

Reform and Development in China: A New Institutional Economics Perspective

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The success of China's approach to transition has produced many challenges to the conventional wisdom in economic theory. The transition in essence is a process of institutional changes from those of a planned economy to those of a market economy. In the paper we argue that the economic institutions of the planned economy are endogenously shaped by the adoption of a comparative advantage-defying (hereafter CAD strategy) heavy-industry-oriented development strategy in a capital scarce economy. It is, hence, suggested the completion of China's transition to a market economy, which requires the elimination of institutional distortions in the planned economy, depends on final resolution of viability issue of enterprises in CADs priority sectors.

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I. Introduction

One of the most important events in the modern economic history is the socialist countries, transition from the Soviet-type planned economy to a market economy starting in the last two

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decades of the 20th Century. China's experience of transition has produced many interesting contrasts to the experiences of transition in Eastern Europe and Former Soviet Union (EEFSU). When the transition started in EEFSU, most economists in the West favoured a big bang approach, which included stabilization, price liberalization, and privatization. They considered these three reforms to be necessary for a successful transition to a market economy and attempted to complete all these reforms simultaneously or in a short sequence (Blanchard *et al.* 1991; Gomulka 1989; Kahn and Richardson 1991; and Lipton and Sachs 1990). The big bang approach in essence is a version of the Washington Consensus, which is based on the basic principles of the neoclassical economics for a well-functioning market economy and was recommended by the IMF/World Bank for market-oriented reforms in the developing countries. Proponents of the big bang approach expected the transition in EEFSU to have a "J-curve" effect on economic growth; that is, they expected the GDP in a country that implemented the big bang approach to decline initially and then to be followed by a strong recovery in a short period of time. Most countries in EEFSU followed this approach. The big bang approach, nevertheless, has resulted in an unexpected sharp and prolonged decline in GDP with extraordinarily high inflation rates and serious deterioration of other social indicators (World Bank 1996, 2002).¹

China has adopted an alternative gradual, evolutionary approach to the transition since the reform started at the end of 1978. This approach is piecemeal, partial, incremental, often experimental, and especially without large-scale privatization.² The Chinese approach is neither guided by a well-founded theory nor followed a pre-determined blueprint. Some economists regard this approach to be

¹The cumulative output decline in countries in Central and Southeastern Europe and the Baltics reached 22.6% and in countries in the Commonwealth of Independent States reached 50.5%. In 2000, Russia's GDP was only 64% of what it had been in 1990, while in 2000 the GDP of Poland, the best performing countries in EEFSU, increased only 44%, compared to that in 1990. Certainly the collapse of international trade due to the demise of CMEA has also contributed to the decline of GNP in these countries. However, the big bang approach was undoubtedly a major cause of these downfalls (Brada and King 1991; and Csaki 1994).

²To a large extent, the reform measures and sequencing adopted in Vietnam and Lao is very similar to those of China. There seems to be a common East Asian model of transition.

fatally flawed and self-defeating,³ while the big bang approach is theoretically perfect and feasible (Sachs 1993; and Murphy, Shleifer, and Vishny 1992). In the late 1980s, many observers predicted the reforms in China would lead to nowhere, and its experience provided a useful, negative lesson for the EEFSU (Prybyla 1990, p. 194). However, contrasting the economic collapse and social crisis in EEFSU, China has become the fastest growing country in the world ever since the transition started. China has also successfully controlled the inflation at an acceptable level.⁴

The success of China's approach to transition so far has produced many challenges to conventional wisdom in economic theory (Chow 1997; and Perkins 2002). This approach violates almost all basic propositions for a successful transition from a planned economy to a market economy that are identified by many economists advising the former socialist countries in the early phase of their transition.⁵ The success has puzzled many economists (Nolan 1995). Some economists attribute the China's success to the their unique initial conditions, namely, a large agricultural labor force, low subsidies to population, a rather decentralized economic system, and a large amount of wealthy overseas Chinese (Balcerowicz 1994; Woo 1993; Sachs and Woo 1994 and 1997; and Qian and Xu 1994).⁶ According to these economists, China's experience does not have general implications

³In the words of Vaclav Klaus, former Finance Minister of Czechoslovakia, "Partial reform in a distorted economy is worse than no reform." (quoted in Wiles 1995, p. 56)

⁴China's annual GDP growth rate reached 9.4% in 1979-2002; whereas the inflation rate, measured by the retail price index, was 5.3% annually in the same period.

⁵The basic propositions, according to Nolan (1995, pp. 401-2), include: 1) 'market socialism' cannot work; 2) institutional reform cannot be successful unless there is macroeconomic stability; 3) enterprises' attempts to make profits will not produce socially desirable outcomes unless prices are determined by market forces; 4) economic progress will be greatly inhibited unless the economy is fully integrated into the world economy; 5) the pace of the transition from central planning needs to be rapid; and 6) and democratic political institutions are a necessary condition of success with economic reform.

⁶However, the initial conditions are not necessarily to the net advantage of China's transition. See the insightful discussion by Chang and Nolan (1995).

because China's initial conditions are unique. However, other economists suggest that China's success poses a challenge to the wisdom of Washington Consensus which considers stabilization, market liberalization, and privatization as necessary components to a successful transition, and the Chinese experience demonstrates the superiority of evolutionary, experimental, and bottom-up reforms over the comprehensive and top-down big bang approach (Chen *et al.* 1992; Harrold 1992; Jefferson and Rawski 1995; McKinnon 1994; McMillan and Naughton 1992; Murrell 1991, 1992; Perkins 1992; Rana 1995; Rawski 1995; and Singh 1991).

When the transition started in EEFSU, the socialist ideology had bankrupted. In addition to the fact that there was no theory supporting a gradual switch of system (Aslund 1991, p. 37), a new ideology of capitalist triumphalism prevailed.⁷ Therefore, the countries in the EEFSU intended to have a rapid and comprehensive change and expected to jump to a market economy in a short period of time.⁸ However, as reviewed by the *1996 World Development Report*, the experience in Poland and other countries shows that although stabilization and liberalization can be implemented quickly, privatization may take a number of years to accomplish, the development of market supporting institutions, such as legal and financial systems, will take years, even decades.⁹ Therefore, no

⁷The capitalist triumphalism, as defined by Wiles (1995, p. 48), is "Thatcherism plus optimism: *i.e.* monetarism plus privatization plus dogmatism, but also irresponsible (*i.e.*, not Thatcherie) versions of easy success."

⁸The instruction to Jeffrey Sachs, when he was invited to advise the reform programs by Solidarity leadership in Poland in July 1989, reflected the general mood: "Give us the outline that you see fit. But make it a program of rapid and comprehensive change. And please, start the outline with the words, 'With this program, Poland will jump to the market economy.' We want to move quickly; that is the only way that this will make sense to our society, that it will make sense politically, and—as we understand from experts—the only way it will make sense economically as well." (Sachs 1993, pp. 43-4).

⁹Even Jeffrey Sachs, the most famous proponent of big bang approach, changed his position on the speed of privatization. In the 1991 World Bank Annual Conference on Development Economics, he proposed to accelerate the privatization in Poland and argued that, otherwise, the entire process of transition would be stalled for years to come (Sachs 1991). In his later writings, he only argues that the government of a transition economy to have a commitment to privatization (Sachs and Woo 1997).

matter what approach is adopted, the transition from a centrally planned system to a market system in any country, in fact, will necessarily be a gradual process. During the process of a gradual transition, the effectiveness of any individual institutional arrangement cannot be ascertained *a priori* because the function of an individual institutional arrangement depends on the functions of other institutional arrangements in the institutional structure (Lin and Nugent 1995). Despite that market system is accepted as the final goal of transition and what makes a market system work are known to economists and policy makers, the goal and knowledge do not provide much guidance for a smooth transition. Therefore, it is desirable to have a better understanding about China's experiences, how China's transitions could have been accompanied by rapid and stable economic growth, whether the Chinese approach has any generalizable lessons for other economies in transition.

The transition in essence is a process of institutional changes from those of a planned economy to those of a market economy. In the paper we will argue that the economic institutions of the planned economy are endogenously shaped by the adoption of a comparative advantage-defying heavy-industry-oriented development strategy in a capital scarce economy (hereafter CAD strategy). This strategy makes enterprises in the priority sectors of CAD strategy nonviable in an open, competitive market. Many institutional distortions in the planned economy are required for protecting and subsidizing those nonviable enterprises in the CAD strategy. The shock therapy, which attempts to eliminate the institutional distortions simultaneously, causes economic collapse due to the fact that this transition approach neglects the endogenous nature of those distortions. The gradual approach in China achieves dynamic growth because this approach continues to provide protections and subsidies to the nonviable enterprises while allowing for entry of enterprises, which are consistent with China's comparative advantages. The completion of China's transition to a market economy, which requires the elimination of institutional distortions in the planned economy, depends on final resolution of viability issue of enterprises in CAD's priority sectors.

