

## China's Economic Reforms in the 1980s and their Consequences

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### Introduction

Since the late 1970s China has made great efforts to reform her highly centralized economic system. Compared with the past, the economic performance of China in the 1980s was extremely impressive. Undoubtedly, market-oriented reforms have played a major role in this. On the other hand, some negative side-effects of systemic changes, such as high inflation and inequality of income distribution, induced the central government to implement a three-year austerity programme from late 1988 to 1991. Signs of re-centralization appeared. At present, a new round of reforms is being launched after a halt of three years. However, the structural, institutional and environmental consequences of the reforms of the 1980s had a strong impact on further systemic changes and economic development. China's reforms in the 1980s are a subject of debate both inside and outside China. The reform, once termed "a quiet economic revolution", still falls short of a free market system after a reform decade, and two crucial questions remain unanswered: whether China has been changing her extensive growth pattern into a more efficient development model, and how far the economy has been relieved of a bureaucratic command system.

This article aims at describing two propositions which are partially the answers to these questions. Firstly, China's reforms were never intended to install a free market system, nor did they in reality break down those institutional conditions under which a central planning system works. The reforms of the 1980s have, however, largely changed the economic system and its structures; China is now a mixed, or diversely

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1 I wish to thank Prof. W. Kraus and Dr. J. Steiger for their helpful hints and comments on an earlier draft of this article. All errors in this article are my own.

dualistic, rather than centrally planned economy. Secondly, indeed, China's economic growth in the 1980s could be to a great extent attributed to the gradualist and pragmatic reforms, but it is also evident that the existing mixture of the remainder of central planning and in fact unregulated market force has imposed some potential restrictions on sustainable development in the future, if the reforms remain an unrealistic attempt to combine central planning with market mechanisms and do not eventually result in an institutionalized or well-regulated market system.

### Reforms and Growth Achievements in the 1980s

In the 1980s two major reforms were undertaken in rural areas: re-setting of agricultural procurement prices and de-collectivization. In 1978 the government made the decision to substantially raise the procurement prices of agricultural products (CCCPC 1978). Beginning in the summer of 1979, grain quota purchase prices were increased by 20%, with an additional 50% premium for above-quota sales. The procurement prices of other agricultural products, e.g. cotton, oil-bearing crops, sugar etc, were also raised. The price increase for all agricultural procurements was 28,2% yearly on an average in 1979 and 1980 in comparison with 3% in the period 1981-1988 (RMRB 1991). Although the rise in agricultural procurement prices should be called a policy shift rather than a systemic reform, it was the first time that Chinese central planners had used price incentives instead of administrative production orders to increase production. But the sharp increase in the agricultural procurement price without appropriate rises in selling prices aggravated the distortion of agricultural prices. As some of the agricultural procurement prices were even higher than urban selling prices which were adjusted only slightly upwards, the gap between buying and selling prices had to be subsidized by the government, and urban consumer subsidies increased substantially.

De-collectivization of agricultural production and management followed. The control rights (use rights) over land were separated from ownership under the so-called "contracted responsibility system with remuneration linked to output" widely introduced from 1982 onwards. The means of agricultural production, such as animals, tools and tractors owned by collective organizations, were rented to households, and land was divided among households on an equal per capita basis. Instead of

collectively organized production activities, peasant households and collective units signed compulsory production contracts. Peasant households had to meet contractual procurement obligation at state-fixed prices. In return, they could make decisions on production after fulfilling the contractual obligation and sell products above the contractual obligation to the government at higher "negotiated procurement prices" or on the free market at market prices (CCCPC 1986). Therefore, to a certain extent Chinese peasants re-acquired the economic freedom to make production and market decisions they had lost in the 1950s' collectivization movement. Finally, in 1984 in the course of re-building administrative management at township and village levels, "Communes" and "Production teams", organization forms of collectivization, were officially abolished. Mandatory procurement rules were then replaced in 1985 by a voluntary contract system.

Reforms immediately resulted in flourishing activities in rural areas. Growth of gross agricultural output was strikingly high at an average annual rate of 7.8% in the period 1979-1984, compared with less than 2% between 1952-1978 (SSB 1990).<sup>2</sup> Factor productivity in agriculture, measured in physical yield per unit of land and per capita output in value terms, rose together with rapid growth in gross output. From 1979 to 1984, the average unit area growth rate of grain (kg/mu at sown area) reached 6.7% annually, compared with 3.5% in the period 1953-1978, whereas the growth rate of per capita agricultural output value averaged 5.3% annually in real terms, compared with near zero in the decades before 1978 (SSB 1990). Some growth-accounting studies suggested that 50% of the rise in China's agricultural output in the first half of the 1980s can be attributed to the increase in inputs and the rest to an improvement in total factor productivity (Balassa 1987). Since 1985, however, growth rates of both gross agricultural output and factor productivity have declined with the cessation of agricultural reforms.

In the late 1970s and early 1980s, attempts were also made to change the highly centralized industrial management system. These reforms mainly concentrated on the extension of industrial enterprise's daily decision-making and were not undertaken on a large scale until 1984. Success in revitalizing agricultural development with systemic changes then

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2 The data of gross agricultural output value before 1984 include output value of the township and village industrial sector, which experienced extremely expansive development in the 1980s; agricultural output of 1978-1984 is therefore obviously biased upward in terms of agriculture.

convinced the political leadership of the important role economic reforms could play as a vehicle of growth. A programme of wide administrative decentralization and market-oriented reforms in urban areas was officially announced in October 1984, which aimed at a basic revision of the planning and management system of industry. Some other parts of the economy, such as finance and banking, fiscal, trade and labour systems etc, were also involved. From 1984 to 1988 the main reforms in urban areas can be briefly described as follows.

To a great extent, decision-making power in production, pricing, marketing and investment has been delegated to industrial, commercial and transport enterprises, which now can retain a large part of the profits and decide on the disposition of retained earnings. In 1987, similar to the reforms in rural areas, a "contractual responsibility system" was introduced. The contracts, signed by enterprises' managements and governmental authorities at various administrative levels, specify (1) output quotas, particularly those portions to be distributed by planning agencies at state-fixed prices, (2) enterprises' obligations (imposed taxes and contributions to the state budget from net profits) and (3) other aspects of economic performance in the contractual period. Since 1988, 95% of the large and medium-scale state enterprises have been managed under the contractual responsibility system (Chen 1990). Many of the small state or collectively run enterprises have been managed under lease agreements between the administrative authorities and collective units or even individuals.

