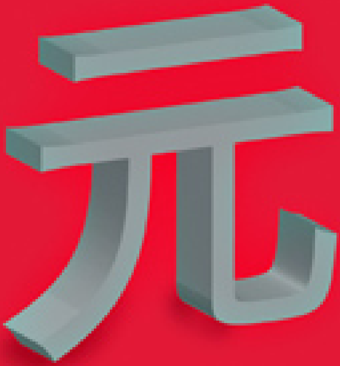
CHINA'S MONETARY CHALLENGES

PAST EXPERIENCES & FUTURE PROSPECTS



Richard C. K. Burdekin

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CHINA'S MONETARY CHALLENGES

Despite the People's Republic of China's remarkable growth over the post-1978 reform period, questions have arisen about the sustainability of its exchange rate policy and the soundness of its financial system. This book focuses on the key monetary challenges to China's continued advancement and addresses such topical issues as the buildup of foreign exchange reserves, monetary control, credit allocation difficulties, and the expanding role of China's asset markets and stock exchanges. Current and past monetary policy strategies are examined in detail, as are the banking sector reforms leading up to fuller foreign competition after December 2006. The analysis also assesses the People's Republic's role within Greater China (including Hong Kong and Taiwan) and the potential for future renminbi monetary hegemony within Asia. The treatment of these issues is intended to be accessible to non-economists and does not assume prior immersion in the underlying formal models.

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China's Monetary Challenges

Past Experiences and Future Prospects

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TO YANJIE, EILEEN, EMMA, & JOSEPHINE

Quand la Chine s'eveillera, le monde tremblera . . .
[When China rises, the world will tremble . . .]

Napoleon Bonaparte[1]

If we isolate ourselves and close our doors again, it will be absolutely impossible for us to approach the level of the developed countries in 50 years.

Deng Xiaoping, 1984[2]

1 Quote attributed by Alain Peyrefitte, *The Chinese: Portrait of a People,* translated from the French by Graham Webb (Indianapolis/New York: Bobbs-Merrill, 1977).

2 October 1984 "Speech at the Third Plenary Session of the Central Advisory Commission of the Communist Party of China" – as quoted by Jinglian Wu, *Understanding and Interpreting Chinese Economic Reform* (Mason, OH: Thomson, 2005), p. 294.

Contents

Preface

Work on this book was funded by a 2005–2006 Scholar Grant from the Chiang Ching-kuo Foundation, and I am immeasurably grateful for this support. Some of the initial research was conducted while I was a Visiting Senior Fellow at Hawaii's East-West Center, which provided a very hospitable and helpful environment for my work. My home institution, Claremont McKenna College, also helped with support for databases and other research needs.

I have been fortunate to work with many excellent co-authors over the years, and I am grateful to a number of them for kindly consenting to have some of their joint work presented in this volume. In particular, I wish to thank William Brown and Pierre Siklos, as well as my former students Gregory Arquette, Emily Kochanowicz, and Hsin-hui I. H. Whited, for their contributions to several of the chapters in this volume. Gregory Arquette also played a major role in keeping the analysis of China's securities markets as up-to-date as possible, allowing the book manuscript to incorporate the most recent numbers available at the time.

Chapters 3 and 6 include material previously published by the *Cato Journal* and the *China Economic Review*. I thank Jim Dorn, editor of the *Cato Journal*, and Elsevier, publisher of the *China Economic Review*, for their respective permission to reprint.

This book greatly benefited from three excellent sets of reviewer comments, including those kindly provided by Jim Dorn and Elliott Parker. I am most appreciative too of Scott Parris's support for the book at Cambridge University Press. Kishen Rajan and Tom Willett contributed much valuable time in offering a host of helpful comments on earlier versions of many of the book chapters. Marc Weidenmier also gave helpful feedback. Meanwhile, Nancy Tao provided outstanding research support, both in terms of data work and Chinese language support and by cheerfully putting up with

my incessant demands as this book neared completion. Yeqin Zeng also supplied valuable translation help.

