

China's Economic Fluctuations

Implications for Its
Rural Economy



Albert Keidel

FINAL REPORT



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CARNEGIE ENDOWMENT

FOR INTERNATIONAL PEACE

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CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE

1779 Massachusetts Avenue, NW
Washington, DC 20036
Phone: 202-483-7600
Fax: 202-483-1840
www.CarnegieEndowment.org

ABOUT THE AUTHOR

We are deeply grateful to the Ford Foundation for its support of this work through a collaborative research project between the Carnegie Endowment and the National Development and Reform Commission of the People's Republic of China. The author would especially like to thank Dr. Jianxing Liu for his major contributions to the study's research. The author is also enormously grateful to the many officials and scholars in Changsha City, Xinhua County (Hunan), Zhengzhou City, Zhongmou County (Henan), and Beijing who gave so freely of their time and good advice to make this research possible. Finally many scholars and officials in the United States provided invaluable comments on and criticisms of earlier drafts of this work. The author is deeply indebted to them all.

Albert Keidel is a senior associate at the Carnegie Endowment, where his work concentrates on China's economic development. He previously served as acting director of the U.S. Treasury Department's Office of East Asian Nations and as senior economist in the World Bank's office in Beijing. More bibliographical information is at www.CarnegieEndowment.org/Keidel.

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Overview:

Domestic-Led Cycles Disadvantaged the Rural Economy

Since the start of China's reforms in 1978, its economy has progressed in cycles of first fast-growth and then slow-growth phases. From 2001 through this current writing in 2007, China has been in the fast phase of its fifth cycle, the longest of all the fast phases so far.

Despite these fluctuations, China's economic growth has averaged over 10 percent in real terms since 1990 and almost that fast for the whole period since 1978. On the negative side, however, an analysis of China's growth cycles reveals that each fast and slow phase since the middle 1980s has disadvantaged the rural economy. By 2006, the gap in per capita consumption between rural and urban areas had basically returned to its 1978 prereform level, after improving dramatically through the middle 1980s and after staging a modest recovery in the middle 1990s.

THE RURAL DISADVANTAGE AND DOMESTIC-LED GROWTH

Since the middle 1980s, each fast and slow phase of every cycle has seen China's urban households fare better than rural households. An analysis of the cycles shows that this reflects how stimulus policies for new fast cycles have focused first and foremost on urban sectors. It also reflects a major component of policies to cool off or slow the economy when it becomes overheated—to engineer lower food prices, usually by pressuring farmers to plant more land in low-profitability staple crops. The long-term effect of this policy combination, returning the urban-rural gap to its prereform level, is thus an unintended consequence of China's standard management of its macroeconomic cycles during the past twenty-five years.

An analysis of China's economic fluctuations since reforms began also provides a good review of the causes and mechanisms of the country's nearly thirty years of growth success. This report's phase-by-phase causal investigation indicates that China's growth stimulus has been overwhelmingly domestic in origin. Trade and foreign investment clearly became increasingly important as sources of foreign technology and management skill transfers; but unlike many other East Asian economies, China's own fast and slow cycles have not followed the fortunes of U.S. economic growth and recession—quite the opposite. Most recently, when the U.S. economy was in its late 1990s "dot-com" boom, China's gross

domestic product (GDP) expenditure data show that its overall growth suffered the severest slowdown since the political disruptions of 1989 (see figure 1). Conversely, as the United States went through a recession in 2001–2002, inducing weakened growth records in parts of Europe and East Asia, China's economy accelerated ahead of what had already been faster growth in 2001; and it has since continued to accelerate—in large measure because of its success in managing domestic macroeconomic demand and supply.



Figure 1 provides an initial comparison of Chinese growth independence from U.S. macroeconomic fluctuations, along with trends in selected other major U.S. trading partners. During the two most important downturns in U.S. growth, in 1991 and 2001–2002, China's economy surged. At the same time, selected countries in Europe (Netherlands and Germany) and East Asia (Japan, South Korea, and the Philippines) with close export links to the United States also slowed dramatically, often with a lag of one or two years.

In other words, China's growth success has not been linked to U.S. growth the way growth in a number of other countries appears to be. Instead, this report documents how Chinese growth has resulted from more balanced demand patterns, with a dominant domestic component. Even in most recent years, when China's global trade surplus in goods and services has surged remarkably, other domestic growth components

have surged even more, so that on balance the export stimulus component has remained complementary to the more fundamental underlying domestic demand strength.

This conclusion accords with a wide range of research dating back at least to the early 1960s on what is known in the economic literature as “export-led growth,” which is frequently juxtaposed with “import-substitution” policies. But the two are not mutually exclusive. The general conclusion of a broad survey of over 150 research reports on export-led growth indicates that even when there is an apparent correlation between export growth and domestic growth, the best causal analysis shows that successful exports frequently occur as part of a balanced set of government policies promoting the growth of output for both domestic and international demand—in other words, growth can lead exports, and the causality is frequently bidirectional.¹ In China’s case, one does not generally find even correlation between shifts in export or net-export growth and shifts in GDP growth. Of course, this is not to say that successful export growth is not a vital part of China’s development strategy. Exports are clearly one of many essential components in a development strategy driven mostly by domestic demand.

These analyses and conclusions should be useful for the governments of various countries as they develop their commercial strategies for China and prepare to negotiate with it. China is more in a position of strength than assumptions of export-led growth and commercial dependence might indicate.

POLICY IMPLICATIONS:

MACROECONOMIC MANAGEMENT AND GRAIN SECURITY

For Chinese policy purposes, the conclusions from this report’s close look at past economic cycles can complement existing analyses of how China can better balance its growth between domestic and foreign demand and, possibly, between consumption and investment. Undoubtedly, the best way for China to increase domestic consumption is for its overall economic growth to continue at as fast a pace as possible. But if instability is a concern—in particular, instability from fluctuations in grain output and pricing—then reduced reliance on administrative grain-planting pressures to control food prices, complemented by significant increases in fine grain imports, is a recommendation that flows naturally from the conclusions of this report’s analysis.

The fieldwork conducted as part of the preparation for this report provided dramatic illustrations of the direction of China's rural economic evolution and its future role in the overall national economy. Researchers visited two agricultural counties. One is a poor, isolated county in central South China's Hunan Province that is heavily dedicated to grain production. The other is a rich, suburban farm county in North China's Henan Province. The hallmark of economic development in the isolated Hunan Province county was the out-migration of labor to work in other more developed locations. As much as 40 percent of the county's rural labor force was working outside the county. The hallmark of the rich suburban county's economic evolution was its farms' diversification away from grain in the direction of cash crops, including significant crop production for lucrative export markets. Commercial crops were used as feedstock for privately owned local food-processing operations in the county, while other crops, such as garlic, were grown on a large scale for sale in South Korea and other foreign markets.

In both cases, similar policy underpinnings make the different paths successful. These underpinnings are investments in transportation and communications and investments in education. In both counties, the levels of literacy made flexibility in employment easier to achieve. In both cases, transport improvements made marketing products easier—although in the isolated Hunan County less so. But transportation also made it easier for back-and-forth trips to distant job markets. Education and communications investments in both counties clearly increased the productive use of the Internet and other media, especially to enable local processing firms to make marketing and client contacts.

This report's analysis shows that the unmistakable natural trend on the part of farmers following market signals is to reduce land planted with grain and to diversify into crops and other products that provide much higher net returns per parcel of land cultivated. Land—not labor—is still clearly the constraining factor in farm production. However, this natural trend, repeatedly and in concert with China's overall macroeconomic cycles, has been associated with grain inventory shortages, rising grain prices, general price inflation concerns, and, ultimately, the imposition of administrative measures to induce farmers to increase the land planted with grain. A relevant dimension of this grain cycle phenomenon is the role of farmers' marketable surplus as the determining element in patterns of surplus or shortage and the consequent effects on national food prices and resulting macroeconomic policy shifts.

Ultimately, however, the overwhelming constraint on China's grain supply and demand is not limitations of land and per-hectare profitability of planting it with grain but rather China's relatively strict controls over importing foreign grain for human consumption. China's long-standing "grain security" policy of limiting grain imports, especially imports of fine grains like rice and wheat, to roughly 5 percent of total national consumption compels policy makers to return again and again to the traditional macroeconomic remedy for overheating: administrative pressures on farmers to plant unprofitable grain.

There seem to be two dimensions, however, to China's grain security policy. The first is a national security concern; to wit, that China could leave itself vulnerable to a foreign cut-off of grain supplies in the case of some international crisis in which the United States and its allies felt the need to pressure China. Measures for addressing this concern are beyond the scope of this report, but it is worth noting that even if China on a net basis does not import very much fine grain, it traditionally imports a great deal of fertilizer or petroleum-based fertilizer feedstock on which grain production depends. Hence the issue of international vulnerability already exists.

The second dimension is less clear-cut but is worth mentioning. Chinese policy makers regularly have told the author that China is just too big to rely on the rest of the world to feed it. This assertion is strongly felt but is not well supported with analysis. This concern retains the flavor of Chinese policy making in an earlier era, when foreign exchange was difficult to come by and was seen as best allocated to imports of technology and scarce imports—not consumer goods, and especially not products that could be produced by China's rural population by simply pressuring them to do so. In this sense, the strategy seems to be a holdover from an earlier era when development was focused almost exclusively on modern urban investments. In a new era, when China has opened to the outside world and when fine grain imports help rather than harm rural families, this general policy posture seems overdue for reconsideration.

HISTORICAL LESSONS ON THE RISKS OF INFLATIONARY CRISIS

As China's longest-running high-growth period continued through 2007, warning signs of possible inflationary overheating became apparent. This report's analysis of past inflationary cycles argues that major macroeconomic management steps need to be taken in 2007–2008 to avoid the repetition of not only inflation but also of subsequently necessary macroeconomic tightening measures and the risk of social dissatisfaction

and even unrest that have characterized similar sequences in the past.

By the time of this writing in the autumn of 2007, China's consumer price index (CPI) had risen above 6 percent for several months, driven by food price increases. Pork prices in particular had risen very rapidly—as much as 90 percent over 2006 levels. At the same time, an official delay in raising retail diesel and gasoline prices caused transport fuel shortages and trucker protests, until the government finally relented and raised prices 10 percent.

Because initial price increases at that time were so closely tied to food prices and a few other commodities, like steel, a full-blown inflationary crisis like those in 1988 and 1993–1994 was not necessarily inevitable. But the risk was high. This was especially so given that bank deposit rates by late 2007 were significantly lower than CPI inflation and bank lending interest rates were very close to inflation rates. In both cases, whether for depositors or borrowers, interest rates at or below the inflation rate provided powerful incentives for bank withdrawals and accelerated spending—either on consumption goods and durables or on new investments in plant and equipment. This state of affairs mimicked conditions in 1987–1988 and 1992–1993 just before earlier inflationary crises. These earlier inflationary sequences and their links to the gap between inflation and bank interest rates are described in detail in chapter 2.

In conclusion, regardless of the way events subsequently unfolded in 2007–2008 and beyond, events in 2007 illustrate how the research and analysis in the remainder of this report can form the basis for policy considerations—both directly for Chinese policy makers and indirectly for U.S. and other international policy makers seeking to calibrate their own decisions to the likelihood of alternative developments in the People's Republic.

CAUSAL ANALYSIS AND FOUR BASIC QUESTIONS

This report, hence, is less about policy conclusions and policy recommendations than it is an investigation into the causal relations behind China's cyclical economic history since 1978 and the implications of this causal record for its rural economy. The report has four chapters.

Chapter 1 introduces China's basic economic cyclical experience. No one way of slicing up the years since 1978 is perfect, but many indica-

tors—GDP growth, inflation, investment surges, and certain monetary policies—make it relatively easy to divide the years since reforms began into nine fast and slow phases. This chapter establishes these phases in a graphical set of panels used in all the analytical graphical figures throughout the rest of the report. This mechanism makes it easy to compare a wide range of other trends and fluctuations with the basic underlying pattern of fast and slow cyclical subphases.

Chapter 2 introduces the report’s basic methodology, which focuses on clarifying causation in explaining the origins of China’s economic cycles. The report eschews large statistical models as an approach to investigating causality and instead returns to the most basic approach to such questions. The report’s methodology acknowledges explicitly in its approach that no hypothesis or theory can ever be proven once and for all but rather can at best succeed in not being disproved. As a result, for each phase of each cycle, the methodology presents a schema of possible explanations and then looks for statistical indicators that either disprove the proposition or fail to disprove it. Those propositions that survive are listed as the likely causes of that particular phase’s fluctuations.

This methodology is both described in chapter 2 and then applied as an example to the causes of the strong fluctuations in cash in circulation (that is, M_0) which, because of their inflationary impact, so badly disrupted the Chinese economy in the 1986–1995 decade. Though the treatment of this example may at times become tedious, the overall effect is to clarify the methodological approach so that it can be used for chapter 3’s more general investigations of each macroeconomic cycle.

Chapter 3 systematically presents each of the nine subphases of China’s post-1978 cycles and determines what most likely caused them. This approach grew out of comments and suggestions from Chinese scholars at two workshops held in 2006 in Beijing to look at the initial research for this project. The strong suggestion was to treat each cyclical subphase differently because, on close examination, each was unique. Furthermore, when looking at such short time periods, many of which lacked comprehensive quarterly and monthly statistics, the very small number of data points and the importance of nonquantifiable policy interventions all prompted recommendations for a more qualitative and less econometric focus for the work. The overall conclusion, however, of these separate investigations is that China’s various cycles all reflected the overwhelming importance of domestic rather than international factors.

Finally, **chapter 4** applies the conclusions from chapter 3's causal analysis to the four main questions addressed by this report as research hypotheses. It also presents background analyses of the two main components of cyclical fluctuation in the rural economy: China's grain production, and the history of rural manufacturing and service enterprises that expanded so rapidly in the first decade of reforms.

To briefly summarize the answers to the four main research questions: **In terms of basic hypotheses**, first and most centrally, did China's rural economy show a degree of macroeconomic independence that might give it a separate role in influencing national macroeconomic patterns? The conclusion is that, except for the middle and late 1990s, it did not. In most cases, the rural economy responded relatively passively to cyclical forces emanating from national policy makers. In the period 1996–1999, however, the rural economy showed such a significant degree of independent activity that the report concludes it did indeed have a life of its own. In 1994–1996, after the central government had harshly contracted credit and implemented other cooling-off policies, the rural economy, by various measures, took off on a three-year boom that included both agriculture and nonfarm enterprise activities.

The rural economy's independent growth surge was finally brought to a halt by, among other factors, a strongly renewed effort to pressure farmers to switch land into grain planting from nongrain products. In each of the three years that followed—1997, 1998, and 1999—household consumption in rural areas declined in absolute terms nationwide. Only when grain planting was relaxed again in 2000 did signs of rural consumption increases resume. The 1997–1999 rural slump persisted despite the government's energetic efforts to introduce economic stimulus policies. This extended slump in the face of national stimulus efforts is another indication of the potential for independent economic fluctuations in rural areas.

The second research hypothesis asked if the rural economy experienced a more volatile set of fluctuations than the urban economy throughout all the post-1978 cycles. Here again, the general answer is no. One exception is output prices and rural-urban terms of trade. In virtually all cycles, the agricultural output price fluctuations were stronger in both rising and falling directions than were prices for industrial products, the large majority of which are produced in urban areas. The most enduring generalization from other nonprice indicators, however, is that in expanding cyclical phases, urban areas experienced more volatility than rural ar-

eas—that is, had faster output, income, and investment increases—while in the slower phases rural areas had the more volatile experience, with slower output, consumption, and investment growth. Thus the conclusion is not that rural areas suffered more volatility across the board but that rural areas came off less well during both phases of each cycle (at least after 1984), resulting in the long-term deterioration in rural-urban consumption patterns already mentioned.

The third research question is: Did national patterns of macroeconomic fluctuation transmit their influence to the rural areas? The answer here is clearly yes. Chapter 4, drawing on the analysis in chapter 3, easily concludes that national policies and cyclical influences had a dominant effect in rural areas, with the exceptions already noted for 1996–1999.

The fourth research question is: Were the rural economy's own independent fluctuations strong enough to influence national macroeconomic trends and hence, by extension, national economic stability? The conclusion again is yes, but only in those same years, 1996–1999, first in a positive sense and then in a negative sense. The evidence on rural purchases of urban-produced consumer durables and on rural housing completions for these years adds concrete links to the more general evidence from chapter 3. If Chinese policy makers want a comprehensive explanation of how macroeconomic fluctuations threaten national economic stability, they must consider the rural economy's influence, especially the influence of rural household demand and investment activity.

Overall, the report's analysis points unambiguously to a greater need to consider the rural implications of standard macroeconomic policy making—not just because worsening rural welfare affects poverty levels and the risk of rural social unrest, but also because the rural economy has the potential to emerge as a vast pool supporting macroeconomic stability and sustained growth based on high levels of both domestic consumption and investment.

