

## The Art of Reforming Centrally Planned Economies: Comparing China, Poland, and Russia<sup>1</sup>

WING THYE WOO

*University of California, Davis, California 95616*

Received February 15, 1994

**Woo, Wing Thye**—The Art of Reforming Centrally Planned Economies: Comparing China, Poland, and Russia

The three reasons for gradualism, (1) agricultural reform should precede industrial reforms, (2) state-owned enterprises (SOEs) can be reformed, and (3) economic liberalization should precede political liberalization, are not generalizable. China's gradualism is the product of political deadlock over the final form of the economy. China has been most successful in the areas where reforms have been radical and lackluster where reforms have been incremental. The output performance across reforming countries reflected differences mainly in economic structures rather than in policies. China's growth comes from the movement of surplus agricultural labor into industry, and Poland's and Russia's decline come from the closing of noncompetitive enterprises to release factors of production to the new efficient enterprises. *J. Comp. Econom.*, June 1994, 18(3), pp. 000-000. University of California, Davis, California 95616-8617. © 1994 Academic Press, Inc.

*Journal of Economic Literature* Classification Numbers: P27, P30, P52.

### 1. INTRODUCTION

China has experienced impressive economic growth since 1978.<sup>2</sup> As a result, there is a growing perception that China offers valuable lessons to the

<sup>1</sup> Paper presented at the Conference on the Transition of Centrally-Planned Economies in Pacific Asia held at the Asia Foundation in San Francisco, May 7-8, 1993. I am much indebted to Andrew Berg, Peter Boone, Fan Gang, Ross Garnaut, Hai Wen, David Lipton, Barry Naughton, John Roemer, Jeffrey Sachs, Terry Sicular, Christine Wong, Wang Limin, Wu Jinglian, and Zhang Shuguang for many hours of conversation on the great transformation. I am grateful to Josef Brada, Gregory Clark, Harry Harding, Kenjiro Hirayama, Kevin Hoover, Dwight Perkins, Thomas Rawski, Linda Tesar, and Jennie Woo for comments on earlier drafts. I thank Sam Lee for excellent research assistance. I am grateful to the Ford Foundation for supporting my research on China.

<sup>2</sup> For a review, see Perkins (1988) and (1992).

economic transition in Eastern Europe and Russia. In particular, some have concluded that the Chinese case proves that gradualism is better than a big bang.<sup>3</sup> The three lessons that are commonly cited in support of this conclusion are:

- Lesson 1: Agricultural sector reforms should precede industrial sector reforms.
- Lesson 2: Since the state-owned enterprise (SOEs) can be reformed satisfactorily, privatization is superfluous.
- Lesson 3: Economic liberalization should precede political liberalization.

Before we can evaluate the claim that gradualism is superior, it is necessary to first define terms. For gradualism to have analytical content, gradualism has to mean to be slow on the things that big bang does quickly. In practice, the big bang consists of four actions implemented simultaneously or in rapid succession:

- (1) Almost complete price liberalization. In Poland in 1990, this meant that only wages in the state sector and energy prices remained under price control. In Vietnam in 1989, this meant that less than twelve goods were under price control.
- (2) Liberalization of the trade sector by a currency devaluation to the black market level and removal of trade barriers.
- (3) Adoption of noninflationary macroeconomic policies. The budget deficit is reduced, the primary method being cutting subsidies to the SOEs. Monetary policy is managed to produce a positive real interest rate, and preferential credit to SOEs is eliminated.
- (4) Legalization of private economic activities, decentralization of production and investment decisions, and announcement of impending privatization of SOEs. **Actual** privatization and establishment of legal institutions cannot be part of big-bang policies because they cannot be done in a short time period.

Analytically speaking, there was no big bang in Russia. The Russian reforms began on January 2, 1992 with the decontrol of 90% of prices, the devaluation of the ruble to the black market level, and the reduction of the budget deficit from 31% of GDP in 1991 to 1.5% in the first quarter of 1992, where all budget deficit figures are expressed in annualized terms. However, the state-owned enterprise (SOE) lobby in the Communist-dominated Parliament was able to force the budget deficit to increase to 11% of GDP in the

<sup>3</sup> For example, McMillan and Naughton (1991, p. 21) write, "We have argued against big bang reform," and Chen et al. (1992, p. 201) stress the primary importance of establishing a leading sector to spearhead subsequent reforms.

second quarter and to 15% in the third quarter. At the same time that fiscal balance was being undermined, the central bank increased the money supply from 70 billion rubles on January 1 to 4 trillion rubles on October 1, and guaranteed the integrity of interenterprise debts when the SOEs started giving credit to each other to make up for the cutbacks in state subsidies.<sup>4</sup> The resulting inflation rate of 2000% distorted and weakened the information content in the movements of the decontrolled prices. The incoherence of microeconomic liberalization without macroeconomic stabilization is almost akin to shock without therapy.<sup>5</sup>

This paper is organized as follows. We start by considering some general aspects of the go-slow approach in Section 2 and then analyze in Section 3 the three lessons that form the basis of the gradualists' position. We use these three lessons as a convenient way to organize our comparison of the economic reforms in China, Poland, and Russia. Section 4 discusses the large costs that have been attributed to the big-bang approach to economic reforms. Section 5 identifies five factors that have produced China's satisfactory economic performance, and Section 6 presents our conclusions.

## 2. SOME CONSIDERATIONS IN GRADUAL REFORM

Partial price liberalization in practice means that some types of goods have their prices controlled, and some types of goods have two prices. For brevity, we shall refer to these two subcategories of partial price liberalization as partitioned pricing and dual pricing, respectively.

The common consequence of partitioned pricing is that the state is obliged to accede to requests for subsidies from loss-making firms that have their output prices controlled. There is little incentive for these firms to increase their efficiency because it is hard for the government to determine whether the losses are due to price controls or to mismanagement and misappropriation. Furthermore, the common knowledge that prices are being phased out gradually means that partitioned pricing promotes intertemporal speculation of storable goods, resulting in inventories being too large and shortages more severe; see van Wijnbergen (1992).

Dual pricing at the consumer level means one price at the state store, with no guarantee of availability, and another in the free market. At the enterprise level, it means one price for the within-quota output and a higher price for

<sup>4</sup> Abstracting from malevolent intentions, incompetence can be the only description for the Chairman of the Russian Central Bank, who saw no relationship between monetary expansion and exchange rate depreciation; see the interview with Victor Gerashenko in *Transition*, Vol. 3, No. 9, October 1992.

<sup>5</sup> The most recent data for Poland, the first country to have undergone shock therapy, shows a structurally changed economy that is beginning to grow rapidly. Real GDP grew 1% in 1992 and 4% in 1993.

above-quota output and one price for the inputs purchased by SOEs and another price for inputs purchased by private enterprises.

Dual pricing of consumer goods encourages output, but it gives firms the opportunity to blame their losses on the output they are required to sell at the lower price even when the losses are due to mismanagement like overcompensation of workers. Dual pricing of intermediate inputs spawns corruption, and requires vigilant government supervision to force the firms supplying the inputs to meet their delivery quotas to the SOEs. If supervision is inadequate and diversion of inputs occurs, then output will decline if the SOEs produce higher value goods than the private firms; see Murphy et al. (1992).

We note that the three types of economic activities in which China has registered the greatest progress are agriculture, exports, and services, and these are the areas where economic reform has been most radical. The household production contract system has replaced the commune system in agricultural production. Farm lands now have long-term leases, and these leases are freely transferable; very little remains of production and marketing controls, especially in South China and Sichuan. The result of this radical *de facto* privatization of agricultural activities is the improvement of rural living standards.

The booming exports of coastal China are the result of radical trade liberalization. Not only is there a duty-drawback system, but foreign exchange swap centers also have been established, and enterprises are allowed to retain most of the foreign exchange they earn. Furthermore, foreign investors can repatriate profits and own land. In the Special Economic Zones (SEZs), firms also have greater rights in firing workers.

The explosive growth of the service sector, especially of retail stores and restaurants, is mainly caused by the lifting of legal restrictions on private economic activities.

It is instructive to ask why Poland and the Czech Republic did not opt for Chinese-style partial reforms even though such reforms produced 10 years of respectable growth. The reason is that there exists in Polish and Czech societies a basic consensus on what the final shape of their societies should be. The Poles and Czechs want to rejoin Europe. The Chinese elite, on the other hand, is split between the Stalinist faction and the reformers who are optimistic that a new, but unpredictable, form of socialism would emerge. Gradualism in China is the result of the political deadlock between the Stalinists and the reformers, and not the result of a particular theory of reform.<sup>6</sup>

<sup>6</sup> An early recognition of this point is Hamrin (1984), who identified three camps in 1978: the neo-Maoist conservatives exemplified by Hua Guofeng, Li Xiannian and Ye Jianying, the orthodox reformers exemplified by Chen Yun and Peng Zhen, and the pragmatic reformers exemplified by Deng Xiaoping, Hu Yaobang, and Zhao Ziyang. Over time, the first two groups

The Stalinists subscribe to the bird-cage-economy doctrine. In the conception of its originator, Chen Yun, the central plan is the cage and the bird is the economy. The premise is that without central planning, the economy will be in chaos and production will be inefficient, i.e., without the cage, the bird will fly away. The amount of market activity that is to be tolerated to keep the economy working is analogous to the amount that the cage needs to be swung to create the illusion of greater space that is required to keep the bird happy.

The reformers, on the other hand, believe that only a market economy could develop China. The phrase muddling through does not describe the reformers' conception of their economic strategy as claimed by McMillan and Naughton (1991), it describes only their optimism that a new but unpredictable form of socialism would somehow emerge.

