THE CENTRALLY PLANNED COMMAND ECONOMY
(1949–84)

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Introduction

When the Chinese Communist Party took over the government of China in 1949, it set out to fundamentally change the way the economy was organized. Initially the main task was to control the hyperinflation of the pre-1949 years and this was followed by the state takeover of ownership of most of industry and commerce. This in turn was followed by the replacement of household agriculture with agricultural producer cooperatives, a process largely accomplished in the winter of 1955–6. With the state takeover of industry and commerce, the government then moved to replace the production and distribution system, which up to that point had largely been governed by market forces, with a system of central planning where the government decided what would be produced, who would produce it, and from whom enterprises would receive the inputs required for this production.

This system of government control of the production and allocation of industrial products was patterned on the system then in place in the Soviet Union. The decisions as to what to produce with what inputs was made by a central planning agency that in China was called the State Planning Commission (SPC). The SPC drew up output targets for each industry together with targets indicating which inputs in what quantity would be used to produce those products. These output and input targets were then broken down into comparable targets for individual enterprises. The managers of these enterprises were then expected to carry out their part of the plan as spelled out by these SPC targets. There were a variety of implementation measures designed to ensure that the managers would do precisely that and these will be described below. Industrial inputs and output were not bought and sold on the market – they were allocated administratively by a government agency that completely replaced the market in most cases.

The decision to adopt this system is difficult to understand from the perspective of the twenty-first century, given that the system failed in the Soviet Union and Eastern Europe, and was largely abandoned by China (beginning in 1984) and the Soviet Union, Eastern Europe, and Vietnam (beginning in 1989). The Chinese decision to adopt this system, however, was not as irrational as it now seems. There were three major reasons why China went ahead with this transformation in the management of its economy.
Markets in the 1940s were seen, by many in the developing world, as associated with capitalism, imperialism, and colonialism; they were seen as vehicles for repressing the citizens of the countries in the developing world. This view was reinforced in China and in the ruling Chinese Communist Party whose ideology was based on Marx’s labor theory of value that implied that markets were irrational rather than forces for the efficient allocation of goods.

The economic growth model used by the Soviet Union beginning in the 1930s and by China in the 1950s assumed that international trade would play only a very minor role in these economies. The development strategy would be based on a “closed economy.” In a closed economy a country must produce all of the goods that it needs or wants. Importing the goods from elsewhere is for the most part not an option. Domestic producers therefore must manufacture not only garments, shoes, and foodstuffs, as is the case in the early stages of development of most countries, but they must also produce the steel, machinery, and other heavy industry products required for development of the country’s infrastructure and production capacity. China in the early 1950s had few heavy industries of this type and thus had to build most of them from scratch. The centrally planned system implemented through government commands was a more rapid way to create these new industries than reliance on market forces alone would have been. Heavy industries were also needed to produce weapons and China, like the Soviet Union, saw itself as surrounded by enemies and in 1953 had just completed a war with the United States in South Korea. During and after that war most of the world’s market economies imposed an embargo on trade with China that lasted for nearly two decades. A closed economy strategy makes little sense in the world of the twenty-first century, but it was not irrational in a country at war, or contemplating being at war. The Soviet Union itself adopted this system in the 1930s when it faced possible war with the greatest military power at that time, Nazi Germany. The model that most influenced the Soviet Union was the economic system used by Germany during the First World War in 1914–18.

The economic system of the Soviet Union in the 1950s was also seen by most people in the world as being successful at achieving a relatively high rate of economic growth and a modernizing economy capable of defeating Germany and holding its own, at least in military competition, with the United States. China’s leaders for nearly a century had been trying to make the country “wealthy and powerful” without much success, and the Soviet economic model seemed to make both goals possible. By the 1980s after years of near economic stagnation in the Soviet Union and Eastern Europe and slow growth in China, the image of this Soviet system was mostly negative but that was much later.

The nature of the centrally planned command system

What was the nature of this closed economy planned system that China adopted from the Soviet Union? To begin with the full Soviet-type centrally planned command system applied mainly to the industrial sector. Agricultural production did not lend itself well to central planning. There were hundreds of thousands of farm production units after the formation of producer cooperatives and Communes each facing production situations dictated by weather, different soils, different topography, and much else. Efforts to centrally plan agriculture were quickly abandoned and replaced by government-set procurement quotas for grain and other major products. These procurement quotas effectively set minimum targets for the output of key farm products that were reinforced by government efforts to ensure that each producing unit devoted a certain amount of its land to grain and other key farm products. Many farm products ranging from vegetables to hogs were not planned at all and farm producers could usually sell those products on local markets.
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The industrial planning system started with the drawing up of a central plan that produced targets for the output of each industry as well as targets for the inputs that would be used in producing that output. The leading plan was the five-year plan and each five-year plan, at least in principle, was broken down into five annual plans. Data needed to draw up these plans was for the most part collected from the enterprises that were designated to produce particular products. The data were collected by the SPC which was responsible for producing the five-year and annual plans. The main task was to ensure that all of the plan targets were coordinated with each other so that each enterprise and each industry would receive the inputs it needed to generate the required outputs.