Central control over production, distribution and investment has been scaled back by sharply reducing the amount of goods and the volume of production subject to targets of mandatory production and distribution plans. The number of products subject to mandatory production plans of the central government decreased from 300 in the late 1970s to about 60 in 1987, whereas the number of products subject to central mandatory distribution plans at state-fixed prices was lowered from 256 in 1984 to 26 in 1987 (RMRB 1987). The share of state investment grants in the total capital expenditure of state enterprises declined from 60% in 1978 to about 14% in 1988 (Blejer 1991).

Furthermore, fiscal decentralization has transferred considerable authority over budgetary revenues and expenditures from central government to provincial and lower local bodies, linking their expenditure to revenue. The share of central government in total national fiscal expenditure decreased from 54% in 1981 to 39% in 1988 (SSB 1990). The expansion of budgetary autonomy has strongly motivated the pro-

vincial and local authorities' initiative for regional economic development.

Although public ownership still remains dominant in China's economy, the government has promoted the development of private business. Employment in the urban private sector grew from 0.15 million in 1978, less than 0.16% of total urban employment, to 6.48 million in 1989, accounting for 4.5% of the urban total. The most significant change in property rights is stockholding of state or collectively run enterprises. In 1988, nearly 4000 state or collectively run enterprises implemented the so-called "stockholding experiment". Among all issued stock shares, 85% were held by the employees of those enterprises, 13.5% by other enterprises and 1.2% by other individuals (Zhang 1990). Stockholding is *de facto* privatization, which not only transfers property rights, but also stimulates the growth of capital markets, thereafter the systemic reforms extended from goods market into factor market, even though the "stockholding experiment" is still on a very small scale compared with the economy as a whole.

In the pre-reform periods, the state-owned banks and their branches, as a part of the central planning institution, were limited to providing the credit needed by enterprises to implement centrally set physical output plans and to issuing and monitoring cash in circulation in the economy. Since the mid-1980s, the financial and banking system has been re-organized for the purpose of the creation of money and capital markets as well as to make the banking and financial system play an active role in stabilizing economic development. The People's Bank of China, the state bank, has made some efforts to be a central bank independent of central government. Many specialized banks, such as the Agricultural Bank and the Industrial and Commercial Bank, operating in different economic sectors, and many non-banking financial institutions, such as investment corporations and insurance, leasing and securities companies, were also established in the late 1980s. Competition between banks or between banks and non-banking financial institutions has been allowed in some fields.

Wage and labour systems have also been changed. With the introduction of a bonus system that links work performance with rewards, material incentives have been enhanced. The management of state and collective enterprises can pay bonuses under the ceiling set by the government. In the later 1980s, bonuses above regular wage payments significantly increased, even though the distribution of bonuses to workers is still on a relatively egalitarian basis. Since the mid-1980s, a

contractual labour system has been widely introduced as a substitute for the 'job-for-life' system.

Systemic reforms in the 1980s were associated with economic opening. The post-Mao leadership rejected the autarkic policies of the previous two decades and pursued an open-door policy to participate in the world market to speed up technological progress and economic growth. The open-door policy has led to export-oriented trade expansion; establishment of the special economic zones (SEZs) in coastal areas; the absorption of foreign direct investments and loans, private, governmental and international organizations included; the acquisition of technology; the gradual devaluation of Renminbi's official exchange rate for making it convertible in the future; large-scale exchanges of technical experts; and sending a large number of students and technicians abroad for professional technological training and advanced studies, etc.

In the period 1978-1990, China's exports increased more than fivefold, from 9.75 to 62.1 billion US dollars. Imports increased more than fourfold, from 10.89 to 53.3 billion US dollars. Influx of direct foreign investment during the same period totalled nearly 18.98 billion US dollars in more than twenty thousand projects, while loans from foreign commercial, government and international organizations reached 45.82 billion US dollars in more than five hundred projects, compared with almost zero in 1977 (SSB 1990 and CCCPC 1991).

A detailed analysis of the open-door policy's impact on China's economic development is beyond the scope of this article, but two important issues should be pointed out for the succeeding discussion. The open-door policy pursued since the late 1970s by the Chinese leadership has not only encouraged the influx of foreign capital and technology and dramatic growth in foreign trade as an impetus to economic growth; modern management principles and external competition have also penetrated the Chinese economy through its access to the world markets. The inefficiencies of socialist enterprises are exposed in part by competition in the world market. This has exerted huge pressure upon the Chinese leadership to relax ideological constraints on changes in the economic system. So, in reality, the process of the reforms has been affected in turn by the scope of economic opening to the rest of the world. On the other hand, the open-door policy in China is characterized by regional discrimination, in that decentralization and decontrol of foreign trade and investments in coastal areas is more rapid than in the hinterland. The former now enjoy both geographical advantages and preferential policy treatment compared to the latter. As described below,

differing policy priorities have become one of the most important reasons for an increasing development gap between coastal areas and the hinterland.

### **Growth and Efficiencies**

Central to China's economic growth in the pre-reform decades were sustained high saving and investment rates and high labour and material inputs although in the absence of technological progress and irrespective of input efficiency (World Bank 1985). The inefficiency of the economic system and political chaos resulted in massive waste of scarce resources. With the introduction of reforms, the performance of the Chinese economy in the 1980s was striking compared with its previous record.

In the period 1978-1990 all of the main economic indicators quadrupled in nominal terms and growth rates in real terms are much higher than those in the past (Table 1). Per capita nominal GNP and national income rose by 300% in the reform decade.<sup>3</sup> Symbolized by the increasing possession of durable consumer goods, the real income of the population increased more rapidly than expected. Rapid growth was closely related to the systemic changes and policy shifts. Main reforms introduced since the late 1970s were followed by higher growth rates of output not only in agriculture but also in urban industry.

There were industrial growth booms in 1985 and 1988 (Table 1), soon after the extension of autonomy of enterprises in 1984 and the wide introduction of "the industrial contractual responsibility system" in 1987. But agricultural growth sharply decreased after rural reforms stagnated

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3 Along with founding a centrally planned economy, China introduced a Soviet-style physical statistics system very different from western style ones. Instead of Gross National Product (GNP) indicator, Total Product of Society (TPS) and National Income (NI) are used as main indicators of economic growth. By China's official statistic definitions, TPS refers to the sum total of gross output in value terms produced by five material production sectors (agriculture, industry, construction, transport and commerce), namely, NI (the newly created or added value) plus material consumption (depreciation of fixed assets and intermediate inputs such as raw materials, energies and services etc.) in these five material production sectors (SSB 1990). Since the late 1970s, in line with western statistics China has officially published estimates of GNP (the value of all final goods and services produced by all sectors of the economy with deduction for intermediate inputs but without deduction for depreciation of fixed assets) and GDP (Gross Domestic Product, i.e. GNP after deduction of net foreign income).

