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A market economy and a centrally planned economy are two prototypes constructed for understanding the working of actual economies in the world. Although most economies contain features of both, the two extreme types serve as convenient abstractions for characterizing them. This article is concerned with the transition of the economy of the People's Republic of China from a largely planned economy to a more market-oriented economy. After stating briefly the main features of planned and market economies, it sketches the important characteristics of the Chinese economy before the economic reforms began in 1979. It then outlines the reasons for introducing the reforms and summarizes their essential elements. The important issues addressed by the reformers will be discussed. Future prospects for the Chinese economic system will be suggested.

In a market economy, individual members have command over most economic resources and are free to use them for trade, production, consumption and investment. They are also free to form and operate business enterprises for profit, subject to prevailing business laws. Prices of physical, human, and financial resources are determined by the market forces of demand and supply. In a centrally planned economy, the state has command over most economic resources and can decide on their use for production, consumption, investment and trade. The state also forms and operates enterprises to achieve its economic objectives. Prices are set by the state planning authorities.

In a market economy, economic decisions concerning trade, production, consumption and investment are decentralized, being made by numerous consumers

and producers. Prices play a very important role in their decisions. When the price of a commodity or a service goes up, the users will employ less of it for production or consumption and substitute other products for it. In the meantime, the producers seeking profits will try to supply more of it. When the need for an economic resource increases, its price will be bid up. Consumers will economize on its use while producers will increase its production until demand equals supply at the new price. Hence, without a central control mechanism, resources can be efficiently allocated through the decentralized decisions of many economic units. In their decisions, prices provide the crucial signal and incentive. In a centrally planned economy, important economic decisions concerning production, consumption and investment are centralized, being made by some planning authority. The authority sets production targets for the state enterprises under its control and provides them with the necessary resources to achieve the targets. Prices do not play a significant role in economic decisions, since inputs and final products are allocated by the planning authority without serious concern over prices.

Agriculture in China in the two decades before 1978 operated essentially as in a centrally planned economy. In the early 1950's land was confiscated from the landlords and redistributed to the peasants. In the middle 1950's, the peasants were organized into cooperatives. In 1958, Chairman Mao Zedong started the Great Leap Forward movement and reorganized the cooperatives into communes. Formally, a commune is not a state enterprise but a collective economic and political unit. Its land is owned collectively by its members. However, in the two decades from 1958 to 1978, communes were operated by central command. As reported in the Statistical Yearbook of China 1981, p. 133, there were 53.3 thousand communes in China in 1979, which were divided into 699 thousand brigades, the latter being further divided into 5154 thousand

production teams. A production team often consisted of a traditional village. On average, there were 157 persons per team in 1979. Most farming was performed by a team, while larger-scale construction work was done by a brigade. Although team members officially owned the land, they had no control over its use. Commune authorities, following directions from the central government, determined what to produce in each piece of land. An assigned quota of the output had to be delivered to the government procurement department at a centrally fixed procurement price, the remaining output being left for distribution by the commune to its members. Members received incomes in money and in kind proportional to the numbers of work points they earned which equaled the numbers of days they worked as a team. They followed orders and made no economic decisions. Note, however, that in varying degrees some features of a market economy existed in rural China during the period 1958-1978. These included small private plots for the farmers and some rural markets where agricultural products were traded. A major objective of central procurement of agricultural products was to provide adequate supplies of essential food products to the urban residents under a system of rationing, which included food grain, vegetable oil, meat, sugar and cotton cloth.

After the People's Republic of China was established in 1949, the new government took over industrial enterprises belonging to the previous government of the Republic of China. Private enterprises were tolerated for a brief period of several years. They soon became joint ventures. Then owners and managers were forced to surrender control to the new government, with some managers remaining to administer the enterprises under new directions. For the key industries including many heavy industries manufacturing producer goods, methods of central planning were adopted from the Soviet Union. The