In all economies there must be a mechanism for coordinating inputs and outputs, so that enterprises can obtain the right amount of each input needed to manufacture the products that consumers, other producers, or the government demand. In a market economy this coordination problem is solved by market forces that raise the prices (and profits) of products in short supply and lowers the prices and profits of products that have a large surplus. In a centrally planned command economy, this problem is solved by planners (who were the SPC in China’s case). The process is called “material balances planning” and the specific ways that the staff of the planning commission decide whether to increase or decrease a target for a given industry, involve bureaucratic procedures that are difficult to describe, even in an essay considerably longer than this one. In essence the process was an ad hoc one where planners in one sector, such as steel, attempted to match their output goals and input needs with the output goals and input needs of other closely related sectors. What these planners were trying to do can be best understood using input–output analysis even though the central planners in China (and in other centrally planned economies) did not formally use the input–output technique. Their ad hoc methods, however, did have to approximate the results of formal input–output analysis if the plans were to provide a reasonably efficient set of coordinated inputs and outputs. Thus the use of input–output analysis, to describe the nature of what relatively efficient planning required, is a succinct way of illustrating the enormous information requirements of a centrally planned command system. It also illustrates well the reasons that China had great difficulty implementing this system efficiently.

The core of input–output analysis is a matrix that is full of coefficients that tell one the amount of a given product, steel for example, that is needed to produce a unit of another product, as in machinery. A certain amount of this machinery is needed to produce an automobile, as is a certain amount of steel. These coefficients can then be arranged in a matrix where the vertical axis of the matrix lists the output of the products being planned and the horizontal axis lists all of the inputs that go into these various outputs. Thus going down one column in the matrix, from top to bottom, are the coefficients of the inputs required to produce a particular product (each column in effect listed the inputs for one product, such as the amount of cotton in clothing, or the amount of steel and machinery in a truck). Going from left to right along a single row gives the coefficients of a particular input, steel for example, used by a unit of every product in the table.

The first job of the central planners is to estimate the coefficients in this entire matrix. In the case of China, the SPC in 1957 was responsible for planning 729 products although probably only around 235 involved systematically coordinating inputs and outputs. If this coordination had been handled through formal input–output techniques, a matrix with the dimensions 235 x 235 would be required, or over 55,000 separate entries although many of the elements of the matrix would be zero (a given input was not used in that particular product). In practice, as already indicated, China used a less formal coordination mechanism but the number of coefficients for which estimates had to be made was still very large. These coefficients, it should be
noted, are estimates of what the input–output relationship would be in the coming year or the next five years, not the actual relationship in the year just past.

Together with estimating these input–output coefficients or, in the case of China, their ad hoc equivalent, the planners have also to decide how much of each product to produce. The broad guidelines come from the political leaders of the country, but these have to be translated into what in input–output analysis is called “final demand” although the term was not used in the Chinese planning process. Final demand is the total amount of each product that is available for consumption by consumers, is exported, or is invested in new production capacity. The planners then see if the desired list of final demand products is feasible – will there be enough inputs to supply the desired output left over for final demand, after much of the output is used up as intermediate products during the production process? If that is not the case, the planners then have to adjust their final demand targets so that there are sufficient inputs to meet those targets. If mistakes are made in estimating the input–output coefficients, and mistakes in this complex of a system are inevitable, some of the final demand products fall short of their targets while others may have a surplus of one input, or another that is of no immediate use in production. In China as in the Soviet Union, when inputs did fall short and the production of some products had to be cut back, it was typically the producer goods sector or the military that had priority for whatever product was available. Consumers typically got a lower priority and simply had to do without. In addition to the production plan, there was then a plan for investment in new capacity. This investment plan is the one aspect of this formal planning process that was still operational after China abandoned most central planning in favor of reliance on markets in the late 1980s and 1990s.

