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Chapter Author: Alan Gelb, Gary Jefferson, Inderjit Singh

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Alan Gelb, Gary Jefferson, and Inderjit Singh

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*Can Communist Economies Transform Incrementally? The Experience of China**

1. Some Important Questions Raised by China's Reforms

Reform of a communist economy entails shifting away from central planning toward largely market-based resource allocation. It also involves strengthening incentives that link material reward to economic performance by moving toward private ownership and reforming management incentives within systems that maintain extensive social ownership. Reform may also involve a political transition to pluralism but not necessarily.

Since 1978 China has progressively introduced market forces, decentralized economic decision making, and strengthened material incentives and competition. In almost all respects, its transformation has differed from the swift, comprehensive, and fundamental pattern that has been widely advocated for Eastern Europe (EE) and the former Soviet Union (FSU). China's reforms have often been introduced on an experimental basis, and are sectorally and locally differentiated. They are still incomplete—in redefining property rights, marketization, liberalizing foreign transactions and factor markets. Rather than attempting to "cross a chasm in one leap," China has negotiated a series of small

*The views expressed in this paper are those of the authors and not necessarily those of the World Bank. We are indebted to Dilip Ratha for excellent assistance and to Stanley Fischer, Dilip Ratha, Tom Rawski, Klaus Schmidt-Hebbel, and Martin Schrenk for helpful comments. All shortcomings of the paper are the responsibility of the authors.

steps, moving from planned toward market socialism while retaining an authoritarian communist government.

The outcome of China's reforms has also been very different from the experience of Eastern Europe and the FSU. Rather than the lackluster performance of European reform socialism through the 1980s or the precipitous fall in output that accompanied radical reform programs after 1990, China doubled per capita income in one decade, an outstanding achievement even when compared with other high-performing countries.[1] How does this "East Asian" response to incrementally removing constraints on market behavior square with the opposing "big-bang" thesis that partial reform is probably worse than no reform, because it leaves economic agents constrained neither by plan nor by markets? Is transition economics schizophrenic?[2] Or are there rational bases for such widely differing views? If so, what is transferable from China?

China's reform experience therefore raises some important questions. What does it suggest regarding:

1. fast versus slow liberalization and opening up of the economy;
2. comprehensive top-down versus experimental bottom-up reforms;
3. the need to establish full private property rights at the beginning of reform;
4. the implications of reforms for welfare and distribution?
5. Is China's performance sustainable without more comprehensive transformation? Or does it reflect transient gains that are substantially exhausted?
6. How transferable are any lessons from China—and what does it suggest about the phasing of political and economic liberalization and the pattern of reform?

This paper surveys China's reforms and their economic impact against the backdrop of the wider debate on these topics. Section II classifies China's reforms by period and by type of reform. Section III assesses China's macroeconomic and social indicators of performance in an international context, with selected East Asian market countries and socialist countries taken as benchmarks to see where China's performance stands out as exceptional. It also notes the possible importance of demographic factors in performance. Section IV deepens the analysis of extensive versus intensive growth (accumulation versus productiv-

1. For some comparisons, see World Bank (1991), pp. 11–12.
2. Singh (1991) discusses schizophrenia in the context of socialist reform.

ity), summarizing quantitative evidence from recent firm-level studies, and evaluating the changing incentive structures in the Chinese economy that would be needed to link policies to performance. Section V summarizes recent research on the relationship between reforms, income distribution, and poverty in China. Section VI considers the implications of partial reforms for macroeconomic stability and the sustainability of China's economic performance. Section VII concludes on lessons from China and their transferability to other reforming socialist countries.

1.2 DATA CAVEAT

Unlike the historical data for some other communist countries, Chinese output estimates are believed to be generally free from deliberate overreporting. But statistical weaknesses introduce biases in reported income and output levels and possibly in derived rates of growth. Corrections plausibly result in much higher nominal and real output and income levels, and they also affect estimates of income distribution. The direction of bias is not always clear. This paper cannot attempt to correct for such weaknesses, but, where appropriate, it notes the implications of major revisions.[3]

2. *China's Reforms After 1978*

China's reforms followed almost three decades of central planning under a communist government. In that time, the economy had evolved from an essentially peasant base to include significant industrial capacity, largely financed out of the rural surplus. By 1952 land reform had been completed; in 1953 compulsory grain procurement and food rationing were introduced. Collectivization followed in 1956–1958. By 1978 industry accounted for 49% of national income. Following the Soviet pattern, large state enterprises (SOEs) (78% of output) in heavy sectors (57% of output) were emphasized. Growth was extensive, and particularly disappointing in agriculture. Moreover, such leftist excesses

3. Problem areas in Chinese data include low imputed rents and capital incomes, the valuation of self-consumption, the construction of deflators, especially in some areas of industry, and the agricultural labor force. For discussion of the major controversy regarding the level and growth rates of China's GDP, see Keidel (1992), Ma and Garnaut (1992), and Jefferson (1991). The latter notes that the World Bank's World Development Reports estimate China's GNP per head at $350 at the end of the 1980s, which is *lower* than the estimates of $410 and $390 in 1976 and 1977 (made in 1978 and 1979) despite real growth rates of output per head of almost 8% in the 1978–1988. Keidel suggests a revaluation of 50% to China's yuan GDP; meanwhile, PPP estimates of China's income/head range from three to eight times those of exchange-rate based measures.

as the Great Leap Forward (1958–1961) and the Cultural Revolution (1965–1968) caused erratic economic performance and demographic changes (see Fig. 1).

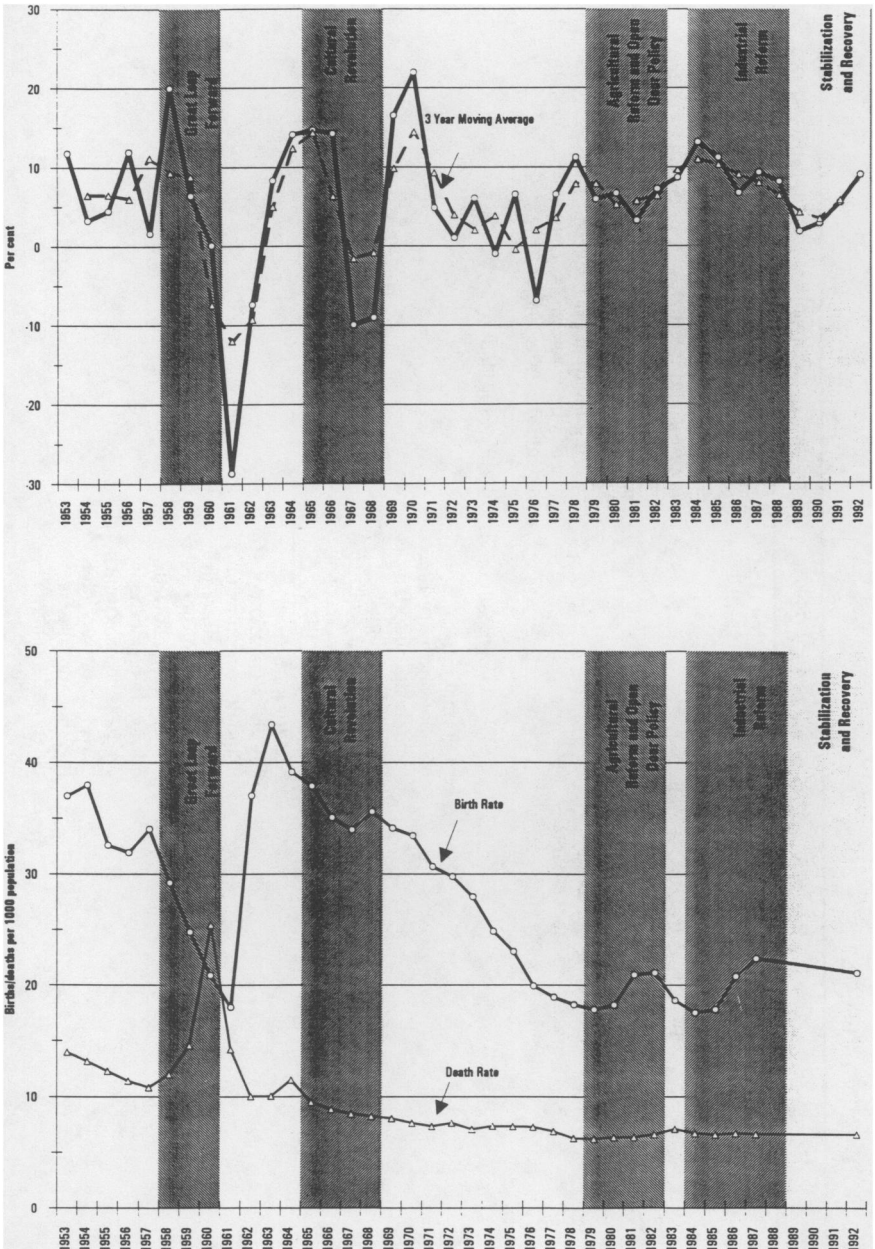
Nevertheless, the prereform period achieved some notable successes. Infrastructure had been developed, particularly in rural areas. A working rural management system supporting supply and marketing had been put in place. The substantial role played by local governments in planning meant that local implementation capacity was well developed and also implied a less monopolistic production structure.[4] There was a heavy industrial base on which to build. Social indicators in areas such as health and education were favorable, especially considering the low level of income per head. Following an extraordinary demographic transition in the 1970s (see Fig. 1), China was on the way to having one of the lowest ratio of dependents to working-age citizens in the world.[5] External macroeconomic balance prevailed (international reserves of $4 billion exceeded the negligible foreign debt), and, despite price controls, it does not appear that a sizeable monetary overhang had developed. The missing elements were an appropriate price structure to guide efficient resource allocation and an effective incentive system to create strong growth performance.

China's reforms can be considered in seven categories and four time phases, as shown in Table 1. The first three categories—price and market reform, the "open-door policy," and liberalization of the distribution system—involve the creation of a market price-guided incentive system to supplement and replace planned allocation of goods. The next category involves changes in property rights, broadly defined to include the management, as well as ownership, of assets. Accompanying these reforms are measures to decentralize resource allocation away from the center, and to create a market-supporting financial sector. Finally, the shift from a planned to a market economy involves policy changes to separate out the productive side of the economy (which should respond to market forces) from the state's role in the area of social protection.

No grand scheme underlay China's sequence of measures. Some were experimental, sanctioned by the center only after successful local implementation. Although the rural reforms had somewhat of a "big-bang" character, urban and industrial reforms were gradual and piecemeal.[6]

4. This probably facilitated a competitive response to price liberalization relative to the situation, e.g., in the FSU. For more discussion of China's initial conditions, see Harrold (1992).
5. For discussion of China's demographics and policies, see Tien et al. (1992).
6. The rural reforms still relied on quotas and state prices for intramarginal production and management incentives through contracting and leasing, rather than outright private ownership. In this sense, they were piecemeal and somewhat less than a "big bang."

Figure 1 ECONOMIC GROWTH AND DEMOGRAPHIC CHANGE



Source: China Statistical Year Book and World Bank.

Table 1 KEY CHINA REFORM

Reform	*Phase I: 1984–1988*	*Phase II: 1989–1990*	*Phase III: 1989–1990*	*Phase IV: 1991*
Price and market	1978–1979 22% rise in agricultural procurement prices; 41% rise in prices for above-quota agricultural outputs 1979 Experimental introduction of "guidance prices" for above-quota industrial output		1988–1989 Temporary reimposition of controls on prices and internal trade during stabilization	1990–1992 Relaxation of temporary controls on prices and trade
			1988–1992 Raise plan prices towards market prices, so merging the dual price system; 1991–1992 grain and offseeds price reform, to convert agricultural product subsidies into wages	
		Key agricultural inputs still controlled		
		1984 Formal introduction of 2-tier pricing system for industry, lift guidance price ceilings; remove them in 1985 1985–1988 Progressively enlarge market price role for industry 1985–1987 Relaxation of mandatory production plans in agriculture in favor of purchasing contracts, which allowed output diversification; progressive relaxation of restrictions on interregional and international trade in agricultural products		

		1986 Remaining controls on prices of most consumer goods decentralized to local governments; decontrol according to local conditions		
Foreign trade, exchange, and investment	1979 Joint Venture Law passed	1986 Sino-British Accord on Hong Kong	1988–1992 Foreign exchange trading centers established and opened to all enterprises for buying and selling at floating rates (by 1991, a third of transactions at floating rates)	
	1980 Opening of first 4 Special Economic Zones: the first industrial reform	1985 Removal of prohibition on creating foreign trade corporations (by 1990, 6,000 created)	Reduction of black market premium to only 6% by 1991 from 100% in previous years	
		1985 Reduction in scope of the trade plan; 1987 exemption of certain sectors from trade plan, sharing of foreign exchange between central and local governments; 1988 Trade contracting system		1991 Elimination of central export subsidies, increased local retention of foreign exchange; China applies for GATT membership; trade reform accelerates
		Agricultural trade administered to tax producers (rice) and subsidize consumers (wheat)		
		Real devaluation of Yuan		
Materials supply and distribution	Reduce scope of Materials Distribution System; 1978 cut number of category I and II goods (producer and investment goods) from 210 to 64 and to 20 by 1992; phase out control over category III goods (inputs for consumer products); establish 485 trade centers for industrial materials by 1985			
		1987 onwards, introduce industrial commodity markets		
	Reform Commercial System; deregulate entry/exit (between 1978 and 1990 10 million private firms, 450,000 cooperatives and 3,400 JVs enter the commercial system): by 1985 75% of state commercial and service companies sold or leased to private owners			

Table 1 KEY CHINA REFORM (*continued*)

Reform	*Phase I: 1984–1988*	*Phase II: 1989–1990*	*Phase III: 1989–1990*	*Phase IV: 1991*
	1980 State enterprises allowed to buy and sell on free markets	1984 State enterprise permitted to market directly		
Financial sector		1984 Central Bank established to create a 2-tier system 5	1987 Bankruptcy Law passed	
		1987 two new universal banks created	1989–1992 Stock markets created, first for secondary trading of government bonds and then for shares (Shanghai, 1990; Shenzen, 1991)	
Ownership and management	1978–1979 Experimental introduction of contracting land use and for outputs to households	1988 Transfer of land use rights legalized (although mechanisms to facilitate a land market came only in 1990, and this market is not operative yet)		1992 New Operating Mechanism increases autonomy of state enterprises
	1981 Official recognition of Household Responsibility System (already adopted by 45% of production teams, 98% adoption by 1988), progressive lengthening of lease term, from 1–3 to 15 years, distribution according to family size	1987 Adoption of Contract Management Responsibility System for industry, 3–5 year targets		

	1984 Permission granted for local governments to establish industrial enterprises (TVEs) 1988 Enterprise Law		
	Progressive diversification of industrial ownership toward nonstate sector		
		1988–1989 Temporary retrenchment of enterprise reform, measures to reduce investment at all levels	1991 3,000 inefficient state enterprises merged with others; direct credit restraints eased, reversion to enterprise reform
Fiscal decentralization	1984 Tax reform creates 4 new indirect taxes including VAT 1984–1985 Reform of enterprise taxation: profit remittance to state replaced by partial taxation (at negotiated rates) of profits with depreciation and post-tax profits retained by enterprises 1986 Central government enters into "fiscal contract responsibility system" with local governments		

The discrete reform stages therefore, are, necessarily somewhat of an abstraction.