The organization of the paper is as follows: Section II discusses the logic origin of economic institutions in a planned economy and many economic problems before and after the transitions in China and EEFSU. In section III, we will provide a review of the process

of reforms in China. Some lessons from the Chinese experience are presented in Section IV. It is followed by the concluding remarks in Section V.

II. Development Strategy and Institutions in Traditional Socialist Economic System

Due to the differences in the stage of development, agriculture was a larger sector in China than that in EEFSU. Despite this difference, the nature and problems of the economic system in China and in FSUEE were very similar (McKinnon 1995). They all had a Soviet-type planning economic system before the transition.¹⁰ It is recognized that the economic institutions in a Soviet-type economy is a coherent whole with its own inherent logic, necessary components, and natural interaction of those components (Ericson 1991; and Kornai 1992). Lin, Cai, and Li (2003) show that the economic institutions in a Soviet-type planning economy were endogenous to the choice of a CAD strategy in a capital-scarce economy.

We will first analyse the effect of a CAD strategy on the formation of economic institutions, using the Chinese case as an example. China's pre-reform economic structure had three integrated institutional components: (1) a distorted macro-policy environment which featured artificially depressed interest rates, over-valued exchange rates, low nominal wage rates as well as low price levels for living necessities and raw materials; (2) a planned allocation mechanism for credit, foreign exchange, and other materials; and (3) a traditional micro-management system of State-owned Enterprises (hereafter SOEs) and collective agriculture. These three institutional components were endogenous to the choice of the CAD strategy in a capital-scarce agrarian economy, although the specific institutional arrangements that were actually adopted in China were also shaped by socialist ideology, the Chinese Communist Party's experience during the revolution, and the Chinese government's political capacity.¹¹

¹⁰Even although Hungary and Poland had been experimenting market liberalization for over a decade before the rush to liberalization after 1989, the broad outlines of their economies were still those of the Soviet model (Lavigne 1995).

At the founding of the People's Republic in 1949, the Chinese government inherited a war-torn agrarian economy in which 89.4 percent of the population resided in rural areas and the industrial sector contributed only 12.6 percent to the national income. At that time, a developed heavy-industry sector was the symbol of a nation's power and economic achievement. Like government leaders in India and in many other newly independent developing countries, Chinese leaders certainly intended to accelerate the development of heavy industries. After China's involvement in the Korean War in 1950, with its resulting embargo and isolation from the Western nations, the catching up to the industrialized powers had become a necessity for national security. In addition, the Soviet Union's outstanding record of nation building in the 1930s, in contrast to those of the Great Depression in the Western market economies, provided the Chinese leadership with both inspiration and experience for adopting a CAD strategy for accelerating China's development. Therefore, after recovering from wartime destruction in 1953, the Chinese government set it as the priority the development of heavy industry. The goal was to build, as rapidly as possible, the country's capacity to produce capital goods and military materials. This development strategy was shaped up through a series of Five-Year Plans.¹²

Heavy industry is capital intensive. China was a capital-scarce, low-income, agrarian economy in the 1950s. Therefore, the capital-intensive heavy industry was not China's comparative advantage at that time. The construction of a heavy-industry project in a developing country has three characteristics: 1) it requires a long gestation;¹³ 2) most equipment for a project, at

¹¹Perkins and Yusuf (1984, p. 4) noted that a unique feature of China's economic development under socialism was the government's capacity to implement village-level programs nationwide through bureaucratic and Party channels. Therefore, the Chinese government was able to impose certain institutional arrangements, such as the collective farming system instead of the Soviets state farms, in the economy, deemed as important by ideology or by economic rationality, which may not be feasible in other economies (Perkins 1966).

¹²The Five-Year Plan was disrupted from 1963-5, the period immediately after the agricultural crisis of 1959-62. The first to the seventh Five-Year Plans covered, respectively, the periods from 1952-7, 1958-62, 1966-70, 1971-5, 1975-80, 1981-5, and 1986-90.

¹³The construction of a light-industry project, such as a small textile

least in the initial stage, need to be imported from the relatively advanced economies; and 3) each project requires a lump-sum investment. When the Chinese government initiated this strategy in the early 1950s, the Chinese economy also had three distinct characteristics: 1) the available capital was limited, and, consequently, the market interest rate was high;¹⁴ 2) foreign exchange was scarce and expensive because exportable goods were limited and primarily consisted of low-price agricultural products; and 3) the economic surplus was small and scattered to widespread household farms due to China nature of a densely-populated poor agrarian economy. Because the three characteristics of Chinese economy were mismatched with the three characteristics of a heavy industry project, enterprises in the priority sectors were not viable in an open, competitive market (Lin 2003) and a spontaneous development of the capital-intensive industry in Chinese economy was impossible.¹⁵ Therefore, a set of distortions was required for the development of heavy industry. At the beginning of the first Five-Year Plan, the government instituted a policy of low interest rates and over-valued exchange rates to reduce both the costs of

factory, takes one or two years to complete. The construction of a large heavy-industry project, in general, takes a much longer time. For example, in China the average construction time for a metallurgy plant is 7 years, for a chemical plant is 5-6 years, and for a machine-building plant is 3-4 year (Li and Zheng 1989, p. 170).

¹⁴Three percent per month was a normal interest rate in the informal financial markets that existed before the adoption of the development strategy. It is equivalent to 36 percent per year.

¹⁵A spontaneous development of heavy industry was impossible for several reasons. First, the high interest rates would make any project that requires a long gestation unfeasible. For example, it takes on average 7 years in China to complete the construction of a metallurgy plant, as indicated in footnote 13. The market interest rate in the early 1950s in China was about 30 percent per year (2.5 percent per month). Suppose the fund for the project was borrowed at market rate and repayment was made after the completion of the project. The principal and interest payment, calculated at a compound rate, for each dollar borrowed at the first year of the project would be 6.27 dollars. It is obvious that no project would be profitable enough to shoulder such a high interest burden. Second, since most equipment needed to be imported from advanced countries, the limited supply of foreign exchange again made the construction of heavy industry expensive under the market-determined exchange rate. Third, because the agricultural surplus was small and scattered, it was difficult to mobilize enough funds for any lump-sum project.

interest payments and of importing equipment.¹⁶ Meanwhile, in order to secure enough funds for industrial expansion, a policy of low input prices, including nominal wage rates for workers¹⁷ and prices for raw materials, energy and transportation, evolved alongside the adoption of this development strategy. The assumption was that low prices would enable the enterprises to create profits large enough to repay the loans or to accumulate sufficient fund for reinvestment. If the enterprises were privately owned, the State could not be sure that the private entrepreneurs would reinvest the policy-created profits on the intended projects.¹⁸ Therefore, private enterprises were soon nationalized¹⁹ and new key enterprises were owned by the State to secure the State's control over profits for reinvestment in the heavy-industry projects. Meanwhile, to make the low nominal-wage policy feasible, the government had to provide urban residents with inexpensive food and other necessities, including housing, medical care, and clothing. The low interest rates, over-valued exchange rates, low

¹⁶For example, the interest rate on bank loans was officially reduced from 30 percent per year to about five percent per year. For a one-dollar fund borrowed at the beginning of a 7 year project, the principal and interest payment at the time that the project was completed would be reduced from 6.27 dollars to 1.41 dollars.

¹⁷Despite the real GNP per capita had tripled between 1952 and 1978, the nominal wage was kept almost constant, increasing only 10.3 percent, during the same period (*China State Statistical Yearbook* 1987, p. 151). However, because of in-kind subsidies, the real wages to urban workers were not as low as the nominal wages suggested. Moreover, urban wage rates may decline sharply if the restriction on the rural-urban migration is removed. We owe this point to an anonymous referee. For a more detailed discussion of the formation of low nominal-wage policy, see, for example, Cheng (1982, Chap. 8) and Wu (1965, Chap. 4).

¹⁸Even with all the above price distortions that facilitate the heavy-industry development in China, the time period required by a heavy-industry project to earn back the capital investment was, on average, about 4 to 5 times longer than the period required by a light-industry project (Li 1983, p. 37). Therefore, a profit-maximizing private owner would have higher incentives to invest in a light-industry project.