first Five-Year Plan was started in 1953. The government managed various state enterprises through twenty some ministries in the State Council. A State Planning Commission was established to direct and coordinate these ministries. Planning targets in terms of output, some important inputs and financial indices were transmitted to the enterprises. Under a system of material balancing used in the Soviet Union, important material inputs required were centrally distributed to the enterprises through a bureau of material supplies. Products of state enterprises were distributed by the state, with prices determined by a Price Commission. A large fraction of the profits of state enterprises was surrendered to the state, providing a major source of government revenue. Funds required for capital construction and expansion had to be approved by the state and constituted an important part of government expenditures. Since enterprises obtained their inputs through central allotment, surrendered their outputs for central distribution and had no control over their profits, they did not respond to prices. The main concern of enterprise managers was to obtain through skillful negotiations more than sufficient material and labor inputs to fulfill the production targets. They tended to understate the productive capacity of their enterprise in order to reduce output targets, and to overstate the input requirements in order to ensure their fulfillment. Inefficiencies and wastes occurred under this system, as partly reflected in the underutilization of productive capacity and the large stockpiling of inventories in Chinese state enterprises. For documentation see Zhou (1982, pp. 38-39). Note, however, that central planning as described above did not cover Chinese industry entirely. Only major products were centrally distributed. Many smaller enterprises were operated by provincial and local governments. For elaboration see Chow (1985, pp. 50-51).

From the 1950's on, the Chinese economic system did not remain static but was subject to two very serious political disturbances. One was the Great Leap Forward movement from 1958 to 1961. The rapid formation of agricultural communes from April to September 1958 was itself a serious political disturbance. The second Five-Year Plan of 1958-1962 was severely interrupted. Mistaken agricultural and industrial policies of the Great Leap caused famines and the curtailment of industrial output. An official index of national income in 1952 prices was reduced from 202.1 in 1959 to 130.9 in 1962, and the annual death rate was increased from 10.80 per thousand persons in 1957 to 25.43 per thousand in 1960 (see Statistical Yearbook of China 1984, pp. 30 and 83). Ansley Coale (1984, p. 7) states that "the peak death rate in 1960 is about 35 [per thousand] . . . Excess deaths (those above a linear trend) from 1958-1963 are about 16 million when based on the understated official figures and about 27 million when adjusted for understatement." The second was the Cultural Revolution of 1966-1976. Having lost political power in the early 1960's as a result of the failure of the Great Leap, Mao attempted to regain political control by appealing directly to the Chinese youth to engage in a Cultural Revolution. Existing Communist party and government leaders were replaced. President Liu Shaoqi was executed, and Deng Xiaoping was imprisoned, among many others. Economic planning and agricultural production were disrupted. Intellectuals and social groups other than the peasants and workers were victimized. Higher education practically ceased, with total enrollment reduced from 674 thousand in 1965 to 48 thousand in 1970 (see Statistical Yearbook of China 1984, p. 483). However, to the extent that the economic system functioned, its main characteristics were as described in the last two paragraphs.

Mao died in 1976. The Chinese people as well as many party leaders had been extremely dissatisfied with the affairs prevailing in the Cultural Revolution. The situation called for a drastic change in political leadership and economic policy. Two years later, Deng Xiaoping succeeded in becoming the leader of China, having eliminated the political leaders responsible for the more extreme policies of the Cultural Revolution. More liberal economic policies were introduced also because the Chinese leaders and economic officials, after experimenting with the Commune system and central economic planning for over two decades, recognized their deficiencies. They had begun to appreciate some virtues of a market economy, which had existed to a small extent throughout the previous twenty-five years. Their recognition was further enhanced by the successful experience of economic development in the neighboring economies of Hong Kong, Singapore, Taiwan and South Korea. The open door policy of Deng permitted them to learn more about the successful development of these and other economies.

Inefficiencies of Chinese agriculture under the commune system were well recognized. Farmers were more knowledgeable about what crops to plant with their land than political leaders and economic planners. Farm workers had no incentive to work hard under the work-point system since they were not rewarded by the fruits of their labor. There was a brief golden period of Chinese agriculture after the land reform in the early 1950's when farm households owned their land and were able to sell their products in the market. Reform of the commune system occurred initially in 1978-1979 when commune leaders in some regions recognized that they could fulfill their output quotas for delivery to the government procurement departments by reorganizing the commune internally following and improving similar practices in the 1950's. In essence, each farm household is assigned a piece of land and held responsible for delivering a

given quantity of a certain product to satisfy the procurement requirement. After fulfilling its delivery quota, the farm household is free to keep its products for its own consumption or sale in the market at market prices. This "responsibility system" is similar to private farming in a market economy with each farm household leasing its land, paying the delivery quota as rent. Under this system, the farm household has control over the land it uses and can choose what to produce and how to market its products as in a market economy. This system was officially adopted by the Eleventh Central Committee of the Communist Party in 1979. The rapid increases in agriculture output and in the incomes of the farmers in the years following have provided support for this responsibility system.

