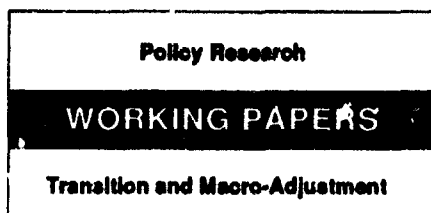


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Can Communist Economies Transform Incrementally?

China's Experience

Alan Gelb
Gary Jefferson
and
Inderjit Singh

How does China's approach to reform — 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? Are there rational bases for these widely different approaches to fundamental economic change? If so, what is transferable from China?

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Policy Research
WORKING PAPERS
Transition and Macro-Adjustment

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This paper — a product of the Transition and Macro-Adjustment Division, Policy Research Department — is part of two Bank research projects: "Enterprise Behavior and Economic Reforms: A Comparative Study in Central and Eastern Europe," and "Industrial Reform and Productivity in Chinese Enterprises" (RPO 675-38). Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact PRDTM, room N11-065, extension 37471 (Revised October 1993, 49 pages).

Gelb, Jefferson, and Singh try to answer important questions: How important is the phasing of political and economic liberalization and the active (versus passive) role of the state in reform? What lessons can be learned about comprehensive top-down reform as opposed to experimental bottom-up reforms? About fast versus slow liberalization and opening up of the economy? About the need to establish full private property rights at the beginning of reform? About reform's implications for welfare and distribution? Can China's excellent performance be linked to particular reform measures, or does it reflect distinctive initial conditions or social and demographic factors? Is China's performance sustainable without more comprehensive transformation, or does it reflect transient gains that are substantially exhausted? Among lessons China offers are the following:

- Partial reform can succeed in raising productivity in agriculture and industry; industrial productivity has grown very rapidly in the nonstate sector but also in state enterprises.

- A "big bang" is not economically necessary unless justified by the need to address macroeconomic imbalances.

- There may be virtue in a decentralized, "bottom-up" approach to reform.

- Rapid privatization is not necessary for successful reform, but it is important to diversify ownership and encourage the entry of new firms.

- Small-scale privatization and the liberalization of distribution and service sectors are likely to have the fastest payoff in the reform of property rights.

- China's rapid growth momentum and macroeconomic stability cannot be sustained without further reforms, including the reform of banking, taxation, and property rights.

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ACKNOWLEDGEMENT

The research projects on "Enterprise Behavior and Economic Reforms: A Comparative Study in Central and Eastern Europe", and "Industrial Reforms and Productivity in Chinese Enterprises" are research initiatives of the Transition and Macro Adjustment Division (PRDTM) of the World Bank's Policy Research Department and managed by I.J. Singh, Lead Economist.

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The series is also possible thanks to the contributions of Donna Schaller, Vesna Petrovic, Cecilia Guido-Spano and the leadership of Alan Gelb.

Can Communist Economies Transform Incrementally?
The Experience of China.

Alan Gelb, World Bank
Gary Jefferson, Brandeis University
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I. SOME IMPORTANT QUESTIONS RAISED BY CHINA'S REFORMS

Reform of a communist economy entails shifting away from central planning towards 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 decisionmaking 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 steps, moving from planned towards 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 which accompanied radical reform programs after 1990, China doubled per capita income in one decade, an outstanding achievement even when compared

¹ 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.

with other high-performing countries.² 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?³ 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:

- i) fast versus slow liberalization and opening up of the economy;
 - ii) comprehensive top-down versus experimental bottom-up reforms;
 - iii) the need to establish full private property rights at the beginning of reform;
 - iv) the implications of reforms for welfare and distribution?
- v) Is China's performance sustainable without more comprehensive transformation? Or does it reflect transient gains that are substantially exhausted?
- vi) 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 productivity), 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

² For some comparisons, see World Bank (1991) pp. 11-12.

³ Singh (1991) discusses schizophrenia in the context of socialist reform.

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.

Data Caveat. Unlike the historical data for some other communist countries, Chinese output estimates are believed to be generally free from deliberate over-reporting. 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.⁴

II. 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 1956-58. 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 as the Great Leap Forward (1958-61) and the Cultural Revolution (1965-68) caused erratic economic performance and demographic changes; see Figure 1.

⁴ Problem areas in Chinese data include low imputed rents and capital incomes, the valuation of self-consumption, the construction of deflators, especially in some area 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' 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 1978-88. 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.

Nevertheless, the pre-reform 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.⁵ 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 Figure 1), China was on the way to having one of the lowest ratio of dependents to working-age citizens in the world.⁶ 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 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

⁵ This probably facilitated a competitive response to price liberalization relative to the situation, for example, in the FSU. For more discussion of China's initial conditions, see Harrold (1992).

⁶ For discussion of China's demographics and policies see Tien *et al* (1992).

somewhat of a "big bang" character, urban and industrial reforms were gradual and piecemeal.⁷ The discrete reform stages are therefore necessarily somewhat of an abstraction.

Phase I: 1978-83. 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. 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.

Phase II: 1984-88. This saw the consolidation of a formal dual pricing system and the progressive enlargement of the role of free prices: see Figure 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.⁸ Market prices exceeded plan prices by a premium which rose steadily up to 42% as

⁷ 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".

⁸ The share of sales at nonplan prices includes 17% at "guidance" prices which generally moved with free prices.

macroeconomic demand pressures intensified in the course of decentralization.⁹ 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 devalued 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 Figure 3.¹⁰

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 1984-85, 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

⁹ 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.

¹⁰ 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.

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.

Phase III: 1989-90. Macroeconomic stabilization and the political crackdown following Tiananmen Square involved the temporary reimposition of a range of direct controls. Plan prices began to be adjusted towards market levels so as to start to merge the two price systems into one (see Figure 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 Figure 4. As domestic demand was reined in, exports responded. Foreign exchange trading centers were opened, and the black market premium fell, to a minimum of only 7% in 1991. By then, about one third of international transactions were taking place at the parallel market rate.

Phase IV: 1991 onwards, 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, though on a cautious and experimental basis.

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.¹¹ 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 de-collectivization of agriculture, liberalization of the

¹¹ Fischer and Gelb (1991) and Gelb and Gray (1991) consider the phasing of European-style transformation programs. Bruno (1992) reviews stabilization programs.

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 1988-91 involved some regression from liberalization) followed from the implementation of its systemic reform program.¹² China's price and trade liberalization also coincided with, rather than preceded, ownership diversification and liberalization of the distribution system.¹³

III. CHINA'S PERFORMANCE IN A COMPARATIVE CONTEXT

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

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. From Table 2, the divergence between these two measures is especially large for China, which appears by the 1980s as

¹² The closest analog in Europe and the FSU is the phase of fiscal distress that has followed the post-reform collapse of enterprise profits and tax revenues. See, for example, Schaffer (1992).

¹³ 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 pre-reform structure of China's economy, but it also reflected progressive ownership diversification before that date.

more a middle-income, than a poor, country, and to have outstripped India in PPP terms. This perspective should be born in mind when comparing social statistics.

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

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 which 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 2% for India and 53% for socialist comparators.

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

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

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.