That there is no theory behind Chinese gradualism can be seen in the actions of Deng Xiaoping, the godfather of China's reforms. Throughout the high inflation of 1988 and up until the declaration of martial law in May 1989, Deng was urging complete price decontrol under the slogan, *chuang jiage guan*, crash the price control obstacle, and closure of unprofitable state enterprises; see, e.g., Salisbury (1992, pp. 433-434). It was Deng who left Beijing in early 1992 to mobilize popular support to overturn the truly gradualist policies of the Stalinist faction that assumed control of the state apparatus after May 1989.

To put matters simply, since the main reason behind gradualism is absence of social consensus over what the final state of affairs should be, gradualism is not like a person putting on his pants one leg at a time and big bang with the person jumping into his pants. The more accurate picture of gradual-

---

merged because their members "were unwilling to grant Deng and his successors an open mandate to depart further from China's Marxist-Leninist heritage" (Hamrin, 1984, p. 488). The aim of this conservative-orthodox coalition was to establish a modified form of "the Leninist political and economic order that prevailed in China in the mid-1950's and early 1960's. . . [with the watchword being] stability, order and control." (Harding, 1986, pp. 54-55).

This absence of consensus persisted throughout the period. On the eve of the unfortunate Tiananmen incident, the *Economist* ("China: At it Again," February 25, 1992, p. 34) reported:

At the heart of the rivalry between Mr. Zhao [Ziyang, the party leader] and Mr. Li [Peng, the premier] are very different ideas about where China should be going. Mr. Zhao would like to steer China out of the current mess by freeing more prices. . . . generating more competition between factories and between provinces . . . [, reducing] sharply the amount of industry directly owned by the state . . . [and] finding ways to stop party people from interfering in the way factories are run. Mr. Li thinks China can modernize itself only if the centre keeps a firmer hand on things.

Wei (1993) shows that gradualism can be a method of splitting the opposition to reforms, and that "whenever both big-bang and gradualism are politically feasible . . . , the big bang is economically more efficient because it brings the benefits more quickly" (p. 17).

ism is a person putting one leg into the pants and then stopping for a meditative smoke because he is insecure about whether he would not be better off with a fig leaf or a loin cloth instead. Big bang, on the other hand, means a person who, while putting in his first leg, cannot wait to put in his second one.

### 3. THE THREE LESSONS OF REFORM ARE WRONG

#### *Lesson 1: Agricultural Sector Reforms Should Precede Industrial Sector Reforms<sup>7</sup>*

Why did the Chinese choose to start with agricultural reforms? The Chinese economy was in dire straits after the Cultural Revolution ended in 1976. Since the agricultural sector was the biggest sector, accounting for 37% of output and 71% of employment, it was China's biggest economic problem in 1978. The political translation is that there was overwhelming popular desire to solve the agricultural problem. The Chinese industrial sector was also a problem, but with only 18% of the workforce employed there, there was less political support available to overwhelm the entrenched interests. Hence, the Chinese chose to deal with their biggest economic problem first, partly because it was the easiest political route to take.<sup>8</sup>

Seen in this light, we have the reason for what has been identified as a key difference in reform strategy between Eastern Europe and Asia. The Czech Republic, Poland, and Russia chose to reform their industrial sectors first, and Laos and Vietnam chose to reform their agricultural sectors first because these sectors were the biggest sectors for each of these countries and hence had the largest constituency for reform. The veracity of our explanation is bolstered by the case of Mongolia, which, unlike its Asian comrades, started

<sup>7</sup> Ed Hewett (1988) wrote:

... China's experience is in many ways particular and probably of limited use to the Soviet Union. However, *the general strategy of rural areas first, including not only agriculture, but also rural industry, seems to be working in China and is applicable to the Soviet case*" (p. 302), emphasis added.

Marshall Goldman (1991) wrote:

What was unique about the Chinese reforms was that they began in the countryside and took place at the start of the reform process. . . . Because Gorbachev failed to begin his reforms in the countryside, he was unable in the early days of the reform efforts to gain the credibility that probably would have come if there had been an initial period of economic renewal and transformation comparable to what occurred in China (pp. 61-62).

<sup>8</sup> I thank Fan Gang for this point.

with industrial reforms. The point is that its biggest sector, unlike its Asian comrades, was the industrial sector.<sup>9</sup>

The reason why the industrial reforms in Eastern Europe and Russia have not shown the impressive results of the agricultural reforms in China, Laos, and Vietnam is because industrial reform is a much more difficult task. It is much easier to assign property rights to the individual plots that farmers have been working on than to assign property rights to the capital equipment that workers have been using jointly. Furthermore, Chinese agriculture is easier to reform than Russian agriculture because of the big difference in labor intensity; 71% of the Chinese labor force was in the agriculture sector, which produced 37% of GNP. In Russia, the agricultural sector employed 13% of the labor force and generated 18% of GNP. Finally, we note that China's industrial reforms have also been markedly less successful than its agricultural reforms, a point we will develop in discussing Lesson 2.

Lesson 1 raises the general issue of whether there exists an optimal sequencing in economic reforms.<sup>10</sup> For example, Mancur Olson (1992) has claimed that economic reforms should be preceded by institutional reforms, otherwise the output response to the economic liberalization would be low, if not, negative. Specifically, in "the absence of institutions that reliably secure a broad range of contract and property rights, . . . communism can be repudiated, and the suffocating government control removed, yet output can at the same time fall."

The Chinese experience contradicts Olson's claim. As Chen et al. (1992) have reported:

many reforms have followed *de facto* change; the government consented or sanctioned important reforms only after they had become wide-spread. The most dramatic example is China's rural reforms. Contrary to popular belief, these reforms were not planned by the central government. In fact, leasing land . . . and setting quotas on a household basis . . . , the two most important ingredients of the Household Production Responsibility System, were in 1979 explicitly banned by China's leadership. . . . [It] was not until 1985 that the government sanctioned [them]. . . . Yet, by the end of 1984, over 93% of China's cultivated land had been contracted to households . . . and nearly 100% of China's rural villages were fixing quotas on a household basis. . . . More recent examples of bottom-up initiatives that only later become accepted by authorities at the center include stock exchanges in Shanghai and Shenzhen and Shanghai's Pudong development zone. . . . Unsanctioned reform has been wide-

<sup>9</sup> It is more accurate to say that Eastern Europe and Mongolia implemented industrial reforms at the very beginning of reforms rather than first because industrial and agricultural reforms were undertaken simultaneously.

<sup>10</sup> In order for optimum sequencing to be analytically different from big bang, the former must mean that there should be a substantial length of time between each class of reforms whereas the latter regards rapid succession to be much more important than sequencing.

spread in the last decade. . . . While some of these unsanctioned reforms, such as the growth of private banking, are well publicized, most are surreptitious. . . .

Undoubtedly, the Chinese experience does not suggest that the expansion of economic activities was unhindered by the absence of explicit sanctions. It only shows that a laggard legal system is compatible with a sustained growth rate of more than 8%. Furthermore, even if the policy effects are zero in the absence of fundamental social institutions like a comprehensive legal system, one should still proceed simultaneously on both fronts because the desired policy effects will increase over time as the social institutions become more and more established.

There are other suggested optimal sequencings of reforms. The best known recipe is: first, liberalize the goods markets, especially the trade sector; then, liberalize the domestic financial system; finally, liberalize capital account transactions, see Edwards (1984). The logic behind this sequence is that if the protected importables industry is capital-intensive, then the opening of the capital account before the current account will cause foreign capital to flow into the importables industry. The expansion of the protected importables industry will produce the paradoxical result of immiserizing growth; see Brecher and Diaz-Alejandro (1977).

This well-known recipe is suspect. Indonesia implemented its reforms in the reverse sequence, capital account liberalization in 1967, domestic financial market liberalization in 1983 and current account liberalization in 1986, yet its economic performance has been impressive. The Indonesian case suggests that the optimal reform sequence is specific to the economic structure of the country and specific to the type of shocks that it experiences.<sup>11</sup>

Another well-known recipe for moving economies away from central planning is first to restore macroeconomic balance and reform the fiscal and financial institutions, then to liberalize the economy; see McKinnon (1991). Otherwise, the termination of price controls and the granting of enterprise autonomy will translate the persistent shortages into persistent budget deficits and price increases that distort the relative price structure and erode the political support for reforms. This reasoning is really an argument against putting microeconomic liberalization before macroeconomic stabilization and not against simultaneous microeconomic liberalization and macroecon-

<sup>11</sup> Indonesia's per capital income tripled in the 1965-1990 period, and it is the only populous oil-exporting LDC in the 1980's not to have an external debt crisis. Woo et al. (in press) pointed out that the open capital account policy constrained the government to maintain a competitive real exchange rate to discourage speculative attacks on the currency. The competitive exchange rate prevented the decimation of the traditional tradeables sector when there was an oil boom in the 1970's. So when the negative external shocks hit in the 1980's, Indonesia's traditional tradeables sector was able to generate enough foreign exchange earnings to service the external debt.

omic stabilization. Similarly, the argument that current account liberalization should precede capital account liberalization is not an argument against simultaneous current account and capital account stabilization.

Our review of the optimal sequencing literature indicates that there is an optimal sequence only if one is constrained to introducing only one new policy measure at a time. Even if an optimal sequence were to exist, the loss from pursuing an inferior sequence must be small compared with the gains of moving from a centrally planned economy to a market economy. We know the reforms required to create a market economy. We know that there is no universally optimal sequence. There is no basis for the belief that the cost of delaying economic reforms is small compared to the extra benefits yielded by the country-specific optimal sequence that we can know only after considerable research.

