

Chapter 3

Dynamics of Development in the New China

The establishment of the People's Republic marked a sharp change in China's political elite and mode of governance. The degree of central control was much greater than under the Ch'ing dynasty or the KMT. It reached to the lowest levels of government, to the workplace, to farms, and to households. The party was highly disciplined and maintained detailed oversight of the regular bureaucratic apparatus. The military were tightly integrated into the system. Propaganda for government policy and ideology was diffused through mass movements under party control. Landlords, national and foreign capitalist interests were eliminated by expropriation of private property. China became a command economy on the Soviet pattern. After a century of surrender or submission to foreign incursions and aggression, the new regime was a ferocious and successful defender of China's national integrity, willing to operate with minimal links to the world economy.

In the Maoist era, these political changes had substantial costs which reduced the returns on China's development effort. Its version of communism involved risky experimentation on a grand scale. Self-inflicted wounds brought the economic and political system close to collapse during the Great Leap Forward (1958–60), and again in the Cultural Revolution (1966–76) when education and the political system were deeply shaken. Nevertheless, economic performance was a great improvement over the past. GDP trebled, per capita real product rose by more than 80 per cent and labour productivity by 60 per cent from 1952 to 1978. The economic structure was transformed. In 1952, industry's share of GDP was one sixth of that in agriculture. By 1978, it was bigger than the agricultural. China achieved this in spite of its political and economic isolation, hostile relations with both the United States and the Soviet Union, and wars with Korea and India.

After 1978, there was a major political shift to a cautious pragmatic reformism which relaxed central political control and modified the economic system profoundly. These changes brought a more stable path of development and a great acceleration of economic growth. In the 17 years from 1978 to 1995 GDP more than trebled, population growth decelerated and per capita real income rose 2.7 fold. With per capita GDP rising 6 per cent a year, China enjoyed supergrowth. The only country in Asia which did better was South Korea. The growth acceleration was mainly due to increased efficiency. Collective agriculture was abandoned and production decisions reverted to individual peasant households. Small scale industrial and service activities were freed from government controls and their performance greatly outpaced that of the state sector. Exposure to foreign trade and investment were greatly enhanced. This strengthened market forces and introduced consumers to a wide variety of new goods.

The new Chinese policies were indigenously generated and quite out of keeping with the prescriptions for "transition" which were proffered and pursued by the USSR. The contrast between Chinese and Soviet performance in the reform period is particularly striking. As China prospered, the Soviet economy and state system collapsed. In 1978 Chinese per capita income was 15 per cent of that of the Soviet Union. In 1995 it was 60 per cent of that in Russia.

The reform period was one of much reduced international tension. China's geopolitical standing, stature and leverage were greatly increased. China became the world's second largest economy, overtaking Japan by a respectable margin and the former USSR by a very large margin. Its share of world income more than doubled and its share of world trade more than trebled. China took back Hong Kong peacefully, and inaugurated a "two systems" policy designed to attract Taiwan back into the national fold.

China is still a low-income, low-productivity country, but this is a favourable position for a nation which wants to achieve rapid catch-up — if it pursues appropriate policies. The very fact that its level of income is so much lower than that of Hong Kong, Japan, Malaysia, South Korea, Singapore and Taiwan makes it easier to capture the advantages of backwardness, and means that its period of supergrowth could stretch further into the future than theirs.

The postwar performance of most countries was buoyed by the rejuvenation of Western capitalism, and the effects which this had in expanding the world economy. The Chinese situation was very different. In the 1950s its economy was tied closely to the Soviet bloc. In 1960 this tie was broken, and until 1971 it operated in an international limbo, excluded from the United Nations, suffering from a complete US trade embargo from 1950–71. Thereafter its international status became more normal. Foreign trade, travel, investment and transfer of technology showed very rapid expansion.

Chinese experience has been fascinating, unpredictable, and because of its isolation, often difficult to understand. The difficulty in interpreting it was compounded by the fact that the Chinese statistical system was based on Soviet concepts until relatively recently, and there was a statistical blackout in the 1960s and 1970s, when information was very scarce and often distorted for political reasons. The statistical office was actually abolished from 1968 to 1972. Since 1978, the situation has improved greatly, the accounts are more transparent, coverage and classification more or less conform to Western concepts. However, the reporting system and deflation procedures are still influenced by previous practice. Official statistics still exaggerate GDP growth, and understate levels of performance. For the 1950s, a number of respectable studies provided a quantitative assessment of Chinese performance according to Western concepts (Liu and Yeh, 1965; Chao, 1965, 1968, 1970, 1974; Eckstein, 1961; Eckstein, Galenson and Liu, 1968), but such estimates were not feasible in the 1960s and 1970s. In view of these problems most observers simply used Chinese official statistics, as the task of adjusting them appeared to be so complicated. However, it is now possible to recast the national accounts to improve the international and intertemporal comparability of the GDP estimates. Adjusted estimates are used throughout this chapter, in preference to the official figures. For international comparison the size of Chinese GDP is measured using a purchasing power converter rather than exchange rates. These procedures are explained in detail in Appendix C. The difference between my estimates and the official figures can be seen in Figure 3.2. The official estimates substantially overstate growth and imply a 1952 level of per capita income below subsistence level.

In the Maoist period four major economic objectives were pursued:

- i) There was a fundamental change in property rights, with three main targets: landlords, the national bourgeoisie (capitalists, merchants, bankers) and foreign interests (mostly in Manchuria and in the former treaty ports).
- ii) There was a big increase in state revenue to finance expanded administrative mechanisms, maintain a high level of military preparedness and raise the rate of “accumulation”. Investment was concentrated on industrial development, particularly heavy industry. Consumption was squeezed. Basic needs in terms of food, health and education were given priority, but clothing was drably conformist, housing and distributive services were minimal. From 1972 very strong official pressures were imposed to restrict family size.
- iii) Market forces were replaced by regulatory devices for allocating investment funds and physical inputs, controlling movement of labour, fixing prices and wages. In the early years the authorities were particularly anxious to avoid inflation, because of the major role it had played in discrediting the KMT regime. Rural consumption was contained by taxes and compulsory delivery quotas which the state imposed in order to feed the urban population at low prices. This made it possible to keep urban wages low. A central planning mechanism was set up, but in such a large country with poor transport facilities, considerable emphasis was placed on “self-reliance” on national, provincial, and enterprise levels. There was a distinct preference for large enterprises which were expected to be more vertically integrated than in a capitalist market economy. Urban social spending commitments were delegated to state enterprises, which were responsible for providing housing, education, and health services to their employees, as well as canteens, clubs etc. Even more fundamental was the commitment to full employment. State enterprises could not dismiss workers who were redundant, lazy or inefficient.
- iv) Foreign trade became a state monopoly whose goal was self-sufficiency. Imports were concentrated on essential producer goods, and the domestic economy was isolated from international market forces. Foreign direct investment disappeared and foreign borrowing was restricted largely to interstate transactions with the Soviet Union and other communist countries. Chinese reliance on imports of capital equipment from communist countries was not merely an autarchic option but a political necessity dictated by trade embargoes, diplomatic isolation, and the improbability of loans from capitalist countries.

In the reform period, since 1978, policy has changed fundamentally in all four dimensions. There has been a sharp drop in the proportionate importance of the state. Fiscal revenue has fallen from 35 to 11 per cent of GDP, investment is now mainly financed (via the banking system) from private saving; market forces play a bigger role in resource allocation; the economy has been opened to foreign trade and investment. There has been no formal reversion to capitalist property rights through privatisation of state property, but *de facto*, peasants have substantially regained control of their land, private home ownership is growing rapidly and there is substantial scope for individual enrichment through private and quasi-private entrepreneurship. The average size of production units has been dramatically reduced. In 1978 farming was conducted by 6 million production teams; now there are 230 million family farms. In 1978, there were 384 000 industrial enterprises with an average employment of 175 persons. Now there are 8 million enterprises with an average of 14 persons. In commerce and catering there were 1.6 million outlets in 1978, 18.6 million in 1996 with a drop in average size from 5.4 to 2.8 persons. China is by far the most successful case of transition from a command economy, even though the official rhetoric is much more subdued in its embrace of capitalism than that in Eastern Europe and Russia.

The Macroeconomic Record

A major reason for the acceleration of Chinese growth since 1949 has been the massive increase in inputs of capital, fuller use of the labour potential and improvements in their education and skills. Until 1978 the payoff was curtailed by inefficiency of resource allocation. In the reform period since 1978, resource allocation has greatly improved.

Labour Input

Chinese labour input has risen faster than population as can be seen in Table 3.6. Official policy encouraged the fall in birth rates which has changed the age structure and raised the proportion of population of working age. Employment rose faster than the population of working age due to increasing participation of women. In the 1930s only 20 per cent of farm work was done by women, but by 1995 they were nearly half of the rural labour force.

In the pre-reform period, China made inefficient use of its workers because of the inflexible way in which the labour market was segmented into rural and urban sectors. Rural residents were not allowed to migrate to urban areas. Under the household registration system they were forced to register with local authorities, and were trapped in low income employment in agriculture, rural industry and services. They did not have the social benefits which urban dwellers enjoyed. They generally received subsistence in kind, and accumulated work points which were paid in cash only at the end of the year.