My family made perhaps the most essential contribution of all, putting up with the many hours spent tying together the wide-ranging strands of research contained in this volume. My wife, Yanjie Feng Burdekin, also did her best to save me from the most egregious errors in my understanding of China and its people – although any remaining failings in this regard should be firmly attributed to the author. My oldest daughter, Eileen Burdekin, valiantly waded through drafts of all the chapters, finding numerous errors that I and others had missed. Meanwhile, my middle daughter, Emma Burdekin, also assisted with the book and helped ensure that the youngest member of the family, Josephine Burdekin, did not get the chance to destroy the work in progress.

I would also like to offer a special thank-you to my father-in-law, Feng Delong, whose personal reminiscences of the 1949–1950 inflationary spiral helped spark my interest in China's monetary and inflation history.

Let me add a brief word on the Chinese language references, names, and places. In most cases, the modern *pinyin* system has been used for converting Chinese characters into Roman letters. All Chinese references not expressed in English use the *pinyin* form, except for an old 1958 reference, which has been kept in the Wade-Giles form in which it was originally catalogued. Some proper names, such as Mao Tse-tung and Chiang Kai-shek, have also been kept in the old form that is likely to be more familiar to most readers. Finally, among the place names, the old province of Manchuria enters the discussion of the 1930s experience. Referring to the modern-day "North-East Provinces" in that context seemed a recipe for confusion.

With regard to China's currency, the post-1949 money issues are known as *renminbi* (meaning "people's currency"). Although the unit of account is technically the *yuan renminbi*, I have simply stuck with the designation renminbi – or RMB for short. (Rather confusingly, different writers variously use both *renminbi* and *yuan* in this context, and it seemed best to be consistent.) Earlier Chinese money issues mentioned in this book include the pre–November 1935 silver coin standard, the *fapi* paper currency of 1935 to 1948, and the *gold yuan* issued by the Nationalists in 1948–1949 – before their defeat in the Chinese Civil War ushered in the new People's Republic under Chairman Mao.

I hope that readers will find this volume helpful and not confusing. The exciting events in China and their historical antecedents certainly demand the West's attention, and it has been a pleasure to assess some of the remarkable strides China has made in recent years.

INTRODUCTION

China Today and Lessons from the Past

> Shanghai, the Paris of the East!
> Shanghai, the New York of the West!
> Shanghai, the most cosmopolitan city in the world . . .
> (*All About Shanghai and Environs* – a 1934 guidebook)[1]

For decades China's economic progress was stifled and hidden from the rest of the world behind Chairman Mao's "bamboo curtain." However, the remarkable growth over the post-1978 reform period has launched the country into a major player in the world economy. By 2007, the Shanghai Stock Exchange had reached center stage with coming initial public offerings that looked likely to rival, or even exceed, those of New York. Many tough challenges remain nonetheless, including the sustainability of China's exchange rate policy and the soundness of a financial system that is still dominated by four big state-owned banks. This book addresses some of the key monetary challenges to China's continued advancement, such as potential inflationary pressures under the continued buildup of foreign exchange reserves, the need for additional liberalization of interest rates and financial market development, and external pressure for faster exchange rate adjustment.

Such issues as the causes and consequences of exchange rate pressures are interpreted in terms of standard economic principles and past experiences – taking into account some illustrative lessons deriving from events in China's own history prior to the days of the bamboo curtain. Besides considering how past lessons help put current pressures in perspective, this book looks forward to the ongoing challenges posed by China's accession to the World Trade Organization and the potential for Chinese monetary

[1] As quoted by Wasserstrom (2003, p. 51).

The author thanks Tom Willett and Yanjie Feng Burdekin for their helpful comments.

hegemony within the Asian sphere. The goal throughout is to present the reader with relevant empirical analysis and an explanation of the theoretical underpinnings but to do so in an accessible fashion that does not assume prior immersion in the underlying formal economic models.

