

ENDING INFLATION IN THE PEOPLE'S REPUBLIC OF CHINA:
FROM CHAIRMAN MAO TO THE TWENTY-FIRST CENTURY

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In the post-1978 reform period the People's Republic of China experienced its most serious open inflationary problems since 1949-1950. This paper compares the 1949-1950 case to more recent Chinese attempts at inflation control and considers the role played by budget deficits, indexation and direct intervention in commodity markets. While inflationary problems subsided by the mid-1990s, continuing deficit-spending pressures and weaknesses in China's banking system still pose a very real danger. The financial reforms undertaken in the late 1990s include initiatives directed at the bad debts accumulated in China's banks by loss-making state enterprises.

I. INTRODUCTION

For most of its existence, the People's Republic of China has essentially been free of open inflation. Rigid controls kept official prices of many goods virtually unchanged for decades before economic reforms began in 1978. The government had to confront upward spikes in inflation in both 1988-1989 and 1993-

1995, however. Inflation peaked at over 24% in 1994 before falling back to single digits in 1996 and less than zero in 1998. By 1998, the government's concern had clearly shifted to the slowing growth rate of the economy and the weaknesses in the nation's banking system. The increased government expenditures aimed at boosting growth and recapitalizing the banks may lead to new fiscal strains in the twenty-first century.

II. AN HISTORICAL PERSPECTIVE ON CHINESE INFLATIONARY PRESSURES

High inflations are almost always associated with both rapid rates of money growth and large budget deficits. While deficits that are not monetized need not be as inflationary, the pressures to at least partially monetize such deficits are often strong -- especially in countries where private financial markets are not fully developed.¹ Table 1 provides some data on inflation, broad money (M-2), budget deficits and output in the post-1978 period.

While M-2 has grown at a double-digit rate in every year, the inflationary consequences have been damped by two factors. One is the boost to money demand arising from rapid real output growth averaging 9.7% over the 1979-1997 period. The other is falling income velocity of circulation as reflected in the rising share of M-2 in gross national product (GNP). The near quadrupling of the M-2/GNP ratio between 1979 and 1997 enabled the government to obtain substantial seigniorage revenue from expansion in the real money supply. Revenue from real currency

expansion reached an estimated 3.8% of gross domestic product in 1992 (World Bank, 1995, p. 125).

But even in the face of this rising appetite for real money balances, the rise in M-2 growth to 42.8% in 1993 and 35.1% in 1994 was accompanied by a surge of inflation above the 20% level.² Can budget deficit pressures explain such seemingly-excessive rates of monetary expansion? At first glance, the answer would seem to be no. Between 1980 and 1996 the budget deficit, while showing an upward trend after 1985, remained below 4% of GNP. Even after being adjusted to conform to conventional western standards,³ the deficit numbers may still paint a potentially misleading picture, however. Account should also be taken of lending by the central bank, the People's Bank of China, for policy purposes (chiefly loans to loss-making state enterprises) if we are to measure the government's actual financing needs.

Although there is no official consolidated budget deficit data series that incorporates such central bank lending, World Bank estimates tie the jumps in inflation in 1988 and 1993 to a near doubling of the consolidated deficit in 1988 and another sharp jump in 1993. The World Bank (1995, p. 28) has the consolidated budget deficit at 6.4% of GNP in 1988 and 8.9% in 1993. Wong, Heady and Woo (1995, p. 28) give even higher numbers, suggesting that the consolidated deficit was 7.6% of GNP in 1988 and rose above 10% of GNP as early as 1990-1991. The

World Bank (1995, p. 39) argue that the People's Bank's obligation to finance a persistent CGD [consolidated government deficit] has caused the repeated buildup of inflationary pressure in China and accounted for more than two thirds of the annual growth in reserve money over the 1987-1993 period. The World Bank (1995, pp. 53-54) also link recent Chinese inflationary surges to sharp increases in the People's Bank's lending to the financial system in 1988 and again in 1992.

