

SAVING AND INVESTMENT IN CHINA

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1. Introduction

China did not experience modern economic growth until the second half of the 20th century. The engine which propelled the Chinese economy into "take-off" and sustained growth since 1949 was the rapid increase of its rate of investment.

Valuable lessons can be learned for other developing countries from the Chinese experience with its investment strategy. The purpose of this paper is (1) to examine Chinese investment strategy and its efficacy during the postwar years; (2) to explore how the rate of investment impacted upon the rate of economic growth from both the demand and the supply side and (3) to explore how such a rapid growth of investment was funded.

2. Growth of Investment

The size of investment during the postwar years is shown in Table 1. The Chinese concept of investment and national income differs from those of the West. To facilitate international comparison, the Western estimates of Chinese investment and national income are used. Table 1 shows that during the Republic period (1931-36) the rate of investment was still very low averaging only 5 per cent.

After the communist take-over, the level of investment had been drastically increased. As a result, the rate of investment was raised to an annual average of 21 per cent during the First Five-Years-Plan (FFYP) period.

Overall investment data for the Great-Leap-Forward (GLF) (1958-62) and Readjustment (1963-65) period are not available. However, judging from the available fixed investment data, China's real investment experienced a second upsurge in 1958 (Fig. 1). In an attempt to overtake the UK economy within 7 years and that of the US within 15 to 20 years, the rate of growth of investment had been raised to 56 per cent in 1958.

Table 1

GROSS DOMESTIC INVESTMENT (BILLION YUAN) AND INVESTMENT RATES (IN %), 1931-36 AND 1952-1991

	GDI (1)	GDFI (2)	GDP (3)	GDI/GDP (4)	GDFI/GDP (5)
<i>Yeh's estimates (1933 prices)</i>					
1931	1.27	—	29.58	4.3	—
1932	1.49	—	30.67	4.9	—
1933	1.50	—	30.45	4.9	—
1934	1.12	—	27.82	4.0	—
1935	1.60	—	30.13	5.3	—
1936	1.95	—	31.90	6.1	—
<i>Riskin's estimates (1957 prices)</i>					
1952	13.72	—	77.16	17.8	—
1953	17.47	—	81.77	21.4	—
1954	19.54	—	86.38	22.6	—
1955	19.69	—	94.44	20.9	—
1956	21.86	—	101.35	21.6	—
<i>Field's estimates (1957 prices)</i>					
1957	22.95	19.52	107.86	21.3	18.1
1958	—	30.38	—	—	—
1959	—	35.42	—	—	—
1960	—	34.88	—	—	—
1961	—	24.85	—	—	—
1962	—	20.92	—	—	—
1963	—	25.11	—	—	—
1964	—	29.12	—	—	—
1965	—	35.46	151.98	—	23.3
<i>World Bank's estimates (1987 prices)</i>					
1967	42.55	—	244.93	17.4	—
1968	41.58	—	228.90	18.2	—
1969	50.27	—	272.90	18.4	—
1970	89.42	—	336.68	26.6	—
1971	98.64	—	360.15	27.4	—
1972	95.50	—	372.66	25.6	—
1973	111.43	—	403.71	27.6	—
1974	113.39	—	407.98	27.8	—
1975	127.38	—	441.72	28.8	—
1976	116.10	—	417.87	27.8	—
1977	130.03	—	450.70	28.9	—
1978	170.42	134.4	505.75	33.7	26.6
1979	187.91	136.1	544.22	34.5	25.0

1980	186.94	139.6	586.79	31.9	23.8
1981	177.16	122.2	613.06	28.9	19.9
1982	195.85	156.4	666.52	29.4	23.5
1983	220.54	179.2	733.90	30.0	24.4
1984	268.59	219.6	839.65	32.0	26.2
1985	376.96	279.4	943.31	40.0	29.6
1986	411.30	317.1	1021.06	40.3	31.1
1987	445.26	364.1	1133.04	39.3	32.1
1988	498.08	403.5	1254.79	39.7	32.2
1989	506.37	341.0	1309.20	38.7	26.1
1990	508.86	349.0	1380.27	36.9	25.3
1991	531.16	397.5	1468.72	36.2	27.1

Notes: GDI Gross domestic investment; GDFI: Gross domestic fixed investment

Sources: Yeh's estimates: Yeh (1968), Table 1; Riskin's estimates: Riskin (1987), Table 4.7; Field's estimates: Field (1980), Table 25 and p. 390; and World Bank's estimates: *World Tables*, 1988-89, pp. 192 and 1993, pp. 184-5.

Following the collapse of the GLF strategy, investment fell by almost 40 per cent during 1960-62. Growth of investment resumed in 1963. However, it was not until 1965 that it managed to recover to its 1959 level.