The pegged exchange rate between China's currency, the renminbi, and the US dollar that was maintained until July 2005 ensured that, as the US dollar weakened against most other world currencies in the early twenty-first century, the renminbi automatically followed. This had the effect of making the renminbi cheaper and cheaper in world terms. The apparent exchange rate misalignment tended to boost Chinese exports because these exports were now being priced on the basis of this cheaper currency. China's export growth continued unabated even after the modest 2.1% revaluation of the renminbi against the dollar on July 21, 2005, and the subsequent gradual movement upwards. Meanwhile, accelerating inflows of foreign exchange reserves required increasingly large-scale interventions by the People's Bank of China in order to offset upward pressure on the exchange rate and domestic money supply growth and, hence, inflation. This pressure has been augmented, at times, by "hot money" flowing into China as holders bet on new appreciation of the renminbi against the dollar that would yield capital gains to those exchanging dollars for renminbi at the original, lower rate.

In addition to exploring the current situation in detail, Chapter 1 seeks to put it in perspective by assessing the evolution of the People's Republic's exchange rate policy over the years and the gradual movement toward more market-based rates. One key episode was during the 1997–1998 Asian financial crisis when, even as most Asian currencies depreciated dramatically against the US dollar, China stuck with its commitment to a constant, pegged exchange rate with the US dollar. While "taking one for the team" and resisting pressures for devaluation, China was hit by deflation in 1998. The pressures for devaluation of the renminbi in the late 1990s were abruptly replaced by pressures for revaluation, however, in the face of the reversal in the upward trend of the US dollar against other world currencies after 2001. The renminbi was no longer being propped up, but rather being held down, by major People's Bank of China intervention in the foreign exchange market. Chapter 1 addresses the charges of alleged renminbi undervaluation that have, if anything, become more strident since China's 2005 break from the old dollar exchange rate peg. Although there seems to be no doubt that the renminbi became more undervalued (or less overvalued) over time, different approaches to measuring the degree of undervaluation produce quite different answers. This leaves the overall degree of undervaluation far from clear-cut.

Chapter 2 assesses the recent pressures on the renminbi in the light of global economic imbalances. Worsening US current account deficits have been accompanied by a widespread trend toward growing trade surpluses among emerging economies, which is certainly not just a "China phenomenon." Recent strains appear to largely reflect downward pressure on the dollar in the face of rising US trade deficits with the world as a whole – accompanied meanwhile by high savings rates in the surplus countries and low savings rates in the United States. China has itself been running a relatively balanced trade position with countries other than the United States, while incurring deficits with other Asian nations like Japan. Especially given the cautionary lessons from the Japanese and Taiwanese experiences with rapidly rising currency values in the 1970s and 1980s – which are reviewed in Chapter 2 – there certainly seems to be no good reason for China to accede to US pressure for sudden exchange rate appreciation. The chapter also reviews the move toward the creation of new state investment agencies (known as "sovereign wealth funds") by China and other large holders of dollar reserves. These agencies seek to achieve higher returns on their dollar assets by moving beyond the US Treasuries that have served as the typical mainstay of China's holdings in the past.

Chapter 3 turns to the inflationary and deflationary cycles experienced in the People's Republic of China, beginning with the inflationary spiral that was already in full sway when Chairman Mao originally proclaimed the People's Republic on October 1, 1949. Parallels are drawn between the methods of inflation control adopted at that time, such as the indexing of bank deposits, and the anti-inflationary policies adopted during the post-reform era in the face of the inflation spikes of 1988–1989 and 1993–1994. The question of repressed inflation is also addressed along with evidence that this phenomenon remained important even after the economic reforms that began in 1978. Chapter 3's review of the deflation experience of 1988–2002 includes comparisons with the similar deflationary pressures experienced by Hong Kong.

The closing discussion of post-2002 inflationary pressures in Chapter 3 feeds into the focus on the recent policy of the People's Bank of China in Chapter 4. The growing liquidity of the interbank market is assessed along with the People's Bank's increasing reliance on more market-based methods of monetary control such as open market operations. A major policy tool in "sterilizing" the inflationary effects of China's large reserve inflows has been the sale of "central bank bills," the rapidly growing issuance of which is documented in the chapter. Chapter 4 also provides some new empirical evidence on People's Bank monetary policy responses to reserve flows and exchange rate changes. The results are consistent with the effects of reserve inflows on the Chinese money supply being largely offset over our 1994–2006 sample period.