Within the urban sector, state enterprises were not allowed to recruit or dismiss employees. They were assigned by Ministry of Labour offices according to a firm's employment quota. The Ministry also fixed the wage structure for workers, managers and technicians, using a grading schedule borrowed from the USSR. Virtually all registered urban residents of working age could expect to have a job which provided lifetime security, and some degree of automatic advancement on a seniority basis. Job switches between enterprises were virtually impossible. As wages were low and there was no possibility of being fired, work incentives were dulled. Management in state enterprises tolerated shirking as they operated under soft budget constraints.

In the Reform period, allocation of labour improved, particularly in rural areas, where the boom in small scale industry and service employment absorbed surplus labour from farming. However, there are still important restrictions on rural-urban migration, and large-scale overmanning is still characteristic of state enterprise in urban areas.

Quality of Labour

China's long run record in human capital formation is quite impressive but progress has been far from smooth. In education the main emphasis was on expansion at the primary and secondary level (see Table 3.7). In 1949, about a third of children were enrolled in primary school and about 20 per cent of adults were literate. By 1995 about three-quarters of adults were literate, but primary enrolment is not yet complete and drop-out rates are substantial in rural areas. Regular secondary education enrolment has grown faster than primary. By 1995 it covered about two-thirds of the population aged 15-19.

The record in higher and specialised secondary education was disastrous in the 1960s. Higher education enrolment fell from 962 000 in 1960 to 48 000 in 1970. During the cultural revolution virtually all higher education was closed, teachers were subjected to humiliating witch-hunts, students were encouraged to participate in Red Guard vandalism from 1966 to 1969, and thereafter many were

virtually deported to remote rural areas for several years. When the institutions reopened, preference was given to “correct” social background and political attitudes rather than to success in examinations. The picture is similar for specialised secondary (technical and teacher training) schools. Here enrolment fell from a peak of nearly two and a quarter million in 1960 to 38 000 in 1969 and recovery was very slow. The total of students in higher and specialised secondary education in 1995 amounted to 6 per cent of the age group 20–24. In 1994 there were probably 60 000 people studying abroad, compared with virtually zero in the cultural revolution.

From 1952 to 1995, the average level of education of the population aged 15 and over increased more than fivefold from 1.7 years to 8.9 years (see Table 3.6). This increase in the quality of the labour force contributed importantly to China’s production potential, which was further strengthened by improvements in health. Life expectancy at birth rose from 38 years in 1950 to 69 in 1995, and health standards have greatly improved. Infant mortality is about an eighth of what it was in 1949. There continues to be a substantial reliance on traditional Chinese doctors and pharmacopea, but there has been a very large increase in the number of Western style doctors, and in use of modern medicines. Improvements in sanitation, diet, and wide availability of modern drugs have been the main contributors to increased life expectancy.

Investment Rates and Capital Inputs

There is no doubt about the success of the new regime in raising the rate of investment. The gross non-residential fixed investment rate rose from about 4 per cent of GDP in prewar years (see Liu and Yeh, 1965) to an average of 11 per cent in the early 1950s, 18 per cent in the rest of the Maoist period, and 20 per cent in the Reform period. This is a very respectable performance and is now substantially higher than in the advanced capitalist countries (see Table 3.9).

China, like other communist countries, has had unusually large investment in inventories and work in progress. Chinese state enterprises keep large stocks of materials as a precaution against supply difficulties or inefficiency in the planning process. They are wasteful in their use of inputs such as steel and energy, because of inefficiency in the price system and soft budgetary constraints. There is a large amount of unfinished building, and firms often have big stocks of unsaleable goods whose quality or design is not to the taste of consumers. From 1978 to 1994, the increase in Chinese inventories and work in progress averaged 7.1 per cent of GDP. In the same period this ratio averaged 0.3 per cent of GDP in the five OECD countries shown in Table 3.9. In the advanced capitalist countries, around two-thirds of GDP is now produced in the service sector where stocks are very low. In poorer countries where material product is a larger part of GDP, inventory formation plays a larger role, but even so China is an outlier, which suggests that the very high proportion of inventories is due to inefficient organisation of production, particularly in the state sector.

In order to construct estimates of the capital stock one has to cumulate assets of different vintages, and this requires a long run of investment data at constant prices. Very recently official estimates of this kind have become available, and although the implicit deflators will doubtless be subject to revision, these provide the best material at present available for calculating capital stock on an aggregative basis¹.

In order to estimate capital stock, I assumed an average asset life of 25 years. As there are no continuous long-term series on investment before 1952, the earliest point at which the gross capital stock can be calculated (by the perpetual inventory method) is end-year 1976, the first date for which the data permit accumulation over 25 years. The very rough estimate for 1952 was based on investment estimates for some prewar years in Yeh, 1968 and 1979. It implied a capital/output ratio of

0.9 in 1952. This is a low coefficient by international standards, but prewar rates of investment were very modest and there was extensive damage in the many years of war and civil war.

The capital stock rose much more quickly than output in the Maoist period with the capital/output ratio rising from 0.9 in 1952 to 1.9 in 1978. After 1978 there was a further increase to 2.3 in 1995.

In the pre-reform period, the great bulk of investment was financed by the state, which squeezed consumption and kept wages low in order to finance accumulation. In the reform period, a rapidly growing proportion of investment was financed from household savings, and although the state continued to have a large role in the allocation of investment funds, the overall impact of greater non-state participation was to put funds into areas where the yield was higher.

The impact of better resource allocation can be seen in the macroeconomic growth accounts in Table 3.10 which show substantial gains in total factor productivity, from 1978 to 1995, compared with the highly negative record for 1952–78.

Total Factor Productivity

The top left-hand side of Table 3.10 provides a set of simplified growth accounts for the two major phases of Chinese growth: 1952–78 and 1978–95.

The high level of resource mobilisation is most evident in the case of capital stock which rose very much faster than GDP in the Maoist period, with some further acceleration in the reform period. Capital inputs rose faster in the first period even though the rate of investment was lower, because the initial stock was very low. Employment grew a good deal faster than population in both periods for reasons we have already analysed. In both periods there were substantial advances in educational levels which improved the quality of the labour force.

In the Maoist period there were modest gains in labour productivity, but capital productivity fell substantially. We can make a rough measure of the overall efficiency of the economy in allocating resources by combining the major factor inputs (labour augmented for quality improvement due to education, physical capital, and land) and comparing their growth with that of GDP in order to measure “total factor productivity”. It can be seen in Table 3.10 that this was negative, at a rate of -0.78 per cent a year, over the period 1952 to 1978.

After 1978 there was a sharp contrast. The rate of growth of labour input was marginally higher, inputs of capital accelerated somewhat, the rate of growth of the education stock slowed down, and there was no increase in land use. Nevertheless GDP growth accelerated sharply, labour productivity grew much faster than before, capital productivity was substantially less negative, and total factor productivity increased by 2.23 per cent a year. The improved resource allocation in the reform period is dramatically illustrated in these simple macro-accounts. A more detailed understanding of why efficiency improved can be derived from the detailed analysis of policy and institutional changes in the subsequent sections of this chapter.

It is possible to construct growth accounts in different ways by incorporating more elements of causality, using different weights, a more refined definition of labour inputs or more disaggregated measures of capital stock². Hence it is useful to apply the simplified technique used in Table 3.10 to other countries to get a firmer view of the comparative significance of our findings on past growth and to provide a basis for the comparative analysis of future prospects in Chapter 4.

Table 3.10 therefore includes estimates on the same basis for the world productivity leader; the United States; for Japan, the other giant of the Asian economy; and for South Korea, an economy which has demonstrated the possibility of sustaining a process of rapid catch-up over four decades.

Japanese experience provides a striking contrast with that of China. Its period of supergrowth took place in 1952–78 when GDP growth was slightly faster than that of China in the reform period. Since 1978, Japanese growth has slackened sharply and has been below that of China in the Maoist period. The inverse periodisation also holds good for the pattern of change in total factor productivity and foreign trade.

However, one must beware of simple comparisons as the economic history of the two countries is very different. Japan's modernisation began in 1867 and for nearly eight decades it was directed in substantial degree to external aggression, particularly against China. By 1952 Japan had been completely demilitarised and was able to use its highly skilled labour force and prodigious capacity to mobilise savings entirely for non-military ends. It was also able to participate fully in the benefits of a rapidly expanding world economy. In 1952, Japan's population had an education level more or less comparable with those of European countries and more than five times the proportion in China at that time. Its per capita income was then four times as high as China's. It had a long experience of independent indigenous capitalist development, with a sophisticated system of banks, trading companies and managerial experience. It was better equipped than any other country to achieve rapid catch-up to the productivity levels of the most advanced countries. It was able to make good on the backlog of opportunities squandered in prewar years on military pursuits. From 1952 to 1978 Japan raised its per capita income from one-fifth to two-thirds of that in the United States. After that its growth was bound to slow down, as it had to operate nearer to the frontier of technology, where the pay-off on high levels of investment is much weaker. Although a serious slowdown in Japan was inevitable, it was larger than was necessary in 1978–95 because of a huge speculative rise in asset values, which led to massive overinvestment, and to very restrictive trade and regulatory policies which kept the non-manufacturing sector of the economy inefficient.

