform, which postulates that the shift from plan to market must occur abruptly, and the related view that more or faster reform will surely improve economic outcomes.

Recent Chinese experience also undermines the "Washington consensus," which advised that low-income nations could accelerate growth by implementing a policy package that includes liberalization of domestic prices, privatization of state-owned enterprises, etc. The slow advance of Chinese privatization, with the state sector still accounting for perhaps one-third of total output, the glacial pace of legislative changes embedding private property in China's legal system, and the gradualism surrounding price liberalization all indicate that the Washington consensus, like previous sweeping policy prescriptions, overstates the centrality of its main features in the development process.

China's growth path is equally destructive to the view, advanced by Douglass North in the context of European industrialization (e.g. North and Thomas 1973) and recently embraced by Acemoglu and others (e.g. Acemoglu *et al.* 2001), that clearly defined property rights, strong judicial enforcement of ownership prerogatives and contract provisions, and other market-supporting institutions play a central role in determining long-term economic outcomes. If China's rickety financial structures, shoddy corporate governance, grudging recognition of private property, weak judiciary, and widespread corruption can coexist with record-beating growth, how can economists plausibly regard secure ownership rights and related institutions as key ingredients in promoting long-term growth?

China's unique growth-promoting legacy

Many features of China's political economy – considered in the widest possible sense – supported China's remarkable growth spurt in ways that other societies are unlikely to replicate. We begin with "short-term" benefits arising from China's era of socialist planned economy (roughly 1949–1978), and then discuss longer-term legacies.

Beneficial legacies from China's era of socialist planned economy

Reform benefits from starting with a weak system of collective farming

As noted above, reform is difficult and contentious. The central feature of backward economies is that everything is wrong. All systems are defective. Every sector urgently requires reform. Interdependence means that without a broad reform effort, isolated initiatives may flounder and fail. But limited knowledge, vision, and competence among policy elites make it unlikely that policy-makers can design and implement sweeping reform initiatives, even without considering the likely impact of political conflict and unorganized foot-dragging by reform opponents.

Under these circumstances, early success becomes a crucial ingredient in reform dynamics. In addition to raising work effort, crop output, rural incomes,

food consumption, energy levels, and non-food import capabilities, the burst of rural growth that followed the shift from collective farming raised expectations about the prospects for reform efforts outside the farm sector.

In this context, it is important to recall the failure of overseas specialists (and probably of Chinese policy-makers as well) to recognize the limitations of collective farming. My own summary, published in 1973, typifies this mistaken perspective:

> …recent agricultural performance is a result of the post-1960 policy of combining *adequate individual incentives* with massive increases in the supply of agricultural producer goods … the organization of agriculture seems to have achieved a *balance between the needs of both private incentive and central control*
>
> (Rawski 1973: 27–28, with emphasis added; Parish 1985: 14–15 notes the prevalence of similar perspectives)

Urban Chinese were astonished at the changes wrought by rural reform. In 1986, a veteran cadre who had lived and worked in the countryside during the Anti-Japanese war exclaimed with a mixture of admiration and disapproval that "peasants now work so hard and have so much money" that some could even afford to buy trucks and to live near her own home in Beijing's elite Sanlihe district.

The enormous and completely unexpected success of China's timid and partial retreat from state control over agriculture gave a huge boost to reform prospects elsewhere in the economy. Even if, as with efforts to "reinvigorate" state-owned enterprises, initial efforts delivered only limited benefits, results in the farm sector convinced people that reform could unlock immense gains. This enhanced the confidence of reform advocates and eroded the credibility of reform opponents.

Extraordinary focus on economic growth

In contrast to my own mistaken analysis cited above, a rural cadre in Fujian correctly summarized the central fact of rural life in the decades prior to the start of reform: "By the fall of 1959, hunger suddenly emerged without warning.… For the next 20 years, the problem of hunger was part of our lives" (Huang 1989: 61). Accounts of village life during the 1960s and 1970s (for example Friedman *et al.* 1991; He 2003; Thaxton 2008) provide numerous examples of how the rigidly anti-economic commune system frustrated the efforts of households to escape from poverty and hunger. When reform began to break the shackles of collective control, villagers rushed to take advantage of new opportunities to accumulate wealth.