The determination of output and input targets, however, was only the beginning of the process. The planners then had to draw up a variety of related targets that had to be broken down to a degree whereby each industrial enterprise of any size received specific targets designed for that enterprise. Altogether each enterprise each year through 1957 received 14 separate targets, seven expressed in terms of physical quantities and seven in terms of money values. The targets were as follows:

- Output of major products
- Total number of employees
- Trial manufacture of new products
- Total employees at year’s end
- Consumption of raw materials
- Level of mechanization
- Rate of equipment utilization
- Gross value of output
- Cost reduction rate
- Cost reduction quota
- Total wage bill
- The average wage
- Labor productivity
- Profits

Formally each of these targets had the force of law behind them through 1957 but after 1957 formally only four were “compulsory” and the rest were “advisory.” In reality it was impossible to draw up so many targets for so many industries and firms that large errors in setting these targets were inevitable. The managers of enterprises both before and after 1957 thus had to
choose which of these targets were most important including choosing between where maximum effort should be mainly placed among the four compulsory targets. The answer generally was the physical output targets because failure to meet these, particularly for producers of intermediate targets, meant that users down the line did not get the inputs they needed and thus they also would fail to meet their output targets. Profits in this system were not very important because most profits simply had to be turned over to the government and could not be retained by the enterprise.

The fact that these targets had the force of law was only the beginning of how enterprise obedience to these targets was enforced and not a very important beginning since so many of them had to be ignored as impractical. The real enforcement mechanisms for the annual and five-year plans were elsewhere. Probably the most important single mechanism was that China’s government was responsible for allocating most industrial inputs to the individual enterprises that needed them and this allocation was based on the plan targets for that enterprise. If the plan called for a given enterprise to receive 50 tons of steel plate of specific dimensions, the government allocation agency delivered that amount, no more and no less.

Further backing up this administrative allocation of inputs in accordance with the plan was the Chinese banking system. The Chinese banking system was basically one single bank, a mono-bank, which combined the functions of both the central bank and the commercial banks. It had two principal duties:

1. The enterprises were required to keep most of their surplus funds in the bank and it was the task of the bank to monitor the use of those funds to ensure that they were used in accordance with the plan. In principle and sometimes in practice they could refuse an enterprise withdrawal of its funds if the use was not in accordance with the plan.
2. The bank would lend money to firms that needed additional mostly short-term funds to meet their plan targets.

The bank did not lend long term for investment to these producing enterprises. Investment was handled separately by enterprises set up to build increased capacity in all industries and much of it was paid for out of the government budget. A principal source of the funds for that investment was the enterprise profits that had to be turned over to the government. When the construction of the new capacity was completed, the new plant then would be turned over to the producing enterprise to operate. Enterprises producing industrial products, therefore, did not have the authority to decide on whether to expand their production capacity, nor did they have access to the funding necessary to pay for such an expansion. Control was firmly in the hands of the SPC. In the 1960s and 1970s, this system of control over investment was modified from time to time, and enterprises were allowed to retain a small portion of their profits and to use those funds to invest in improvements to their enterprise, typically improvements designed to upgrade key equipment. Nevertheless, major investment projects designed to expand capacity in major ways continued to be controlled by the SPC or its provincial equivalents throughout the period of central planning and the command economy.

Marketing in this kind of system plays little role. When business professors went to China in the early 1980s to teach classes on marketing, many in their audience found the idea that you could teach marketing – or that a firm should even be concerned with marketing – an alien concept. Enterprise managers did not have to market their products. They simply turned what they produced over to the state allocation agency and that agency delivered the products to where the central plan directed. This writer has visited factories in China where the product of the factory was simply placed outside the factory gate in rain and shine waiting for the
government allocation agency to pick it up. These products, as the managers made clear, were no longer their responsibility.

Finally this system had to devise a method for incorporating foreign trade – because no country can practice complete autarchy that eliminates all imports and exports and hope to achieve sustained economic growth. The central plan determined where production of particular products was likely to fall short of demand, thus making imports of that item necessary. Similarly the plan would estimate where industries were likely to generate a surplus above domestic needs and thus could be exported. Most of China’s foreign trade in the 1950s was with countries in Eastern Europe and the Soviet Union and trade between these countries and China was determined by bilateral and multilateral negotiations between these countries. Implementation of the plan was carried out by special foreign trade corporations set up to handle the trade in particular industrial and agricultural sectors. Industrial enterprises themselves were not allowed to negotiate directly for imports or to sell exports. The foreign trade corporations would get their instructions from the planners and the imports would be delivered to the ultimate user in accordance with the plan. This system had to change somewhat when China broke with the Soviet Union and its allies in 1960 due to the fact that China was selling to and buying most imports from market economies. However, the monopoly foreign trade corporations still handled all of China’s foreign trade meeting with potential suppliers of imports and purchasers of Chinese exports in various venues, notably the annual trade fair in Guangzhou. Foreign suppliers and purchasers had no direct contact with the enterprises that used their products, or from whom their purchases came.