In China's case, there were also once-for-all opportunities for better resource allocation in the reform period, in eliminating some of the costs of the autarkic command economy. For this reason China will probably not be able to continue to grow as fast in future as in the reform period. However, the Chinese income and productivity level in 1995 was not much higher than that of Japan in 1952. Its education level is still somewhat lower than that of Japan in 1952, and it still has large inefficiencies in its present allocation of resources. It is therefore unlikely that Chinese growth will slow down in the next two decades in the way that has occurred in Japan since the 1970s — unless there are very major mistakes in economic policy.

Structural Change

There were massive structural changes in China between 1952 and 1995. Agricultural output and employment grew much more slowly than the rest of the economy. Agriculture's share of GDP fell from 59 to 23 per cent, and its share of employment fell from 83 to 53 per cent. The most dynamic sector was industry whose share of GDP rose more than fourfold from 11.6 to nearly 47 per cent. There was little net change in the service share of GDP over the whole period, but its employment share grew substantially.

If the level of labour productivity in different sectors were identical, the change in the sectoral distribution of employment would not be of great interest, but levels and growth rates of labour productivity differ substantially between sectors. In industry and construction, labour productivity was about five times as high as in agriculture in 1995. Between 1952 and 1995, agricultural labour productivity rose by 1.8 per cent a year but industrial-construction productivity grew twice as fast — by 3.5 per cent a year.

In the reform period, after 1978, productivity performance improved in all sectors, but the improvements in industry-construction and in services were modest compared with agriculture where labour productivity grew 25 times as fast as in the pre-reform period.

Structural changes generally reflect two basic forces which are operative in all countries as they reach successively higher levels of real income and productivity. The first of these is the elasticity of demand for particular products. These demand forces tend to reduce the share of agricultural products in consumption and raise demand for the products of industry and services as income rises. The second basic force has been the differential pace of technological advance between sectors. Both these forces have been operative in China, but the Chinese pattern of development has also been very strongly influenced by government policy.

Thus the poor performance of agriculture in the pre-reform period was due to a government squeeze on peasant income by its fiscal, price, and procurement policies, constraints on rural-urban migration, and the adverse effect of institutional change, as collectivist arrangements reduced efficiency and incentives. The relaxation of the price squeeze on agriculture and on labour movement to non-farm activity, and the reversion to family farming in the reform period had an extremely favourable impact on productivity performance, which to some extent had a once-for-all character.

Similarly, the huge expansion of industrial-construction output in the pre-reform period was supported by government price incentives, and a heavy concentration of investment resources, which helped to raise relative levels of labour productivity in this sector. In the reform period, industrial-construction growth decelerated slightly, and capital was used somewhat less wastefully in this sector, as the relative importance of state enterprise declined.

The service sector was also squeezed in the pre-reform period, particularly commercial and catering enterprise. These constraints were greatly relaxed in the reform period, and there was a big expansion of private entrepreneurial activity. However, a large part of services, e.g. education, health, administration and military, are still provided by government. In these activities, measurement conventions exclude the possibility of productivity growth. There has therefore been very little change in productivity performance in this sector.

The last line in Table 3.11a provides a crude measure of the impact of labour reallocation on GDP growth. In the pre-reform period, the annual average GDP growth rate would have been 0.92 per cent slower (i.e. 3.48 instead of 4.40 per cent), if no change in employment structure had occurred and if productivity growth within each sector had remained as actually experienced. In 1978-95, annual GDP growth would have been 1.44 per cent lower (6.05 instead of 7.49 per cent) on the same assumptions. However, the structural shift effect should not be added as an explanatory component to the aggregative growth accounts shown in Table 3.10, because this would involve an important element of double counting. The large intersectoral differences in labour productivity levels and growth are due in substantial degree to differences in the sectoral distribution of physical capital and education. These elements of causality are already embodied in the aggregate growth accounts, and a more sophisticated analysis of structural shift effects would require disaggregated information on the physical and human capital stock which is not at present available.

Performance in the Rural Sector

Agriculture

There were several reasons why the new regime gave priority to agrarian reform. The party was committed to the creation of a more equal society, and to abolition of the propertied classes — particularly the last remnants of the Ch'ing landlord gentry. It was committed to high investment and appropriation of the agrarian "surplus" was a very important source of finance. In the areas where the Communist Party had already exercised political and military control, agrarian reform had proved an

effective means of attracting mass support and further action was thought likely to consolidate and legitimate its ruling position.

It is important to get a realistic picture of the agrarian conditions which the new regime inherited. The rhetoric of the party was hardly accurate. Agriculture was described as “feudal”, and landlord exploitation was regarded as extreme. In fact China had not been feudal for centuries. There were no large domains managed by a landed nobility and no serfdom. The bulk of the peasantry were working proprietors, tenants or wage labourers. Land could be bought and sold freely. Only 10 per cent of rural families were landless, and, of those who were cultivators, 44 per cent were working proprietors, 23 per cent part-owner part-tenant, and 33 per cent were tenants. These are Buck’s (1937) estimates for 1929–33, and a government survey of 1931–6 showed similar proportions of 46, 24 and 30 per cent respectively (see Feuerwerker, 1977, p. 57). Rents averaged about 43 per cent of the crop on tenanted land (see sources cited by Feuerwerker, 1977, p. 59). Only 5 per cent of farm borrowing came via Western style banks or co-operatives, 14 per cent was supplied by pawnshops or native banks, and 81 per cent by merchants, village shops, landlords or prosperous farmers (Feuerwerker, 1977, p. 64).

We have no surveys of the 1949 situation, but there is no reason to believe it was much different from that in the 1930s. According to Buck (1937, pp. 172–77) who conducted a huge survey of more than 38 000 farm families in 22 provinces in 1929–33, the average farm size in the early 1930s was about 1.7 hectares for an average farm family of 6.2 persons³. Holdings of more than 67 hectares were only 2 per cent of the land (Feuerwerker, 1977, p. 55) whereas the average US farm in 1930 had 63 hectares. There were no large plantations as in India, Indonesia and Ceylon. The average farm was split into 6 separate plots in different parts of a village. Fragmentation was due to long-standing population pressure in a country whose natural endowment permitted only a very limited area for cultivation. Partible male inheritance had led to fragmentation of holdings in successive generations. The splitting of holdings into separate parcels was intended to provide each inheritor with an equitable mix of different grades of land. Fragmentation was regarded as a form of insurance; Tawney (1932), p. 39, makes the point thus: “Land varies in quality from acre to acre; one man must not have all the best land, and another the worst; a farmer needs both dry and wet land, hilly land for fuel and manure as well as level land for his crops; the dispersion of plots enables him to pool his risks of flood and drought.”

About 90 per cent of land was used for crops, about 1.4 per cent for farm buildings, 1.9 per cent for ancestral graves, 2 per cent for paths and ponds, 3.1 per cent for pasture, fuel, forest and irrigation. Only 1.4 per cent was left uncultivated. Chinese farmers had not practiced fallow for centuries. There was no common land for grazing. The average multicropping ratio was 1.38, so that the average sown area per farm was 2.1 ha (2.45 ha. in the wheat region, 1.85 ha. in the rice region)⁴. Given this type of man/land situation and the nature of farm technology, it was not profitable to try to run large scale managerial farms. The large estates which the Ch’ing dynasty had originally created for the Manchu nobles and military had long since been divided into small rental plots or sold (see Myers, 1970, pp. 217–20). In this rural world, the position of women was distinctly inferior. They did not inherit property, only 1.2 per cent were literate (compared with 30.3 per cent for males) and they were only 20 per cent of the farm labour force (see Buck, pp. 291 and 373). Greater use of this female labour potential was a major element of communist development strategy. By 1995, 47 per cent of the rural labour force were women.

Riskin (1975, pp. 68 and 75) estimated rural property income in 1933 to be about 26 per cent of net agricultural product as follows: rents 16.5 per cent, 5.2 per cent for profits of those who used hired labour, and 4.3 per cent from money lending. In addition about 3.2 per cent was paid in land tax. Depreciation was about 2.2 per cent (see Liu and Yeh, 1965, p. 140). The Riskin estimates give some idea of the surplus which the communist government aimed to capture through transformation of

property relations and expropriation of landlord, merchant, and usurers' assets. Rents were replaced by a combination of state taxes, compulsory deliveries and a price scissors which kept farm prices low and industrial prices high. In the longer run the intention was also to keep farm consumption at a basic level, so that the appropriable surplus would increase proportionately over time.