Along with universal pursuit of communization and backyard steel manufacture, the Great Leap Forward empowered – indeed required – local governments to take on the entrepreneurial function of promoting economic growth. This

innovation has no historical precedent in China – local administrations rarely behaved in this fashion during the early twentieth century (Yan Xishan's Shanxi administration stands as a rare exception). It is also unusual elsewhere – an Indian economist once asked me why local governments promote economic growth in China, since their Indian counterparts concern themselves mainly with protecting the interests of entrenched local elites. This decentralization of economic authority and responsibility produced huge initial costs during the Great Leap, as localities lavished labor, timber, and other resources to operate furnaces whose product often represented no more than a poor substitute for iron ore. Decades later, however, ambitious local leaders turned their energies to highly beneficial (though often wasteful) competition to build factories, expand transport and communication networks, and attract outside investment to spur the growth of regional production, employment, and tax revenue.

At the same time, China's retreat from socialist ideology encouraged national leaders, with Deng Xiaoping foremost among them, to focus on economic growth with unusual intensity. Perhaps Japan and Korea during their high growth era periods represent examples of governments that matched China's dedication to economic expansion. India and the United States, by contrast, represent more typical circumstances in which economic concerns struggle against, and often lose out to non-economic matters in the competition for official attention.

This unusual confluence of priorities among leaders and led, and across all levels of public administration, surely enhanced Chinese growth prospects. The government, the Party, and the public shared a hunger for material growth and a willingness to race ahead with little regard for possible negative consequences. Although survey evidence indicates considerable public satisfaction with the outcome, China's policy elites have begun to call for a more "balanced" approach that combines environmental and distributive goals with continued growth. Whether or not this search for balance endures, it is clear that China's economic performance (in terms of GDP growth) benefited substantially from a universal preference for untrammeled growth that persisted for at least three decades.

Socialist industrial structures mask latent competition

During the period of socialist planning, Chinese policy promoted "full sets" of industries in most provinces. Substantial decentralization of economic authority allowed considerable latitude for lower-level governments to pursue local objectives. As Li Chengrui, a future director of China's National Bureau of Statistics, explained to a visiting American delegation in 1975, "When it comes to investment in the chemical industry, for example, province leaders argue for large state investments in their own provinces" (Perkins *et al.* 1977: 276).

This arrangement resulted in a wide dispersion of industrial capacity. With this background, the gradual decontrol of prices, output determination, and product mix arising from the reform initiatives of the late 1970s and early 1980s created market structures that tilted toward competitive, rather than oligopolistic or monopolistic outcomes.

Table 15.1, which compares Chinese industrial structures in 1985 with comparable Russian data for 1989, illustrates the impact of latent pre-reform competition in Chinese manufacturing. The Russian data, compiled by authors who emphasize that prior studies overstated the degree of concentration in Russian product markets, show that the *four* largest firms accounted for at least 70 percent of output in nearly half of 406 subsectors of Russian industry. In China, by contrast, the *eight* largest firms contributed 70 percent or more of total output in only 6.5 percent of 523 subsectors; nearly three-fourths of Chinese subsectors showed eight-firm concentration ratios of 40 percent or less.

Plan-related institutions contribute to reform-era growth

Beginning in the 1950s, China followed Soviet example by creating specialized educational institutions, research institutes, trading companies, and professional associations intended to provide training, technical support, and overseas market access to promote the development of specific industries. Even though the wave of anti-intellectualism associated with the Cultural Revolution of the 1960s and 1970s disrupted these agencies and sapped the quality of their personnel (but note China's achievements in such fields as nuclear weapons and satellite development during this very period), China entered the reform era with what, by the standards of low-income nations, amounted to a massive complement of institutions with the potential to support future industrial development.

Table 15.1 Manufacturing concentration in China (1985) and Russia (1989)

	China (1985)	*Russia (1989)*
Summary measures of concentration		
Number of industries	523	406
Percent of sectors with concentration in the range	CR8	CR4
0 to 20%	46.8	12.6
20–40%	27.6	15.8
40–70%	19.2	24.6
70–100%	6.5	47.1
Concentration in specific sectors		
8-firm concentration ratios (percent)		
Beer	15	22
Glass	35	74
Steel	49	71
Cotton textiles	7	
Cotton weaving mills		28
Garments (CR4)	2	
Women's and girls' dresses (CR4)		100
Household audio/video equipment		100
Color television	44	
Black/white television	28	
Machine tools	31	46
Cement	7	40

Sources: for China, Wang *et al.* (1991: 93, 206, 207); for Russia, Brown *et al.* (1993: Tables 15 and 18).

In engineering, for example, data for 1984 show that entities within and under the Ministry of Machinery Industry possessed 598 research institutes employing more than 100,000 workers, including over 60,000 "technical personnel" (Machinery 1985: 335 – some of the employment data refer to 1982). Gu (1999) has examined the history of these agencies in considerable detail. She dates the creation of "institutions for large-scale production and for research and development in machinery technology" to the 1950s (1999: 125), describes "the evolutionary path of the machinery industry's plant design and R&D institutions from the 1950s to the 1970s" (1999: 141–176) including case studies relating to machine tools, electrical equipment, and power plant equipment. Other sectors experienced similar developments, although typically on a lesser scale. In 1985, for example, the Ministry of Metallurgy reported 19 R&D entities with 13,930 staff members "engaged in scientific and technological activity" (Yearbook 1986: 762).