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 towards more sophisticated products. In contrast, the European countries, locked in the CMEA system, experienced "technical export regression towards primary products. See Gelb and

How fast has China monetized? China's low inflation during the 60's and 70's 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 the Table, financial deepening proceeded apace in China through the reforms, even as most prices were liberalized. There was therefore 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.

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. From Table 3, 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 (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.

Do social policies account for economic success? Most of China's favorable social indicators primarily reflect policies in the pre-reform period, and an interesting question is the extent to which these have contributed to post-reform 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, due to Barlow (1992) that suggests that a sudden reduction in fertility rates raises output growth considerably

Gray (1991) Annex 1.

¹⁶ Schmidt-Hebbel (1992) 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 ageing of the population, to one of the highest levels in the world as the ageing population profile comes to resemble that of Japan and Korea.

over the next twelve 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

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 may be considerable.

IV. 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 percent. The phase of macroeconomic stabilization in Phase III caused a sharp reduction in growth during 1989-91 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.

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).

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 et al (1993) almost half of the 42.2 percent growth of output in the cropping sector in 1978-84 was driven by productivity change due to 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 percent rate of labor productivity growth during 1984-88 implies that TFP declined relative to 1978-84 but remained well above its pre-reform levels.²⁰

Chen et al (1988) find that from 1978-85, TFP in state industry (SOE) at 5.2 percent, far above the estimated level of about one percent in the previous two decades. Jefferson, Rawski and Zheng (JRZ, 1992) investigate TFP growth with capital, labor and intermediate inputs: during 1980-88 their single factor productivity rose at rates of 2.1, 5.2 and 2.1 percent 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 2.40 percent in 1980-88, 1.80 percent during 1980-84 and 3.01 percent during 1984-88.

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 percent for the period 1980-88. For the subperiods, collective sector TFP rose at rates of 3.45 during 1980-84 and 5.86 during 1984-88.

These data show a consistent pattern of higher productivity growth during the reform period. While TFP in non-state industry rose more rapidly than in the SOEs, productivity in state industry

¹⁹ McMillan et al (1989) estimate that three-quarter 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 agricultural labor force may have been systematically overestimated in recent years. If so, TFP may have continued at higher rates.

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.

Productivity Levels by Ownership Type Table 7, based on the JRZ calculations shows that, while TFP in China's TVEs and SOEs was 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 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.

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 which properly deflate the capital stock and remove non-production 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 percent in the electrical machinery industry where during 1980-85, the annual rate of growth was reported to be 25 percent. Overall, he estimates upward bias from spurious accounting procedures associated with new product innovation to be in the vicinity of one percent. 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.

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.

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

(i) 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 1980-89, 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.

(ii) Jefferson and Xu (1992) investigate patterns of convergence among measures of total factor productivity (technical efficiency). During 1980-89, 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.

(iii) 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

²⁴ In addition to these studies we note that most studies find evidence of increasing returns to scale at the enterprise level, and since the number of SOEs grew at only 0.9% in 1980-89, average gross output per enterprise in 1980 prices rose at 9.8%.

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

Beneath the Numbers: Relating Performance to Reforms. The micro-level and regional studies noted above 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 towards 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. (i) 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 (ii) 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?

(i) 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,

²⁵ For more discussion, see, for example Fan and Woo (1992), Stepanek(1991) and the excellent reviews of Walder (1987).

tax rates have not typically been revised ex post on the basis of performance.²⁶ Though bad 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, though 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 1989-90.

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

²⁶ A study of 230 enterprises showed that when profitability during the first management contract period (typically 1987-90) 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.

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

(ii) 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. These therefore 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 and favor "their" enterprises, (for example, 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

²⁷ Wang and Mody (1992).

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".

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

V. 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 characteristic of communist systems. This section therefore provides a brief overview of the distributional impact of China's reforms.³²

Pre-reform 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:

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: Figure 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.

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.

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).

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 pre-reform level.

Measured income is a poor proxy for total income as 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 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

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 areas³⁷. 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.

³⁵ Khan *et al.*, 1991, p69.

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.

³⁷ Zhao (1992). Gelb (1990) also notes the tendency towards local equality when surveying TVE workers.

³⁸ See World Bank (1992b) Chapter 2.

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 partly 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.

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 the Figure. This is significant because China has yet to put into place a social safety net appropriate to a market 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 pre-reform 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.

VI. 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 Figure 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,

³⁹ Gini coefficients from 1981 to 1988 have been estimated on a household basis from SSB data.

⁴⁰ World Bank (1992b), Table 1.2.

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 which impacted 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 percent 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 (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 pre-tax profit rates down from 40 percent in 1978 to about 13 percent in 1990. In further support of the competition hypothesis Singh and Xiao (1993) use data from 28 provinces to show that the more rapid the growth of non-state industry during 1985-90, 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

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

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 towards 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

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 percent 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.

output and falling steadily, with growth 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.

VII. 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.

i) 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

⁴⁵ In the early 1950s, 90 percent of Taiwanese industry was state-owned. Through the growth of the non-state sector, not through privatization of state-owned enterprises, this share has now fallen to a small proportion.

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.

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.

ii) 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 decisionmaking, in agriculture, rural and urban industry. Success on a local basis of experimentation has spurred replication and eventual national acceptance. Decentralization has created domestic competition between different provinces, regions and localities, 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.

iii) 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 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 have the fastest payoff in the reform of property rights.

iv) 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.

v) 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 (1978-83), the initially very favorable conditions for the TVE sector which 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.

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

vi) 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

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

constrained neither by market nor by plan. In contrast, enterprises in China were constrained by both, sometimes together, with essentially favorable results.

Relative to post-socialist 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 post-socialist 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, for example, the issue of price liberalization. From the purely economic perspective, the faster prices are liberalized the better for allocative efficiency. China chose

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.

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 still a possibility of that a chaotic political transition could damage macro stability and the reform environment.

Table 1

Key China Reform

REFORM	PHASE I: 1984-88	PHASE II: 1989-90	PHASE III: 1989-90	PHASE IV: 1991 -
<u>PRICE AND MARKET</u>	1978-79 22% rise in agricultural procurement prices; 41% rise in prices for above-quota agricultural outputs.		1988-89 Temporary reimposition of controls on prices and internal trade during stabilization.	1990-92 Relaxation of temporary controls on prices and trade.
	1979 Experimental introduction of "guidance prices" for above-quota industrial output.		1988-92 Raise plan prices towards market prices, so "merging the dual price system. 1991-92 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.		
		1985-88 Progressively enlarge market price role for industry.		
		1985-87 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.			
<u>FOREIGN TRADE, EXCHANGE & INVESTMENT</u>	1979 Joint Venture Law passed.	1986 Sino-British Accord on Hong Kong.	1988-92 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).	