Chinese investment experienced the third upsurge during 1969-70 at the height of the Cultural Revolution (CR) period. For fear of a Soviet invasion the rate of growth of investment was raised to an unprecedented height of 78 per cent in 1970.

Growth of investment slowed down since 1970. It turned negative after the death of Mao in 1976 but experienced another upsurge in 1978, when the successor of Mao, Hua, launched another GLF in an attempt to modernize China as quickly as possible through large-scale imports of Western equipment and technology. Investment experienced a sharp increase and the rate of investment was pushed up to about 34 per cent in 1978 and 1979.

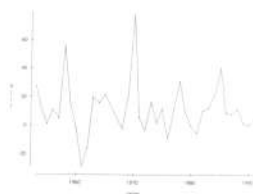


Figure 1. Growth Rates of Real Investment 1952-1991

The Chinese economy underwent a second readjustment during 1980-82 (Howe and Walker, 1984, p. ii - v). Investment was, once again, scaled down. However, it soon experienced another upsurge in 1985. 1985 saw the acceleration of the market-oriented reform adopted in 1979. Local authorities and enterprises gained increased financial autonomy and investment decision under the reforms. As their budget constraints remained soft, their investment hunger remained unchecked. As a result, there had been a huge blow-out in their investments in 1985 and the rate of investment was pushed to a new height of 40 per cent in 1985 and 1986.

In the late 1980s, the central authority recentralized some of the investment decision and financial resources in an attempt to check the excessive investment expenditure. As a result, there had been a slowdown in the growth of investment and a subsequent decline of its rate to about 36 per cent in the early 1990s.

The causes of Chinese investment fluctuation are similar to its Eastern European counterparts (Hewett, 1981, pp. 504-5). The main cause stemmed from the investment drive from above. Like its Eastern European counterparts, the Chinese planners during the pre-reform era adopted the Stalinist growth strategy (Dernberger, 1982, p. 34). Underlying the Stalinist growth strategy was the Feldman growth model (Ishikawa, 1983, p. 258). The planners' main focus under this strategy was to catch up and overtake the advanced countries in the shortest period of time through a high rate of investment (Jones, 1976, p. 110). Thus, the rate of investment was constantly driven up until so many supply constraints arose that investment growth rates had to be cut. As soon as the supply constraints had loosened, the rate of investment was increased once again.

Another major source of investment fluctuation came from below. Local authorities and enterprises faced with "taut" plan targets found in investment a relatively easy way to fulfil their plans. They tried to push for more investment through the technique being to "hook on the new plan" with apparently inexpensive projects whose much larger true costs were revealed to the centre after the project was well underway. When the new projects really began construction and their excess cost began to reveal itself, the centre moved in to cut investment demand. This relieved pressure on the investment resources, but generated new pressure from below to start new projects and eventually the cycle began again.

China's investment growth trends differ between the pre-reform and reform period. The annual trend growth rate of investment was higher during the pre-reform period (1952-1978) averaging about 11 per cent which is almost twice that of GDP (5.9 per cent). Hence the rate of investment climbed from about 18 per cent in 1952 to about 34 per cent in 1978.

During the reform period (1979-1991), the trend growth rate of investment slowed down to 9 per cent as a result of the change of growth strategy from the extensive Stalinist to the intensive Western growth strategy (Dernberger, 1982, pp. 54-9). Under the new strategy, the planners' emphasis was no longer on the high rate of investment but on high productivity growth. The latter was considered as requisite for China to achieve its twin objectives of both rapid economic and consumption growth. Despite the slowdown in the investment growth, the trend growth rate of investment was still higher than that of GDP (8.6 per cent) during this period. Hence the rate of investment continued to rise from about 35 in 1979 to about 36 per cent in 1991.

Compared with other countries at a similar stage of development, China's postwar investment growth was unprecedentedly high. China's average annual investment growth of 10 per cent a year during these years was twice that of pre-war Japan (5 per cent) (Minami, 1986, p. 162). The Chinese rate of investment was also much higher than that of pre-war Japan. Japan's pre-war rate of fixed investment averaged about 14 per cent during 1881-1940 (*ibid*, p. 184). In contrast, the Chinese rate of fixed investment for 1978-1991 period during which data is available averaged 27 per cent, almost twice that of Japan (Table1).

3. Composition of Investment

Investment can be divided into fixed and inventory investment. Modern economic growth in the West as well as in Japan was accompanied by a decrease in the share of inventory investment in total investment (Kuznets, 1966, pp. 252-6; Minami, 1986, p. 165). In contrast, the share of inventory investment in China's total investment rose from about 28 per cent during the FFYP period to about 30 per cent during 1957-1977 (Riskin, 1987, p. 72 and World Bank, 1983, Vol. 1, p. 80).