Chapter 1

An Introduction to China's Macroeconomic Cycles

Since market reforms began in 1978, China's economy has shown cyclical fluctuations. These cycles of change appear in obvious statistical patterns—faster growth and then slower growth, higher price inflation and then lower inflation, stronger investment flows and then weaker investment—and all are accompanied by other cyclical fluctuations in a range of variables and policy initiatives. Most of these fluctuations tend to move together. Their beauty is that they allow analysis of which fluctuations influence others and, by extension, which policies might make a difference in managing China's economy. In this regard, the cyclical interaction between China's formal urban economy and its rural economy is particularly relevant for the issues facing Chinese policy makers today.

This chapter introduces the clearest cycles revealed by China's economic data from 1978 to 2006. Subsequent chapters present overall explanations of what caused these cycles, as well as how national economic influences have affected China's rural economy and, conversely, how rural shifts can affect national trends.

PRINCIPAL MACROECONOMIC CYCLES, 1978–2006

Although cyclical boundaries at the very beginning and very end of the period 1978–2006 slip outside the period, several consistent statistical series reveal five cycles of fast and slow fluctuations during these years. The fast-growth and slow-growth periods in these five cycles are listed here, with short descriptive names. This report identifies reform-era cycles in this way:

-
- 1. Fast growth:** 1978–1979, post-Mao spending and rural price reform inflation
Slow growth: 1980–1982, budget deficit and balance of payments correction
 - 2. Fast growth:** 1983–1985, rural reform boom (through the summer of 1985)
Slow growth: 1985–1987, industrial overheating correction (through the winter of 1987)
 - 3. Fast growth:** 1987–1988, bank-panic inflation (through the summer of 1988)
Slow growth: 1989–1990, price stabilization program (to the late winter of 1990–1991)
 - 4. Fast growth:** 1991–1996, urban price reform and rural enterprise boom
Slow growth: 1997–2000, rural household consumption slump
 - 5. Fast growth:** 2001–????, SARS investment boom (still continuing as of 2007)
-

All the statistics and graphical figures in this report use these nine periods as references and temporal benchmarks. These periods turn out to be useful for both the urban and rural dimensions of most cycles. Some statistical patterns do not fit these periods perfectly—for example, inflation shows up and disappears a little later than the changes in growth. Similarly, the rural boom of the middle 1990s extends beyond the urban boom of the same period. Nevertheless, breaking the 1978–2006 span into these periods clarifies the analysis of causal relationships affecting these cycles—both rural and urban.

GDP CYCLES, 1978–2006

The fundamental cyclical measure is GDP, which is the most widely accepted measure of an economy's total production success. Faster and slower periods of GDP growth imply a range of other variations, such as faster and slower new job creation, faster and slower improvements in living standards, and faster and slower improvements in a country's overall national power.

For China, variations in GDP growth closely follow the five cyclical periods described above. Their clearest illustration is in figure 1.1, which shows GDP growth variations by the two most widely used international methods for measuring GDP—the expenditure method and the production method. Production method data—based on output in agriculture, industry, construction, and services—are China's official GDP growth rates, which were most recently revised for 2005 and for earlier years to reflect the results of China's 2004 economic census.

Expenditure method data follow the international standard for measuring GDP growth, based on GDP's final use for household consumption, government consumption, investment, inventory change, and net exports. China's statistical bureau publishes expenditure data in nominal form—that is, including the effects of inflation—and the data here use China's standard inflation measures to convert nominal data to constant-price growth rates.² These data also reflect revisions published in 2006, based on the 2004 economic census.

INVESTMENT CYCLES, 1978–2006

In any macroeconomic cycle, investment flows are traditionally the most volatile, and China is no exception. China's recently revised GDP expenditure statistics, based on the 2004 eco-

nomics census, confirm that downturns in investment growth correspond with the cycles identified above based on GDP growth. For years with available data, figure 1.2 shows that investment growth rates, corrected for inflation, can drop close to 10 percent or below in a slow-growth period or can soar to highs above 20 percent during boom periods.

It is also clear that the share of fixed-capital investment in GDP gradually increased from below 30 percent in the early 1980s to over 40 percent by 2006. The trend line in figure 1.2 illustrates the twenty-five-year average path of China's investment rate. The “% GDP share” line shows that the actual share has oscillated above and below this trend line in sync with China's economic cycles—in rapid-growth periods, the investment rate is higher than the trend, especially for 2003–2006; and in slow-growth periods, the investment rate is below the trend, especially in 1989–1991. This variation from the trend is repeated in figure 1.2 around zero by the “share variation” line.

These cyclical patterns in China's investment play a crucial role in the transmission of cyclical effects to different economic sectors, and this report shows how they are sometimes different in rural and urban areas.

INFLATION CYCLES, 1978–2006

In policy makers' priorities, inflation ranks just as high as, if not higher than, GDP growth and investment trends when considering economic fluctuations. Of particular importance, China's inflation rate record correlates closely with other major cyclical indicators and strengthens the conviction that cyclical patterns offer a useful vehicle for exploring national and rural trends in the country's reform period.

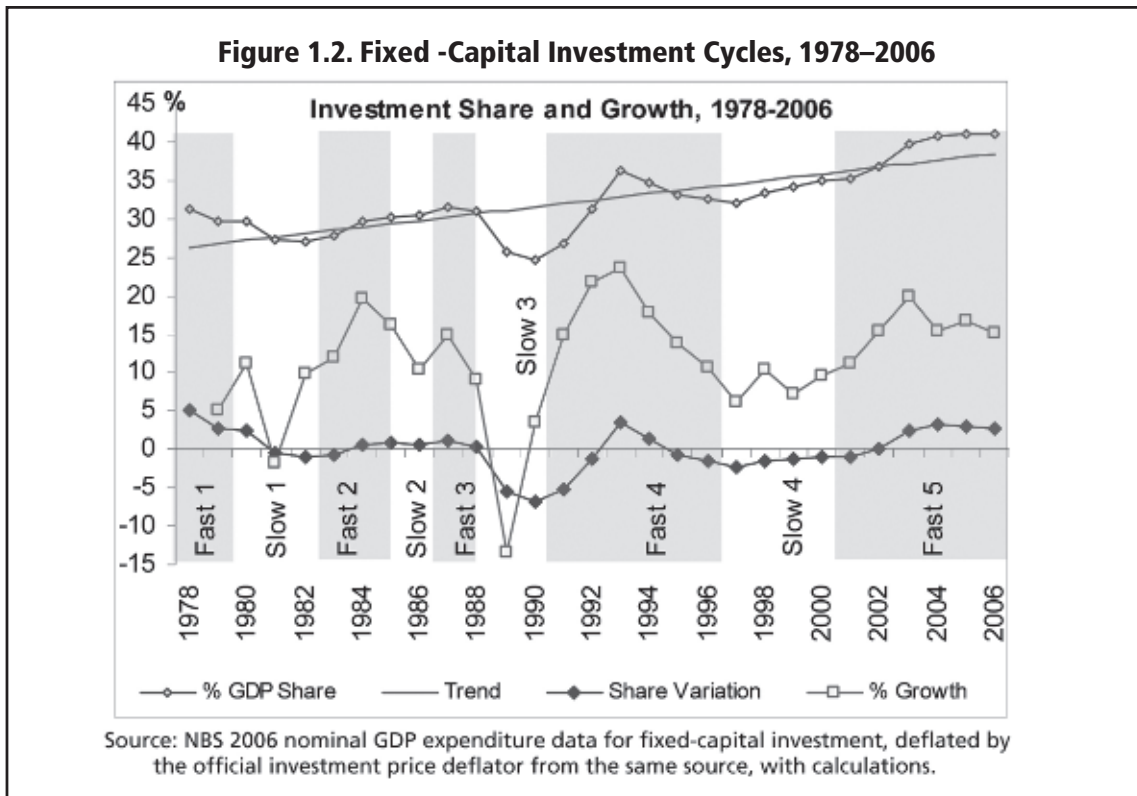
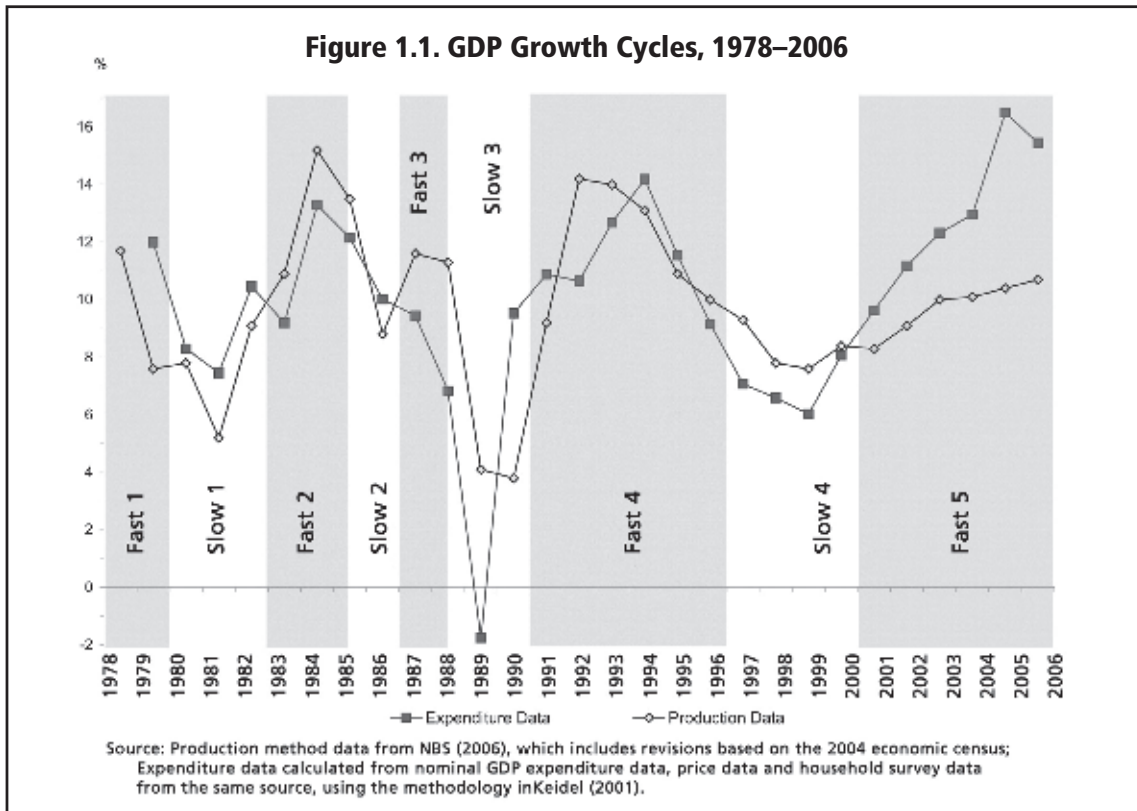


Figure 1.3 shows that peaks in inflation—in 1980, 1985, 1988–1989, and 1994—have tended to come late in the fast parts of their cycles. In all but the earliest of these peak periods, inflation climbed over 10 percent; and for the earliest peak, in 1980, the 7.5 percent level of consumer price inflation—relatively low by later standards—was alarming to the policy makers of the time.

Finally, each of the four peaks was higher than the previous one, and by this standard of comparison, the inflation uptick in 2004 does not appear as serious. The subsequent decline in the 2005 inflation record has several interpretations. The authorities may have found timelier ways to reverse an acceleration of inflationary pressures, or the inflationary part of the most recent growth upswing had not yet appeared by 2006. It also may be that subsequent statistical revisions will show inflation to have been higher than currently reported. The inflationary pattern that emerged in 2007 (see the discussion above) intimates that higher inflation will be difficult to control in the later years of this latest fast phase as well. In any event, by all three measures—GDP growth, investment levels, and inflation—China’s fifth fast-growth period since 1978 had not completely run its full course even by 2007.

In sum, all three of the most common measures of economic cyclical or “business cycle” behavior accord with the cyclical pattern outlined at the start of this chapter.

MONEY SUPPLY CYCLES, 1978–2006

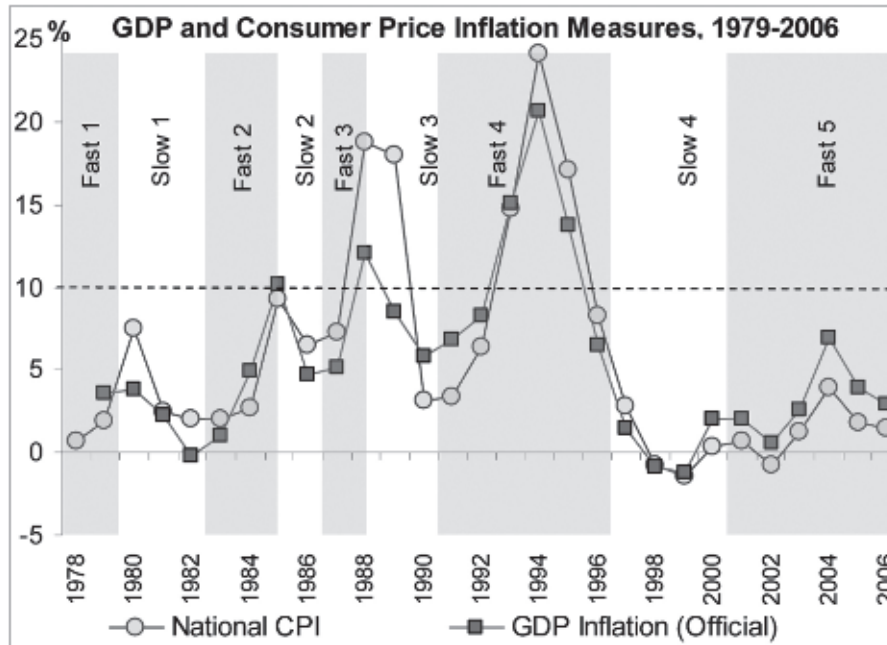
With inflation showing such cyclical variation, it is not surprising to find that money supply patterns also show similar ups and downs. Figure 1.4 presents the strong growth gyrations of cash in circulation (M_0), relative to the growth

of overall money (M_2), for most of the reform period.

It is clear that household and business shifts of funds out of deposits, resulting in large volumes of cash in circulation, peak at different parts of the cycle. In 1985 and 1988, cash in circulation peaked at the end of the fast phase of each cycle. The sharp decline in circulating cash that follows each of these peaks appears to usher in a slow-growth period.

This relationship loses its clarity, however, beginning in the middle 1990s. The peak in the early 1990s corresponds well, we will see, with the intensity peak in urban economic activity at that time. But the much smaller peak in 1999–2000, at the end of the fourth slow-growth period, is curiously out of step. It corresponds with a drop in nominal deposit rates, in June 1999, which is the Central Bank’s explanation for the temporary surge in M_0 , but the surge did not last more than six quarters. Nevertheless, despite the inconclusive pattern for the most recent cycle, the correspondence between money supply shifts and fluctuations in overall GDP growth, inflation, and investment levels is strong for most of the reform period.

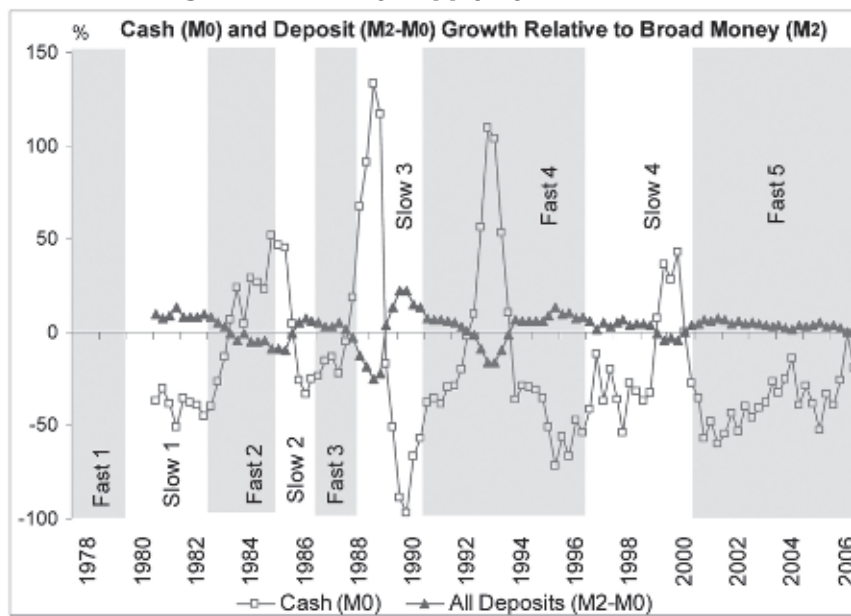
Figure 1.3. Inflation Cycles, 1978–2006



Source: NBS 2006, with calculations.

Note: China's GDP inflation rate is not officially published and must be calculated from official statistics on real and nominal GDP growth trends.

Figure 1.4. Money Supply Cycles, 1980–2006



Source: Monthly money supply statistics, People's Bank of China.