Despite many shortcomings, of which near-complete isolation from market influence was perhaps foremost, institutes of this sort formed "the starting point for the current reforms" and were, according to Gu, "of critical importance for the success or failure of market reform" (1999: 176).

The role of institutes and educational institutions developed during the plan era in establishing high-profile commercial ventures, especially in the fields of computers and electronics, is well known. Visits to manufacturing enterprises reveal the ongoing contribution of plan-era arrangements to China's ongoing industrial modernization:

- Jiangsu Shagang Group Company Ltd (江苏沙钢集团有限公司), one of China's rising steelmakers, established a joint venture in 1996 with Korea's POSCO to produce stainless steel. When asked about the origins of this tie-up, Shagang executives explained that POSCO had received their name after approaching a trading company under the former Ministry of Metallurgy for advice about possible joint venture partners (Interview, 11 August 2004).
- Jiangsu Chenfeng Group (江苏晨风集团股份有限公司), an integrated silk producer, sends workers for training of up to six months provided by its industry association and hires specialists from the nearby Suzhou Silk Academy. This firm uses long-staple cocoons, in part thanks to work by a national-level research institute and to ideas gleaned from annual meetings of a national silk association (11 August 2004 interview with factory director Cao Renwei).
- Dalian Machine Tool works (大连机床集团有限自认公司) arranged a joint design program with Aachen University (Germany) after requesting an introduction from the Beijing foreign cooperation agency 北京对外交流协会 set up to link foreign experts with domestic entities. According to Dalian executives, additional cooperation with German firms quite likely originated in overseas tours for managers of machine tool firms organized by the Ministry of Machine-building (interview, 12 August 2004).

Beneficial legacies from China's pre-1949 economy and society

Although China's endowment of resources is not large in per capita terms, China benefited from possessing a wide array of natural resources sufficient to support development on a considerable scale without major reliance on large-scale imports, which did not appear until the growth of exports and of foreign exchange reserves provided ample capacity to finance higher imports.

China also benefited from a long tradition of decentralized mobilization of capital in response to economic opportunity. How did township-village enterprises (TVEs) manage such rapid growth with very limited access to formal credit? How do local governments circumvent budgetary shortfalls? Answers to these questions are surely linked to historical circumstances. Scarcity of capital during the Qing period stimulated a "highly effective" response: extreme fragmentation of economic activity, with numerous middlemen linking chains of tiny producers – a structure that "injected tremendous flexibility into the manufacturing economy" (Zelin 1991: 46, 40) – and one that strikingly resembles contemporary industrial organization in places like Wenzhou.

Alexander Gerschenkron anticipated that researchers would come to recognize "the significance of … native elements in the industrialization of backward countries" (1962: 26). This insight seems highly relevant to China. The key element of China's beneficial historic legacy, and central reason for emphasizing the uniqueness and hence non-transferability of China's recent growth experience, rests with the human factor.

The legacy of traditional village culture represents a "native element" that has spurred China's economy both historically and during the recent boom. There is no need to insist that the "will to economize" is stronger in China than elsewhere, or that Chinese are quicker to spot bargains than others. Instead, my assertion is that pre-modern Chinese village society, with its unusual emphasis on education and deep involvement with markets, financial instruments, contracts, shareholding, and complex organizations, produced social patterns and cultural legacies that equip its descendents with what, on average, amounts to an unusually rich and flexible portfolio of organizational skills with which to pursue economic advantage (Rawski 2007).

Rather than recapitulating prior work, let me summarize relevant features of pre-modern Chinese society:

> Evelyn Rawski's study of popular education showed that fiscal and police systems and other Qing institutional arrangements presumed widespread dispersion of basic literacy. Thanks in part to low prices for both teachers and printed texts, she estimated basic male literacy at 30–45 percent and female literacy at 2–10 percent during the Qing period.
>
> (1979: chapter 1)

> New analysis focused on "age heaping" (the tendency of uneducated adults to give their age in round numbers, so that reported ages cluster at 35, 40,

> etc.) shows remarkably low age-heaping (i.e. high numeracy) in the late 17th/early 18th century, followed by a rise in age-heaping during the mid-19th century, and then a subsequent decline "until full age numeracy [i.e. no age heaping] is reached among the birth cohort of the 1890s" – far in advance of other low-income nations such as Turkey and India.
>
> (Baten *et al.* 2008: 18; see their Figures 4 and 5)