The rising share of inventory investment during the pre-reform period was mainly attributable to the systemic factors. These factors include (1) the hoarding of materials by the enterprises faced with ambitious plan targets and uncertainty of supply; (2) the

mismatches between demand and supply under centralised planning and (3) the lack of incentives to economize on working capital in the absence of capital charge. Finally it was also due to Maoist policy of self-reliance which encouraged local authorities and enterprises to be self-sufficient in material supply.

The share of inventory investment had declined to 24 per cent during the reform period (1978-1991) (World Tables, 1993, pp. 184-5). However, it was still significantly higher than those of other LDCs. For instance, the average share of inventory investment for India, Pakistan, South Korea, Malaysia, Sri Lanka, Thailand, Columbia and Mexico during 1975-78 was only 7 per cent (World Bank, 1983, Vol. 1, p. 80). Since inventory investment is less productive than the fixed investment, China's inordinately high share of inventory investment inevitably adversely affects its overall investment efficiency.

Investment can also be broken down into state and non-state investment. Prior to the reform, most investments were state investment. Reforms introduced in the late 1970s saw the reprivatization of the Chinese economy. As a result, the share of the non-state investment sector (collective and private enterprises) soared from 18 per cent in 1980 to 33 per cent in 1992.

Table 2

SECTORAL ALLOCATION OF STATE CAPITAL CONSTRUCTION INVESTMENT 1952-1992 (IN %)

	Productive	Non-Productive Total	Housing	Agriculture	Light Industry	Heavy Industry	Other ¹
1953-57	71.7	28.3	9.1	7.8	5.9	46.5	39.8
1958-62	86.8	13.2	4.1	12.3	5.2	56.1	26.4
1963-65	83.0	17.0	6.9	18.8	3.9	49.8	27.5
1966-70	89.4	10.6	4.0	11.8	4.0	57.4	26.8
1971-75	87.0	13.4	5.7	11.3	5.4	54.8	28.5
1976-78	84.0	16.0	6.9	12.1	6.6	54.7	26.6
1979-84	60.6	39.4	20.8	7.4	7.6	40.4	44.6
1985-92	66.5	33.5	13.4	3.4	7.2	42.9	46.5

Source: Ma and Sun (1981), Vol. II, p. 412 and ZGTJNJ 1993, p. 156 and 158.

Note: ¹ Other includes transport, telecommunications, commerce, science, medical and education, urban construction.

Data on the breakdown of overall investment by broad economic sectors and industrial branches are not available. They are available only for state fixed investment which is known as basic construction investment. As Table 2 shows, during the pre-reform period,

the state investment plan gave high priority to the productive sector. Within the productive sector state investment was centred mainly in industry and in heavy industry in particular. Under the reforms, the allocation of state investment was more balanced. The share of heavy industry decreased whereas those of the non-productive sector in general and housing and other social overhead as well as human resources sector in particular increased.

The shift in investment allocation during the reform period was mainly due to change of growth and trade strategy. As mentioned earlier, during the pre-reform era, Stalinist or Feldman growth strategy was adopted, under which the planners aimed to achieve rapid growth through high rate of investment. As a self-reliance or autarkic trade strategy was also adopted at the same time, capital goods had to be produced at home. Hence the maximization of the rate of investment required preferential development of heavy industry (Jones, 1976, p. 116).

During the reform period, both growth and trade strategy had changed. Under the new strategy, the main source of growth was no longer high rates of investment but increase of total factor productivity (TFP). TFP can be increased only if workers are well motivated and provided with sufficient consumer goods, housing and other social overhead capital. Hence there had been increased need of state investment in these areas. At the same time, with the abandonment of self-reliance policy, capital goods can be imported. Hence, preferential development of heavy industry was no longer necessary.

4. Impact on Growth: Demand Effect

The contribution of investment to economic growth can be analysed from the demand and supply side. On the demand side, the increase of investment stimulates economic growth by creating effective demand. Total effective demand or gross national expenditures (GNE) consists of private consumption (C), government consumption (G), gross domestic investment (I), exports (X) less imports (M) and net factor income from abroad (Y_f). Their relative contribution to economic growth can be measured in terms of the ratio of their increases to the increase of real GNE which are presented in Table 3. This shows that prior to the reforms Chinese economic growth was investment-led. Since the reforms, investment was the second largest contributor to growth accounting for 37 per cent of the increase of GNE.