Note: These variables are the ratios of growth rates for M_0 and the sum of M_1 and M_2 , divided by the growth rate of M_2 ; this shows shifts in the cash structure of China's money supply.

CONCLUSION

This brief examination of China's economic cycles since reforms began in 1978 establishes that its economy has until recently been dominated by these cycles and that they appear to have resulted largely from domestic policy actions and reactions. What remains to be seen is whether these cycles have affected rural areas differently than urban areas and how these effects have been transmitted. There is also the possibility that rural economic cycles influence national cycles, in part because rural economies appear to have had some degree of internal dynamism that gives them a more important role than as mere passive recipients of national fluctuations.

Chapter 2

An Introduction to Causality

Determining and explaining the causes of China's economic fluctuations and their interconnections are daunting tasks. This is especially so when the goal is to present causal relationships in transparent, nontechnical ways useful for government policy makers. The use of mathematical symbols and logical jargon, rather than enhancing a presentation, can make it difficult to follow the argument and can frustrate nontechnical, action-oriented readers.

Fortunately, equations and jargon are not necessary to answer the questions asked in this report. At the same time, the conclusions reached cannot be definitive—as, indeed, no causal conclusion of any kind can ever be. We can at best conclude that our findings are the most likely explanations discernible so far for what has happened.

APPROACHING QUESTIONS OF CAUSALITY

This report's approach to issues of cause and effect returns to the philosophical foundations of causal investigations. Even Aristotle has a contribution to make here, although according to modern scholars³, modern causal analysis is based on the work of the philosophers David Hume (1711–1776)⁴ and John Stuart Mill (1806–1873).⁵ Specifically, we are interested in the causality of particular events, rather than in verifying a theory or theories explaining a whole collection of events—though investigating causality for specific aspects of China's economic fluctuations can assist in the latter, broader endeavor.

Taking from this tradition, we approach causality by asking questions. Is the timing of a suggested cause appropriate? Is there a logical connection, using well-observed economic or other relationships, that is plausible? Do observed trends accord with the expected components of the suggested logical connection? Have we successfully ruled out other possible and potentially plausible explanations? These are the basic questions used in the investigation.

Of course it is impossible to be sure that we have considered all potentially relevant alternative explanations. Hence the work leaves itself open to later research finding new and more persuasive explanations. But this is always the case. The report acknowledges that one can never really prove any causal relationship for sure. One can only say that the evidence so far has failed to disqualify the causal explanation and indicates that, most likely, it is correct.

This approach is all the more necessary because this report treats each of China's cycles individually. The research does not assume that the same causal forces are at work in each case. Indeed, an investigation of statistical trends, different policy settings, and different market conditions for each cycle, together with fieldwork exploring policy makers' evaluation of each cycle, indicate that one pattern of explanations would be unlikely to fit all the cycles.

Finally, the report is mainly interested in the degree to which fluctuations at the national level (mostly the urban formal sector) affect fluctuations in the rural economy; in whether rural fluctuations affect national fluctuations; and, in a related vein, in whether the rural economy has been an independent source of

fluctuations. Given the large number of fluctuations and interactions in China since 1978, the report examines in detail only some of what appear to be the most useful examples for approaching these questions.

A SUMMARY OF THE REPORT'S FRAMEWORK FOR CAUSAL ANALYSIS

For each causal analysis of a particular phenomenon, this report uses a two-tiered framework. The first tier lists the major possible explanations for the cyclical phenomenon in question—such as a drop in rural household income or a surge in rural enterprise investment and output. The second tier then checks each possible explanation against the facts in two ways—by looking for both supporting trends and contradictory trends. A schematic table, like causal schema 2.1, usefully summarizes the process of verifying and rejecting proposed explanations.

This first tier in the analysis (numbered “1, 2, 3, . . .” in causal schema 2.1) chooses possible causal explanations by drawing on economic theory, macroeconomic experience in other countries, existing analyses of the Chinese cycle under investigation, and interviews with Chinese officials and other experts familiar with the cycle. It results in a list of possible causal explanations—a list of possible hypotheses or causal mechanisms. This first tier, then, is the report's best effort to ensure that there are no “missing variables” or other major explanatory components left out of consideration. It is also an opportunity for a critique of the report's analysis, because it invites suggestions from reviewers for explanations not considered by the report.

The second-tier tests (listed as “A, B, C, . . .” in causal schema 2.1) take each proposed caus-

al explanation and check to see if statistical trends and other evidence either support or disprove it. Again, referring to logical theory and historical experience, certain explanations can be expected to be accompanied by particular trends or phenomena, whereas others would be ruled out. Second-tier tests are of two basic kinds. The first would ask if some expected relationship that should hold true does hold true. The second would ask if some relationship that should fail does fail.

EXAMPLE: EXPLAIN CASH VOLATILITY IN CHINA'S MONEY SUPPLY, 1986–1996

As an example, consider a pattern familiar to many analysts of China's economy: the cyclical fluctuations in the cash portion of China's money supply. We have seen in figure 1.4 that cash grew faster than overall money supply in the “fast” parts of most cycles but then lagged money growth in the “slow” periods. Why did this happen? What caused these surges and slumps in the growth of the money supply's cash (M_0) component? We can explore this question by using this chapter's framework for verifying or rejecting explanations. In particular, this example looks at the two cycles in the years 1986 through 1996. Fluctuations in the money supply for this period appear in figure 2.1, which shows selected years from figure 1.4.

The fluctuations in figure 2.1 are dramatic. They indicate that, at some points in time, bank deposits grew more slowly than cash, implying that depositors were taking some of their deposits and converting them to cash. Here, we explore several possible explanations that come to us from China's experience during this period and from economic theory:

Causal Schema 2.1. Sample Schematic Table—Explaining Phenomenon “P”

Overall conclusion: Hypotheses “1” and “2” succeed in explaining phenomenon “P”

Is the hypothesis verified? Are its needed supporting facts and data valid?*	Valid?	Verified?
1. Does hypothesis “1” explain phenomenon “P”?		Yes
A. Data or information “a” testing explanation “1”	Yes	Yes
B. Data or information “b” testing explanation “1”	Yes	Yes
C. Data or information “c” testing explanation “1”	No	Yes
... etc.		
2. Does hypothesis “2” explain phenomenon “P”?		Yes
A. Data or information “d” testing explanation “2”	No	Yes
B. Data or information “e” testing explanation “2”	Yes	Yes
C. Data or information “f” testing explanation “2”	Yes	Yes
... etc.		
3. Does hypothesis “3” explain phenomenon “P”?		No
A. Data or information “g” testing explanation “3”	No	No
B. Data or information “h” testing explanation “3”	No	No
C. Data or information “i” testing explanation “3”	Yes	No
... etc.		
4. Explanation “4” of phenomenon “P”		No
A. Data or information “k” testing explanation “4”	Yes	No
... etc.		

* A supporting fact could be true and still fail to verify the hypothesis; similarly, unsuccessful validation of a relevant fact could support the hypothesis; it all depends on the logic of the known relationship(s). Sources and explanation: See the text.

1. *Changes in the Central Bank’s schedule of nominal interest rates on deposits:* Major changes in official deposit interest rates before the shift in cash growth might verify this explanation, if these shifts had major influence on real deposit rates.

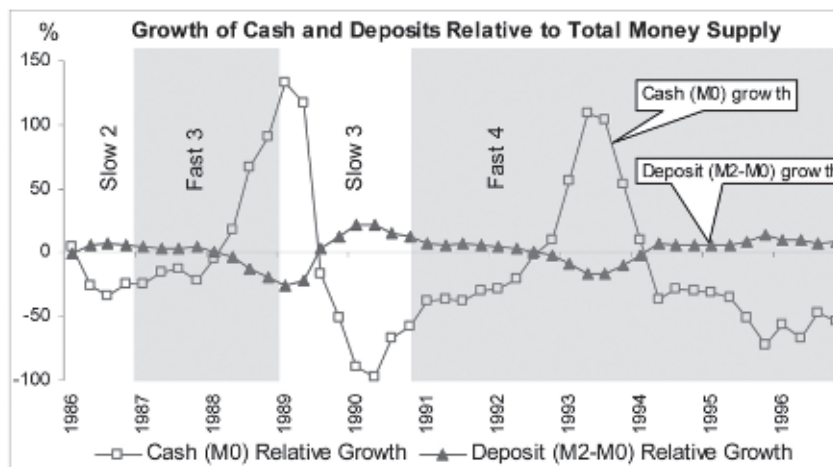
2. *Changes in real deposit rates because of economy-wide price inflation:* Surges or drops in inflation rates, without major adjustments in nominal deposit rates, would change real (inflation-corrected) deposit rates. Economic theory says that real rates influence depositors when deciding whether to take cash out

of bank deposits or put cash in. Such inflation shifts, and related shifts in real deposit rates, before major changes in cash growth would verify this explanation.

3. *Central Bank “value guarantee” subsidies for deposits linking interest rates to inflation:* A sudden change in real interest rates caused by this policy, before a dramatic shift in cash growth, would verify this explanation.

Figure 2.1. Money Supply Cash and Deposit Fluctuations, 1986–1996

When cash (M_0) grows faster than total money, deposits ($M_2 - M_0$) grow more slowly, and vice versa.



Sources: People's Bank of China, *China Financial Yearbook*, various years.

Note: "Growth of cash and deposits relative to total money supply" here is defined as $100 \cdot (g_{M_0}/g_{M_2} - 1)$ for cash and $100 \cdot (g_{[M_2 - M_0]}/g_{M_2} - 1)$, where g_{M_0} , $g_{[M_2 - M_0]}$ and g_{M_2} are the year-on-year quarterly growth rates of cash (M_0), all deposits ($M_2 - M_0$) and total money supply (M_2), respectively; this indicates whether the growth of cash or growth of deposits leads (positive) or lags (negative) the growth of the whole money supply, and by how much.

4. *Fluctuations in the balance of payments flows, for whatever reason:* Large inflows of foreign exchange, converted to domestic currency by the Central Bank, or, conversely, large outflows of foreign exchange before cash growth increases or declines, might verify this explanation.

5. *Open market operations by the Central Bank injecting or withdrawing cash from the economy:* Large-scale open market operations of the appropriate variety, and their multiplier effects, just at the time of major shifts in cash growth might verify this explanation.

6. *Large government budget surpluses or deficits:* Larger surpluses or smaller deficits, allowing slower growth or the retirement of government debt (mostly held by state banks), could slow cash (M_0) growth; conversely, larger

deficits or smaller surpluses, by putting more cash (M_0) into the economy, might accelerate cash growth. Let us consider each of these, one by one.

CHANGES IN NOMINAL DEPOSIT RATES

The investigation here examines whether significant shifts in the official interest rate correlate with either rapid or lagging money growth. Figure 2.2 presents both money growth from figure 2.1 and nominal deposit rates. It is immediately clear that, during this period, deposit rates did not change very much. Deposit rates were not market determined in China at this time. Instead, the Central Bank implemented decisions by the Cabinet (that is, the State Council) about adjustments to interest rates.

We need to consider separately (1) the surges in cash growth and (2) the sudden drops in cash

growth. (1) For the period shown in figure 2.2, nominal rates did not change at all in the years leading up to and during most of the surges in cash growth. Something else must have caused the cash surges. (2) For the sharp drops in cash growth, there is some correlation with a slight rise in deposit rates, as if the higher rates might be absorbing cash back into bank deposits. But could such moderate adjustments be responsible for cash growth slowing so dramatically? Economic theory tells us that it might have this effect if shifts in nominal deposit rates had a major impact on real deposit rates, that is, deposit rates corrected for inflation. If so, then nominal rates might be important. If not, then they cannot provide a good explanation for drops in cash growth.

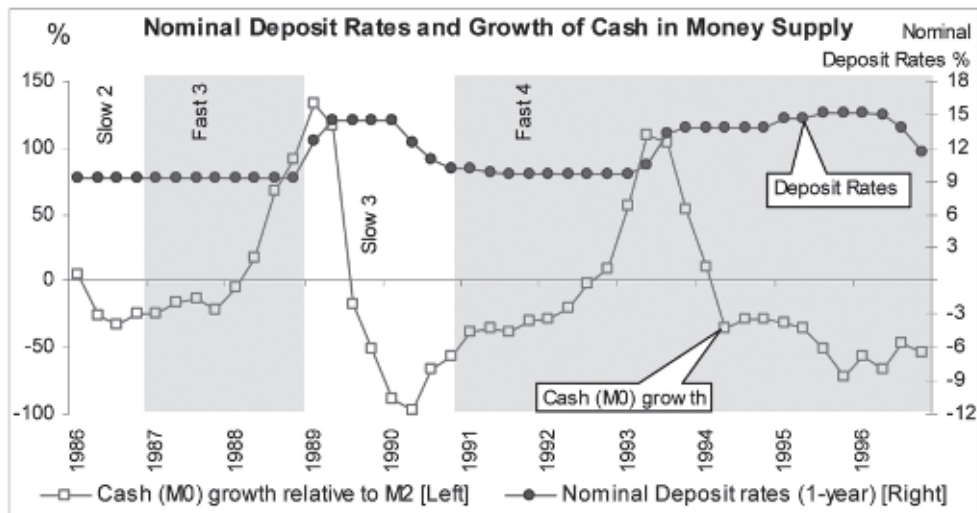
REAL DEPOSIT RATES AFFECTED BY PRICE INFLATION PATTERNS

Evidence on the relative importance of CPI inflation and nominal deposit rates appears in figure 2.3. It turns out that changes in nominal deposit rates, discussed above, are slight compared with the variation in CPI inflation. When considering the possible affect on real deposit rates, the modest adjustments in nominal deposit rates in the first half of 1989 and in the first half of 1993 are much less significant than gyrations in the CPI.

If we combine inflation with nominal deposit rates, however, we can derive the real deposit rate. It is clear from figure 2.4 that variations in the real deposit rate are much stronger than for the nominal rate. Indeed, the real rate of return on bank deposits is negative beginning in late 1987 and until late 1989. Real deposit

Figure 2.2. Cash Growth and Nominal Deposit Rates, 1986–1996

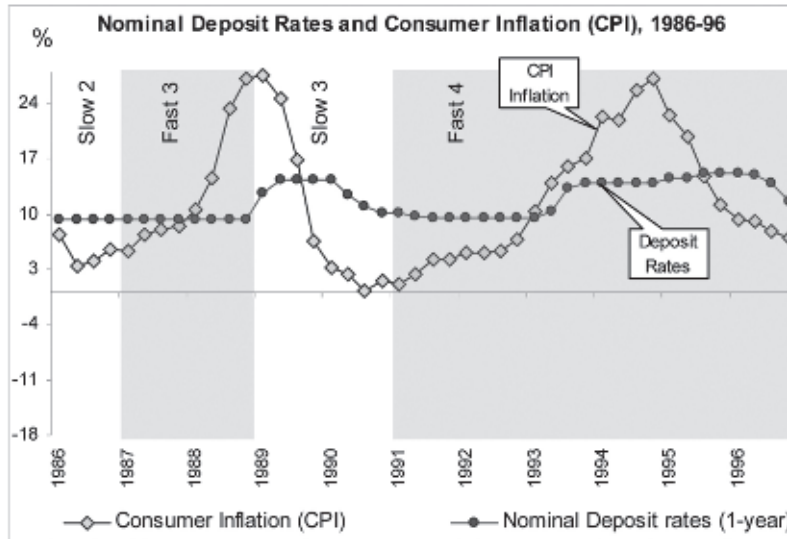
For increases in cash growth (1988 and 1992–1993), there is no explanatory decline in nominal deposit rates; . . . as for periods of sudden slowing in cash growth (1989 and 1993–1994), they correlate with rises in nominal rates, but the weakness of the rate increases raises questions of their significance.



Sources: People's Bank of China, *China Financial Yearbook*, various years.
 Note: For an explanation of "cash (M₀) growth relative to M₂," see figure 2.1.

Figure 2.3. CPI Inflation and Nominal Deposit Rates, 1986–1996

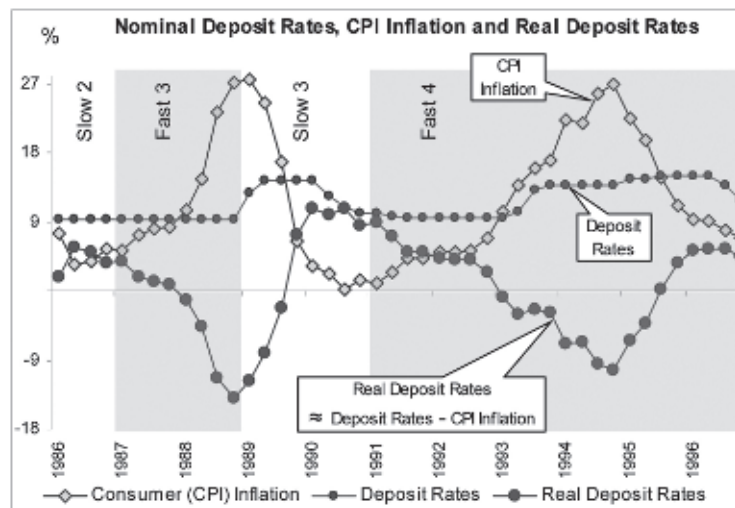
Consumer price index (CPI) inflation is clearly more volatile than nominal deposit rates. Hence, it is unlikely that changes in deposit rates affect real deposit rates in a significant way.