REFORM	PHASE I: 1978-83	PHASE II: 1984-88	PHASE III: 1989-90	PHASE IV: 1991 -
<u>FOREIGN TRADE, EXCHANGE & INVESTMENT (Cont.)</u>	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			
<u>MATERIALS SUPPLY & DISTRIBUTION</u>	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.			
	1980 State enterprises allowed to buy and sell on free markets.	1984 State enterprises permitted to market directly.		
<u>FINANCIAL SECTOR</u>		1984 Central Bank established to create a 2-tier system.	1987 Bankruptcy Law passed.	
		1987 two new universal banks created.	1989-92 Stock markets created, first for secondary trading of government bonds and then for shares (Shanghai: 1990, Shenzhen 1991).	
<u>OWNERSHIP & MANAGEMENT</u>	1978-79 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.

REFORM	PHASE I: 1978-83	PHASE II: 1984-88	PHASE III: 1989-90	PHASE IV: 1991 -
<u>OWNERSHIP & MANAGEMENT</u> (Cont.)	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 towards nonstate sector.		
			1988-89 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.
<u>FISCAL DECENTRALIZATION</u>		1984 Tax reform creates 4 new indirect taxes including VAT.		
		1984-85 Reform of enterprise taxation: profit remittance to state replace 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.		

TABLE 2
Selected Economic Indicators

	<u>60s Avg</u>	<u>70s Avg</u>	<u>80s Avg</u>	<u>1990-91*</u>
<u>Level of Per Capita GNP (PPP in 85 constant dollars)</u>				
China	847	1004	1712	n/a
East Asia	1084	1946	3122	n/a
Socialist Comparators	2165	3800	4559	n/a
India	613	642	687	n/a
<u>Ratio of PPP/Atlas Per Capita GNP (in 85 constant dollars)</u>				
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
<u>Growth Rate of Per Capita GNP (Atlas in 85 constant dollars)</u>				
China	1.21	5.53	7.62	4.25
East Asia	4.87	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
<u>Investment Ratio</u>				
China	0.21	0.30	0.35	0.36
East Asia	0.18	0.26	0.27	0.34
Socialist Comparators	0.30 (hy)	0.34 (hy)	0.31	0.23 (hpy)
India	0.16	0.20	0.23	0.22
<u>Efficiency (IOCR) @</u>				
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
<u>Growth of Exports</u>				
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 (hpy)	2.70 (hpy)	5.39 (p)
India	2.27	7.97	6.42	n/a
<u>INFLATION (¢)</u>				
China	1.08	0.75	8.15	1.29
East Asia	29.82	12.42	7.12	6.79
Socialist Comparators	12.51 (y)	6.79	64.39	180.07
India	6.03	7.54	9.12	11.42
<u>M2/GDP</u>				
China	n/a	0.28	0.55	0.89
East Asia	0.20	0.34	0.54	0.79
Socialist Comparators	0.51 (y)	0.64 (y)	0.54 (hpy)	0.37 (hpy)
India	0.22	0.29	0.42	0.46

Notes

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

- * Data not available for 1991 in some cases.
- @ IOCR = GDP Growth Rate/Investment Rate
- (hpl) Average of Hungary and Poland.
- (hpy) Average of Hungary, Poland and Yugoslavia.
- (hy) Average of Hungary and Yugoslavia only.
- (y) Average for Yugoslavia only.
- (p) Average for Poland only.
- (¢) Inflation computed from CPI.

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*, pp 327-368.

TABLE 3
Selected Social Indicators

	<u>60s Avg</u>	<u>70s Avg</u>	<u>80s Avg</u>	<u>1990-91*</u>
<u>Life Expectancy</u>				
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
<u>Infant Mortality Rate</u>				
China	105.30	51.00	35.59	28.88
East Asia	n/a	69.78 (ikt)	48.06 (ikt)	35.18 (ikt)
Socialist Comparators	46.55	30.66	22.72	17.00
India	n/a	130.14	104.43	91.90
<u>Age Dependency Ratio</u> [- (under 15 and over 64)/(15-64)]				
China	0.78	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
<u>Women's Participation in Labor Force</u> [- (Female labor*100)/Female Population]				
China	44.19	44.52	48.48	52.20
East Asia	29.12 (ikt)	30.58 (ikt)	32.36 (ikt)	33.17 (ikt)
Socialist Comparators	38.33	41.01	42.22	42.35
India	28.41	24.98	22.01	20.95
<u>Gross Enrollment Ratio: Secondary</u>				
China	n/a	24.00	50.38	40.50
East Asia	n/a	22.67 (ikt)	42.81 (ikt)	54.33 (ikt)
Socialist Comparators	n/a	69.77 (puv)	80.08	82.25
India	n/a	26.50	31.00	38.50
<u>Gross Enrollment Ratio, Females: Primary</u>				
China	n/a	113.67	113.10	n/a
East Asia	77.33	91.50	103.96	99.00 (ikt)
Socialist Comparators	102.88	98.29	100.02	n/a
India	48.50	61.83	76.20	n/a

Notes

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

- (ikt) Average of Indonesia, Korea and Thailand.
- (ikt) Average of Korea and Thailand only.
- (puv) Average of Indonesia, Korea and Thailand.

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.

Source: United Nations Social Indicators Database.

Table 4:
Sources of Growth

	Growth rate of net mat'l product (1980 prices)	Contribution of increase in K stock	Contribution of increase in L force	Contribution of TFP growth
	(y)	($\alpha_K k$)	($\alpha_L l$)	(tfp)
1955-65	4.31	1.50	5.79	-2.98
1965-78	6.40	1.55	3.64	1.20
1978-84	7.98	1.83	3.31	2.84
1984-88	10.12	1.80	4.51	3.82
1988-91	5.30	1.43	4.37	-0.50

These figures are derived from an aggregate production function converted into the standard growth accounting form:

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

Data sources: SSB (1991) p. 401, SSB (1992), pp. 33, 97, 401, 406-7, 413

Table 5:
Sectoral Shares of China's Gross Social Product*

	1952	1978	1984	1990
Agriculture	45.4	20.4 (28.4)	24.4 (33.0)	20.2 (28.4)
Industry	34.4	61.9 (44.8)	57.8 (40.1)	63.0 (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 ^a	0.0	1.2	9.8
Services and transportation	14.6	9.4 (23.0)	8.2 (21.9)	9.0 (27.2)

a. Pre-nationalization.

* 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 which are exclusive of intermediate inputs. Also note: industry includes construction.

Data sources: SSB (1991), pp. 31, 50, 396

Table 6:
Sectoral Sources of Growth, 1962-1988

	Agriculture	Industry	
		State	Collective
1955-65			
total	1.8		
TFP	-0.6 (0.8) ¹	0.80 ³	
1965-78			
total	2.9		
TFP	-1.0 (0.9)		
1978-84			
total	8.0	(8.49)	(14.03)
TFP	5.9 (6.2) ²	5.2 (1.80) ⁴	(3.45)
1984-88			
total	4.0	(10.22)	(19.86)
TFP	(3.0)	(3.01)	(5.86)

1. Figures for labor productivity (in parentheses) and TFP for 1955-65 and 1965-78 are drawn from A. Tang (1981) "Chinese Agriculture: Its Problems and Prospects," Working Paper No. 82-WO9, Department of Economics, Vanderbilt University.

2. TFP and labor productivity figures drawn from McMillan et al (1989).

3. For the period 1953-78.

4. The figures in parentheses are TFP measures for capital, labor and intermediate inputs. The earlier figures cover 1980-84, not 1978-84.