Since 1949, there have been six major changes in policies affecting agricultural institutions. There were four successive steps deep into collectivism and two steps backward which have nearly completed the circle. The 1949–50 agrarian reform confiscated about 43 per cent of cultivated land (45 million hectares) together with associated buildings and livestock, and redistributed it to tenants and landless farmers. Temple lands and buildings were taken over. Merchants and moneylenders lost their function and their property. Stavis (1982) describes the process as follows: “Land was not redistributed through calm administrative procedures. Rather, meetings were held in villages to determine people’s economic class and to denounce landlords. In some villages the meetings were violent. In the Chinese culture this loss of face was devastating. Landlords or other elite were beaten, humiliated to suicide and sometimes executed. In the emotion-charged environment of village meetings, excesses were frequent. At least one-half to one million were killed and another two million imprisoned.” About 4 per cent of the population lost land. About 60 per cent of the peasantry had some gain from this process. The changes created a fairly egalitarian system for the 106 million peasant households who all became working proprietors, paying taxes (largely in kind) to the government in lieu of rent.

Soon after, in the second phase of reform, peasant households were encouraged to pool their labour, draft animals, and farm implements in periods of seasonal shortage. At first these arrangements (typically amongst a handful of peasants) were called “mutual aid” teams. These were supplemented by elementary co-operatives where labour pooling was more ambitious and involved work on substantial capital projects related to irrigation and water control. By 1955 about two-thirds of peasants participated in mutual aid teams and “elementary co-operatives” on a “voluntary” basis. The average size was about 27 households (Lin, 1990).

These arrangements were not enough for the party leadership, as they perceived a danger that peasant land sales or leases would in time recreate the old patterns of ownership. They also wanted more power over rural decision making, convinced that they could achieve economies of scale and extract a bigger surplus by accelerating the socialisation process. In 1956–57, in a third phase, “advanced co-operatives” were created, and virtually all peasants were compelled to join. The new arrangements involved pooling of land as well as labour. Thus peasants lost their individual property rights in land, and became stakeholders in what were essentially collective enterprises on Soviet lines. As a consolation prize, they were allowed to raise vegetables and livestock on small private plots occupying about 5 per cent of the collective’s land. The new collectives were about the same size in terms of labour as Soviet collectives at that time — about 160 households, but they were only a fifth of the size in terms of cultivated area. Production and management decisions were now taken over by party cadres, and peasants were organised in work brigades with an average size of 20 households.

In the late summer of 1958, there was a fourth drastic change. 123 million peasant households in 753 000 “advanced co-operatives” were dragooned into 26 000 giant people’s communes, each with an average of 4 600 peasant households and about 6 700 workers. These were thirty times as big as a Soviet collective in terms of labour, and four times as big in average land area. Within the communes there were 500 000 brigades and over 3 million production teams. There were also state farms, but their importance was relatively small. Chinese state farms never covered much more than 4 per cent of land area, whereas Soviet state farms had 11 per cent of the cultivated area in 1950, 36 per cent in 1960 and 51 per cent in 1990.

Communes were created at the time the so-called Great Leap Forward was launched in 1958–60. All private property disappeared — private plots, livestock, farm buildings and cash income. Rural

markets were closed⁵. The state now controlled all marketing and credit arrangements. Families were required to eat in communal kitchens and mess-halls. Work assignments were distributed as if peasants were soldiers. The new management made risky experiments in deep ploughing and dense planting which usually proved to be costly failures. The communes took over responsibility for local administration, local tax collection, provision of health care and education, supervision of agricultural production, rural industrial construction and service activity in their area. Communes were expected to be virtually self-sufficient. The rationale for this was China's extreme isolation in international politics and the perceived need for an economic system which could survive a nuclear war. Statistical reporting became a political exercise feeding the fantasies of the political leadership, creating the impression that this millenarian transformation was achieving miracles which warranted a massive shift from the fields to backyard iron-smelting, cement making, construction and irrigation. Between 1959 and 1961 about 30 million people were diverted from farming to these other pursuits. As a result agricultural output per capita in 1961 was 31 per cent lower than in 1957, priority in food allocation was given to urban areas, and millions of rural dwellers died of famine. The famine deaths and the drop in births led to a fall of population of nearly 6 million in 1959-61, compared with a rise of over 28 million in 1957-59 (see Banister, 1987, for a more detailed analysis). A good deal of the increase in industrial output was worthless or unusable. As the evidence of this accumulated, industrialisation was put into reverse. Industrial employment had risen from under 23 million in 1957 to nearly 62 million in 1959, by 1963, it had fallen below the 1957 level.

In 1962 there was a fifth major change in policy. Communes continued to the mid-1980s as organs of government, but farm management was switched to much smaller units — production teams of about 30 families. Private plots were restored, farm markets were reopened, communal eating was discontinued and major resources were allocated to provide modern inputs — fertilisers, electrification, and tractors. The remuneration of peasants was based on work points from the collective unit in which they operated, with allocation of subsistence items throughout the year and cash payments only at the end of the year. Party cadres had a considerable influence on allocation of points, so that rewards for effort and incentives to perform were a good deal weaker than under a system of household decision-making. The emphasis on self-sufficiency remained powerful and impeded specialisation between farms and regions.

After the death of Mao, and with a new political leadership, there was a sixth phase in agricultural policy. This time there was not a sudden dramatic shift of gear, but a series of pragmatic moves in a new direction which was more market-oriented and offered much better incentives. There were gradual moves after 1978 to relax agricultural controls, production targets and quotas. The ceiling on private plots was raised from 5 to 15 per cent of farmland, and restrictions on sideline activities were relaxed. There was a major upward revision in prices paid for farm products. Between 1978 and 1983 the average prices received by farmers rose by 50 per cent, at a time when industrial prices rose much less. Quota prices were raised, and a new 3 tier structure emerged with higher prices for above quota deliveries to the state, and free market prices for the rest of output (see Table A.22c). Egalitarian payment systems were dropped in favour of household responsibility contracts. The reallocation of collective land to households started on an experimental basis in Anhwei province in 1978 and proved very successful. In 1980, 14 per cent of production teams had shifted to the household responsibility system, 45 per cent in 1981, 80 per cent in 1982 and 99 per cent by 1984 (Lin, 1992).

The state continues to play a major role in price and marketing arrangements and to levy a substantial tax burden on agriculture by requiring delivery of large crop quotas at below market prices. Peasants are not owners of the land they cultivate and cannot buy or sell land. They can now generally obtain long-term leases, which vary from 15 years for good land to 50 years for hilly land. These are inheritable and can be sublet, but the "marketability" of leases varies between provinces.

In the process of decollectivisation, fragmentation of household plots has reappeared. Wu and Meng (1995) show that the average peasant household had 6.5 separate plots in the five provinces they surveyed for 1993–34. This is similar to what Buck (1937) found for the 1930s, when the average holding consisted of 6 separate plots.

After 1984/85, the relative price incentives for farm deliveries to the state were reduced. One reason was the improved supply situation following the rapid growth in output from 1978 and 1984 (a 53 per cent increase in farm GDP). Another was the need to ease the budgetary strain which arose from paying farmers more, whilst keeping prices low for urban consumers.

In 1984 commune and brigade enterprises became township and village enterprises. Townships and villages reappeared as administrative units. The old commune administration was replaced by separate township governments, township party committees and economic association committees. The government also sanctioned the development of private rural enterprise. These new opportunities for industrial and service activity decreased the attractions of farming as did the relaxation on control of movement from rural areas to cities.

Table 3.14 provides detailed accounts of changes in the pace of farm performance in four periods from 1952 to 1994. Between 1952 and 1957 when peasants were still nominal proprietors, labour productivity grew by 1.7 per cent a year and total factor productivity by 0.63 per cent. Between 1957 and 1978 labour productivity fell by 0.2 per cent a year and total factor productivity decelerated. These were two decades in which reckless experiments in collectivism created deep distortions in resource allocation and work incentives which were not removed until after 1978. From 1978 to 1987 labour productivity rose by 5 per cent a year in response to more liberal policies and better prices for farmers and total factor productivity also accelerated to 4.6 per cent a year. There were obvious recovery elements in this phase, and the rate of growth slackened somewhat in 1987–94 when labour productivity grew by 3 per cent a year, and total factor productivity by 2.7 per cent.

There have been several other attempts to measure total factor productivity in agriculture using growth accounting or econometric techniques to assess the efficiency of different phases of Chinese policy. Wen (1993) is one of the most comprehensive and transparent, and includes a survey of other work in the field. He uses the official measure of gross agricultural product (in farming, forestry, fishery and sidelines) in “comparable prices” as his output indicator, and “explains” this by the movement of: *a*) current inputs (feed, seed, traditional and modern fertiliser, and electricity); *b*) labour; *c*) land adjusted for multiple cropping and irrigation; and *d*) the stock of animals and machinery which he calls “capital”. He prefers the weights of Wiens (1982), i.e. 20 per cent for current inputs, 35 per cent for labour, 36 per cent for land and 9 per cent for “capital”, but he also uses four other sets of weights to test the sensitivity of his results. All five sets of results show small or negative total factor productivity growth for 1952–57, substantially negative growth for 1957–78 and large productivity gains for 1978–87 (see Table 3.15). Wen’s growth accounting like Lin’s (1992) econometric approach attributes most of the productivity improvement after 1978 to the liberalisation of agricultural policy.