TABLE 1. Growth Rates of Main Economic Indicators (1953-1990)

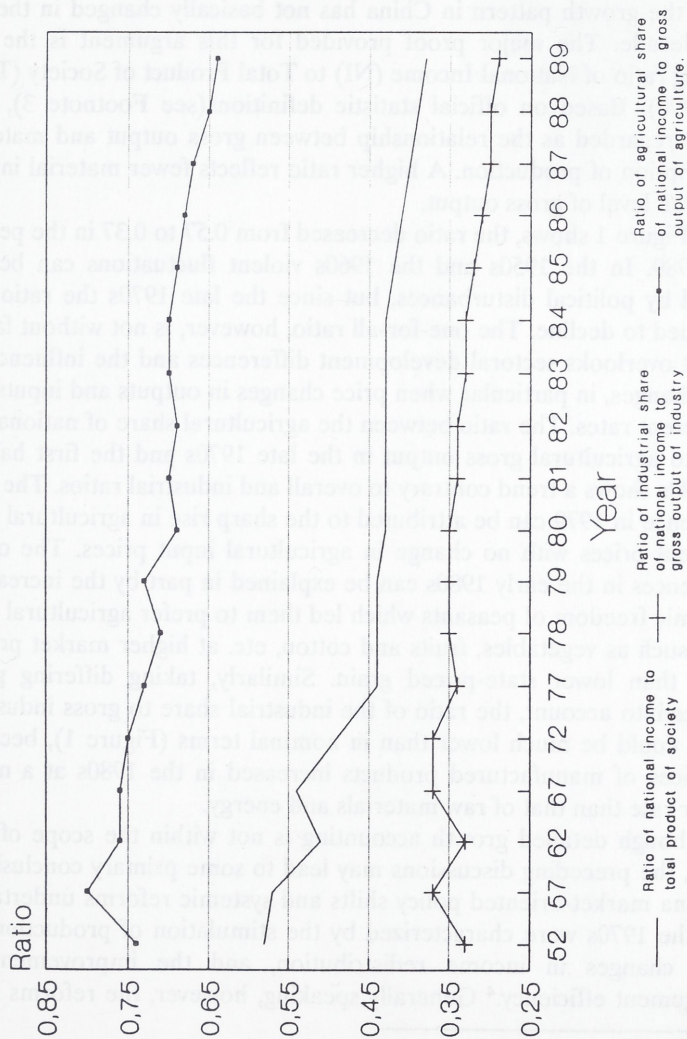
	Gross National Product (GNP)	National Income (NI)	Total Product of Society (TPS)	Gross Industrial Output Value	Gross Agricultural Output Value
Average annual increase					
1953-1957	n.a.	8.9%	11.3%	18.0%	4.5%
1958-1962	n.a.	- 3.1%	- 0.4%	3.8%	- 4.3%
1963-1965	n.a.	14.7%	15.5%	17.9%	11.1%
1966-1970	n.a.	8.3%	9.3%	12.0%	2.8%
1971-1975	n.a.	5.5%	7.3%	9.3%	3.4%
1976-1980	n.a.	6.1%	8.3%	9.6%	3.2%
1981-1985	10.2%	10.0%	11.1%	12.0%	8.1%
1986-1990	7.8%	7.5%	10.0%*	13.3%	4.6%
Annual increase					
1978	n.a.	12.3%	13.0%	13.5%	8.1%
1979	7.6%	7.0%	8.5%	8.8%	7.5%
1980	7.8%	6.4%	8.4%	9.3%	1.4%
1981	4.5%	4.9%	4.4%	4.3%	5.8%
1982	8.7%	8.2%	9.5%	7.8%	11.3%
1983	10.3%	10.0%	10.2%	11.2%	7.8%
1984	14.6%	13.6%	14.7%	16.3%	12.3%
1985	12.7%	3.5%	17.1%	21.4%	3.4%
1986	8.3%	7.7%	10.1%	11.7%	3.4%
1987	11.0%	10.2%	14.1%	17.7%	5.8%
1988	10.9%	11.3%	15.8%	20.8%	3.9%
1989	3.6%	3.3%	5.2%	8.5%	3.1%
1990	5.0%	4.8%	4.9%*	7.6%	6.9%

Sources: SSB 1990 and 1991 (Data with \* are author's estimate), n.a.-- not available.

Note: For statistical definitions of GNP, NI and TPS see Footnote 3. All data in this table are at constant prices.



Figure 1. Ratio of National Income to Total Product of Society (1952-1989)



Source: Author's calculation according to SSB 1990 and 1991 at current prices.

Note: For definitions of National Income and Total Product of Society see Footnote 3.

in 1984, and industrial growth also declined when industrial reforms ceased after 1988.

Some studies have suggested that, considering the economy as a whole, the growth pattern in China has not basically changed in the reform decade. The major proof provided for this argument is the decreasing ratio of National Income (NI) to Total Product of Society (TPS) (Xu 1990). Based on official statistic definitions (see Footnote 3), this ratio is regarded as the relationship between gross output and material consumption of production. A higher ratio reflects fewer material inputs at a given level of gross output.

As Figure 1 shows, the ratio decreased from 0.57 to 0.37 in the period 1952-1989. In the 1950s and the 1960s violent fluctuations can be explained by political disturbances, but since the late 1970s the ratio has continued to decline. The one-for-all ratio, however, is not without faults since it overlooks sectoral development differences and the influence of price changes, in particular when price changes in outputs and inputs are at different rates. The ratio between the agricultural share of national income to agricultural gross output in the late 1970s and the first half of the 1980s shows a trend contrary to overall and industrial ratios. The first divergence in 1979 can be attributed to the sharp rise in agricultural procurement prices with no change in agricultural input prices. The other divergences in the early 1980s can be explained in part by the increasing economic freedom of peasants which led them to prefer agricultural products, such as vegetables, fruits and cotton, etc. at higher market prices, rather than lower state-priced grain. Similarly, taking differing price changes into account, the ratio of the industrial share to gross industrial output could be much lower than in nominal terms (Figure 1), because the prices of manufactured products increased in the 1980s at a much greater rate than that of raw materials and energy.