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 ¹	1957-78 (SOE)	0.4
	1978-85 (SOE)	4.8
China ²	1980-88 (SOE)	2.4
	1980-88 (COE)	4.6
Hong Kong	1960-70	3.2
Singapore	1960-70	3.6
Taiwan	1955-70	5.4
Korea	1960-70	3.7
	1960-77	3.7
Turkey	1963-76	1.3
Yugoslavia	1965-78	0.5
India	1959-79	-0.3

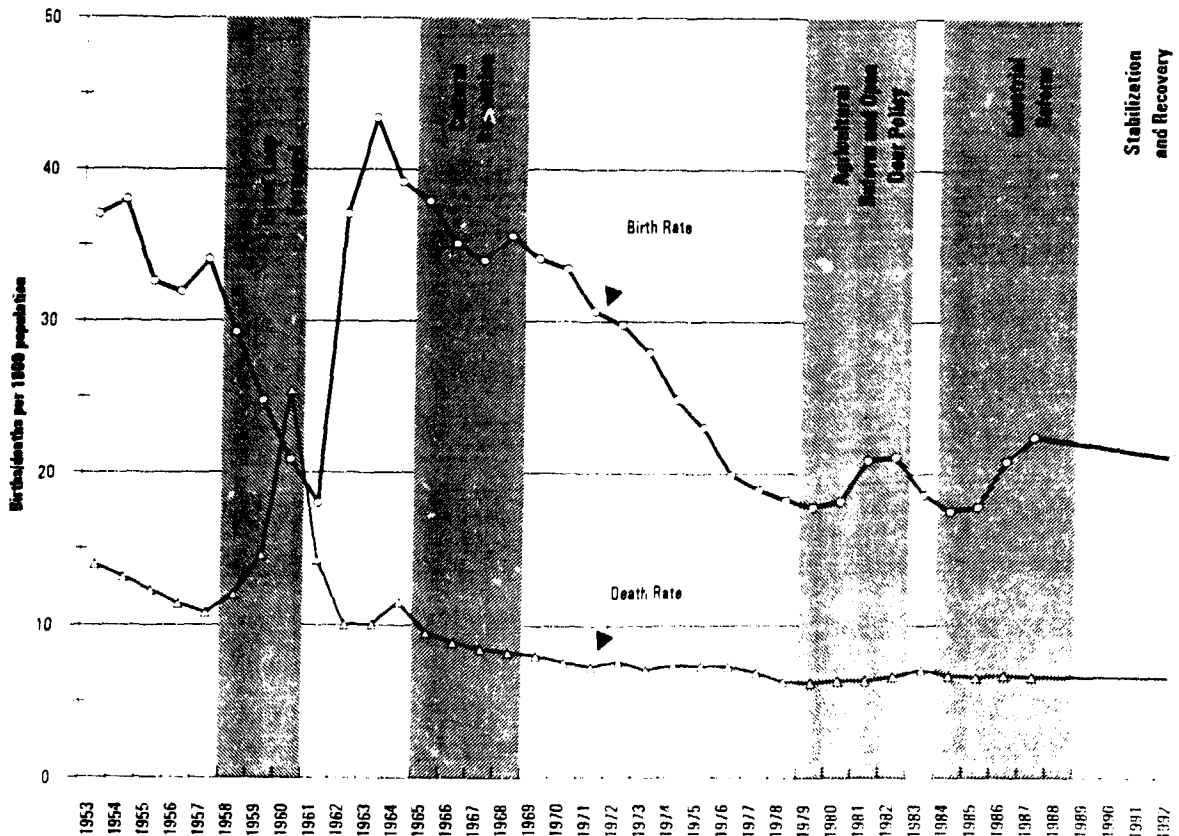
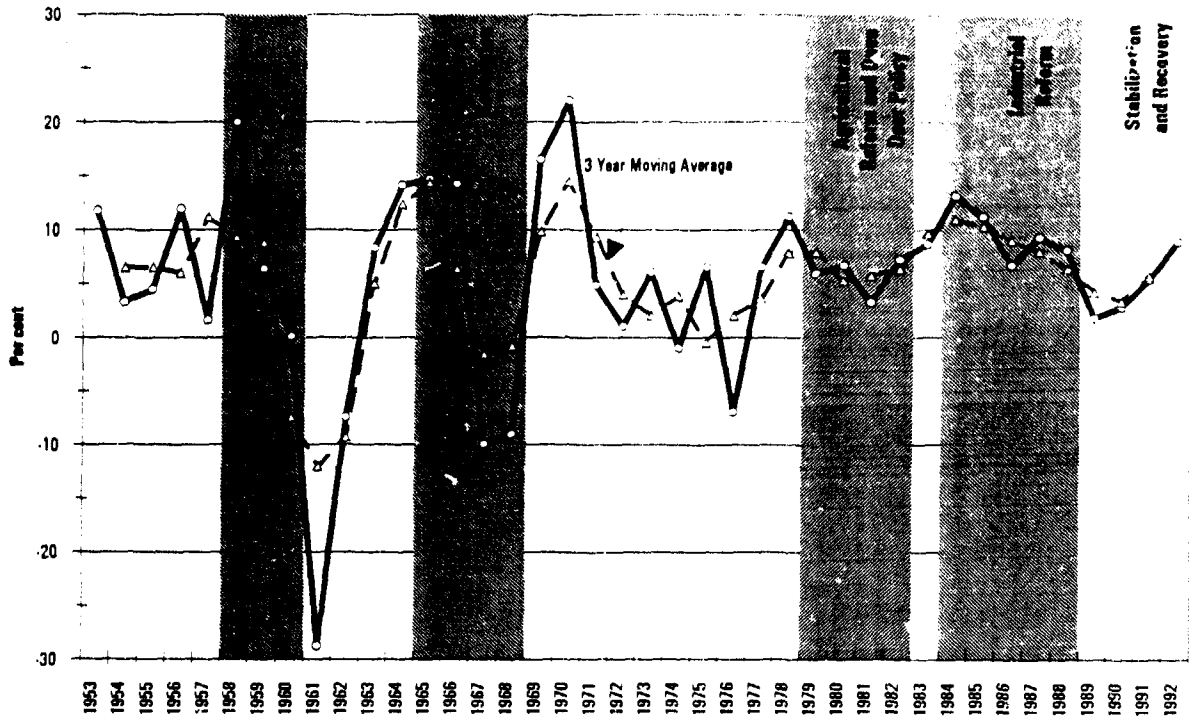
Source:

1. Chen et al (1988).

2. JRZ (1992).

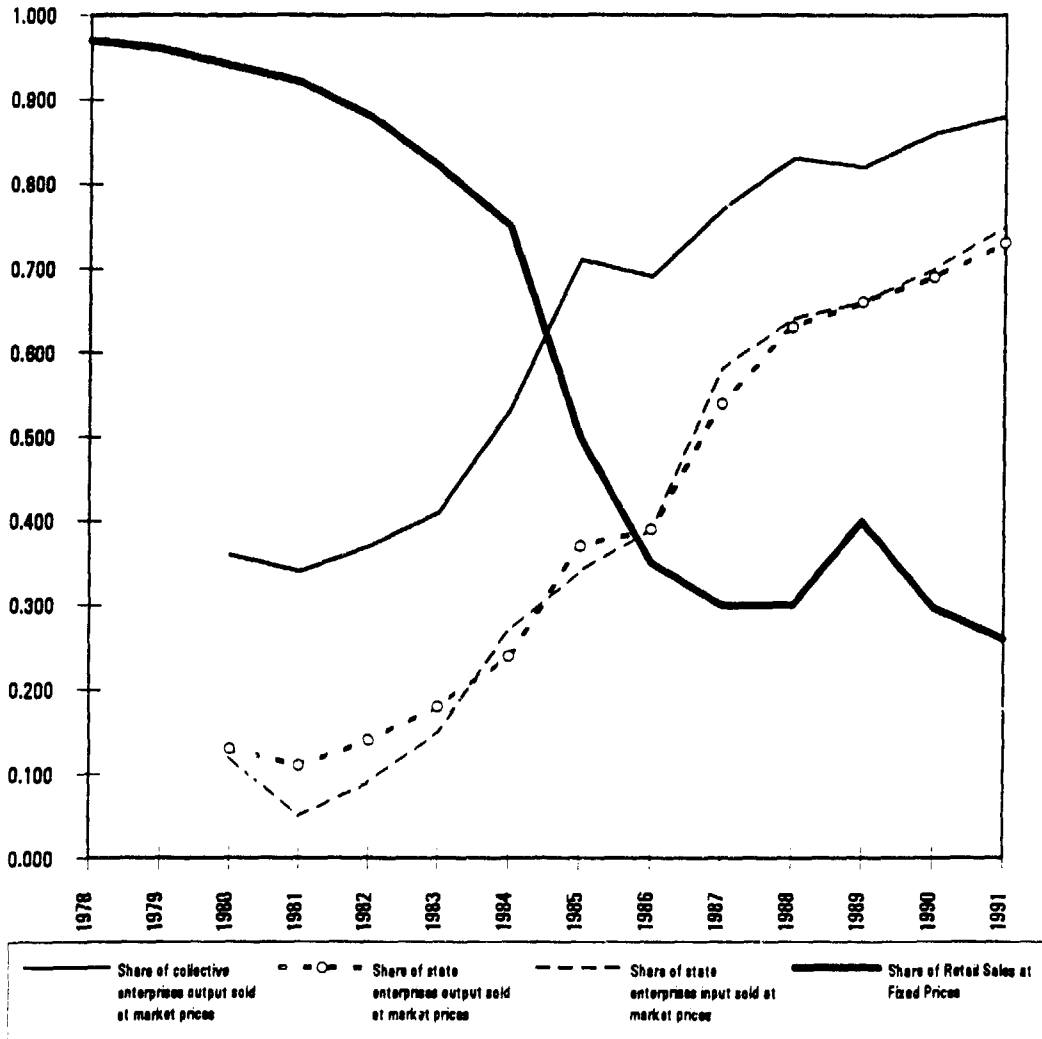
All other figures are from I.J. Ahluwlia (1991).

Figure 1
Economic Growth and Demographic Change

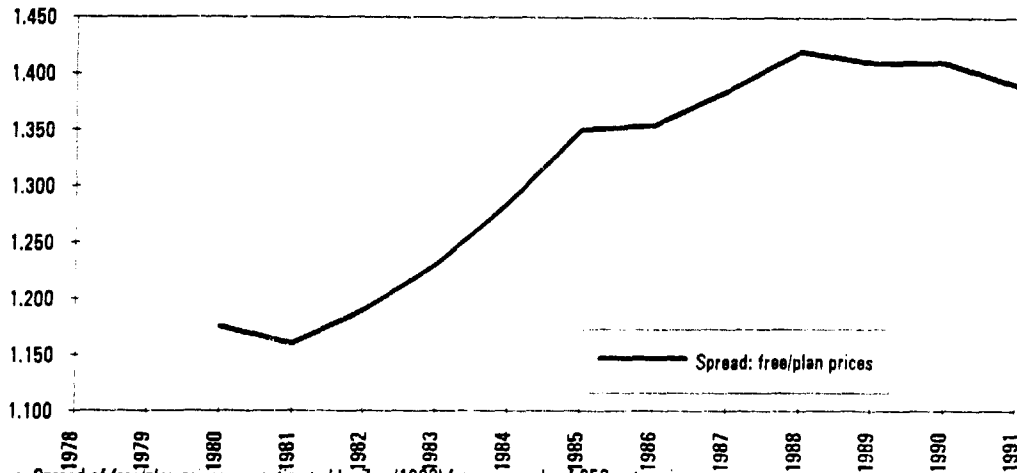


Source: China Statistical Year Book and World Bank.

Figure 2
Price and Market Reform

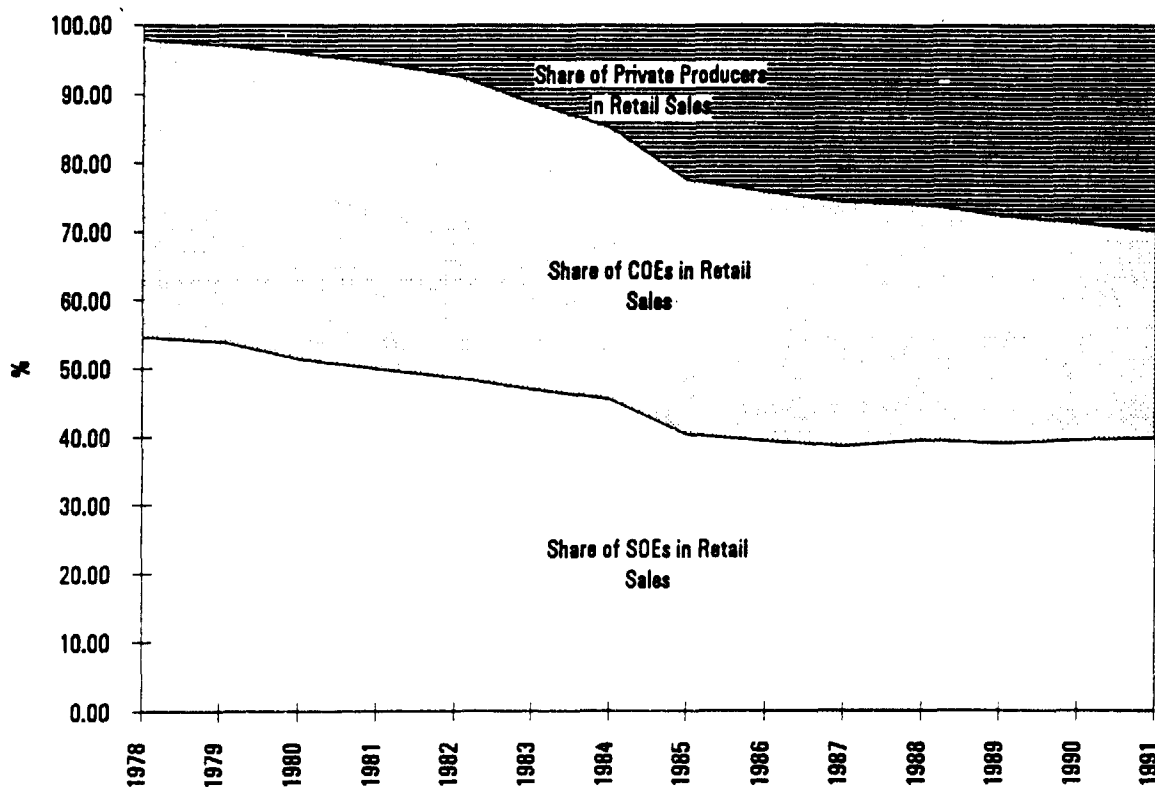


Sources: Share of COE and SOE at market prices are estimated by Zou (1992) from a sample of 253 enterprises. Share of retail sales at fixed price Schmidt-Hebbel (1992)