Source: MSB various issues; figure 2.2.

Figure 2.4. Deriving Real Deposit Rates, 1986–1996

Real deposit rates swing wildly during these years. These are much more likely to affect decisions about holding cash (M0) or depositing it in the bank.

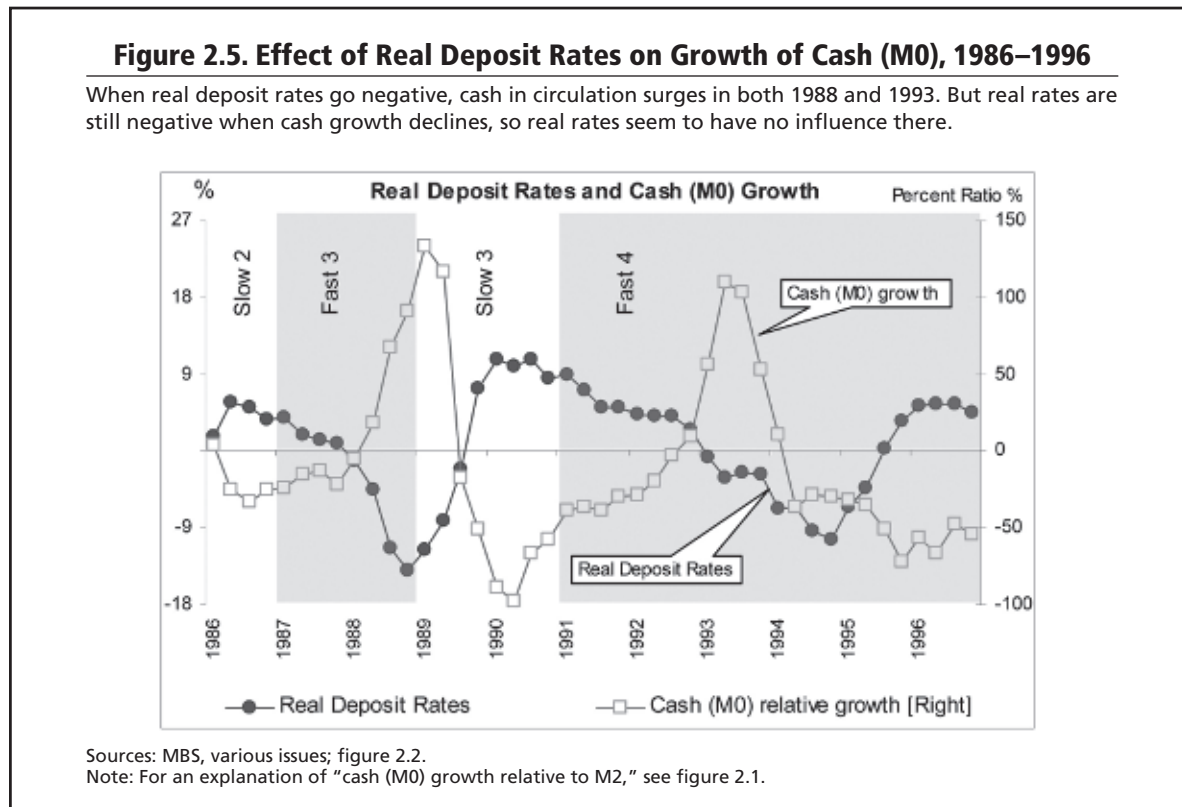


Sources: MBS various issues; figure 2.2

rates are also negative from the start of 1993 until the end of 1995. Economic theory and experience tell us that negative real deposit rates are a powerful disincentive for keeping money in the bank, and we might expect the growth of cash in circulation (M_0) to increase as real deposit rates turn negative and to decrease as real rates again become significantly positive.

However, when we compare shifts in real deposit rates with shifts in cash in circulation (M_0), as shown in figure 2.5, we find that while the two collapses in real deposit rates appear adequate for explaining the 1988 and 1992–1993 surges in cash (M_0) growth, the same cannot be said for explaining the two sharp declines in cash (M_0) growth, in 1989–1990 and 1993–1994.

Figure 2.5 shows that in both 1988 and in 1992–1993, a plunge in real deposit rates to negative values corresponds closely with a surge in cash growth. Indeed, the strongest cash growth in 1988, in the second quarter, corresponded with the first negative real deposit rate in that same quarter. Similarly, the strongest growth of cash in the first half of 1993 was accompanied by the first negative values for real deposits. Clearly, strongly negative deposit rates were an incentive for citizens and enterprises to withdraw cash, which was losing money in bank deposits, and invest it in real items, like consumer durables. The data thus show that inflation-induced real deposit rate drops were at least one important plausible cause of the 1988 and 1993 surges in the growth of cash in circulation (M_0).



Conversely, real deposit rates do not explain reductions in cash growth. Cash growth slowed dramatically in 1989 and again in 1993–1994. But in neither of these periods is it obvious that real deposit rates rose out of the negative range when the cash growth declines were strongest. In 1989, real deposit rates were still negative in the third quarter, by which time cash (M_0) was actually growing more slowly than the total money supply (that is, its relative growth was negative). In 1993–1994, real deposit rates stayed unchanged in negative territory for the last three quarters of 1993 and then became even more negative in 1994. In the meantime, cash growth slowed dramatically, until by the second half of 1994 it was growing at less than half the rate of the total money supply (M_2). The slower cash growth clearly did not result from higher real deposit rates.

“DEPOSIT VALUE GUARANTEE” SUBSIDIES

In both 1988 and 1993, China’s State Council decided to introduce subsidies to holders of three-year (or longer) bank term deposits, and in 1993 to holders of three-year or longer treasury bonds kept to maturity. When such deposits matured, their value was determined by a schedule, published by the Central Bank, indicating the payout per unit of currency in the deposit. The schedule was based on a “value guarantee” that the deposit would not have lost purchasing power during the term of the deposit.

In effect, the rate of return was guaranteed to be enough to keep up with consumer (CPI) inflation. With the nominal deposit rate thus effectively raised to the consumer inflation rate, the de facto real deposit rate became zero.

This effect of the deposit guarantee policy on real deposit rates is illustrated in figure 2.6. In the fourth quarter of 1988, while the real official deposit rate continued to fall more deeply into negative territory, after the introduction of the deposit guarantee policy in September, the effective real rate jumped up to zero for all term deposits of three years or more. Similarly, in the third quarter of 1993, while the real official deposit rate remained negative (and became even more negative in 1994 and 1995), the effective real rate jumped to zero and stayed there—again, for all term deposits of three years or more. The profile of effective real interest rates for these deposits looked very different from what it would have been without the deposit guarantee subsidies and very different from real rates for shorter-term deposits.

Comparing this pattern of effective real deposit rates with changes in cash (M_0) reveals what looks like timing consistent with a causal linkage between the introduction of the “deposit guarantee” system and a dramatically slower growth in cash (M_0). Figure 2.7 shows that in both 1989–1990 and 1993–1994, sharp slowing in relative cash (M_0) growth followed the introduction of deposit value guarantees, with a lag of one to three quarters.

Cash (M_0) growth was relatively slow to show the impact of nonnegative real deposit rates in 1988, but in 1993–1994 the apparent impact was much quicker. The deposit guarantee system started in September 1988, at the end of the third quarter. As shown in figure 2.7, the decline in cash (M_0) growth relative to total money growth started three quarters later, in the second quarter of 1989, and became dramatic in the third quarter of 1989. In 1993, deposit guarantees began in July, at the start of the third quarter, and relative cash (M_0) growth

began to slow immediately that quarter, slowing further dramatically in the fourth quarter and through the first half of 1994.

There are a number of possible explanations for the delay in slower money (M_0) growth after effective deposit rates became nonnegative in 1988–1989. Most likely, because China had never before introduced such a “deposit value guarantee” system before, it took some time for the populace to learn about it and appreciate the scale of benefits associated with the policy. In addition, the first half of 1989 was a period of some social instability, especially the second quarter, which could have persuaded citizens to keep their savings at hand and out of the banks.

By comparison, the 1993–1994 period experienced a rapid behavioral reaction by depositors to the availability of deposit guarantees. It is likely that once the population learned of the value of the deposit value guarantee system in 1988–1989, it was quick to use it when it appeared again.

In sum, the effective real deposit rate adjusted for deposit guarantee subsidies—and despite questions related to the delayed effect in 1988–1989—appears to explain both surges and sharp declines in cash (M_0) growth relative to the growth of the total money supply.

BALANCE OF PAYMENTS FLUCTUATIONS

A conceivable explanation for dramatic changes in cash in circulation (M_0) is foreign currency inflows and outflows. In principle, accounting for current account and financial account flows together is reflected in the change in foreign exchange reserves. A major increase in foreign reserves would require the Central

Bank to convert them to yuan, thereby increasing the total money supply (M_2) and possibly cash (M_0). The ultimate impact would depend on the behavior of depositors—to hold cash or put the proceeds of foreign exchange earnings into bank deposits.

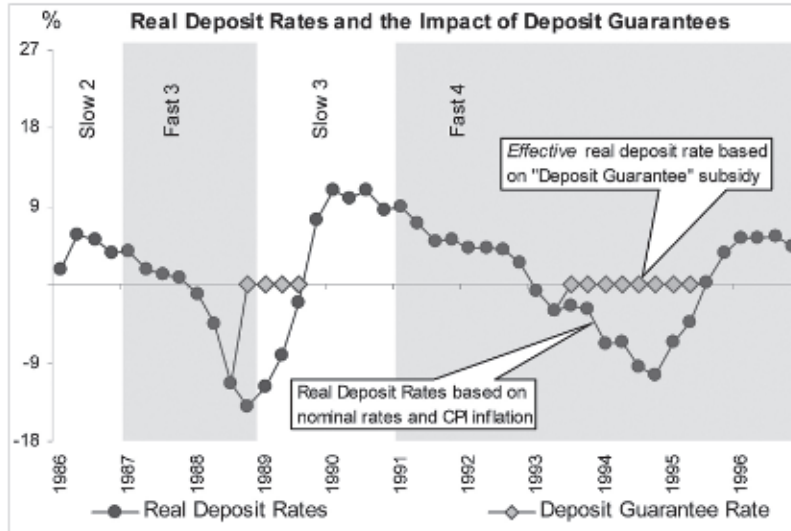
An examination of foreign exchange reserve increases and decreases in the period 1986–1996, however, shows very little potential for concluding that foreign exchange flows explain the fluctuations in cash (M_0) in circulation. Figure 2.8 presents reserve increases as a share of China's money supply (M_2) at year end, because quarterly reserve information for the 1986–1996 period is not readily available. It is clear from the graph that foreign reserves either decline or increase marginally in years when cash (M_0) growth is relatively strong. Conversely, when cash growth is weak, foreign reserve increases seem to be at their peak. This alone disqualifies foreign reserve increases as an acceptable explanation for cash (M_0) growth fluctuations.

More than this, however, the scale of reserve increases is too small to play a role, even if the direction of change were consistent with the hypothesis, and even accounting for money-multiplier effects. China's money supply growth in these years was almost always double-digit, and in the fast cycles was in the range of 20 to 40 percent for some years. In this context, reserve changes generally representing less than 5 percent of money supply, despite possible money multiplier effects have a reduced chance of playing a causal role in determining the relative speed of cash (M_0) growth.

Finally, as noted above, a general acceleration or slowdown in the growth of the total money supply (M_2), as a result of foreign reserve

Figure 2.6. Deposit Guarantee Subsidy's and Effective Real Deposit Rates

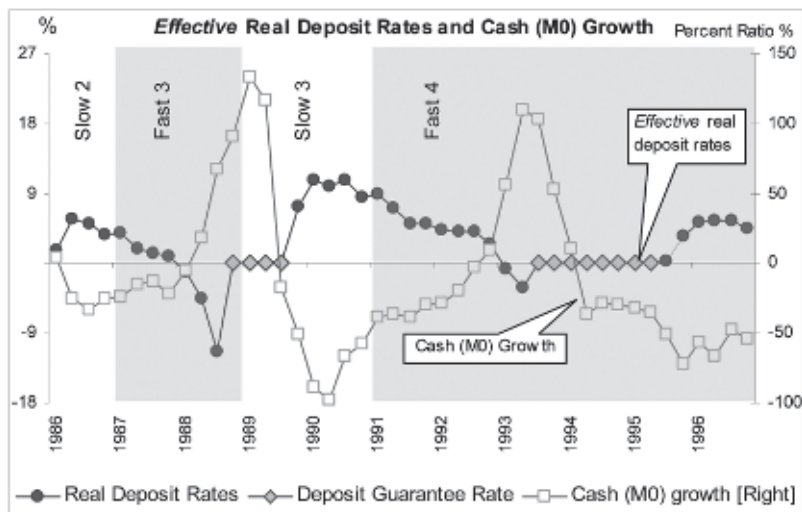
While real deposit rates remained strongly negative in both 1988 and 1993, the central bank's guarantee that deposits would not lose purchasing power made effective real rates zero.



Sources: MBS, various issues.

Figure 2.7. Effective Real Deposit Rates and Cash (M0) Growth, 1986–1996

When negative real deposit rates effectively jumped to zero because of “deposit guarantee” subsidies, cash (M0) growth slowed significantly, as money returned to term savings deposits.



Sources: China National Bureau of Statistics, Monthly Statistical Bulletin, various issues; figure 2.2.
 Note: For an explanation of “cash (M0) growth relative to M2,” see figure 2.1.

increases, gives no indication of whether the change in the money supply appears in cash or deposits. There may be a causal connection, but it is not obvious at this point. In conclusion, we determine that balance of payments and foreign reserve shifts cannot explain the fluctuations observed in China's inflation.

OPEN MARKET OPERATIONS AND GOVERNMENT BUDGET BALANCES

It is tempting to hypothesize that Central Bank and Ministry of Finance activities buying and selling bonds in a secondary or primary market could influence the relative pace of cash (M_0) growth. However, just as for foreign exchange reserve fluctuations, these government financial activities clearly can affect the size of the money supply (M_2), but they do not determine whether that increase or decrease in the money supply has a greater effect on cash in circulation or on deposit levels. That structural question is more likely answered by influences on depositor behavior—such as in the investigation of real effective deposit rates earlier in this chapter. Hence, our conclusion must be that neither open market operations nor government budget decisions can explain the fluctuations observed in the relative growth of cash (M_0) in circulation.

A SCHEMATIC DIAGRAM SUMMARY OF CAUSAL ANALYSIS

This example of causal analysis is summarized in the schematic diagram titled causal schema 2.2, which follows the sample introduced at the beginning of this chapter as causal schema 2.1.

Only two explanations in causal schema 2.2 turn out to survive tests of their validity. These are explanations 2 and 4. As analyzed in earlier sections, explanation 2 asserts that higher CPI inflation lowered real deposit rates to negative

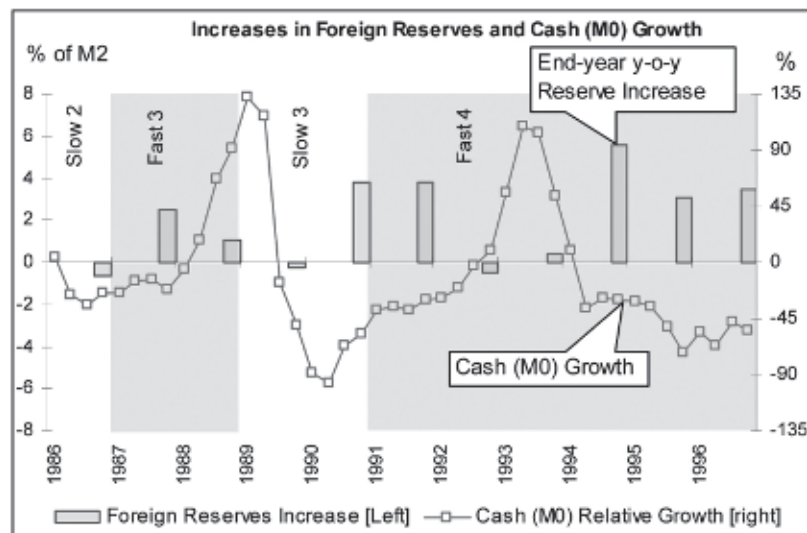
values, causing depositors to withdraw cash, increasing cash (M_0) in circulation. This explains the periods of rapid cash (M_0) growth. Explanation 4 asserts that “deposit value guarantee” subsidies had the effect of dramatically raising real deposit rates and hence reducing cash (M_0) growth. All other potential explanations fail to pass tests for factual validity or consistency with widely observed relationships in other economies.