Part II of the volume offers three case studies of episodes that illustrate the past and present importance of international factors to China. The 1930's experience reviewed in Chapter 5 shows that it is certainly nothing new for the Chinese economy to be pressured by a weakening US dollar. In this regard, Federal Reserve Chairman Ben Bernanke (2002) once credited the 40% devaluation of the dollar against gold in 1933–1934 as a "key policy shift that permitted sufficient monetary expansion to reverse US deflation during the Great Depression." The expansion in Federal Reserve notes was generated, in part, via Franklin D. Roosevelt's silver purchase program, which actually had severe deflationary effects on China in the mid-1930s because its currency was linked to silver. As the value of China's currency rose with the world price of silver, its exports became more and more expensive abroad. Chapter 5 discusses the difficulties faced by China at that time and documents the damage exerted by the massive silver outflow that eventually forced both China and Hong Kong to exit the silver standard by 1935. The damage to Chinese and Hong Kong business interests is also reflected in the response of share prices, such as that of the Hong Kong and Shanghai Banking Corporation (HSBC), which was then, as it is today, a major financial player in East Asia.

Whereas China suffered from the sudden currency appreciation that was artificially generated by the 1934 US silver purchase program, the opposite dangers arising from keeping the exchange rate at an artificially low level have seldom been more vividly illustrated than by China's own past experience in the late 1940s, which is analyzed in Chapter 6. The Nationalist government forced Taiwan to maintain a fixed, artificially low exchange rate against mainland China's gold yuan currency – itself the successor to the heavily depreciated *fapi* that was adopted after China abandoned silver in 1935. Indeed, in August 1948 the combination of the fixed exchange rate for the gold yuan and Nationalist control over both the Central Bank of China and the Bank of Taiwan created an almost ideal vehicle for massive capital flight from mainland China to Taiwan. The rate of exchange between the gold yuan and the Taiwanese currency was held fixed through the fall of 1948 in spite of rapidly accelerating money growth on the mainland and a collapsing military situation. Holders of gold yuan naturally took advantage of the fixed exchange rate that forced the Bank of Taiwan to accept the depreciating Nationalist currency and exchange it for the separate Taiwanese currency at an overvalued rate. The net capital inflow between August and October 1948 accounted for almost all of Taiwan's rapid money growth during September–October 1948. This episode shows, in sharp relief, how inflationary pressures can indeed be fueled by an artificially cheap, fixed exchange rate.

The exchange rate question is, of course, just one aspect of the challenges to monetary control in mainland China today. The credit allocation issue and China's banking sector problems are discussed in Chapter 7 in the context of both the changing macroeconomic landscape and the transition to full foreign bank competition mandated in December 2006 under China's World Trade Organization commitments. In preparation for this development, the government began the process of transforming its major policy banks into publicly traded companies. Although three out of the big four state-owned banks enjoyed successful initial public offerings in 2005–2006, their apparent newfound balance sheet strength was achieved only through successive government-funded capital injections. Concerns about remaining "hidden" bad loans continued to stoke fears that further large bailouts may be needed in the future. Government funds could also be required to bail out the group of asset management companies established to take many of the bad loans off the banks' balance sheets, in the process paying prices way above subsequent realized market values. Another concern is the continued concentration on lending to the nation's state-owned enterprises and correspondingly low levels of lending to China's growing private sector. The private sector's reliance on informal finance is also discussed in Chapter 7. Meanwhile, the fresh acceleration of loan growth as foreign capital flooded into China during 2006–2007 raised fears that new nonperforming loans are being generated, illustrating how exchange rate pressures and banking sector pressures may well remain linked.