2.1 PHASE I: 1978–1983

This emphasized agriculture. Procurement prices for major crops were raised sharply and prices for above-quota output raised more sharply still. Subsidies were increased to help cushion the impact on consumers. The contracting of land and output quotas to rural households proceeded rapidly on local initiative; by the time this "bottom-up" experiment was officially sanctioned in 1981, it had been adopted by almost half of the country's production teams. Household contracting soon became universal and lease terms lengthened, promoting long-term investments.

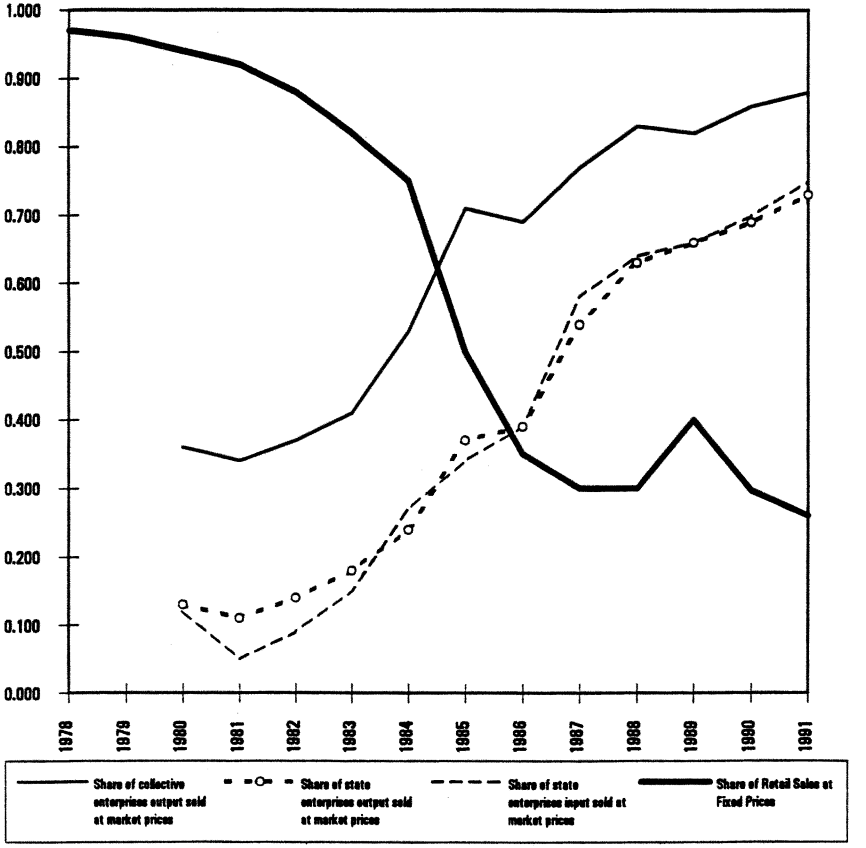
The first industrial reforms came in the area of foreign investment. The year 1979 saw a Joint Venture Law and 1980 the opening of four special economic zones. From almost zero, foreign direct investment would rise to exceed $3 billion per year, mostly from Hong Kong. Phase I also saw the start of wide-ranging changes in the distribution systems that proceeded throughout the reform period. Materials supply was progressively delinked from the plan, while retail commerce was deregulated more rapidly. After some informal sales of above-quota industrial goods at premium prices, state enterprises were allowed to buy and sell on free markets. Meanwhile, certain key inputs remained controlled, particularly in rural areas.

2.2 PHASE II: 1984–1988

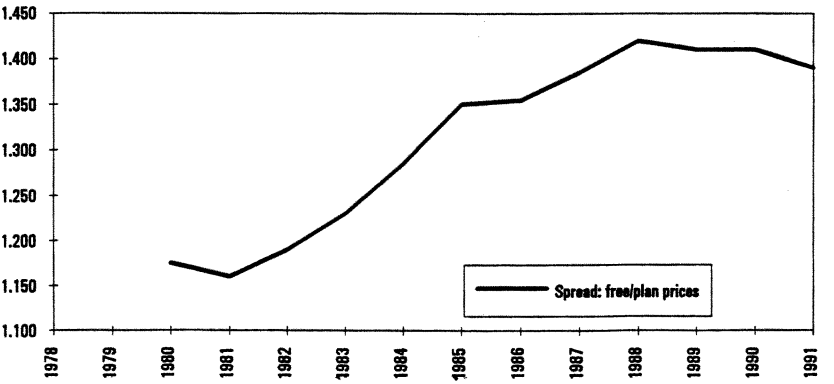
This saw the consolidation of a formal dual pricing system and the progressive enlargement of the role of free prices (see Fig. 2). The dual pricing system aimed to have marginal decisions set by market pressures while still leaving a measure of control over materials and enterprise profitability to the plan. By 1988 only 30% of retail sales were made at plan prices.[7] Market prices exceeded plan prices by a premium which rose steadily up to 42% as macroeconomic demand pressures intensified in the course of decentralization.[8] By 1985 75% of state commercial companies had been sold or leased to private owners; by 1990 hordes of private and cooperative firms, as well as joint ventures, had entered the commercial system. At the same time, the yuan was deval-

7. The share of sales at nonplan prices includes 17% at "guidance" prices that generally moved with free prices.
8. Zou (1992) traces out the evolution of the dual pricing system using a sample of 253 state firms and urban collectives; the latter sold and purchased a higher share of goods at market prices than the former.

Figure 2 PRICE AND MARKET REFORM



Sources: Share of COE and SOE at market prices are estimated by Zou (1992) from a sample of 253 enterprises. Share of retail sales at fixed price. Schmidt-Hebbel (1992).



Source: Spread of free/plan prices are estimated by Zou (1992) from a sample of 253 enterprises.

ued, and a variety of other measures was introduced with the intention of opening up international trade to market forces on a limited basis.

Phase II saw two important reforms in the area of industrial property rights. Rural Township and Village Enterprises (TVEs) actually had their roots in earlier programs of rural industrialization, but in 1984 local governments were given permission to pursue a TVE-based development strategy to help absorb labor released by the agricultural reforms. Together with growth of urban collectives, the explosion of TVE activity resulted in progressive diversification of industrial ownership away from the SOEs in favor of the so-called nonstate sector, although most of this was still within the public domain (see Fig. 3).[9]

The second major industrial reform in Phase II was the adoption after 1987 of the contract management responsibility system. Performance contracts with enterprise managers specified profit remittance, productivity, and sometimes innovation targets. To increase the range of management discretion, all new workers after 1986 were to be hired on a contract system, thus raising, at least theoretically, the possibility of dismissal.

Decentralizing management and progressively introducing market forces made little sense, however, in an environment where all industrial profits were remitted to the state. Phase II, therefore, saw an important series of reforms to decentralize resource allocation away from government. These included reform of enterprise taxation in 1984–1985, which replaced remittances by negotiated profits taxes. In 1986, central government entered into a "fiscal contract responsibility system" with local governments, which had in fact long been responsible for the collection of almost all taxes. As discussed later, resource decentralization was more effective than expected, and this led to a sharp drop in revenues and overheating of the economy.

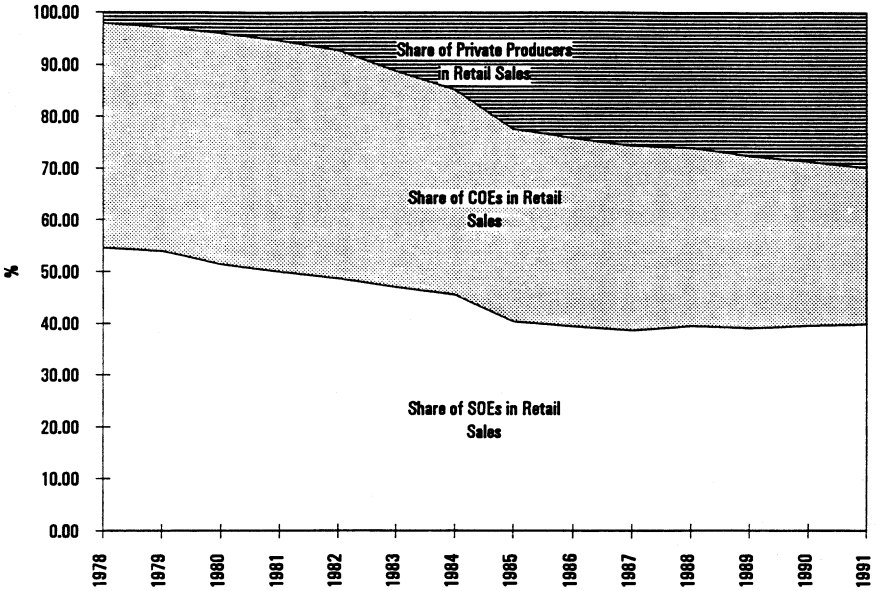
Finally, initial steps were taken in Phase II to lay the basis for a commercial financial system, but this was limited by the partial nature of other reforms, in particular, of ownership. Further development, this time of stock markets on a limited basis, did not take place until some years later.

2.3 PHASE III: 1989–1990

Macroeconomic stabilization and the political crackdown following Tiananmen Square involved the temporary reimposition of a range of direct

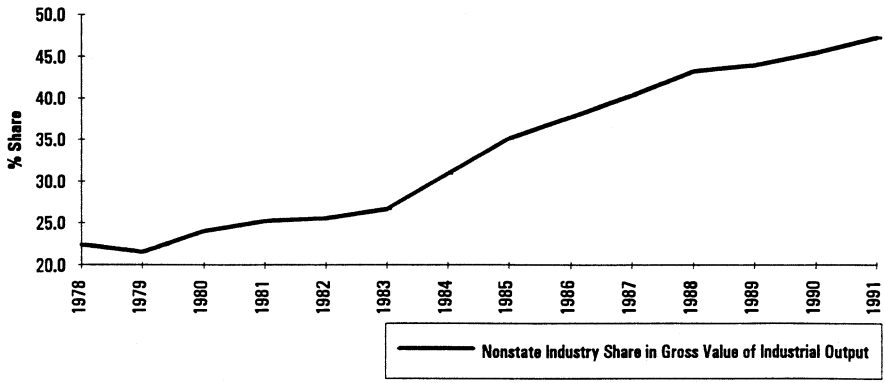
9. Only about 10% of China's industry is individually owned or joint venture. The bulk of the "nonstate" sector consists of urban collectives and firms owned by local governments. The concepts of ownership and property rights are not well developed in China's legal code.

Figure 3 OWNERSHIP DIVERSIFICATION



Sources: Schmidt-Hebbel (1992), World Bank (1992a).

Figure 3 (continued) OWNERSHIP REFORM IN INDUSTRY

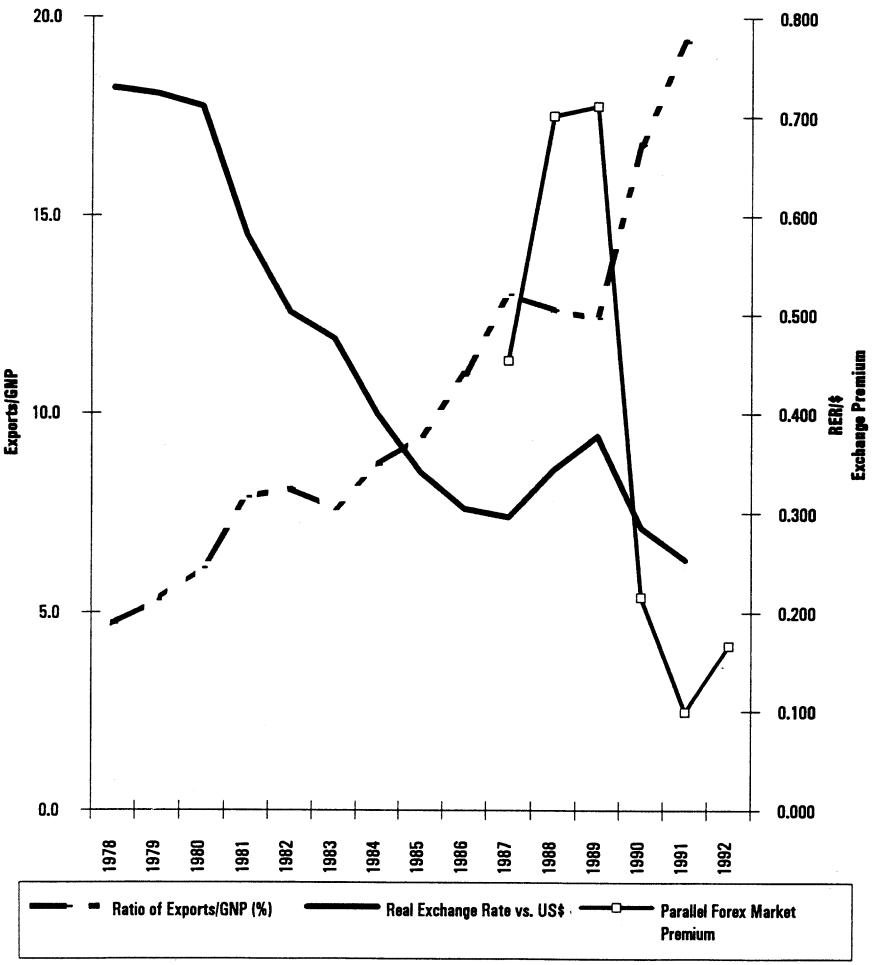


Sources: Schmidt-Hebbel (1992), Singh and Xiao (1992).

controls. Plan prices began to be adjusted toward market levels so as to start to merge the two price systems into one (see Fig. 2).

Phase III also saw the acceleration of trade and payments reform. Progressive devaluations in Phases I and II had depreciated the real exchange rate relative to the dollar by over 50% (see Fig. 4). As domestic demand was reined in, exports responded. Foreign exchange trading centers were opened, and the black market premium fell, to a minimum

Figure 4 OPENING THE ECONOMY



Sources: Zhao (1992), World Bank (1992b).

of only 7% in 1991. By then, about one third of international transactions were taking place at the parallel market rate.