¹⁹Under the New Democracy Policy, adopted by the Communist Party in the late 1940s, private enterprises were supposed to coexist with State-owned enterprises for an extended period after the revolution. However, the enterprises were soon nationalized after 1952 when the government adopted the CAD STRATEGY. The attempt to secure profits for the heavy-industry projects was the motivation for the government's change in position toward private enterprises.

nominal wage rates, and low prices for raw materials and living necessities constituted the basic macro policy environment of the CAD strategy.²⁰

The above distortions induced a total imbalance in the supply and demand for credit, foreign exchange, raw materials, and other living necessities. Because non-priority sectors would be competing with the priority sectors for the low-priced resources, plans and administrative controls replaced markets as the mechanism for allocating scarce credit, foreign reserves, raw materials, and living necessities, ensuring that limited resources would be used for the targeted projects. Moreover, the State monopolized banks, foreign trade, and material distribution systems.²¹

In this way competition was suppressed, and profits ceased to be the measure of an enterprise's efficiency.²² Because of the lack of market discipline, managerial discretion was potentially a serious problem. Managers of SOEs were deprived of autonomy to mitigate

²⁰Theoretically, the government could use subsidies instead of distorting the price signals as a means to facilitate the development of capital-intensive heavy industry in a capital-scarce economy. It can be shown that the subsidy policy is more efficient economically than the policy of price distortion. However, with the subsidy policy, the heavy industry would incur a huge explicit loss and the government would have to tax other sectors heavily to subsidize the loss. Under such circumstances, the government would find it difficult to defend its position of accelerating the development of heavy industry. Moreover, the government in an underdeveloped economy may not have the ability to collect huge taxes. This may explain why governments, not only in socialist economies but also in capitalist economies, use price distortions instead of subsidies to facilitate the development of priority sectors.

²¹In the literature in China and other socialist countries, many authors presumed that the distorted policy environment and the administrative controls were shaped by socialist doctrines. The socialist ideology might play a role in the formation of these policies, however, the existence of these policies and controls also have an economic rationale. They facilitate the implementation of a CAD strategy in a capital-scarce economy. This explains why non-socialist developing economies, such as India, also had a similar policy environment and administrative controls when they adopted the same development strategy.

²²An enterprise is bound to be loss-making if its outputs happen to be inputs to the other sectors, for example energy and transportation, because the prices of its outputs are suppressed. On the contrary, an enterprise is bound to be profit-making if its outputs are at the low end of the industrial chain, because the enterprise can enjoy low input prices and high output prices at the same time.

this problem.²³ The production of SOEs was dictated by mandatory plans and furnished with most of their material inputs through an administrative allocation system. The prices of their products were determined by the pricing authorities. Government agencies controlled the circulation of their products. The wages and salaries of workers and managers were determined not by their performance but by their education, age, position and other criteria according to a national wage scale. Investment and working capital were mostly financed by appropriations from the State budget or loans from the banking system according to State plans. The SOEs remitted all their profits, if any, to the State and the State budget would also cover all losses incurred by the enterprises. In short, the SOEs were like puppets. They did not have any autonomy over the employment of workers, the use of profits, the plan of production, the supplies of inputs, and the marketing of their products.

The development strategy and the resulting policy environment and allocation system also shaped the evolution of farming institutions in China. In order to secure cheap supplies of grain and other agricultural products for urban low-price rationing, a compulsory procurement policy was imposed in the rural areas in 1953. This policy obliged peasants to sell set quantities of their produce, including grain, cotton, and edible oils to the State at government-set prices (Perkins 1966, Chap. 4).

In addition to providing cheap food for industrialization, agriculture was also the main foreign-exchange earner. In the 1950s, agricultural products alone made up over 40 percent of all exports. If processed agricultural products were also counted, agriculture contributed to more than 60 percent of China's foreign exchange earnings up to the 1970s. Because foreign exchange was as important as capital for the CAD strategy, the country's capacity to import capital goods for industrialization in the early stage of development clearly depended on agriculture's performance.

Agricultural development required resources and investment as much as industrial development. The government, however, was reluctant to divert scarce resources and funds from industry to

²³The state enterprises were granted some autonomy after the reforms in the late 1970s. As expected, one of the results of this reform was a rapid increase in wages, bonuses and fringe benefits at the expense of the enterprise's profits.

agriculture. Therefore, alongside the CAD strategy, the government adopted a new agricultural development strategy that would not compete for resources with industrial expansion. The core of this strategy involved the mass mobilization of rural labour to work on labour-intensive investment projects, such as irrigation, flood control, and land reclamation, and to raise unit yields in agriculture through traditional methods and inputs, such as closer planting, more careful weeding, and the use of more organic fertilizer. The government believed that collectivization of agriculture would ensure these functions. The government also viewed collectivization as a convenient vehicle to effect the State's low-priced procurement program of grain and other agricultural products (Luo 1985). Income distribution in the collectives was based on each collective member's contribution to the agricultural production. However, monitoring a member's effort is extremely difficult in agricultural production due to dimensions of time and space. The remuneration system in the collectives was basically egalitarian (Lin 1988).

The price distortions, planned allocation system, and micro-management institutions outlined above all made the maximum mobilization of resources for the development of heavy industry possible in a capital-scarce economy. Since most private initiative in economic activities was prohibited, the pattern of the government's investment was the best indicator of the bias in the official development strategy. Despite the fact that more than three-quarters of China's population lived on the agriculture and labor-intensive light industries were consistent with China's comparative advantages, agriculture and light industries each received a slight share of less than 10 percent of the State investment in the period 1953-85, while 45 percent of the State investment went to heavy industry. As a result, the value of heavy industry in the combined total value of agriculture and industry grew from 15 percent in 1952 to about 40 percent in the 1970s.²⁴

²⁴When the reforms started in 1979, the government initially planned to increase the share of agriculture in the State fixed capital investment from 11% in 1978 to 18% in the following 3 to 5 years. Due to the rapid agricultural growth brought about by the rural reforms, agriculture's share in the State fixed capital investment actually declined sharply to only about 3% in the late 1980s and early 1990s. However, the share of total fixed capital investment in agriculture in the nation as a whole did not decline

Judging from China's sector composition, the trinity of traditional planning institutions—the price distortions, the planned allocation system, and the puppet-like micro-management institution—reached its intended goal of setting up the nonviable firms in the priority sectors of CAD strategy in order to accelerate the development of heavy industry in China. Nevertheless, China had paid a high price for such an achievement. The economy is very inefficient due to two reasons: 1) low allocative efficiency because of the deviation of the industrial structure from the pattern dictated by the comparative advantages of the economy, and 2) low technical efficiency due to managers' and workers' low incentives to work. As a result, the economy was very inefficient. The most important indicator reflecting such inefficiency was the extremely low rate of total factor productivity growth in China. A World Bank study shows that, even calculated at the most favourable terms, the growth rate was merely 0.5% between 1952-81, only a quarter of the average growth rate of 19 developing countries included in the study (World Bank 1985a). Moreover, the total factor productivity of China's SOEs was in a state of stagnation or even negative growth during the period of 1957-82 (World Bank 1985b).

III. China's Approach to Transition

The institutional arrangements in a Soviet-type planning economy were very good at mobilizing scarce resources for investment in a few clear, well-defined priority sectors (Ericson 1991).²⁵ However, in China as well as in the EEFSU, the economy all encountered

so much as the figures suggest, because part of the decline in the State investment was compensated by an increase in farmers' investment (Feder *et al.* 1992). Similarly, the share of heavy industry in the state fixed capital investment did not decline after the reforms in 1979. However, the state's share in the total investment declined from 82% in 1980 to 66% in 1990. The non-state sectors' investments are mostly on projects that are less capital intensive. Therefore, the share of heavy industry in the nation's fixed capital investment is less than the share in the State investment.

²⁵An evidence to support the above argument is the fact that, compared to the non-socialist economies at similar levels of economic development, the socialist economies, no matter they were in the East Asia or in the Eastern Europe or USSR, all had much larger industrial, especially heavy-industry, sectors (Rana 1995; and Lavigne 1995).

similar difficulties associated with low allocative and technical efficiency. Although the problems that China faced were similar to those in the EEFSU, China adopted an approach very different from that at EEFSU. First, China pursued *perestroika* (economic restructuring) to stimulate the dynamism of the economy but avoid *glasnost* (political openness) to avoid the collapse of the Communist party. The Chinese approach in essence is a "micro" first approach (McKinnon 1995), which is different from not only the big bang approach in the EEFSU but also the IMF/World Bank's standard approach for restructuring, which recommended a "micro" first approach to transition.²⁶ In China, the transition started with the de-collectivization of agriculture, the improvement of the governance of state-owned enterprise through the enlargement of enterprise autonomy, the promotion of non-state enterprises that face hard budget constraints, and the introduction of a dual-track system to prices and exchange rate before their liberalization. In China, the process did not involve mass privatization. SOEs maintained its dominant role in the industrial sector. Through this cautious and gradual approach, these economies have been able to replace the traditional Soviet-type system with a market system meanwhile maintaining remarkable records of growth and price stability during the transition process.