Although Chinese farm performance since 1978 has improved greatly on that in the Maoist period, it should be remembered that Chinese labour productivity is very low by international standards. Table 3.16 presents comparisons of levels of farm performance in China and three other big countries for 1933–94, with value added expressed in 1987 US prices, as described in Appendix A. Labour productivity in Chinese farming was only 1.6 per cent of US levels in 1994, and its relative standing had fallen somewhat from the 1978 level. China’s natural resource endowment is very much smaller than that of the United States (see Table 1.4), and its comparative advantage position suggests that the potential for significant catch-up on the United States lies outside farming. The Japanese case is also illuminating. Japan has even smaller natural resources in relation to population, but has followed very high-cost policies to ensure self-sufficiency, particularly in grains. Its farm labour

productivity is only one twentieth of that in the United States. Its real income would have been higher if it had pursued more liberal policies towards grain imports. This is certainly a point which Chinese policy makers should keep in mind in the future. Continuance of collectivist and state farming policies in the USSR (and Russia) have produced disastrously low productivity results in spite of a huge natural resource endowment. They demonstrate the wisdom of the change which has already occurred in China.

Rural Activity Outside Agriculture

In imperial China there was always a significant amount of activity in rural handicrafts, commerce and transport. During the Great Leap Forward in 1958–60 there was a massive diversion of rural labour into non-agricultural activity with such disastrous consequences that it was put into even steeper reverse. Non-agricultural pursuits were 6.6 per cent of rural employment in 1957, jumped to 28 per cent by end 1958, fell to 2 per cent in 1962 and were still below the 1957 proportion in 1977 (see Table 3.17).

Since 1978 there has been a huge expansion of small-scale enterprise in rural areas, but this time it has been much more successful and solidly based than in the Great Leap Forward. In 1978 there were 28 million people in small-scale industry, construction, trade, transport and other services (see Table 3.17). By 1995 the number had risen to 128 million — more than four and a half times compared with a rise of one eighth in agriculture.

There were several reasons for this. The large increase in modern inputs (fertilisers, power irrigation, use of small tractors, trucks etc.) in the 1960s and 1970s, and the better use of resources which came with household responsibility produced a growing reserve of rural labour which had little opportunity for productive employment on family farms whose average size was now less than half a hectare. Under the strict household registration system, it was not possible for most of these people to move into urban employment. There was thus a huge supply of people willing to work in rural enterprise at low wages.

The considerable rise in real farm income meant that peasants wanted a changing basket of agricultural products with heavier emphasis on meat and fish, but they also had a pent-up demand for manufactured consumer goods and better housing. Institutional changes favoured a productive interaction of these propitious elements of supply and demand. Rural markets were freed, bank loans were now available, and in 1981 tax holidays were introduced. Firms in rural areas did not have the onerous welfare responsibilities of the big state enterprises in urban areas. Even more fundamental was the ideological switch from planning by bureaucratic fiat to a situation where profit was no longer taboo. The local officials and party elite who had been running non-agricultural commune activities became directors and managers of township and village industries. Although these were publicly owned, they could now be run in practice almost as if they were capitalist enterprises. These enterprises produced extra-budgetary sources of revenue for local authorities and gave bureaucrats and former bureaucrats legal opportunities for greatly increasing their income if they ran the enterprise successfully.

The number of township and village enterprises did not grow much after 1978 but their average size in terms of employment rose substantially, with total employment rising from 28 million in 1978 to 59 million in 1996. Worker productivity rose sevenfold in township and nearly elevenfold in village enterprise. The most dynamic growth was in individually owned firms. There were none of these in 1978, 4 million in 1984, and over 23 million in 1996. Employment in these firms rose from zero in 1978 to 76 million in 1996. They are generally quite small with an average of three persons per firm

in 1996, compared with 73 in township and 26 in village enterprises. Their average productivity level is less than half of that in township and village enterprises.

Table 3.19 provides a sector breakdown. Industry is the most important activity, growth has been fastest in services, transport and construction. The only decline occurred in activities related to agriculture.

It is difficult for the statistical authorities to monitor these new small-scale activities adequately. In 1996, value added estimates were made available for 1995. In these small firms, value added is about a fifth of gross value compared with 60 per cent for agriculture and 32 per cent in state industry. Official figures have always been given in current prices because it is difficult for these enterprises to distinguish between current and constant prices in making statistical returns (see Field, 1992). It is useful to get a rough idea of their growth in real terms. The crude deflation procedure used in Table 3.18 suggests that real value added in this new small scale sector rose by about 22 per cent a year from 1978–94. This estimate is obviously subject to a very wide margin of error.

Industrial Policy and Performance

Rapid industrialisation was the top priority for the new China. It was expected to provide the flow of materials and machinery essential to raise the rate of investment, and provide the hardware which would guarantee military security. To obtain the structural shift, the new regime was prepared to squeeze the agriculture and service sectors, and to keep consumption at modest levels to free resources for investment.

The strategy was in fact successful. Industrial value added was 43 times as high in real terms in 1995 as in 1952. Within this total, heavy industry rose more than a hundredfold, and light industry 15-fold. In agriculture, by contrast, progress was modest, with 1995 output about four times that in 1952. As a result, industry now accounts for 41 per cent of GDP compared with less than 10 per cent in 1952 (see Table 3.2). Proportionately China is now one of the most industrialised countries in terms of output. Its 41 per cent of GDP compares with 22 per cent in Britain and the United States, about a quarter in India, 28 per cent in Japan and Germany, 29 per cent in Korea, and 36 per cent in Taiwan. However, industry's employment share in China is relatively modest (see Table 3.5), because this sector has been much more heavily capitalised than most other parts of the economy. As a result the relative level of industrial labour productivity is unusually high.

In the reform period since 1978, the pace of industrial growth has slowed a little, whereas in all other sectors there was acceleration. In transport, communications, commerce, restaurants and construction, growth has been faster than in industry.

Until 1978, industry was tightly controlled and investment fully funded by government. Expansion was fastest in the state owned sector where the average enterprise was large and workers were a proletarian elite with complete job security and relatively generous welfare benefits. There was a second tier of collective enterprise where plants were smaller and less capitalised, and workers were less privileged. Most of the old small-scale handicraft operatives were moved into the collective sector⁶, but some of the old handicraft activities were suppressed or disappeared.

In the reform period since 1978, government has operated with a much looser rein. The state sector has continued to expand and has enjoyed privileged access to capital. However, the operational surplus of state firms has collapsed and the government has propped them up with funds borrowed

from the banking system. About 40 per cent of state sector workers have been switched to a contractual basis, where their privileges are less than those of old employees.

There has been a huge expansion in industrial activity outside the state sector. In 1978 there were 265 000 collectives. By 1996 there were 1.6 million. The number of private enterprises rose from zero to 6.2 million. The bulk of these are small scale operations, most of them in rural areas, and run by individuals, townships and village level governments. A major reason for the success of these new firms is that their labour costs are much lower than in state enterprises, their capitalisation is much more modest, and they are freer to respond to market demand. Many benefit from special tax privileges granted by local authorities.

Between 1978 and 1996 there was virtually no net change in the average size of state industrial enterprises (376 persons), but downsizing in the rest of industry was spectacular with a decline from 112 to 8 persons. This reduced average firm size in industry as a whole from 175 to 14 (see Table 3.21). In all command economies there was a very strong preference for large enterprises, because it meant that managers could take over some of the burden of resource allocation from planners. In most planned economies, enterprises were bigger than in China. In 1987, the average Soviet industrial enterprise employed 814 workers. In Poland it was not too different, and in Czechoslovakia it was more than double the Soviet average. By contrast the average US establishment had 49 persons, Germany and the United Kingdom 30 persons, France 19 and Japan 16. China has therefore transformed its industrial organisation so that its average is below that in most advanced capitalist countries and about the same as in Japan. However, the average size in China is much bigger than in India where the average establishment in all manufacturing had only 2.3 persons in 1984–85. China has become more like a capitalist economy in having a wide spread in size around the average, but the persistence of large scale state enterprise is an important relic of collectivism. (Information on firm or establishment size in other countries was derived from Kouwenhoven, 1996, for the USSR; Ehrlich, 1985, for Eastern Europe; van Ark, 1993, for capitalist countries; Lee and Maddison, 1997, for India.)

We now have a good indicator of the growth of industrial value added in real terms in Wu (1997) for mining, utilities and 15 manufacturing branches. We do not have a breakdown of value added performance in real terms for the state and non–state sectors, but the gross output evidence permits some strong inferences. It seems clear that labour productivity has increased much more slowly in the state sector since 1978 than in other parts of industry, judging from the relative movement in the current price figures for gross output per person engaged in Panel D of Table 3.21. The average level of labour productivity in state firms is now well below that in the rest of industry, in spite of the higher capitalisation of the former. It is true that the ratio of value added to gross output in the state sector is higher (31 per cent) than in non–state enterprises (28 per cent), but even allowing for this it seems very likely that value added productivity is now lower in state than non–state firms.