2.4 PHASE IV: 1991 ONWARDS

This phase marked a return to active reforms with further marketization (including growth of final markets) and decentralization. There was also significant reduction in redundant labor in the state sector and some privatization of state enterprises. Growth picked up, with some signs of overheating. Social-sector reforms began in areas such as health and housing, although on a cautious and experimental basis.

2.5 COMPARISON WITH REFORMS IN EE AND THE FSU

Space does not permit a detailed comparison of China's reform process with those of EE and the FSU.[10] Considering *pre-1990* Poland and Hungary, there are indeed similarities but also some important differences. China's opening up to trade and foreign investment, its massive decollectivization of agriculture, liberalization of the distribution system, and growth of nonstate industry involved a far stronger commitment to marketization and domestic competition. On the other hand, it maintained central planning and a distinctive two-price system.

The most obvious differences between China's policies and those of East European countries *after 1990* include the partial nature of its price and trade liberalization, its incomplete reform of property rights, and the quite different phasing of macroeconomic stabilization and structural reforms. The initial core of most EE reform programs involved macrostabilization, which was partly effected through the liberalization of prices and markets. In China, however, the need for a stabilization phase (which during 1988–1991 involved some regression from liberalization) *followed* from the implementation of its systemic reform program.[11] China's price and trade liberalization also coincided with, rather than preceded, ownership diversification and liberalization of the distribution system.[12]

10. Fischer and Gelb (1991) and Gelb and Gray (1991) consider the phasing of European-style transformation programs. Bruno (1992) reviews stabilization programs.
11. The closest analog in Europe and the FSU is the phase of fiscal distress that has followed the postreform collapse of enterprise profits and tax revenues. See, e.g., Schaffer (1992).
12. By 1985, when the share of state-fixed prices in retail sales had fallen to 50%, state enterprises produced less than 40% of goods sold on retail markets, and nonstate industry produced almost 40% of industrial output. Some of this was due to the prereform structure of China's economy, but it also reflected progressive ownership diversification before that date.

3. *China's Performance in a Comparative Context*

Tables 2 and 3 show selected economic and social data for China and (1) India, similarly large, and low-income, but with a (regulated) market economy and a democratic polity; (2) Korea, Indonesia, Thailand, and the province of Taiwan, considered as high-performing East Asian market economies; and (3) Hungary, Poland, FSU, and Yugoslavia, which developed under central planning and one-party regimes and which also implemented decentralizing reforms.

3.1 HOW RICH IS CHINA?

It has long been recognized that exchange-rate based (Atlas) methods of calculating income per capita understate "real" levels for many countries.[13] From Table 2, the divergence between these two measures is especially large for China, which appears by the 1980s as more a middle-income than a poor country and to have outstripped India in PPP terms. This perspective should be borne in mind when one is comparing social statistics.

3.2 HOW FAST HAS CHINA GROWN?

In contrast to the dismal 1960s, China boosted its growth rate dramatically in the 1970s and 1980s, to 10% in the latter period, eclipsing India's efforts and matching the performance of the East Asian comparators. The socialist comparators stagnated before experiencing a sharp output loss after 1989. Population growth slowed in China as in East Asia, to well below Indian levels but still far above rates in the socialist comparators.[14]

3.3 DID GROWTH REFLECT ACCUMULATION OR EFFICIENCY?

Table 2 shows investment rates and rough derived efficiency measures (the inverse of the incremental capital/output ratio). China appears as a high-investment country that boosted its efficiency from low levels to those characteristic of East Asia. The contrast with India, and with the collapse of efficiency in the socialist comparators, is marked. China's investment was overwhelmingly financed through domestic savings: By the 1990s its net foreign debt was only 3% of GDP compared with 22% for India and 53% for socialist comparators.

China's investment rates are probably biased upwards, however, by

13. See, e.g., the *World Bank Atlas*, World Bank (1992c).
14. China's PPP growth rates are close to those of its Atlas GNP per head; for the other countries, PPP income per head grows rather more slowly than Atlas income per head.

gross understatement of GDP levels. Applying a uniform level correction based on Keidel (1992) lowers them by almost one third. The effect would be to boost efficiency, to well above the East Asian comparator levels in the reform period.

3.4 HOW FAST HAS CHINA OPENED ITS ECONOMY?

As shown, China's export growth rates in the 1980s compare with those of the East Asian countries in the 1960s and 1970s. Its trade ratio, too, has risen sharply, especially for so large a country, but it is difficult to assess its openness from trade/GDP measures because of the uncertainty of the denominator.[15]

3.5 HOW FAST HAS CHINA MONETIZED?

China's low inflation during the 1960s and 1970s was due to price controls, but it also contained inflation to East Asian levels through the period of price liberalization—a marked contrast to European reform socialist experience.[16] From Table 2 one can see that financial deepening proceeded apace in China through the reforms, even as most prices were liberalized. Therefore there was probably no appreciable "monetary overhang" at the start of the reforms. The range of assets available to the population, while widening somewhat, is still limited, and this may also have encouraged financial asset accumulation as incomes rose.

3.6 DO SOCIAL INDICATORS CONFIRM THAT THERE HAS BEEN RAPID DEVELOPMENT IN CHINA?

Whatever the controversies surrounding output data, it is harder to dispute the many social indicators that measure improvements in the quality of life. Table 3 shows that life expectancy has risen and infant mortality fallen to levels characteristic of far richer countries. The extraordinarily rapid decline in birth rates shown in Figure 1 has reduced the age dependency ratio sharply.[17] The decline in birth rates is related to other factors, including female labor force participation and education

15. China's ratio of exports plus imports to GDP rose from 7% in the 1960s to 21% by the 1980s and 33% in the 90s. Of perhaps more importance than this ratio, China's export mix also diversified and moved toward more sophisticated products. In contrast, the European countries, locked in the CMEA system, experienced "technical export regression" toward primary products. See Gelb and Gray (1991), Annex 1.
16. Schmidt-Hebbel (1991) considers the relationship between money overhang, price liberalization, and inflation in China and other socialist countries. China's financialization ratios, like the trade and investment ratios, may be biased upwards by the understatement of yuan GDP.
17. However, the age dependency rate will increase sharply with the aging of the population to one of the highest levels in the world as the aging population profile comes to resemble those of Japan and Korea.

Table 2 SELECTED ECONOMIC INDICATORS

	1960s Average	*1970s Average*	*1980s Average*	*1990–91*[a]
Level of per capita GNP (PPP in 85 constant dollars)				
China	647	1004	1712	n/a
East Asia	1084	1946	3122	n/a
Socialist Comparators	2165	3800	4559	n/a
India	613	642	687	n/a
Ratio of PPP/Atlas per capita GNP (in 85 constant dollars)				
China	9.41	8.94	8.66	n/a
East Asia	2.81	2.77	2.80	n/a
Socialist Comparators	5.29	3.97	3.99	n/a
India	3.22	3.00	2.68	n/a
Growth rate of per capita GNP (atlas in 85 constant dollars)				
China	1.21	5.53	7.62	4.85
East Asia	4.67	6.42	6.67	5.16
Socialist Comparators	5.70	5.09	0.59	−8.60
India	1.47	0.73	3.50	1.54
Investment ratio				
China	0.21	0.30	0.35	0.36
East Asia	0.18	0.26	0.27	0.34
Socialist Comparators	0.30[e]	0.34[e]	0.31	0.23[d]
India	0.16	0.20	0.23	0.22
Efficiency (IOCR)[b]				
China	0.16	0.25	0.26	0.12
East Asia	0.44	0.33	0.27	0.24
Socialist Comparators	n/a	0.17	0.06	−0.34
India	0.23	0.16	0.26	0.25

Growth of exports				
China	1.98	5.69	14.49	9.87
East Asia	15.30	18.05	9.48	10.73
Socialist Comparators	n/a	6.70[d]	2.70[d]	5.39[g]
India	2.27	7.97	6.42	n/a
Inflation[b]				
China	1.08	0.75	8.15	1.29
East Asia	29.82	12.42	7.12	6.79
Socialist Comparators	12.51[f]	6.79	64.39	180.07
India	6.03	7.54	9.12	11.42
M2/GDP				
China	n/a	0.28	0.55	0.89
East Asia	0.20	0.34	0.54	0.79
Socialist Comparators	0.51[f]	0.64[f]	0.54[d]	0.37[d]
India	0.22	0.29	0.42	0.46

Source: World Bank for most of the variables. PPP values taken from Summers and Heston (1991). The Penn World Table (Mark 5): An Expanded Set of International Comparisons, 1950–1988, *The Quarterly Journal of Economics*, pp. 327–368.

Notes: East Asia represented by Indonesia, Korea, Taiwan and Thailand; Socialist Comparators are Hungary, Poland, Former USSR and Yugoslavia.

[a]Data not available for 1991 in some cases.

[b]IOCR = GDP Growth Rate/Investment Rate

[d]Average of Hungary, Poland and Yugoslavia.

[e]Average of Hungary and Yugoslavia only.

[f]Average for Yugoslavia only.

[g]Average for Poland only.

[h]Inflation computed for CPI.

Table 3 SELECTED SOCIAL INDICATORS

	1960s Average	*1970s Average*	*1980s Average*	*1990–1991**
Life expectancy				
China	52.66	64.37	68.58	70.28
East Asia	55.62	61.25	65.82	68.13
Socialist comparators	68.20	69.32	69.98	71.39
India	44.87	50.12	56.36	59.21
Infant mortality rate				
China	105.30	51.00	35.59	28.88
East Asia	n/a	69.78_a	48.06_a	35.18_a
Socialist comparators	46.55	30.66	22.72	17.00
India	n/a	130.14	104.43	91.90
Age dependency ratio [=(under 15 and over 64)/(15–64)]				
China	0.79	0.76	0.57	0.49
East Asia	0.87	0.77	0.63	0.54
Socialist comparators	0.57	0.52	0.52	0.51
India	0.78	0.77	0.72	0.70

*Women's participation in labor force [=(female labor*100)/female population]*				
China	44.19	44.52	48.48	52.20
East Asia	29.12[a]	30.58[a]	32.36[a]	33.17[a]
Socialist comparators	38.33	41.01	42.22	42.35
India	28.41	24.98	22.01	20.95
Gross enrollment ratio: secondary				
China	n/a	24.00	50.38	40.50
East Asia	n/a	22.67[a]	42.81[a]	54.33[a]
Socialist comparators	n/a	69.77	80.08	82.25
India	n/a	26.50[c]	31.00	38.50
Gross enrollment ratio, females: primary				
China	n/a	113.67	113.10	n/a
East Asia	77.33	91.50	103.96	99.00[b]
Socialist comparators	102.88	98.29	100.02	n/a
India	48.50	61.83	76.20	n/a

Source: United Nations Social Indicators Database.

Notes: East Asia represented by Indonesia, Korea, Taiwan and Thailand; Socialist Comparators are Hungary, Poland, Former USSR and Yugoslavia. Gross enrollment ratio is defined as gross enrollment (in all streams) of all ages at the primary/secondary/tertiary level as a percentage of school-age population as defined by each country and reported to Unesco. Many countries consider primary school age to be 6–11 years and secondary to be 12–17 years. This ratio may be greater than 100% if some pupils are outside the country's standard age-range.

[a] Average of Indonesia, Korea, and Thailand.

[b] Average of Korea and Thailand only.

[c] Average of Indonesia, Korea, and Thailand.

*Data not available for 1991 in some cases.

(especially of women). Female participation in the labor force has always been high in China, and it has largely closed the gender education gap, completely at primary levels.

3.7 DO SOCIAL POLICIES ACCOUNT FOR ECONOMIC SUCCESS?

Most of China's favorable social indicators primarily reflect policies in the prereform period, and an interesting question is the extent to which these have contributed to postreform economic performance. In addition to the broad issue of the importance of human capital formation for growth, one may wonder about the impact of sharp demographic transition on growth. This is a controversial topic beyond the scope of this paper. In contrast with previous analyses, some recent studies in the 1980s do suggest the emergence of a negative relationship between population and GDP growth rates. There is at least one study (Barlow, 1992) that suggests that a sudden reduction in fertility rates raises output growth considerably over the next 12 years. Extrapolating his results to China would suggest a remarkably large impact of the fertility declines of the 1970s on China's growth in the 1980s. Barlow's results seem extreme and are certainly not uncontested. But even if greatly discounted, they suggest the possible explanatory power of China's demographic transition of the 1970s in boosting an otherwise sound economic response to systemic reforms to stellar proportions in the 1980s.[18]

3.8 A SUMMING UP

Precise judgments on China's income level and economic characteristics confront data problems, but its economic performance in the reform period resembles that of the dynamic East Asian comparators. In social dimensions, China is a real outlier, suggesting the success of its basic needs strategy. The contribution of the social dimension to growth over the last 15 years is difficult to assess, but it may be considerable.

18. For reviews of this area, see Srinivasan (1992), Blanchet (1992), Kelley and Schmidt (1992), and references cited therein. Barlow (1992) suggests that a sudden reduction of fertility causing a permanent reduction of about one percentage point in the annual net birth rate will cause output to be higher by 21% at the end of 12 years. By this standard, China's decline in fertility would have accounted for an increase in real output of 42% at the end of 12 years! Barlow's coefficients seem unreasonably high—for one thing, there is insufficient cross-country evidence of the large response in intermediate variables, such as savings and female participation rates, that would be needed to produce so large a growth response to the demographic transition; for more discussion, see Kelley and Schmidt (1992).

4. *Intensive Versus Extensive Factors in China's Performance*

The growth accounting exercise in Table 4 shows that growth and its sources have varied significantly by subperiod in China. Factor accumulation has accounted for most growth, but beginning with Phase I of the reforms in the late 1970s and continuing through Phase II, TFP rose at 2.8–3.8%. The phase of macroeconomic stabilization in Phase III caused a sharp reduction in growth during 1989–1991, which in turn led to stagnant or even declining residual productivity. In 1992 growth rates have returned to their pre-1989 double-digit levels.

Table 5 shows the large structural change in sectoral shares of Gross Social Product (GSP) and also, within industry by ownership type, that accompanied reform. After falling as China industrialized, agriculture's share of GSP rose through Phase I and declined thereafter. Meanwhile, industrial ownership diversified considerably.