For the governments in the Eastern Europe, the objective of transition was clearly defined at the very beginning as "to replicate the economic institutions of Western Europe" (Sachs and Lipton 1990, p. 47). However, in China the goal was simply to improve the efficiency of the economic system and the reform did not have a well-designed strategy or policy measures. For example, as Perkins (1988, p. 601) observed, it was unlikely that China's leaders at that time had worked out a blueprint when they set out to reform the economic system. Instead of being designed *a priori*, the choice of

²⁶The first priority in the IMF/World Bank approach is fiscal control. This requires an organized internal revenue service capable of collecting taxes from households and liberalized enterprises in both agriculture and industry. After fiscal control, the interest rates can be liberalized and the money and credit are hardened to stabilize the prices. Before the removing of trade restrictions, foreign exchange rate should be unified. The last stage of the reform is the full capital account convertibility, which should wait until domestic financial liberalization has been completed and established (Rana 1995, pp. 14-5).

specific reform measure and the sequence of transition reflected the government's pragmatism toward the problems or crisis that emerged in the economic system and the opportunities that can be utilized to mitigate or solve the problems. The philosophy of government decision towards specific reform measures is best reflected by Deng Xiaoping's famous saying: "No matter it is a white cat or black cat, as long as it can catch mouse, it is a good cat." The sequencing of reform measures is best described by another Chinese saying: "To cross a river by groping the stones." However, retrospectively, the transition process in China followed a logical process that is predictable from the internal logic of Soviet-type economy (Lin, Cai, and Li 2003, Chap. 5).

As discussed, the institutions in a Soviet-type economy are endogenous to the adoption of a CAD strategy in a capital-scarce economy. The main fault in this economic system was low economic efficiency arising from structural imbalance and incentive problems. Before the late 1970s, the Chinese government had made several attempts to address the structural problems by decentralizing the resource allocation mechanism.²⁷ However, the administrative nature of the allocation mechanism was not changed and the price distortions and managerial system were not altered, and thus the attempts to rectify the structural imbalance and improve economic incentives had failed. The goals of the reform in late 1978 were also to rectify the structural imbalance and improve incentives. However, what set the reforms apart from previous attempts were the micro-management system reforms, which made farmers and managers and workers in SOEs partial residual claimants. This small crack in the trinity of the traditional economic system was eventually pried open, leading to the gradual dismantlement of the traditional system, and the emergency of a market system.

A. The Micro-Management System Reforms

The most important change in the micro-management system was the replacement of collective farming with a household-based system, which is now known as the household responsibility system. In the beginning, the government had not intended to

²⁷The first attempt was made in 1958-60, the second in 1961-5, and the third in 1966-76 (Wu and Zhang 1993, pp. 65-7).

change the farming institutions. The government had recognized in 1978 that solving managerial problems within the collective system was the key to improving farmers' incentives. However, in the resolution adopted by the third Plenum of the Eleventh Central Committee of CPC, which marked the start of transition in China, any type of household-based farming arrangement was explicitly prohibited. Nevertheless, a collective in a poverty-stricken area began to try out secretly a system of leasing a collective's land and dividing the obligatory procurement quotas to individual households in the collective in late 1978. That area was hit by a drought in that year. All other collectives reported sharp reduction in output. The output in that collective did not report decline but increased 30 percent. Observing the advantage of the household-based farming system in improving agricultural production, the central authorities later conceded to the existence of this new form of farming, but requested that it be restricted to the poor agricultural regions, mainly to hilly or mountainous areas, and to the poor collectives in which people had lost confidence in the collective system. However, this restriction was ignored in most regions. Production improved after a collective adopted the new system, regardless of its relative wealth or poverty. Full official recognition of the household responsibility system as a "socialist" farming institution and applicable to any collective in China was eventually given in late 1982. By that time, 45 percent of the collectives in China had already been dismantled and had instituted the household responsibility system. By the end of 1983, 98 percent of agricultural collectives in China had adopted this new system. When the household responsibility system first appeared, the land lease was limited to only one to three years. However, the short lease reduced farmers' incentives for land-improvement investment. The lease contract was allowed for an extension to 15 years in 1984. In 1993, the government allowed the lease contract to be extended for another 30 years after the expiration of the first contract.

Unlike the spontaneous nature of farming institution reform, reforms in the management system of the SOEs were initiated by the State. These reforms have undergone four stages. The first stage (1979-83) emphasized several important experimental initiatives that were intended to allow for greater enterprise autonomy and to expand the role of financial incentives within the traditional

economic system. These measures included the introduction of profit retention and performance-related bonuses and permitted the SOEs to produce outside the mandatory State plan. The enterprises involved in exports were allowed to retain part of their foreign exchange earnings for use at their own discretion. In the second stage (1984-6) the emphasis shifted to a formalization of the financial obligations of the SOEs to the government and exposed enterprises to market influences. From 1983, profit remittances to the government were replaced by a profit tax. In 1984, the government allowed SOEs to sell output in excess of quotas at negotiated prices and to plan their output accordingly, thus establishing the dual-track price system. In the third stage (1987-92), the contract responsibility system, which attempted to clarify the authority and responsibilities of enterprise managers, was formalized and widely adopted. The last stage (1993-present) attempted to introduce the modern corporate system to the SOEs. In each stage of the reform, the government's intervention was reduced further and the SOEs gained more autonomy.

The reform of the micro-management system has achieved its intended goal of improving technical efficiency. Empirical estimates show that almost half of the 42.2 percent growth of output in the cropping sector in the years 1978-84 was driven by productivity change brought about by the reforms. Furthermore, almost all of the above productivity growth was attributable to the changes resulting from the introduction of the household responsibility system (Fan 1991; Huang and Rozelle 1996; Lin 1992; McMillan *et al.* 1989; and Wen 1993).²⁸ Production function estimates by several studies find that for industry the increase in enterprise autonomy increased productivity in the SOEs (Chen *et al.* 1988; Gordon and Li 1991; Dollar 1990; Jefferson *et al.* 1992; Groves *et al.* 1994; and Li 1997).²⁹ Therefore, the reforms in micro-management system in both agriculture and industry have created a flow of new resources, an important feature of China's reforms.

The increase in enterprise autonomy under a distorted macro-policy environment, however, also invited the discretionary behavior

²⁸Similar gain in agricultural productivity was also observed in Vietnam's agricultural de-collectivization (Pingali and Xuan 1992).

²⁹Similar productivity gain is also reported for Vietnam's State-owned enterprises. See the empirical studies cited in Sun (1997, pp. 3-4).

of the managers and the workers. Despite an improvement in productivity, the profitability of the SOEs declined and the government's subsidies increased due to both a faster increase in wages, fringe benefits, and other unauthorized expenditures (Fan and Schaffer 1991) and the competition from the autonomous township-and-village enterprises (TVEs) (Jefferson and Rawski 1995).³⁰ However, once the enterprises had tasted the fruits of autonomy, it would have been politically too costly to revoke it. The decline in the profits of SOEs and the competition from TVEs forced the government to adopt other measures that further increased the autonomy of SOEs in the hope that the new measures would make the enterprises financially independent.

B. Resource Allocation Mechanism Reform

The increase in enterprise autonomy put pressure on the planned distribution system. Because the SOEs were allowed to produce outside the mandatory plans, the enterprises needed to obtain additional inputs and to sell the extra outputs outside the planned distribution system. Under pressure from the enterprises, material supplies were progressively de-linked from the plan, and retail commerce was gradually deregulated. At the beginning, certain key inputs remained controlled. However, the controlled items were increasingly reduced. Centralized credit rationing was also delegated to local banks at the end of 1984.

An unexpected effect of the relaxation of the resources allocation mechanism was the rapid growth of the non-state enterprises, especially the TVEs.³¹ Rural industry already existed under the traditional system as a result of the government's decision to mechanize agriculture and to develop rural processing industries to

³⁰We will discuss the emergence of TVEs and its impacts on the reform of SOEs in the following subsection.

³¹The non-state enterprises include the TVEs, the private enterprises, and joint-venture enterprises, overseas Chinese enterprises, and foreign enterprises. Among them, the TVEs are the most important in terms of output share and number of enterprises. It is noteworthy that TVEs, although different in many aspects from SOEs, are public enterprises that are funded, owned, and supervised by the township or village governments. A enterprise-level study found that there is no essential difference in the allocation of control rights between the SOEs and TVEs (Jefferson, Zhao, and Lu 1995).

finance the mechanization in 1971. In 1978 the output of TVEs consisted of 7.2 percent of the total value of industrial output in China. Before the reforms, the growth of TVEs was severely constrained by access to credits, raw materials and markets. The reforms created two favorable conditions for the rapid expansion of TVEs. 1) A new stream of surpluses brought out by the household responsibility reform provided a resource base for new investment activities. 2) The relaxation of rigidity in the traditional planned allocation mechanism provided access to key raw materials and markets. In the period 1981-91, the number of TVEs, employment, and the total output value grew at an average annual rate of 26.6%, 11.2%, and 29.6%, respectively. TVEs' annual growth rate in total output value was three times that of the State enterprises in the same period. In 1993, TVEs' output accounted for 38.1 percent of the total industrial output in China. The share of industrial output from non-State enterprises increased from 22 percent in 1978 to 56.9 percent in 1993 (State Statistical Bureau 1995, p. 73). The emergence of TVEs has been claimed as the greatest achievement of China's reform (See, for instance, Sun (1997)).