Finally, Part III of the book considers the People's Republic of China in the context of the Greater China region (including Hong Kong and Taiwan) – with a focus on ongoing financial linkages as well as more general economic integration associated with trade ties and flows of foreign direct investment. Chapter 8 includes an assessment of the development of China's bond, equity, and real estate markets. Whereas in the early 1980s China had no secondary market for government debt and no stock exchanges, the establishment of both these key institutional features in the late 1980s and early 1990s began the progress toward meaningful financial market development in China. Although many missteps have occurred along the way, including disruptions associated with sudden government policy reversals, China's financial markets have advanced greatly in recent years with considerably higher liquidity and an enhanced array of financial instruments. This includes, for the first time, genuine prospects for a corporate bond market that might chip away at China's long-standing and near-complete dependence on bank credit.

The growth in China's stock exchanges accelerated in 2006–2007, leading to record highs in the major market indices. The question of valuations on the Shanghai Stock Exchange is assessed by comparing stock prices there to prices of the same companies' stock traded on the neighboring Hong Kong stock market. The data suggest that, relative to the more established market in Hong Kong, any overvaluation of Shanghai shares was, for the most part, greater *before* the rally period that began in late 2005. Although prices in Shanghai did accelerate faster than Hong Kong prices after April 2006, as of June 2007 the differential remained quite low relative to its own past history – thereby rather casting doubt on the timing of any allegations of "irrational exuberance."

Chapter 9 moves the comparative focus from Hong Kong to Taiwan and offers a detailed examination of the macroeconomic linkages between mainland China and Taiwan. The growing trade links and flows of foreign direct investment from Taiwan to mainland China, in spite of ongoing political animosity, are indicative of China's increasing integration with other East Asian economies. Moreover, the importance of external influences on Chinese monetary policy, as emphasized in Part I of this volume, receives further support from the mutual sensitivity of money growth in mainland China and Taiwan to developments on the other side of the Taiwan Strait. The chapter's empirical work shows that trade and investment ties have been reflected in significant co-movement not only between mainland China and Taiwan money supply growth rates but also inflation rates, output growth, and stock market performance over the post-1994 period. The overall sensitivity to mainland China effects appears to be highest for Taiwanese output and money growth. This is combined with evidence of weaker, but still significant, responses of mainland China variables to developments in Taiwan.

Chapter 10 concludes and also looks forward to consider whether the People's Republic of China could plausibly serve as the future monetary leader in Asia. The renminbi has become increasingly important as a "vehicle" currency in recent years, especially in Hong Kong, where almost all banks now offer renminbi services to their customers. A potentially major step toward greater renminbi penetration in Hong Kong was the June 2007 launch of China Development Bank's 5-billion renminbi bond issue in

Hong Kong. This represented the first renminbi-based issue outside the mainland. More and more transactions are being settled in renminbi, not only in Hong Kong (and Macau) but also as part of the border trade conducted with other neighboring Asian economies like Taiwan, Malaysia, and Thailand. Although the renminbi is certainly not yet ready to take on the dollar, or even the euro, as a major world reserve currency, continued slow but steady capital account liberalization should help pave the way for the much greater role it seems destined to achieve going forward.

PART I

CHINA'S EXCHANGE RATE REGIME AND MONETARY POLICY

ONE

The Renminbi–US Dollar Exchange Rate Controversy

Renminbi's further appreciation is megatrend . . .
(Wu Xiaoling, Vice Governor of the People's Bank of China, 2005)[1]

Introduction

Mainland China's surging exports in the early twenty-first century, and growing importance in world trade, have been accompanied by unprecedented scrutiny of its exchange rate policy not only by academics but also by politicians and policymakers, especially those in the United States. The controversy initially focused on China's maintenance of a constant pegged exchange rate with the US dollar. Although US policymakers had repeatedly urged China to maintain this pegged rate during the 1997–1998 Asian financial crisis, the exchange rate parity of 8.28 RMB/$US was subsequently seen as too cheap, making China's exports cheaper in US dollar terms and accounting for China's growing trade surpluses with the United States. Since China's movement away from a pegged exchange rate in July 2005, the debate has shifted to the question of whether the currency's rate of appreciation against the US dollar is sufficiently rapid. This chapter discusses the evolution of China's exchange rate policy and offers some historical perspective on the valuation of China's currency, the renminbi (which

[1] As quoted in *People's Daily Online*, October 26, 2005c.