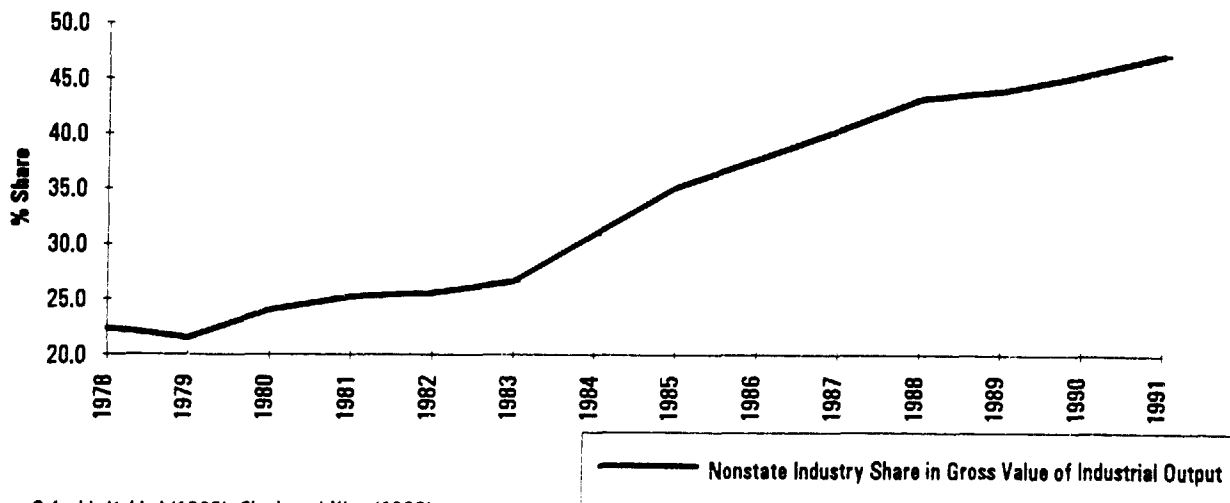
Source: Spread of free/plan prices are estimated by Zou (1992) from a sample of 253 enterprises.

Figure 3
Ownership Diversification



Source: Schmidt-Hebbel (1992), World Bank (1992a)

Figure 3 continued
Ownership Reform in Industry



Source: Schmidt-Hebbel (1992), Singh and Xiao (1992)