Reform of the industrial sector has turned out to be more difficult. While recognizing the shortcomings of central economic planning and the need to change to a more market-oriented economy with enterprises operating more independently of central control, Chinese leaders did not readily agree to the main features of the reformed system. It is much easier to make small farm households behave like private enterprises in a market economy than to make large state enterprises so behave for four types of reasons. First, ideologically members of the Communist Party of China believe in the ownership and the control of the means of production by the state. They are unwilling to surrender control of large state enterprises to non-government individuals and allow them to keep substantial profits for themselves, as in the case of small farms. Second, politically government bureaucrats are unwilling to give up their power and vested interests by allowing the state enterprises to operate independently. Economic ministries tend to hold on to their control over the operations of the state enterprises. The bureau of material supplies tends to retain its control over the distribution of major material inputs. Third,



economically large industrial enterprises are more dependent on factors outside of their own control than small household farms. Given a piece of land and subject to climatic conditions, a farm household can produce as it pleases. A large industrial enterprise needs the supplies of equipment and of material inputs produced by other enterprises. The entire system of pricing and distribution of industrial products and material inputs has to be changed to provide more autonomy to the state enterprises. Fourth, administratively the efficient operation of a large industrial enterprise is much more difficult than operating a small farm. Chinese managers often do not have sufficient knowledge and experience to run a modern enterprise as an independent entity. Even with additional training, managers and administrators of state enterprises are reluctant to give up their old habits of dependence on the economic ministries. The mode of operation of a large economic organization is difficult to change, as witnessed by the behavior of the American Telephone and Telegraph Company two years after its divestiture.

After recognizing the need for change in the industrial sector and observing the initial success of reform in the agricultural sector, the Chinese government announced its policy of allowing the state enterprises more autonomy and of "regulating the economy through the market and under the guidance of the state plan" in the National People's Congress in late August 1980 (see the New York Times, August 31, 1980, p. 1). Four years later, having made only limited progress and stimulated by further success in the agricultural sector, the Twelfth Central Committee of the Chinese Communist Party at its Third Plenary Session on October 20, 1984, adopted a major decision to achieve overall reform of the economic structure. Economic reforms in China in the late 1980's will be based on this major decision. Its implementation is to be formulated and carried out to a significant extent during the seventh Five-Year Plan of 1986-1990.

Seven key elements of the decision of October 20, 1984, concerning reform of the economic system are: (1) giving individual state enterprises autonomy in decisions regarding production, supply, marketing, pricing, investment, and personnel as independent profit-seeking economic units; (2) reducing the scope of central planning, and, except for certain major products, changing the method from mandatory planning to guidance planning; (3) allowing prices of more products to be determined by the forces of demand and supply rather than by central control; (4) developing macroeconomic control mechanisms through the uses of taxes, interest rates and monetary policy under an improved financial and banking system; (5) establishing various forms of economic responsibility systems within individual enterprises to promote efficiency, and encouraging differential wage rates to compensate for different kinds of work and levels of productivity; (6) fostering the development of individual and collective enterprises as supplements to the state enterprises; and (7) expanding foreign trade and investment as well as technological exchanges. An often quoted slogan to capture the essential characteristics of the reform is: "Invigorate the microeconomic units. Control by macroeconomic means."

To design the structure of a "socialist economy with Chinese characteristics" and to facilitate its implementation, a State Commission for Restructuring the Economic System was formed in the State Council in 1982, with Premier Zhao Ziyang as Chairman. Premier Zhao is a very intelligent and open-minded leader, having a good sense of economic reasoning and being much interested in informed opinions from all sources, as I learned from our extensive conversation on June 5, 1984. On July 15, 1985, the Premier asked me to invite economists from abroad to work with the Economic Restructuring Commission on problems of economic reform. The result was a three-day meeting in Hong Kong

in January 1986 and a five-day meeting in Peking in late June 1986 with leading members of the Commission and of the People's Bank, other economists including John Fei of Yale University, Anthony Koo of Michigan State University, and Lawrence Lau of Stanford University. (See The People's Daily, July 6, 1984, p. 1; July 16, 1985, p. 1; and July 1, 1986, p. 1.) The following discussion has benefitted from these meetings.

It is well recognized by the leading economic officials that price reform is basic to other components of the decision on economic reform of October 1984. If input prices do not reflect the scarcity of the resources and output prices do not reflect the usefulness of the product, it is not economically beneficial to allow the state enterprises to seek more profits. Large profits do not mean economic efficiency if the input prices are set too low and output prices are set too high. The price of an input will measure its cost to society (termed the opportunity cost) if potential users are allowed to bid for it in the market. The price of an output will measure its benefit to society when users express their willingness to pay for it in the market. To ensure that autonomous state enterprises can perform their cost and profit calculations correctly, prices have to be determined by conditions of demand and supply. What steps should be taken to achieve such a system of prices is a crucial question. In particular, the prices of steel, oil, coal, and electricity are set too low and need to be adjusted upward and perhaps set free eventually.