> Work by the late anthropologist G. William Skinner "places most peasants within half a day's walk of a standard market town and estimates an average of two trips to the market per household per month. As [historian Mark] Elvin points out, 'by the seventeenth and eighteenth centuries it was normal for those who spun or wove in the countryside to make *daily* trips to the market to buy their raw materials.' "
>
> (Zelin 1991: 38)

> Even in remote villages during the Qing period, written contracts were used in the hiring of labor, sale and rental of property, distribution of land-use rights, marriage and concubinage, and the sale and indenture of human beings. Societies for the maintenance of irrigation works … also used written agreements … ordinary people used written agreements to pool and redistribute resources … [e.g.] partnership contracts … revolving credit associations were common … associations … were formed to build bridges and schools, endow ferries, and repair roads.… [This] encouraged the rise of a whole genre of literature directed specifically at educating people on the practical side of business and trade.
>
> (Zelin 1991: 40–41, summarizing work by anthropologist Myron Cohen)

> [T]he existence of the family as a mechanism for the pooling of resources, however meager, encouraged the entrepreneurial attitudes that pervade Chinese culture and have been seen firing rural reform today.
>
> (Zelin 1991: 56)

Economists are traditionally uncomfortable with cultural explanations of economic phenomena. Indeed, vague cultural explanations of economic outcomes typically make little sense. How can we credit analysts who claimed that in the absence of sweeping social change, traditional forms of family structures and interpersonal relations would prevent China (see the summary in Whyte 2007) from mastering modern technology and enjoying the fruits of modern economic growth? Ironically, proponents of "Asian values" now highlight the same sorts of traditional social relations as conducive to growth.[7] These and other sweeping explanations (e.g. geography) of economic outcomes are far too general – they cannot explain why rapid growth occurs at some times (Japan from the 1950s, China from the late 1970s) and not at others.

But cultural attributes can certainly provide greater or lesser support for economic growth. A survey by Hanushek and Woessmann finds strong links

between cognitive skills and development. These authors conclude that "schooling is but one of the factors influencing cognitive skills and human capital formation" and emphasize that "the importance of nonschool influences on cognitive skills, particularly from the family, has been well documented" (2008: 611). Denzau and North highlight the importance of "shared mental models"; they write that business morality "is a crucial intangible asset of a market economy, and its nonexistence substantially raises transaction costs." They cite Lacroix' model "in which this intangible asset becomes a group-specific asset for a homogeneous middleman group (Jewish, Indian, or Chinese traders in a society in which they are a minority) … [which can thus] enjoy much lower transaction costs than could two randomly chosen members of the society [and therefore] … enable more transactions than would occur otherwise" (2000: 40).

There is no need to limit this perspective to minority groups. Wenfang Tang reports that while "Political scientists always believed that people in a democratic society trust each other more than in a non-democracy … interpersonal trust in China is one of the highest in the world, higher than in many democracies" (personal communication, 2008). Sociologist Martin King Whyte argues that "traditional cultural factors were and are more advantageous than limiting in their impact on [China's] economic development … there was powerful cultural and institutional support for economic success and the quest for upward social mobility" (2007: 5).

In short, compared to other societies (especially low-income regions), social and cultural factors endow China with low transaction costs, high levels of entrepreneurship, and a comparative advantage in organizing for economic gain. I review three areas in which these circumstances have contributed to unusual Chinese accomplishments: administrative competence, overseas Chinese success, and poverty alleviation.

Administrative competence

Chinese organizations at all levels display high levels of administrative competence, a feature that surely enhances China's economic prospects. In my experience, national and provincial office-holders as well as business managers appear to be intelligent, well informed, energetic, and competent. My limited experience with local officials, mainly in prosperous coastal areas, points in the same direction. The functionaries whom I meet may be corrupt – short-term visitors cannot judge such matters. If so, my guess is that they encounter a strong positive correlation between succeeding in their formal governance or managerial duties and increasing flows of informal incomes to themselves and their relatives or associates.

Recent examples of administrative competence include China's response to the SARS scare (2003) and to the Sichuan earthquake (2008). At the local level, I am not aware of reports indicating widespread absenteeism along the lines reported for teachers and health care workers in Bangladesh, India, Indonesia, and other low-income nations (Chaudhury *et al*. 2006) – although I have seen reports complaining of moonlighting by local statistical personnel.

Perhaps the most impressive evidence of administrative competence comes from the operation of collective agriculture from the 1950s to the late 1970s and the rapid expansion of township-village enterprises (TVEs) that followed the decollectivization of farming.