Productivity growth has varied significantly across sectors as well as over time: Table 6 summarizes various results. TFP growth in *agriculture* appears to have soared from negative levels to account for much of the rapid growth after 1978. According to Lin, Burcroff, and Feder (1993), almost half of the 42.2% growth of output in the cropping sector in 1978–1984 was driven by productivity change caused by reforms. Specifically, almost all of the productivity growth was attributable to the changes resulting from the introduction of the household responsibility system.[19] TFP measures for agriculture as a whole are not available for the most recent period, but if we assume that labor productivity growth is somewhat higher than TFP growth, the 3% rate of labor productivity growth during 1984–1988 implies that TFP declined relative to 1978–1984 but remained well above its prereform levels.[20]

Chen et al. (1988) find that from 1978 to 1985, TFP in *state industry* (SOEs) rose at 5.2%, far above the estimated level of about 1% in the previous two decades. Jefferson, Rawski, and Zheng (JRZ) (1992) investigate TFP growth with capital, labor, and intermediate inputs: During 1980–1988 their single-factor productivity rose at rates of 2.1, 5.2, and 2.1%, respectively. A measure of TFP growth formed by any linear combination of these rates would yield a composite rate of productivity growth somewhere within this range. They estimate TFP growth of

19. McMillan, Whalley, and Zhu (1989) estimate that three quarters of the measured productivity increase was due to changes in the incentive system associated with the household responsibility system and the remainder to price increases.
20. Rawski suggests, however, that the agricultural labor force may have been systematically overestimated in recent years. If so, TFP may have continued at higher rates.

2.40% in 1980–1988, 1.80% during 1980–1984, and 3.01% during 1984–1988.

Using the same procedures, JRZ (1992) estimate TFP growth for the *collective industry* (urban collectives and TVEs established at or above the township level) at 4.63% for the period 1980–1988. For the subperiods, collective sector TFP rose at rates of 3.45 during 1980–1984 and 5.86 during 1984–1988.

These data show a consistent pattern of higher productivity growth during the reform period. While TFP in nonstate industry rose more

Table 4 SOURCES OF GROWTH

	Growth rate of net material product (1980 prices) (y)	*Contribution of increase in* K *stock* (α_KK)	*Contribution of increase in* L *force* (α_LL)	*Contribution of TFP growth* (TFP)
1955–1965	4.31	1.50	5.79	−2.98
1965–1978	6.40	1.55	3.64	1.20
1978–1984	7.98	1.83	3.31	2.84
1984–1988	10.12	1.80	4.51	3.82
1988–1991	5.30	1.43	4.37	−0.50

Data sources: SSB (1991) p. 401; SSB (1992), pp. 33, 97, 401, 406–407, 413.
These figures are derived from an aggregate production function converted into the standard growth accounting form:

$y = \text{tfp} + \alpha_K k + \alpha_L 1.$

Table 5 SECTORAL SHARES OF CHINA'S GROSS SOCIAL PRODUCT[a]

	1952	*1978*	*1984*	*1990*
Agriculture	45.4	20.4	24.4	20.2
		(28.4)	(33.0)	(28.4)
Industry	34.4	61.9	57.8	63.0
		(44.8)	(40.1)	(39.5)
Of which:				
State-owned	41.5	77.6	69.1	54.6
Collective	3.3	22.4	29.7	35.6
Other	55.2[b]	0.0	1.2	9.8
Services and transportation	14.6	9.4	8.2	9.0
		(23.0)	(21.9)	(27.2)

Data sources: SSB (1991), pp. 31, 50, 396.
[a]The figures not in parentheses represent Social Gross Product, i.e., they are inclusive of intermediate inputs at the level of the producer. The figures in parentheses are shares based on GNP that are exclusive of intermediate inputs. Also note: industry includes construction.
[b]Prenationalization.

Table 6 SECTORAL SOURCES OF GROWTH, 1962–1988

		Industry	
	Agriculture	*State*	*Collective*
1955–1965			
Total	1.8		
TFP	−0.6 (0.8)[a]		
		0.80[c]	
1965–1978			
Total	2.9		
TFP	−1.0 (0.9)		
1978–1984			
Total	8.0	(8.49)	(14.03)
TFP	5.9 (6.2)[b]	5.2 (1.80)[a]	(3.45)
1984–1988			
Total	4.0	(10.22)	(19.86)
TFP	(3.0)	(3.01)	(5.86)

[a]Figures for labor productivity (in parentheses) and TFP for 1955–1965 and 1965–1978 are drawn from A. Tang (1981) "Chinese Agriculture: Its Problems and Prospects," working paper No. 82-W09, Department of Economics, Vanderbilt University.
[b]TFP and labor productivity figures drawn from McMillan et al. (1989).
[c]For the period 1953–1978.
[d]The figures in parentheses are TFP measures for capital, labor, and intermediate inputs. The earlier figures cover 1980–1984, not 1978–1984.

rapidly than in the SOEs, productivity in state industry rose at rates that had been unachieved since the early 1950s.[21] There are biases in these figures,[22] but these are unlikely to overturn these broad conclusions.

21. These results for state industry are consistent with Beck and Bohnet (undated), Zou (1992), based on a sample of 254 enterprises, and other studies that properly deflate the capital stock and remove nonproduction inputs of capital and labor.
22. Output deflators are biased downward, thus leading to excessively high reports of industrial output growth. In the state sector, the principal source of this bias in the 1980s was product innovation. When a new product is introduced, as for other products, enterprises are expected to report industrial output in both current and 1980 prices. As a matter of practice (and because there may be no comparable product with a known 1980 price), they often used the price posted at the time the product was introduced in lieu of the 1980 price. This introduces systematic bias into measures of GVIO in 1980 prices, particularly in industries within which new product innovation is widespread. Jefferson (1991) suggests that these biases may run from virtually zero in industries in which there is little product innovation, such as oil and gas production to as high as 7.8% in the electrical machinery industry where during 1980–1985, the annual rate of growth was reported to be 25%. Overall, he estimates upward bias from spurious accounting procedures associated with new product innovation to be in the vicinity of 1%. Rawski (1992a) discusses bias in the output deflators available for the collective sector. They may equal or even exceed that for state industry but do not change the qualitative finding of rapid productivity growth within that sector.

Table 7 LEVELS OF TFP IN STATE AND COLLECTIVE INDUSTRY

	State industry	*Collective industry*
1980	2.18	2.28
1984	2.34	2.64
1988	2.63	3.04
Index for 1988 (1980 = 100)	120.6	133.3

Source: Jefferson and Rawski (1992), p. 52.

Table 8 COMPARATIVE LEVELS OF INDUSTRIAL TFP GROWTH

Country	*Period*	*Estimate*
China[a]	1957–1978 (SOE)	0.4
	1978–1985 (SOE)	4.8
China[b]	1980–1988 (SOE)	2.4
	1980–1988 (COE)	4.6
Hong Kong	1960–1970	3.2
Singapore	1960–1970	3.6
Taiwan	1955–1970	5.4
Korea	1960–1970	3.7
	1960–1977	3.7
Turkey	1963–1976	1.3
Yugoslavia	1965–1978	0.5
India	1959–1979	−0.3

Sources:
[a]Chen *et al.* (1988).
[b]Jefferson, Rawski, and Zheng (1992).
[c]All other figures are from I. J. Ahluwlia (1991).

4.1 PRODUCTIVITY LEVELS BY OWNERSHIP TYPE

Table 7, based on the JRZ calculations, shows that, while TFP in China's TVEs and SOEs were approximately equal in 1980, by 1988 the TVE sector had achieved a clear productivity level margin over the state-owned enterprises. Preliminary results from disaggregated analysis show a somewhat more mixed picture, however.[23]

In order to give some perspective to the productivity growth performance of Chinese industry, Table 8 summarizes estimates of TFP from various sources. Prior to the reforms, Chinese industrial TFP growth

23. A comparison of levels and rates of growth of TFP in SOEs and TVEs in seven two-digit enterprises shows TVE productivity in 1989 to be higher in construction materials, metal products, and machinery, but lower in food, textiles, papermaking, and home appliances (Jefferson, 1993). The growth of TFP among the TVEs was higher in all seven branches.

compared with that of Turkey, Yugoslavia, and India during the 1960s and 1970s, but after reforms it accelerated to a range comparable to that of East Asian NICs during the 1960s.

4.2 REFORMS AND EFFICIENCY: MORE EVIDENCE

A number of studies using enterprise-level data have examined patterns of changing resource allocation and efficiency within China's industry in ways that help assess the impact of reforms.[24]

1. Studies tend to show evidence of gains in allocative efficiency that are compatible with the spread of broad market forces. Naughton (1992) shows convergence of profit rates across 38 industrial branches, with the coefficient of variation declining from 0.78 in 1980 to 0.44 in 1989. In a similar vein, Jefferson and Xu (forthcoming) evaluate gains in allocative efficiency among 226 large and medium-size SOEs at the core of the state system. Over the period 1980–1989, among enterprises within the same industrial branches and enterprises operating under similar pricing regimes, they find patterns of convergence of average productivities for capital and labor and, to a lesser extent, for materials. Convergence is most rapid and complete among enterprises that operate fully outside the plan.

2. Jefferson and Xu (1992) investigate patterns of convergence among measures of total factor productivity (technical efficiency). During 1980–1989, enterprises within 8 of 10 industries demonstrate a tendency for TFP to converge. Results by Xiao (1990) using a sample of 903 SOEs and other research on steel plants also show tendencies for TFP to become more equal. There also seems to be a link between exposure to market forces and TFP growth. As with gains in allocative efficiency, gains in technical efficiency are most pronounced among enterprises operating outside the plan in Jefferson and Xu (1992). Zou (1992) found that ownership by itself provided a statistically significant explanation of differences in TFP. But when a carefully constructed measure of degree of marketization (including the market share of sales and material purchases and price spreads) is added, Zou found that this degree of marketization was a more powerful explanation of TFP growth than was ownership type.

3. There also appears to have been increasing innovation in China's enterprises. A survey of 250 enterprises by Jefferson, Rawski, and Zheng (1992) found evidence of increasing rates of innovation. Over

24. In addition to these studies, we note that most studies find evidence of increasing returns to scale at the enterprise level, and because the number of SOEs grew at only 0.9% in 1980–1989, average gross output per enterprise in 1980 prices rose at 9.8%.

90% of the leading innovators were considered (by enterprises of all types) to be in the state sector.

4.3 BENEATH THE NUMBERS: RELATING PERFORMANCE TO REFORMS

The micro-level and regional studies noted earlier indicate that the rise in TFP growth within state industry originated both from gains in allocative and technical efficiency and from accelerating innovation. They are internally consistent and suggestive of the ways in which such specific reforms as progressive marketization, diversification of ownership toward the nonstate sector, and the open-door policy have contributed to improved productivity. However, there is not unanimity among China scholars in this area. Some studies find evidence of chaotic institutional arrangements, redundant and undisciplined labor, interference by supervisory bodies, ill-defined ownership, and bank lending with no prospect of repayment. We do not deny that these problems are widespread, and that there are a number of "soft spots" in the reform process.[25] The weight of the quantitative micro-evidence confirms, however, that on balance the impact of the reform process on efficiency has been favorable.

Because evidence on the reasons for the boost in agricultural productivity seems reasonably clear, we focus on two key questions raised by China's industrial reform program: (1) How has incremental reform improved the SOEs' performance despite the less favorable impacts of such reforms in Hungary (for over two decades) and Poland (for one decade)? And (2) Why has the TVE sector boomed despite not being really private? Just what kind of firms are these? How do incentives work for (and against) TVE efficiency?

4.4 THE SOEs

To understand the way in which China's industrial reforms have worked, it is useful to distinguish between so-called improving reforms and end-state reforms. The 1980s industrial reform program created a set of incentives and opportunities that shifted the SOE institutional efficiency frontier outwards, closer to best practice. Pre- and post-tax enterprise profits are correlated and have become more closely so (in general) as reforms have progressed. Moreover, tax rates have not typically been revised ex post on the basis of performance.[26] Although bad

25. For more discussion, see, e.g., Fan and Woo (1992), Stepanek (1991), and the excellent review of Walder (1987).

26. A study of 230 enterprises showed that when profitability during the first management contract period (typically 1987–1990) exceeded expectations (i.e., the profit remittance rate was lower and the retention rate was higher than expected), subsequent contracts tended to validate the lower profit remittance and higher retention rates rather than simply adjust to a new baseline.

for fiscal revenues, this implies stronger incentives. Among SOEs the relationship between workers' bonuses and enterprise profitability became stronger during the 1980s (Rawski, 1992b). Enterprises for which the strongest incentive structures have been created and have received the greatest autonomy have succeeded in motivating the largest increases in labor productivity (McMillan and Naughton, 1992). The introduction of incentives has also motivated factory managers to raise efficiency (Jefferson and Xu, 1992). Groves et al. (1992) argue that the reforms introduced many of the incentives present in Western managerial labor markets, although in somewhat different forms. It also appears that investment out of retained profits yields higher growth of capital productivity than investment financed by government and bank loans (Jefferson and Xu, 1992) and that there are increasingly strong links between profitability and expansion. Jefferson and Xu (1992) find this profit-expansion link to be statistically significant for a sample of 110 iron and steel mills, at the core of the state system.

Although this paper cannot go into deep comparative detail, available evidence seems to indicate that the limited reform initiatives taken by Hungary and Poland before 1990 did not result in similar improvements in incentives and performance. Rawski (1992b) contrasts his findings for China with those for Hungary (due to Kornai and Matits, 1987) which, despite years of reform socialism, had a tax system that left little relationship between pre- and post-tax profitability. Schaffer (1990) found a similarly small relationship for pre-big-bang Poland. Estrin, Schaffer, and Singh (1992) actually found a perverse relationship between increases in profits and wages in 1989–1990.

In addition, the changes in China's incentive system are unlikely to have had as much effect were it not for the explosive growth of competition from *outside* the state sector. In contrast to pre-1990 EE, entry and competition grew from two contrasting sources. The first was the open-door policy, comprising trade and joint venture investment. Preliminary analysis by Singh, Xiao, and Ratha (1993) suggests that an "open-door" dummy for the four provinces closest to Hong Kong and Taiwan is a significant explanator of the growth rate of gross industrial output. By the 1990s, two thirds of all exports came from special enterprise zones, with the state sector accounting for two thirds of these and the nonstate sector for the remainder. Ongoing research on coastal zones suggest that the level of foreign investment is associated with provincial-level growth rates.[27] The second was the rapid entry of rural TVEs, which has eliminated the traditional monopoly of state enterprises in most

27. Wang and Mody (1992).

branches of industry. Both of these sources of competition have invigorated state industry.

4.5 The TVEs

As described in Byrd and Gelb (1990), TVEs are typically under the watchful eye of the local Industrial Council, the business arm of the local government, rather than being autonomous (see also JRZ, 1992). But unlike the central government, township and village governments cannot engage directly in deficit financing, and there is no effective system of equalizing incomes across rural communities. Therefore, these face a relatively hard budget constraint. Local leaders are heavily dependent on the revenue generated by local industry, and revenue per resident can differ enormously between successful and unsuccessful localities. In a variety of ways, the prestige, perks, and incomes of local officials respond to the financial success of their communities. Business competence has become one factor in their appointment.