Table 3

RELATIVE CONTRIBUTION TO ECONOMIC GROWTH OF THE COMPONENTS OF EFFECTIVE DEMAND, 1967-1991 (IN %)

	C	G	I	X	-M	Y _t
1967-70	40.3	13.2	49.1	-2.0	0.6	0
1971-75	56.5	10.6	34.8	13.0	15.0	0
1976-78	38.8	14.6	58.8	0.4	12.5	0
Pre-reform (1967-78)	42.0	14.7	47.3	2.3	6.3	0
1979-84	62.0	9.4	27.1	18.2	17.7	0.9
1985-1991	42.0	10.4	29.1	21.6	4.2	1.0
Reform (1979-91)	49.1	9.3	36.9	19.4	15.3	0.6

Note: See text.**Source:** World Tables 1988-89 (pp. 192-3) and 1993 (pp. 184-5).**Table 4**

CORRELATION BETWEEN THE GROWTH RATES OF REAL GNE AND ITS COMPONENTS IN CHINA, 1967-1991

	Correlation between G(Y) and			
	G(C)	G(I)	G(X)	G(M)
1967-78	0.919	0.850	0.01	0.208
1978-91	0.455	0.779	-0.105	0.403

Notes: G(C), G(I), G(X) and G(M) are growth rates of private consumption, investment, exports and imports respectively.**Source:** Table 3.

Table 4 shows that Chinese economic growth had been more dependent on private consumption and investment than on exports. In both the pre-reform and reform period, domestic demand (private consumption and investment) provided the main impetus for economic growth. The rate of growth of exports had very little connection with economic growth even during the reform period. Thus the hypothesis of growing importance of exports in economic growth during the reform period is not confirmed.

5. Impact on Growth: Supply Effect

On the supply side, the increase of investment stimulates economic growth by creating more capital stock and expanding thereby production capacity. The contribution of investment to economic growth on the supply side depends on (a) the proportion of national

income invested, $\frac{I}{Y}$, or the rate of investment and (b) the incremental output-capital ratio,

$\frac{\Delta Y}{I}$ or the investment efficiency. Table 5 gives the historical values of these two variables for selected periods in postwar China for which the relevant data are available. It shows that prior to reform, the incremental output-capital ratio had dropped by almost 20 per cent between the FFYP period (1953-7) and the CR period (1968-78). Hence, despite the higher rate of investment, the rate of economic growth had not increased during the CR period.

Table 5

RATE OF GROWTH OF GDP ($G(Y)$), RATE OF INVESTMENT $\left(\frac{I}{Y}\right)$ AND INCREMENTAL OUTPUT-CAPITAL RATIOS $\left(\frac{\Delta Y}{I}\right)$, 1952-1991, SELECTED PERIODS

	$G(Y)$ (in %)	$\frac{I}{Y}$ (in %)	$\frac{\Delta Y}{I}$
1952-57	6.9	20.9	0.330
1967-78	6.8	25.7	0.265
1978-84	8.8	31.5	0.279
1984-91	8.3	37.9	0.219

Notes and sources: $G(Y)$ and $\frac{I}{Y}$ see Table 1. $\frac{\Delta Y}{I} = G(Y) - \frac{I}{Y}$.

China's pre-reform investment efficiency at 0.265 during 1967-78 was one of the lowest among the developing countries in Asia (Bhatia, 1988, p. 15). Several hypotheses have been advanced to explain this (Ishikawa, 1983, pp. 257-8). One of the explanations is the systemic factors. These include the absence of capital charge for the use of capital by the state enterprises, the availability of free loans to finance their investment and the lack of enterprise accountability for loss and profits in investment decision. All these factors implied that enterprises were under very little pressure to economize their use of capital.

Another explanation of China's low investment efficiency during this period is China's lopsided investment structure. Heavy industry was given the lion share of the investible resources due to the policy of preferential development of heavy industry. It is well known that the incremental output-capital ratio in the heavy industrial sector is much lower than that of the light industrial sector. Hence the heavy concentration of capital in heavy industry reduced its overall productivity.

In terms of regional allocation, the Chinese investment structure was also lopsided because it favoured interior region during this period for fear of the Soviet invasion. Whereas during the FFYP period (1953-1957), the more productive coastal region received the lion share of state capital construction investment (42 per cent) the interior region known as the 3rd front received merely 26 per cent of the state capital construction investment. The regional allocation of investment was reversed during the Cultural Revolution period (1964-75): the 3rd front received about half of the national total capital construction investment (Ishikawa, 1983, p. 257). Because of its inaccessibility and lack of supporting infrastructural facilities and industries about 30 per cent of the factories built in the third front had remained underutilized. The morale of the labour force at the 3rd front factories was very low because of the separation of their families and lack of school facilities for their children (DDZGGDZCTZGL, 1989, p. 93).