To continue the analogy given earlier, there is really no reason to choose which leg to insert into the pants first, provided that the second leg follows quickly. This is true even if there were an optimal sequence specific to each person because the gains from following this sequence would pale beside the gains from choosing the right pants for the occasion.

*Lesson 2: Since the State-Owned Enterprise (SOEs) Can Be Reformed Satisfactorily, Privatization Is Superfluous<sup>12</sup>*

A number of studies have concluded that total factor productivity (TFP) growth of the Chinese SOE sector has been positive in the reform period, and some of them also indicated that this TFP growth is higher than in the pre-1978 period.<sup>13</sup> Nevertheless, we can regard the Chinese SOEs as having been successfully reformed only if we keep our expectations of SOEs' performance low. The highest available estimate for annual TFP growth in Chinese SOEs is 2.4%, only slightly more than half of the 4.6% in collectively owned enterprises, which include town and village enterprises. This relative inefficiency of the SOE sector is confirmed by Xiao (1991), who found a positive statistical relationship between the TFP growth of a province and its share of industrial output produced by nonstate enterprises.

Woo et al. (1994) pointed out that the studies by Jefferson et al. (1992),

<sup>12</sup> For example, McMillan and Naughton (1991) had as section headings, "Privatization is not crucial; competition is" and "State-owned firms' performance can be improved." Chen et al. (1992) wrote:

China's reform experience shows that privatizing state enterprises has not been essential for the near- and mid-term success of its industrial reform program. Expanding managerial autonomy and incentives and ending the state's monopoly over industry have, to a substantial degree, substituted for the privatization of state enterprises (p. 222).

<sup>13</sup> See Woo et al. (1994) for a critical discussion of some of the key studies.

and Groves et al. (in press), which found positive TFP growth in industrial SOEs by estimating gross output production functions, used input deflators that resulted in declining value added deflators for the 1980–1989 period. This opposite trend of the deflator to the trend of consumer prices that averaged 7.5% growth annually is anomalous by international experience. Even more anomalous is the decline in the value-added deflator during the 1980–1983 period when price liberalization occurred much more for final goods than for inputs, many of whose prices remained controlled. This opposite trend also contradicts the experience of gradual reform in Poland (1982–1989) and Hungary (1970–1991). We think that the positive TFP growth in the two above-mentioned studies were the result of removing an opposite bias and overdeflating or undercounting intermediate inputs.<sup>14</sup>

If we go beyond technical efficiency as the sole criterion of successful reform and consider the contribution of the SOE sector to macroeconomic stability, then the Chinese SOE reforms have not been successful. The profit rate of SOEs has been falling since the reforms began. This abject financial performance was most vividly seen in 1992 when output grew 13%. Two-thirds of Chinese SOEs were running losses in this boom year.<sup>15</sup> These enterprise losses cannot be blamed on price controls because such controls covered only a small proportion of SOEs. The SOEs may have become technically more efficient, but most of them have also become financially less viable.

Naughton (1991) has suggested that the primary reason for the decline in profitability of the SOEs is the expansion of competition by collectively owned enterprises whose existence is permitted by the economic reforms. The problem with this explanation is that the fall in profits occurred across the board, even in heavy industries where there was negligible new entry and in industries where prices have not fallen.

<sup>14</sup> The official method of constructing real value added deflates nominal value added with an output price index that understates actual output price increases. This results in two biases in opposite directions. The real gross output and real inputs are both overcounted, the latter from input prices increasing faster than output prices after 1984. The two cited studies recalculated the real value added by double deflation. By using the correct (possibly overcorrected) input price deflator but retaining the incorrect output price deflator, they overcounted gross output, hence leading to positive TFP growth and a declining industrial value added deflator.

<sup>15</sup> *China Daily*, "Budgetary Deficit Will Be Cut Back in '93," reports on January 26, 1993:

At present, about one-third of State firms are definitely operating at a loss and another one-third suffer hidden losses, according to the State Statistics Bureau.

Hidden losses refers to various methods that allow a firm not to show an accounting loss, e.g., the firm being exempted from forwarding sales tax revenue to the state, or a firm's unsold output is valued as income. As long as there is no accounting loss, an SOE can borrow working capital from the banks to pay its employees and suppliers.

Fan and Woo (1992) have suggested that excessive wage increases throughout the SOE sector may have been the more important reason for the decline in profitability. Analyzing a sample of 300 SOEs, they found that the ratio of direct cash income, wage plus bonus, to net output rose from 11.6% in 1980 to 15.9% in 1988, and that indirect income, e.g., housing and in-kind distributions, as proxied by net non-production expenditure, increased more than twice as much as net output value. There was little incentive for the managers to resist wage demands because their future promotion to larger SOEs is determined by the increases in workers' welfare during their tenure, and the easy availability of loans from the local banks made it possible to simultaneously increase labor compensation and capital investment.

Official data on industrial SOEs show that the average annual rate of labor productivity growth and direct real wage growth over the 1978–1990 period were 4.4 and 4.1%, respectively.<sup>16</sup> In a recent study, Zhao (1992) estimated that the indirect real wage grew an annual average of 12.5% in the 1978–1990 period, raising its share in total, direct plus indirect, real wage from 15% in 1978 to 31% in 1990.<sup>17</sup> Incorporating Zhao's findings into the official data, the average annual increase in the real wage was 5.4%. This finding supports Fan and Woo's (1992) contention that the higher wage growth caused profitability to fall even though technical efficiency might have increased.

It is now well-known that measures of Chinese productivity growth are biased upward because of inadequate deflation.<sup>18</sup> The deflation is particularly inadequate when a firm introduces a new product. The first problem is the overimputation of the base year price of the new product because of the quantity characteristics method, e.g., determining the 1986 price of a 486 microchip, which was not commercially available then, from the 1986 price of the 286 microchip by comparing some arbitrary quantity characteristics of the two microchips. The second problem in deflation is that the initial price of a new product usually overstates its relative price in equilibrium. The fact that labor-productivity growth is likely to have been overestimated bolsters the case that it has been lower than total real wage growth.

Another piece of evidence of wage increases being excessive in SOEs is that labor productivity growth in the collective sector is very much greater than

<sup>16</sup> Data are from Tables 4.37 (industry), 7.1 (overall retail price index), and 10.16 in State Statistics Bureau of China, *China Statistical Yearbook 1991*. Direct wage is the sum of basic wage and *some* kinds of bonuses and cash subsidies.

<sup>17</sup> Table 9 in Zhao (1992) is the best table for calculating wage compensation in SOEs (private communication with Zhao). Since data is wage bill and not wage rate, indirect wage rate growth was computed by assuming that direct wage rate grew 4.1% annually. The 12.4% figure is the lower-bound estimate because in-kind consumption hidden as production cost is not included in the indirect wage data.

<sup>18</sup> I thank Wu Jinglian for educating me on this point.

TABLE 1  
DEFICITS IN THE CHINESE GOVERNMENT BUDGET

Year	Open deficit	Hidden deficit	Consolidated deficit	A conservative re-estimate on the assumption that enterprise loans are 70% of the column (2) deficit (4)
	(1)	(2)	(3)	
1988	2.48	5.14	7.62	6.08
1989	2.35	5.22	7.57	6.01
1990	2.88	7.55	10.43	8.17
1991	3.36	6.76	10.12	8.09

the direct real-wage growth there: 8.3 and 3.6%, respectively. Since indirect wages are much lower in the collectively owned sector, we have the situation where:

Labor productivity growth in collectively owned enterprises  
 > Total real wage growth in SOEs > Labor productivity growth in SOEs  
 > Total real wage growth in collectively owned enterprises.

This financial weakness of SOEs destabilized the economy through two channels. The first was through the state budget. Given the dependence of state revenue on income from the SOEs, the budget deficit widened from 2.1% of GNP in 1981 to 3.4% in 1991, hence contributing to faster monetary growth. The second channel was through the banking system. This is because the bulk of SOE losses were not covered by budget subsidies but by bank loans. Moreover, since the promotion of an SOE manager depended very much on the expansion of the enterprise under his stewardship, he would continuously pressure the local banks for investment loans. If the firm was not doing well financially, the justification for the investment loan application would be to increase the firm's competitiveness by technical upgrading.

The result of the central bank's accommodation of the requests for loans to cover losses and to finance investments is that the amount of reserve money growth that is unrelated to deficit financing is substantially greater than the deficit itself. With the open deficit defined as the government borrowing requirement, and the hidden deficit as the expansion of reserve money in excess of the amount lent to the government for deficit financing, the consolidated budget deficit was over 10% of GNP in 1990 and 1991 (see column (3) in Table 1).

Regardless of whether or not the SOEs improved their technical efficiency, they have certainly not improved their financial performance. Just as China

did not succeed in producing the new socialist man during the Cultural Revolution despite the hopes of well-wishers, China, like Eastern Europe and Russia, has not succeeded in reforming the SOEs.<sup>19</sup> In a comparison of the gradual enterprise reforms in China during 1978–1990 and in Poland during 1982–1989, Fan and Schaffer (1991) concluded that:

the structure of incentives faced by Chinese and Polish [state-owned] enterprises during the reform period differed in appearance only . . . [and the result is that] labor productivity growth rates in state-owned industries in these two countries were very similar. . . . The biggest difference between the two countries is in the performance of the collective (China)/cooperative (Poland) sector. (pp. 232–238).

The bottom line is that the typical Chinese SOE is just like its SOE cousins the world over; it also puts on its pants one leg at a time and in an inefficient manner.