The result is intense competition among local governments—for industry, profits, and increasingly for foreign partners.[28] While governments at various levels try to favor "their" enterprises (e.g., by trying to ensure that financial resources raised locally are recycled within the community), their ability to do so is constrained by their resources. Also, being smaller, they have less potential scope for protecting their industries, which operate almost entirely on free product markets. The fixed-membership nature of China's communities provides a strong natural focus for the exercise of ownership rights, even though these are communal rather than private.[29]

The TVE sector can therefore be considered as a quasi-private sector in terms of its governance, with an immobile local community as the shareholders in firms operating mostly in a market environment.[30] The international experience of similar firms confirms that such a model has the potential to be competitive.[31]

28. Zweig (1992, 1993) describes the competition for joint ventures between local governments.
29. In some circumstances poor local governments may become "fiscal predators" on their enterprises—until the base for such predation is eliminated; see Byrd and Gelb (1990). Communities may also attract labor from other localities, but these are often paid less than the locals and share less in the benefits of "ownership."
30. It is not clear that communal ownership warrants the term *cooperative culture* as used by Weitzman and Xu (1992), because the style of government and corporate culture may be far from cooperative.
31. Svejnar and Gelb (1990) discuss various international comparators to China's rural enterprises.

5. *Reform, Income Distribution, and Poverty*

One of the major questions about socialist transformation is whether it will lead to a widening of income differentials and erode the strong social safety net characteristics of communist systems. This section therefore provides a brief overview of the distributional impact of China's reforms.[32]

Prereform China was a moderately equal society in terms of measured income distribution. However, it was less egalitarian than the countries in Eastern Europe (which had some of the most egalitarian income distributions in the world).[33] The evolution of income inequality through China's reforms has reflected three main developments:

5.1 (1) URBAN–RURAL INCOME DIFFERENTIALS

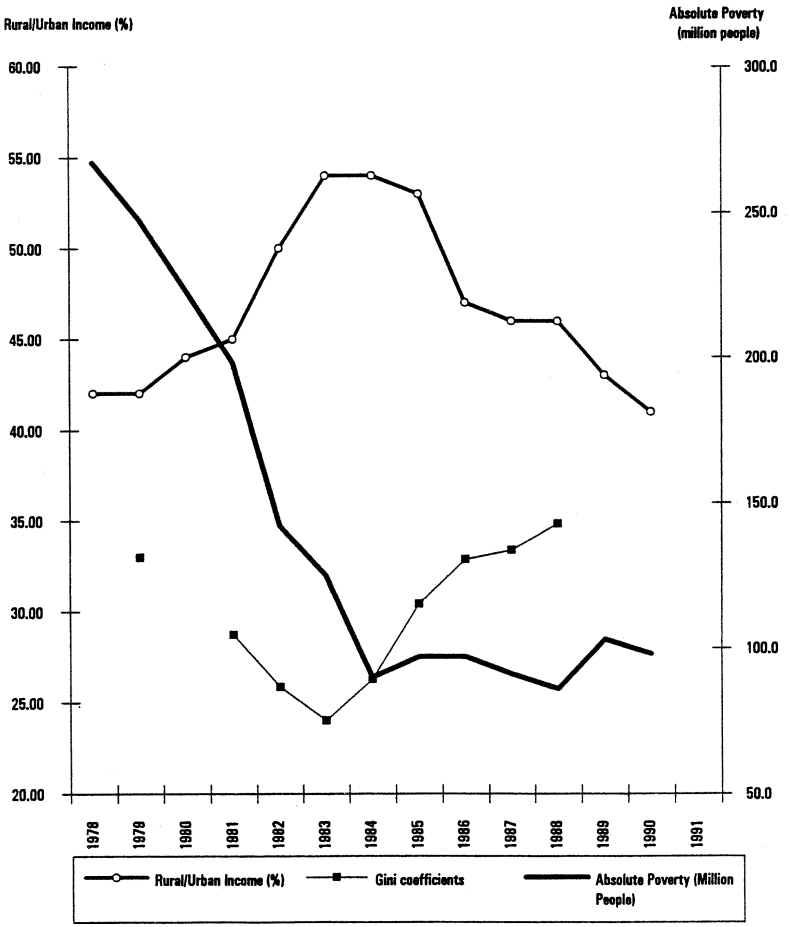
At the start of reforms, rural income/head represented only 42% of urban income/head as conventionally measured in China (Fig. 5). This was a wider divergence than in India (71%), Thailand (45%), and even Brazil (43%); moreover, weaknesses in the measurement of incomes, in particular the omission of subsidies, probably understates the true differential by a considerable margin.[34] These differentials have persisted because of strict regulation of migration from the countryside through the system of urban registration and because many benefits are tied to jobs.

Phase I of the reform saw a considerable narrowing of the margin as compulsory procurement was reduced in scope, agricultural prices were raised, and the household responsibility system boosted productivity. The margin widened again in Phase II, however, as urban reforms liberalized industrial prices and permitted greater growth of urban incomes. By 1990 the measured ratio of rural to urban incomes had fallen back to slightly below its prereform level.

Measured income is a poor proxy for total income because it excludes so-called nonwage income and subsidy income in kind, particularly important in the urban areas. A special survey conducted for 1988 suggested that urban incomes were higher by 54% and rural incomes higher by 39% of their conventionally measured values. The implication is a considerably higher Gini coefficient for the overall country—0.382 for 1988 compared with the "official" estimate of below 0.33.[35] Further, the

32. It does not address the question of whether reforms have strengthened, or begun to erode, health and other social indicators (see, e.g., Nolan and Sender, 1992).
33. For comparisons of Gini coefficients, see Gelb and Gray (1991), Annex 6.
34. See Zhao (1992).
35. Khan et al. (1991), p. 69.

Figure 5 DISTRIBUTIONAL INDICATORS



Sources: World Bank (1992b). Gini for 1979 is cited by Zhao (1992).

rise of nonwage income relative to wage income noted in the next section suggests that the ratio of rural to urban incomes may be increasing further.[36]

36. The salary reforms of 1985 sought to further equalize urban incomes by constraining differentials. One study estimated nonwage income rising from 26% of wage income in 1985 to 35% in 1990, a consequence of increased enterprise autonomy in the face of continuing controls on state enterprise pay levels. Zhao (1992) estimates that wages and bonuses may amount to only about half of urban incomes.

5.2 (2) RURAL–RURAL INEQUALITY

China is a large country with highly differentiated regional economies. Whereas urban incomes have been very equally distributed (Gini about 16% in 1980), there have been no effective mechanisms for rural income redistribution. Income from rural nonagricultural enterprises has become the main factor differentiating rural incomes on a communal basis. There is no indication that inequality is higher *within* the most industrially developed rural areas.[37] The evidence on the evolution of the rural Gini coefficient during the Phase I of reform is somewhat contradictory, with some studies showing a rise and others a fall.[38] However, the growth of rural industry in Phase II appears to have increased rural–rural inequality, with the richest areas growing faster.

5.3 (3) THE RISE OF THE "PRIVATE" SECTOR

Cash incomes in the private sector, defined to include self-employed, private domestic firms, joint ventures and foreign-owned firms are only 15% higher than cash incomes in the urban state sector, according to a 1988 survey. Distribution is very different in private and state sectors however, with Gini coefficients of 0.49 and 0.23 according to the survey. Private incomes at the high end of the scale are probably due to the opportunities to exploit rents created from the continuance of controls on prices and credit, but the experience of European and FSU socialist reform also suggests a tendency for wide dispersion in private incomes at the start of reform.

5.4 OVERALL INEQUALITY AND POVERTY

As a result of these tendencies, overall inequality in China, appears to have declined during Phase I of reform. Since then it has increased, probably back to its starting point but possibly more.[39] Combining growth and distributional effects, the first stage of the reform saw a massive fall in the number of people living in absolute poverty, from about 265 million in 1978 to 90 million in 1984, a decline from one third to less than a tenth of China's population.[40] Despite continued high growth, increasing dispersion of income distribution then caused the number to rise slightly, as shown in Figure 5. This is significant because China has yet to put into place a social safety net appropriate to a market

37. Zhao (1992). Gelb (1990) also notes the tendency toward local equality when surveying TVE workers.
38. See World Bank (1992b), Chapter 2.
39. Gini coefficients from 1981 to 1988 have been estimated on a household basis from SSB data.
40. World Bank (1992b), Table 1.2.

economy and geared to the needs of a growing "floating" population. It may have been wise not to divert effort in this direction before reaping the growth rewards of reform (and China was perhaps fortunate in that prereform distribution was not so egalitarian to force the pace), but, to avoid social polarization in the longer run, steps in this direction, as well as liberalizing labor movement, will be necessary.

6. *Macroeconomic Stability and Sustainability*

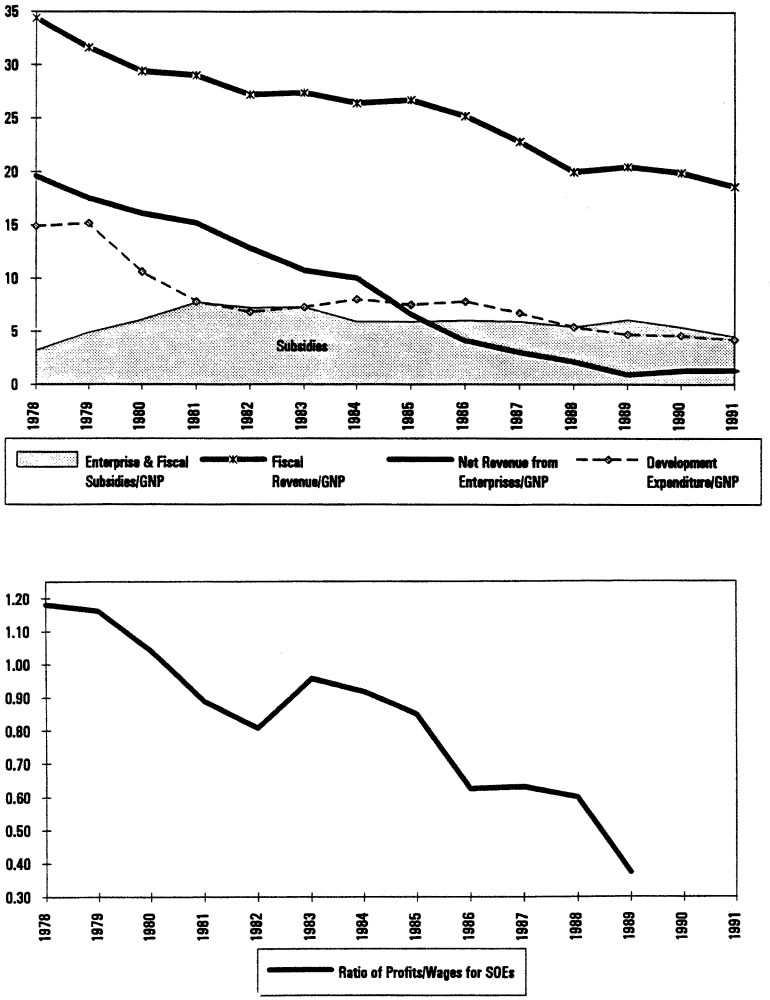
As in EE and the FSU, the movement from planned to market socialism has generated macroeconomic pressures in China. The policy of resource decentralization was more effective than anticipated. Government revenues dropped sharply between 1978 and 1991, and enterprise revenues net of subsidies almost vanished (see Fig. 6). This largely resulted from a sharp decline in the profit rate in the state enterprise sector, but it also reflected the particular interaction of ownership, management and fiscal arrangements. Local governments were the effective owners and regulators of many of the enterprises, as well as tax collectors. This produced a situation fraught with conflicts of interest, moral hazard, and collusion against the center. Even though central development expenditures were cut as investment was decentralized, the effect was a heavy fiscal stress mirrored in moderate, but rising, deficits after 1985.

Moreover, revenue and ownership policies interacted, in the form of case-by-case bargaining over tax targets fixed in nominal (not real) terms. This had the unintended consequence of rendering fiscal policy ineffective as a macroeconomic regulator. At the same time, decentralization weakened central monetary control.[41] China's reform process therefore resulted in demand-led macroeconomic shocks that had an impact on a system with limited indexation: Figure 7 shows the close relationship between inflation and changes in industrial output symptomatic of such a demand-pull relationship.

Declining SOE profits and rising losses reflected several factors. In 1991 36% of the losses were concentrated in extractive industries whose prices were controlled at below-market levels. Industrial profits have also felt the effect of contractionary policies initiated after 1989. A third factor is the erosion of the state's production monopoly and generally growing competition (see Naughton (1992); Chen, Jefferson, and Singh

41. For discussions of China's monetary and fiscal control methods and their shortcomings, see Blejer (1992); Schmidt-Hebbel (1991); Fan and Woo (1992); and Chen, Jefferson, and Singh (1992).

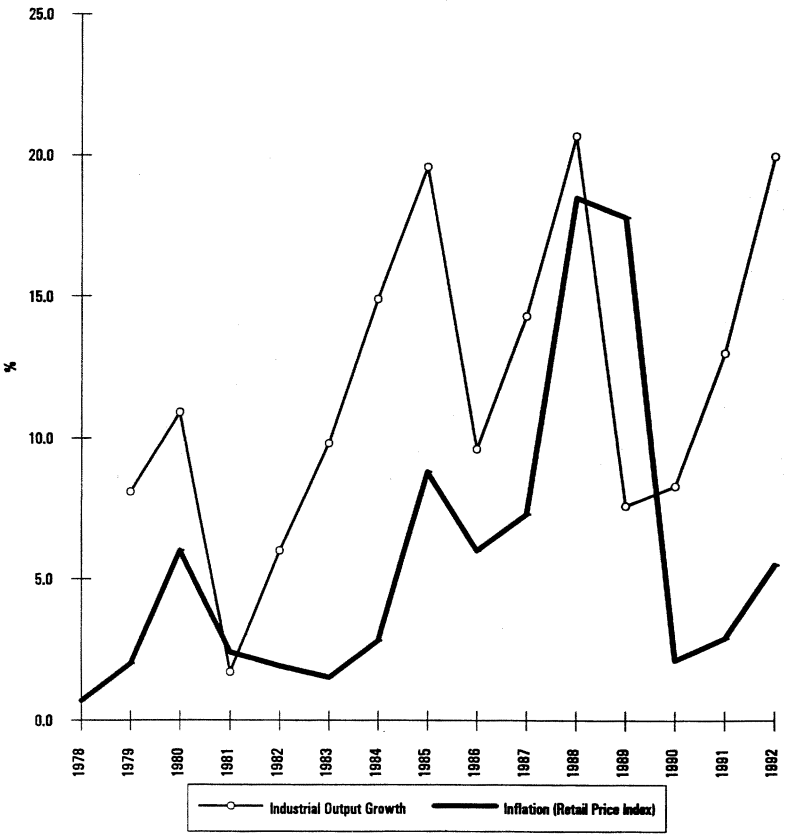
Figure 6 FISCAL DECENTRALIZATION



Source: World Bank (1992a).