Finally, no least, the striving of individual regional authorities for an independent industrial system regardless of cost and comparative advantage under the "self-reliance" policy resulted in duplicate investments and lowered overall investment efficiency.

However, all the above-mentioned hypotheses remain more or less untested as the available data are not good enough to isolate the effects of these different factors and to identify their relative weights behind China's low investment efficiency.

Decentralization of investment decision under the reforms introduced since 1979 had not significantly improved the investment efficiency. As Table 5 shows, the incremental output-capital ratio rose during the first phase of the reforms but declined during the second phase of the reforms.

The lack of significant improvement in investment efficiency under the reforms can be attributed to the lack of substantive complementary reforms in prices and enterprise accountability. Financial and investment decentralization in an environment where prices are still very much distorted and enterprise budget constraints remain soft do not necessarily improve investment efficiency. In fact they may worsen it.

6. Investment Financing

Domestic investment can be financed by either domestic saving or external capital. Table

6 shows that Chinese domestic capital formation was mainly financed by its own saving. In fact, its domestic saving constantly outstripped its domestic investment, making China a net capital exporter rather than importer during 1960-1991.

However, external capital did play an important role during two periods of Chinese economic history. The first period was the FFYP period (1953-57). During this period, China received US\$300 million Soviet economic loan which accounted for 1.5 per cent China's state capital construction investment (Ma, 1961, p. 36). During this period China's trade balance incurred a net deficit of 550 million yuan (Riskin, 1987, p. 75) which was partly financed by Soviet loan. Soviet loan, however, stopped in 1957 and China started to pay back the Soviet credit by 1955. In that year, Chinese trade balance turned into surplus and became a net capital exporter. However, the Soviet credit was not completely paid bank until 1965 (Riskin, 1987, p. 76).

Table 5

FINANCING OF GROSS DOMESTIC INVESTMENT 1960-1991, SELECTED PERIOD (PER CENT OF GDP)

Years	GDI (1)	GDS (2)	Net Foreign Capital Inflow (3)
1960-64	22.2	22.9	-0.7
1965-69	22.5	23.0	-0.5
1970-74	28.5	29.1	-0.6
1975-79	31.5	31.7	-0.2
1980-84	30.8	31.6	-0.8
1985-91	38.3	38.6	-0.3

Notes: GDI: gross domestic investment and GDS: gross domestic saving.

Sources: 1960-69: World Bank 1988, p. 27.

1970-91: *World Tables* 1993, p. 184-5.

Foreign capital assumed an increased important role during the reform period. Between 1981 and 1991, the share of fixed investment financed by external capital soared from 3.8 per cent to 5.8 per cent (ZGTJNJ, 1988 p. 559 and 1993, p. 146). However, even during this period, China's domestic saving was larger than its domestic investment and, hence, China was a net capital exporter not importer.

The relative independence of China from external capital contrasts sharply with those of Japan and other developing Asian nations. Japan, during its early industrialization drive, external capital contributed about one fifth of its investment (Minami, 1986, p. 216).

Similarly, most Asian developing countries were heavily dependent on foreign capital during the postwar period (*World Tables*, 1988-89 and 1993).

This unique financial position of China was mainly due to the rapid increase of its rate of saving from about 21 per cent during the FFYP period to 32 per cent on the eve of the reforms. It reached 39 per cent in the late 1980s and early 1990s. Those rates of saving were much higher than those of Japan in the pre-war period (Minami, 1987, p. 204) which peaked at 25 per cent in 1940. They were also much higher than those of other contemporary developing countries at China's comparative stage of development. Thus, for instance, China saved 36 per cent of its GDP in 1989, whereas other low income countries saved merely half of that (18 per cent) (World Bank, 1991, p. 220).

China's high rate of saving during the pre-reform period was mainly attributable to the high rate of government saving. Table 7 shows that on the eve of the reforms in 1978, the central government was the largest saver. In fact, government (both central and local) saving accounted for about 73 per cent of domestic saving on the eve of the reform (World Bank, 1985, p. 145).

Table 7

SOURCES OF SAVING IN CHINA, 1978-91 (PER CENT)

Sources of saving	1978	1981	1982	1983	1984	1985	1989	1991
Central government budget	50.9	29.9	18.3	19.1	19.6	22.7	9.5	6.2
Enterprise and local government	34.2	41.3	57.0	48.1	34.9	31.8	39.7	35.2
Households	14.9	28.9	24.8	33.0	45.5	45.7	50.7	58.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Column may not add because of rounding.