Although detailed growth accounting is not within the scope of this article, the preceding discussions may lead to some primary conclusions. In China market-oriented policy shifts and systemic reforms undertaken since the 1970s were characterized by the stimulation of production, by policy changes in income redistribution, and the improvement of management efficiency.<sup>4</sup> Generally speaking, however, the reforms have

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4 One should make a distinction between transfers of economic power from central to local governments and from government authorities to enterprises. In the theoretical sense, the former, or "administrative decentralization" as some called it, does not change the subordinate position of enterprises within the system but boosts local authority's enthusiasm for growth and diminishes rigidity of over-centralized

contributed to an increase in factor inputs rather than an improvement in factor productivity. Especially in the dominant state industry, output instead of a profit motive still plays an active role. Increasing material consumption and a decline in agricultural and industrial growth after the reforms' stagnation indicate that the failure of the reforms to change the growth pattern into an efficient and sustainable one. For any economy, one of the key sources of sustained growth lies in rapid technological progress that improves capital efficiency and labour productivity. This implies that the growth potential of China's economy relies on a market-oriented systemic transformation to a greater extent than before.

### **Dualistic Industry**

One of the most critical consequences of agricultural reforms has been the unexpected rise of a rural industrial sector, which consists of a large number of small-sized industrial firms owned by townships, villages and individuals. Output and income growth has generated a surplus in the rural labour force (defined as that part of the labour force which could be removed without reducing output, even if the input of other factors remains constant). Rural industry in China started to develop in the late 1950s, when numerous small-sized industries were set up in rural areas as a result of "the Great Leap Forward". After the economic austerity programme implemented in the early 1960s, only a few small industrial firms in rural areas survived. Since the late 1970s, the rural industrial sector has experienced rapid growth. Its share in national gross industrial output rose from 8% in 1978 to 25% in 1990, whereas its share in Total Product of Society increased from 5.6% in 1978 to 15% in 1989. Growth in gross output of township, village and private enterprises (TVPEs) in real terms was 25.3% on an annual average in the period 1985-1990. Total employment of rural industry rose by 38.9 million from 1978 to 1989 and accounted for 12% of the total rural labour force, and around 46% of total employment in national industry in 1989 (SSB 1990 and 1991). Compared with its urban counterpart, the rural industrial sector may be characterized as follows.

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planning. In contrast, the latter, or "economic decentralization", enables enterprises to partially make production, price, marketing and investment decisions according to market supply and demand instead of simply getting orders from above; it therefore leads to the rise and expansion of markets for capital and consumer goods and makes enterprises primary actors in the market places.

Rural industry in China is almost outside the central planning controls and not subject to production and investment quotas and price regulations made by central planners. TVPEs procure all capital goods and intermediate inputs and sell their products on markets. On the other hand, there is no possibility for rural firms to get access to the goods which are allocated by central planners at lower prices, nor is there any possibility of receiving allocated investment or bank loans at lower interest rates.

Rural industrial firms have greater autonomy in labour employment as well as wage determination, with little governmental regulation and intervention. This is very different from urban areas, where neither state-owned nor collectively run enterprises have much authority over employment. Central and local authorities still maintain strict regulations on urban industrial labour (including employment quotas and unemployment restrictions). It is still hard for urban industry to employ or dismiss workers at the management's will, even though a so-called contractual labour system has been introduced since the mid-1980s instead of a 'job-for-life' system.

Since the initial capital of rural industry stems from a surplus of agricultural accumulation and small-sized bank credit, the size of firms (measured in number of workers and fixed assets per firm) in the rural industrial sector is still very small, and they are usually engaged in labour-intensive activities. The average number of workers per firm fell from 21.8 in 1978 to only 7.6 in 1989.<sup>5</sup> The capital-labour ratio, measured in net fixed assets per worker, of rural TVPEs was only 1587 yuan in 1989, compared with 5570 yuan in urban state-owned enterprises (SSB 1990).

Most of the labour force in China's rural industry is directly recruited from agriculture without the necessary professional education and training, and the technology and equipment used by it are generally out of date. Labour productivity in the rural industrial sector therefore is much lower than in its urban counterpart. Average labour productivity (average output per worker in sector) of rural industrial enterprises was

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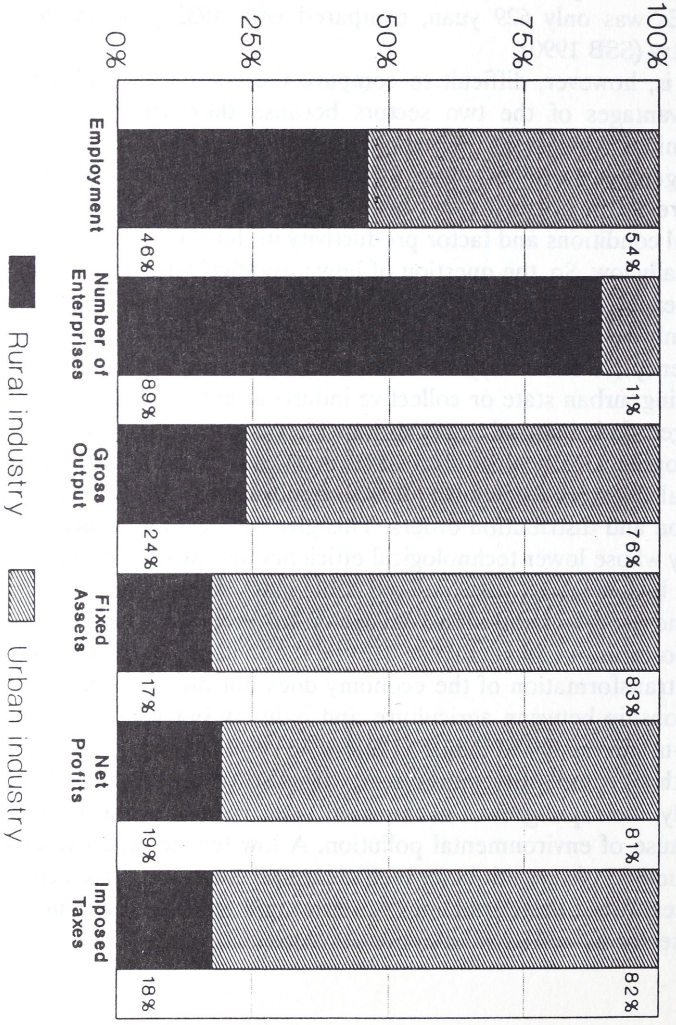
5 The declining average labour scale per firm in rural industry is mainly attributed to sharp increase in the number of rural private enterprises since the mid-1980s, which in 1989 accounted for 32% of total rural industrial enterprises and 85.6% of rural industrial labour (SSB 1990). Rural township-run firms differ from those run by villages and individuals: In 1989 the average labour scale in a township was 60 persons, compared with 25 workers for village firms, 3 workers for rural private firms, and 422 workers for urban state industrial firms.