Part of this chapter includes material previously published in Burdekin (2006), and the author thanks the East-West Center in Honolulu, Hawaii, for their hospitality while researching the exchange rate question. The author also thanks Kishen Rajan and Tom Willett for their helpful comments, is most grateful to Nancy Tao for her valuable research assistance, and greatly appreciates Jim Barth's willingness to provide historical data on the Milken Institute's "Renminbi Pressure Indicator."

means "people's currency," in Chinese). Recent renminbi valuations do not seem to have been too out of line with levels recorded in the 1990s, nor has ongoing empirical analysis of the currency's purchasing power yielded any consistent support for US charges of drastic renminbi undervaluation.

However, Chinese authorities are right to be concerned about growing flows of funds into the country, and the renminbi. Even if the currency is not artificially cheap, the accumulation of foreign funds remains an inevitable result of the nation's trade surpluses – an inflow that, in China's case, has been heavily augmented by its attraction as a destination for foreign direct investment (FDI). Moreover, speculation regarding renminbi appreciation has been a factor encouraging "hot flows" of money into the currency by individuals and businesses seeking to profit from this appreciation. As described in Chapter 6, there is certainly historical precedent for worrying about the potential inflationary effects of such large-scale capital inflows. In the late 1940s, as the Nationalist regime faced defeat in the Chinese Civil War, capital flight from the mainland to Taiwan precipitated a massive monetary expansion and hyperinflationary spiral on the island. The situation was greatly exacerbated by the Nationalist government's decision to peg Taiwan's currency at an artificially low value against mainland China's currency, however. Fears that such a mechanism could reemerge in today's People's Republic of China are mitigated by the fact that, in real terms, China's currency, the renminbi, remained in-line with its own historical levels of the 1990s. Nevertheless, China's own history certainly provides a vivid warning as to the potential consequences stemming from an excessively undervalued fixed exchange rate.

The Evolution of the People's Republic's Exchange Rate Policy

The renminbi was introduced by Mao Tse-tung's Communist forces as they gained territory from the Nationalist government under Chiang Kai-shek during the Chinese Civil War. Chairman Mao proclaimed the formation of the People's Republic of China on October 1, 1949. Continued rapid renminbi issuance was accompanied by high rates of inflation during 1949–1950 until stabilization was achieved in March 1950 (see Chapter 3). During the last inflationary surge in early 1950, wholesale price rose by 56% in Shanghai, and by 77% in Tianjin, between January and March 1950 (Burdekin and Wang, 1999). The renminbi depreciated by 100% against the US dollar, by 106% against the pound sterling, and by 115% against

Table 1.1. *Early Renminbi Exchange Rate Fluctuations, 1950–1951*

	Exchange Value of the Renminbi*		
	Pound Sterling	US Dollar	Hong Kong Dollar
January 1, 1950	48,000	21,000	3,000
January 6, 1950	64,400	23,000	3,498
January 21, 1950	70,000	25,000	3,816
February 1, 1950	77,000	27,500	4,167
February 8, 1950	81,200	29,000	4,538
February 23, 1950	82,150	31,000	4,733
February 24, 1950	89,500	34,500	5,267
March 2, 1950	97,500	39,000	5,990
March 11, 1950	98,708	42,000	6,460
April 2, 1950	98,400	41,000	6,400
April 10, 1950	96,000	40,000	6,244
April 19, 1950	97,194	39,000	6,310
April 24, 1950	93,000	37,500	6,000
May 26, 1950	98,900	37,500	6,120
July 3, 1950	94,280	35,500	5,870
July 8, 1950	93,200	35,000	5,800
July 26, 1950	91,440	35,000	5,690
August 7, 1950	81,220	32,200	4,950
September 5, 1950	78,210	31,000	4,750
December 25, 1950	73,570	27,360	4,500
January 4, 1951	68,370	24,900	4,200
January 20, 1951	63,350	22,890	3,880
May 22, 1951	62,350	22,270	3,880

* These figures are for "old" renminbi convertible into today's renminbi on a 1:10,000 basis (see text).