Even though direct monetization of the official Chinese budget deficit has been negligible over the 1990s, indirect monetization funding the off-budget loans encompassed by the consolidated budget deficit appears to have increased just prior to the accelerations of inflation in both 1988 and 1993-1994. The effects of increased monetization were exacerbated by panic buying and rising velocity in 1988. There were also major administrative price increases during each inflationary episode.

Prices of pork, vegetables, sugar and eggs were hiked by as much as 60% in April 1988 while, in 1994, food price inflation was fueled by a 40% rise in grain procurement prices (see Oppers, 1997, pp. 9-12). These administrative factors operated in conjunction with easier monetary policy and heightened deficit-monetization pressures, however.

Earlier periods of inflationary pressures in the pre-reform era in 1953, 1956 and 1961 typically were also accompanied by deterioration in the government's fiscal position. While the

1953 and 1956 episodes were, in part, a manifestation of the state's investment and socialization policies, Hsiao (1971, pp. 236-251) points to a significant role played by fiscal factors in each case. Hsiao (1971, p. 236) suggests that the inflation rate in 1953 and 1956 was around 10-15% (counting both open inflation and estimated repressed inflation). A more serious upsurge in inflation occurred in 1961, when a 16.2% retail price increase was coupled with as much as a 260% increase in free market prices (see Peebles, 1991, p. 24). While basic necessities continued to be rationed, this surge in free market prices apparently reflected a deliberate strategy of selling high-price goods in order to withdraw money from the market (Peebles, 1991, pp. 28-29).

Underlying inflationary pressures in 1961 reflected primarily the collapse of industrial and agricultural output in the aftermath of the failed Great Leap Forward but also followed large expansion in the size of the state's budget during 1958-1960.⁴ Moreover, as in the post-reform period, standard budget deficit figures are understated in that they do not take into account the use of the People's Bank as a provider of the state enterprises working capital needs. Loans from the People's Bank provided 100% of quota working capital from 1959 through July 1961, which relieved the budget of its share of the burden and thus ensured the appearance of a budgetary surplus by means of

credit inflation during a period of high fiscal investment (Hsiao, 1971, p. 78).

The inflationary pressures of the 1950s and early 1960s occurred at the time when the Chinese economy had already been largely socialized. Even before that process began, the People's Republic was confronted by a rampant inflationary spiral that had begun under the earlier Nationalist regime. When Mao Tse-Tung proclaimed the People's Republic of China on October 1, 1949, prices were skyrocketing. Wholesale prices in Shanghai and Tianjin doubled in October-November 1949 and there was an overall 140 fold increase in the renminbi money supply between December 1948 and December 1949 (see Burdekin and Wang, 1999). By March 1950, wholesale prices were more than five times higher than the October 1949 levels, and more than two hundred times above the levels reached in June 1949 -- just after Shanghai fell to the Communists in the final stages of the Chinese Civil War.

The extent of the new government's fiscal imbalance appears to have been as striking as the rates of price increase. While there was no national budget at this time, Ch'en (1984, p. 77) -- who was in charge of the People's Republic's Committee on Financial and Economic Affairs in 1949 -- put the budget deficit at two-thirds of total expenditures. Ma and Kao (1990, p. 18) have since estimated that the deficit averaged 47.74% of total expenditures in 1949.

III. METHODS OF INFLATION CONTROL

In high inflation cases, the rate of price increase typically exceeds the rate of money supply growth as individuals unload the depreciating currency faster and faster, causing the velocity of circulation to accelerate. One way to reduce the turnover of the currency is to offer bank deposit accounts that are indexed for inflation. Indexed accounts were first introduced in 1949 in the aftermath of the flight from the currency that occurred under the old Nationalist regime. Under the parity deposit system introduced by the People's Bank of China on April 20, 1949, the value of deposits was set in terms of a commodity unit that conformed to the consumption pattern of the local population. This essentially indexed deposits to commodity prices and appears to have motivated substantial growth in bank deposits despite continued rapid inflation. In Tianjin, for example, the volume of bank deposits in June 1949 stood at 20.8 times the March level (Pien Hsieh Tsu, 1986, p. 81).⁵