### *Lesson 3: Economic Liberalization Should Precede Political Liberalization<sup>20</sup>*

This lesson is distilled from the observations that Gorbachev's political *glasnost* succeeded whereas his economic *perestroika* failed, and that economic progress occurred in China without political empowerment of individuals. Lesson 3 holds that political openness prevents sustained economic reforms. The reasoning is that economic reforms necessarily impose, at least temporary, costs on some segments of the population, and political openness would provide the avenue for the losers to form coalitions to thwart economic reforms. In order to prevent narrow interests from stopping the socially desirable economic restructuring, Lesson 3 recommends that these narrow interests be denied legal protection for their political actions, i.e., the end justifies the means.

An example of the realization of this fear occurred in December 1992 when the Russian Parliament, which was dominated by industrial managers elected in the last days of the Communist regime, replaced the reformist Yegor Gaidar with the apparatchik Viktor Chernomyrdin. Chernomyrdin's first remarks as Prime Minister were to belittle the thousands of small shops that had appeared since January 1992, and his first act was to extend 200 billion rubles of cheap credit to the industries under the Ministry of Oil and Gas that he had headed. This boosted the 1992 budget deficit by 2% of GDP, bringing it to 12%.<sup>21</sup>

<sup>19</sup> For example, Robinson (1970).

<sup>20</sup> Griffin and Rahman (1993) noted that "the Chinese experience does suggest that maintaining firm political control during a period of systemic change in the economy has enormous advantages" (p. 45).

<sup>21</sup> Data from *The Economist*, December 26, 1992, p. 62.

China, on the other hand, has seemingly been able to go steadily down the reform road because political controls were not lifted together with economic controls. The Chinese economic reforms imparted shocks to the social system, greater income inequality among individuals and between regions, more corruption, bolder manifestations of vices like prostitution and gambling, and frequent inflation bouts, which helped fuel the student demonstrations at the end of 1986 and in the middle of 1989, but Stalinist-style reactions, arrests in the former occasion and shooting in the latter, have preserved political decorum. The implication from Lesson 3 is that it was only because the Chinese Communist Party was confident of its ability to keep the lid on the social tensions generated by economic reforms that it took the decisive step of moving completely to a market economy during the 14th Party Congress in October 1992.

This reading of the dynamics behind the Chinese commitment to reforms is wrong because it equates political liberalization with mass democratization, e.g., the democratic elections of Lech Walesa and Boris Yeltsin. Some important political liberalization has happened in China, but it has not been much noticed because it has taken the form of regional power rather than the more familiar form of people's power. The political situation in China today is very different from that in 1978, when the center decided and the periphery implemented. It must be realized that the devolution of economic power to the provinces since 1978, in effect, means the devolution of patronage rights, and, with it, the devolution of political power. This empowerment of the regions has created what is now the major driving force behind economic reform.

When the conservatives sought to reimpose a Stalinist central planning (bird cage) economy in the immediate aftermath of the Tiananmen shooting, the provincial representatives were strong enough to repel the recidivist tendency toward central planning. It was the mobilization of this new, decentralized political power by Deng Xiaoping in early 1992 that forced the conservative faction to accept the new vision of a socialist market economy. For the first time, the official use of the word market was not balanced by the word plan. The real political lesson from China is that one of the first acts of reform should be to break the center's stranglehold on power so that a recapturing of the center by atavistic elements would not result in an easy reversal of the economic reforms.

We think that it is wrong, or at least premature, to claim that political liberalization undermines economic reforms. It is true that there have been five Polish prime ministers since 1989, but all of them have continued the reform program of the first non-Communist government. In Russia, the situation is complex. Immediately after the December 1993 election where the reformers performed worse than expected, President Yeltsin announced that he would retain Gaidar in the cabinet even though Chernomyrdin had

publicly urged for his removal. Gaidar resigned a month later, but it is not yet clear how far his reforms would be reversed.

The point is that sustained economic reforms do not require Stalinist-style political repression, what is definitely required is a commitment by the political leadership to economic prosperity and not to ideological purity. Authoritarian China accelerated economic reforms in 1992 to run in the economic race, while authoritarian Cuba has its legs stuck in the gutter of memory lane. The sustenance of the political commitment to reforms, in turn, requires the quick forging of a pro-growth coalition. As coalition-building, regardless of the nature of the political system, depends strongly on particular circumstances and individual political shrewdness, Lesson 3 cannot be true. Overall, the evidence indicate that the removal of the brown shirt of fascist repression may not be necessary for participating in the growth race, but the removal of the red strait-pants of central planning is absolutely necessary.

#### 4. THE ADJUSTMENT COSTS OF THE BIG BANG

The major reason behind the first and second lessons is the implicit assumption that the big-bang strategy requires immense sacrifice in the short-run. Sacrifices so large, that one is driven to the Machiavellian Lesson 3. We question this underlying assumption about the social costs associated with the big bang. Recently available data suggest that the initial estimates of the economic costs of the big bang have been overstated. Two statistics are commonly cited as proof of the extreme pain of the big bang. The first is the drop in the real wage and the second is the fall in output.

##### *The Fall in Real Wages*

Concerning the fall in the real wage, it should be realized that both Poland and Russia experienced a rapid run-up in the real wage in the years before their radical reforms. The Polish real wage increased 28% in the 1987–1989 period, and the Russian real wage increased 27% in the 1987–1990 period; see part (a) of Table 2. Obviously, the dramatic real wage increases in both countries in these periods had nothing to do with stellar economic performances, otherwise there would have been no changes in governments. The reasons for the dramatic wage increases were that the Communists were increasing nominal wages to buy peace from a population that was getting increasingly belligerent over plummeting living standards; and that the prices on goods were kept unchanged even though there were extreme shortages across the board. The result of this was that the Polish real wage in December 1989 was 50% above the 1987 level, and the Russian real wage in December 1991 was 80% above the 1987 level.

In short, the real wage decreases after 1989 in Poland, and after 1991 in Russia, did not necessarily indicate declines in the standard of living because

the official real wage data grossly exaggerated the purchasing power of wages in the prereform period. The fact that the Polish real wage in 1991 and 1992 were 10% below the 1987 level did not mean that there was a 10% decline in the standard of living, a point that we will substantiate later.

### *The Fall in Production*

The Polish and Russian economies were already crumbling before the administration of shock therapy. Poland's GDP went from 4% growth in 1988 to zero growth in 1989, and its industrial production in the fourth quarter of 1989 was 6% below the level in the first quarter of the year. Russia's GDP fell 4% in 1990 and 13% in 1991, and its industrial production fell 8% in 1991 after stagnating in 1990; see parts (b) and (c) of Table 2. With this background, part of the 20 percent decline in Russian GDP and the 12% drop in Polish GDP in the first year of their reforms has to be attributed to the existing adverse trends within the economy.

Furthermore, there are major measurement problems that exaggerate the output costs of the reform program. The first measurement problem comes from the incentives faced by the managers of state-owned enterprises (SOEs) to overreport output before the reforms and to underreport after the reforms. In the turbulent period immediately before the reforms, where the state was in no position to check production reports, the SOEs overreported output in order to gain access to the rationed inputs of energy, foreign exchange, and bank credit, and to justify large bonuses to the workers. After the reforms had tightened the budget constraint to make firms more self-financing, the SOEs underreported output in order to avoid taxes and privatize the unreported output. To the extent that SOE managers were able to transfer SOE assets to the new, legal private companies in which they have interests, output in SOEs actually fell.<sup>22</sup>

The second measurement problem is that the output of the nonstate sector is inadequately measured. The output surveys of the statistical bureaus were designed for a centralized planning economy, and so they did not capture the output of the fast growing nonstate sector of the economy. The undercounting is especially severe in the new service industries that were not recognized as components of national output in the socialist accounting system. The nonstate sector had every incentive to keep a low profile because of the desire to avoid taxes and the fear of repercussions if a political reversal were to occur. The latter is especially true given the experience with the liberal policies of the New Economic Policy in the 1920's which ended with the murderous campaigns of Stalin.

<sup>22</sup> Dabrowski et al. (1991) reported that by mid-1991 about one-third of large SOEs had sold or leased out productive assets.

The above considerations suggest that GDP would be significantly understated if measured from the supply side. This was indeed the case in Poland. Comparing official Polish data on supply and consumption, Berg (1993) found that:

butter supply in 1990 was reported to have fallen by 16 percent from 1989, while consumption of butter increased by 4 percent. . . . [Suppliers of leather shoes reported a drop of] 42 percent, while consumers reported a 30 percent fall in purchases. . . . [There was] a 22 percent decline in bread supply and a 5 percent decline in bread consumption (p. 9 of Chap. 2).

Given the inadequacies of the official Polish output statistics, Berg (1993) recalculated the GDP for 1990 using consumer surveys to generate estimates for aggregate consumption and sectoral employment figures for sectoral value-added. Berg found that the drop in GDP in 1990 from 1989 level was 8.7% when measured from the supply side but only 4.8% when measured from the demand side. Both of Berg's estimates are significantly below the official estimate of a 12% drop in 1990.<sup>23</sup>

A third reason for the fall in output was the unravelling of the Council for Mutual Economic Assistance (CMEA) trading system during 1990, and its termination at the beginning of 1991 (see Brada and King, 1992). The CMEA shock was a negative supply shock as well as a negative demand shock. The absence of a payments mechanism meant that exporters lost their traditional markets and producers could not obtain strategic inputs from their foreign suppliers. While the output effect of the CMEA shock is hard to separate from the effects of adverse economic trends and statistical mismeasurement, the experience of Finland which has close trading ties with the Soviet Union provides evidence that the size of the CMEA shock may equal at least 6% of GDP. Finland's GDP growth rate went from an average of 4.2% in the 1986-1989 period to 0.4% in 1990 and then to -6.5% in 1991.