The rapid entry of TVEs and other type of non-state enterprises produced two unexpected effects on the reforms. First, non-state enterprises were the product of markets. Being outsiders to the traditional economic system, non-state enterprises had to obtain energy and raw materials from competitive markets, and their products could be sold only to markets. They faced hard budget constraints and they would not survive if their management were poor. Their employees did not have an "iron rice bowl" and could be fired. As a result, the non-state enterprises were more productive than the SOEs (Weitzman and Xu 1994; and Sun 1997). The dynamism of non-state enterprises exerted a pressure on the SOEs and triggered the State's policy of transplanting the micro-management system of the non-state enterprises to the SOEs and of delegating more autonomy to the SOEs. Reform measures for improving the micro-management system of SOEs—such as replacement of profit remittance by a profit tax, the establishment of the contract responsibility system, and the introduction of the modern corporate system to SOEs—were responses to competitive pressure from TVEs and other non-state enterprises (Jefferson and Rawski 1995). The increase in competition among the enterprises

and between the state and non-state enterprises also increases the productivity of the SOEs (Li 1997). Secondly, the development of non-state enterprises significantly rectified the misallocation of resources. In most cases, non-state enterprises had to pay market prices for their inputs, and their products were sold at market prices. The price signals induced non-state enterprises to adopt more labor-intensive technology and to concentrate on more labor-intensive small industries than on SOEs.³² Therefore, the technological structure of non-state enterprises was more consistent with the comparative advantages of China's endowments. The entry of TVEs mitigated the structural imbalance caused by the heavy industry-oriented development strategy.

C. Price Distortions Reform

Amongst the trinity of the traditional planning system, the price distortions linked most closely to the development strategy, and its effects on allocative and technical efficiency were indirect. The reforms of the price distortions were thus the most sluggish. We will argue later that most economic problems that appeared during the reforms—for example, the cyclic pattern of growth and the rampant rent seeking—can be attributed to the inconsistency between the price distortions and the liberalized allocation and enterprise system. Therefore, the Chinese government constantly faced a dilemma: to make the price system consistent with the liberalized micro-management institution and resource allocation mechanism or to re-centralize the micro-management institution and resource allocation mechanism for maintaining the internal consistency of the traditional economic system. The deprivation of enterprise autonomy would definitely incur the resistance of managers and employees of SOEs. A return to the traditional economic system would also suggest a reversion to economic stagnation. Therefore, no matter how reluctant the government was, the only sustainable choice was to eliminate the price distortions and make the price system consistent with the liberalized allocation

³²For example, in 1986 an average industrial enterprise in China had 179.9 workers, and the fixed investment per worker was 7,510 yuan (*China Industrial Economy Statistical Material* 1987, p. 3); whereas an average TVE in the same year had 28.9 workers, and the fixed investment per worker was 1,709 yuan (*Statistical Yearbook of China* 1987, p. 205).

and micro-management system.

Changes in the price distortions started in the commodity price system. After the introduction of profit retention, the enterprises were allowed to produce outside the mandatory plan. The enterprises first used an informal barter system to obtain the outside-plan inputs and to sell the outside-plan products at premium prices. In 1984, the government introduced the dual-track price system, which allowed the SOEs to sell their output in excess of quotas at market prices and to plan their output accordingly. The aim of the dual-track price system was to reduce the marginal price distortion in the SOEs' production decisions while leaving the State a measure of control over material allocation. As the share of a commodity that was allocated under the plan price gradually reduced due to the growth of non-state sectors and the outside-the-plan production activity of the SOEs, the government would then give up the plan price, allowing the price to converge to the market prices.³³ By 1988 only 30 percent of retail sales were made at plan prices, and the SOEs obtained 60 percent of their inputs and sold 60 percent of their outputs at market prices (Zou 1992). By 1996, with the exception for a few raw materials and coal, fuel, and transportation, the prices for most commodities and services have been liberalized.

The second major change in the distorted price system occurred in the foreign exchange rate. In the years 1979-80, the official exchange rate was roughly 1.5 yuan per US dollar. The rate could not cover the costs of exports, as the average cost of earning one US dollar was around 2.5 yuan. A dual rate system was adopted at the beginning of 1981. Commodity trade was settled at the internal rate of 2.8 yuan per dollar; the official rate of 1.53 yuan per dollar continued to apply to non-commodity transactions. After 1985, the yuan was gradually devalued. Moreover, the proportion of retained foreign exchange, which was introduced in 1979, was gradually raised, and enterprises were allowed to swap their foreign exchange entitlement with other enterprises through the Bank of China at

³³By the time the price of a commodity was liberalized, the proportion of the commodity that was allocated by the plan, compared to the proportion that was allocated by the market, was very small already. Therefore, the shock was much smaller than the gap between the market price and plan price would indicate. The process of exchange rate liberalization, which will be discussed later, is the best example.

rates higher than the official exchange rate. Restrictions on trading foreign exchanges were further relaxed with the establishment of a "foreign exchange swap center" in Shenzhen in 1985, in which enterprises could trade foreign exchanges at negotiated rates. By the late 1980s, such centers were established in most provinces in China and more than 80 percent of the foreign-exchange earnings were swapped in such centers (Sung 1994). The climax of foreign exchange rate policy reform was the establishment of a managed floating system and unification of the dual rate system on January 1, 1994, by that time 80 percent of foreign exchanges has already been allocated through the swap markets.³⁴

Interest-rate policy is the least affected area of the traditional macro-policy environment. Under the heavy industry-oriented development strategy, the interest rate was kept artificially low to facilitate the expansion of capital-intensive industries. After the reforms started in 1979, the government was forced to raise both the loan rates and the savings rates several times.³⁵ However, the rates were maintained at levels far below the market-clearing rates throughout the reform process. In late 1993, the government announced a plan to establish three development banks with the function of financing long-term projects, import/export, and agricultural infrastructure at subsidized rates and to turn the existing banks into commercial banks, allowing the banks to set the interest rates freely. The three development banks were

³⁴Vietnam and Lao also adopted the dual-track system to reform the prices and exchange rates at the early stage of the transition. Almost total deregulation of prices and exchange rates occurred in Vietnam in 1989 and in Lao in 1988. This total deregulation is sometime used as evidence that Vietnam adopted a big bang approach to transition (Sachs and Woo 1997; and Popov 1996). However, according to the definition, a big bang approach includes three essential elements: comprehensive price and trade liberalization, stabilization, and commitment to mass privatization of the SOEs (Sachs and Woo 1997, p. 5). However, Vietnam not only did not totally remove its trade restrictions, but also did not have any commitment for privatization of SOEs. Therefore, Vietnams total price liberalization in 1989 was a partial instead of a big bang approach reform.

³⁵To stop bank runs, the savings rates were indexed to inflation rates in October 1988. But the policy was revoked in 1991. In May 1993, the interest rate for a one-year time deposit was 9.18 percent, and for a one-to-three-year basic investment loan it was 10.80 percent (*China Statistics Yearbook* 1993, pp. 670-71). However, the market rate for a commercial loan was between 15 and 25 percent.

established in 1994. The commercialization of the existing banks was initially expected to take at least another three to five years. However, the mentality of CAD strategy is deeply rooted in the mind of China's political leaders. To protect the existing nonviable SOEs and to set up new enterprises in the priority sectors of CAD strategy, some distorted institutional arrangement, at the very least in the form of a suppressed interest rate policy, is essential. So far the interest rate in China has not been liberalized.³⁶

A unique feature of China's transition is the continuous growth during the transition process. The above discussion provides an explanation for the success. When the transition started, the attempt of Chinese government was to improve incentives in the SOEs and collective farms by giving agents in SOEs and collective farms some autonomy and allowing a closer link between personal rewards and individual. The empirical studies cited in the above discussion show, in spite of the lack privatization, the attempt was successful and a new stream of resources was created by the micro-management system reform. The partial autonomy also implies that entrepreneurs in the state sector and in rural area gain partial control over the allocation of the newly created stream of resources. The suppressed sectors in the traditional economy are the sectors that are consistent with the comparative advantages of the economy and are more profitable due to the existence of unsatisfied demands. The unexpected results of the micro-management reform are that, driven by profit motivation, the autonomous entrepreneurs allocated the new stream of resources under their control to the more profitable suppressed sectors. Since the planned allocation mechanism and price distortions were preserved, the State still had control over the old stream of resources and guaranteed that these resources would be allocated to supports the nonviable firms in the priority sectors. Therefore, throughout the reform process, the economy avoided the collapse of nonviable firms in the priority sector and enjoyed continuous growth. Moreover, as the economy grew, the proportion of resources that was allocated according to the planned prices became increasingly small. Therefore, by the time the price for a commodity

³⁶In Vietnam, the interest rates are increased occasionally but not liberalized. In the case of Lao, the interest rates have been liberalized since 1989 although the Central bank still sets the floor and ceiling ratio.

was liberalized, the shock was much smaller than the gap between the market price and plan price would have suggested.