Indexation of bank deposits was re-introduced in the face of the near 20% inflation of 1988. Fears that the government was about to remove its remaining price controls helped fuel a buying panic, whereby the public pulled their funds out of the banks and used the proceeds to stock up on durable goods. The M-2/GNP ratio dropped in 1988, after rising in every prior year in the reform period, and there was also a dramatic fall in China's historically high savings rate (see Sung, 1995). To help combat this flight from financial assets, the government announced that

savings deposits of three years or longer maturity would be eligible for a subsidy interest rate (SIR) based on the differential between the inflation rate and the interest rate on three-year savings deposits.⁶

The SIR remained in double-digits through the first three quarters of 1989, peaking at 13.64%. Adding the SIR to the base interest rate payable on three-year savings deposits yielded effective nominal returns above 20% in 1989, thereby keeping real returns positive despite the presence of 18% inflation. McKinnon (1994, p. 453) points to the importance of the 1988-1990 indexation in allowing the Chinese authorities to preserve the incentives for the nonstate sector in general, and households in particular, to accumulate monetary assets. Indexed government bonds with a three-year maturity were also introduced in late 1988. Had the SIR remained at peak 1989 levels, these bonds would have yielded nominal returns in excess of 26%. But, by the time the indexed bonds matured in 1991-1992, the inflation rate was below the three-year savings deposit rate of 8.28% and the SIR was zero.⁷

The holders of the indexed bonds would have received only 9.28% in 1991-1992 (the 8.28% savings deposit rate plus 1%) had the authorities not retroactively hiked the payout to match the 14% coupon paid on the nominal bonds. This move was followed by renewed indexation of government bonds in 1993. But the outcome was quite different in that inflation was not controlled before

the bonds matured and actual payouts did exceed 25%. The March 1996 SIR of 11.29%, for example, coupled with a base rate of 13.96%, yielded a total return of 25.25%.

On April 1, 1996 the authorities announced a permanent end to the indexation policy. Nevertheless, the indexed bond issues formed an integral part not only of the Chinese government's anti-inflation program but also of the attempt to replace the prior system of induced bond subscriptions -- whereby payments were deducted from salaries and operated like a withholding tax -- with voluntary purchases. With indexation, bond holders now had a ready-made hedge against inflation, making the bonds a potentially attractive alternative to simply hoarding durable goods. This new policy was accompanied by mushrooming bond trading volumes (see Burdekin and Hu, 1999).

More drastic palliatives than indexation were considered as the gradual removal of price controls was met by run-ups in commodity prices. Indeed, the Price Reform Research Group of the Chinese Academy of Social Sciences (Chung Kuo Shê Hui K=ê Hsüeh Yüan Chia Ko Kai Ko K'o T'i Tsu, 1986, p. 139), called for: (1) the establishment of a price ceiling/protection price; (2) organizing a special (procurement) market for trading key commodities; (3) adjusting demand and supply indirectly via monetary and fiscal policy; and (4) using state trading companies to stockpile commodities and release them onto the market.

Such measures had been adopted in the 1949-1950 period when state trading units sought to mobilize supplies -- obtained in the countryside through the tax-in-kind, from the output of state enterprises, and by purchase of private sector output -- and release them onto the market in the cities to combat shortages and offset the successive price jumps that arose there (Burdekin and Wang, 1999). Their operations became a key element in the Communist policy of conducting economic warfare against speculators (Hsia, 1953) and containing inflation in the cities. Effective March 10, 1950 the trading companies were re-organized into a full nationwide system, further boosting their ability to equilibrate relative prices of commodities over the different regions and offset any local spikes in price.

While no such widespread intervention has taken place in the reform era, the authorities have, at times, resorted to administrative measures of price control.⁸ For example, in the second half of 1995, the municipal government in Chongqing introduced a set of administrative and economic measures aimed at reining in the city's inflation rate (*Shih Chieh Jih Pao (World Daily)*, 1996). Chongqing had had the worst inflation performance in 1994 of all the 35 largest cities in China. Focusing on basic foods, the municipal government increased their stocks of grain, oil and meat and intervened aggressively to offset upward pressure on the market price of stocked meat. While these

measures were accompanied by resumption of a rationing system, the policy of unleashing a large supply of a key commodity (in this case, 500 metric tons of stocked meat) onto the market to drive down urban prices remains very much in line with the 1949-1950 initiatives.