2 The centrally planned economy in practice

The discussion to this point has focused on how the formal planning and plan implementation process was designed to work both in China and elsewhere in Soviet-type economies. The reality was often different.

To begin with, the planning process produced five-year plans and it has continued to do so in the twenty-first century. However, the first Five-Year Plan nominally covered the years 1953–7 but it was not really fully drawn up until 1955. The second Five-Year Plan was supposed to cover the years 1958–62 but the Great Leap Forward also began in 1958 and all planning was effectively thrown out the window. Furthermore, during the Great Leap Forward enterprises came under great political pressure to compete with each other by steadily increasing their plan targets, without respect to whether they would ever get the inputs or increased capacity to meet those higher targets. By 1960, the result of this politically inspired but unplanned expansion was chaos in industry because there was no real coordination of inputs and outputs of any kind. In 1960, this problem was exacerbated by the break between China and the Soviet Union, over foreign policy issues for the most part, that led to an end to Soviet technical assistance and an end to many Soviet deliveries of key inputs into industry. Industrial output fell sharply in 1960 and 1961 even in high priority areas such as the production of military weapons. This crisis in industry was combined with a famine, caused by massive dislocation in the countryside due to the first phase of the People’s Communes, that led to tens of millions dying from malnutrition and related causes.

After an interregnum during 1962 through 1965, order and coordination were restored in industry although much of this coordination now occurred at the provincial level, at least in theory. The ownership of many of the industrial enterprises was turned over to the provinces and the major cities on the grounds that they were closer to the industries in their jurisdictions and thus could do a better job of identifying and correcting problems. The third Five-Year Plan
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subsequently began with the intention of guiding the economy during 1966–70. Mao Zedong by that time, however, had regained control of the political system and, together with certain of his political allies, launched what was called the Great Proletarian Cultural Revolution. The Cultural Revolution unleashed millions of students and other activists on the society and economy causing considerable chaos particularly in 1967–8. This chaos was combined with a decision to force most of the government bureaucracy along with many others to spend time, often several years, in the countryside being “reeducated.” These “sent down” cadres included many from the SPC making it impossible to do very much planning. Industrial value added fell by 15.1 percent in 1967 and another 8.2 percent in 1968. Somewhat surprisingly industry recovered rapidly in 1969 and 1970 and by the latter year was 40 percent above the level of 1966. Some kind of planning must have been going on during these years because there was no alternative coordinating mechanism in place.

The fourth and fifth Five-Year Plans (1971–5, 1976–80) took place during the last years of the life of Mao Zedong and Zhou Enlai while there was considerable political infighting at the top, including over economic policy, so systematic planning would have been difficult but annual plans still had to be drawn up to guide production and input allocation. The year 1976 saw the death of first Zhou Enlai, followed by the purge for the second time of Deng Xiaoping, the death of Mao Zedong, and then the arrest of the radical leftists known as the “gang of four.” That year was followed by the restoration of order; however, the most dramatic change in terms of economic policy was when Deng Xiaoping returned to power and in late 1978 launched the process that over the next two decades was to transform China’s economy into one dominated by market forces, rather than central plans and government commands. The fifth Five-Year Plan thus was dead long before its five years ended.

That is the macro picture but there was much going on at the micro level during good years and bad that was driven by the nature of the centrally planned command economic system. There were three basic problems with this system at the micro level:

1. The data requirements of this system were very large and introducing these requirements into a large developing country with little experience with modern accounting practices or any other data collection procedures was problematic. The fact that industrial enterprises in China varied enormously in size and sophistication from each other (and in some cases within an industry itself) and had widely varying cost structures made the task of collecting data needed for planning much more difficult.

2. A system that emphasizes physical targets for output and inputs inevitably generates enterprise management behavior that leads to quality problems and cost overruns.

3. The difficulty in getting the right inputs to the proper places caused (in part but only in part) by poor data leads to other forms of behavior that raise costs. Inventories, for example, build up because producers who receive more of an item than they need do not return it to the planners. They put it in their warehouses in case they need it next year or they keep it to trade with another enterprise for something they do need, a practice that was common although not really legal under the command system.

The lack of good data effectively meant that it was impossible to set targets that were anywhere close to what actual performance was likely to be. Data for the first Five-Year Plan are presented in Table 3.1.