Figure 4
Opening the Economy

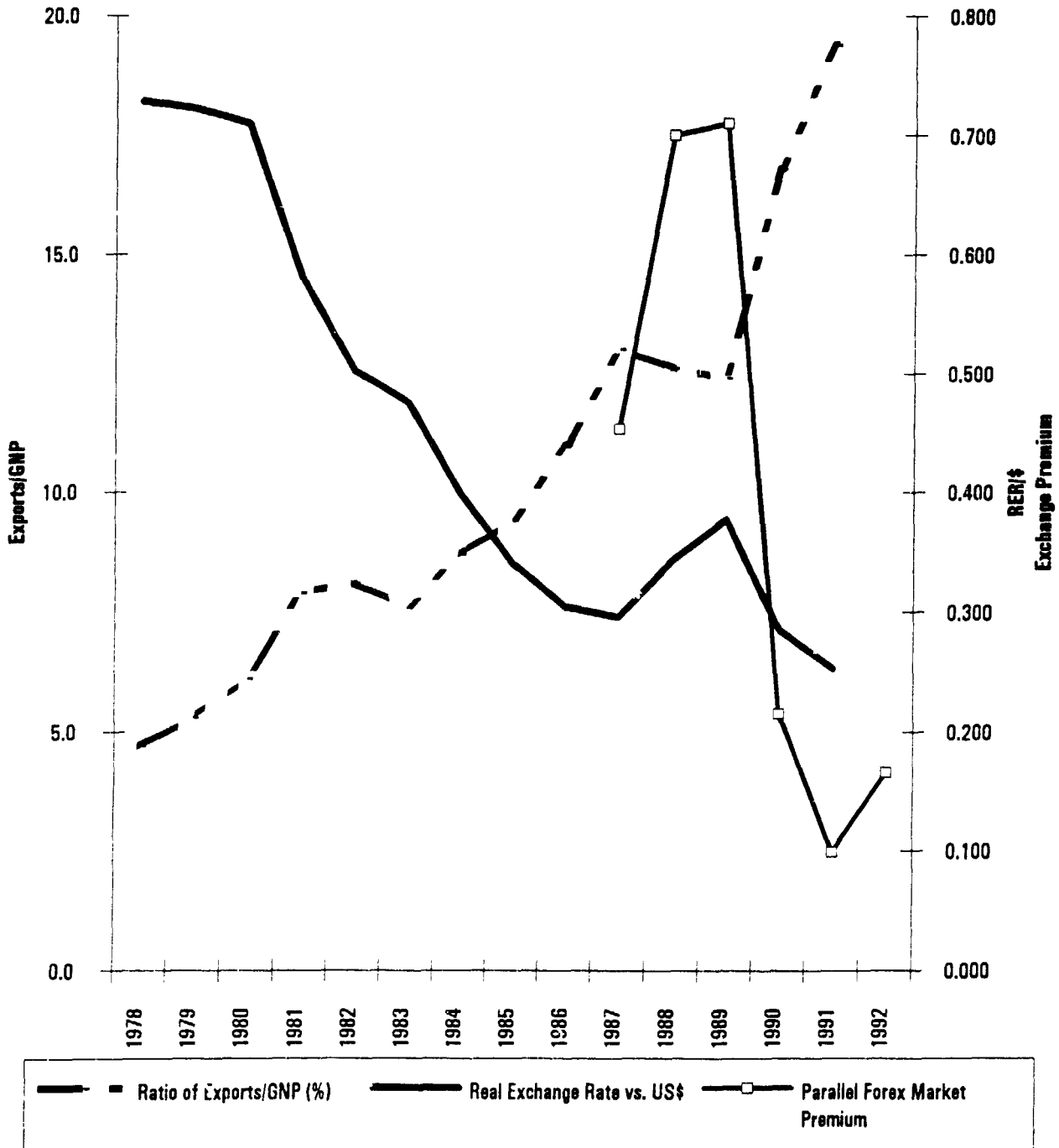
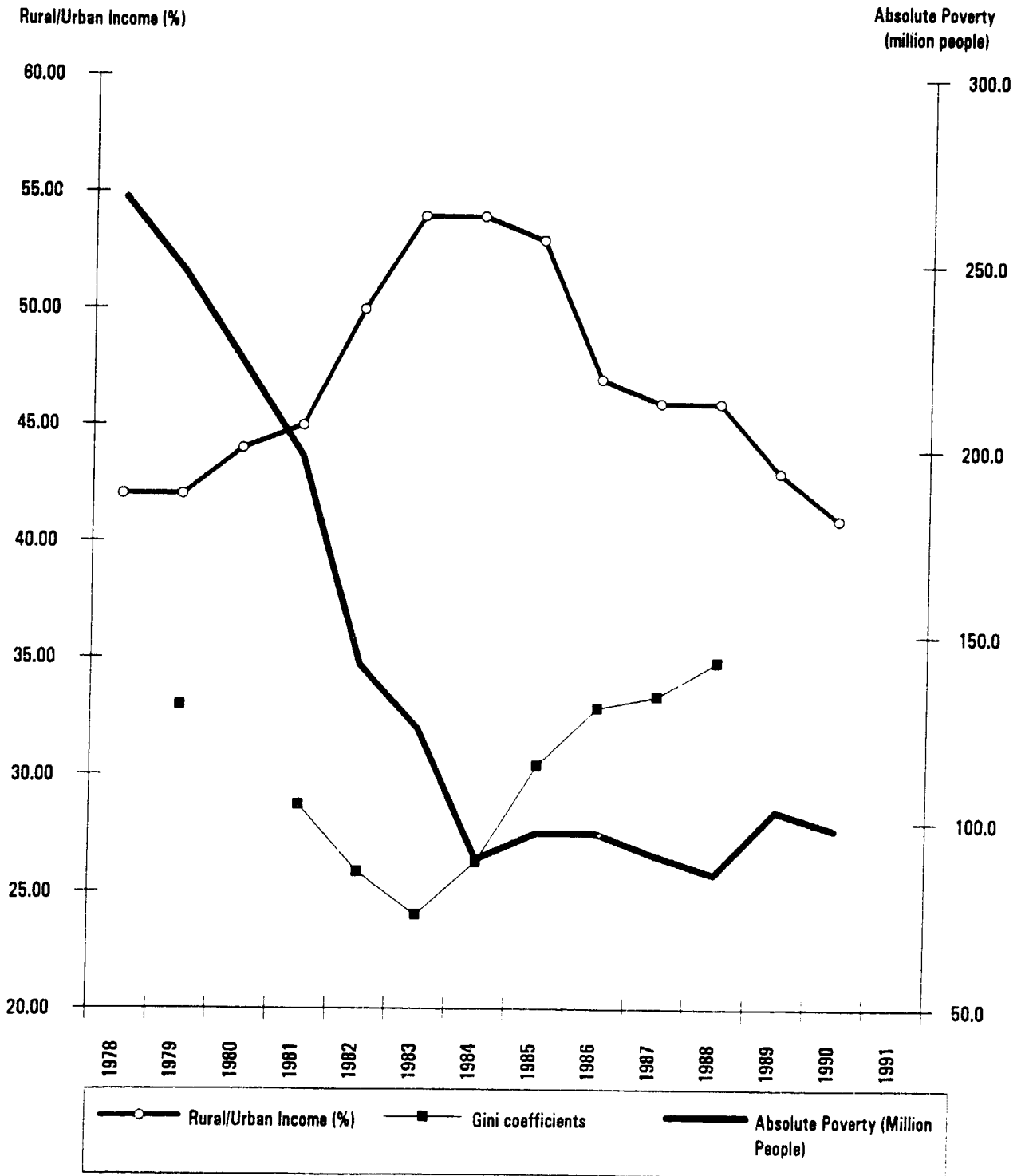
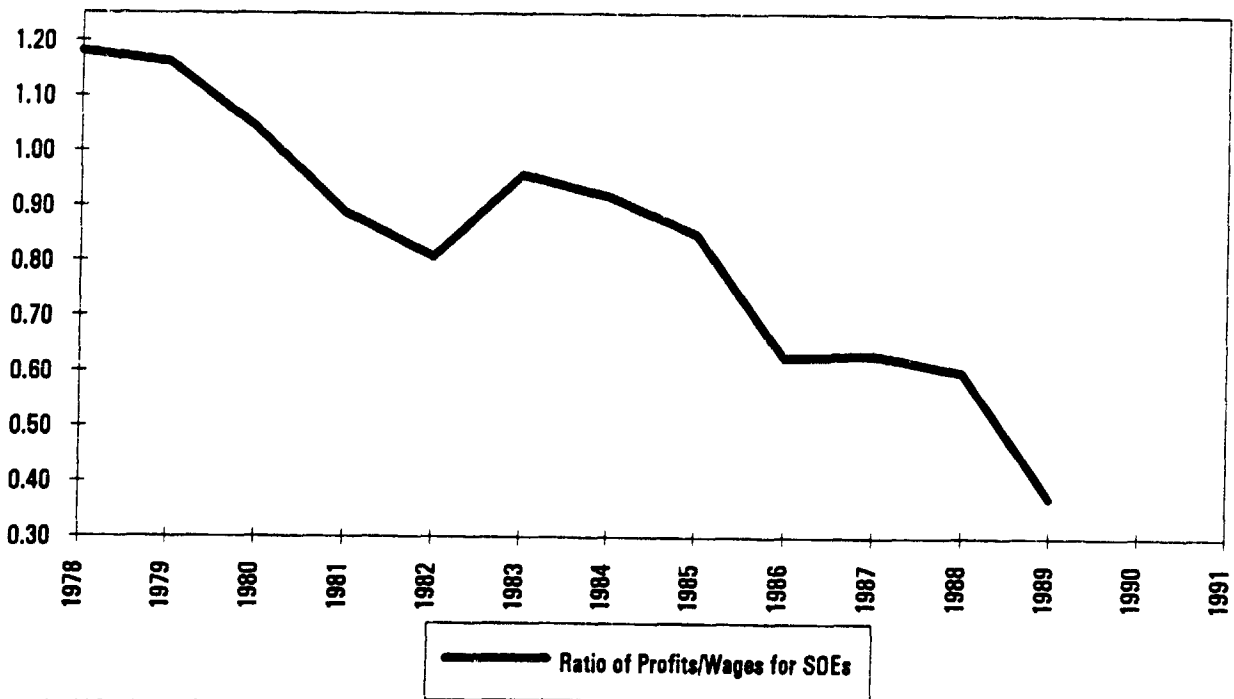
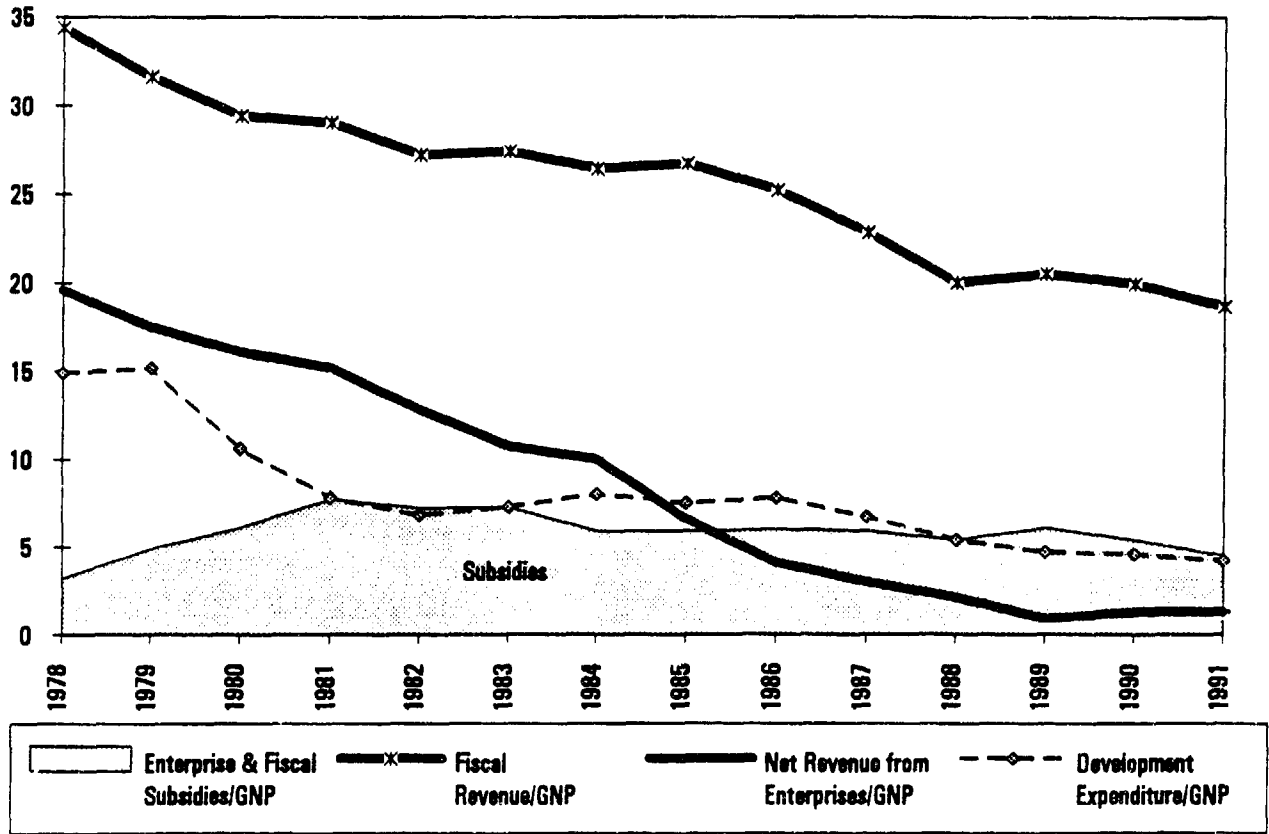