#### *A Fall in the Standard of Living, and Increasing Alienation?*

Jan Winiecki (1991) has argued that in the early stages of transition to a market economy, "a major part of the fall in output has no impact on the welfare of the population." The first reason is the elimination of over-reporting and the rise of underreporting. The second reason lies in enterprises changing their behavior toward inventory of inputs. A well-known inefficiency of enterprises operating under central planning is their large inventories of inputs because of the grave consequences of not meeting quantity targets. With marketization, enterprises will undertake a one-time down-

<sup>23</sup> Rajewski (1993), the former head of the Polish statistical bureau, pointed out that, if the unreported second economy were taken into account, the fall in GDP between 1989 and 1992 was only 5-10% instead of the official figure of 18%.

ward adjustment of their input inventories and the result is a one-time drop in the sales of the input industries. The third reason is the elimination of unmarketable products that "go straight into inventories, never to appear." It is estimated that unmarketable products accounted for 10% of the Gross Social Product of Poland.<sup>24</sup>

The Stalinist preoccupation with heavy industries have distorted the Chinese, Polish, and Russian economies from producing the bundle of foods demanded by their population and favored by their comparative advantage, see Table 4. Poland and Russia are more industrialized than Germany, the United States, Japan, and market economies at comparable levels of income such as Portugal, Spain, and Greece. China is exceptionally industrialized compared with other Asian countries with significant portion of their population employed in the agricultural sector, e.g., India and Indonesia.

A major reason for the preoccupation with industrial production is the importance that the communist countries placed on the armaments industry for national security reasons. The arms race is an important reason why the Soviet Union produced 163 million metric tons of steel in 1988 against 91 million metric tons by the United States, 41 million metric tons by West Germany and 106 million metric tons by Japan, even though all three capitalist countries have much larger GNPs.<sup>25</sup> The military-industrial complex in Russia and China are the natural opponents to economic restructuring, which will deny them privileged access to raw materials and foreign exchange.

The result of the overindustrialization in the communist countries was that their service sectors were particularly underdeveloped. The inconvenience of daily life in China and Russia before their reforms is well illustrated by the paucity of retail outlets; see Table 3. In 1985, Russia had 20 retail stores per 10,000 persons versus 61 in the United States, 86 in France and 175 in Italy. In 1978, China had only 11 stores per 10,000 persons. With economic deregulation, the number leapt to 74 in 1985 and to 80 in 1991. The bulk of the new Chinese retail stores is individually owned. What the Chinese experience suggests is that the marketization of a Stalinist economy inevitably shifts resources toward the service sector. For China, the shift was from the agricultural sector to the service sector; see part (b) of Table 4.

In the case of Russia and Poland, the growth of the service sector took place at the expense of the industrial sector. The withering away of the industrial sector in Russia and Poland is therefore a desirable event. The unfortunate aspect is that resources usually moved only when faced with unemploy-

<sup>24</sup> Quote in preceding sentence and data in this sentence is taken by Wienicki from L. Sirc, "Markets Spell Disaster?" in *The Polish Transformation: Programme and Progress*, 1990.

<sup>25</sup> Data from Table 2 in Lipton and Sachs (1992).

TABLE 2  
WAGE AND OUTPUT PERFORMANCE IN POLAND AND RUSSIA

	Year					
	1987	1988	1989	1990	1991	1992
(a) Real wage index, period average						
Poland	100	118	128	89	91	89
Russia	100	108	118	127	113	84
(b) GDP growth rate (%)						
Poland	2	4	0	-12	-8	1
Russia	1	5	2	-4	-13	-19
Poland				Russia		
(c) Industrial production						
1989						
1Q		116.9				
2Q		115.9				
3Q		111.2				
4Q		109.6		100.0		
1990						
1Q		81.6				
2Q		80.6				
3Q		80.7				
4Q		81.3		100.0		
1991						
1Q		76.7				
2Q		72.9				
3Q		71.1				
4Q		69.8		92.0		
1992						
1Q		70.1				
2Q		71.1		79.6		

Sources: Real wage from September 1992 draft of Lipton and Sachs (1992). IMF, *World Economic Outlook*, October 1993, for Poland's GDP (1987-1992) and Russia's GDP (1991-1992). Russia's GDP from Net Material Product in *Economist*, December 5, 1992, for 1987-1990. Industrial production for Poland from *International Financial Statistics*, January 1993, Russia's from Lipton and Sachs (1992).

ment. The equally, if not more, unfortunate aspect is that the costs of this desired reallocation of resources have been often overstated and hence weaken the social consensus for change. For example, surveys show that one-third of the officially unemployed persons in Poland have jobs. The

TABLE 3

## A COMPARATIVE PERSPECTIVE ON RETAIL TRADE SERVICES IN CHINA AND RUSSIA PER 10,000 OF POPULATION

Country	Number of stores			Number employed		
	1978	1985	1991	1978	1985	1991
Soviet Union		20			177	
United States		61			491	
United Kingdom		61			412	
Germany		66			383	
France		86			335	
Japan		135			527	
Italy		175			350	
China	11	74	80	46	170	190
State ownership	1	2	3	10	27	34
Collective ownership	9	13	10	35	63	58
Individual ownership	1	58	67	1	79	98

Sources: Data for China from Table 14.3 of *China Statistical Yearbook, 1992*. Data for other countries from Table V.2.7 in Volume 3 of International Monetary Fund et al. (1991).

actual Polish unemployment rate is hence 9% instead of the official 13%, and this is the same as the average unemployment rate in Western Europe.

The nonequivalence between the decline in output and decline in the standard of living is supported by the Polish experience. The official Polish statistics show that the consumption of meat and fruits in 1991 was higher than in 1989 for every social group except for the farmers, see Table 5. The average amount of meat consumed monthly per capita increased by 2.6%, and the average amount of fruits consumed increased by 8.6%. The consumption increases would have been larger, if not for the exclusion from the survey that compiled these statistics of self-employed households, which had tremendous growth in 1990. The welfare gains in the 1989–1991 period would be higher than suggested by the increase in consumption if we take the increase in variety and quality and the ending of queues into account; but would be lower if the cost of the newly created psychological fear of being unemployed were taken into account.

The finding that living conditions were better in 1991 than before the reforms is supported by a survey undertaken in November 1991 by Ammeter-Inquirer (1992): 19% of respondents reported that they were much better off than before the 1990 reforms, 38% that they were a little better off, 25% that their conditions were much the same, 15% that they were a little worse off, and 3% that they were very much worse off. Moreover, 43% of the

TABLE 4

## ECONOMIC STRUCTURE OF RUSSIA, POLAND, AND CHINA IN INTERNATIONAL PERSPECTIVE

Country	Year	Industry	Agriculture	Others
(a) Composition of output				
Russia	1989	45.6	17.7	36.8
Poland	1988	52.6	11.8	35.6
U.S.A.	1987	31.7	2.2	74.3
Japan	1987	43.8	3.0	60.9
Germany	1987	44.2	1.7	55.3
Portugal	1987	37.1	8.7	54.2
Spain	1987	38.6	6.0	55.0
Greece	1987	28.6	15.7	55.7
China	1978	37.1	37.4	25.5
	1990	48.2	27.3	24.5
India	1987	28.4	31.4	40.2
Pakistan	1987	24.0	26.2	49.7
Malaysia	1987	46.3	23.8	30.0
Thailand	1987	39.4	18.6	41.9
Indonesia	1987	36.3	23.3	40.4
(b) Composition of employment				
Russia	1990	30.9	13.1	56.0
Poland	1986-1989	28.2	27.8	44.0
U.S.A.	1986-1989	18.4	2.8	78.8
Japan	1986-1989	23.7	7.1	77.2
Germany	1986-1989	30.2	3.5	66.3
Portugal	1986-1989	25.2	17.5	57.3
Spain	1986-1989	21.1	11.2	67.7
Greece	1986-1989	19.3	24.7	56.0
China	1978	15.2	70.7	14.2
	1990	17.1	60.2	22.7
India	1986-1989	10.8	62.6	26.6
Pakistan	1986-1989	12.4	49.6	38.0
Malaysia	1986-1989	19.1	41.6	39.3
Thailand	1986-1989	5.9	69.8	24.3
Indonesia	1986-1989	8.0	54.4	37.6

Sources: Part (a) data, except for Russia, are from *World Tables 1992*, based on 1987 prices. The Russian data are calculated from Tables A.5 and 13 in IMF et al. (1991), and are the average of 1985 and 1989 ratios. Output is NMP for Russia and GDP for the rest. Part (b) data, except for Russia and China, are from *Human Development 1992*. Chinese data are from *China Statistical Yearbook 1992*. Russia's data is from Sachs, private communication.

TABLE 5

MEAT AND FRUIT CONSUMPTION, 1989 AND 1991 (AVERAGE MONTHLY kg PER CAPITA)

Type of household	Year		Change (%)
	1989	1991	
Meat			
Employees	5.01	5.11	2.0
Employee farmers	5.45	5.32	-2.3
Farmers	6.66	6.47	-2.9
Retired persons and pensioners	5.70	6.34	11.2
Average (weighted)	5.42	5.56	2.6
Fruits			
Employees	3.00	3.35	11.7
Employee farmers	2.72	2.86	5.1
Farmers	3.16	3.01	-4.7
Retired persons and pensioners	3.81	4.20	10.2
Average (weighted)	3.14	3.41	8.6

Source: *Buletyn Statystyczny*, various issues, Table 46. Average monthly per capita consumption of selected foodstuffs of households.

respondents preferred the post-1989 market economic system, 24% preferred the pre-1990 socialist economic system, and 33% saw no difference between them.