Table 3.1 supports two conclusions. First, Chinese plan targets in the first Five-Year Plan period had little relationship to actual industry performance. Second, with the exception of the production of petroleum, the industries that did not meet their plan targets were in the consumer
goods sector which throughout the centrally planned command economy period received a lower priority for inputs than producer goods industries. The consumer goods in the table were also dependent on the vagaries of the harvest for cotton, sugarcane, and tobacco. Plan targets that missed by 50 or 100 percent or more could not have had much influence on enterprise decision making.

The problems with obtaining high product quality and low cost were inherent in this kind of system. The job of an enterprise manager was to meet the company’s plan targets and the physical output target and the gross value output targets were the most important. It was difficult to impossible for central planners to define and enforce these targets in sufficient detail to ensure that the products met high-quality standards, such as a failure rate of only 1 percent. No one would know whether they had met that target until the product was in use and even then it would not be clear why a particular item failed. In a market economy a regular high failure rate would become widely known and users would stop buying the product, but that was not the case in China where the user was typically dealing with a supplier who had a monopoly of the local market; a supplier determined by the planners not the purchasing enterprise. You accepted what was delivered to you and hoped for the best. The producer of this intermediate product would focus mainly on making sure he made enough machines or steel to meet his target. In a market economy the production of a low-quality product might also lead to the fall in its price, but the state set these prices and did not usually change them based on market conditions. In any case, a monopolist does not have to lower prices to sell an essential intermediate product.

Cost overruns were the result of similar problems with the nature of plan targets. Given the importance of the output targets, it was more important for an enterprise manager to meet that target even if it meant using more of a given input than was called for in the plan thus raising costs per unit of output. The central planners set targets for the use of these inputs that were designed to prevent the manager from using too much of a given input but there were several problems with these input plans.

First, given that meeting the output plan was more important, the enterprise manager would simply ignore the input plan. More commonly the enterprise manager would try to negotiate
with the central planners to receive a higher allocation of critical inputs. The central planners depended to some degree on the enterprise to provide them with the data to set these input plan targets and the enterprises regularly tried to convince the planners that their input coefficients per unit of output were larger than was actually the case. The planning process more generally was a negotiation between the planners and the enterprises with the latter trying to get as low an output target as possible (so as to be sure to be able to surpass that target) and as high an input target as possible. The planners, knowing that that was what the enterprises were trying to do, would push back. In the Soviet Union the planners introduced taught planning where input plans and output plans were set in a way that made it difficult to achieve the output target with the planned input targets. In China, however, taught planning did not work as well, in part because it was so difficult for the planners to come up with accurate estimates of input and output requirements, as evidenced by the previously described undershooting and overshooting of plan targets by large margins.

Second, the problems with the allocation system, getting the right inputs to the correct users, were also an important source of cost overruns. Enterprises could not go on the market and purchase what the planners failed to deliver to them. There were no regular markets for intermediate industrial products. Given the inaccurate nature of many of the plan targets, it was common for an enterprise to receive both more and less of given inputs than it needed. In principle the enterprise should have given the unneeded item back to the government allocations bureau and ask the allocation bureau for more of an item where it was short. In practice one had great difficulty getting more of a needed item if it was not already in the plan and getting the plan changed was a formidable bureaucratic undertaking. Enterprises dealt with the problem by holding on to all the surplus inputs that they received whether they needed them or not. The result was that enterprises in China as in all Soviet-type economies typically accumulated large inventories of inputs.

In a market economy producers often keep inventories of what they produce in order to meet possible increases in consumer demand for their product. Soviet-type producers do not keep inventories of their final product because they are not responsible for marketing it. They do keep large, often huge, inventories of inputs because they can do one of two things with these inventories. They can use them the next year to produce more and thus surpass their output target or they can trade the items in their inventory that they do not need with another enterprise in exchange for something that they do need. The Hungarian economist, Janos Kornai, used this situation to develop an index of the ratio in a country of total input inventories to total output inventories. The higher the ratio, the more the economy was dominated by centrally planned commands while market economies typically had a low ratio.

It should be noted that in the Soviet Union, trading between enterprises of surplus items in their inventories was technically not supposed to occur and there could be stiff penalties for such practices. Even with stiff penalties, however, most enterprises were actively involved in exchanges of this kind because there was no way to meet plan output targets without doing so. In contrast, in China there was never much effort to enforce prohibitions on exchanges of this kind and occasionally open formal exchanges to facilitate the process were allowed.