8970 yuan in 1989, half that of urban state-owned enterprises. The wage level of the rural industrial sector, however, is also much lower than its urban counterpart. In 1989 the average annual salary per worker of rural TVPEs was only 629 yuan, compared with 1935 yuan in urban state industry (SSB 1990).

It is, however, difficult to compare the competitive advantages and disadvantages of the two sectors because they are not in the same systemic environment. Rural industry has been granted much more management autonomy than its urban counterpart but no privileges to acquire lower-priced capital goods and raw materials. Indeed, technological conditions and factor productivity in the rural industrial sector are generally low. So, the question of how a relatively inefficient sector could have experienced such rapid growth in the process of systemic reform can only be answered by considering the rigidity, or lower organizational efficiency (X efficiency) of its urban counterpart. As a relict of central planning, urban state or collective industrial enterprises have not largely changed their internal organization. They are generally hampered in the development of new products and markets and must still bargain with central planners to acquire allocated goods, investment grants and production and distribution orders. This gives a breathing space to rural industry whose lower technological efficiency and productivity can easily be offset by low labour costs and a flexible marketing policy.

The rise of a rural industrial sector has greatly changed the industrial composition of China (Figure 2). For the long-term development, structural transformation of the economy does not only involve the changing relationship between agriculture and industry but also problems of the rural-urban duality of industry. Dynamic rural industry has promoted the growth of competitive markets but has also resulted in problems. Particularly, the rapid growth of the rural industrial sector has become a major cause of environmental pollution. A low technological level and low productivity also result in an inefficient utilization of scarce economic resources. All of these problems require rapid reforms in the urban industrial sector as well as an effective development strategy.

Figure 2. Rural-Urban Composition of China's Industry (1989)



Source: Author's calculation according to SSB 1990.  
 Note: Urban industry only refers to state-owned and collectively run urban industrial enterprises.

TABLE 2. Main Economic Performance of Three Macro Regions (1972-1989)

	GDP <sup>2</sup> (billion yuan)			National Income (NI) <sup>3</sup> (billion yuan)			TPS <sup>3</sup> (billion yuan)			Per Capita GDP (yuan)			Per Capita NI (yuan)		
	East	Centre	West	East	Centre	West	East	Centre	West	East	Centre	West	East	Centre	West
1972	n.a.	n.a.	n.a.	124.5	61.7	36.0	230.6	173.7	77.0	n.a.	n.a.	n.a.	410	227	198
1974	n.a.	n.a.	n.a.	134.9	65.2	37.2	256.6	185.6	79.9	n.a.	n.a.	n.a.	452	231	203
1976	n.a.	n.a.	n.a.	148.2	69.7	38.5	296.2	204.4	86.1	n.a.	n.a.	n.a.	577	236	206
1978	179.8	106.3	61.3	190.3	87.8	53.8	399.4	254.6	117.2	663	327	289	655	289	251
1980	226.4	137.2	77.1	239.9	111.9	66.8	468.6	314.4	140.1	784	408	362	752	355	288
1982	271.0	165.4	94.6	287.7	133.4	80.4	554.4	399.9	167.3	849	463	394	877	573	331
1984	362.5	225.2	124.3	372.9	177.4	105.0	729.0	479.9	218.1	1059	627	512	1074	606	435
1986	498.6	296.0	165.4	499.4	235.7	137.7	1058.9	646.4	299.3	1382	793	716	1394	776	567
1988	750.0	441.7	243.9	727.2	334.3	206.3	1719.5	906.9	453.6	1944	1088	962	1967	1068	809
1989	850.5	468.5	271.3	809.2	373.6	230.2	2011.8	1013.4	525.4	2174	1212	1095	153	1173	898

Source: Author's calculation according to SSB 1990b. All data in this table are in nominal terms

Notes: 1. For the category of three macro-regions (East, Centre and West) of China see Footnote 6.

2. GDP (Gross Domestic Product) data are China's official estimate in line with western style statistics.

3. For definitions of NI and TPS see Footnote 3.

### Increasing Gap between Three Macro-Regions

According to official categorization, three macro-regions can be identified in China: the east, centre and west.<sup>6</sup> Ten provinces and autonomous regions in West China represent 68.5% of the national territory and 25% of population, their GNP share is only 16% of China's total in 1989. In contrast, twelve coastal provinces and autonomous municipalities account for 13.9% of the territory, 41% of population and 44.9% of GNP in the same year (SSB 1990). Growth gaps have widened rapidly in the 1980s in both gross and per capita indicators between the west, east and centre (Table 2).

The widening development gaps can in part be attributed to differences in the factor endowments, and in part to the sharp shift in national development strategy and market-oriented reforms. First of all, the central government has changed the hinterland-biased development strategy adopted in the 1960s and 1970s into a coast-leading development approach. The former was introduced under political and national security considerations without regard to input-output efficiency. The latter has a strong growth-orientation. In the Seventh Five-Year Plan (1986-1990) (NPC 1986), the coastal areas were regarded as leading development areas and were given preferential policy treatment, i.e. rapid liberalization and marketization.

Secondly, the central government changed its investment policy, allowing its capital investment to go to the best tender. In the period 1979-1989, the average annual increase of domestic capital investment was 13.9% in the east, 11.4% in the centre and 9.6% in the west (in nominal terms).

Thirdly, as a result of the geographically imbalanced policy treatment and difference of factor endowments, foreign capital has flowed into the east much more than into the west and the centre. In the period 1985-1990, the inflow of foreign capital (direct investment and loans) to eleven provinces and autonomous municipalities in coastal areas totalled more than 21.3 billion US dollars, accounting for nearly 88% of the total for all provinces of the country (SSB 1990).

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6 The east refers to Liaoning, Beijing, Tianjin, Hebei, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong, Guangxi and Hainan. Central China includes Neimenggu, Heilongjiang, Jilin, Shanxi, Anhui, Jiangxi, Hennan, Hubei and Hunan. The west encompasses Sichuan, Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Qinghai, Ningxia and Xinjiang (NPC 1986). Neimenggu (Inner Mongolia) is included in the west instead of the centre in this paper.



Widening development and income differences led the central government to increase its role in the redistribution of economic resources. As Figure 3 shows, in the east the outflow of resources (negative transfer of National Income) has declined over time. As has been pointed out, capital investment of the central government in the West decreased while only little foreign capital has flowed into the west, in comparison with the east.