However, there were some costs associated with the above-mentioned approach to transition. Because the reforms in price system, especially those regarding the interest rate, lagged behind the reforms in the allocation mechanism and micro-management institutions, there were several economic consequences. The first one was the recurrence of a growth cycle. The interest rate was maintained at an artificially low level. The enterprises had incentives to obtain more credits than the supply permitted. Before the reforms, the excess demands for credit were suppressed by restrictive central rationing. The delegation of credit approval authority to local banks in the autumn of 1984 resulted in a rapid expansion of credits and an investment thrust. As a result, the money supply increased 49.7 percent in 1984 compared to its level in 1983. It caused the inflation rate to jump from less than 3 percent in the previous years to 8.8 percent in 1985. In 1988 the government's attempt to liberalize price controls caused a high inflation expectation. The interest rate for savings was not adjusted. Therefore, panic buying and a mini-bank run occurred. Loans, however, were maintained at the previously set level. As a consequence, the money supply increased by 47 percent in 1988. The inflation rate in 1988 reached 18 percent. During the periods of high inflation, the economy overheated. A bottleneck in transportation, energy, and the supply of construction materials appeared. Because the government was reluctant to increase the interest rate as a way to check the investment thrust, it had to resort to centralized rationing of credits and direct control of investment projects—a return to the planned system. The rationing and controls gave the State sectors a priority position. The pressure of inflation was reduced, but slower growth followed.

As mentioned earlier, although the reforms in the micro-management system improved the productivity of the State sector, deficits increased due to the discretionary behavior of the managers and workers in the SOEs. Therefore, fiscal income increasingly depended on the non-state sectors. During the period of tightening State control, the growth rates of the non-state sectors declined because the non-state sectors' access to credits and raw materials were restricted. Such a slowdown in the growth rate became fiscally unbearable. Therefore, the State was forced to liberalize the

administrative controls in order to make room for the growth of the non-state sectors. A period of faster growth followed. Nevertheless, conflicts between the distorted macro-policy environment and the liberalized allocation and micro-management system arose again.

A second consequence of the inconsistency between the distorted policy environment and the liberalized allocation mechanism and micro-management institutions was a rampant rent-seeking phenomenon. After the reforms market prices existed, legally or illegally, along with planned prices for almost every kind of input and commodity that the State controlled. The difference between the market price and the planned price was an economic rent. It is estimated that the economic rent from the controlled commodity price, the interest rate, and the exchange rate was at least 200 billion yuan, about 21.5 percent of the national income in 1988. In 1992, the economic rent from bank loans alone reached 220 billion yuan (Hu 1994).³⁷ The non-state enterprises as well as the autonomous SOEs certainly had incentives to engage in rent-seeking activities through bribes and other measures to obtain the under-priced resources from the State allocation agencies. It is reported that under competitive pressure, the SOEs in the heavy industries, which were given priorities in obtaining the State-controlled resources, also needed to give certain side payments to the banks and other allocation agencies in order to secure the earmarked loan and materials or to obtain them promptly.

Because of the rent-seeking activities of other types of enterprises, SOEs were often unable to obtain the credits and materials indicated in the plans. The rent-seeking activities also caused widespread public resentment and became a source of social instability. To guarantee the survival of the SOEs and to check social resentment, the government attempted to re-institute tight controls on the allocation mechanism in the austerity programs of 1986 and 1988. However, the controls were relaxed later to allow the growth of the non-state sectors. Except for the interest rate, administrative controls on the prices of most materials and commodities have been removed.

³⁷The total credit of the State banks was 2,161.6 billion yuan (US\$ 248.5 billion at the swap market exchange rate). The difference between the official interest rate and the market rate was about 10 percent. The rents from bank loans alone were as high as 216 billion yuan.

IV. Lessons from China's Transition

Even we allow for to the possibility that, due to statistical problems, the growth rates in China could have been over reported and the economic collapses in EEFSU were over exaggerated, the contrast in the economic performances during their transition processes are still very dramatic. The successful experiences of China, to some extent also of Vietnam and Lao, up to date have presented several challenges to the conventional wisdom about economic transition from a Soviet-type planning economy to a market economy.

One of the earliest consensuses among economists advising EEFSU for their transition was the need for fast privatization. The arguments are as follows: Private ownership is the foundation for a well-function market system, real market competition requires a real private sector (Sachs and Lipton 1990), most problems encountering SOEs in a transitional economy can be ameliorated by rapid privatization (Sachs 1992), and privatization must take place before SOEs have been restructured (Blanchard *et al.* 1991).³⁸ Despite the ambiguity of property right arrangements of SOEs and TVEs, the productivity of SOEs in China improved significantly during the transition process and the TVEs in China became the most dynamic sector in the 1980s and early 1990s. The evidence suggests that the soft budget constraints and poor performance of SOEs in the Soviet-type economy is arising rather than from the paternalistic nature of the state ownership in a socialist economy, as argued by Kornai (1992) but from other factors.³⁹ The

³⁸Certainly there were some economists, arguing for an evolutionary, gradual approach to privatization. Kornai (1990) is an example. He argues that private property rights cannot be made to work by fiat in the transitional economies where entire generations were made to forget the civic principles and values associated with private ownership and private rights and that a mere imitation of the most refined legal and business forms of the leading capitalist countries. However, Kornai also believes that private ownership is the foundation for a well-functioning market system and privatization is the only way to eliminate the symptom of SOEs soft-budget constraints.

³⁹SOEs poor performance and soft-budget constraints can be attributed to the policy burdens, including the viability issue arising from over-capital intensity in a capital-scarcity economy due to the governments CAS strategy and the burden of old-age pension and labor redundancy. Because of these

experience also suggests that performance of different business entities depends not on the formal ownership arrangement, as the earlier privatization consensus believes, but on the incentive structure and the degree of market competition.⁴⁰

Another early consensus for transition is the need for the complete big-bang price liberalization. An influential paper by Murphy, Schleifer, and Vishny (1992) attributed the fall in output in Soviet Union in 1990-1 to partial price liberalization. They argue that a dual-track pricing system would encourage arbitrage, corruption, rent seeking, and the diversion of scarce inputs from high-value to low-value use. However, the dual-track price system is one of the most significant features of China's approach to transition. While some of the problems, described by Murphy, Schleifer, and Vishny, have surfaced after the introduction of the dual-track system in China, the majority of SOEs behaved in a way intended by the introduction of the dual track system. That is, they were responsive to the market signals, enjoyed the rising payoff generated by the market opportunities, and they are evolving away from the planned track (Naughton 1995). The economy as a whole and the state sector as well continued to grow after the introduction of the dual-track system. By contrast, the economy collapsed and had a hyperinflation after removing all price controls in EEFSU. McKinnon (1995) showed that unless the SOEs had a hard budget constraint, a big bang price decontrol would cause the producer price level to increase indefinitely, both in absolute terms and relative to retail price, due to the SOE's unconstrained biddings for scarce resources. No meaningful equilibrium in producer prices would exist under such a condition. Therefore, as long as the budget constraints of the SOEs remain soft, direct controls of price and resource allocation in this sector are desirable. On the one

burdens, the government cannot require the SOEs to be accountable for their losses and need to subsidize the SOEs when losses occur. Furthermore, because it is hard to distinguish between policy-induced losses and operational losses, the SOEs can press the government to cover all its losses. Moral hazard becomes a serious problem in the SOEs (Lin, Cai, and Li, 1998, 2001; and Lin and Tan 1999). The performance of SOEs was thus poor.

⁴⁰The empirical evidence from EEFSU also shows that there exists no ownership frontier, that is, efficient enterprises can be founded both in SOEs and private enterprises (Brada *et al.* 1994, 1997; Mencinger 1996; Pinto 1993; Frydman *et al.* 1996; Sereghyova 1993; and Jones 1997).

had, the controlled leg of the dual-track system maintains the stability in the economy and allows the SOEs to operate continuously, and on the other hand, the liberalized leg of the dual track system provides the resources, incentives and signals to the non-state as well as the SOEs to allocate resources to the dynamic areas of the economy.

Similar to that in China, the countries in EEFSU were all over-industrialized with oversized SOEs; their service sectors and light industries were underdeveloped; and employees' incentives were low (Newbery 1993; Brada and King 1991; and Sachs and Woo 1994). Their economic problems—namely the structure imbalance and the low incentives—are also similar to those in the transitional economies in China because they all adopted a similar economic development strategy and because they all have a similar distorted price system, planned allocation mechanism, and puppet-like SOEs. From a theoretical point of view, the big bang approach attempt to remove all distortions so that the existing stock of resources can be utilized more efficiently.