Concerning the second component of the decision of October 1984, central planning will remain an important part of the Chinese economic system even though its scope will be reduced. The continued building of an economic infrastructure will be accomplished by central planning. Output targets for certain important industrial products will likely be set by mandatory planning in the sense of being compulsory rather than by guidance planning in the sense of

being suggestive. Even in the fulfillment of mandatory output targets, the Chinese economic planner can beneficially use a set of market prices and respect the autonomy of state enterprises. The mandatory products would have to be paid for at prices agreed upon by negotiations with producers. At the beginning of this article, a centrally planned economy was distinguished from a market economy in not relying upon prices to play an important role in the allocation of resources. This characteristic of Soviet style central planning is being changed in China. State enterprises will obtain more of their material inputs from other enterprises directly rather than through central distribution and will sell more of their products to other enterprises or to consumers. Market prices will play a more important role, as it has already occurred for agricultural products.

The remaining components of the 1984 decision on economic reform also depend on the functioning of market prices. The development of macroeconomic control devices through the uses of taxes, interest rates and monetary policy will be effective in regulating the behavior of industrial enterprises and individual banks only if physical, human and financial resources are appropriately priced. The encouragement of differential wage rates to reflect labor productivity is a step to improve the pricing of labor services. Individual and collective enterprises can function efficiently only if prices are determined by the forces of demand and supply, and many of them are already functioning in this manner. Foreign trade will be beneficial only if domestic prices reflect the relative scarcity of economic resources.

Besides price reform, three other sets of problems receive the attention of the Chinese economic reformers. The first is to formulate a set of rules for state enterprises so that they can operate more efficiently. The second is to design macroeconomic mechanisms and institutions to regulate the micro

units. The third is to improve the operations of foreign trade and foreign investment. So far state enterprises have been given some autonomy in the purchase of inputs and in the sale of outputs. They are also allowed to retain a part of their profits for distribution to the workers in the form of bonuses and for reinvestment. They are allowed to borrow from banks to finance their investments in lieu of obtaining funds through central appropriation. Such an increase in autonomy has not led to marked increases in economic efficiency. Large profits may have resulted from inappropriate prices. For lack of better uses, retained profits have been distributed to workers in the form of large bonuses without regard to labor productivity. Often large scale capital constructions have been undertaken using retained profits or bank loans without regard to the economic worth of the projects. In short, what will ensure the responsible behavior on the part of state enterprise managers once they are given more power? They may lack sufficient incentive if they are not allowed to share a part of the profits of the enterprise. They may undertake unprofitable and risky investments if they are not penalized for the losses. Chinese economic reformers recognize that state ownership may be divorced from state management. Managers of state enterprises could be made responsible to some independent boards of directors. Shares of the enterprises may be held by fairly independent government agencies, by workers, by managers, and by other economic units. Shareholders may help elect members of the board of directors. These and other possible arrangements for the management of state enterprises are being considered.

The development of a macroeconomic control mechanism for the execution of monetary policy depends on the institution of a new banking system. Under central planning before 1979, the banking system in China did not exercise much economic power. Essentially it served as the treasury for the government,

keeping deposits from the Finance Ministry and from state enterprises, issuing currencies and extending loans to state enterprises as they were needed and were approved by the economic planning authorities. In the early 1980's, the concept of central banking was being institutionalized, with the People's Bank serving as the central bank. Other banks include the Industrial and Commercial Bank, the Agricultural Bank, the People's Construction Bank, the People's Insurance Company, and the Bank of China, the last dealing with foreign transactions. The People's Bank was given more power in regulating money supply and controlling interest rates. The specialized banks were given authority to extend credits to state and collective enterprises at their own discretion. However, an effective mechanism of monetary control by the central bank is yet to be developed. A set of rules for the improved operations of the individual banks is yet to be formulated. How can the previously passive banks be made to operate effectively in attracting savings from the economy and channeling them for profitable investments? What kind of reserve requirement or what other regulatory scheme should be introduced for the central bank to control total money supply and bank credits? These are among the most important questions being studied.