Sources: Data for 1978-85 are from World Bank (1988), p. 28. 1989 and 1991 figures are estimated according to World Bank's procedures and assumptions. Central government budgetary and household saving were first estimated. Enterprise and local government saving were derived as residual between gross domestic saving and the sum of central government budgetary and household saving (see World Bank, 1988, Appendix 2 and 3).

Government saving is simply the difference between its current revenues and current expenditures (World Bank, 1988, Appendix 2 and 3). The main sources of current

revenues are the profit from the state enterprises, the industrial and commercial taxes and agricultural taxes. The profit from state enterprises is essentially a hidden commodity tax and is usually treated in the same way as other taxes (Mah, 1961, p. 42).

During the pre-reform period (1953-1978), profit from state enterprises was the largest component of current revenues. Its share in total current revenues soared from 39 to 51 per cent between 1957 and 1978 (ZGTJNJ, 1992, p. 232).

The overall tax revenues (enterprise profit delivery plus other tax revenues) accounted for over 90 per cent of Chinese current revenue during the pre-reform period.

The main components of government current expenditure are public consumption expenditure which include expenditure on education, health, defence and public administration and expenditure in support of private household consumption. The latter include price subsidies and transfer payments.

The relatively high level of government saving during the pre-reform period was mainly the result of the relatively high level of tax burden and the relatively low level of public current expenditure in China.

Measured as the ratio between tax revenues and GDP, China's average tax burden increased from 20 per cent in 1952 to 31 per cent in 1978 (Table 8). It averaged 27 per cent during 1978-80. In contrast, the average tax burden was only 13 per cent for other developing countries with per capita income of less than US\$300 during this period (World Bank, 1988, p. 390).

During the same period China's current expenditures was relatively low due to the relatively lower degree of urbanization. During 1952-1978, according to the official statistics, the percentage share of urban population in total population hardly changed. It stood at about 12 per cent in both 1952 and 1978 (World Bank, 1983, Vol. III, p. 96). In 1980, the degree of China's urbanization was only 13 per cent. In contrast, the degree of urbanization in India and other low income countries reached 22 and 19 per cent respectively in 1980 (World Bank, 1981, p. 172). Low degree of urbanization entails low expenditure on housing and other infrastructural facilities.

Table 8

AVERAGE TAX BURDEN IN CHINA, 1952-1991 (IN %)

1952	20.4
1957	20.6
1967	24.0
1970	29.5
1978	31.1
1984	19.4
1991	16.5

Source: ZGTJNJ, 1990, pp. 232-3, 1993, p. 219 and *World Tables*, 1988-89, p. 192-3 and 1993, pp. 184-5.

Another contributing factor to low government current expenditure during this period was the relatively low central government expenditure on health and education. Health expenditure accounted for only 2 per cent of central government budgetary expenditure in 1979. This percentage had hardly changed since the early 1950s (World Bank, 1983, Vol. III, p. 51). Education accounted for only 6.6 per cent of central government budgetary expenditure in 1977 which was relatively low compared with 15 per cent of other developing countries (World Bank, 1983, Vol. III, p. 182). Despite the relatively low level of central government expenditure, China had been able to maintain a relatively high level of health and education standard in the past. The secret to this lay mainly with the shifting of health and education financial burden from the central government to the local authorities and collectives.

The distribution of tax burden in pre-reformed China was rather unbalanced. Farmers had to bear the heaviest burden. Table 9 shows the various visible and invisible taxes which farmers had to pay. Agricultural tax was the most important visible tax. It is in effect a tax on land. Agricultural tax had remained relatively stable during 1952-78 at about 3 billion yuan. It had increased significantly only during the reform years.

The invisible taxes paid by the farmers include the monopolist profit and the monopsonist profits made by the state producing and trading enterprises. Until recently, state enterprises monopolised the supply of manufactured goods. The prices of manufactured goods were set much higher than the cost of their production. The profit mark-up plus commodity tax accounted for about 32 per cent of the manufactured prices on average during 1952-1978 (Perkins and Yusuf, 1984, p. 18). In the reform period it had declined to about 10 per

cent (*ZGTJNJ*, 1993, pp. 417 and 419). As shown in Table 9, the tax element of rural retail sales of manufactured consumer goods had become increasingly important during the pre-reform period due to increased sale volume in rural areas.