(1992); and Singh, Xiao, and Ratha (1993)). This has led to a decline in the supraprofits of state industry (previously used to concentrate surplus in the state sector) as well as in the TVE sector, where the entry of hundreds of thousands of new rural producers drove pretax profit rates down from 40% in 1978 to about 13% in 1990. In further support of the competition hypothesis, Singh, Xiao, and Ratha (1993) use data

Figure 7 INFLATION AND GROWTH OF INDUSTRIAL OUTPUT



Source: World Bank (1992a).

from 28 provinces to show that the more rapid the growth of nonstate industry was during 1985–1990, the lower the profit rate of state industry in 1990.

A fourth, less benign, factor may have been the consequence of increasing SOE autonomy in the face of unclear ownership, leading to owner-retained earnings enterprise decapitalization, falling profits, distress borrowing, and macroeconomic pressure. Fan and Woo (1992) note problematic symptoms at the enterprise level very similar to those so destabilizing in the reform socialist phase in EE and the FSU: a rise in

wage payments (and especially in fringe benefits) relative to output, a "hunger" for resources, and increasing recourse to borrowing by enterprises at the expense of retained earnings.[42]

So far, the growth and pronounced financial deepening of China's economy has permitted credit to expand rapidly in real terms. To an extent difficult to determine, this has, so far, cushioned losses in the enterprise sector.[43] How China deepens reforms in response to the weakened financial position of the SOEs will play a critical role in determining whether macro-destabilization can be avoided, and the favorable macro environment for growth sustained. China's financial deepening will not continue indefinitely. However, for three reasons, the situation is more favorable than in EE and the FSU. First, Chinese authorities have again begun actively to implement reform within the industrial sector. These, indeed, appear to signal a change of attitude toward enterprise closures and property rights issues.[44] Second, the rapid growth of China's economy raises its capacity to absorb losses. Third, with the share of state industry now accounting for less than one half of industrial output and falling steadily, growth is ever less dependent on state enterprises.[45] With adequate policies, China therefore appears to have the potential to escape the trap of macro-instability that has beset other countries in the phase of reform socialism.

42. For a 300 enterprise sample of SOEs studied by Fan and Woo (1992), nonproductive assets rose from 18% of productive assets in 1984 to 24% in 1988, and nonproduction expenditure rose over twice as fast as production costs. See also Xiao (1990).
43. McKinnon (1993) cites estimates of the consolidated government (and enterprise) deficit that are in the range of 8% of GDP.
44. Prices have been further liberalized. Layoffs have been enforced in a number of industries. The state has begun an active program of restructuring the coal industry, scheduling the reductions of 100,000 workers in each year during 1992–1995. This year, 30 mines are scheduled to be closed (*New York Times*, December 29, 1992, p. D1). Also, ownership reform is again on the agenda (see Harrold, 1993). In practice, many enterprises are selling shares to employees, residents within the enterprise locality, or on the Shenzhen, Shanghai, or renegade stock markets. More significantly, there are powerful incentives to bring private capital into the state sector. Strapped for revenue, local governments are selling participation in many smaller state enterprises for which they are responsible. Perhaps the most visible example was the recent sale by the Quanzhou City government (Fujian) of a 60% controlling interest in 40 of the City's 41 state factories to a Hong Kong company (*Wall Street Journal*, January 14, 1993, p. A12). Moreover, because joint ventures operate under favorable arrangements with respect to taxes, flexible labor-management relations, etc. in order to secure these advantages, many enterprises are actively seeking foreign partners.
45. In the early 1950s, 90% of Taiwanese industry was state-owned. Through the growth of the nonstate sector, not through privatization of state-owned enterprises, this share has now fallen to a small proportion.

7. *Conclusions and Their Transferability*

Micro-based evidence on the impact of China's reforms outside of agriculture has only recently become available, and the next few years will see an intensification of studies in this area. But even allowing for data weaknesses and gaps in information, a number of the questions raised in the introduction can be addressed.

7.1 SLOW VERSUS RAPID REFORM?

"Improving" reforms can be successful in raising productivity in agriculture and industry, more in the nonstate sector but also in state enterprises.[46] The sources of productivity gains in China have generally conformed to theoretical predictions. Factor returns have tended to converge with widening marketization, and the entry of nonstate enterprises on a large scale has helped to create domestic competition. Flows of investment, trading, and management skills, notably from the overseas Chinese community, have complemented the competition benefits of the open-door policy. Despite incomplete market liberalization and reform of property rights, incentives in both the state and nonstate sector have pushed progressively in the direction of conformity with market forces.

China therefore suggests that a "Big Bang" is not necessary for economic reasons, unless addressing initial macro-imbalances justify it. The main elements of the "big bangs" have been price and trade liberalization and supporting fiscal, monetary, and exchange rate policies. Liberalization was effected in China over a number of years during which time the structure of the economy was able to adapt, including through the competitive entry of hordes of nonstate firms. But gradual price liberalization is not possible when prices are freed abruptly at the start of the reform, as part of a macroeconomic stabilization program needed as a precondition for effective micro-level reform.

7.2 DECENTRALIZED INITIATIVE?

In certain respects, a decentralized "bottom-up" approach to reform can have advantages. It encourages change by consensus and can avoid possible costly errors. The most important impact on China's productivity has always followed measures to decentralize decision making in agriculture, and rural and urban industry. Success on a local basis of experimentation has spurred replication and eventual national accep-

46. It is worth recalling that there was much criticism of TVE industry in the 1980s because of the competition it created for state enterprises, and that a reform strategy based on its growth by no means seemed assured.

tance. Decentralization has created domestic competition between different provinces, regions, and localities, and for investment funds, domestic markets, and foreign investments, creating an economy of many "small provincial dragons" and innumerable local "dragonlets." Especially for large countries like Russia and India, there are powerful positive lessons.

On the other hand, this approach to reform also imposes costs: duplication, undue slowness, less coherence in national policies, the endlessly negotiated "guanxi" nature of China's economic environment. A bottom-up approach is quite unsuitable for certain aspects of reform, such as establishing the needed instruments for macromanagement.

7.3 PROPERTY RIGHTS AT THE OUTSET?

Immediate privatization may not be necessary for successful reform—but diversifying ownership, providing financial incentives, and encouraging entry are very important. Much of China's gains have been due to "pseudo-privatization," of rural land and of rural industry, to "owners" who, though not always private and not enjoying all of the attributes of ownership, have faced incentives similar to private owners. In addition to the direct productivity gains in these sectors, they have made possible the functioning of competitive domestic markets and exerted competitive pressure on state enterprises, where profit-making incentives have been introduced and management decentralized as partial substitutes for privatization. China's experience confirms that small-scale privatization and the liberalization of distribution and service sectors are likely to have the fastest payoff in the reform of property rights.

7.4 WELFARE EFFECTS?

Growth, though necessary, is unlikely to solve the problem of absolute poverty alone. After the elimination of Stalinist repression of agriculture, China's experience suggests that reform leads to a widening of income distribution capable of offsetting even the effect of high growth. The early establishment of a universal social safety net may be premature in many reforming socialist countries, but at some stage this is likely to become one of the critical issues for China's reform.

7.5 IS PERFORMANCE SUSTAINABLE?

China's rapid growth momentum cannot be sustained without deeper reforms. It partly reflects transitional factors and initial conditions that temporarily have boosted performance. These include the boost to agriculture from the introduction of the household responsibility system (1978–1983), the initially very favorable conditions for the TVE sector

that resulted from surplus rural factors of production, and the extremely repressed and inefficient condition of industrial production at the start of the reforms. Industry has also seen transitory productivity gains from the spread of marketization, which is now largely complete outside the state sector.

These gains from "improving" reforms have permitted China to move closer to its production potential at the same time that the potential has grown through high investment and technological upgrading. In the absence of further reforms, however, growth will slow down. The fading of any gains from the demographic transition of the 1970s is likely to strengthen this proposition.

At the same time, there is evidence that some of the concerns raised in Eastern Europe and the FSU—such as the tendency for an economy based on autonomous state firms to generate persistent excess demand—also apply to China. Up till now, their effect has been muted by the exceptionally favorable growth record and unsustainably rapid monetary deepening. In this area, China can learn from the problems of other countries, and it will need to look to their experience in addressing them.

7.6 WHAT KINDS OF DEEPER REFORMS?

Further reforms are needed by both the state and the nonstate sector. The decline in profitability of the former threatens to become a serious drain on the resources of the financial system and, thus, ultimately on the fiscal system, destabilizing the macroeconomy, undermining growth, and reducing the ability to absorb losses in a vicious circle. State enterprise *cum* banking reform has become the Gordian knot for China, just as it has for the transforming countries of Eastern Europe and the FSU. Whether or not this necessarily will involve rapid, widespread, privatization in China is a moot point. But, to be successful, it will require reorganization to have many of the characteristics of privatization—including opening up the state enterprise sector to foreign investment to facilitate its integration into world markets.

Nonstate enterprises have so far flourished without a well-developed property rights framework, but there are signs that the informality of regulation and deep involvement of local governments will become a drag on performance as firms become larger and more sophisticated and require longer-term investments.[47] Macroeconomic management, too, will require stable and predictable tax rules, rather than case-by-case tax bargaining. This would be a further important stage in clearly

47. Young and Gang (1992); see also discussion in Byrd and Lin (1990).

defining the apportionment of income, risk, and responsibility—in short, formally defining property rights.

7.7 HOW TRANSFERABLE ARE LESSONS FROM CHINA?

Three distinctive features of China may first be noted: (a) China was never so thoroughly a state enterprise dominated, centrally planned, monopolized economy as the other, more developed communist countries. This left more open the option of "growing out of the plan" and facilitated the growth of competition. (b) China started from a rather balanced macroeconomic position, applied generally conservative macroeconomic policies, and was not subject to large external shocks during reform. This differs from the situation in Europe and the FSU, particularly after 1989. (c) China's reforms have not been accompanied by a fundamental political transition. How do these factors bear on the pattern of reform? And, what has China done that others have not, and vice versa?

China's policies and response may be compared with two phases of reforms in Europe and the FSU: the pre-1990 movement to reform socialism and the post-1990 transitions to private market economies. *Relative to reform socialism in Europe,* China's reforms emphasized decentralization, stimulating entry of new producers, permitting domestic competition, and opening the economy. This, in conjunction with a highly conservative macroeconomic stance and the less monopolized condition of the economy, forced enterprises to confront a "demand barrier" and respond to market pressures. At the same time, planning and a high degree of government direction were retained in certain parts of the economy. European reform socialism denied new entry, developed little real competition, and sustained less conservative macroeconomic policies while abandoning formal planning. It left agents constrained neither by market nor by plan. In contrast, enterprises in China were constrained by both, sometimes together, with essential favorable results.

7.8 RELATIVE TO POSTSOCIALIST TRANSITION

China has moved slowly on price and market liberalization. And with the partial exception of agriculture, it did not effect a decisive allocation of property rights to private agents.

Here, the issue of political transition becomes very important. Indeed, perhaps the most important lesson from China is that *political economy, rather than simply economic theories, lies at the heart of the process of socialist transition.* It is most unlikely that China-style reform would be acceptable—or successful—with a sharp transition away from Communist

government. One reason is that it leaves power and responsibility (including a planning mechanism) in the hands of the existing bureaucracy for an extended period. Rapid privatization in Europe and the FSU (where political changes preceded postsocialist transition) has been needed to create alternative owners and define property rights in the face of governments' abdication in these areas. It is no accident that the more radical privatization programs have followed the more radical breaks in the continuity of governments.[48]

The other reason is that a gradual strategy requires effective state management of the transition. Many might agree that the state could play an important role in guiding reform in the absence of well-developed market institutions. But how to frame this role constructively becomes far more difficult when the state loses capacity to enforce its policies. "Glasnost" before "perestroika" probably dictates a quite different model of fast, minimally regulated, and possibly chaotic, reform, for this reason alone.

This question of whether or not the state retains the capacity to control bears on many aspects of the reform process. Take, e.g., the issue of price liberalization. From the purely economic perspective, the faster prices are liberalized the better for allocative efficiency. China chose gradual liberalization because of the potential dislocation and destabilization of moving rapidly. A downside is that the wedge between free and controlled prices encourages corruption and rent-seeking behavior. In China, the strong authority of the state has kept this within bounds; in much of the FSU, corruption has perhaps been the only booming sector. Another factor in the calculus is that political stability is in general a correlate of high growth and foreign investment inflows. The political stability maintained in China has been an important factor encouraging the investment and growth needed to effect huge changes smoothly.

But "perestroika" before "glasnost" still leaves open the large question of whether authoritarian government can coexist indefinitely with a market economy. Experience elsewhere in East Asia offers a model of gradual political reform that ensues from economic prosperity. Indeed, the center and party have lost considerable control over local economic initiative, population mobility, and information flows in China. The basic outline of economic reform seems to be irreversible. But there is

48. One can imagine a China-style reform being implemented in the USSR in the late 1980s, had controls succeeded in restoring macro-stability and had the government been really committed to reform. Communism was externally imposed on Eastern Europe, however, so that it is harder to imagine a government retaining legitimacy through an extended reform period.

still a possibility that a chaotic political transition could damage macrostability and the reform environment.

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Comment

DWIGHT H. PERKINS
Harvard University

China's economy has been booming for most of the past 14 years since reforms began in 1978. Outside observers have frequently dismissed evidence of a rapid economic transformation by describing it as a flash in the pan. They did this in the early 1980s, and such observers were out in force after the Tiananmen tragedy in June 1989. As this paper by Gelb, Jefferson, and Singh makes clear, however, it is the periods of slow growth that have been the aberration, not the periods of high performance. I shall return later to the issue of whether this high-growth performance is likely to continue.

I shall begin, however, by underlining my basic agreement with the thrust of the Gelb, Jefferson, and Singh essay, although I shall do so in my own words. First, as their essay indicates, the Chinese reforms were more bottom up and spontaneous than they were a product of a well-thought-out central plan designed using the latest economy theory of how a market economy should be structured. Second, all of the careful econometric work to date, much of it done by the authors of this essay, indicates that total factor productivity growth has been substantial even in the much maligned state-owned industrial enterprises. The really high performers, however, were the small- and medium-scale enterprises under the jurisdiction of townships and villages.