Finally the problems with this approach to planning also created problems for the banking system. As already indicated, the most important targets were the output targets and anything that interfered with obtaining or surpassing those output targets was opposed at the highest levels of the government. Thus the bank’s authority to ensure that all money in enterprise accounts was spent according to the plan in practice meant that they would allow most expenditure that had anything to do with meeting the plan output targets. Similarly, if a firm needed a short-term loan to meet a need, the bank would supply it if it met a plan need. In practice the...
definition of what constituted a legitimate use was not determined by the bank but by higher up political authorities, both in the localities and at the central level. Similarly investment funds for the separate investment enterprises could also bring pressure on the bank through the political authorities for loans to cover investment project needs that were above what was supplied from the government budget.

In this context the People’s Bank of China, the only bank, was much weaker than its monopoly of banking might make it appear. In market economies independence of the central bank is often seen as critical for keeping politics out of lending and in ensuring that inflation is kept under control. In China during the centrally planned command period, inflationary pressures were controlled by the SPC and not the People’s Bank. It was the SPC and higher government authorities that set the labor employment targets and set all urban wages. Enterprises were expected to hire individuals through government labor bureaus and those bureaus would enforce the plan targets. Wages set by the state, for the most part, had no relationship to labor market forces. There was no labor market. Inflation on the consumer market was controlled by making sure that the total wage bill (the average wage times the total number of employed) together with the money income of farmers (obtained from selling goods at state-set prices to government purchasing agencies) was not larger than the availability of marketed consumer goods and that was the job of the planning agency, not the People’s Bank. The resulting weakness of the banking system in the sense of not being able to resist political pressures persisted well into the post-1978 reform period.

For all of the problems of this system, it did produce economic growth but at a very slow rate. The official estimated GDP growth rate for 1953–78 was 6.1 percent per year and for 1958–78 it was 5.4 percent a year but these rates are overstated by the use of high state-set relative prices for industrial products that exaggerate the contribution of industrial growth to GDP growth. Revaluing GDP in Chinese market prices of the year 2000 lowers the GDP growth rate in these two periods to 4.4 and 3.9 percent per year respectively (Perkins and Rawski, 2008: 859). Given that population growth during these years averaged 2.0 percent per year and a rising share of GDP went to investment, the rise in consumption of the average Chinese family was not much over 1 percent per year after 1957 through 1978.

3 Efforts to modify and then abandon the centrally planned command system

The Chinese leadership from almost the beginning was not very satisfied with the rigidity of this centralized system for managing the economy. In 1957 shortly after the centrally planned system was first set up the government experimented with the use of market forces in areas where central planning and government commands could not readily function well. That effort was short-lived because it gave way to the Great Leap Forward where Mao Zedong used his formidable political mobilization skills in an attempt to accelerate growth and catch up with the West.

As explained above, the Great Leap Forward did decentralize industrial decision making to the enterprise but failed to provide any mechanism for coordination of inputs and outputs. Instead, enterprises in the spirit of the times simply raised their output targets by large amounts, whether or not there was any realistic prospect of getting the necessary intermediate inputs and investment goods to carry out these expanded plans. One of the more extreme elements of what went on was the practice of using backyard iron and steel furnaces to melt down perfectly useful steel farm implements and the like, and turning them into low-quality steel. By 1959–60 the industrial economy had collapsed even in high priority sectors such as those serving the military.

Restoration of order in industrial planning in the early 1960s did not return to the highly centralized system of the Soviet Union that informed China’s first efforts in the 1950s to
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introduce the centrally planned command economy. Instead, as mentioned above, a large proportion of the industrial enterprises were decentralized to ownership and control (including planning) at the provincial and large city level. Smaller scale firms, notably what in the 1970s were called rural small-scale industries, were turned over to counties, Communes and Commune brigades to manage. Decentralization of this sort simplified the planning process at the center because most of these smaller firms decentralized and got many of their inputs from within the political units that owned them. Thus considerable coordination could be done without much involvement of outside provinces or even outside counties. Strategic industries of national scope mostly remained under the control of the central government and the SPC, even if some of them may have been formally owned by provinces and cities.

In the aftermath of the collapse of the Great Leap Forward there were also periodic attempts to improve the performance of enterprise management. These included everything from providing bonuses or other material incentives to managers and workers to allowing enterprises to keep a portion of their profits. Few of the changes in the way profits were handled had more than a marginal impact on enterprise efficiency, however, largely because the emphasis on achieving and surpassing output targets still dominated.

During the height of the Great Leap Forward material incentives of all kinds had come under attack, they were to come under attack again during the Great Proletarian Cultural Revolution and were effectively abolished for a time only to be restored later. Hiring remained tightly controlled and the urban workforce was sharply reduced from 61 million to 45 million between 1960 and 1962 before being allowed to expand again reaching 95 million in 1978 (National Statistical Office, 2009: 609). Few rural workers were allowed to migrate to the cities so most of this increase in urban employment occurred within the population already registered as urban residents and their children. One positive result of these restrictions on rural migration to the cities was that enterprises hired more women who were already registered as urban residents to make up for the shortage of men, but in order to make up for the shortage of registered urban workers, enterprises also used more capital intensive techniques in production than otherwise would have been necessary.