Table 9

FARMERS' TAX BURDEN (BILLION CURRENT YUAN)

	1952	1978	1984	1989	1991
1. Agricultural tax	2.7	2.8	3.5	8.5	9.1
2. Monopolist profit	3.4	12.0	—	—	—
3. Monopsonist profit	2.5	39.6	24.4	27.8	—
4. Sub-total	8.6	54.4	—	—	—
5. Total tax burden	15.5	109.1	134.7	299.0	325.4
6. Farmer tax burden (in %)	55.5	50.0	—	—	—

Notes and sources:

1. *ZGTJNJ*, 1993, p. 220.
2. Derived as profit and taxes mark-up in industrial consumer good prices multiplied by its retail sales in rural area. Profit and tax element of prices: figures for 1952-1978 are from Perkins and Yusuf, 1984, p. 18. Figures for 1984, 1989 and 1991 are derived as the average percentage share of profit and taxes in sales of state and collective light industrial enterprises (*SYC*, 1985, pp. 377, 379, 381 and *ZGTJNJ*, 1993, pp. 399, 401, 417 and 418).
3. The tax element of agricultural purchase is derived as the difference between free market price and average purchase price. This is multiplied by the total purchase to arrive at total monopsonist profits. The estimate for 1952 is for grain only (Perkins and Yusuf, 1984, p. 21). The estimates for 1978-89 are for 8 commodities (grain, edible oil, pig mutton, fowl, eggs and seafoods) for which the relevant data are available. The purchase value of these products accounted for 47 per cent and 59 per cent of total agricultural purchase in 1978 and 1989 respectively. The price and purchase data are from *ZGSYWJTJZL*, 1990, pp. 143-4, 267-9 and *ZGGNSCTJNJ*, 1991, pp. 153-5 and 346.
5. See Table 8.

However, by far the most important invisible tax imposed on the farmers during the pre-reform period was the monopsonist profit associated with the agricultural procurement scheme under which farmers were required to deliver to the state a certain, amount of their produce at below market prices. The difference between the state purchase prices and the actual market prices constituted an element of tax or monopsonist profits made by state trading enterprises. An estimate of this tax element for 8 agricultural products for which data are available is presented in Table 9. This shows that both the visible and invisible taxes contributed roughly 50 per cent of China's total tax revenues during this period.

The market-oriented reforms introduced since 1979 had reduced the tax elements of both agricultural purchase and rural manufactured sales. The abolishment of state compulsory

purchase scheme together with the increased sale of farm products at market outlets narrowed the market and purchase price differential. At the same time, increased competition, especially from the collective township and village enterprises, had eroded the monopsonist position of state industrial enterprises leading to a reduced profit mark-up of their manufactured goods sold in the rural area. Hence, overall, the farmers' share of national tax burden is expected to decline under the reforms.

Under the market-oriented reform the main source of domestic saving had been shifted to the private household saving (Table 7). By 1991, government saving accounted for only 6 per cent of China's gross domestic saving whereas the share of household savings soared to almost 60 per cent. Thus, the continued rise of China's rate of saving since 1979 was mainly sustained by a rapid increase of its personal saving rates (Table 10).

Table 10

PER CAPITA ANNUAL INCOME AND EXPENDITURE OF HOUSEHOLDS 1954-1991, SELECTED YEARS (YUAN)

	Rural			Urban		
	Y	S	$\frac{S}{Y}$ in %	Y	S	$\frac{S}{Y}$ in %
1954	64	5	7.8	—	—	—
1957	73	4	5.5	235	13	5.5
1964	102	11	10.8	227	6	2.6
1979	160	32	20.6	—	—	—
1980	191	42	22.0	—	—	—
1981	223	51	22.9	458	1	0.2
1982	270	78	27.0	494	23	4.7
1983	310	90	29.0	526	20	3.8
1984	355	114	32.1	608	49	8.0
1985	398	121	30.4	685	24	3.5
1986	424	118	27.8	828	48	5.8
1987	463	123	26.6	916	32	6.0
1988	545	139	25.5	1119	39	5.8
1989	602	143	23.8	1261	73	3.5
1990	686	170	24.8	1387	128	9.2
1991	709	157	22.1	1544	113	7.3
1992	—	—	—	1826	191	10.5

Notes and Sources:

Rural households: refers to peasant households. Y is per capita net income and S is per capita saving including housing expenditure. Data are from Lin Baipeng, 1987, pp. 150, 154 and ZGTJNJ, 1993, pp. 311 and 315.

Urban households: refers to urban staff and worker households. Y is per capita income available and S per capita saving including housing expenditure. Data are from World Bank, 1988, p. 192, ZGTJNJ 1990, p. 296; 1992, pp. 282 and 294 and Yang Shengmin, 1989, pp. 297 and 304.

A glance at the composition of China's personal saving in Table 10 reveals that the saving rates of rural peasant households were significantly higher than those of the urban worker households. The personal saving rates of urban households did not show any clear trend. Furthermore, their rates under reform were not significantly different from those during the pre-reform period indicating the absence of substantial reform in the urban sector. In contrast, the personal saving rates of rural households shoot up rapidly since 1979 and reached its climax in the mid-1980s and decline thereafter.