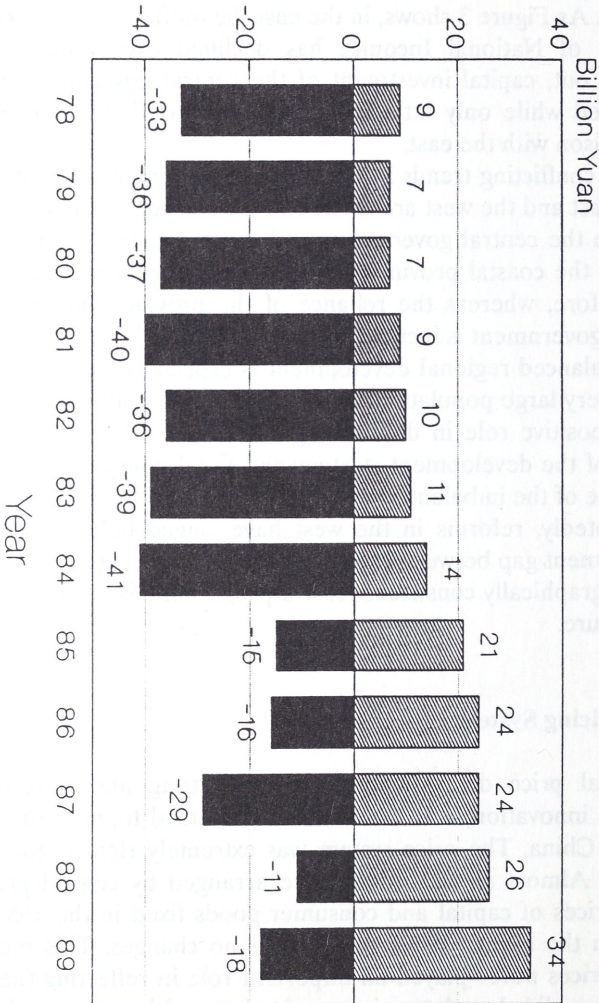
The conflicting trends in the central government's redistribution role in the east and the west are related to the shift of fiscal bargaining power between the central government and the provinces. Obviously, with the reforms the coastal provinces are now in a stronger bargaining position than before, whereas the reliance of the provinces in the west on the central government is increasing.

Imbalanced regional development is especially likely in big countries with a very large population. However, adequate policy interventions can play a positive role in diminishing the gaps over time. The conflicting trends of the development strategy and fiscal policy in China are a consequence of the imbalanced systemic reforms in the three macro regions. Undoubtedly, reforms in the west have lagged behind. Therefore, the development gap between the east and west will probably expand further if a geographically consistent reform programme is not introduced in the near future.

### **Dual Pricing System**

The dual price determination (market-setting and state-fixed), as a Chinese innovation, was the most controversial topic in the reform decade in China. The price system was extremely rigid in the pre-reform periods. Almost all the prices were arranged by central planning, and many prices of capital and consumer goods fixed in the 1950s could be found in the earlier 1980s with few or no changes. This means that in China prices never played an important role in reflecting the scarcity of goods, nor did they determine production and income distribution. The upward adjustment of agricultural prices in 1979 was a turning point. In the early 1980s, industries unofficially began to exchange their capital goods at so-called "inter-enterprise negotiated price", generally higher than the state-fixed price. The currently prevailing dual pricing system was introduced in 1984 when the government allowed industrial enterprises to sell off key capital and consumer goods after fulfilling centrally

Figure 3. Flow of National Income between Two Macro-Regions (1987-1989)



Source: Author's calculation according to SSB 1990 at current prices.

Note: For the category of east and west China see Footnote 6. For definition of National Income and its flow see Footnote 3. Negatives refer to outflow, positives refer to inflow.

determined production quotas on the market at floating prices within a 20% range of the state-fixed price. From 1978-1990, the share of transactions at state-fixed price declined in value terms from 96% to 29% in total retail sales, from 94% to 25% in total agricultural procurement, and from 99% to 44% in total capital goods transactions (SCRES 1988; Zheng 1990; RMRB 1992).<sup>7</sup>

Actually, there are several interpretations of the dual pricing system in the Chinese economy: (1) Identical goods are priced by central planning organizations for the part centrally planned for production and allocation and by market forces for the part above the planning-quotas; (2) Price control over homogeneous goods remains in some regions and has been lifted in others; (3) The prices of different kinds of goods are determined by state and market, respectively. Most of the debates over dual pricing have focused on the two price formation mechanisms for identical goods. It is not difficult to imagine that such a price system could have a strong influences, both positive and negative, on the economy. In association with expansive management autonomy, partial liberalization of price has stimulated enterprises to produce products with a high market demand, after fulfilling the state-set production plans, and sell them at higher market prices. Price thus has begun to exert its influence on production and distribution. The strategy of the reformers was to resort to a dual pricing system as an intermediate measure, and finally to deregulate most of the product prices.

Obviously, the designers of the dual pricing system have tried to boost total output by stimulating the marginal returns of factor inputs, but have ignored the potentially negative welfare effects the leakage of administratively allocated goods could have. In principle, administratively allocated goods can be produced with intermediate inputs, also available at planning prices according to the central planner's input-output plans, and compulsorily procured by the state for the rationing of final goods. In practice, the difference between state and market prices of final goods has become a hidden welfare transfer, or state subsidy, if the state-fixed price is lower than the market price. When some allocated goods leak out of the planning network into the market, a transfer of welfare occurs. If they are still sold at planning prices, the final consumers are the bene-

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7 The decreasing share of transaction at state-fixed prices may not be considered as a major quantitative measurement of the economy's marketization because the prices of many key capital goods and intermediate inputs are still determined by the state for production and distribution quotas, and thus have an have impact on the prices of many final goods.

ficiaries. If, on the other hand, they are sold at market prices, the sellers gain and the consumers lose. From 1984 onwards state-owned industrial enterprises have been officially allowed to sell 2% of their mandatory plan quota of capital goods on the market. In the mid-1980s, a huge difference between planning and market prices induced enterprises and individuals to make profits simply by buying and selling allocated goods. It was estimated that in 1985 the total value of the price difference of five key input goods (coal, rolled steel, timber, cement and tractors) was over 40 billion yuan, or nearly 10% of the Chinese heavy industrial output value. In 1987 the difference between allocated and market prices reached 171.8 billion yuan in industry, or more than 12% of gross industrial output, 250 billion yuan in the whole country, or more than 10% of Total Product of Society (Yang 1990). Rent-seeking behaviour and corruption spread quickly. Speculation on goods at low planning and high free-market prices became one of the determinants driving inflation to a sky-high level in 1988.