IV. ENDING INFLATION IN THE POST-REFORM PERIOD

In 1950, intervention in key commodity markets and indexation measures were supported by administrative controls pending the elimination of a major source of the inflationary pressure -- the government's own massive budget deficits -- later in the year (Burdekin and Wang, 1999). At that time, increased resort to administrative controls foreshadowed the movement toward a centrally-planned economy. In post-1978 China, the state has proved unable to resist the temptation to, at times, resort to dictatorial methods in times of crisis. Periodic crack-downs on speculative activity continue to occur in China -- albeit in a milder form than in the 1950s. Edicts against trading rice futures and government bond futures were implemented in the midst of the post-1993 upsurge in inflation, for example. There is also the Chongqing municipal government's decision to supplement market-based intervention in commodity markets with such administrative measures as a return to a rationing system.

Nevertheless, the current Chinese regime was able to contain the 1988-1989 and 1993-1995 inflationary upsurges without undoing

the major thrust of its reforms. The World Bank (1996, pp. 10-11) also points out that A1994 and 1995 saw a contraction in borrowing from the central bank and a shift toward commercial bank financing, and direct borrowing from the public (using treasury bonds.)@ This followed the 1994 Budget Law that prohibits the government from borrowing from the People's Bank of China.⁹ The budget deficit expanded in the late 1990s, however, as the government launched a fiscal stimulus program aimed at combating slowing economic growth. And the 1999 budget deficit was expected to rise to nearly double the 1998 deficit of 96 billion yuan (or \$11.5 billion).¹⁰

Spending on pump-priming measures was \$12 billion in 1998 and approximately \$7.2 billion in 1999 -- with government officials announcing plans to raise such spending back to \$12 billion in 2000 (Johnson and Brown, 1999, p. A9). Such higher government spending is itself a response to rising unemployment and weak consumer spending. And, given that in December 1999 China experienced her 27th consecutive month of declining prices, inflationary pressures would hardly seem to have been a pressing concern at the end of the 1990s. Nevertheless, the government's budget deficit and debt levels will be impacted not only by the stimulus program but also by the reforms of the state-enterprise sector and the pressing need to recapitalize the state-owned banks.

The relationship between inflation and fiscal pressures is hardly clear from the official budgetary data -- that form the basis for the budget deficit series provided in Table 1 -- because such data exclude loans by the People's Bank to the state enterprises. As discussed in Section II, it was increased *off-budget* loans that apparently fueled rising fiscal pressures at the time of the 1988 and 1993 inflation jumps (World Bank, 1995). Such off-budget loans also seem to have been a factor in the pre-reform period with People's Bank loans supplying 100% of working capital needs in the run-up to the 1961 inflation spike (Hsiao, 1971). While the available data are hardly sufficient to prove the existence of a causal relationship between fiscal pressures and inflation in China, history does suggest that the potential for new fiscal strains should not be taken lightly.

V. CONFRONTING THE FINANCIAL PROBLEMS OF THE LATE 1990s

As direct finance from the People's Bank started to be replaced by heavy borrowing from state banks, the burden of supporting the largely-loss-making state enterprise sector fueled a build up of bad debts in the banking system. In the second half of the 1990s the government finally took steps to address the growing losses in the state enterprises sector and the bad debt problem in the nation's banks. At the 1997 15th Party Congress, Chinese President Jiang Zemin announced a bold initiative that provided for the sale (or bankruptcy) of most of China's state enterprises. The authorities targeted 2000-3000 enterprises for bankruptcy, merger or acquisition in 1998 -- a year when 49% of large and medium-size state enterprises suffered losses (World Bank, 1999, p. 30). The layoffs associated with these moves have led to worker unrest, however, and Kathy Chen (1997, p. A16) points to a 50% increase in labor protests in 1997.¹¹ In June 1998 Jiang Zemin gave a speech urging caution in the sell-off of small state-owned companies, which were perceived as disturbing the orderly redeployment of laid-off state workers and harming workers' interests (World Bank, 1999, p. 31).