Highly skilled workers, notably university graduates, were assigned to jobs where the planners determined they were most needed, even when that sometimes meant sending husbands and wives to separate cities. This system of job assignment for skilled workers, together with tightly restricted migration to the cities of rural unskilled workers, did not disappear overnight with the reforms that began with the Third Plenum of Eleventh National Party Congress in December 1978. Some of the restrictions on rural migrants, notably their lack of access to urban health care and other urban welfare benefits, persisted into the twenty-first century.

The initial reforms in the early 1980s involved mainly agriculture – notably the return to household farming and the abolition of the Commune system – and the opening up of the economy to expanding foreign trade. The expansion of foreign trade, however, continued for a time to be handled in much the same way as during the earlier part of the 1970s. Foreign trade corporations continued their monopoly of imports and exports in their particular sectors and many trade deals were negotiated at the Guangzhou Fair. This changed gradually over the next two decades first by expanding the number of trading corporations and eventually making it possible for enterprises sometimes to deal directly with their suppliers and their export markets (Lardy, 1992). By the 1990s and particularly during the first decade of the twenty-first century, China’s most important controls over foreign trade were mostly through use of macroeconomic measures found in all market economies, including the management of the foreign exchange rate.

The change in the way industry was planned and managed came mostly after reforms that were initiated in October 1984. There were further efforts before then which were similar to
earlier efforts to increase the role of profits, or give enterprise management somewhat more autonomy in decision making. However, the change that made a real difference was in 1984 when the government decided to open up markets for intermediate industrial products and to allow these markets to set the prices for these products. The state enterprises would have resisted this change because they were used to receiving these inputs at state-set prices that were often much lower than the new market-determined prices. To deal with this political problem the government introduced a dual price system with the state enterprises still able to get their government-supplied intermediate inputs at low state-set prices (but only in limited quantities while these state enterprises purchased the rest of inputs at higher market prices). Meanwhile everyone else purchased these inputs on the market at market prices.

“Everyone else” in this case means the majority of the rural small-scale industries that came to be known as “township and village enterprises,” as well as their counterparts in urban areas, the “urban collective enterprises.” In the 1970s, rural small-scale industries operated as a part of the centrally planned command economy, except that most of the planning was done at the county level or below. If the rural industry could get the inputs it needed locally, or could manufacture these inputs themselves, it did not have to deal with higher level planning offices. But many of these industries required steel and equipment from outside the county and for those inputs they had to apply to higher planning authorities who generally gave priority to the larger enterprises under provincial or national direction. Thus making these key inputs after 1984 available on the market often made it possible for these enterprises to obtain what they needed simply by going to the market. Far from resenting the higher market prices, the rural and urban enterprises that bought their inputs on these markets welcomed the ability to get whatever they needed. This ability resulted in the now well-known boom in township and village enterprises that accounted for much of China’s high GDP growth from the middle of the 1980s to the middle of the 1990s.

The dual price system also had two other impacts – one positive and one negative. The positive impact was that as market prices became more and more the dominant prices at which goods were sold, the inefficiencies of the state-owned enterprises that were in effect subsidized by the low state-set prices became more and more apparent and many began to make losses. Second, on the negative side dual prices created an opportunity for politically influential people to corruptly obtain goods at state-set prices and quickly resell at large profits at market prices. The dual price system gradually came to an end in the 1990s not so much by government decree, but because enterprises producing these intermediate inputs clearly preferred to sell them at market prices. The enterprises selling the products had many ways around government rules that in effect made it difficult for the purchasing enterprises to get the inputs they needed at state-set prices and so they went to the market as well.

By the 1990s the inefficiency of many of the state-owned enterprises was seen as an increasing problem both in being a drag on GDP growth and also a source of inflationary pressures during boom times (such as 1988–9 and 1993–5). Most of the dynamism in industry was coming from the rapidly expanding foreign direct investment sector together with the township and village enterprises both of which responded mainly to market forces, not state plans. The biggest problem in the state sector, despite all the efforts at reform, was that the state sector still faced relatively little competition or other pressures to perform at a level comparable to the other enterprises. China’s leaders, notably Premier Zhu Rongji, increasingly used foreign competitive pressures by joining the World Trade Organization in 2001 in order to force a higher level of performance on the state sector. By this date, however, there was little left of the centrally planned command economy. The five-year plans continued to be drawn up but they mainly set the general direction of government policy and the government investment program. The State
Planning Commission’s name was changed to the National Development and Reform Commission (NDRC) and it continued to be the most powerful government economics organization largely because large-scale investment projects, public and private, still had to be approved by the Commission. The setting of plan targets for enterprises was largely a thing of the past. China was a market economy and government influence over that economy, as in all market economies, was largely through the government’s infrastructure investment program and its use of macroeconomic controls.