Clearly, the dual pricing system has brought an additional distortion into the economy. The dual price determination system has worked but at the cost of market efficiency and order. Its unexpected welfare effect in the seller's market has caused new problems for the reform process. Since the late 1980s, the dual pricing system has been heavily criticized not only by radical reformers but also by conservatives. It is now a widely held view that the dual system as an interim vehicle could play a positive but short-term role in transforming a command economy, where planning price is dominant, to a new system where the market forces decide on the allocation of goods (Wu and Zhao 1987).

### **Mismatch of Macro-policy and Micro-economy Management**

Experiences of many countries have shown that the ability of government to pursue macro-management effectively is crucial to the success of economic reform. Macro policies have a major influence on price stability, domestic saving, investment and external balance. Along with marketization of the economy, it was necessary for China's government to transform its administrative and rigid macro-management system so that it could effectively implement policies in a largely liberalized economy. However, the government still favours administrative controls over the economy, in the form of direct policy interventions.

So far it has not been possible to implement monetary policy effectively because there are no real money and capital markets. The People's Bank of China, the so-called central bank, remains a subordinate organ of the central government and has no authority to manage the money supply. In addition to direct credit allocation at state-fixed rate, universal and specialized banks are allowed to issue commercial credit according to established credit ceilings. But there are still other direct controls. A license system for capital construction projects and even a freeze on investment activities have often been imposed.

Fiscal policy is, however, more effective. Apart from the availability of its instruments, a more important reason is that the stabilization of the economic situation largely depends on the short- and medium-term physical development targets. Public capital investment has a strong influence on money supply. To curb inflation, the main policy instrument is a substantial reduction in public capital expenditure. However, so-called "investment hunger" again quickly drives investment expenditures to a higher level. Also, there can be no effective fiscal policy without an effective taxation system, which is still not established in China after a decade of reforms.

During the 1980s, China implemented three austerity programmes (adjustment and rectification). All of them failed to maintain stability of the economy because there were no effective instruments available for the macro-management. Three fluctuation cycles (1979-1983, 1984-1986 and 1987-1990) (Table 3) show strong macro-instability of the economy. They were characterized by an investment boom, a sharp rise in inflation followed by the administrative tightening of investment and of bank credit and loans. It is notable that these macro-economic fluctuations bear a close relation to the progress of administrative decentralization. The cycle of 1979-1983 matches the period of agriculture reforms and the beginning of fiscal decentralization, the interval between 1984 and 1986 witnessed the expansion of industrial autonomy and the period 1987-1988 was the reform phase in which industrial contractual responsibility was widely introduced.

It is not surprising that market-oriented reforms have resulted in an extreme expansion of aggregate demand because more economic freedom fuels the enthusiasm for investment of both local governments and enterprises, and more management autonomy boosts the possibility of increasing wage bills. In the period 1985-1988, on an annual average money supply rose by 28.1% and bank credit and loans increased by 22% per year (SSB 1992). There have been many debates about the combina

TABLE 3. Some Selected Macroeconomic Indicators (1978-1990)

	(at constant prices)		(at current prices)		(billion yuan)	(billion US\$)	(billion US\$)
	GNP Growth	Inflation Rate <sup>1</sup>	Investment Growth <sup>2</sup>	Budget Balance			
1978	n.a.	0.7%	22.0%	1.0	n.a.	- 1.1	
1979	7.6%	1.9%	4.6%	- 17.0	n.a.	- 2.0	
1980	7.8%	7.5%	7.9%	- 12.8	n.a.	- 1.9	
1981	4.5%	2.5%	- 10.5%	- 2.6	n.a.	- 0.01	
1982	8.7%	2.0%	28.0%	- 2.9	n.a.	- 3.0	
1983	10.3%	2.0%	16.2%	- 4.4	n.a.	- 0.8	
1984	4.6%	2.7%	28.1%	- 4.5	n.a.	- 1.3	
1985	12.7%	11.9%	38.8%	2.2	- 11.4	- 14.9	
1986	8.3%	7.0%	18.7%	- 7.1	- 7.0	- 12.0	
1987	11.0%	8.8%	20.6%	- 8.0	0.3	- 3.8	
1988	10.7%	20.7%	23.5%	- 7.9	- 3.8	- 7.8	
1989	3.9%	16.3%	- 8.0%	- 9.5	n.a.	- 6.6	
1990	5.0%	3.1%	7.6%	n.a.	n.a.	8.7	

Sources: SSB 1990 and 1991.

Notes: 1. Inflation rate refers to the general index of cost of living of staff and workers.

2. Investment growth rate before 1982 only includes state-owned units.

tion of options of the reform measures and tight or expansive macro policies, but in actual fact the progress of reforms has always been accompanied by expansive fiscal and monetary policies. In turn, the fear of high inflation leads to the tight economic measures.<sup>8</sup> In 1988, the central government introduced administrative guidelines to reduce public capital expenditure and to cancel or defer a large number of construction projects. A tight monetary policy was also imposed. National total capital investment decreased by 8% in nominal terms and almost 27% after inflation adjustment in 1989. Inflation soon decreased, from 20.7% in 1988 to 3.1% in 1990. But the whole economy slumped in a recession that largely resulted from excessively austere measures. Production declined and the market became sluggish. Notably, countless firms fell into a debt crisis. In 1989, GNP in real terms grew only by 3.9%, national income by 3.7%, compared with 10.9% respectively 11.3% in 1988 (SSB 1990 and 1990a). The central government finally had to release control on credit and investment grants in late 1990 and attempted to pull the economy out of the doldrums.

Even though lower inflation and sustained growth have been announced by the government as top macro-policy objectives, such frequent and violent economic fluctuations are obvious evidence that the government is losing its ability to exercise macro-management of the reform process. The central planners are no longer in a position to undertake effective policy intervention at their will. Also, unemployment is not taken into serious consideration by the government. The life-employment system has artificially created a high employment rate. It is estimated that there are about 20 or even 30 million disguised unemployed people in state-owned and collectively run industry in urban areas, accounting for almost one-fifth of the total urban employed population (Li 1990).

Indeed, it is not an easy task for any government to exert effective macro-economic management in a period of systemic transformation. But the key question is whether the policy instruments used in a centrally planned economy can be duplicated in a dualistic economy. As has been suggested above, in the reform process of the 1980s the Chinese economy was diversely dualized and market forces are now functioning

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8 In China there are several official price indexes to indicate the inflation rate, e.g. the General Index of Retail Prices. But it is a generally held view that they normally mislead or underestimate inflation. In this article I use the General Index of Cost and Living of Staff and Workers as measurement of inflation since it is believed to best reflect the actual rate.

only partially and incompletely. In such a diversified economy, it seems impossible for the government to realize its top policy objectives without a fundamental change in the macro-management system.