In the case of Russia, the fall in living standard caused by the implosion of the old economic system has not created as much alienation as many observers have claimed. In the April 1993 referendum, 57.4% of voters gave their continued confidence in President Yeltsin and 53.7% gave their approval of the radical economic reform program.<sup>26</sup> Again, in December 1993, the voters passed the new constitution, which broadened the powers of President Yeltsin to govern Russia and gave Gaidar's party, Russia's Choice, the most number of seats in the new Parliament.

##### 5. EXPLAINING CHINA'S RELATIVE SUCCESS

We identify five factors that have been particularly important in creating the favorable outcome in China. The first factor is that Deng Xiaoping's economic reforms, unlike those of Kruschchev, Kosygin, Brezhnev, and

<sup>26</sup> *Economist*, "A Battle, Not the War," May 1, 1993, p. 49.

TABLE 6  
THE EXPANSION OF THE NONSTATE SECTOR IN POLAND AND CHINA

	(a) Poland		
	1989	1992	
Share in total employment (%)			
State-owned units	52.8	42.9	
Cooperatives	13.9	9.4	
Privately owned units	33.3	47.7	
Share in total non-agricultural employment (%)			
State-owned units	70.6	58.8	
Cooperatives	16.0	11.0	
Privately owned units	13.4	30.2	
	1989	1991	
Share of state-owned units (%)			
GDP	71	58	
Nonagricultural GDP	81	67	
Exports	100	78	
Investment	65	59	
Industrial production	84	76	
Construction	67	45	
Communications	88	76	
Commerce	40	17	
	(b) China		
	1978	1985	1991
(1) State-owned units' share of value-added (%)			
Net material output (NMP)	52.4	40.7	35.2
Nonagricultural NMP	74.1	60.4	50.8
Agriculture	8.0	5.0	3.1
Industry	77.6	64.9	52.9
Construction	66.0	48.2	46.5
Communications	87.0	78.7	53.0
Commerce	54.6	40.4	40.2
(2) Total labor employed (%)			
State-owned units	18.6	18.0	18.3
Urban-collective owned units	5.1	6.7	6.2
Other ownership units	0.0	0.1	0.4
Urban individual laborers	0.0	0.9	1.3
Rural laborers	76.3	74.3	73.8
(3) Retail sales (%)			
State-owned units	54.6	40.4	40.2
Collective-owned units	43.3	37.2	30.0
Joint ownership units	0.0	0.3	0.5
Individual business units	0.1	15.4	19.6
Sales by agricultural population to nonagricultural population	2.0	6.8	9.7

Sources: Polish employment data are from Table 1.5 in Berg (1993) and output data are from *Economist*, January 23, 1993. Chinese data are from *China Statistical Yearbook, 1992*. Section (1) of Part (b) are the author's estimates.

Gorbachev, allowed the creation of nonstate firms in every economic sector. The nonstate sector in China has grown tremendously in the reform period. Its share of Net Material Product (NMP) increased from 48% in 1978 to 65% in 1991; see Table 6. Focusing on the nonagricultural portion of NMP, the expansion of the nonstate sector is even more dramatic, its share climbed from 26% in 1978 to 49% in 1991.

The expansion of nonstate enterprises has occurred across the board. Even the industrial sector, which Lenin has identified as the commanding heights of the economy, has experienced serious encroachment by nonstate industrial enterprises. Industrial SOEs produced only 53% of industrial output in 1991, down from 78% in 1978.

The distinctive part of the erosion of the dominance by industrial SOEs is the rise of rural-based collective and individual enterprises, commonly referred to as township and village enterprises (TVEs). TVEs' share of industrial output has risen from 9% in 1978 to 31% in 1991, and their share of the industrial labor force from 29 to 47%; see Table 7. The two reasons usually given for the industrialization of the countryside are the creation of a large agricultural surplus by the agricultural reforms and the existence of under-employment in the countryside. In our opinion, another important reason is that the surplus labor, unlike in other Asian countries, could not leave the countryside because of the household registration system set up in the 1950s to control urban growth. As the geographical dispersion of factories was not caused entirely by cost differentials, it is likely that industrial growth would have been even more rapid if more of the new factories had been concentrated in and around urban centers and hence had lower transportation costs.

Up until the 1984 relaxation of restrictions on private ownership of enterprises, TVEs were community-owned and their operations controlled by the local governments. An enterprise can be classified as a TVE only after approval by the local government. A TVE pays lower taxes than a private enterprise. From 1984 onward, the terms of approval and supervision have varied greatly across regions.

At one extreme, approval could be given in return for a commitment from the enterprise to make an annual contribution to village funds. The only tie that many TVEs have to their communities is a financial one, and this financial tie is indistinguishable from the taxes that a private firm is required to pay. In Zhejiang province, the town or village is a shareholder, sometimes, the majority shareholder, in most TVEs, but the local government normally refrains from intervening in the investment, dividend, and personnel decisions of the TVEs. This granting of complete operational autonomy to the TVEs has been called the Zhejiang Model. The Zhejiang TVEs are essentially private in their operations. In Guangzhou province, many private

TABLE 7  
OUTPUT AND EMPLOYMENT OF INDUSTRIAL SECTOR BY OWNERSHIP IN CHINA

Year	SOE	Share of gross output value (calculated from nominal value (%))			Collectives and individuals	
		Collectives	Individuals	Others	Urban-based	Rural-based
1978	77.6	22.4	0.0	0.0	NA	NA
1979	78.5	21.5	0.0	0.0	NA	NA
1980	76.0	23.5	0.0	0.5	13.0	10.6
1981	74.8	24.6	0.0	0.6	NA	NA
1982	74.4	24.8	0.1	0.7	NA	NA
1983	73.4	25.7	0.1	0.8	13.1	12.8
1984	69.1	29.7	0.2	1.0	14.7	15.2
1985	64.9	32.1	1.8	1.2	15.9	18.0
1986	62.3	33.5	2.8	1.5	15.0	21.3
1987	59.7	34.6	3.6	2.0	14.5	23.8
1988	56.8	36.1	4.3	2.7	14.2	26.2
1989	56.1	35.7	4.8	3.4	13.8	26.7
1990	54.6	35.6	5.4	4.4	12.9	28.1
1991	52.9	35.7	5.7	5.7	12.1	29.3
Distribution of staff and workers in industrial sector (%)						
	SOE	Collectives and individuals			Total (millions)	
		Urban-based	Rural-based	Total (millions)		
1978	51.5	20.0	28.5	60.9		
1979	50.5	21.0	28.5	63.6		
1980	49.7	21.4	28.9	67.1		
1981	50.0	21.6	28.4	69.7		
1982	49.7	21.5	28.8	72.0		
1983	49.1	21.6	29.3	74.0		
Definition change						
1984	40.7	18.6	40.6	90.0		
1985	39.3	18.1	42.6	97.1		
1986	37.5	17.4	45.1	105.6		
1987	36.3	16.9	46.8	112.5		
1988	35.6	16.3	48.0	118.7		
1989	36.1	16.3	47.6	118.3		
1990	36.7	16.5	46.8	119.0		
1991	36.3	16.5	47.2	123.1		

Sources: Industrial output of rural-based collectives and individuals computed from industrial output reported in rural total output in Tables 9.4, and data in 10.4 and 10.5 in *Chinese Statistical Yearbook, 1992*, (CSY). From matching employment data in Tables 4.4 and 10.3 in 1991 CSY, we conclude that "other forms of ownership" are urban-based enterprises. "Other" has very small employment, 1.4 million in 1990. In 1978-1983 period, employment in industrial enterprises below the village level were put under the agricultural sector. It is likely to have been small. Rural industrial employment from Table 9.55 in CSY.

firms have registered themselves as TVEs to take advantage of tax concessions and to protect themselves against changes in the ideological climate.

At the other extreme, some local authorities are known to exercise tight controls over TVEs. This tight control over TVEs has come to be known as the Jiangsu Model because of its concentration in Wuxi, Suzhou, and Changzhou, three cities in southern Jiangsu province. In 1985 the Wuxi authorities would confer TVE status on a firm only if its initial investment was from the savings of a community body, its site belonged to the community, its production equipment was the property of the community, and its distribution of profits complied with the local regulations. The Wuxi authorities protected its TVEs by imposing fines on skilled workers who left for better jobs elsewhere and by limiting the number of partnerships and individual firms that could be set up. Finally, the "average wage rates were not allowed to diverge too much among firms" (Luo, 1990, pp. 150).

While the Jiangsu Model is "more highly regarded than . . . [the Zhejiang Model because] the former adheres to traditional socialist concepts," it is experiencing financial difficulties in the 1990's. The Jiangsu authorities have attributed the malaise to "the ambiguous property relationship . . . [that damped] the villagers' enthusiasm for township firms," and:<sup>27</sup>

In the second half of . . . [1992, Wuxi, Suzhou and Changzhou] transferred the operation rights of some deficit ridden small-scale State or publicly-owned enterprises to private businessmen through rental or auction sales.<sup>28</sup>

The above discussion makes it clear that it is hard to be precise about the nature of TVEs. It is primarily because of the vagueness about the ownership and control of TVEs, the great variety of TVEs and the evolving nature of TVEs, that the official statistics on TVEs now cover all non-state enterprises in the rural sector.

To the extent that TVEs are socialist units of production, they represent localized socialism compared to the centralized socialism embodied by the SOEs. Localized socialism can be indistinguishable from the voucher privatization of the Czech Republic. For example, in the early 1980s, Wangfeng Village outside of Shenzhen sold some of the collective property to set up five factories. Shares of these factories were then sold to the villagers, and "to help those who could not afford shares . . . the village lent 5000 yuan (\$900) to each of 800 villagers to let them become shareholders."<sup>29</sup> Wangfeng Vil-

<sup>27</sup> "Stuck in an Ideological Morass," *China Daily*, June 2, 1993.