The financial weakness of the state enterprises prior to the 1997 initiative was reflected in an officially-reported ratio of liabilities to assets that reached 85% in 1995. And Lardy (1998, pp. 39-43) argues that this ratio was itself considerably understated and equivalent to a better than 500% debt-to-equity

ratio. The upshot of this is that, as state-owned enterprises borrowed to the hilt, the state banks that lent them the money were faced with vast levels of non-recoverable loans. The financial burden on the economy arising from the state-owned enterprises is characterized by Dorn (1998, p. 133) in terms of a terminal disease that is eating up China's scarce capital.' Lardy (1999, p. 34) judges that recapitalization of the financial system would require an injection equal to 25% of total loans outstanding. This would represent about \$260 billion constituting an estimated 27% of China's GDP. Lau (1999, p. 74) points out that even the People's Bank of China's own estimates amount to 20% of GDP.

The Chinese government issued \$32.5 billion in bonds in 1998 to help recapitalize the four state-owned banks. In 1999 the government established four financial asset management companies to purchase and manage bad loans from the state banks. The first of these companies, China Cinda Asset Management Company, was founded on April 20, 1999. When Cinda takes over a loan the enterprise in question is to pay dividends to the asset management company instead of paying interest to the bank. The asset management company will then seek to recover the principal by either an initial public offering or by transferring the ownership. In September 1999 Cinda undertook China's first ever debt-for-equity swap (*Muzi Dailynews*, September 11, 1999).

The system of asset management companies is intended to strengthen the banks' balance sheets while also reducing the state enterprises' debt burden. For example, the October 1999 debt-for-equity swap agreement with Zhejiang Chemical Fibre United Group was to reduce the state-owned enterprise's debt-asset ratio from 94.3% to 45% (*Muzi Dailynews*, October 29, 1999). It appears, however, that the known bad debt has been compounded by embezzlement and accounting malpractices both within the state enterprises and the state banks that provided them with loans. According to Deputy Auditor-General Liu Jiayi, two of China's big four state commercial banks -- China Construction Bank and the Industrial and Commercial Bank of China -- had overstated their assets by 200 billion yuan and had built up 200 billion yuan in off-book assets. A tenth of reported assets were of poor quality ... (*Muzi Dailynews*, December 16, 1999).

The irregularities unearthed by the governments auditors are hardly encouraging news for banks that were already believed to be carrying non-performing loans equal to as much as ten times total bank capital and loss reserves (Naughton, 2000, p. 154). The reforms aimed at gradually eliminating the burden of the loss-making state enterprises and employing the new system of financial management companies to deal with the bad debt problem are clearly steps in the right direction. But these reforms cannot be pursued without continuing economic costs associated

with layoffs and rising unemployment on the one hand and a rising debt burden on the other. As the following observation by the World Bank (1999, p. 50) implies, there is no doubt that the reform process stands at a critical stage as China enters the 21st century:

China's long-term fiscal sustainability is threatened by the contingent liabilities of the banking sector, the fiscal obligations arising from reform of state-owned enterprises and the social security system, and the unbalanced nature of fiscal relations between the central government and local governments. Long-term sustainability depends upon how the government addresses these problems.

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FOOTNOTES

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1. For an overview of this issue, and references, see, for example, Burdekin (1995).
 2. Baizhu Chen's (1997) money demand estimates suggest that broad money growth should be held to 28-29% in order to keep inflation below 10% -- assuming a 10% rate of real output growth. Interestingly, actual broad money growth exceeded 29% from 1992-1995 before falling back to 25.3% growth in 1996 just as inflation itself returned to single digits.
 3. Under the Chinese definition of the deficit, debt issues are counted as part of total revenue. For consistency with the standard western definition of the budget deficit, proceeds from debt issue must be subtracted from the officially-stated budget balance (Wong, Heady and Woo, 1995, pp. 23-25). This adjustment can only be performed through 1996, however. Official data on debt proceeds are no longer given