In sum, this report uses a philosophical and expositional approach, because an econometric modeling approach is clearly inappropriate for investigating causality questions related to China's individual macroeconomic cycles. The drawbacks to this approach are its inability to assign quantitative significance to each of multiple valid explanations (exogenous variables or explanatory equations) for the phenomenon in question (the dependent variable or variables). This approach also does not clean out extraneous nonpolicy influences that often camouflage the significant explanatory influence of more policy-related factors. Multiple regression analysis excels in this role in causal investigations but frequently suffers from severe problems of missing variables and other forms of model misspecification.

Hence, the benefits of the philosophical and expositional approach outweigh its shortcomings for a study such as this, for three reasons. First, China's different cycles, and even the different slow-growth and fast-growth periods in each cycle, appear to result from different causal relationships. That is, each phenomenon analyzed represents a very short period of time. Such a short period provides little opportunity to combine a variety of potential factors into sophisticated econometric analysis—in technical terms, there are too few degrees of freedom.

Figure 2.8. Foreign Exchange Reserve Changes and Cash (M0) Growth, 1986–1996

Foreign reserve increases are small, if not negative, when cash (M0) shows sharp increases; conversely, reserves surge when M0 falls; the reserve change thus fails to explain M0 fluctuations.



Sources: People's Bank of China, China Financial Yearbook, 1994, 1992; People's Bank of China (1998, 89).

Second, the philosophical and expositional approach emphasizes the need to make sure that factors specific to China and specific to these time periods are not omitted from the analysis. The schematic listing of possible explanations for any given event invites additions from other researchers. It satisfies the most basic principle of causal analysis: that the analyst can never really prove a given causal relationship, only fail to disprove it. The possibility of finding a competing or better explanation must always be left open.

Third and finally, the philosophical and expositional approach, with its listing of potential explanations and treatment of them one by one, lends itself to policy discussions where abstract econometric modeling results often fail to communicate an intuitive picture of the actual impact of past policies. This intuitive dimen-

sion of the method increases the likelihood that knowledgeable persons—especially those unfamiliar with or uncomfortable with econometrically sophisticated presentations—will add critical information or propose additional explanations that turn out to greatly improve our ultimate understanding of the events under investigation.

That said, there is a role for statistical rigor and even econometric sophistication in the second tier of tests for any particular proposed explanation. Does a necessary relationship actually hold for the period in question? Correlation, variance, and regression analyses can all be fruitfully applied, especially if they deliver an easily understood, intuitively relevant result.

Causal Schema 2.2. Explaining Cash (M_0) Fluctuations in China's Money Supply, 1986–1996

Overall conclusion: Higher consumer price index (CPI) inflation caused sharp relative increases in cash (M_0), and "deposit guarantee" subsidies subsequently caused sharp relative decreases in cash (M_0).

Is the hypothesis verified? Are its needed supporting facts and data valid?*	Valid?	Verified?
1. Did nominal deposit rate shifts make cash grow faster/slower than money (M_2)?	No	
A. Did declines in deposit rates correspond with faster cash (M_0) growth?	No	No
B. Did major increases in deposit rates correspond with slower M_0 growth?	No	No
C. Were shifts in nominal deposit rates important for shifts in <i>real</i> deposit rates?	No	No
2. Did higher CPI inflation lower <i>real</i> deposit rates, increasing cash (M_0) growth?		Yes
A. Did major surges in CPI inflation cause real deposit rates to plummet?	Yes	Yes
B. Did real deposit rates decline sharply before surges in cash (M_0)?	Yes	Yes
3. Did lower CPI inflation raise <i>real</i> deposit rates, slowing cash (M_0) growth?		No
A. Did major drops in CPI inflation cause real deposit rates to rise sharply?	Yes	Yes
B. Did real deposit rates turn positive before a drop in cash (M_0) growth?	No	No
4. Did "deposit guarantee" subsidies raise real deposit rates, slowing cash growth?		Yes
A. Did the "deposit guarantees" cause a significant rise in <i>real</i> deposit rates?	Yes	Yes
B. Did cash (M_0) growth slow significantly after "deposit guarantees" started?	Yes	Yes
5. Did balance of payments inflows and outflows affect cash (M_0) growth?		No
A. Did foreign exchange reserves increase during strong cash (M_0) growth?	No	No
B. Did foreign reserves decrease during periods of cash (M_0) growth slowing?	No	No
C. Can cash (M_0) growth change in a direction different than total money's (M_2)?	Yes	No
6. Do central bank open-market operations explain cash (M_0) growth?		No
A. Can cash (M_0) growth change in a direction different than total money's (M_2)?	Yes	No

Sources and explanation: See the text.

* A supporting fact could be true and still fail to verify the hypothesis; similarly, unsuccessful validation of a relevant fact could support the hypothesis; it all depends on the logic of the known relationship(s).

Chapter 3

Apparent Causes of National Cycles

What has caused the up-and-down swings in Chinese GDP growth, investment, inflation, and monetary aggregates since reforms began in 1978? The statistical and other historical evidence presented here indicates that their origins are essentially domestic and reflect most of all variations in Chinese economic policies—policies either to stimulate the economy or correct for overstimulation.

This is an important conclusion. The spurts and retreats of China's nearly thirty years of expansion cannot be explained by foreign investment, or shifts in export demand, or entry into the World Trade Organization, or foreign assistance of any kind. To be sure, all the external factors listed above have contributed to China's successful long-term growth record since 1978. But if we think that China's growth is so closely linked to these external factors that they also govern its periodic waves of expansion and consolidation, then the analysis here shows we are mistaken.

The causal details are different, however, for every cycle—indeed for each phase of every cycle. A basic grasp of the nature of each cyclical phase is essential background for understanding the relationship of these cycles to China's rural economy, the subject of this study. This chapter puts each of the cyclical phases through a necessarily limited causal analysis in what is nevertheless a rigorous framework. As we have seen in chapter 2, no causal analysis is ever the final word. Hence, this chapter is a jumping-off point, not only for the rest of this report but also for future related research. If it is useful beyond the needs of this study, it

will be because it sheds additional light on the shifts—and possibly the secrets—of China's remarkable growth success.

Before proceeding subperiod by subperiod, it is also useful to first introduce trends in government finance and international trade. These strengthen our understanding of what did and did not cause some of the subperiod fluctuations.

FISCAL TRENDS, 1978–2006

Not all Chinese statistical trends show obvious cyclical characteristics. A good example is government budget trends. In many market economies, government budgets show a regular relationship with macroeconomic cycles because in periods of slow activity, tax revenues are weak, while in periods of rapid expansion tax revenues are strong. This correlation results in a cyclical pattern with budget surpluses in the fast part of the cycle and budget deficits in the slow-growth period.

Alternatively, in countries with poorly managed budgetary and monetary policy, large budgetary deficits accommodated by a rapid increase in the money supply are frequently the root cause of an overheated period of rapid growth and debilitating inflation. Such budgetary expenditure overheating, followed by austerity efforts, forms a common pattern linked to macroeconomic cycles in many countries.

An examination of China's fiscal pattern since reforms began in 1978 shows that fiscal fluctuations have very little systematic relationship with China's economic fluctuations, with two exceptions. The first, in 1978–1980, is an example of deficit spending that triggers overheated

ing, in part due to a border war with Vietnam. The second is near the end of the period, from 1998 to 2002, when conscious deficit spending helped pull China out of a major growth slump.

Figure 3.1 shows that except for these two periods, revenues and expenditures show long-term swings, with little variation in the relatively small budget deficit. What is more, trends in revenues and expenditures show no obvious pattern linked to the fast and slow activity periods identified in chapter 1. During the long-term decline in revenues as a share of GDP from 1978 to 1995, the decline leveled off twice, in 1982–1985 and 1988–1990. But the former period had fast activity levels, whereas the latter period was slow. As revenue shares in GDP recovered after 1995, the pace of revenue recovery is counterintuitive, being faster in the 1997–2000 slow-growth period than in the 2001–2006 period of accelerated GDP growth.

FOREIGN TRADE, 1978–2006

Foreign trade provides a second example of Chinese statistical trends that do not seem to match the cyclical fluctuations. A common pattern for countries with significant foreign trade is a surge in both imports and exports during a fast-growth period, with the trade surplus increasing in rapid-growth periods if the country's growth is export led. Conversely, in slow-growth periods, both export growth and import growth are also slow, and the surplus declines or becomes a larger deficit if export demand is an important growth component. For many other economies, especially ones with inflexible exchange rates, periods of overheated growth with significant inflation eventually cause trade deficits as a result of significantly overvalued currencies. China's different subperiods show a mix of all these patterns.

Figure 3.2 shows China's trade ups and downs. The most striking anomaly is the surge in its trade surplus during slow-growth periods, especially 1980–1982, 1989–1990, and 1997–1998. Conversely, the surplus declines or becomes a deficit in fast-growth periods, with the exception of 1994–1995 and 2005–2006.

Considering the two components separately, imports do seem to follow an expected pattern most of the time, accelerating growth in fast-growth periods and declining as a share of GDP in slow-growth periods. The export pattern, however, is mixed. Export growth accelerated in the first three slow-growth periods—an unusual pattern. But exports showed significant instability in the fourth fast-growth period, showed a decline and then a surge in the fourth slow-growth period, and then showed rapid growth in the fifth fast-growth period. Overall, there is no clear cyclical pattern in China's trade trends, although the analysis below will consider its relevance for several subperiods.

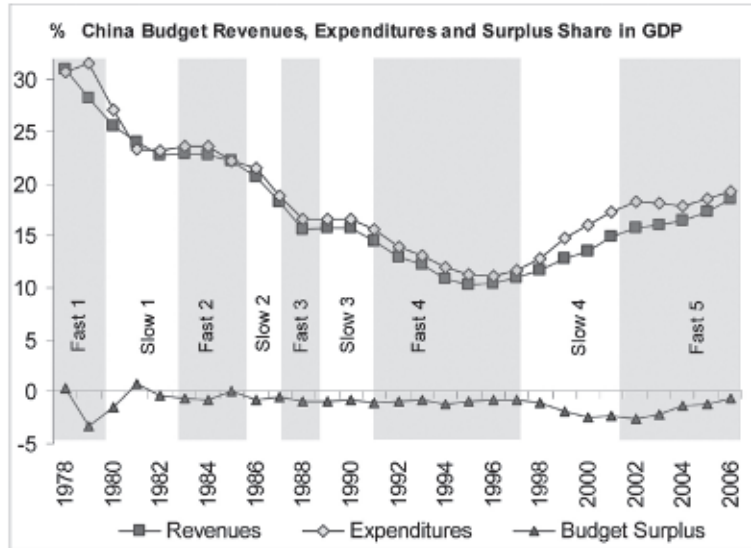
THE APPARENT CAUSES OF EACH INDIVIDUAL FLUCTUATION PHASE

Seeking confirmation of causal relations between policies, other events, and economic fluctuations is a never-ending task, as outlined in the previous chapter on causality. It is at best a process of elimination that, given historical data, either rejects a causal link as unlikely or keeps the possibility of such a causal link alive. Certainty is not possible. But as the scorecard of data and events related to a particular fluctuation gets longer, the probabilities become clearer that some causal links are most likely legitimate, whereas others are not.

The list of possible causes is long. Some reflect domestic government influence, whereas oth-

Figure 3.1. Fiscal Budgetary Trends, 1978–2006

Government budgetary trends show deficit spending bouts both early and late in the reform era. Most years, however, show no systematic budgetary relationship to faster and slower periods of macroeconomic activity.



Sources: China National Bureau of Statistics, 2006 Statistical Yearbook (CD), table 8-1; China Ministry of Finance 2003, 336-37.

Figure 3.2. China's Foreign Commodity Trade, 1978–2006



Sources: China National Bureau of Statistics, China Statistical Yearbook 2006 (CD), table 18-3; China National Bureau of Statistics, China Statistical Abstract 2006, 169.

ers just appear on the scene as outside forces. In this latter category, we have already mentioned global foreign trade fluctuations. Other possibilities are war, international sanctions, terrible weather, and epidemic disease.

Factors over which the government has much more control, in addition to its budgets, include monetary and interest rate policies, administratively managed investment levels, price controls and decontrols, changes in tariffs and other trade regime components, international capital account management, exchange rate policies, shifts in labor rights and migration control, reforms in governance and the regulation of financial and nonfinancial enterprises, and various influences over agricultural production.

Finally, self-propelled economic forces, seeking profits and individual benefits, have powerful effects that can both stimulate and suppress economic activity—often in response to government actions or in spite of them. It is always some combination of surprise events, official policies, and economic behavior that explains a particular subperiod’s fluctuations.

What is the record of government policies and external events? Chronologies for each subperiod appear below. These data, combined with the economic statistical record and basic economic logic, enable us to evaluate competing explanations for China’s cyclical fluctuations. The sections that follow analyze in turn each of the subperiods introduced in chapter 1.

THE 1978–1982 CYCLE: POST-MAO SPENDING, PRICE REFORM, AND RESTRUCTURING

An analysis of the causes of the fast-slow cycle

from 1978 to 1982 indicates that a combination of policy steps and unexpected shocks caused both the fast and slow phases. In particular, the combination of overly ambitious investment programs, a border war with Vietnam, and rural reforms raising agricultural prices played the dominant roles in first fueling overheating. Then, the official reaction to overheating brought on the slow-growth period, using reductions in government spending and administrative investment cutbacks. Drought and crop failure in northern China had no overall significant national impact.

THE 1978–1979 FAST-GROWTH YEARS: OVERINVESTMENT, PRICE REFORM, AND WAR

The first two years of China’s post-Mao reforms, 1978 and 1979, inherited an economy that was already overstimulated. After Mao Zedong’s 1976 death, his successor, Hua Guofeng, had initiated an ambitious investment expansion program relying in part on imported technology financed with newly available petroleum export earnings. By the time market reforms were officially launched in late 1978, many policy makers already considered the intensity of activity excessive and wasteful. By 1979, a corrective restructuring program was just beginning to take shape.

However, the first full year of reforms, 1979, saw Hua’s investment boom continue. In addition, two new factors added to the surge in demand and related inflationary pressures. First, in April 1979, China’s border war with Vietnam broke out, requiring unexpected budgetary and foreign exchange outlays. Second, agricultural price reforms announced with market reforms rolled out in 1979 and apparently triggered a modest but, for post-Mao China, worrisome general rise in prices. These events are summarized in table 3.1.

The evidence with which to check the plausibility of these effects comes from both economic statistics and policy statements. The data for fixed-capital investment given in figure 1.3 show an investment share of GDP far above the trend line—more so even than for the booming years 2003–2005. Second, price statistics on farmgate prices for 1979 show a 22 percent jump in average farm prices that year.⁶ Third, China's minister of finance in 1980 listed mili-

the increases in the GDP and prices of this first fast-growth period. Hence, the establishment of the first special export zones in 1979 had little if any macroeconomic influence. If anything, the trade deficits of 1978–1980, a concern at the time, added to the pressure for restructuring. In conclusion, as shown in causal schema 3.1, the first fast-growth period, 1978–1979, almost certainly resulted from policies for higher farm prices, state-supported invest-

Table 3.1. Chronology of the Fast-Growth Years 1978–1979

Year or Period	Policies and Events
1976	Mao Zedong's death
1977–1979	Hua Guofeng's post-Mao strong investment program
1978 December	Launch of market reforms and international opening
1979	Rural price reform dramatically raised crop prices
1979	Border war with Vietnam
1979	Restructuring & investment-slowing program debated

Source: Dong 1999, vol. 2, various pages.

tary expenses as one of the four developments in 1979 making a restructuring necessary.⁷

All three developments would be expected to result in a sudden surge in fiscal expenditures, because investment and agricultural procurements were virtually all state financed in 1979. Indeed, China's budget deficit in 1979 as a share of GDP was larger than in any year since that time (see figure 3.1). Furthermore, figure 3.2 shows that there were no surges in export sales in 1978–1979 that might have explained

ment expansion, and the unexpected economic consequences of war.

THE 1980–1982 SLOW-GROWTH YEARS: BUDGET CUTS AND INVESTMENT SUPPRESSION

The 1980–1982 slow-growth years in China's first reform-era macroeconomic cycle hit bottom most clearly in 1981, when GDP growth and investment growth were their lowest. Inflation also came off its peak in 1981 and continued its slowing in 1982. This slow-growth

Causal Schema 3.1. Explaining the Fast-Growth Years 1978–1979

Overall conclusion: A combination of continued Hua Guofeng-era (1976–1978) high levels of investment activity, 1979 rural price reform, and 1979 fighting in Vietnam explain the 1978–1979 fast pace.