Source: Cheng (1954, pp. 120–122).

the Hong Kong dollar over this same three-month period (Table 1.1).[2] The renminbi's official foreign exchange value gradually recovered after March 1950 before the People's Republic's effective exclusion from trade with the

[2] Although these figures denote official exchange rates set by the government, they appear to have initially been reasonably representative of actual market rates. According to Cheng (1954, p. 120): "Chinese foreign exchange policy then was aimed at boosting exports, absorbing foreign exchange and getting as much overseas remittances as possible. Hence, fluctuations in foreign exchange rates followed the principle of conforming to black-market rates." Zhang (2003, p. 54) adds that a weighted index of the cost of eighty key export goods served as the main reference for exchange rate adjustments over the 1949–1952 period.

West following its November 1951 entry into the Korean War. The share of China's trade with non-communist countries plunged from 74% in 1950 to 28% in 1952 (Durdin, 1953, p. 14) and complete monopoly control of the foreign exchange system followed in 1956. China's share in world trade stood at only 1.5% in 1953 and declined even further to just 0.6% in 1977 on the eve of the economic reforms launched under Deng Xiaoping (Wu, 2005, p. 292).

After 1951, the exchange rate with the US dollar was adjusted in December 1952, January 1953, and January 1955 (Zhang, 2003, p. 55), but otherwise remained constant until a succession of appreciations against the dollar were employed during the 1970s (see Table 1.2). The Table 1.2 exchange rate values reflect the currency reform of February 1955, under which all past renminbi issues were called in and replaced with "new" renminbi at the rate of 1:10,000 (Jao, 1967–1968, p. 111). The 1952 and 1972 exchange rates of 2.26 and 2.25 RMB/$US are, in reality, almost unchanged from the last May 22, 1951, data point given in Table 1.1 – with 22,270 RMB/$US in the old currency being equivalent to 2.23 RMB/$US in new currency. International trade remained under monopoly control by the government from 1956 until 1978. Under the planned economy regime, the exchange rate was fixed at an artificially overvalued level to support the state's emphasis on import substitution, and stringent foreign exchange controls were maintained (Lardy, 1992, chapter 2; Zhang, 2003, pp. 46–48). Zhang (2001) estimates that, except for a brief period between 1971 and 1973, the renminbi essentially remained overvalued throughout the 1957–1977 period.

Gradual liberalization took place after 1978, accompanied by a series of devaluations in the official exchange rate that progressively moved the rate from 1.56 RMB/$US in 1979 to 5.76 RMB/$US in 1993.[3] Although the official exchange rate remained overvalued in the early post-1978 period, an internal settlement rate that applied only to trade transactions was established in January 1981 at a rate of 2.80 RMB/$US as compared to an official rate of just 1.53 RMB/$US at that time. The resultant dual exchange rate system ended on January 1, 1985, however, as the official exchange rate was itself devalued to 2.80 RMB/$US – leaving this more competitive rate to apply to all currency transactions (Lin and Schramm, 2004, pp. 82–84). Foreign trade authority had itself been decentralized as early as 1979 and more than 5,000 trading companies were in place by the end of the 1980s (Lardy, 1992, p. 39). A limited secondary market for foreign exchange was

[3] See also Lin and Schramm (2004, p. 80) for a compact summary of the main exchange rate system reforms over the 1979–2004 period.