- in the *China Statistical Yearbook* -- the 1998 issue merely offers 1996 data previously reported in the 1997 *Yearbook*.
4. Imai's (1994) estimates of repressed inflation over the 1954-1992 period confirm heightened inflationary pressures in 1956 and 1958-1961 -- although estimated total inflationary pressure is limited to 2.1% in 1956 and 30.2% in 1961. Imai (1994, p. 149) also points to one further inflationary spell in the pre-reform era that appears to have been linked to the Cultural Revolution (with total inflationary pressure peaking at 9.6% in 1968).
 5. Moreover, after the parity deposit system was adopted by the Shanghai authorities on June 14, 1949, bank deposits are said to have grown much faster than commodity prices over the July-October 1949 period (Hsia, 1953, p. 61).
 6. The price index used to calculate the value of the SIR is an unpublished Total Commodity Retail Price Index that includes retail commodities, service products, and producer goods (see Burdekin and Hu, 1999, for further details).
 7. Under the system adopted in China -- contrary to the usual practice in, for example, Canada, the United Kingdom and the United States -- the inflation compensation payment, if any, is made at maturity based on the SIR at the end of the three-year holding period.

8. Moreover, although the government did not implement the Price Reform Research Group's proposals, price controls were kept in place on a sub-set of key commodities such as cotton, fertilizers, oil and grain. Higher prices remained available on the black market, however, and resistance to government attempts to control China's cotton crop culminated in a so-called "market rebellion" in Fall 1994 (see Kahn, 1994).
9. The Budget Law has been accompanied by a variety of other financial reforms that include the creation of three new "policy banks" and increased autonomy for state commercial banks (see World Bank, 1996, pp. 25-38).
10. This estimate was reported on December 9, 1999 in *Muzi Dailynews*.
11. Lau (1999, p. 76) states that layoffs had reduced the workforce in the state-owned enterprises by a total of 20 million through the end of 1998.

TABLE 1: Inflation, Money, Budget Deficits and Output in the People's Republic of China, 1979-1998

	Rate of Growth of the Consumer Price Index(M-2)	Rate of Growth of Broad Money of GNP	Broad Money Share of GNP	Budget Deficit as Share of GNP	Rate of Growth of Real Output
1979	2.0%	49.2%	33.3%	5.2%	7.6%
1980	6.0	25.9	37.0	3.8	7.8
1981	2.4	18.3	41.4	2.1	4.5
1982	1.9	14.6	43.6	2.2	8.3
1983	1.5	19.7	46.7	2.1	10.5
1984	2.8	32.6	51.7	1.8	14.6
1985	9.3	35.5	54.2	0.8	12.9
1986	6.5	30.2	62.2	2.2	8.5
1987	7.3	25.3	66.6	2.2	11.1
1988	18.8	20.7	64.3	2.5	11.2
1989	18.0	18.7	67.3	2.4	4.3
1990	3.1	28.9	78.9	2.9	3.9
1991	3.4	26.7	85.9	3.4	9.2
1992	6.4	30.8	91.3	3.4	14.2
1993	14.7	42.8	100.5	3.0	13.5
1994	24.1	35.1	100.5	3.8	12.7
1995	17.1	29.5	105.7	3.7	10.5
1996	8.3	25.3	112.6	3.7	9.5
1997	2.8	20.7	125.1	--	8.8
1998	-0.8	14.9	--	--	--

Sources: The consumer price data are from *International Financial Statistics*, July 1999 (series 64..x) and the 1998 *China Statistical Yearbook* (Table 9-1) -- with pre-1985 data are based on the overall retail price index; the money supply data are from *International Financial Statistics*, July 1999 and the 1998 *International Financial Statistics Yearbook* (sum of series 34 and 35); the ratio of broad money to GNP is obtained by dividing the money supply data by gross national product in current prices from the 1998 *China Statistical Yearbook* (Table 3-1); the budget deficit figures for 1979-1992 (adjusted to conform to conventional western standards) are as given by Wong, Heady and Woo (1995, p. 24); the 1993-1996 deficit figures are computed by the author (applying the same method) using data from the 1997 *China Statistical Yearbook* (Tables 7-1 and 7-3); and real output growth refers to gross domestic product in 1990 prices from the 1998 *International Financial Statistics Yearbook* (line 99b.p).