Retrospective studies of China's farm sector tell of many failures, including the great famine of 1959–1961. Although Butler (1985: 111) interviewed commune officials in Hebei who complained of "accountants who could not keep their books straight," there is little evidence that Chinese villagers failed to maintain accurate records of grain stocks and flows, work points, income or outlay in the collectives and communes into which they were herded during the mid-1950s. The indexes of research volumes such as Barker *et al.* (1982), Donnithorne (1967), Lardy (1983), Riskin (1987), Yang (1996) rarely mention "accounting" or "bookkeeping," except to note that the basic level of accounting bounced back and forth between the production teams and brigades – apparently without disrupting the capacity of local communities to maintain suitable records. Even in a Shanxi locality with an illiterate leader and a dishonest accountant "who did not keep any accounts at all," there seemed to be enough information to conclude that the thief owed the commune 300 yuan (Thaxton 2008: 252).

At the start of reform in 1978, China's rural communes and brigades operated over 1.5 million enterprises, including 794,000 in industry. Once reform commenced, rural China witnessed an unprecedented expansion of rural enterprise; by 1990, the number of "township and village" firms (*xiangzhen qiye)* had jumped to 18.5 million, including 7.2 million industrial units (Yearbook 1991: 377). How did these firms, many of which recorded substantial growth of output, employment, sales, profits, and exports, recruit competent managers and bookkeepers? Here again, the literature is largely silent, apparently because lack of managerial talent and book-keeping skill posed no major obstacle to success.

This contrasts with circumstances elsewhere, particularly in Africa, where Uma Lele, presumably describing circumstances of the early 1970s, writes that "in Ethiopia the local-level administration … lacked developmental capacity almost completely," that "agricultural projects in East Africa … suffer from a shortage of well trained African accountants … [who can master] a simple cost-accounting system," and, more generally, that "autonomous programs have usually had expatriate management from the outset" (Lele 1975: 127, 132, 171). Based on Lele's observations, it appears that, during the 1960s and 1970s, some African nations automatically called on expatriates to direct tasks that formed part of the normal routine for commune and brigade-level units throughout rural China during the same decades.

Overseas Chinese

Prosperous, enterprising, and linked to China by patriotism as well as family ties, overseas Chinese have contributed immensely to the flows of technology, market knowledge and managerial know-how that enabled the rapid expansion

of China's exports. But what explains the remarkable business acumen of the overseas Chinese? How did so many (often poor and uneducated) migrants from South China villages attain entrepreneurial success in sometimes hostile Asian environments? How did ethnic Chinese men in the United States attain near-parity with the incomes of Caucasian men as early as 1960 (Hirschman and Wong 1984: 595)? The answers to such questions seem rooted in the pre-modern social structures of rural China.

Escape from poverty

China's success in poverty alleviation is widely applauded. Ravallion and Chen begin a recent account by noting that "the incidence of extreme poverty in China fell dramatically over 1980–2001" (2004: 1). Since incomes in rural areas, where poor households cluster, rose rapidly following the start of reform in the late 1970s, moving the starting point back even a few years increases the initial incidence of poverty and magnifies China's achievements in alleviating dire poverty.

World Bank researchers established ¥278.3 (1985 prices) as equivalent to the Bank's absolute poverty benchmark of income or consumption equivalent to US$1 per day (Keidel 2000: 6). Since annual per capita saving by rural households prior to the reform – measured by deposits in financial institutions – amounted to only a fraction of the price of a chicken or a pair of cloth shoes, we can ignore the gap between income and consumption.

What is the equivalent figure for 1978? Chinese publications provide three price indexes that could be used to deflate the 1985 poverty line (see Table 15.2).

Of these possibilities, the index of grain purchase prices, which reflects the largest single item of household diets and expense, seems most plausible. Of the three alternatives, the index of grain purchase prices rises most rapidly between 1978 and 1985, and thus produces the lowest poverty line and the smallest poverty head-count for 1978. But even this low poverty line exceeds the standard figure of ¥133.78 for average per capita rural net (of production expenses) income for 1978, implying that absolute poverty was the lot of the average Chinese villager at the start of China's economic reform.

Table 15.2 Alternative price indexes for deflating the 1985 poverty line

	Price index for 1985 (1978 = 100)	*Implied 1978 poverty line (current yuan)*
Index of purchase prices for grain	201.7	¥138.0
Index of retail prices in rural areas		
for consumption goods	123.5	225.3
for industrial products	111.3	250.0

Source: Price data from *Price Yearbook* 1992, pp. 115, 18–19, 35, 41.