Table 1.2. *Renminbi/US Dollar exchange rate, 1952–2007*

Year	RMB/$US	Year	RMB/$US
1952	2.26	1980	1.50
1953	2.62	1981	1.70
1954	2.62	1982	1.89
1955	2.47	1983	1.98
1956	2.46	1984	2.32
1957	2.46	1985	2.94
1958	2.46	1986	3.45
1959	2.46	1987	3.72
1960	2.46	1988	3.72
1961	2.46	1989	3.77
1962	2.46	1990	4.78
1963	2.46	1991	5.32
1964	2.46	1992	5.51
1965	2.46	1993	5.76
1966	2.46	1994	8.62
1967	2.46	1995	8.35
1968	2.46	1996	8.31
1969	2.46	1997	8.29
1970	2.46	1998	8.28
1971	2.46	1999	8.28
1972	2.25	2000	8.28
1973	1.99	2001	8.28
1974	1.96	2002	8.28
1975	1.86	2003	8.28
1976	1.94	2004	8.28
1977	1.86	2005	8.19
1978	1.68	2006	7.97
1979	1.56	2007	7.61

Note: Data are average values over the course of each year.
Sources: 1952–1956 data are from Lardy (1992, p. 148) and subsequent data are from the International Monetary Fund's *International Financial Statistics* database.

permitted in some localities in 1980, with more regularized foreign currency "swap" markets developing by 1985–1986. This practice was spearheaded by foreign-funded enterprises that, as part of the Chinese government's drive to attract more foreign investment, were allowed to swap foreign exchange among themselves in the coastal cities and the newly established Special Economic Zones like Shenzhen. Access to the swap market remained limited for domestic firms until April 1988, when quota controls on foreign exchange retention rights were abolished and domestic enterprises began to enjoy an essentially level playing field with foreign-funded enterprises (Lardy, 1992, p. 60; Lu and Zhang, 2000, p. 125).

Trading volumes in the swap market increased markedly after the 1988 abolition of quota controls and accelerated further with the December 1991 removal of all restrictions on domestic enterprises and residents' ability to sell foreign exchange into the swap market (World Bank, 1994, pp. 31–32; Lin and Schramm, 2004, pp. 84–87). Transaction volumes in the swap market rose from $US 4.2 billion in 1987 to $US 8.6 billion in 1989 and $US 25 billion in 1992 (World Bank, 1994, p. 32). By September 1988 the Shanghai swap market price was seen as reflecting actual supply and demand for the currency. A "marginal pricing auction" mechanism was employed, under which the price was adjusted in response to any excess demand or supply at the starting price – with a switch to a standard "Dutch auction" ensuing in August 1990 (Lu and Zhang, 2000, p. 125). Although swap market rates still varied significantly from city to city, considerable convergence with the black market rate appears to have been achieved by the end of the 1980s (see Lardy, 1992, pp. 57–66). Moreover, Lu and Zhang (2000) point to a causal relationship between the swap rate and the official exchange rate over the 1988–1992 period, implying that the swap market helped facilitate the adjustment of the official exchange rate in a direction consistent with market forces. A national swap center was established in Beijing in 1988 and by the end of 1993 there were as many as 119 swap centers nationwide, with every province possessing at least one (Zhang, 2006, p. 12).

The continued gap between the official exchange rate and the more-market-determined swap rate was closed on January 1, 1994, as part of a comprehensive reform of the official exchange rate system. At that time, the official exchange rate and the swap market rate were unified at a rate of 8.70 RMB/$US, which represented the prevailing secondary market rate at the end of 1993.[4] The change from the 1993 official exchange rate of 5.76 implied a devaluation of nearly 50%. However, Lardy (2005a, p. 43*n*) demonstrates that this greatly exaggerates the actual impact of the exchange rate revision. If 80% of all current account transactions were already based on the swap rate, the weighted average effect of the exchange rate change would amount to only 10% $((0\% \times 80\%) + (50\% \times 20\%))$.[5] The 1994

[4] There was still no unified swap market rate even in 1993, however, and the World Bank (1994, p. 42) noted a range from 8.0 RMB/$US to 8.5 RMB/$US in March 1993.

[5] This assumed weighting of 80% for the swap market rate and 20% for the official exchange rate reflects the fact that, under the pre-1994 regulations, exporters were required to provide 20% of their foreign exchange to the state at the official rate (World Bank, 1994,