If the resources are highly mobile and can be moved freely from one sector to another sector, privatization can be accomplished in a stroke, and other market supporting institutions can be established over night, the big bang reform would be desirable. However, some fixed equipment in heavy industries cannot be used for production in light industries; for other equipments, modifications are required for new uses (Brada and King 1991). Workers in heavy industry also need retraining before they can be assigned to new jobs. Moreover, for many loss-making large SOEs, they cannot be privatized without restructuring first. Therefore, even Poland, the first country to implement the big-bang approach, the privatization proceeded only slowly. Moreover, if the SOEs were privatized without solving their viability issues, such as in Russia, for fear of large unemployment, they could not be shut down and the state would be obliged to continue all kinds of explicit or implicit subsidies.⁴¹ On one hand, the privatization would not be able to bring the hard budget constraints as the program attempted

⁴¹In Russia, the explicit subsidies from fiscal appropriation reduced after the mass privatization but the implicit subsidies from soft bank loans, tax arrears, ad hoc tax exemptions, and so on continued. Even in Poland, tax arrears remained a problem (World Bank 1996, p. 45).

originally; on the other hand, many of the emerging private enterprises are turning to the state for all kinds of rents. Subsidies, tariff protection, legal monopolies, and re-distributional regulations still prevail even where direct state ownership has become rare (Brada 1996; Frydman *et al.* 1996; Lavigne 1995; Stark 1996; Sun 1997; and World Bank 2002). After the privatization, the former SOEs were owned by a network of cross-ownership, involving banks, investment funds, other enterprises, state asset management agencies, and local governments. The resulting ownership structure is far from the clear, well-defined, private property rights. In addition, the establishment of new market institutions takes time and resources (Murrel and Wang 1993; and Lin 1989b). Therefore, even though the big bang approach is adopted, the market will not function as desired in a short period of time. During the initial stage of reforms, an increase in light industry and service sector would not be able to compensate for the decline in heavy industry. A decline in GDP is unavoidable. The experiences in EEFSU show that the decline can be more than 50 percent of GDP and that it may take several years before a turning point is reached. Even for Poland, the best case in the World Bank study, the decline in GDP was still very substantial, 19 percent in first two year, and the GDP did not recover to the level of 1989 until 1995.⁴² Moreover, the stabilization program did not work immediately as in the case of Latin America, where most proponents of the big bang approach drew their experiences. High inflation or even hyperinflation continued for several years after the beginning of the stabilization program. Under such a dreadful situation, any government is certain to encounter a legitimacy crisis (Dewatripont and Roland 1992). The leadership may not be able to hold a consensus on the course of further reforms, and political instability is likely to follow. The quick shifts of government in the Eastern European countries after the

⁴²It is noteworthy that when Poland engaged in the stabilization program, it had access to a full range of external support, made available by the IMF, the World Bank, and other international organizations (Jayawardena 1990). Similar supports had been expected (Sachs 1991) but were not available to other countries implementing a similar program later. Moreover, Poland is like the Quangdong province of China. Due to its geographic proximity to Western Europe, Poland received a large inflow of foreign direct investment in the transitional process.

beginning of transition proved this point. Instead of a "J-curve," as hoped by the advocates of big bang approach, the resulting pattern of GDP growth after implementing the big bang approach in EEFSU has been a "L-curve," a sharp decline in GGP followed by a long period of stagnation before the coming of a sluggish recovery.

If the transition can be big-banged, the issue of how to sequence reform was largely irrelevant. However, the experiences suggest that no matter what approach is adopted the actual transition from a Soviet-type economy to a market economy can only be a gradual process. Therefore, the micro first sequencing of transition in China should be viewed more positively. Before we draw any lessons, we needed to answer a number of often-raised questions about the applicability of China's experiences to the EEFSU.

The first question is why the gradual reform adopted in Poland, Hungary, and former USSR before the adoption of big bang approach did not work. Those countries had also tried to reform their traditional system by allowing for SOEs more autonomy. However, their partial reform did not result in similar virtuous effects as in China. A number of explanations are in order. 1) Unlike in China where the SOEs, after fulfilling their plan obligations, were allowed to sell their extra outputs at market prices, the enterprises in the EEFSU were not allowed to set their prices (Sachs 1993, p. 28). The price rigidity meant that excess demand and chronic shortage remained and the state producer would not have the incentives to allocate their products to more efficient users who would be able to pay higher prices for their products. 2) Entry by non-state enterprises was subject to severe restriction (Kornai 1986). Production remained monopolized and international trade remained centrally regulated (Sachs and Lipton 1990). Therefore, unlike the SOEs in China after the transition, the existing SOEs in EEFSU never faced real competition pressure from domestic or international sources and lacked the incentives to improve productivity. 3) In the traditional Soviet-type system, to prevent the managerial discretion under the distorted macro-policy environment, SOEs were not allowed to set their workers' wage. In the Chinese case, after the micro-management reform, the wage was still controlled by the state. A worker's wage would increase only if the enterprise's profits exceeded the current level. However, in Poland, Hungary and the former USSR, their partial reform gave

the enterprises the autonomy to setting their own workers' wages. The weakening of the State control over wages gave the managers and workers an opportunity to increase their incomes at the expense of the State by absorbing whatever income flow and whatever assets they could obtain from SOEs. The State's revenues were thus in great difficulty.⁴³ 4) The wage inflation caused the shortage to become even more acute. The government in Poland as well as in the former USSR tried to play a populist game, they increased the imports of consumer goods and made the countries fall into severe foreign indebtedness (Aslund 1991). Probably due to the above differences, instead of bringing a continuous growth and gradual transition to a market economy as in China, the partial reform led Poland and the former USSR to the brink of bankruptcy internally as well as externally and to the verge of hyperinflation.

The second question is whether the people in the EEFSU will respond to the opportunity arising from the dual-track reform. In China, the engine of growth comes from the emerging non-state sectors, which derived their labor force in a large part from the unsubsidized agricultural sector. Agricultural labor force in EEFSU was very small. In addition, it is argued that all workers, including agricultural workers on the state farms and the collective farms, received heavy subsidies from the state. The argument then goes that only by ending the subsidization of the state sector was it possible to free labor from the state sector for the new non-state sectors in the economy. Therefore, the double-track gradual reform, which continues to give supports to the state sector, could not work in that context (Sachs and Woo 1994). However, even there are some opportunity costs for leaving the state sector, the incentives to leave the state sector also depends on the expected gain from working in the non-state sector. In China, the margin of free market prices to the planned prices is 20 to 40 percent in 1980-91 (Gelb, Jefferson, and Singh 1993). The price margins could be 3 to 4 times or more in EEFSU (Aslund 1989).⁴⁴ Therefore, even

⁴³To some extent, China also encountered this problem. In spite of the increase in productivity, the profitability of the SOEs declined. As a result the governments fiscal revenues from the SOEs were reduced substantially (McKinnon 1995).

⁴⁴One example is the exchange rate. In China the margin of market rate to the official exchange rate before the exchange rate unification in 1994 was at most 50 percent throughout the whole transition period. In the

though the opportunity costs for a worker to shift to the non-state sector were higher in EEFSU than in China, the expected gains were also much larger. Kornai (1986) observes that in Hungary many of the people working in the private sector were in the highest income group. Aslund (1989, pp. 168-9) also cited many reports that in Russia some people working in the non-state sector producing simple products for the markets and became millionaires.⁴⁵ Therefore, as commented by Kornai (1990, p. 36), the relaxation of certain restrictions was enough to let private activity mushroom again. Turning a blind eye toward people who disregarded the letter of the law was sufficient for all those activities normally regarded as part of the second economy to catch on. People in the EEFSU before the transition were as responsive to profitable market opportunities as people in the transitional economy in China.

The transition from a Soviet-type planning economy to a market economy has proved difficult for several reasons. These include a lack of serviceable institutional framework, the severe distortions in the price and production structures, and the relative dearth of historical precedents from which the transition economies could derive lessons. The big bang approach cannot deliver its promise of a jump to a market economy because the existing distorted institutions are endogenous to the non-viability issue of many enterprises in the priority sectors of CAD strategy adopted previously by the governments, and the stabilization cannot be achieved immediately by removing those institutional distortions without addressing the non-viability issue of the existing enterprises. As such, the crucial issue of the transition is to have a strategy of sequencing reforms that identifies the most pressing shortcomings and concentrates resources on the relaxation of binding constraints and that aspires to improve economic performance, leading to higher material welfare and better life chances (Rawski 1995). The IMF/World Bank's macro-first approach may be appropriate for the non-Soviet-type economy, where market institutions are more or less intact, the number of nonviable

former Soviet Union, the official exchange rate was US\$ 1.5 to one rouble in 1991. A tourist could easily get US\$ 1 for 12 rouble on the street of Moscow.