Is the hypothesis verified? Are its needed supporting facts and data valid?*	Valid?	Verified?
1. Did government-sponsored investment stimulate the period's rapid growth?		Yes
A. Had government launched an especially ambitious 1977 investment program?	Yes	Yes
B. Were investment levels unusually high during 1978–1979?	Yes	Yes
C. Were government budget expenditures high for both years 1978–1979?	Yes	Yes
D. Was consumption growth significantly slower than investment growth?	No	No
E. Did official policy statements criticize investment as excessive?	Yes	Yes
F. Did construction activity show rapid growth in 1978–1979 over 1977?	No	No
2. Did rural price reform in 1979 cause inflation in 1979–1980?		Yes
A. Are major harvests near year-end, pushing price effects from 1979 to 1980?	Yes	Yes
B. Did grain procurement prices record a substantial rise in 1979?	Yes	Yes
C. Were government budget deficits large and blamed on price subsidies?	Yes	Yes
D. Did serious harvest failure in late 1980 cause higher 1979–1980 prices?	No	Yes
3. Did foreign trade patterns, especially export demand, cause rapid growth?	No	
A. Was growth especially strong in 1978–1979?	No	No
B. Was net export growth especially strong in 1978–1979?	No	No
C. Did China have a trade deficit in both years?	Yes	No
D. Were special economic zones only first established in 1979–1980?	Yes	No
4. Did fighting with Vietnam in 1979 cause fast economic activity that year?		Yes
A. Do budget reports confirm military spending as a major cause of the deficit?	Yes	Yes
B. Was industrial output growth especially high in 1978–1979?	Yes	Yes

Sources and explanation: See the text.

* A supporting fact could be true and still fail to verify the hypothesis; similarly, unsuccessful validation of a relevant fact could support the hypothesis; it all depends on the logic of the known relationship(s).

period appears in large part to have resulted from the policy reaction to the effects of the earlier, 1978–1979, fast-growth period. A tightening of government spending—both for government operations and for investment—appears to have been the most significant factor. These events are summarized in table 3.2.

As the period began in 1980, policy makers had already started fighting overheating. The restructuring program promoted in 1979 gained added urgency, with the early 1980 budget report showing a large deficit for 1979.⁸ Policy makers tightened government finances, and budget data (figure 3.1) show a dramatic decline in expenditures for the two years 1980–

Table 3.2. Chronology of the Slow-Growth Years 1980–1982

Date	Policies and Events
1979	Macroeconomic restructuring program targets high investment
1980	Special export zones established
1980, March	Report on large 1979 budget deficit
1980, summer	North China drought—large grain imports
1980	Foreign exchange control shifts from provincial to national level
1980, autumn	Budget Investment outlays converted to bank loans (拨改贷)
1981	Bank credit austerity program launched
1981, spring	Higher “negotiated” extra-output farm prices introduced
1981	Construction activity slowed administratively
1982, spring	Legalized distribution of commune land, animals and tools to farmers
1982, spring	Town replaces commune as rural governing body

Sources: Dong 1999, vol. 2, various pages; Wang 1981, II-79ff.

1981, bringing the budget into balance again. The record shows that policies to limit growth and inflation continued in 1981,⁹ with credit tightening and administrative steps to slow construction—the major component of investment activity. Foreign trade data (figure 3.2) confirm that by 1982 China's trade balance was again positive because of the decline in imports associated with restructuring policies. This trade surplus gave growth a countercyclical boost.

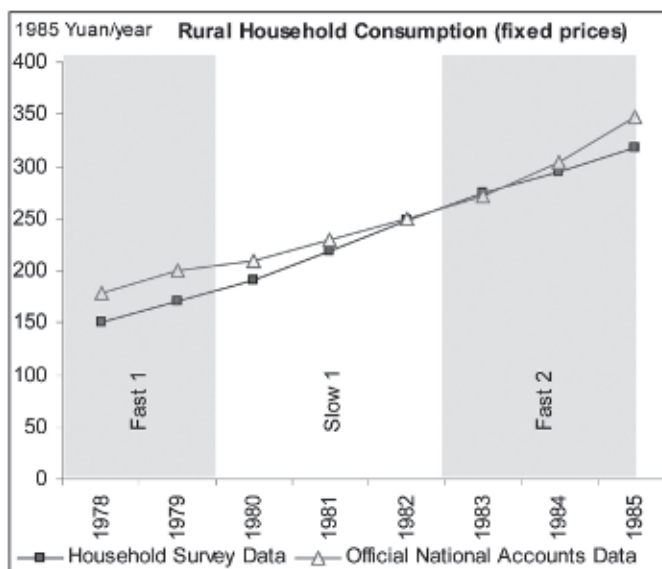
At the same time, a severe drought in the North China Plain region in 1980 badly damaged agricultural output and incomes there, which, because harvest and related incomes

are realized in the fall and winter of the harvest, had their major welfare impact in the following year, 1981. This North China farming hardship in 1980–1981 also likely strengthened incentives for the revival of family farming, with the abolition of rural communes and the reform of state farms, which began in 1982 and gained full effect in the subsequent cycle's fast-growth period (1983–1985).

Despite the drought's harsh regional impact (on the North China Plain), its overall national impact on rural household consumption appears to have been minimal. Direct measurement and comparison of rural household income measures in these early reform years are

Figure 3.3. Rural Consumption in the 1980-1982 Slow-Growth Years

According to both survey and (official) administrative data, the 1980 North China drought did not significantly slow national rural household consumption growth. These were years when, first, higher rural prices in 1979-1980 and, second, conversion of communes to family farming significantly improved incomes for rural households.



Sources: China National Bureau of Statistics, *Statistical Yearbook of China*, various years.

difficult, however, because with the breakup of the communes in 1982–1983 and return to family farming, household survey data on income show spurious structural shifts away from “wage income” (that is, commune-distributed income) and toward “household enterprise income” (that is, mostly family farming income). Real consumption trends in this period, however, show that the drought’s nationwide impact was imperceptible. The robust national rural consumption trend, shown in figure 3.3, most likely reflects productivity gains from family farm incentives and higher crop prices in 1981–1982, especially bonus prices for output sold over quota levels. We can summarize this analysis in causal schema 3.2.

THE 1983–1987 CYCLE: LAND REFORM AND NEW FACTORY MANAGEMENT

China’s second macroeconomic cycle—beginning with the rural boom of 1983 and ending

with the anti-inflationary tightening and associated social unrest of 1986–1987—is the first full-blown cycle of the post-1978 reform era. It is a period during which dramatic structural and political reforms show their repercussions on the economy—reforms involving shifts in direct control over major categories of assets.

The period exhibits overheated growth, monetary expansion, inflation, and subsequent sharp credit tightening along with other administrative measures to cool off the economy. As becomes increasingly the case in later cycles, the independent power of market forces and sources of macroeconomic instability grow in significance compared with the direct influence of government and Communist Party policy. Economics as economics comes of age, as it were, in this first full cycle.

Table 3.3. Chronology of the Fast-Growth Years 1983–1985

Date or Period	Policies and Events
1983	Distribution of land and animals to families spreads from communes to state farms
1983	State-owned enterprises, not government budgets, keep profits but are taxed (利改税)
1983–1984	Rural enterprises and off-farm rural labor encouraged
1983–1984	China's Four main banks launched as commercial banks
1983–1984	Bank lending to enterprises encouraged to promote reforms
1984, fall	Profit-based urban enterprise management reform launched
1984, fall	Rural cash and grain plentiful, but "hard to sell and hard to buy" (难卖难买) difficulties
1984–1985, winter	Voluntary sales contracts allowing crop choice freedom replace grain quotas

Source: Dong 1999, vol. 2, various pages.

Causal Schema 3.2. Explaining the Slow-Growth Years 1980–1982

Overall conclusion: Government policies to fight overheating in the form of budget cuts and investment cuts caused the slowdown—not export problems or weather failures in agriculture.

Is the hypothesis verified? Are its needed supporting facts and data valid?*	Valid?	Verified?
1. Did a slump in exports cause the 1980–1982 slowdown?		No
A. Did exports decline as a share of GDP in these years?	No	No
B. Did net exports (the trade surplus) decline as a share of GDP?	No	No
2. Did budgetary tightening contribute to slowing in 1980–1982?		Yes
A. Did government spending as a share of GDP drop sharply?	Yes	Yes
B. Did a large budget deficit get replaced by a budget surplus?	Yes	Yes
D. Had government in 1979 announced a restructuring and tightening program?	Yes	Yes
3. Did weather-related crop and income failures cause the economic slowdown?		No
A. Was there a major grain harvest failure in North China in 1980?	Yes	Yes
B. Does crop failure affect farm incomes in both that year and the following year?	Yes	Yes
C. Nationally, was rural household consumption growth slower in 1980–1982?	No	No
4. Did a slowing in government sponsored investment contribute to slowing?		Yes
A. Was most nonbudgetary investment in this period still state-controlled?	Yes	Yes
B. Did real growth of fixed-asset investment spending slow markedly?	Yes	Yes

Sources and explanation: See the text.

* A supporting fact could be true and still fail to verify the hypothesis; similarly, unsuccessful validation of a relevant fact could support the hypothesis; it all depends on the logic of the known relationship(s).

CAUSAL INVESTIGATION FOR THE FAST-GROWTH YEARS 1983–1985

The fast-growth years in the middle 1980s cycle reflect dramatic reforms in both urban and rural areas, including financial liberalization, as enterprises, so-called banks, and their relationships with each other and with the government went through fundamental change, setting the stage for market-oriented behavior and individual and enterprise initiative. Fast-paced activity in 1983–1985 also reflected the delayed impact of reforms and other developments initiated during the earlier slow-growth period, especially land reform (that is, commune abolition) and enterprise governance reform.

Most important were management reforms in both agriculture and enterprises of all kinds. Land reform—the abolition of communes and the distribution of land, animals, and equipment to individual households in 1982–1984—put farmers in direct control of how they met their grain and other product sales quotas. Because it was a land contract system rather than an outright ownership system for land, animals, and other resources, it was called the “household responsibility system” rather than “farm privatization.” These events are summarized in table 3.3.

The result was a surge in productivity, especially for grain (see figure 3.4) and for non-crop outputs like animal husbandry, pond fish, and sideline industries (see figure 3.5). Farmers were also freed to use the rest of their resources, including entrepreneurial and manufacturing resources, to make a living. Most frequently in cooperation with local officials and often building on prereform “commune industry” installations, these freedoms resulted in an explosion of rural enterprises, dubbed “township and village enterprises.”

In urban areas, many years of experimenting in profit-oriented management reform culminated in the October 1984 urban reform proclamation, which made the “factory manager responsibility system” an industrial counterpart to agricultural land reform. Though the new system was seriously flawed because of its bias toward short-term profitability, its introduction contributed to a flurry of urban industrial activity in 1984 and early 1985.

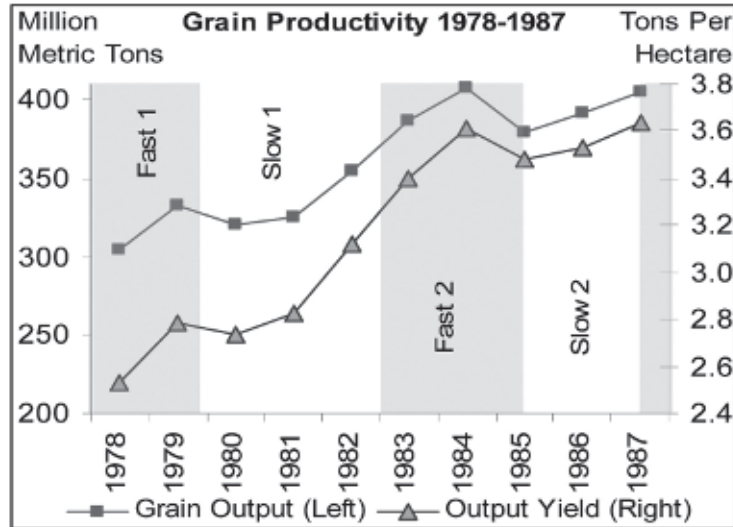
Coincidental with these management reforms were financial sector reforms that made it easier for reconstituted (state-controlled) local bank branches and credit cooperatives to lend money to enterprises—both rural and urban. In 1983–1984, the government, especially local governments, encouraged them to do so. The result was overheated industrial expansion in the first half of 1985 and accompanying inflation (see the 1984–1985 growth, investment, and inflation spikes shown in figures 1.1, 1.2, and 1.3).

The analysis of causality for this 1983–1985 fast-growth period, therefore, focuses on the hypothesis that liberalized management of urban and rural assets, together with a suddenly abundant availability of funds for investment and working capital, spurred the fast pace of economic activity.

A sampling of statistical trends that conform to this hypothesis include the timing of reform policy initiatives, described in tables 3.2 and 3.3; investment data, given in figure 1.2; data on bank lending data, given in figure 3.6; the relative growth of cash in circulation, from figures 1.4 and 3.7; and rural output trends, given in figures 3.4 and 3.5. The pattern of cash in circulation is particularly useful, because it is from quarterly data and shows that the ex-

Figure 3.4. Grain Productivity in the Early to Middle 1980s

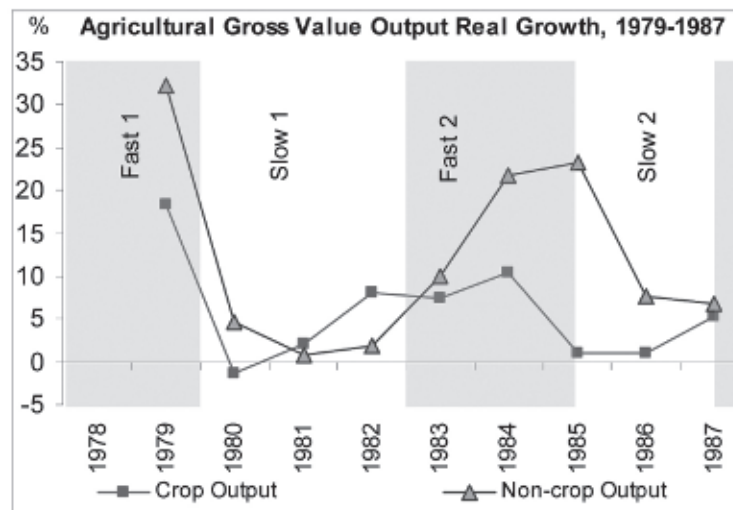
Both per-hectare yields and total output showed three years of sustained increase in 1982–1984, following distribution of land to families. Note that grain sales cash income comes with a delay, after the main harvest late in the year and early in the following year.



Sources: China Ministry of Agriculture statistics reported in China National Bureau of Statistics, China Statistical Yearbook, various years.

Figure 3.5. Crop and Noncrop Agricultural Output Growth, 1979–1987

All farm output expanded rapidly in the 1983–1985 period, but noncrop output such as animal husbandry, fish, forestry, and sideline industries grew especially fast, reflecting the reform in individual incentives from break-up of communes and distribution of land, animals, and implements to individual families.

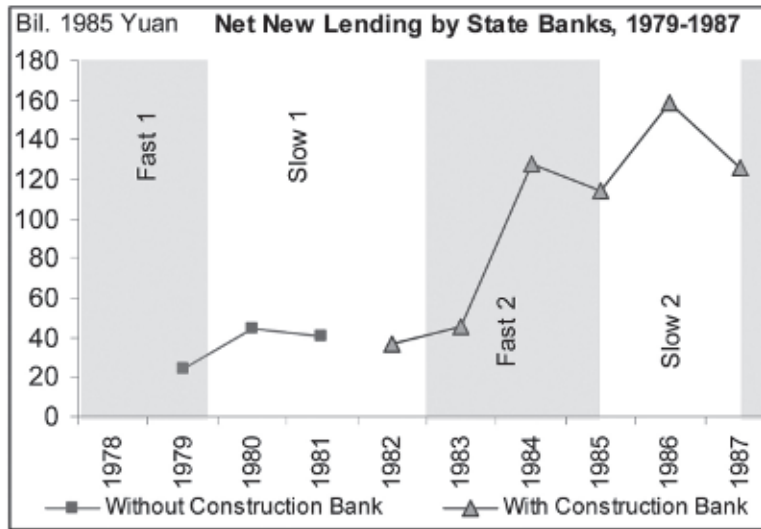


Source: NBS 1990, 52–53.

Note: The conversion to constant-price data to remove the effects of price inflation used implicit deflators for each subsector.

Figure 3.6. State Bank Net New Loans Outstanding, 1979–1987

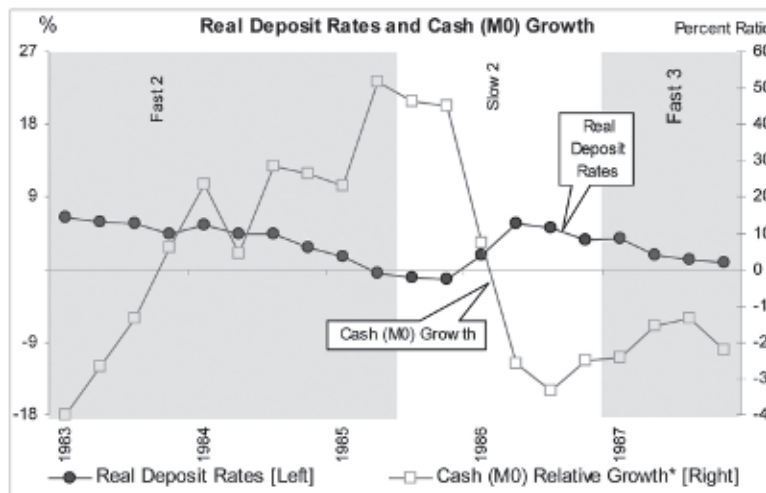
Newly reconstituted state banks began to make loans in the early 1980s, rather than merely handling payments and receipts for government accounts. In 1984, the volume of this new lending activity tripled, mostly in the fourth quarter and mostly for industrial and commercial purposes.