Chinese rural households' saving behaviour appears to fit in well with the permanent income hypothesis (World Bank, 1988, p. 199). Using the time-series data of rural household saving for 1981-91 in Table 10, the following rural saving function can be obtained:

$$S_t = 5.36 + 0.20 Y_{pt} + 0.60 Y_{Tt} \quad \begin{array}{l} \bar{R}^2 = 0.955 \\ F = 107 \end{array}$$

(0.515) (11.5) (2.95)

Where Y_{pt} is permanent income which is assumed equal to the average income of the previous three years and Y_{Tt} is transitory income which is defined as actual income minus permanent income and the figures in the parentheses are t value.

The estimated regression coefficients of the permanent and transitory income are highly significant and these two factors explained over 95 per cent of the peasant saving rates. Apparently the rapid increase of peasants' savings rate in the first half of the 1980s was mainly due to the fact that peasants had not adjusted their expected permanent income upward and treated the sudden increase of income under the reform as transitory income which they largely saved. Since 1985, however, peasants adjusted their expected permanent income upward and consumed more. Hence peasants' personal saving rates declined.

Compared with its East Asian counterparts, Chinese peasants' personal saving rates were very high. Chinese overall income per capita ranged between 220-370 US\$ during 1978-1991, its peasant saving rate (excluding housing expenditure) ranged between 11 and 20 per cent. In contrast, at China's comparative stage of development during 1930-1938 Japan's overall (both urban and rural households) personal saving rates ranged only between 7 to 17 per cent (Minami, 1986, p. 204).

References

A. Abbreviations

DDZGGDZCTZGL	<i>Dangdai Zhongguo de Guding Zichan Touzi Guanli</i> (<i>Contemporary China's Fixed Investment Management</i>) (Beijing: China's Social Sciences Publisher)
SYC	<i>Statistical Yearbook of China</i> (Beijing: State Statistical Bureau)
ZGGNSCTJNJ	<i>Zhongguo Guonei Sichang Tongji Nianjian</i> (<i>China's Domestic Trade Statistical Yearbook</i>) (Beijing: State Statistical Bureau)
ZGSYWJTJZL	<i>Zhongguo Shangye Waijing Tongji Ziliao</i> (<i>China's Commerce and Foreign Economic Relations Statistical Data</i>) (Beijing: State Statistical Bureau)
ZGTJNJ	<i>Zhongguo Tongji Nianjian</i> (<i>China's Statistical Yearbook</i>) (Beijing: State Statistical Bureau)

B. Books and Articles

- Bhatia, V.G. (1988) "Asian and Pacific developing economies: performance and issues", *Asian Development Review*, No. 1, pp. 1-22.
- Blejer, M. et al. (1991) *China: Economic Reform and Macroeconomic Management*, (Washington D.C.: IMF).
- Dernberger, R.F. (1982) "The Chinese search for the path of self-sustained growth in the 1980s: an assessment", in US Congress, Joint Economic Committee, *China Under Four Modernizations*, (Washington D.C.: US Government Printing Office), pp. 19-76.
- Hewett, E.A. (1981) "The Hungarian economy: lessons of the 1970s and prospects for the 1980's", in US Congress, Joint Economic Committee, *East European Economic Assessment*, (Washington D.C.: US Government Printing Office), pp. 483-524.
- Field, R.M. (1980) "Real capital formation in the People's Republic of China 1952-73", in Eckstein, A. (ed.) *Quantitative Measures of China's Economic Output*, (Ann Arbor: University of Michigan Press), pp. 194-245.
- Howe, C. and Walker, K. (eds) (1984) *The Readjustment in the Chinese Economy*, (London: China Quarterly).
- Ishikawa, S. (1983) "China's economic growth since 1949 - an assessment", *China Quarterly*, no. 94, pp. 242-281.
- Jones, H.G. (1976) *An Introduction to Modern Theories of Economic Growth*, (New York: McGraw-Hill).
- Kuznets, S. (1966) *Modern Economic Growth: Rate Structure and Spread*, (New Haven: Yale University Press).
- Lin Baipeng et al. (1987) *Zhongguo Xiufei Jiegouxie* (*Studies in Chinese Consumption Structure*), (Beijing: Economic Science Publisher).
- Ma, F.H. (1961) "The financing of public investment in communist China", *The Journal of Asian Studies*, 21, No. 1, pp.34-48.
- Ma, Hong and Sun, Shang qing (eds) (1981) *Zhongguo Jingji Jiegou Wenti yanjiu* (*Studies in China's Economic*
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