⁴⁵Aslund (1989, p. 169) cited one example, the average income per member was 12,500 rouble a month in a cooperative, which was 60 times of the average Soviet wage and 10 times of the top official salaries.

enterprises was limited and the structure imbalance is less severe than the Soviet-type economy. To use the famous analogy in a somewhat different version, "When the chasm is narrow, it's all right to jump over it." The stabilization program can achieve its goal immediately and the economy can soon operate in a normal market environment. However, in the Soviet-type economy, the chasm is too wide and too deep. A jump without careful preparation will definitely result in an astonishing fall into the ditch. Under such a situation, it is desirable to fill and to narrow the chasm first before making the jump. China's experiences suggest that it is possible to take advantages of the severe incentive suppression and serious structural imbalance in the Soviet-type economy to have a strategy of sequencing reforms that improves incentives and reduces distortions in a gradual manner and obtains economic growth simultaneously in the transitional process. From what we have observed, the useful lessons from the "micro first" approach to transition in China can be summarized as follows:

First, the government can take measures to improve the micro incentives by granting partial managerial autonomy and profit-sharing to the micro units so as to release the suppressed incentives and to allow the economy to move closer to its production frontier. The government should encourage the local and private initiatives in institutional innovations in this stage.

Second, the government can introduce a dual-track price and allocation system allowing the resources to be allocated increasingly by the micro units to the previously suppressed, more productive sectors, which are consistent with the economy's comparative advantages, while maintaining certain supports to the nonviable SOEs.

Third, the government can liberalize the price when the commodity is largely allocated by the market track.⁴⁶

Fourth, the government gradually introduces and strengthens the necessary market institutions during the above process.

Fifth, the government finds ways to address the viability issue of the existing enterprises so as to eliminate the root cause of distortions in the Soviet-type planning economy and complete the

⁴⁶Prices here include foreign exchange rates, wages rates, interest rates, and the prices of all products and services.

transition from the institutions of planning economy to those of a market economy.⁴⁷

V. Concluding Remarks

In this paper, we have analyzed the lessons of China's transition from a centrally planned socialist economy to a market economy from the viewpoint of institutional economics. Even though the reform in China was not guided by a well-defined blueprint, the transition has followed a path that can be explained by the theory of induced institutional innovation (Hayami and Ruttan 1985; Lin 1989; and North 1990). The traditional Soviet-type economic system was an internally consistent structure of institutional arrangements, consisting of the distorted price system, planned resource allocation mechanism, and puppet-like micro management units. The traditional system made the mobilization of resources for building up the nonviable capital-intensive enterprises in the CAD strategy feasible in a capital-scarcity economy. However, its economic efficiency was low. The transition in China started with granting partial autonomy to micro units, which cracked the integrity of the traditional system. Once the institutional integrity of the traditional economic system was cracked, the institutional changes evolved in a way that was self-propelling toward the replacement of the traditional planning system with a more efficient market system. In the process, the efficiency of the SOEs was improved through greater autonomy and by meeting competition from the non-state sectors. However, the dynamism of the economy came mainly from

⁴⁷In fact, China has not completed this step yet. The following reforms may be used to solve the issue. First, for those SOEs, if their products have large domestic markets, the government could allow them to list in the international equity markets or to form joint ventures with enterprises from developed countries. As long as they can get access to foreign capital, their capital costs will be reduced and their viability issue will be eliminated. Second, for those SOEs their domestic markets are limited, the state should encourage them to shift their production to new market niches that are consistent with China's comparative advantage. The SOEs generally have the best-trained engineers and workers in China—they have a comparative advantage in human capital. If they are given the freedom to shift their production lines, they should be able to find a niche in the market where they are competitive (see Lin, Cai and Li (2001) for detailed discussions of SOE reform).

the swift entry of new, small, non-state enterprises. The old planned allocation mechanism and price distortions gradually became unsustainable and were discarded. During the reform process, the State, the enterprises and the people have had sufficient time to make adjustments to the new market system. The reforms benefit the majority of people as the economy has maintained strong growth throughout the whole process.

By contrast, the big bang approach adopted in EEFSU also attempts to replace the inefficient economic system with a more efficient market system. The privately owned small enterprises emerged immediately after the lifting of the ban on private enterprises, which became the driving force of economic growth in EEFSU (World Bank 2002). However, the privatization of medium- and large-scale SOEs in most EEFSU countries, which did not implement the mass privatization, was prolonged and proceeded slowly. This resulting enterprise mix is in fact similar to what emerged in the transitional economy in China. However, China's approach did not disrupt the production in the state sectors. Therefore, the gradual approach in China achieved the same positive effects of the big bang approach but avoided the sudden collapse of economy. If transitional costs and the path-dependence of institutional changes are taken into account, China's gradual approach can be argued to be both theoretically and empirically preferable to the "big bang" approach (Wei 1993).

The adoption of an approach to transition in a country reflected the socio-political condition in that country at the time of transition. When the transition began, the communist party in China was firm in control and its objective was to improve the system rather than to replace the system, while in EEFSU, the communist parties as well as socialist ideology had already collapse. However, the adoptions of a specific approach may also reflect cultural differences. For the transition from a wartime economy after the World War II, the Germany adopted a big bang approach and Japan adopted a gradual approach (Teranishi 1994). In the 1950s, over 90 percent of manufacturing outputs in Taiwan were produced by the state sector. Instead of privatizing the SOEs, Taiwan allowed the private enterprises to grow and to gradually become a dominant sector (Lau 1993). The Asian culture stresses pragmatism, values measures that will bring Pareto improvement in an incremental manner, and tends to twist the ideology to fit the

reality rather than the other way around.⁴⁸ Western society seems to be more ideology oriented than the Asian society. Drawing on the history of the last three centuries of England and other Western economies, Schultz (1977) finds that the alteration and establishment of various distinct political-economic institutional arrangements in the Western society were induced or shaped up by the dominant social thoughts in those times. In addition to the collapse of communist parties, the adoption of a big bang approach in EEFSU reflected the influence of prevailing "capitalist triumphalism" in the society (Wiles 1995). A dominant social thought may not be the "correct" one in the sense that the solution embodied in the thought will lead to a higher income growth rate and more desirable income distribution. Fundamentally, social thought is limited by the bounded rationality of the human mind. When the transition in the EEFSU started, Western policy advisers thought the process was a well-trodden path (Sachs 1993, p. 2) and it was possible to jump to a market economy. The experience in EEFSU now shows that, even though a big bang approach is adopted, the transition from a centrally planned economy to a market economy will still be a slow, gradual process (World Bank 1996, 2002; and Lavigne 1995, Chapter 10). Had the gradual nature of transition process had been known to the majority of people at the beginning of reform, the approach adopted in EEFSU might have been different.

The lessons of China's transition, that were summarized in Section III, may be useful for designing reform policies in other economies where the CAD strategy have been adopted under capital-scarce conditions.⁴⁹ The lessons may also be useful for EEFSU, because their transition to a market economy is yet to be completed. However, it is important to recognize the differences in the stages of development, endowment structures, political systems, and cultural heritage in each country. To be effective, the actual reform measures should take the economy's initial conditions into

⁴⁸For example, the Chinese government often labels any thing that works for China as socialist. From this point of view, there is no confusion for a Chinese decision maker about what is a socialist market and what is the meaning of socialism with a Chinese character.

⁴⁹The heavy industry-oriented development strategy in formal Soviet Union and China is a CAD strategy. The import-substitution strategy widely adopted in Latin America is another form of the CAD strategy.

consideration and exploit all favorable factors within and without the economy.⁵⁰ Therefore, the specific design and sequence of reforms in an economy should be "induced" rather than "imposed." A simple transplantation of successful measures in an economy will not guarantee its success in other economies.

Even though the overall performance of China's approach to transition is very remarkable, the transition in China is not yet complete. Because the reform in the distorted price system, especially the reform in the interest rate policy, lags behind the reforms in micro management institution and resource allocation mechanism, institutional arrangements in the economic system become internally inconsistent. As a result of the institutional incompatibility, rent seeking, investment rush, and inflation are internalized in the transition process. To mitigate these problems, the government often resorts to traditional administrative measures and causes the economy's dynamic growth come to halt and the regression of institutions. From the above analysis one can see that it is imperative for China to complete the reform in price system so as to remove the institutional incompatibility and so that the economy can set forth a sustained, smooth growth path. In addition, as the Chinese economy becomes a more matured market economy and more integrated with the world economy, it is essential for the continuous growth of the economy to establish a transparent legal system that protects property rights so as to encourage innovations, technological changes, and domestic as well as foreign investments in these economies.

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⁵⁰For example, the presence of overseas Chinese, the existence of a large stock of industrial resources in the rural sector prior to the start of reform, and the continuation of substantial marketing activity throughout the agricultural sector during the entire socialist period are among the important initial conditions that have contributed unequivocally to the success of China's reforms.

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