### **Environmental Issues**

With air and water pollution, arable land encroachment, soil erosion and fertility loss, deforestation, and health effects of random disposal of municipal garbage and hazardous wastes, environmental problems in China are worsening along with rapid economic growth and industrialization. Water shortage and water pollution are probably the most pressing problems because of their widespread and direct impact on human health and natural productivity. China's annual surface water runoff volume of 264 million m<sup>3</sup> is the world's sixth largest, but uneven distribution of ground and surface water, as well as erratic precipitation patterns, lead to regional shortages and difficulties in maintaining water availability for agricultural and industrial production and even human consumption.

The Changjiang (Yangtze) basin and areas to the south and southwest have only 33% of total cultivated land, but nearly 70% of the water resources of the country. There have been proposals to transfer water from the south to the north. The ecological and health implication of such projects have been studied, but debates have mainly focused on costs and engineering feasibility. Excessive consumption of ground water and loss of surface water through poor construction and maintenance of storage facilities contribute to water shortages. Industrial waste discharge and modification and reclamation of lakes and fresh water coastal wetlands for urban, industrial and agricultural development lead to species loss, polluted drinking water, aquifer contamination from salt water intrusion, and estuarine siltation. Pressure on the rural water supply and deteriorating water quality also stem from high chemical usage, poor drainage, and especially from rapid growth of rural industry based on poorer technologies and higher energy consumption than urban industry. Few rural enterprises have the facilities to treat waste water, and it is mostly discharged untreated into the rural waterways.

Total waste water discharge in 1988 was estimated at roughly 40 billion m<sup>3</sup>. Mid-1980s studies indicated that more than 25% of fresh water in lakes, rivers and aquifers is polluted and water quality is declining rapidly. Already nearly 25% of the water flowing in 53,000 km of



rivers is unsuitable for irrigation and domestic use, and 86% of river water flowing through urban areas is too polluted for irrigation or aquaculture. Surveys of ground water quality in 47 cities revealed that 43 of them were dependent on ground water containing toxic contaminants at levels exceeding state water quality standards.

Energy and environmental issues are closely related. China's national energy planning and policy have not been very concerned with the impacts on health and environment. In the 1980s, the increase in reliance on coal as the primary energy source intensified already serious air pollution. Coal now provides 76% of the country's industrial energy, hydro-power 5% and natural gas 2%. A major reason for mounting energy-related environmental problems is the wasteful use of coal to generate electricity that is carried over power grids to grossly inefficient heavy industries, in addition to technologically backward rural industry. Heavy industry consumes roughly 65% of power generated in the country. China's steel industry uses more than twice as much energy to produce one ton of steel as compared to Western countries and Japan. Although China's coal is generally of high quality, with relatively low sulphur and ash content, high consumption and inefficient combustion in industry result in harmful levels of suspended particulates, sulphur dioxide (SO<sub>2</sub>) and carbon monoxide (CO). Acid precipitation affects many areas of the country. It has been estimated that 1 billion yuan in annual damage to farm crops arises from acid rain.

Another frequently overlooked energy-related environmental issue is the acute shortage of rural household fuel. Growing demand for household fuel contributes to land loss and deforestation, thereby affecting agricultural productivity. Trees are felled for firewood, and stalks (estimated 400 million tons annually) are burned for household fuel rather than ploughed under to enhance soil structure and fertility. Risk of erosion and land loss through desert encroachment have also increased, especially in northern arid areas.

Environmental problems are not outside the government's concerns. Since the late 1970s there have been many laws and regulations concerning environmental protection, but enforcement of them is weak. The main obstacle to formulating effective environmental policy is the inability at the national level to draft strategies that can effectively be applied throughout the country. So far, economic system reforms have been strongly growth-linked as shown above, policy priority was given to rapid economic growth. The central government's ability to control and monitor environment protection, especially in the fast-growing coastal

areas has weakened. Moreover, some reforms, such as lower prices for energy and higher energy consumption of raw materials implied that environmental concerns were left behind. On the whole, halfway economic reforms in the 1980s have contributed much more to factor inputs for achieving high growth goals rather than improving efficiency in land and resource use and so leading to resource conservation and recycling of materials.

It is important to point out that many of today's environmental problems in China stem from the previous pursuit of a Soviet-style growth pattern and Mao's resource policy, rather than from systemic reforms in the 1980s. Reform programmes, however, have neither been associated with effective environmental policy nor with internally consistent conditions for a healthy ecological system, therefore, resulted in deterioration of environmental problems.<sup>9</sup>

### Concluding Remarks

In China market-oriented economic policy changes and systemic reforms in the 1980s have been successful in terms of rapid economic growth, mainly by stimulating more factor inputs, while incomplete decentralization and marketization have made the economy systemically dualistic. It is obvious that the reforms of the 1980s failed to meet some basic requirements for bringing the economy into a sustained growth state because of the absence of effective industrial and environmental policies and fundamental institutional changes in the macro-management system as well. To some extent, the structural, institutional and environmental consequences of the economic reforms have generated negative impacts on future economic development. There is no doubt that system reforms in China will continue, mainly because the pressure for economic growth to eradicate poverty is still forcing the political leadership to gradually lift ideological constraints and introduce more market elements. The old central planning system has exhausted its source of growth, and even some notable hard-liners have recently claimed that reforms and opening to the outside world are the only ways to liberate and expand the productive forces. But systemic transformation cannot be the only goal for a large economy such as China; exercising effective policy management and forming a development strategy are also necessary for long-term development. Market-oriented shifts, whatever policy changes or

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9 Most of the data in this section are cited from Boxer 1991.

systemic reforms they imply, have been considered in China as a vehicle of growth. But success of systemic reforms finally lies in their ability to create institutional and structural conditions and a stable ecological environment in order to realize sustained economic development and social equity, rather than simply to promote short-term output and income growth. All this requires an overall and well-designed reform programme together with an increasing ability of the government to undertake effective macro-management, industrial, regional and environmental policies.

### Abbreviations and References:

- CCCPC: Central Committee of the Communist Party of China  
 NPC: National People's Congress  
 RMRB: Renminribao (People's Daily)  
 SCRES: State Commission for Restructuring the Economic System  
 SSB: State Statistic Bureau of China  
 XW: Xinghua Wenzai (New China Digest)

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