Sources: People's Bank of China, China Finance Yearbook, various years.
 Note: Shifting definitions of state bank lending in these years results in a broken growth series between 1981 and 1982.

Figure 3.7. Quarterly Real Deposit Rates and Cash in Circulation (M0) Growth, 1983–1987

The money supply (M2) increased rapidly in late 1984, but cash in circulation (M0) began to grow much faster than total money supply two quarters later, in the second quarter of 1985, as inflation began to grow serious. This is when real deposit rates went negative, because nominal rates barely changed at all as inflation increased.



Sources: China Statistical Bureau, Monthly Statistical Bulletin, February 1986 and January 1987, 78–80; Bank of China statistics.
 Note: The growth of M0 is expressed as a ratio of M0 growth to the growth of the total money supply, M2.

Causal Schema 3.3. Explaining the Fast-Growth Years 1983–1985

Is the hypothesis verified? Are its needed supporting facts and data valid?*	Valid?	Verified?
1. Did foreign trade stimulate the rapid growth in 1983–1985?		No
A. Did exports grow rapidly in 1983–1985?	No	No
B. Did China's trade deficit increase dramatically in 1983–1985?	Yes	No
2. Did rural land reform dramatically stimulate total output growth?		Yes
A. Did distribution of land, animals and implements directly precede fast growth?	Yes	Yes
B. Did output and per-hectare yields of grain increase rapidly in 1983–1984?	Yes	Yes
C. Did total output of agriculture, especially noncrops, jump in this period?	Yes	Yes
D. Did rural household consumption growth accelerate sharply in 1983–1985?	No	No
3. Did low bank deposit rates and CPI inflation cause a jump in circulating cash?		Yes
A. Did this period have cash (M_0) growth faster than total money supplies?	Yes	Yes
B. Did this correlate with very low or negative <i>real</i> deposit rates?	Yes	Yes
C. Did high CPI inflation decrease <i>real</i> deposit rates?	Yes	Yes
D. Did delayed increases in nominal deposit rates contribute to low <i>real</i> rates?	Yes	Yes
4. Did reform-stimulated investment funding increases fuel fast-paced activity?		Yes
A. Did investment itself increase dramatically in this period?	Yes	Yes
B. Did dramatic banking and other financial sector reforms come at this time?	Yes	Yes
C. Was there a moderate surge in government deficit spending in 1983–1984?	Yes	Yes
D. Did bank lending to enterprises show dramatic increases in 1983–1984?	Yes	Yes
5. Did state-owned-enterprise (SOE) governance reforms stimulate the surge in output?		Yes
A. Did major SOE reforms, an SOE manager responsibility system, come now?	Yes	Yes
B. Did industrial output growth surge dramatically after these SOE reforms?	Yes	Yes

Sources and explanation: See the text.

* A supporting fact could be true and still fail to verify the hypothesis; similarly, unsuccessful validation of a relevant fact could support the hypothesis; it all depends on the logic of the known relationship(s).

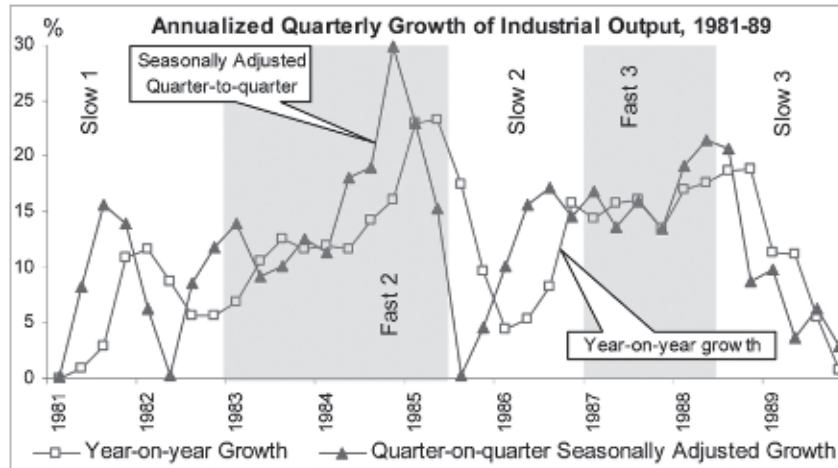
pansion of cash in circulation continued for the first half of 1985 before being dramatically reduced in the second half. This half-year pattern in 1985 conforms to monthly and quarterly patterns of industrial growth, which exceeded 20 percent in the first half of 1985 but then slowed dramatically during the second half of the year. The causal investigation is summarized in causal schema 3.3.

CAUSAL INVESTIGATION FOR THE SLOW-GROWTH YEARS 1985–1987

The government's reaction to overheated growth in 1984–1985 brought a series of economic tightening measures to slow growth and bring down inflation. These steps were by and large administrative, using quantity restrictions on bank lending rather than raising nominal lending rates, for example. The flurry of contractionary

Figure 3.8. Industrial Real Growth, Quarterly, 1981–1989

Industry, the most dynamic output sector, had dramatic cyclical fluctuations in the 1980s. The data show that traditional official year-on-year growth rates delay perceptions of actual changes, which are better shown by quarter-on-quarter growth rates. This delay caused policies to overreact, worsening growth peaks and troughs.



Sources: China Economic Consultancy Service (Hong Kong), *China Economic News*, various issues, 1980–1985; China State Statistical Bureau, *Monthly Statistical Bulletin*, individual monthly issues, 1985–1989, with author's calculations.
Note: Quarter-on-quarter growth rates are converted to annual equivalent rates of change and are measured as rolling three-quarter averages of underlying individual quarter-on-quarter rates (to smooth the jagged quarterly pattern).

Table 3.4. Chronology of the Slow-Growth Years 1985–1986

Date	Policies and Events
1985	Credit cut to state enterprises
1985, fall	Senior leader's express strong concern about falling grain output
1985, fall	Two-year (1986–1987) economic cooling-off period announced
1985, fall	Steps taken to reverse rapid money supply growth
1985, fall	Banks "severely" (严格) cut fixed-asset investment lending
1985, fall	Banks "severely" (严格) cut lending to rural enterprises
1986, winter	Grain planting encouragements reintroduced
1986, winter	Policy makers alarmed at the severe drop in industry's official growth rates
1986, spring	Central bank relaxes money supply
1986, fall	Central bank further relaxes money supply

Sources: Dong 1999, vol. 2, various pages; Chen 1986, II-1-II-6; Xue 1987, II-1-II-3; Wang 1987, 32–33.

steps is clear from table 3.4. To understand the slow-growth part of this cycle, we must again concentrate on the strength of explicit government policies to slow what was considered to be excessive inflation.

The character of the slowdown is seen most clearly in figure 3.8, which shows quarterly industrial growth rates in the 1980s. For the years 1985–1986, the drop in growth rates was dramatic, from an annualized 30 percent in the fourth quarter of 1984 to zero in the third quarter of 1985, when measured on a quarter-to-quarter, seasonally adjusted basis. The growth fluctuations by the official year-on-year measure are not as extreme but nevertheless are also dramatic.

The difference between growth rates by the two different measurement methods reported in figure 3.8 is instructive. The peaks and troughs for growth rates by the quarter-to-quarter, seasonally adjusted measure consistently appear a half year earlier than the corresponding peaks and troughs for official year-on-year statistics. This is in fact just the nature of the two measures. The official year-on-year growth is actually an average of the quarter-on-quarter changes over the previous four quarters. It therefore naturally shows actual changes with a delay—with a lag of six months. This lag becomes relevant when we come to discuss the causes of this slow-growth period.

What could explain such a sharp downturn in industrial growth? As is the case for other sub-periods, neither foreign trade nor formal fiscal policy steps adequately explain the slowdown. The trends for 1985–1987 shown in figure 3.2 indicate that export growth was substantial in these slow-growth years, while imports leveled off. So neither an export slump nor a surge in

competitive imports stands up as a reason for the growth slump.

As for budgetary balances, figure 3.1 indicates very little change in the small budgetary deficit. The decline in both revenues and expenditures from 1984 through to 1988 is difficult to interpret, because budgetary revenues traditionally included gross profits (inclusive of depreciation charge set-asides) from state-owned enterprises. With reforms in the first half of the 1980s in banking, enterprise finance, and taxation, these profit components of budget revenues disappeared, to be replaced by tax revenues. Similarly, a range of traditional budget disbursements to state enterprises—such as for capital investment—disappeared as gross profits after taxes were retained by the enterprises and used to fund investment directly.

Hence, both budget revenues and expenditures declined in this period because of institutional economic reforms, not because tax yields deteriorated. It would be unwarranted to attribute the slowing of industrial growth to budgetary trends.

The most likely causal influence that remains is government policies directly targeting overheated growth and the appearance of inflation in the second half of 1985. Actually, credit tightening began early in 1985, once the scale of the money supply expansion at the end of 1984 became clear. As inflation showed itself in the second half of 1985, the efforts to slow growth and price rises intensified.

In fact, the intensity of efforts to cool off the economy appears to have lasted too long, causing a more severe growth slump than otherwise would have been the case. The main reason for

this overly extended period of credit tightening is the lag in the statistical indicators mentioned above. In late 1985, when quarter-on-quarter growth measures would have shown that policies were already effective, the only available statistics—year-on-year growth rates—continued to show excessively high growth, inviting continued efforts to further tighten the economy. Policy makers apparently did not have seasonally adjusted month-to-month or quarter-to-quarter statistics in this period. By the time the year-on-year measures showed the effects of cooling policies, the economy had overcooled. This realization led to a sharp reversal in macroeconomic policies by the end of 1986 (see table 3.4), with consequences for the subsequent fast-growth period.

In explaining the sharp slowdown in growth in 1985 and the drop in inflation in 1985–1986, the most likely conclusion, therefore, is that government policies to cool the fast pace of economic activity in 1984–1985 had been effective—indeed, too effective. Other alternative explanations are not persuasive. Causal schema 3.4 summarizes this analysis.

THE 1987–1990 CYCLE: INFLATION, BANK PANIC, CREDIT CUTOFF, AND SEVERE SLUMP

China's next "boom and bust" period, from 1987 to the end of 1990, also has its causal roots in national policy. But in this case, unexpected economic market forces made the cyclical extremes much more serious. The economic and social difficulties that followed the tightening and downturn in the previous period, 1985–1986, led to changes in political leadership in early 1987 but not to fundamental changes in the direction of economic reforms, which stressed further price adjustments in favor of agriculture and further liberalization in the form of declarations that China was in a stage

of "early socialism," when practical measures were tolerated.

However, inflation this time, in 1988, was more severe than earlier bouts in the reform era, and it provoked an energetic late-1988 program to cut credit for investment and bring inflation down in a two-year period, targeting 1989–1990. The tightening was particularly unpopular in urban areas, requiring strenuous implementation in 1989. By late 1989, output had slumped; and by 1990, both output growth and inflation were low. In late 1990, with the two-year target period over, the top leadership made the decision to reinvigorate the economy. Despite the cycle's short duration, its various fluctuations had been severe.

CAUSAL INVESTIGATION FOR THE FAST-GROWTH YEARS 1987–1988

The inflation and overheated growth in 1987 and 1988 appear to have resulted from several factors—most important, interest rate policy delays. Near-panic policy reversals to counter excessive credit tightening in the earlier period set the stage, but they were not by themselves enough to trigger runaway inflation. Price reforms in 1987, especially for farm sideline products sold in urban areas, played a stronger role. Such price reforms by their nature raise some prices relative to others and thereby support general inflation. Additional price reform proposals in early 1988 further raised public fears of inflation. Finally, slow-footed interest rate policies brought on a crisis. By the middle of 1988, the authorities had failed to raise bank deposit rates to keep up with inflation, inviting panic cash withdrawals from banks as price inflation worsened. The result was a stampede of urban consumer buying that emptied store shelves and commercial inventories. These events are summarized in table 3.5.

Causal Schema 3.4. Explaining the Slow-Growth Years 1985–1986

Overall causal conclusion: Government credit tightening and other domestic administrative steps to cool off industrial investment, growth and inflation were the main causes of the slow-growth period.

Is the hypothesis verified? Are its needed supporting facts and data valid?*	Valid?	Verified?
1. Did weakened foreign trade trends cause slower growth in 1985–1986?		No
A. Did exports grow substantially in 1985–1986?	Yes	No
B. Did China's trade deficit increase dramatically in 1985–1986?	No	No
2. Did declines or slower growth in budget outlays cause slower growth in 1985–1986?		No
A. Were state budget revenue and expenditure declines attributable to reforms?	Yes	No
B. Did China's budget deficit significantly decline in this period?	No	No
3. Did government-announced growth-slowing policies cut investment and bank loans?		Yes
A. Did government announce credit-tightening policies in early 1985	Yes	Yes
B. Did government announce anti-inflation policies in the third quarter of 1985?	Yes	Yes
C. Did state banks severely cut both urban and rural investment lending in 1985?	Yes	Yes
D. Did net new lending by state banks decline (over 1984) by the end of 1985?	Yes	Yes
4. Did quarterly decline in industrial growth correspond with cuts in bank lending?		Yes
A. Were credit reduction policies announced in the first three quarters of 1985?	Yes	Yes
B. Did net new lending levels in 1985 decline relative to 1984?	Yes	Yes
D. Did industrial output growth (year-on-year) decline throughout 1985?	Yes	Yes
5. Did command control of inflation in late 1985 draw spending power back into banks?		Yes
A. Did the anti-inflation "cooling-off" campaign begin in autumn 1985?	Yes	Yes
B. Did consumer price inflation drop dramatically by the first half of 1986?	Yes	Yes
C. Did this inflation decline return <i>real</i> bank deposit rates to positive values?	Yes	Yes
D. Did relative growth of cash in circulation (M_0) decline sharply by mid-1986?	Yes	Yes

Sources and explanation: See the text.

* A supporting fact could be true and still fail to verify the hypothesis; similarly, unsuccessful validation of a relevant fact could support the hypothesis; it all depends on the logic of the known relationship(s).

Before the start of this subperiod, by early 1986, credit-tightening policies had nearly reduced the inflation-corrected growth of the money supply to only 5 percent over a twelve-month period. To fight what suddenly appeared to be excessively slowing industrial growth, the authorities then increased both total money and cash in circulation more than 20 percent by early 1987. This increase in credit and the

money supply formed the foundation for later overheating. See figure 3.9 for money growth patterns for this and other subperiods.

What caused renewed inflation in the first place? Policies encouraging credit expansion are part of the picture, but price reform, especially reforms that raised the prices of foods for

urban residents, also appear to have played an important role. Farm policy shifts in 1985–1986 and the ending of formal grain delivery quotas in 1985 resulted in higher market grain prices over time. Meanwhile, prices remained controlled for other farm products, in particular pork, which accounted for over 90 percent of meat consumption. With higher feed grain prices but restricted low pork prices, hog production in early 1987 had become a money-losing activity, and a “hog crisis” erupted, involving the slaughter of sows and young pigs rather than the continued raising of them to sell at a loss. To resolve this problem, the newly installed acting premier, Li Peng, raised pork and other nongrain food prices in 1987 while at the same time supplementing urban household incomes to make up for the higher urban costs of food. This policy combination of higher prices and incomes set the stage for overheated growth and inflation.

Finally, in the aftermath of the 1987 Party Congress and the early 1988 formal installation of the new government leadership, a range of reform initiatives, especially for price reforms, circulated among policy makers. In the spring of 1988, the government announced plans for a dramatic new program of retail price reforms that would raise prices for important consumer product categories. Debates in the summer of 1988 over the extent of these price reforms further heightened consumer anticipation of the price increases to come. This anticipation—together with actual price rises and low, money-losing bank deposit rates—motivated dramatic consumer spending increases that summer.