In the Maoist period, there were two phases in industrial policy. Until 1958, there was a rather cautious approach in taking over Chinese owned private enterprise. Most foreign owned assets (a third of the prewar factory sector) were expropriated at an early stage. Half of these were Japanese and were taken at the end of the war. Most other foreign firms were seized at the outbreak of the Korean war in retaliation for foreign trade embargoes. The property of Chinese nationals who co–operated with the Japanese had already been taken over by the KMT government. Between 1949 and 1957 there was a period of coexistence with the national capitalists. Private firms executed state orders or were operated as joint enterprises. Some private owners were used as managerial personnel after state takeovers. About 1.1 million persons received modest financial compensation — 5 per cent a year for ten years on the assessed value of their property (see Riskin, 1987, p. 97).

Private industrial enterprise was completely eliminated in 1958 during the Great Leap Forward. At that time there was also a massive development of small scale industry in rural areas by diversion

of labour to backyard iron–smelting, manufacture of cement, fertilisers and farm tools (see Figure 3.4). This was carried out as a quasi–military operation, in which 30 million unskilled peasants were removed from their farms on the mistaken assumption that they were surplus labour. Industrial employment shot up from 14 million in 1957 to 44 million in 1958, but catastrophic harvest failure and the uselessness of much of the new industrial output led to a sharp reversal of policy. By 1962, industrial employment had fallen back to 17 million. From then until the 1970s there was little vigour in this rural industrial sector.

The termination of the Soviet aid to Chinese industry in 1960 was a serious blow, as it stopped many ambitious investment projects which were semi–finished. There was also a dip in industrial output in 1967–68 during the disturbances of the Cultural Revolution.

The “third–front” programme of the 1960s reduced the productivity of industrial investment, for it involved the strategically inspired location of plants in remote areas when an atomic war was thought to be imminent. This programme, like the Great Leap Forward, was also a failure. Transport difficulties hindered access to markets and raw materials and slowed down construction. In the 1970s it was abandoned in favour of development in coastal areas.

The combination of major policy errors and poor governance led to massive waste of investment and labour resources. From 1952 to 1978, industrial labour productivity grew 3.1 per cent a year, but there were huge inputs of capital. Chen *et al.* (1988) estimate that net fixed capital stock in state industrial enterprises rose by 13.3 per cent a year from 1952 to 1978. If this were valid for industry as a whole, it would mean that total factor productivity growth for this period grew at only 0.5 per cent a year (giving labour a weight of 0.6 and capital 0.4). Between 1978 and 1995, industrial labour productivity rose by 4.8 per cent a year (see Table 3.20). As the growth of the industrial capital stock had slowed considerably, total factor productivity performance was greatly improved in the reform period.

After 1978, state owned industrial enterprises continued to grow in number from about 84 000 in 1978 to 114 000 in 1996 and increased employment by 36 per cent. However, their share of gross output fell from over three–quarters in 1978 to 28 per cent in 1996, and their value added share from around 80 to 31 per cent. Their employment share fell much less, from 52 per cent in 1978 to 39 per cent in 1996. The fall in the state employment share was concentrated on manufacturing — it fell from 46 to 33 per cent. In mining and utilities there was no change and the state share remained over 90 per cent of the total (see Table 3.23).

The most dynamic competition for state firms came from the huge growth of output in low–cost, low– wage township, village and individual enterprises in rural areas, from rapid expansion in the tax favoured special enterprise zones (SEZ) in coastal areas, and from imports which rose from \$11 billion in 1978 to \$139 billion in 1996. This competition plus looser state control over the governance of state enterprises caused a collapse in their operational surplus. The state has lost a major source of tax revenue and now subsidises them heavily.

Although there is now a bankruptcy law, the government has not felt able to shut down a significant proportion of state enterprises, fire their workers and sell their assets. State firms are in heavy default on bank loans and inter–enterprise debt. Their management still operates on soft budget constraints, and pays no return on capital. Its large debts are rolled over or written off. Many continue to produce goods for which there is little demand, so they have large inventories of unsaleable goods.

State manufacturing enterprises are part of the wreckage of collectivism with which the government will probably have to live for some years. Until a general social security system is created, it is politically very difficult to abandon the workers and management in these enterprises,

even though the balance of political opinion in the top leadership now favours reduction of the state sector. As yet there has been little privatisation of state assets, and a good many would not be readily saleable.

The strategy is therefore likely to be one of attrition. State manufacturing now represents about 10 per cent of GDP, down from 31 per cent in 1978. The private and collective sectors show every sign of continuing to expand much faster than the state sector. As they become more prosperous, and can pay higher wages, they will attract more workers from the state sector. It should be feasible to close down some of the most egregiously inefficient state plants, but wholesale privatisation, à la russe, does not seem a likely or promising option, and the fiscal burden of supporting state enterprise seems likely to be a continuing problem.

The Service Sector

Commerce is a sector which has experienced major swings in government policy. From 1952 to 1978 activity was severely squeezed and subjected to debilitating controls. Since 1978 retail trade and restaurant activity has been almost completely liberated and the ownership structure has reverted to what it was in 1952.

From 1952 to 1978 the number of people engaged in retail outlets, catering establishments and sundry convenience trades fell from 9.5 to 6.1 million even though the population had risen by two-thirds. The number of outlets fell from 5.5 to 1.3 million. There was also a big fall in rural and street market activity and a virtual disappearance of pedlar trade. The removal of private initiative in these simple activities meant a considerable fall in the quality of life for consumers, reinforced the effect of shortages, and gave producers little guidance on consumer demand⁷.

After 1978, when this activity was released from official constraints, it grew very fast, particularly in rural areas. Not much capital or formal education is required to start a new business, so the barriers to entry are small. By 1996, 93 per cent of retail outlets were private, 96 per cent for restaurants and 53 per cent in wholesale trade. The number of retail outlets has risen more than thirteenfold, restaurants and catering establishments more than twentyfold. Consumer satisfaction has risen accordingly. It is difficult to understand why the old policy of complete elimination of petty capitalism in this sector was ever part of the socialisation strategy.

The Transformation of Relations with the Outside World

China's trading links in the 1950s were heavily concentrated on the USSR and other communist countries. This reflected political affinities and the Stalin–Mao agreements in February 1950 by which the Soviet Union agreed to provide an initial loan of \$300 million to finance the purchase of capital equipment, together with a substantial supply of technicians and Soviet blueprints. It was reinforced by the trade embargoes imposed by European countries, Japan and the United States at the end of 1950 after China had sent “volunteers” to help expel UN forces from North Korea. The embargoes were lifted by Britain, Japan and most others in 1957, but the United States froze Chinese assets and maintained a total ban on all transactions with China until 1971.

Foreign trade was a state monopoly and was heavily concentrated on imports of capital goods and technology. Capital equipment from the communist bloc represented about a third of investment in machinery in the 1950s (see Chao, 1974) and was also very important for the military. The Soviet projects included machine tools, trucks, tractors, oil industry development, electric generating

equipment, jet aircraft and submarine construction as well as experimental reactors and other nuclear related technology. In 1958 the USSR reneged on its offer to supply atomic weapons, but its earlier help must have facilitated development of China's first atomic bomb in 1964 and its first hydrogen weapon in 1969. Chinese–Soviet relations soured in the late 1950s. Soviet loans were terminated, and Soviet technicians were suddenly withdrawn in 1960. China had counted on Soviet co-operation to build 290 major projects by 1967, but only 130 of these had been completed when the split occurred. Many plants in steel and hydroelectricity were left partially finished when Soviet experts withdrew (taking their blueprints with them). The damage to Chinese investment and industrial development was the more significant as it occurred in the middle of the disorganisation and chaos created by the Great Leap Forward. Food shortages obliged China in the 1960s to make large grain imports from Australia and Canada (see Table E.5) which reduced the funds available to finance machinery imports.

In the course of the 1960s, China's situation was very isolated. Export volume fell a fifth from 1959 to 1970. Imports from communist countries dropped from 66 per cent of the total in 1959 to 17 per cent in 1970, it had no trade at all with the United States, and credits were restricted to short or medium term deals with West European countries and Japan to install plants for chemical products, fertilisers and plastics. At the same time China had to repay debts to the USSR and embarked on an aid programme providing credits of about \$1 billion to Asian and African countries in the 1960s. From 1950 to 1964, remittances by overseas Chinese averaged only \$30 million a year compared with \$180 million in 1929. The position of China was much less fortunate than that of most other Asian countries in terms of access to world markets (see Table 3.25a) and capital flows. South Korea received external finance equal to 7.8 per cent of its GDP in 1952–78 and Taiwan 2.5 per cent. It was fortunate for China in this grim period that its large export surplus with Hong Kong provided substantial foreign exchange and trading agency connections for exports and a channel for evading foreign embargoes.