It is also clear, as the paper indicates, that there are fundamental differences between the economic reforms in China and those in Eastern Europe and the former Soviet Union. The initial conditions were fundamentally different. China had a functioning, relatively strong authoritarian government. East Europe and Russia, with some exceptions, have completely new political systems with little capacity to implement government economic functions, including such basic functions as the ability to collect taxes. People mostly prefer these latter, much more

democratic systems, but that should not blind one to the fact that weak governments may not be ideal if one's primary focus is on economic reform. Second, China's economy was and is dominated by small-scale units, not only in agriculture and services, but also in industry, where half of gross output is produced outside the state sector. East Europe and Russia are dominated by huge plants, often with monopoly powers, that reflect the Stalinist fascination with "gigantomania." It is much easier to get small units to respond appropriately to market forces than large ones.

East Europe and Russia have attempted to carry out the transition to a market economy in a very brief period—the "big-bang" approach. But Poland and Russia, at least, began with something approaching hyperinflation, and a do-it-all-at-once approach is usually the best way to end hyperinflation. East Europe and Russia also had political revolutions, and rapid privatization schemes can probably be justified as a means of consolidating the political revolution, whatever their economic impact might be. China, of course, had neither hyperinflation nor a political revolution. China's principal reform need was a whole new set of institutions and the trained and experienced people to run them. Anyone who believes that such institutions can be created quickly or can learn to function efficiently in a span of a few years has never had any institution-building experience. Institution building is inevitably a gradual process unless one defines institutions as being pieces of paper with laws written on them.

Finally, almost everyone agrees that China's economic performance since reforms began has outstripped that of Eastern Europe and Russia. The differences in GNP growth rates, however, mask the fact that China's economy never required the same degree of restructuring as that of, say, Russia. China overemphasized steel and machinery prior to 1978, but China's military expenditures were never a large share of GNP. The reasons why this was so would take us far away from the concerns of a macroeconomic conference. The significance in contemporary terms is that China needs to further expand its steel industry, not close down half of its capacity, as may be the case in Russia.

But what about the future? Will China's high economic performance be increasingly hampered by the partially reformed nature of its economy as Gelb, Jefferson, and Singh suggest? I shall deal with only one aspect of this issue, the question of how China's partially reformed economy affects its macroeconomic performance.

There are fundamental differences between how monetary and fiscal policy work in a market economy and how they operate in a Soviet-style system of central planning such as existed in China before 1978 and still

exists in certain respects today. In a market economy, to state the obvious to a conference of macroeconomists, the sequence of causal effects begins with high-powered money that combines with certain banking rules (reserve requirements, etc.) to determine the money multiplier and the potential supply of money (M2). The actual money supply results from the interaction of this potential supply with enterprise and individual demand for credit. Allocation of credit to recipients is rationed by the interest rate in a pure market system or some combination of the interest rate and other forms of credit rationing in the real world. Schematically, this process is as follows,

high-powered money	→	money multiplier (M2)	→	supply of credit	←	demand for credit

Macro economic policy in this kind of system operates directly on high-powered money or, through open market operations and the like, on the money multiplier. The supply and demand for credit and the allocation of credit among users is not controlled directly by the government.

The Soviet-style system adopted by China works in the opposite direction. Macroeconomic policy begins by determining the level of investment and then allocating it among the various potential users. The banking system then allocates the funds needed to make this investment possible. The money supply, in essence, results from these investment decisions interacting with such things as individuals need to hold cash balances. The banking system accommodates whatever the plan requires. The main role of branch banks is simply to monitor compliance with the plan. Branch banks are in turn an integral part of the central bank, and the central bank simply prints whatever money is required subject to rules that are not enforced if they interfere with this requirement. Schematically, this is,

enterprise demand for credit	→	branch bank supply of credit	→	central bank accommodation of branch bank needs
	↖	central investment plan	↗	

In the first stage of reform, China changed the form of this system, but the substance remained very much intact. Specifically, branch banks were spun off and, on paper, made into independent commercial banks.

The People's Bank became a central bank, not a combined commercial and central bank. Enterprises were no longer governed by central plans and no longer got investment funds from the government budget, and when they borrowed these funds from the banks, they were supposed to pay them back with interest. Planners no longer told investors how much to invest nor did they tell the banking system how much to lend (most of the time).

But the reality was that the direction of causation still started with enterprise investment demand, and the banking system basically accommodated this demand. Because enterprises were only partially reformed, they still had considerable "investment hunger," to use Kornai's term. Sympathetic politicians ensured that the banks would respond and interest rates were low in any case, plus the banks had little power with which to insist on repayment. The share of nonperforming loans in the commercial banks' portfolios is unknown but huge.

In this partially reformed system, the application of standard approaches to monetary policy could control inflation by reducing the money supply, thereby cutting off credit to enterprises. Tight credit, however, would lead to a scramble for funds for projects good and bad that would be settled on the basis of the relative political strength of the various protagonists. When China faced the need to control credit in 1988 and 1989 because of rising inflation, it chose to do so directly rather than indirectly through central bank operators. Basically commercial banks were told to cut back lending by a certain amount across the board. The policy did bring down inflation, but by early 1990 it had also brought growth to a halt. Shortly thereafter, credit was loosened and growth restarted.

How does one complete this reform process? The goal is straightforward. One wants to reverse the direction of causation and get the various components to operate in accordance with market principles. In practice, this means changes at both ends of the spectrum and in the middle. A partial list would include:

1. clarifying enterprise property rights so as to reduce or eliminate management objectives that lead to investment hunger.
2. allowing commercial banks to charge substantial positive real rates of interest and give them powers to enforce loan repayment.
3. reforming accounting rules and their enforcement so that it is possible to measure accurately enterprise and bank profits and losses.
4. establishing enforceable rules for such basic things as bank reserve requirements.
5. enhancing the power of the central bank so that it has the authority in reality, not just on paper, to regulate the supply of money.

What will happen if these and other related measures are not undertaken? The growth rate will no doubt remain fairly high because there are too many East Asian-style underlying elements that will keep it going. But growth is likely to have a stop-go character to it. Investment hunger accommodated by the banking system will lead to inflationary pressures that will threaten to get out of hand. To stop inflation, credit brakes will be applied, and growth will slow or halt. The employment implications of slow growth will be politically unsustainable, and the credit brakes will be released and growth will accelerate again. With a reformed banking system, in contrast, the government should be able to control inflationary pressures with less impact on the growth rate. Cycles will continue to exist, but periods between downturns should be longer, and the degree of downturn required to control inflation would be less.

*Comment**

JEFFREY D. SACHS
Harvard University

The paper by Gelb, Jefferson, and Singh offers a wide-ranging survey of recent research on China's economic reforms since 1978. The well-informed discussion and extensive bibliography will be useful to all students of the Chinese economy and of economic reform policies more generally. The paper also aims to draw lessons from China for Eastern Europe. Many differences between the regions, however, make facile comparisons unhelpful and indeed misleading. My main complaint, however, is with respect to the discussion on China itself, where I find Gelb, Jefferson, and Singh to be insufficiently hardheaded about the weaknesses of China's reforms with regard to property rights.

China is a communist, one-party state groping toward a market economy. The reforms proceed fitfully and often inconsistently in the face of contradictory economic, political, and ideological pressures. Gelb, Jefferson, and Singh tend to make a virtue of each zig and zag, celebrating the inevitable "experimentation" that China's conditions yield, rather than pointing out the costs of holding onto socialist dogma. On the basis of a few years of rapid GNP growth, the authors are too ready to undervalue our vast accumulated theoretical and practical knowledge concerning the importance of private property rights and legal infrastructure. If lessons are to be learned, I have little doubt that the lessons

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will continue to flow to China from the market economies, including the fast reformers of Eastern Europe such as Poland, rather than in the other direction.

1. *Historical Background*

My philosophical differences with the authors begin with their first paragraph. They write, "Reform of a communist country is considered here as shifting away from central planning toward largely market-based resource allocation. It also involves strengthening incentives that link material reward to economic performance by moving toward private ownership and reforming management incentives within systems that maintain extensive social ownership." I doubt that the implicit choice in the second sentence is real. I believe that China, like Russia and Eastern Europe, is on its way to private ownership, or at least should be. For complex historical reasons, both Russia and China are 100 years behind the transition made in Western Europe and Japan in establishing the modern institutions of private property.

As is increasingly appreciated, modern capitalism and modern economic growth emerged in Western Europe in large measure as the result of key institutional and political innovations that established clear property rights and a separation of the state from commercial and industrial activities (see North and Thomas, 1973, for a canonical treatment). The wave of reforms between 1750 and 1870 included the following: the abolition of servile obligations and other feudal remnants throughout Europe; the codification of commercial and civil law; the introduction of modern company law; and the institution of a modern fiscal system, in which statutory tax obligations replaced tax farming, the "squeeze" of local bureaucrats, payment in kind rather than money, arbitrary confiscations, and tax exemptions of the nobility. While these liberalizing reforms evolved gradually in the United Kingdom, they were imposed from above in many other countries, as the result of war, revolution, or enlightened authoritarian rule.

Capitalistic modernization made only partial inroads in 19th-century Russia. Key aspects of the modernization agenda were frustrated for decades by the reactionary grip of the nobility and the Tzar. A modern company law was never adopted (see Owen, 1991). The emancipation of the serfs was deformed from the start, because collective village ownership rather than individual ownership was replacing serfdom (see Gershenkron, 1962; Blum, 1978; Pipes, 1974; Ulam, 1981). And a commercial code was never adopted before 1917 (Owen, 1991).

In Asia, Japan and China diverged in their response to the same challenge of institutional modernization. The Meiji leaders in Japan

went abroad to search for international best practices, while in China each attempt at reform (such as the abortive 100 Day's reform of 1900) was at least partially frustrated by the weakness and reaction of the Manchu regime, as well as the deeply entrenched interests of China's vast officialdom at the local and regional level. Fairbank (1992, pp. 180–181) has summarized the conclusions of generations of scholars:

> In short, capitalism failed to prosper in China because the merchant was never able to become established outside the control of the landlord gentry and their representatives in the bureaucracy. In feudal Europe the merchant class developed in the towns. Since the landed ruling class were settled in their manors upon the land, the European towns could grow up outside the feudal system instead of being integrated in it. Medieval burghers gained their independence by having a separate habitat in these new towns, and new political authority to protect them, in the persons of the kings of nation-states. In China, these conditions were lacking. The early abolition of feudalism and the dependence of the emperor and his officials upon the local gentry left no political power outside the established order to which the merchant could turn for special protection. . . . Between them, the gentry and officials saw to it that the merchants remained under control and contributed to their coffers instead of setting up a separate economy.

In both Russia and China, we are now witnessing the best chance in decades for unwinding the failures of 19th-century modernization, although in both countries the process remains fraught with political risks. In both countries, foreign and civil wars were followed by brutal dictatorships that championed economically disastrous theories until the past decade. (Of course, Eastern Europe's socialism was a retrogression imposed by the Red Army during 1945–1989). After decades of economic debacle, the long-delayed incorporation of "international best practices" is once again on the agenda. But after 135 years of debating whether peasants should own land in Russia, or whether local merchants in China should be free from local bureaucrats, it is a little silly to talk about "rapid" versus "slow" privatization.

2. *China's Reforms Since 1978*

The Chinese reforms that began in 1978 mercifully ended one of the most brutal and misguided economic regimes in modern history. While the authors speak of "erratic economic performance and demographic changes" (p. 3) following the Great Leap Forward and the Cultural Revolution, a different phrase comes to mind for a manmade famine that killed millions during 1959–1961, and for state-promoted social upheaval that destroyed the lives of millions, including almost the whole

intellectual class, while paralyzing rural development for more than a decade between 1966 and 1978.

By 1978, China was in a situation reminiscent of Russia in 1921 after three disastrous years of War Communism. (For a discussion of the New Economic Policy [NEP], see Ball, 1987.) And like Lenin and the NEP, Deng led a pragmatic policy of marketization and controlled liberalization under Communist leadership.[1] Both the NEP and Deng's reforms led to a rapid recovery from the earlier devastation, and to years of sustained growth, but with continued restrictions on private property rights. The absence of property rights facilitated Stalin's subsequent reversal of the NEP (although he still eventually required mass murder to succeed). The lack of clarity in China's property rights remains the greatest risk to the Chinese economy.

Nonetheless, China's prospects are vastly brighter than Russia's during the NEP for one reason. The international dimension of China's reforms—including freer trade, foreign investment, and foreign management—provides a powerful impetus to the continued adoption of "best international practices" in China's economic organization. In the new "global village" today, the cross-country flow of institutional best practices proceeds far more rapidly than in the 1920s. No single economy in the world dares espouse autarky as a development strategy.

There have been three major aspects to China's reforms. The first, and perhaps most important, was the partial liberalization of the countryside. Because no less than 75% of the labor force worked in agriculture as of 1978 (compared with 20% in Poland in 1989, and around 13% in Russia in 1991), this was a critical and highly successful step. As Gelb, Jefferson, and Singh note, the rural reform was quite radical, and had "somewhat of a 'big bang' character." (p. 5). The second reform was the international opening of parts of the economy, particularly along the coast. These reforms included partial convertibility, trade liberalization, and the attraction of foreign direct investment, mostly from offshore Chinese investors. The third part of the reform was an attempt to improve the performance of state-owned enterprises by granting them more autonomy. This, as Gelb, Jefferson, and Singh note, has been "gradual and piecemeal." Fortunately for China, the employment in the state industrial enterprises is only around 8% of the labor force (about 40 million workers out of 500 million).

1. The basic precepts of the policies were similar: marketization of peasant agriculture, replacement of forced requisitions of agricultural output by a fixed monetary tax, socialized ownership of large industries; partial marketization of industrial relations. The main distinction between the NEP and Deng's reforms lies in the international sphere, with China's important—perhaps decisive—reliance on international trade and investment as an engine of growth.

And what of the results? The radical liberalization of the countryside has produced dramatic results: the rapid development of township and village enterprises (TVEs) as well as improved agricultural productivity. The opening of the economy has produced a boom in trade to the West, based heavily on low wages, and Hong Kong capital and management. The effects of the reforms of the state-owned enterprises have been poor to fair. Their productivity performance, not surprisingly, is consistently below those of private or TVE enterprises. And they make enormous losses, at a heavy cost to the budget. Chinese officials estimate that two thirds of the state enterprises are now loss making, at an annual budgetary cost of some $15–20 billion.[2] The losses would be even larger were account taken of the cheap credits administratively directed toward this sector, as Woo emphasizes (1993).

3. *Continuing Problems in China's Reforms*

Despite the enormous economic progress under the reforms, and the intoxicating GDP growth rates of the past two years, it is much too early to proclaim victory of China's reforms. Political and economic liberties are not protected; property rights are not clearly established, regional disparities threaten national unity, and there are no settled arrangements linking the central and regional governments. The recent growth of output and living standards is heartening but hardly conclusive with regard to China's future.