<sup>28</sup> "Successfully Combining Socialist Market Theories," *China Daily*, December 15, 1993.

<sup>29</sup> Those who borrowed to become shareholders "can get dividends, but their offspring cannot inherit the shares after they die unless they return the original money to the village committee." *China Daily*, January 6, 1993, p. 6.

lage saw itself as the realization of Robert Owen's conception of socialism: the New Harmony Village model.

Regardless of how truly socialist TVEs are, the point remains that what makes socialist reforms in China different from those in Russia and Eastern Europe is that state ownership was compromised and reduced to a minority role. The development of the nonstate sector is likely to have been the chief source of the rise in total factor productivity (TFP) growth after 1978. The entry of TVEs into the traditional strongholds of the SOEs have forced the SOEs to become more efficient. Even then, the TFP growth rate of nonstate enterprises is twice that of SOEs. This is not surprising because the TVEs face hard-budget constraints; they do not have access to budget subsidies and preferential bank loans. The TVEs, unlike the SOEs, live by the market. During the last economic downtown, the number of industrial TVEs fell from 7.7 million in 1988 to 7.2 million in 1990, while the number of industrial SOEs increased from 99,000 to 104,000.

Table 6 shows that SOEs dominated the Polish economy more than in the Chinese economy. SOEs produced 71% of Polish GDP in 1989 compared with 52% of Chinese NMP in 1978. The first reason for the difference is that the state farms played small roles in agriculture in both countries and the Polish agricultural sector is proportionally smaller. The second reason is that the proportionally larger Polish industrial sector has a greater preponderance of SOEs.

Poland, like China, has also accomplished a dramatic shift away from domination by SOEs in the nonagricultural sectors. The share of nonagricultural GDP produced by Polish SOEs dropped from 81% in 1989 to 67% in 1991. The difference is that this 14 percentage point change in Poland took 2 years instead of the 6 years in China. Given the favorable outcome that the nonstate firms have produced in China, one should be optimistic about the economic future of Poland.

The second factor behind China's favorable performance is its saving behavior. China's saving rate is unusually high, even by East Asian standards. Household saving is about 23% of disposable income in China versus 21% in Japan, 18% in Taiwan, 16% in Belgium, 13% in West Germany, and 8% in the United States (World Bank, 1990, Table 4.9). The flow of household saving into the formal financial system, the state banks and rural credit cooperatives, has risen steadily from 3.4% of GDP in 1980 to 11.7% in 1991. Of the 1991 amount, 3.5 percentage points were extended as loans to collectively owned and individually owned enterprises and 8.2 percentage points were channelled to SOEs and the government.

The high household saving rate plays an important role in stabilizing the Chinese economy. It reduces the need for the government to print money to meet the excessive resource demand of the SOE sector. As the official *China Daily* reported in 1992:

Loans are continuing to be injected to enterprises which are obviously at the edge of bankruptcy. . . . Some loans have been used to pay wages, which have a pretty name: "loans to keep social stability." . . . According to PBOC [People's Bank of China, the central bank.] 46 percent of fresh bank loans last year created unmarketable goods.<sup>30</sup>

The above report means that China's high saving rate would have produced growth rates higher than the impressive ones generated so far if so much of the savings had not been used to preserve macroeconomic balance and social subsidies.

One major difference between Chinese industrial reforms and Polish and Russian reforms is that the former produced immediate growth while the latter produced immediate downsizing. The differences in economic structure and initial conditions explain the difference in response, and this is the third factor behind China's relative success. Sachs and Woo (1994) pointed out that, unlike Poland and Russia, China was not grossly overindustrialized, and the extent of central planning was smaller. China also had widespread underemployment in the countryside. Finally, China's reforms did not start in a situation of severe macroeconomic crisis and a severe external debt crisis that required the implementation of an austerity program. China has been developing its economy by having the TVEs employ the idle agriculture labor, while Poland and Russia have been attempting to tame inflation and restructure their fully employed economies simultaneously.

It is the failure to appreciate the importance of the differences in initial conditions that led Rana and Dowling (1993), among others, to urge Poland and Russia to adopt the Chinese two-track approach:

The approach of first encouraging the non-state sector [to grow] and then progressively reforming the public sector allows the growing private sector to absorb laid-off state employees, and is thus a relatively painless way of achieving reform.

The fact is that this purportedly humane flow of workers from the SOEs to the new non-state enterprises did not occur in China. The proportion of the Chinese labor force employed by state-owned units was 18% in 1978 and it was still 18% in 1992. This means that there were 32 million more Chinese working in state-owned units in 1992 than in 1978.

The labor for the new Chinese enterprises came entirely from the agricultural sector. Workers in state-owned enterprises did not shift to the nonstate enterprises because, thanks to various subsidies from the government, SOEs paid higher wages. SOEs provided generous pensions, heavily subsidized housing, medical coverage, child care, food, and recreational facilities. The Chinese peasants, receiving none of these benefits and consuming only one-third of what urban residents consumed, were hence only too glad to shift out of low-income agricultural activities to the new higher-income jobs.

<sup>30</sup> *China Daily*, February 1, 1993, p. 4.

In Russia, over 80% of the population is urban residents and SOE employees. Furthermore, Russian farmers receive the same income as SOE workers. So when the new nonstate sector was legalized, a SOE worker or farmer shifting into it would experience a drop in income because he would no longer receive the various subsidies and would pay taxes to support the subsidies to the SOEs. The point is that unless the subsidies to the SOEs are ended, there will be no voluntary movement by workers from the state enterprises to the new nonstate enterprises.

In short, growing out of the plan was not an option for Poland and Russia. The new Chinese enterprises were able to sprout without the SOEs releasing their labor only because of the great reservoir of surplus agricultural workers who were happy to take jobs in the new enterprises that pay less than the SOE wage.<sup>31</sup>

The fourth factor behind China's success in the 1980s were the two disastrous leftist campaigns, the Great Leap Forward of 1958–1962 and the Cultural Revolution of 1966–1976, both of which weakened the administrative capacity of the state and discredited central planning. As discussed earlier, the ending of Beijing's stranglehold over political power is fundamental to the continuation of economic reforms. The hold of the central bureaucracy over the country in 1978 had been badly reduced by the upheavals of the Cultural Revolution. Fairbank (1987) reported that the Cultural Revolution produced a 60% "purge rate among the Party officials" (p. 320). When Deng Xiaoping assumed the leading role in Chinese politics, instead of restoring the center's grip he quickly transferred a significant amount of economic policy-making power, which translated into a transfer of economic and political resources, to the provinces. The central ministerial and party apparatus were too politically exhausted to resist Deng's decentralization.

Adam Ulam (1964) has argued that "Marxism is about industrialism" (p. 60) because the appeal of Marxism comes from the psychological pains suffered by the population when the supplanting of agricultural activities by industrial activities rips apart the social fabric. The fact that the rejection of Marxist dogmas in China has occurred first and most broadly in the naturally conservative countryside is indicative of how profoundly the Great Leap Forward, which starved 30 million Chinese to death, and the Cultural Revolution had shaken the edifice of Stalinist rule.<sup>32</sup> One of the reasons for the slow decollectivization of Russian agriculture after 1991 is the foot-dragging by the apparatchiks in the regional agricultural ministries.

<sup>31</sup> Agence France Press (December 7, 1993) reported the agriculture Minister Liu Jiang as saying that there were 150 million excess farm workers. This is an astounding figure as the rural labor force is 450 million.

<sup>32</sup> Estimates of death ranged from 20 to 46 million; see Friedman et al. (1991, p. 244) and Salisbury (1992, p. 166).

The existence of family ties between the mainland Chinese and the overseas Chinese is the fifth factor. The explosive growth of the Special Economic Zones in southern China is caused by the wholesale movement of labor-intensive industries from Hong Kong and Taiwan that were losing their comparative advantage in these industries. China was closer, wages were lower, and language difficulties were nonexistent compared to the alternative sites in Southeast Asia. Managers could commute daily from Hong Kong to supervise their factories in Shenzhen. More importantly, family connections greatly reduced the transaction costs of the investment by providing reliable local supervisors, inside information on the enforcement of regulations, and contacts with the local authorities. The Kuomintang had conscripted villagers throughout China during the civil war. With the easing of travel restrictions on overseas Chinese, many old soldiers returned. News of the successful economic developments in the capitalist East Asian countries penetrated to the remotest of villages, hence undermining further the edifice of Stalinist dogmas.

Of the five factors identified as important causes of China's achievements in the 1978–1992 period, only the first two factors, development of the nonstate sector and a high saving rate, could be considered general lessons for economic reforms. The last three factors, structural features and initial conditions, the Chinese diaspora, and the debilitating mass campaigns, are specific to China's circumstances.

## 6. CONCLUSION

As the transitions from centrally planned economies to market economies are still incomplete in China, Poland, and Russia, the following three conclusions are necessarily tentative.

Our first conclusion is that the different results that we see in China, Poland, and Russia immediately after the implementation of different economic reform programs come more from their differences in economic structure than from the economic strategies implemented. China's reform problem is the classic development problem of moving surplus agricultural labor into industries, while Eastern Europe's and Russia's reform problem is the classic adjustment problem of moving employed labor from uncompetitive industries to newly emerging efficient industries. The fact is that economic development is easier than economic adjustment both practically and politically.