From the early 1970s onwards, Chinese opportunities to participate in world trade on a more or less normal basis improved steadily. In 1971, China entered the United Nations. In 1972 relations with Japan and the United States were transformed by state visits, leading to diplomatic recognition by Japan and *de facto* relations with the United States. The US embargo on trade and transactions with China was lifted, and after establishment of formal diplomatic relations in 1979, property claims were settled, assets were unfrozen and China was granted most favoured nation tariff treatment by the United States. China joined the IMF and World Bank in 1980, and the Asian Development Bank in 1986. In 1982, it was granted observer status in the GATT and began a long battle for membership of that organisation and the World Trade Organisation (WTO) which had not ended by the end of 1997.

The new political leadership which emerged after the mid-1970s decided to move away from the previous policies of autarkic self-reliance and open the economy to the benefits several other Asian countries had derived from an expanding world economy. There was a move away from central control of foreign trade and payments. Rigidly fixed exchange rates were abandoned. They had been unchanged from 1955 to 1970, but between 1980 and 1996 there was a fivefold devaluation of the yuan against the dollar. Foreign trade decisions were decentralised to authorised enterprises and provincial authorities, the previously rigid barriers between foreign and domestic prices were gradually removed, making trade more subject to market forces.

A major element in the new policy stance was the creation of special enterprise zones (SEZ). These were free-trade areas where imported inputs and exports were duty free, where wages were very low by international standards and where there were substantial tax holidays for new enterprises. Four of these were created in 1980: Shenzhen (near Hong Kong), Zhuhai (near Macao), Shantou in Kwangtung, and Xiamen (the old trading port of Amoy) in Fukien province, opposite Taiwan. Shenzhen was the biggest (328 square kilometres) and grew from a rural town of 23 000 inhabitants in 1979 to a huge agglomeration with three million inhabitants today. Shenzhen became part of the greater Hong Kong economy, and the bulk of Hong Kong industry was relocated in this low wage

area. Hong Kong's shipping agencies, financial facilities and worldwide contacts ensured booming exports for the new factories located in the zone. In 1984 fourteen coastal cities were opened to greater foreign economic activity. The Yangtse delta towns and Shanghai were also involved in the process, and the island of Hainan became a fifth SEZ in 1988.

Chinese export volume doubled from 1970 to 1978, and rose more than eightfold from 1978 to 1995. In 1978, exports (in current yuan) were equal to 4.6 per cent of GDP in current yuan (as officially measured) and by 1996 this had risen to 18.3 per cent (see Table 3.26). However, these proportions exaggerate the importance of exports which are sold at world prices, whereas the general price level in China is much lower. If one relates Chinese exports in US constant dollar terms to the Appendix C estimates of GDP in constant international dollars using a PPP converter rather than the exchange rate, the export share is much smaller — rising from 1.7 per cent of GDP in 1978 to 4.3 per cent in 1995. These ratios give a more realistic picture of the economic significance of exports. In 1995 China's exports were 2.9 per cent of the world total, a substantial rise on the 1978 situation when their share was less than 0.8 per cent, but not very exciting for a country which produces 10 per cent of world GDP. In 1995, Chinese per capita exports were only \$123, compared to \$5 258 in Taiwan, \$28 070 in Hong Kong and \$39 555 in Singapore (see Table 3.5).

In 1978 China had no foreign debt and virtually no foreign direct investment. By the end of the 1970s it was realised that direct foreign investment could help greatly in transfer of technology, and that foreign loans on a medium and long-term basis were both feasible and useful as a supplement to domestic saving.

By end-1996, China had received \$174.9 billion of direct foreign investment (see SSB, *Yearbook*, 1997, p. 605). This had been increasing steadily from 1979 to 1991, but became a flood thereafter. In 1992-96 the inflow totalled \$151.5 billion. In 1996, 63 per cent came via Hong Kong, Taiwan and Singapore. The bulk of these inflows came from overseas Chinese investors in various parts of the world who had the connections and know-how to operate in an environment where opportunities are great, but legal protection of foreign investment is far from watertight. A significant amount came from mainland Chinese investors who recycled their capital via Hong Kong in order to benefit from the tax privileges in the special economic zones. The zones have been an important vehicle for the development of a capitalist class in China, as well as a successful instrument for transfer of technology. There have of course been distortions in resource allocation due to the privileges granted to entrepreneurs in the special zones. The SEZs were tax havens for domestic as well as foreign investors. Significant Chinese investment was located in the zones which would have gone to other areas if the tax incidence had been uniform throughout the country. Tax and tariff incentives intended to foster transfer of technology and strengthening of China's exports also led to illicit imports of duty free consumer goods which were smuggled out of the SEZs (most notoriously in Hainan in 1984-85), and sold on the domestic market at much higher prices. These special privileges had something of the same effect as those the treaty ports enjoyed in the nineteenth century — they augmented inequalities in income between coastal and inland areas.

Apart from the direct investment, China has become a major international borrower. After joining the World Bank it received multilateral loan commitments of \$16.5 billion between 1981 and 1993 and over a billion dollars from the Asian Development Bank between 1987 and 1993 (Lardy, 1994, p. 51) — disbursements were substantially smaller than this. By the end of 1996, total borrowing from multilateral agencies, foreign governments and bond issues amounted to \$104 billion, most of it long or medium term. The debt structure presents negligible exposure to sudden changes in foreign confidence, the Peoples' Republic has never been in arrears on foreign debt, and has large foreign exchange reserves. In this respect, the Chinese opening to the world economy has been remarkably

trouble free by comparison with the situation in some other Asian and Latin American countries which have relied heavily on short-term foreign borrowing, or the former communist countries of the USSR and Eastern Europe which started their reform process with large foreign debts on which they were delinquent. Chinese creditworthiness and cautious management of foreign finance has done a great deal to compensate (in the eyes of foreign investors) for the still fuzzy state of foreign property rights in China.

In the 1950s, China's exports were concentrated on food, raw materials and textiles. Over time the share of light manufactures rose and by 1978 manufactures were half of the total. In the 1980s there were large exports of oil, but by 1996 the structure of Chinese exports was highly diversified, with 86 per cent consisting of a wide range of manufactures. Its import structure was also fairly diversified (see Table 3.28). Capital goods and intermediate imports predominated, but there were imports of some consumer manufactures which contributed to competitive pressures in domestic markets. Food imports were relatively low and net food imports were negative. Food imports depend a good deal on harvest fluctuations and they are probably likely to remain volatile (see Table E.5).

The geographic distribution of trade has been highly diversified since the 1970s — unlike the East European countries which had to make a rapid adjustment in trade patterns in the 1990s — dropping reliance on the CMEA and breaking into Western markets.

One long-term characteristic of China's trade has been the very large surplus with Hong Kong. The bulk of Hong Kong's imports from China have been reexported (with an element of Hong Kong value added). In recent years China has also had a sizeable surplus with the United States, and deficits with Japan and Western Europe. In years when China needs to make substantial grain imports, it runs a large deficit with Australia and Canada. Grain imports from these sources are preferred to imports from the United States because of Chinese memories of the long US trade embargo. The official US assessment of its deficit with China is invariably calculated by including re-exports from Hong Kong. Thus for 1993 the US Department of Commerce showed a Chinese surplus of \$16.7 billion but China showed a much lower (\$6.3 billion) surplus with the United States. (see Lardy, 1994, p. 76 for a partial reconciliation of these balances).

The United States is the most vociferous critic of Chinese trade practices, and the main obstacle to Chinese membership of the WTO. US concerns derive from its large adverse trade balance, China's reluctance to import US cereals, violation of intellectual property rights by Chinese software producers, evasion of US textile quotas by trans-shipment, subsidies to state industries, and Chinese restrictions on market access in sectors where China favours domestic manufacturers. The United States also wants to use trade issues as a lever to produce changes in China's political and economic system.

Macromanagement and the Changing Role of Fiscal and Monetary Policy

From 1952 to 1978, the government ran a command economy. It provided the finance for investment and decided its allocation by sector. Inputs of materials and labour were controlled by government fiat, prices were controlled, important consumer items were both subsidised and rationed. The banking and financial sector was limited in size and did as it was directed. The government had a tight control of foreign trade, and there was virtually no foreign investment.

The fiscal and planning systems were closely integrated. The predominant item in government spending was "economic construction" which included investment, administrative, and support activities in the major productive sectors of the economy. Some of the investment and running costs of collective farms, state and co-operative enterprises were also met out of their own funds, but

negligible amounts were financed by bank borrowing, issuance of bonds or shares as would be the case in a capitalist economy.

On the revenue side, the state derived a large part of its income from the enterprises it was financing. Except for the years of the Great Leap Forward and the beginning of the Cultural Revolution, fiscal policy in the Maoist period was relatively cautious and revenues were generally greater than expenditure. The early loans from the Soviet Union were fully repaid by 1965, and by 1978 there was no foreign or domestic debt. The rate of inflation averaged about 2 per cent a year from 1952 to 1978.

After 1978, the nature of the economy changed fundamentally. The direct role of government in financing and controlling development has been dramatically reduced. The proportionate size of government revenue in 1995 had fallen to 11 per cent of GDP compared with 31.7 per cent in 1978. Government expenditure has also fallen drastically in response to the squeeze in revenue. In most years of the reform period, the government has run a persistent budget deficit, so that by 1995, government debt was about 27 per cent of GDP, and the banking and financial sectors greatly increased their role, partly to accommodate the needs of state finance.