In a way, the Chinese debate is further along than the paper by Gelb, Jefferson, and Singh would suggest. Many Chinese specialists are much less impressed with the state enterprises than their Western counterparts. They also worry aloud about the limitations of the TVEs and whether their institutional forms are really adequate for continued rapid growth. They stress the continuing waste of resources implied by political intervention, heavy subsidization of state enterprises, the absence of discipline via bankruptcy, the lackluster management, and the absence of clear ownership rights. Therefore, the debate has advanced rapidly to corporatization and even privatization (especially via public offerings of shares) of the state firms.

Consider first the situation in the countryside, where the news has seemingly been unreservedly positive. First, much of the direct productivity gain in agriculture had the character of a one-time adjustment

2. The official statistics suggest one third of enterprises are operating at a loss, but officials widely concede that one third is a huge underestimate. As reported in the *China Daily* (January 26, 1993, reported in Woo, 1993, p. 16), "At present, about one-third of the state firms are definitely operating at a loss and another one-third suffer hidden losses, according to the State Statistics Bureau."

after two decades of turmoil. Per capita grain production peaked in 1984, after jumping in the early 1980s (CIA, 1992). Consistent with this, the evidence suggests a considerable slowdown in overall TFP growth in agriculture after a spurt in the first half of 1984, with TFP growth falling from 9.52% per year during the 1980–1984, compared with just 2.60% per year during 1984–1988 (Harrold, 1992, Table 3). It may be even lower if attention is restricted to grain production.

Moreover, the boom in TVE employment has also waned, although TVE growth has continued. According to Chen (1993), employment in TVEs rose by 12.6 million persons per year during 1984–1988, while during 1988–1991 TVE growth per annum was just 210,000. As Chen stresses,

> Due to the absence of vacancies in town and village enterprises for three consecutive years, 27.30 million new laborers from a total increase of 30.26 million, were forced to find work in the fields, thus increasing the agricultural labor force by 8.7%, further burdening the already crowded farm land, aggravating the problem of rural unemployment and holding back the rate of increase in farmers' income.

One result has been a serious widening of income inequalities in China, with the incomes of the rural poor falling relative to the urban labor force. In 1978, the ratio of rural to urban incomes was 2.36, one of the highest ratios in the world. By 1984, this ratio had declined to 1.86 after the first wave of rural reforms. By 1990, the income gap had widened again, to 2.42, above the base ratio of 1978. The situation deteriorated further in 1992, with the rise of the ratio to an estimated 2.6.

These problems are almost surely related to limitations in China's rural reforms. The TVE collective ownership structure puts an effective limit on scale, because efficient management of large-scale collectives is difficult, and because TVEs lack access to an equity market. Moreover, the intertwining of local politicians and TVEs recalls the lack of independence of the merchant class in the last century, with all its attendant risks. It also fuels regional protectionism, in which local governments adopt mercantilism policies against other Chinese regions in order to bolster the profits of their TVEs. In farming, the absence of land titles remains a significant problem for peasant cultivators, in decreasing mobility, mortgaging of land, and security for long-term improvements in infrastructure. Perhaps even more remarkable, and crippling, are the continued restrictions on residential mobility, between the countryside and city, and within regions in the countryside. As Chen points out, ". . . lack of institutional support for the free flow of rural labor has been one of the major reasons why the rural economy remains isolated

and dispersed. This state of dispersion and isolation hinders absorption of excess rural labor, which in turn holds back increases in farmers' income."

These restrictions recall servile limitations that were eliminated in the West a century or more ago.

The problems in the state enterprise sector are better known. Productivity growth in the state sector has been much lower than in the nonstate sector, although how much lower remains a point of active dispute, partly because of concern over the price deflators used for the productivity comparisons. While the state enterprise sector has continued to grow in the 1980s, this is surely in large part because of the enormous financial resources thrown at the sector. The growth indicators say little about the allocative efficiency of the investments. There is no dispute, however, that subsidies to the state enterprises have been a continuing source of macroeconomic destabilization, with total budgetary subsidies in 1990 totalling no less than 106 billion yuan out of total budget outlays of 309.3 billion yuan (Yeh, 1992). As Yeh summarizes:

> While total factor productivity of state enterprises with independent accounting grew at 6.1 percent per year during 1978–84, it fell to −4.2 percent between 1984 and 1987. The number of enterprises in debt increased from 41,000 to 60,000, and their losses rose from 3.4 to 11.6 billion yuan over the same period. According to an SSB official as recently as early 1992, conditions have not changed, and poor managerial and operational quality of the enterprises still contribute to low efficiency. As may be expected, given the soft budget constraint, the enterprise managers are under no pressure to operate efficiently. (p. 530)

As with the problems of the countryside, the crisis in the state enterprises will be resolved only upon widespread privatization. (See also Fan and Woo, 1992.)

4. *Comparisons of China and Eastern Europe*

Are there lessons here for Eastern Europe and Russia? Some obvious ones come to mind: Small business development can proceed rapidly, even in a poor country and after decades of repression; international trade can grow rapidly on the basis of low wages and imported technologies; and macroeconomic destabilization can provoke social unrest with harsh consequences, as occurred in China in 1989. But these are not special Chinese lessons. After a few years of reforms in Poland, we see the same dynamism in the private sector and in international trade. As of the end of 1992, there were about 1.5 million private businesses,

approximately 1 per 12 members of the labor force! The Polish private-sector growth is probably outstripping TVE growth and with much sounder long-term ownership characteristics. In three years, the Polish private sector has risen from around 20% of overall GDP and 25% of total employment, to around 55% of both GDP and employment.

Similarly, hard-currency earnings have also grown rapidly, and against widespread expectations that Poland's exports would be too low quality to penetrate industrial country markets. Poland's international market opening began in 1987, when Poland, like China, introduced a system of retention rights for foreign exchange earnings. In 1990, Poland moved to full convertibility of the currency on the current account, while China has not yet done so. The results have been a striking increase in exports, rising from about $8 billion in 1988 to $14 billion in 1992, about the same proportionate increase that China experienced in its first years of trade opening. The export growth has been matched by a surge of interest in foreign direct investment as well, again in parallel to China's experience. In 1992, Poland received commitments for $4 billion of new capital inflows, and the trend is accelerating, and this despite the absence of 50 million offshore Chinese in Hong Kong and other parts of East Asia.

Unfortunately, China offers few positive lessons about the state industrial sector. While China had about 8% of its labor force in state industrial enterprises at the start of reforms, Poland and Russia had around 40% in the sector. And given the large weight of these enterprises in the economy, neither Poland nor Russia could afford to carry losses in two thirds of these enterprises year after year, as China is doing.

What about a purported lesson concerning gradualism versus "shock therapy." Wasn't there more "pain" in the Eastern European case, which was avoided in China? Here I think that superficial comparisons are very dangerous, for two reasons: The conditions in the two regions, both economic and political, are vastly different; and casual comparisons also seriously misconstrue what is underway in Eastern Europe.

Let us consider initial conditions. As we have already noted, in China, three fourths of the population was in peasant agriculture. Thus, the radical reforms in the rural area constituted a radical reform for the bulk of the economy. Thus, it is wrong to describe China's reforms as gradual in this area. And it is silly, of course, to advocate an "agriculture first" policy in Eastern Europe or the FSU, because in Poland the agriculture was already private (but to little avail for the economy as a whole!), because full-time agricultural labor was perhaps only 15% of the labor force, and private agriculture was boxed in by an entirely state-managed

economy. In Russia, the proportion of workers in agriculture in 1991 was only 13%.

Second, Poland and Russia faced an extreme macroeconomic crisis, including extreme shortages, a monetary overhang, a huge foreign debt, a large budget deficit, and an incipient hyperinflation—all of which fortunately China did not have. Thus, there was urgent need for stabilization at the very start of the reform program. In turn, this required extensive price decontrols, international liberalization, and extensive cuts in budgetary subsidies.

As for results, comparisons of China and Eastern Europe and Russia are hampered by timing and misinterpretation. China has been reforming since 1978; the bulk of Poland's reforms started in 1989. While we could all agree that Chinese reforms were vastly superior to the pre-1989 reforms in Eastern Europe and the FSU, the real question is post-1989.

Gelb, Jefferson, and Singh bemoan the "precipitous fall in output" (p. 1), or even "chaotic" reform (p. 27), of Eastern Europe. But contrary to widespread misunderstanding, there is simply no evidence of a sharp drop in living standards in Eastern Europe. The output cutbacks came in areas in which industry was vastly overextended (e.g., steel production) so that the cutbacks actually freed resources and raised living standards, rather than lowering them as in a conventional recession. As of 1992, industrial production was rising rapidly in Poland but now in new areas geared toward consumers (e.g., apparel, food processing, furniture) rather than the old heavy industrial sectors.

According to studies of household consumption spending, real consumption barely changed in Poland in 1990 compared with 1989, despite a tough year of stabilization. In fact, living standards may well have increased, when one considers the elimination of queues and the increased variety and quality of consumer goods (see Roberts, 1992, and Sachs, 1993). Table 1 shows, e.g., the veritable boom in household ownership of consumer durables after just two years of radical reform.

Finally, with respect to unemployment, we can't even venture a real comparison. In Poland, measured unemployment reached 13.6% of the labor force in 1992 and has apparently leveled off. Most Polish labor economists believe that about one third of the unemployed have jobs in the second economy. Moreover, and surprisingly, most of Poland's high unemployment is in the countryside, because unemployment rates in the urban areas are generally around 5% (with the single exception of Lodz, a high-unemployment textile town). In China, unemployment and underemployment in the vast countryside continue to be hidden from view. Peasants are simply compelled to stay on the farm and can-

not register for unemployment benefits. I have already drawn attention to the restrictions on physical mobility and choice of residence that continue to lock the hundreds of millions of peasants to the land. The social costs of this policy are hidden (indeed, Gelb, Jefferson, and Singh do not even mention this shocking denial of basic liberty), but not negligible. Income inequalities are on the rise, and hidden unemployment in the countryside numbers in the tens of millions. In this regard, clearly the question of "dislocation and destabilization" (p. 28) are in the eye of the beholder.

5. *Politics and Speed of Reform*

Gelb, Jefferson, and Singh are correct to stress in their conclusions that the nature of reform is intimately connected with the political process. I do not, however, fully subscribe to their specific vision of this linkage. In their view, Chinese gradualism was a way to escape destabilization, while in Eastern Europe there was no other choice but the state had lost its capacity to act. While this is true, I would still put the issue differently. In Eastern Europe, the burst of political freedom after 1989 made possible a dramatic break with the past and a surge toward "best practice" institutions of Western Europe. The faster the better, and politics supported a fast move. In China, with a regime still committed to socialism although with "Chinese characters," groping was inevitable, even if costly. In Russia, a third situation arises. The politics has been

Table 1 END-OF-YEAR STOCKS OF CONSUMER DURABLES PER 100 HOUSEHOLDS (WORKERS' HOUSEHOLDS)

	1988	*1991*
Radio	88.9	91.1
Of which are stereo	22.6	38.9
Portable radio	68.7	58.6
Color TV	41.7	82.9
Video player	1.9	41.0
Tape recorder	68.8	81.5
Of which are stereo	20.6	46.0
Bike	93.2	93.3
Car	30.2	38.3
Automatic washing machine	55.5	67.2
Refrigerator	100.0	99.9
Freezer	16.4	27.4
Vacuum cleaner	96.2	97.6
Sewing machine	60.7	59.6
Of which are electric	43.7	47.0

Source: GUS, Survey of Workers' Households, 1992.

turbulent for almost two years. There is less possibility of reform from the top as in China, because the "top" is a wide plateau rather than a peak. At the same time, the battles rage between reformers in the executive branch and hardliners in anachronistic institutions such as the People's Congress, which was selected in 1990 under the one-party system. In these circumstances, key reforms and macroeconomic stabilization in Russia may continue to flounder until there is a more complete breakthrough to democratization as in Eastern Europe.

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Discussion

Olivier Blanchard asked for a clarification of the role of the rural township and village enterprises (TVEs). Are TVEs a transitory step along the way to the eventual reform of property rights, or do they constitute a political barrier to this reform? Singh responded that the TVEs are precisely the sort of "open door" through which private property rights can eventually enter. Previously, there was an old idea that if you tied the fast-growing Hong Kong to the giant wheel of China, somehow Hong Kong would be destroyed. Instead, the giant wheel of China seems to be turning with the small Hong Kong. The introduction of a more open-trade policy and the management practices and contacts that evolve through joint ventures are forcing the Chinese government to reform not only property rights but also factor and product pricing.

Bob Hall remarked that the central property issue is whether an individual's interest in the TVE for his or her county is a marketable interest. Without such a market, he suggested, there will be a fundamental failure of the property rights even though the TVEs are operating more and more as conglomerates, especially with restrictions on migration between villages.

Bob Gordon wondered if it is unambiguously bad for a country to control migration out of the rural sector to cities. The Latin-American experience suggests that unrestricted migration leads to cities surrounded by slums as the capacity of the local economy to absorb new people is exhausted. The question is whether it is better to have hidden unemployment in the city or in the rural agricultural areas. Singh echoed these concerns. The lack of labor mobility clearly generates economic inefficiency because there is no asset trading. However, from the point of view of those sitting in Beijing, the alternative is to have the 120 million "wandering workers" relocate to the cities. The scale of the problem is enormous.

Bob Gordon also wondered how China was able to continue its huge subsidies of the state-owned enterprises while avoiding high inflation. In contrast, the situation in Eastern Europe prior to 1990 and in Russia currently is one of hyperinflation, because the subsidization of state-owned industry requires the creation of money to pay the wage bills.

Andrew Atkeson attempted to juxtapose the recent experiences of China and Eastern Europe, generating a discussion that nicely summarizes a key tension addressed in the paper and in the Comments. Comparison of the Chinese growth experience over the last ten years with

the large decline in output in Eastern Europe since reform yields a fundamental question. How did China achieve such extraordinary growth while Eastern Europe was saddled with large output losses? Did the Eastern Europeans do something wrong, or was there something fundamentally different about the two situations?

Sachs responded that it is important not to equate measured output with changes in welfare. Pointing to the table in his Comment, he remarked that between 1988 and 1991, the so-called "great depression" in Poland, ownership of consumer durables increased dramatically. Similarly, household expenditure surveys suggest that there was very little decline in nondurable consumption. The idea that there was a drop in living standards is incorrect. Heavy industry was recklessly overemphasized in the Soviet Union and Poland for 60 and 40 years, respectively, the result being that in 1990 the Soviet Union produced 160 million metric tons of steel, while the United States produced only 80. Because PPP-adjusted GNP is eight times higher in the United States, the steel intensity per dollar of GNP was sixteen times higher in the Soviet Union than in the United States. After reform in such a situation, the market says very loudly, "Pizzerias, not steel mills." During the period of supposed decline of output, 1.6 million businesses started in Poland. This is not a recession, Sachs indicated; this is a structural transformation away from coal mines and steel mills toward a tertiary sector.