At the end of the first decade of the twenty-first century, the NDRC continued to draw up five-year plans but the operative targets of these plans, as represented by the twelfth Five-Year Plan (2011–15), were macroeconomic – setting the overall target rate for GDP growth, for the growth of urban employment, for the share of research and development in GDP, for various environmental and energy use goals, and a variety of economic reform and restructuring efforts. The authority to approve these targets remained with the Politburo of the Chinese Communist Party and its Standing Committee, but the NDRC was the primary implementing agency (in large part through its authority mentioned above) to approve or deny major investment projects. The NDRC was also directly responsible for major special programs such as the Western Region Development Program and the development of the energy sector (as well as the management of the national oil reserves).

Notes

1 For a description of parts of the way this system worked, see Chow (2007: 36–41).
2 Hungary attempted, under the leadership of Janos Kornai, to formally use input–output analysis in drawing up a Five-Year Plan during its command economy period, although in the end the planning agency reverted to its more ad hoc procedures. Many countries and analysts today, including in China, use input–output analysis to understand how various development strategies affect growth of individual sectors of the economy, but these plans and this analysis are not used to derive targets that industries are expected to obey. Plans of this sort are called “indicative plans” in that they indicate where the planners think the economy is going and thus can act as a voluntary guide to enterprise managers as to how the demand for their product is likely to evolve.
3 Formally input–output analysis can be expressed as \( X = AX + D \) where \( X \) is the vector of the total output of each product being planned, \( A \) is the input–output matrix that contains all of the inputs used in producing a unit of the various products, and \( D \) is the vector of final demand which is the amount of each product that is left over and can be consumed by consumers, invested by investors in new plant and equipment, or exported. \( AX \) is the amount of each product that is used up in the production of other products and is not available for consumption, investment, or export. This can be converted to \( (I - A)^{-1}D = X \). In practice in China much of the planning done by the SPC involved finding the appropriate coefficients for the matrix \( A \) even though these coefficients were not actually put into a formal matrix. The other key planning decisions involved making sure that industry produced enough of the high priority items in the vector \( D \) of final demand. These high priority products were typically products needed for the investment program and for the military. Consumer products in \( D \) were typically derived as a residual in China and in other command economies whereas in a market economy with consumer sovereignty the consumer products in \( D \) would have priority. In practice, as stated above, the SPC did not use formal input–output analysis in their production planning but in effect they still had to know the amount of inputs required for each item of output (the coefficients in \( A \)) even though they did not put those coefficients into a formal matrix. Realistic plan targets for output (the vector \( X \)) thus had to be large enough but not too large so that there would be enough left over (the vector \( D \)) to provide for the needs of investment and consumption. In practice planners in China could simplify the process because many of the inputs were unique to particular products (cotton was mainly used to make yarn that was used to make cloth for example and had limited other uses). It was also the case that many inputs for certain products could be obtained locally within a province and in that case the coordination problem could be handled at the provincial level rather than having everything centralized in Beijing.
This discussion of the planning process as it actually worked in the 1950s and 1960s is based mainly on Perkins (1968: 597–636; and 1966: chs.V–VII).

For a more detailed discussion of the steps involved in meeting plan requirements in a particular industry, the production of lathes, see Chow (2007: 271–5).

The logic behind why a shortage economy leads to the build-up of input inventories is discussed in Kornai (1992: 249–50).

For a more in-depth discussion of how these enterprises operated in the 1970s under the centrally planned command system, see the American Rural Small-scale Industry Delegation (1977).

In one rural small-scale enterprise that the author visited in 1975, the enterprise was actually producing a crude truck using materials that for the most part it possessed locally or could be taken from other used equipment (the engine for example). Trucks in the 1970s were in short supply and were generally not available to these enterprises through the plan allocation process.

Under the dual price system the state enterprises did receive a fixed subsidy because the amount of inputs they could purchase at the lower prices was limited. Receiving a fixed subsidy, to the degree that it was really fixed and was not subject to negotiation, did not affect their efficient decision making. For a discussion of the dual price system and how and why it was introduced written by participants in the 1980s reforms see Hua et al. (1993).

Bibliography