Concerning foreign trade and investment, by what mechanism or set of rules should the exchange rate of the Chinese currency be determined? The People's Bank has the authority to set the official exchange rate for the Chinese yuan. The yuan was devalued three times from 1.9 yuan per one U.S. dollar in 1981 to 3.7 yuan in July 1986, mainly to make the official exchange rate closer to the market rate. In the past foreign exchange was tightly controlled; all uses by enterprises, universities and individuals had to be approved centrally. Some relaxation has taken place in recent years as exporting has been partly decentralized and exporters are allowed to keep a

part of their foreign exchange earnings which constitute an additional supply of foreign exchange. The setting of an exchange rate closer to the market rate will reduce the shortage of foreign exchange as shortage will cease to exist if the price of U.S. dollars is allowed to rise freely. Hence there will be less need for strict control of foreign exchange in China. How should foreign investment be further promoted? Bureaucracy, red tape, the lack of a sound legal system, unreasonable profit sharing arrangements, high and non-uniformed costs of labor and materials, difficulty in profit remittance, problems in managing Chinese labor and possible changes in policy and terms of agreements are among the obstacles to foreign investors. How can these conditions be improved? How can the special economic zones be made more attractive to foreign investors and more beneficial to the growth of the Chinese economy?

As the Chinese economic reformers are seeking answers to these questions, they are experimenting with reform proposals deemed to have a good chance of success. Reforms are introduced partly by trial and error. For example, initial reform of state enterprises was carried out by experimentation with a selected number of them. When mistakes are found, they will be corrected. One serious mistake was the granting of power to individual banks in extending loans to investors before the establishment of an effective mechanism to limit the total supply of money and credit. The result was a tremendous increase in credit and an increase in currency in circulation by 50 percent from 52.98 billion yuan at the end of 1983 to 79.21 billion yuan at the end of 1984 (see Statistical Yearbook of China 1985, p. 526). To correct the mistake, credit was greatly tightened in 1985, partly by administrative control, assigning credit quotas to banks and limiting the withdrawing of deposits. A second mistake was the loosening of imports in 1984-1985, including the import of a great number of foreign cars into Hainan island, resulting in a large reduction

of foreign exchange reserves from 16.3 billion dollars on October 1, 1984, to 11.3 billion on March 31, 1985. To stop the drain in foreign exchange, its use was greatly tightened later in 1985 and 1986. Many foreign investors suffered as a result since foreign exchanges were required in the operation of joint ventures. For example, the production of jeeps by a joint venture with American Motors practically ceased because of the unavailability of foreign exchange to buy parts. In the course of Chinese economic reforms, continued experimentation will be inevitable. The reformers are realizing that it is costly to correct large mistakes. They are learning to proceed more cautiously in the future.

What are the prospects of Chinese economic reforms? There are forces to push them forward as well as forces to hold them back. Among the former are an enlightened leadership, a strong popular support, pressure of competition on state enterprises from collective enterprises and joint ventures, and assistance and influence from many overseas Chinese and foreigners. In spite of the many unfavorable conditions in China, many foreigners have helped and will continue to help China through their goodness of heart or the lure of possible profits. Among the forces holding back the reforms are ideological resistance, vested interests, bureaucracy, inertia inherent in economic organizations, and the lack of education among the middle management personnel in government and in state enterprises. The existing labor policy of providing jobs to most, if not all, laborers without regard to performance and the lack of labor mobility are major obstacles to reform. The prospects of reform which I wrote in The Chinese Economy (p. 68) appear essentially valid today:



In summary, the tendency in China is for government enterprises to be allowed to operate more like profit-maximizing enterprises in a market economy and for the private sector to expand. However, the desire on the part of the planning authority to exercise direct control rather than to use only financial means for economic planning, the resistance of a middle-level administrative bureaucracy, and the inertia in the economic and political system will limit the expansion of market forces. Precisely how far the reforms toward adopting features of a market economy will go in the next decade is difficult to predict. However, it appears safe to say that in absolute terms the market elements will be much more important in 1994 than in 1984, but will still fall short of being the major means used by the Chinese government to achieve its planning objectives. In the meantime, we may observe oscillations in the trend toward a market-oriented economy, because the Chinese leaders are in the process of experimenting with and learning about the working of a market economy.

Reform towards a more market-oriented economy will continue in China. The degree of success may be uncertain, but there is no turning back to the former system of central control in agriculture and in industry operating with closed doors. In the meantime, substantial economic growth will continue even if structural reforms are progressing slowly. Notice that the Chinese economy was able to grow during the period 1952-1979 in spite of the adverse conditions of inefficient central planning and two very serious political disturbances. It can only grow faster under the more favorable economic and political conditions of the 1980's.

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