Figure 5
Distributional Indicators



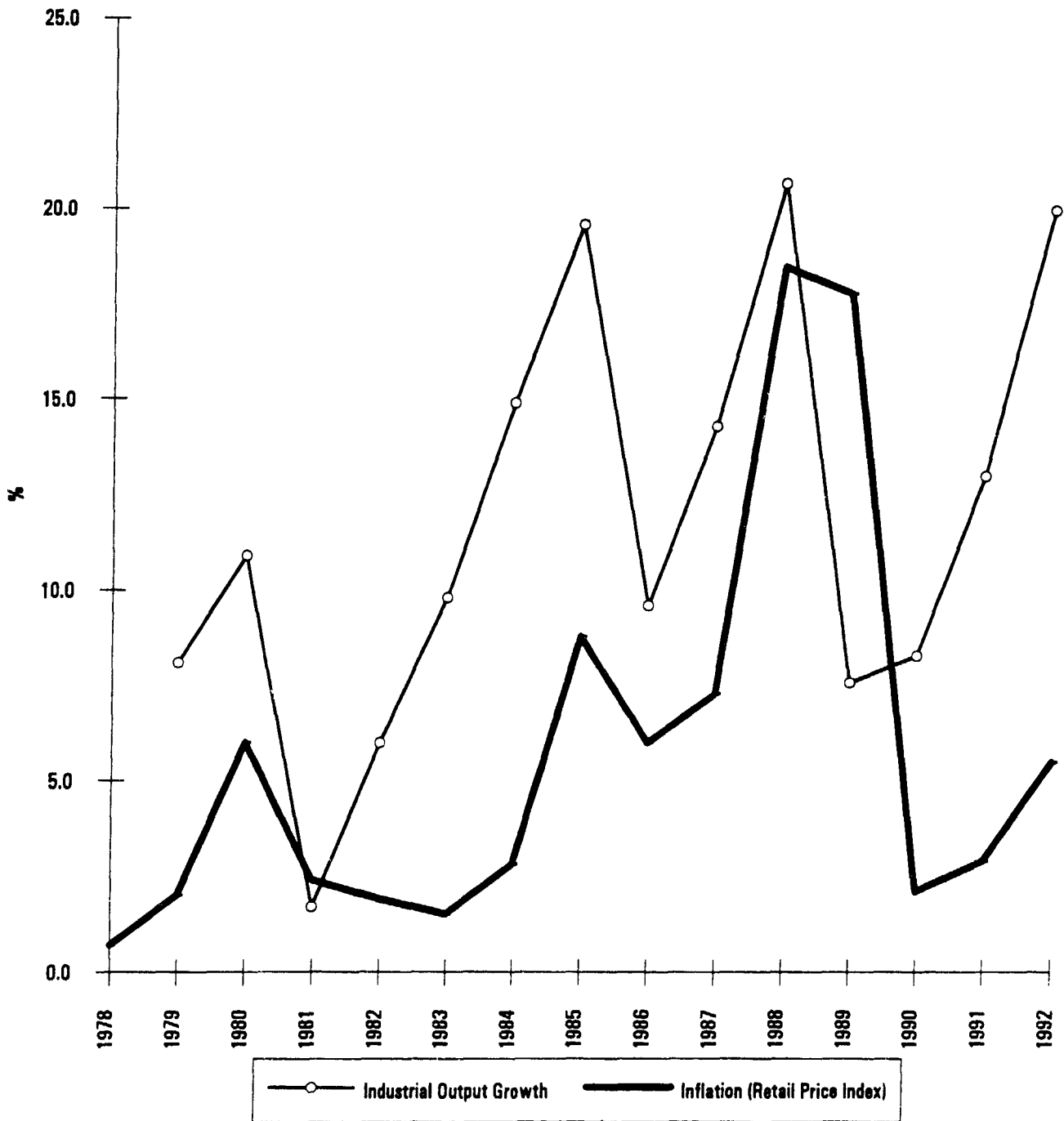
Source: World Bank (1992b). Gini for 1979 is cited by Zhao (1992)

Figure 6
Fiscal Decentralization



ce: World Bank (1992a)

Figure 7
Inflation and Growth of Industrial Output



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