The downsizing of government was not intentional. It was a by-product of the massive economic reform programme.

The reform involved government decontrol of productive decisions in agriculture, and gave scope for a massive expansion of entrepreneurship and productive activity in other sectors in enterprises run by local government and private individuals. Control over state enterprises was relaxed, but there was no privatisation. Government ensured a continued flow of investment resources to these enterprises, and bailed them out when they ran into financial difficulties. State enterprises provide their workers with extensive benefits for health, education, housing, pensions and guaranteed employment even when the enterprise is uneconomic. The state itself makes negligible provision for social benefits — spending about 0.02 per cent of GDP on these items in 1995.

Since 1978, China has had a “double-track” domestic economy. There is a rapidly growing new-track “outside the plan”. Here wages are very low, with virtually no social security, no restrictions on hiring and firing, ready response to market forces, concentration on labour-intensive products with modest needs for capital. In many areas new-track enterprises compete with state enterprises which are overmanned, overcapitalised, and have heavy social expenditure obligations. Competition has been reinforced by trade liberalisation and a big increase in imports. As a result costs in state enterprises are much higher relative to revenue than in the past. Their previous budgetary contribution has disappeared and been replaced by large net subsidies. This explains most of the collapse of state revenue. At the same time, there was a substantial drop in the proportionate size of tax revenue. Most taxes are collected by local authorities which have a strong financial interest in the profitability of the new-track enterprises they run. They grant large tax relief and tax incentives for such activity, which is the second major reason for the proportionate fall in government revenue.

The reform programme therefore brought an acute fiscal crisis, but so far the problem has been managed with great ingenuity and a large degree of success. Inflation has been very much higher than in the Maoist period. Between 1978 and 1994 it averaged 10.7 per cent a year, but hyperinflation has been avoided. Instead of destroying private savings as in Russia, private savings have increased enormously, the government has been internationally creditworthy, and there has been no capital flight. There have been some years when sharp deflation was necessary to stabilise the growth path or deal with balance of payments problems but these were handled with skill.

The most important element mitigating the fiscal crisis has been the explosive growth of household savings and the rapid monetisation of the economy. The savings have been captured by the state owned banking system and the government has also had large seigniorage gains from the

monetisation process. The new funds have more than offset the sharp decline in the operational surplus of state enterprise and the disappearance of budgetary savings. Before the reform period, household savings were negligible but they are now more than a quarter of household income. In 1978 the money supply (cash and liquid deposits) was less than a third of GDP, but by 1995 it was about equal to GDP. From 1958 to 1976 China had a monobank. The Peoples' Bank of China was part of the Ministry of Finance and controlled virtually all financial and insurance transactions. Since 1978, the government has created a much more complex banking structure. The Peoples' Bank is now a central bank, there are four big commercial banks, a larger number of investment banks, insurance companies, urban and rural credit co-operatives (see Bowles and White, 1993, and World Bank, 1996). The banks set out to attract customers by paying interest on deposits, and expanding the branch network. In 1981 bond issues were initiated. At first a large part of bond sales were forced saving, but interest rates were raised and in 1988 a secondary market was created. In 1990 the Shanghai security exchange opened up a market for shares and Shenzhen followed in 1991. The Chinese banks and financial institutions are owned by the government but the control mechanism has been decentralised. The government has managed to nurture the upsurge in private saving but has directed a considerable part of it to financing shaky state enterprises. As a result the banks have a large portfolio of non-performing assets.

The use of the banking system to prop up state enterprises is not a viable option in the long run, because its continuance could lead to financial collapse and hyperinflation. The problem of state enterprise will have to be tackled head-on.

It is also clear that the fiscal situation is untenable in the long run. Fiscal revenue in China is less than 11 per cent of GDP, compared with nearly 50 per cent in the countries of the European Union, 32 per cent in the United States and Japan. The government has reduced educational spending to the detriment of the poorer section of the population which has to meet an important part of the cost itself. A large expansion in social security provision is needed to replace the present commitments of the state enterprises. It needs to provide infrastructure which the private sector neglects. To meet these needs it will be necessary to increase tax revenue by instituting social security contributions and phasing out the welter of tax reliefs that now exist.

The most ingenious aspect of the fiscal crisis has been the drastic reduction in military expenditure. In compensation, the military have been encouraged to finance themselves by engaging in both new and old-track types of economic activity. Army personnel are engaged in a wide range of manufacturing, including pharmaceuticals, optical equipment, steel, explosives and weaponry. They deal in property, finance, hotel and travel services. They engage in joint ventures, and are major exporters. This probably reduces military preparedness and has probably created some elements of corruption, but it seems to have improved morale, particularly in the upper ranks and has probably strengthened military support for the reform process.

Notes

1. The Chinese statistical authorities do not make a perpetual inventory estimate of capital stock. Instead they provide estimates based on book values at historical cost, i.e. accumulation of successive annual additions to the stock in prices of the periods

in which the assets were purchased. These are available on a long-term basis only for state-owned assets, with a breakdown by major sector of material product. There are two kinds of stock: *a*) “gross gross” where there is accumulation with no deduction for assets scrapped, and *b*) “net”, in which allowance is made for depreciation. These figures are not much use for growth accounts, because the stock is a mixed bundle of vintages where similar assets will have different prices according to when they were purchased. In order to build up capital stocks on a perpetual inventory basis (see “Standardised Estimates of Fixed Capital Stock: A Six Country Comparison”, in Maddison 1995*b*), it is necessary to have a long time series on past investment at constant prices. It is preferable to have a breakdown of investment by type of asset, i.e. machinery and equipment, non-residential and residential structures. It is also necessary to make explicit assumptions about asset lives so that the gross stock estimates can allow for replacement. The “gross gross” stock approach simply assumes that all assets are immortal. Some idea of the official approach and previous difficulties in calculating investment deflators can be derived from Chen, Jefferson, *et al.* (1988) which revises official estimates of fixed investment and capital stock for state enterprise in industry for 1953–85. As in the official estimates, they calculate a “gross gross” and a net stock, without considering asset lives. They also use the official hypothesis about the size of the initial capital stock in 1952.

2. As the capital stock estimates are weak, there have not been many aggregate growth accounts for China. A simple version relating official national product estimates to labour input and a roughly adjusted estimate of gross capital stock for 1952–81 can be found in Annex 5 of World Bank (1985), pp. 79–80. In Maddison (1989), pp. 81 and 91, I used these World Bank capital stock estimates, together with inputs of land, labour, education, and adjusted estimates of GDP growth for 1950–84. More recently, Li *et al.* (1992) have used official estimates of aggregate output, what appear to be official capital stock estimates, and labour input to estimate aggregate growth performance of China for several periods including 1953–78 and 1979–90. They use a Jorgenson type translog production function rather than growth accounts as I have in Table 3.10. This means that the factor weights change over time, whereas mine are fixed, and they give a much bigger weight to capital than I do. However, their total factor productivity results for the Maoist and reform periods are similar to mine, i.e. –0.8 per cent a year for 1953–78 and 2.5 per cent for 1979–90. Another estimate of Chinese factor productivity can be found in Collins and Bosworth (1996), a cross country study for 1960–94. However, their figure for GDP growth 1960–94 is 6.8 per cent a year compared with my 5.7, and they assume a slower growth of capital stock than my measure. Hence they exaggerate China’s performance. World Bank (1997*a*), p. 5, 106–8, also contains some growth accounts for China, for 1978–95. These use official and modified estimates of GDP growth, both of which seem too high.
3. Buck’s survey covered provinces representing 83.5 per cent of the cultivated area. The biggest uncovered area was in the four provinces of Manchuria which had about 15.4 per cent of cultivated area, where farms were bigger (see Liu and Yeh, 1965, p. 129 who give estimates of cultivated area for 30 provinces).

4. These are the figures for Buck's survey area. Including Manchuria, the multiple cropping ratio was 1.32
5. Skinner (May 1965, p. 372) comments thus on the market closures: "Traditional marketing weeks which had recurred in thousands of markets for centuries without break were abruptly discontinued.... The abolition of the periodic marketing system in most parts of China quickly induced near paralysis in commodity distribution."
6. Before the war the handicraft sector had had substantially bigger output than the factory sector. According to Liu and Yeh (1965) the handicraft share of output had fallen to 35 per cent in 1952 and 21 per cent in 1957 (see Table B. 6 below). According to the Chinese statistical authorities (SSB, 1960, p. 16) the handicraft share was 21 per cent in 1952 and 17 per cent in 1957. Between 1952 and 1957 more than 90 per cent of handicraft workers were incorporated into collectives (SSB, 1960, p. 36).
7. If one compares the official figures for employment in commerce in 1952 and 1957 in Table 3.24 with the Liu and Yeh estimates for the same years in Table D.5, it is clear that the former take no account of pedlars, so that they understate the decline in these service activities.