The Vietnamese experience confirms that it is incorrect to attribute the output decline in Poland in 1990 and 1991 to the big-bang approach. Vietnam undertook Chinese-style partial piecemeal reforms throughout the 1985–88 period. The only thing that went up was inflation, and low output growth continued. In 1989, Vietnam did a big bang; it curtailed credit

growth drastically, decollectivized agriculture, freed all but 12 prices, removed trade restrictions, set the exchange rate at the black market level, and legalized private economic activities; see Drabek (1990) and Dollar (1994). The result was an 8% growth rate in 1989 compared to 5% in 1988.

China's economic situation today looks much better than in 1978, but this is after 14 years of economic reform whereas the big bang in Poland occurred just 2 years ago. The correct comparison is between Poland of twelve years from now and China of today.

Our second conclusion is that the Chinese approach was possible only because it was blessed with a small SOE sector. China's SOE was small enough that its financial drain did not raise money creation sufficiently to cause a hyperinflation. Equally important was that the small number of SOEs made it possible for the government to retain some control over the enterprises, especially over their fulfillment of production quotas at plan prices. With the state still being able to monitor the SOEs, there has been no need to consider immediate privatization because widespread spontaneous privatization did not occur.

Our third conclusion is that the gradual reform in China was not the optimal reform for China. The gradual reform was not an economic strategy, it was a political outcome from the disagreement between the bird-brain adherents of the bird cage economy and the proponents of the market economy. In the wake of the failure of Gorbachev's gradual reform strategy, and, with it, the collapse of the Communist regime, the Chinese leadership in October 1992 declared that the final objective is a full market economy. Since there is now political consensus at the elite level, popular support for it at the mass level, and knowledge of the steps required to establish a market economy, it should not be surprising if China abandons gradualism and accelerates its economic reforms.

We end with the prediction that if socialism were to persist in China, it would be localized public ownership rather than centralized public ownership. Furthermore, it would be increasingly difficult to discern institutional differences between localized socialism and stockholder capitalism. While we are relatively sanguine about the emergence of marketplace democracy, voting for commodities with money, worldwide, we are very skeptical of Fukuyama's (1992) end of history vision that liberal democracy will inevitably triumph worldwide. The effective one-party rule in Japan, Korea, Singapore, Malaysia, Indonesia, and Taiwan are testimonies to the compatibility of a market economy with many political forms.

## REFERENCES

Ammeter-Inquirer, "Poland: Results of a Survey of Economic and Political Behavior." *Studies in Public Policy* No. 201, Centre for the Study of Public Policy, University of Strathclyde, Glasgow, 1992.

Berg, Andrew, "Radical Transformation of a Socialist Economy: Poland, 1989-91." Ph.D dissertation, Massachusetts Institute of Technology, 1993.

Brada, Josef, and King, Arthur, "Is There a J-Curve in the Economic Transition from Socialism to Capitalism." *Econom. Planning* 25, 1:37-54, 1992.

Brecher, Richard, and Diaz-Alejandro, Carlos, "Tariffs, Foreign Capital and Immiserizing Growth." *J. Internat. Econom.* 7, 4:317-322, Nov. 1977.

Chen, Kang, Jefferson, Gary, and Singh, Inderjit, "Lessons from China's Economic Reform." *J. Comp. Econom.* 16, 2:201-225, June 1992.

Dabrowski, Janusz, Federowicz, Michal, and Levitas, Anthony, "Polish State Enterprises and the Properties of Performance." *Politics and Society*, 19, 4:403-437, 1991.

Dollar, David, "Macroeconomic Management and the Transition to the Market in Vietnam." *J. Comp. Econom.* 18, 3:357-390, 1994.

Drabek, Zdenek, "A Case Study of a Gradual Approach to Economic Reform: The Vietnam Experience of 1985-1989." World Bank Report No. 1 DP74, 1990.

Edwards, Sebastian, "The Order of Liberalization of the External Sector." Princeton Essays on International Finance No. 156, 1984.

Fairbank, John, *The Great Chinese Revolution 1800-1985*. New York: Perennial Library, 1987.

Fan, Gang, and Woo, Wing Thye, "Decentralized Socialism and Macroeconomic Stability: Lessons from China." Working Paper No. 411, Economics Department, Univ. of California at Davis, Sept. 1992.

Fan, Qimiao, and Schaffer, Mark E., "Enterprise Reforms in Chinese and Polish State-Owned Industries." *Econom. Systems* 15, 2:211-242, Oct. 1991.

Friedman, Edward, Pickowicz, Paul, and Selden, Mark, *Chinese Village, Socialist State*. New Haven: Yale Univ. Press, 1991.

Fukuyama, Francis, *The End of History and the Last Man*. New York: Avon Books, 1992.

Goldman, Marshall, *What Went Wrong With Perestroika?* New York: Norton, 1991.

Griffin, Keith, and Khan, Azizur Rahman, "The Transition to Market Guided Economies: Lessons for Russia and Eastern Europe from the Chinese Experience." Manuscript, Mar. 1993.

Groves, Theodore, Hong, Yongmiao, McMillan, John, and Naughton, Barry, "Productivity Growth in Chinese State-Run Industry." In Furen Dong, Cyril Lin, and Barry Naughton, Eds., *Reform of China's State-Owned Enterprises*. London: Macmillan, in press.

Hamrin, Carol Lee, "Competing 'Policy Packages' in Post-Mao China." *Asian Survey* XXIV, 5:487-518, May 1984.

Harding, Harry, "Political Stability and Succession." In *China's Economy Looks Toward the Year 2000*. Washington, DC: Joint Economic Committee, U.S. Congress, May 1986.

Hewett, Ed, *Reforming the Soviet Economy: Equality versus Efficiency*. Washington, DC: Brookings Institution, 1988.

International Monetary Fund, The World Bank, Organization for Economic Cooperation and Development, and European Bank for Reconstruction and Development, *A Study of the Soviet Economy*. (3 volumes). Washington DC, 1991.

Jefferson, Gary, and Rawski, Thomas, and Zheng, Yuxin, "Growth, Efficiency, and Convergence in China's State and Collective Industry." *Econom. Develop. Cultural Change* 40, 2:239-266, Jan. 1992.

Lipton, David, and Sachs, Jeffrey, "Prospects for Russia's Economic Reform." *Brookings Pap. Econom. Act.* 2:213-265, 1992.

Luo, Xiaopeng, "Ownership and Status Stratification." In William Byrd and Lin Qingsong, Eds., *China's Rural Industry: Structure, Development, and Reform*. Oxford: Oxford Univ. Press, 1990.

McKinnon, Ronald, *The Order of Economic Liberalization: Financial Control in the Transition to a Market Economy*. Baltimore: Johns Hopkins, 1991.

McMillan, John, and Naughton, Barry, "How to Reform a Planned Economy." Manuscript, Nov. 1991.

Murphy, Kevin, Shleifer, Andrei, and Vishny, Robert, "The Transition to a Market Economy: Pitfalls of Partial Reform." *Quart. J. Econom.* **CVII**, 3:889-906, Aug. 1992.

Naughton, Barry, "Implications of the State Monopoly over Industry and Its Relaxation." Manuscript, January 1991.

Olson, Mancur, "Preface." In Christopher Clague and Gordon Rausser, Eds., *The Emergence of Market Economies in Eastern Europe*. London: Basil Blackwell, 1992.

Perkins, Dwight, "Reforming China's Economic System," *J. Econom. Lit.* **XXVI**, 2:601-645, June 1988.

Perkins, Dwight, "China's 'Gradual' Approach to Market Reforms." Manuscript, July 1992.

Rajewski, Z., "National Income." In L. Ziekowski, Ed., *The Results of the Polish Economic Transformation*. Warsaw: GUS/Polish Academy of Science, 1993.

Rana, Pradumna, and Dowling, Malcom, "Big Bang's Bust." *The Internat. Econom.*, Sept./Oct. 1993.

Robinson, Joan, *The Cultural Revolution in China*. London: Pelican, 1970.

Sachs, Jeffrey, and Woo, Wing Thye, "Structural Factors in the Economic Reforms of China, Eastern Europe and the Former Soviet Union." *Economic Policy* **18**, April 1994.

Salisbury, Harrison, *The New Emperors: China in the Era of Mao and Deng*. Boston: Little, Brown and Company, 1992.

Ulam, Adam, *The Unfinished Revolution: An Essay on the Sources of Influence of Marxism and Communism*. New York: Vintage Books, 1964.

van Wijnbergen, Sweder, "Intertemporal Speculation, Shortages and the Political Economy of Price Reform." *Econom. J.* **102**, 415:1395-1406, Nov. 1992.

Wei, Shang-Jin, "Gradualism versus Big Bang: Speed and Sustainability of Reforms." Manuscript, March 1993.

Winiecki, Jan, "The Inevitability of a Fall in Output in the Early Stages of Transition to the Market: Theoretical Underpinnings." *Soviet Stud.* **43**, 4:669-676, 1991.

Woo, Wing Thye, Hai, Wen, Jin, Jinbiao, and Fan, Gang, "How Successful Has Chinese Enterprise Reforms Been? Pitfalls in Opposite Biases and Focus." *J. Comp. Econom.* **18**, 3:438-469, June 1994.

Woo, Wing Thye, Glassburner, Bruce, and Nasution, Anwar, *Macroeconomic Policies, Crises and Long-Run Growth: The Case of Indonesia, 1965-90*. Washington, DC: The World Bank, in press.

World Bank, *China: Macroeconomic Stability and Industrial Growth under Decentralized Socialism*. Washington, DC: The World Bank, 1990.

Xiao, Geng, "State Enterprises in China: Dealing with Loss-makers." *Transition* **2**, 11:1-3, Dec. 1991.

Zhao, Renwei, "Some Special Phenomena in Income Distribution During China's Transition Period." *Econom. Res. (Jingji Yanjiu)* **1**:53-63, 1992. [In Chinese]