Furthermore, this standard figure overstates rural household income at the start of reform. Despite the apparent nationwide compilation of accounts that specify annual distributions of grain and cash at the level of production teams (Table 15.3 summarizes 1976 grain distributions for Heze prefecture in Shandong province – I have seen similar materials from other provinces[8]), official measures of rural income derive from small and unrepresentative surveys that oversampled prosperous regions and households.

Net 1978 per capita income of ¥133.57 derives from a survey of 34,961 individuals in 6,095 households conducted by the National Bureau of Statistics (NBS) (Yearbook 1983: 140). With the number of commune members estimated at 803.2 million (Yearbook 1980: 5), the 1978 survey covered only one villager in 23,000. Both Chinese and international researchers have noted that rural survey research of the late 1970s and early 1980s did not focus on random sampling (Travers 1982, Vermeer 1982). A Sichuan field study provides local detail:

> In 1983, "the county statistical bureau … asked the [village] cadres … to choose nine typical families. They selected three rich, three average, and three poor families.… This *resulted in an upward distortion of income* levels since poor families are more numerous … than rich ones.… By 1985 … the nine sample households … included the village head, the village party secretary, the village accountant, and the former village party secretary.
>
> (Endicott 1988: 142–143, with emphasis added)

Chinese accounts do not conceal the regular tilt of these surveys toward high-income targets. The 1981 issue of the China Agricultural Yearbook, for example, summarizes three nationwide village surveys. A 1979 study by the Ministry of Agriculture investigated 339 production brigades, of which 53 or 15.6 percent were in prosperous Jiangsu province. Of the 339 brigades, 79 or 23.3 percent had collective distributions over ¥150, while only 30, or less than 10 percent, had collective distributions under ¥50 (as opposed to 27.2 percent nationwide – see Nongyebu 1981, reprint edition: 117).[9] The Agricultural Bank of China studied 637 production teams "whose average economic level exceeds the national mean by more than 50 percent" (Yearbook 1981: 331). Finally, the Yearbook summarizes the NBS survey, the source of standard rural income figures for 1978 and 1979. Although the average collective payout is smaller in the NBS sample than in the other two, the share of cash in collective distributions is considerably larger than in the Ministry of Agriculture study, suggesting that the NBS survey, like the others, emphasized high-income households and localities.

Determining the extent to which standard figures overstate actual rural incomes at the start of reform is no easy task. My incomplete study of this matter focuses on three paths to estimating actual incomes: using information on stocks of consumer durables held by rural and urban households; assembling data on food consumption; and examining provincial enumerations (not sample surveys) of rural incomes. My tentative conclusion: average net income for rural households in 1978 was approximately ¥100 and could have been considerably lower.

Table 15.3 Summary of 1976 grain production and distribution by county, Heze prefecture, Shandong. Rural People's Commune Collective Grain Distribution

Unit: 10,000 jin

	Collective grain output	*State procurement*	*Grain retained by collective*				*Distributed to commune members*		
			Total	*of which*			*Total*	*Average per person (jin)*	*Increase (+) Decrease (–) from 1975 (jin)*
				Seed	*Feed*	*Reserve*			
Entire Prefecture	331,311	26,679	96,377	26,911	36,963	7,693	208,255	323	+8
Of which									
Heze	51,087	4,439	17,208	3,837	5,200	1,872	29,440	367	+14
Caoxian	49,424	3,555	14,200	3,757	5,574	1,081	31,669	327	0
Dingtao	28,597	3,304	9,615	1,942	3,245	1,288	15,678	368	–4
Chengwu	24,387	2,470	6,823	1,561	3,192	765	15,094	356	–6
Shan	45,805	4,032	13,764	4,008	5,396	1,031	28,009	357	–13
Juye	27,010	1,939	6,365	2,281	2,777	178	18,706	320	+20
Liangshan	28,503	2,207	7,626	2,595	2,860	427	18,670	302	+99
Yuncheng	37,624	3,007	10,062	3,089	5,039	413	24,555	312	+50
Juancheng	25,485	1,156	6,796	1,997	2,449	602	17,533	307	–25
Dongming	13,389	570	3,918	1,844	1,231	36	8,901	187	–39

Source: Heze 1976, pp. 86–87.

Note
1 jin = 0.5 kilogram.

Although we lack detailed data, the general outline of the size distribution of rural incomes during the mid- to late 1970s is well understood. A small number of regions and units – including model communes and suburban units in the Beijing and the lower Yangzi region – enjoyed incomes well above the national average, while incomes for the vast majority of villagers fell below, often far below, the national average. Since, according to my calculations, the 1978 national average essentially coincided with the World Bank's $1 per day poverty line, I conclude that the number and proportion of Chinese villagers living in "absolute poverty" at the start of reform was far larger than is generally supposed.

Domestic standards created by China's National Bureau of Statistics (which World Bank researchers identify as equivalent to PPP$0.66–0.71 per day – see Keidel 2000) show one-third of China's 1978 rural populace in poverty; however this outcome appears to reflect flawed survey data that show 2/3 of rural households with per capita incomes above ¥100 (World Bank 1992: ix, 150). With collective distributions averaging ¥74.7 in 1978 (Nongyebu 1981) it seems likely that the proportion of villagers with total per capita incomes under ¥100 was at least half, and probably far higher. Results by Chen and Ravallion (2004, Table 2) showing 63.8 percent of rural Chinese living on less than 1993 PPP$1.08 per day in 1981 provide a plausible lower bound for guesses about the proportion living on sums equivalent to US$1 per day in the late 1970s.

Regardless of the exact details, the overall picture is clear:

- The proportion of rural Chinese mired in absolute poverty at the start of reform in the late 1970s was very large, probably well above half and quite likely as large as three quarters.
- By 1990, the incidence of absolute poverty had dropped dramatically: NBS figures (using a standard equivalent to PPP$0.66–0.71) show a decline from 33.1 to 9.5 percent; World Bank data show 31.3 percent below the PPP$1/day standard in 1990. Thus the incidence of absolute poverty in rural China declined during 1978–1990 by 23.6 percentage points (based on NBS data) and by considerably more if we combine my crude speculations regarding 1978 with the World Bank data for 1990. To summarize, it seems likely that at least one-quarter and possibly more than one-third of China's rural populace exited absolute poverty between 1978 and 1990.
- Development economists view absolute poverty as an intractable phenomenon that responds slowly even to broad arrays of official intervention aimed at improving health care, education, access to credit etc. This view certainly fits Chinese experience during the past 15 years: despite multiple programs conducted by China's leading poverty group, the World Bank, China's western development program etc., the decline of absolute poverty remains painfully slow.
- Yet the steep decline in absolute poverty in rural China between the late 1970s and 1990 occurred during a period in which there was no substantial anti-poverty effort on the part of either China's government or international

organizations. If anything, the retreat from rural collectivization meant that government support for poor villagers in areas like health care and education may have declined during the 1980s.

How did several hundred million Chinese villagers escape from absolute poverty rapidly and essentially without direct policy assistance – a remarkable occurrence that has no precedent in world history? Standard accounts attribute China's rural boom of the 1980s to three major circumstances:

- Introduction of the household responsibility system (HRS), which allowed farm households to manage the lands allotted to them essentially in the manner of tenants paying fixed rent.
- Government initiatives that raised crop purchase prices and expanded market access.
- Benefits of investments in land leveling, water control, seed development etc. undertaken during the commune period, stifled by weak incentives and poor management under the collective system, emerged only following the restoration of household farming.

The shift from collective farming to HRS, along with expanded market access represents only a partial restoration of full market systems that exist in many low income economies (including China prior to 1949) without igniting a sustained boom. The same is true of improvements in the farm sector's terms of trade.

This shifts the burden of explanation onto the unrealized potential inherent in commune-era investments, many of which are known to have been poorly conceived and executed. This combination of factors seems too weak to account for the unprecedented decline in absolute poverty during China's first decade of reform. Nor can these factors explain why the multiplication of anti-poverty efforts – by the Chinese government, the World Bank, and other international bodies, coincided with a conspicuous slowdown in the pace of rural poverty alleviation after 1990.

The following line of reasoning offers a plausible explanation for the entire story:

- Both historically and throughout the twentieth century, Chinese village culture produced individuals equipped with unusually strong portfolios of market and organizational skills.
- While many villagers participated in market activity prior to the Great Leap Forward, the people's communes forced *all adults* to respond actively to external (mainly political) developments. Their choices: whether or not to join in accusations against specific individuals, to shirk collective duties in favor of private pursuits, etc. carried substantial (positive or negative) payoffs.
- The combination of obligatory responses to external circumstances and twenty years of struggle to escape endemic poverty and under-nutrition had the unintended effect of sharpening the entrepreneurial and "penny capitalist" tendencies that the commune organization was in part designed to extirpate.

- Once reform began, the cultural legacy of village society, magnified by two decades of commune life, combined with the unfulfilled potential from commune-era research and capital formation, the incentive effect of HRS, and rising farm-gate prices to deliver the steep rises in output, productivity and incomes that enabled several hundred million villagers to escape from absolute poverty virtually without governmental support.
- Chinese cultural advantages allowed massive poverty alleviation for villagers who entered the reform process at income levels that many economists view as too low to permit large-scale departure from absolute poverty without major policy intervention. This "bootstrap" or "self-help" poverty alleviation involved large populations with incomes extending well below the standard US$1 per day level of income or consumption. We may speculate that the average or median 1975 daily income of villagers who escaped absolute poverty during the first reform decade was considerably below US$1, perhaps in the range of US$0.75–0.85, and that large numbers of villagers escaped from poverty starting from even lower pre-reform income levels.
- The capacity of Chinese cultural values to ameliorate difficult circumstances, though considerable, is not without its limits. Once incomes fall below a certain level – possibly in the range of US$0.60–0.65 per day – poverty-stricken Chinese populations display the entire gamut of characteristics that hinder efforts to accelerate the process of poverty alleviation in other settings.

China's unusual experience of poverty alleviation, which includes a decade of unprecedented mass escape from absolute poverty with virtually no policy support, followed by a conspicuous slowdown of poverty alleviation despite a growing array of supportive policy interventions, seems to demand an interpretation along the lines suggested here. If we define absolute poverty as the income level below which escape is unlikely without substantial outside assistance, I conclude that cultural advantages seem capable of pushing the boundary demarcating absolute poverty in Chinese villages considerably below the conventional limit of US$1 per day. When incomes fall below this Chinese boundary, cultural advantages do not spare villagers from the difficulties that bedevil poverty alleviation efforts in other poor nations. When incomes exceed this Chinese boundary, large-scale poverty alleviation, as occurred during the 1980s, need not require extensive policy intervention even though incomes fall below the US$1 per day cutoff that conventionally demarcates absolute poverty.

Conclusion

This survey demonstrates that elements of China's human capital endowment that are unusual (in international terms) and often unique must occupy a central position in any comprehensive analysis of China's remarkable boom that has now entered its fourth decade. For this reason, transferable lessons of Chinese success, while by no means unimportant, remain essentially limited to general propositions of the sort enumerated in the opening section of this essay.

Notes

1 The author, who is solely responsible for what follows, benefited from comments by participants of Conference on "Thirty Years of Reform and Development", CCER, Peking University, October 25–26, 2008, especially Arne Bigsten and Vikram Nehru. Special thanks to Xiao-yuan Dong, Margaret Maurer-Fazio, and Wenfang Tang for helpful information and advice. Years of discussion with many colleagues, especially Loren Brandt, Shigeru Ishikawa, Gary Jefferson, Dwight Perkins, Evelyn Rawski, the late Wang Hongchang, and Zheng Yuxin have contributed to shaping the views expressed here.

2 Research based on contemporary provincial data finds that "Export-oriented FDI raises the wages of unskilled workers…" (Owen and Yu 2003).

3 When this author first visited China in 1975, one host, a man who spoke fluent English and had served in one of China's embassies in Western Europe, asked for the name of the university attended by most American presidents and senators.

4 UNCTAD data tabulate China's incoming FDI at US$50–70 billion annually during 2002–2006. UNCTAD data show outbound FDI rising from US$0.9 billion in 2000 to US$16.1 billion in 2006 (all at current prices). See http://stats.unctad.org/FDI/TableViewer/tableView.aspx, accessed June 23, 2008. *China Daily* reports that outward investment amounted to US$18.6 billion in 2007 and $25.66 billion in the financial sector alone during the first half of 2008 (*China Daily*, September 10, 2008, p. 13).

5 Professor Xiao-yuan Dong (University of Winnipeg), working with "data on 836 manufacturing enterprises for 1998 and 2000 … find[s] that average wages in export-oriented firms are significantly higher than in domestic-oriented firms after controlling for composition of the labor force by gender and occupation, firm characteristics such as age, market share, R&D, and ownership, region, sector and year … a one-percentage-point increase in export share would raise average wages by 0.4 percent" (personal communication, September 6, 2008).

6 Note that splitting the sample geographically and conducting separate analyses for China's coastal and interior regions does not alter the overall implication that competition rather than protection prevails.

7 In a 1994 interview, Singapore Senior Minister Lee Kuan Yew said that "We use the family to push economic growth.… We were fortunate we had this cultural backdrop: the belief in thrift, hard work, filial piety and loyalty and the extended family, and, most of all, the respect for scholarship and learning." See www.singapore-window.org/sw01/010128nw.htm accessed 16 September 2008.

8 For instance: 一九七七年福建省农业生产统计资料 (福建省统计局，July 1977, marked 绝密).

9 Agricultural Yearbook 1981: 329–321. The NBS survey results, which appear skewed toward high-income observations, show that 17.4 percent of households enjoyed net incomes (not just collective distributions) in excess of Y200 [Social Statistics 1985: 58].

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