The data given in figure 3.9 show that until the early to middle part of 1988, despite the acceleration in money growth, currency in circulation grew more slowly than total money. This

Table 3.5. Chronology of the Fast-Growth Years 1987–1988

Date	Policies and Events
1987, winter	Arch-conservative “antibourgeois liberalization” campaign begun; premier replaced
1987, spring	“Hog Crisis,” as low government-set pork prices caused widespread piglet slaughter
1987, spring	Price reform raised prices for meat and other farm sideline; urban incomes raised, too
1987, fall	Party Congress says China is in “early socialism,” so any practical policy is OK
1987–1988	Liberalized monetary policy rapidly increased money supply and cash (M_0)
1987–1988	State-owned enterprise (SOE) reform strengthened SOE manager vs. party secretaries
1988, March	Five-year National People’s Congress confirms acting premier to formal position
1988, spring	New national price reform program announced
1988, summer	Annual combined party-government-military summer retreat debate on price reform
1988, summer	Inflation, bank panic, and frenzied consumer durable purchases emptied store shelves

Source: Dong 1999, vol. 2, various pages.

relationship switched in the summer of 1988, as cash flowed out of the banks. See also figure 1.4 and the analysis of this period in chapter 2 related to the causes of the surge in cash in circulation (M_0). When the Communist Party and government leadership failed to raise nominal bank deposit rates fast enough to keep up with inflation, citizens sensed that inflation, linked to anticipated further price reforms, would reduce their bank deposits' purchasing power. They suddenly withdrew their deposits in the summer of 1988 in a spate of panic buying that greatly worsened inflationary pressures and clearly tipped the policy debate in the direction of postponing further price reforms while inflation was brought under control.

From this historical summary, the causes of renewed rapid growth and inflation seem clear. They were sudden efforts at growth revival in late 1986; needed price reform initiatives, especially for farm products; and interest rate policy errors. What other possible causes could explain accelerated growth and inflation in 1987–1988? Possibilities include foreign trade stimulus, government budgetary stimulus, or sudden productivity gains from foreign direct investment (FDI).

The statistical record, however, argues against a role for these external factors. Exports actually declined in this period, and China's trade deficit remained steady (see figure 3.2). Budget outlays and revenues both declined in the period, maintaining a marginal deficit (see figure 3.1). These patterns are just the reverse of what one would expect if these factors were significant in explaining the growth and inflationary surge. Furthermore, FDI in this period had hardly begun to matter as a share of total investment. China's macroeconomic fluctuation in this subperiod, once again, appears driven by domestic factors. A summary

of these causal conclusions appears in causal schema 3.5.

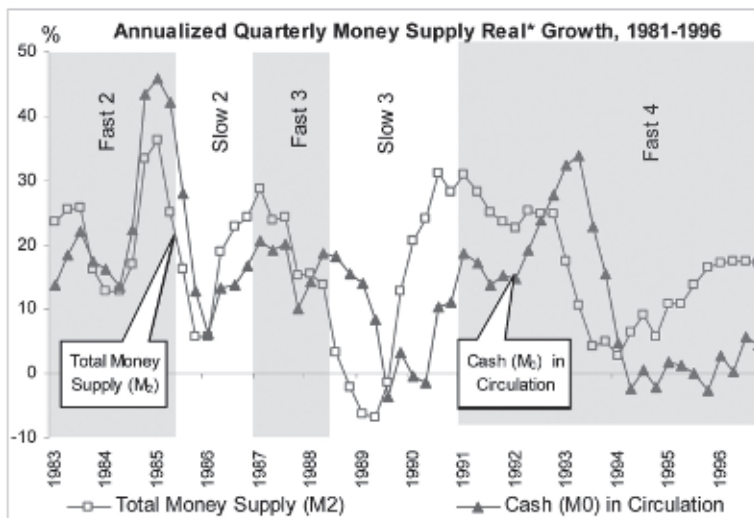
CAUSAL INVESTIGATION FOR THE SLOW-GROWTH YEARS 1988–1990

Economic growth in 1988–1990 slowed and even turned negative by some measures (see figure 1.1), and price inflation was eventually eliminated. But these years also exhibited social turmoil and political change. Beginning with a powerful credit contraction in late 1988, industrial output growth rates in the fourth quarter more than halved by seasonally adjusted quarter-to-quarter measures (see figure 3.8). The spring of 1989 saw large-scale student and urban worker demonstrations, not only at Tiananmen Square in Beijing but also in other major cities throughout the country. Following the military crackdown in June 1989 that ended the demonstrations, China changed the leadership of its Communist Party and significantly toughened the implementation of the anti-inflation program announced in late 1988. Investment activity declined sharply in 1989, and by the fourth quarter of 1989, industrial output growth, by all measures, was close to zero (see figure 3.8). By the third quarter of 1990, CPI inflation was virtually zero (see figure 2.3).

The downturn in this cycle clearly reflects official policies, this time in reaction to the inflation of 1988 and the subsequent toughening of enforcement in the second half of 1989. The 1988 summer panic to withdraw bank deposits and purchase consumer durables gave national leaders powerful incentives to act quickly to slow investment, growth, and inflation. The decision to tighten credit and postpone further price reforms for two years appears to have been made in August 1988 at what was then the annual government–Communist Par-

Figure 3.9. Growth (Year-on-Year) of Total Money (M2) and Cash in Circulation (M0)

The correlation of money supply growth and fast and slow periods emphasizes that major policy shifts in this area frequently preceded and set the stage for associated fast and slow periods. The fast period 1987–1988 began with money growth already high, while its 1988–1990 slow period experienced the difficult combination of overall slow and even negative real overall money growth while at the same time cash in circulation surged.



Sources: Monetary data, People's Bank of China; State Statistical Bureau, Monthly Bulletin, 1985–1996.
* The real growth of monetary aggregates is based on deflation by the quarterly consumer price index.

ty retreat. The effects of this tightening, implemented in the fall, were eventually fully felt by 1989.

Table 3.6 shows a high degree of correlation between policy initiatives and the sudden shifts in GDP growth, investment growth, inflation, and money supply illustrated in figures 1.1 through 1.4. The decision to guarantee that bank deposits would earn interest at least at the rate of increase of the CPI correlates strongly with the reversal in cash outflow from the banks documented for 1988–1989 in chapter 2 (especially in figure 2.7).

Did foreign trade or domestic budget shifts influence the sharp downturn in these years? Once again, statistical records argue not. Fig-

ure 3.2 indicates clearly that while exports declined slightly in 1989, China's trade deficit also grew somewhat smaller. In 1990, China's exports surged dramatically, and its deficit shifted to a large surplus; but GDP recovery was mixed, with expenditure data showing a recovery while production data showed continued decline (see figure 1.1). Hence, export success may have preceded the growth recovery in 1991, but there was no export slump responsible for the overall growth slowdown. Similarly, budget data for 1988–1990 show virtually no change in either revenue or expenditure levels as a share of GDP (figure 3.1).

Other possible explanations for the slowdown in growth include the political events of 1989, in which civil order was disrupted for over a

Table 3.6. Chronology of the Slow-Growth Years 1988–1990

Date	Policies and Events
1988, fall	Sharp contractions in bank credit and investment activity
1988, fall	Two-year anti-inflation program announced and launched
1989, spring	Urgent notification on inflation control and stabilizing markets
1989, spring	Bank deposit interest rates indexed to inflation (保值儲蓄)
1989, spring	Street demonstrations in urban areas specifically protesting inflation and credit tightening
1989, fall	Credit tightening program strengthened
1990, winter	Grain planting discipline strengthened to ensure staple food supplies and price stability
1990, spring	Program to eliminate interlocking enterprise debts (三角債)
1990	Strong legal protections for 100 percent foreign-owned companies
1990, December	CCP meeting to end two-year (1989–1990) anti-inflation program

Sources: Dong 1999, vol. 2, various pp.; Wang 1981, II-79ff.

month in most of China's major cities and especially in Beijing. Social dislocation in urban areas throughout the country clearly had a disruptive impact. Indeed, the sudden drop in seasonally adjusted quarter-on-quarter industrial growth rates, the most accurate measure of policy impact, shows that the sharp output decline began precisely in the second quarter of 1989 (figure 3.8). Furthermore, the greater civil order enforced after June 4 supported implementation of the macroeconomic tightening policies first introduced in 1988.

Still, China's slower-growth policies and credit tightening clearly began before the disturbances, in 1988, in reaction to the outburst of inflation that summer. The indexing of interest rates in the spring of 1989 also predates the disturbances and correlates with the slowdown.

Hence, while social disruption and related disciplinary measures clearly indicate a causal role, they appear to have been contributing factors rather than root causes of the growth slump and drop in inflation during these years. The causal logic for the slow-growth period 1988–1990 appears in causal schema 3.6.

THE 1991–2000 CYCLE: URBAN PRICE REFORM, LAYOFFS, AND GROWTH SLUMP

The next Chinese macroeconomic cycle, covering ten years and virtually all the 1990s, is perhaps the most interesting for exploring cycles themselves and the role played by domestic demand, including household consumer demand. It witnessed the explosion in FDI starting in the early 1990s, the conclusion of the

Causal Schema 3.5. Explaining the Fast-Growth Years 1987–1988

Overall causal conclusion: Overheated growth in 1987–1988 was caused by price reforms and a combination of policy and data shortcomings, not external factors. Higher food pricing with more urban income subsidies came first. Then year-on-year growth rates delayed accurate output reports. Finally, rigid low bank interest rates made deposits lose value, triggering withdrawals and inflationary panic buying.

Is the hypothesis verified? Are its needed supporting facts and data valid?*	Valid?	Verified?
1. Did shifts in foreign trade or investment cause accelerated growth and inflation?		No
A. Did exports decline sharply with little change in the trade deficit?	Yes	No
B. Was foreign investment a significant factor at this time	No	No
2. Did government budgetary stimulus contribute to this growth surge?		No
A. Did government expenditures decline sharply in this period?	Yes	No
B. Did the small government deficit at this time remain essentially unchanged?	Yes	No
3. Did delay in statistical measures cause overheating in 1987-88?		Yes
A. Did government in 1986 announce efforts to restimulate the economy?	Yes	Yes
B. Did money supply growth begun in 1986 continue accelerating in 1987?	Yes	Yes
C. Did industrial growth surge 1986 but only show in official stats in 1987?	Yes	Yes
D. Did 1987 policy delays mean money growth in 1987 amplified price reforms?	Yes	Yes
4. Did government price reforms, raising some prices, stimulate inflation?		Yes
A. Did government introduce major administrative price adjustments in 1987?	Yes	Yes
B. Did inflation in the second half of 1987 shift from low to high single digits?	Yes	Yes
C. Did early-1988 inflation shift higher with announced new price reforms?	Yes	Yes
5. Did policy delays in raising bank deposit rates greatly worsen inflation pressures?		Yes
A. Did nominal bank deposit rates stay fixed at under 10 percent for all of 1988?	Yes	Yes
B. Did inflation rates over 10 percent in 1988 cause negative <i>real</i> interest rates?	Yes	Yes
C. Did negative real interest rates trigger bank withdrawals and panic shopping?	Yes	Yes
D. Do quarterly monetary data show cash (M_0) growth surged in mid-1988?	Yes	Yes
E. Did surge in M_0 correlate with further surge in inflation in later 1988?	Yes	Yes

Sources and explanation: See the text.

* A supporting fact could be true and still fail to verify the hypothesis; similarly, unsuccessful validation of a relevant fact could support the hypothesis; it all depends on the logic of the known relationship(s).

earlier incomplete price reforms, a severe bout of overheated inflation (1993–1994), a delayed boom in rural China, and then dramatic enterprise reforms and layoffs in the late 1990s. Rural participation in the cycle was also fundamental, and though touched on only lightly here, it will be the subject of additional analysis in the remainder of the report.

CAUSAL INVESTIGATION FOR THE FAST-GROWTH YEARS 1991–1996

The sudden 1991 surge in GDP growth—over 9 percent officially that year, but 10.5 percent by the expenditure method (see figure 1.1)—ushered in six years of the fastest and most prolonged stretch of growth, as well as the most severe bout of inflation, in the post-1978 reform era up to that time. Overheating by 1992–1993 brought a sharp credit contraction in the middle of 1993, but growth and inflation continued for another three years, in part because of market and macroeconomic forces released in the rural economy. By the end of 1996, with urban growth already slowed, the rural economy also finally ran out of steam. These events are summarized in table 3.7.

The popular but erroneous explanation for the revival of GDP growth in the early 1990s is the purported impact of supreme leader Deng Xiaoping's famous "Walk in the South" early in 1992, when he made strong statements supporting the continuation of market reforms. But tables 3.6 and 3.7 indicate that China's rapid growth recovery in 1991 (figure 1.1), predating Deng's southern inspection tour, correlates with a series of policy decisions and monetary trends begun in late 1990. The quarterly monetary data given in figure 3.9 show the effects of that earlier monetary loosening, because the total money supply (M_2) had surged by late 1990, followed by the rapid growth of cash in circulation (M_0) in early 1991.

The year 1990 had also seen the introduction of policies to ease the stasis caused by interlocking debt (so-called triangular debt), a circular pattern of accounts payable and accounts receivable that had frozen many transactions between enterprises. To relieve the situation, the government instructed commercial banks, with Central Bank support, to make strategic loans—injecting funds into those firms that analysis showed could trigger a cascade of payments from one firm to the next. This and other credit and monetary policies helped revive inter-enterprise transactions and liquidity in general. Figure 1.2 shows that inflation-corrected investment growth went from 2 percent in 1990 to 15 percent in 1991.

As for reform initiatives, in March 1991, nearly a year before Deng's southern tour, China introduced dramatic price reforms for urban sales of grain. Grain prices rose 35 percent in a month. A second and final round of reform in urban retail grain pricing came a year later, in April 1992, and lifted grain prices another 25 percent. The scale of this two-stage price reform can be seen in figure 3.10. The second phase of this grain price reform also eliminated grain ration coupons, which since the 1950s had been distributed to urban residents to enable them to make grain purchases at subsidized prices. Incomes for urban-registered households were also administratively raised to compensate for the added cost of grain in family budgets. The inflation data given in figure 2.3 show that despite these reforms, overall CPI price increases remained modest, at roughly 5 percent for all of 1991 and well below 10 percent for all of 1992.

The impact of Deng's "Walk in the South" is thus not completely clear. Were internal policy debates about the second phase of grain price reforms, in 1992, threatening its implementa-

Causal Schema 3.6. Explaining the Slow-Growth Years 1988–1990

Overall causal conclusion: Increasingly effective government implementation of explicit slowdown programs, beginning in 1988, tightened credit and scaled back investment and money growth, causing slower if not negative growth in this period and elimination of inflation by 1990. Social unrest in 1989 almost certainly affected output, but it also triggered stricter enforcement of 1988 policy initiatives.

Is the hypothesis verified? Are its needed supporting facts and data valid?*	Valid?	Verified?
1. Did 1988–1990 shifts in foreign trade slow economic growth and dampen inflation?		No
A. Did the trade deficit decline as exports barely declined in 1988 ?	Yes	No
B. Did both exports and the trade surplus expand dramatically in 1990?	Yes	No
2. Did government budgetary weakening contribute to this growth slump?		No
A. Was there any 1988–1990 clear decline in budget outlays, as a share of GDP?	No	No
B. Did the small government deficit at this time remain essentially unchanged?	Yes	No
3. Did announced government policies to slow growth and inflation cause the slump?		Yes
A. Did government in 1988 announce sharply tightened credit and investment?	Yes	Yes
B. Did government in late 1988 postpone further price reforms?	Yes	Yes
C. Did money supply growth turn negative in the fourth quarter of 1988?	Yes	Yes
D. Did total money supply decline even more strongly in the first half 1989?	Yes	Yes
E. Did the central bank index deposits to inflation in spring 1989?	Yes	Yes
F. Did growth currency in circulation (M_0) then immediately decline sharply?	Yes	Yes
G. Did 1987 policy delays mean money growth in 1987 amplified price reforms?	Yes	Yes
4. Did social and political disturbances in 1989 contribute to the slowdown?		Yes
A. Did widespread social unrest break out in the second quarter of 1989?	Yes	Yes
B. Did industrial output growth plummet for the first time in the same quarter?	Yes	Yes
C. After the harsh June 1989 crackdown, did policy implementation strengthen?	Yes	Yes

Sources and explanation: See the text.

* A supporting fact could be true and still fail to verify the hypothesis; similarly, unsuccessful validation of a relevant fact could support the hypothesis; it all depends on the logic of the known relationship(s).

Table 3.7. Chronology of the Fast-Growth Years 1991–1996

Date	Policies and Events
1991, spring	Urban administered grain prices raised dramatically
1991	Interest rates on deposits and loans reduced
1991	Commercial “four reforms” liberalize management, price, distribution, and labor
1992, winter	Deng Xiaoping’s “Walk in the South,” added momentum to market reforms
1992, spring	Grain rationing ended and grain prices raised dramatically again
1993, summer	Central bank governor fired; Document #6 launched 16 credit-tightening measures
1993, fall	Bank deposit interest rates indexed to inflation
1993, fall	Path-breaking party plenum rolled out ambitious reform agenda for the decade.
1994, winter	Dual exchange rate system ended, with rates unified at 8.7 yuan / U.S. dollars.
1994	Administrative procurement price increases, e.g., coal, petroleum, grain, cotton, oils
1995, late fall	Provincial governors ordered to increase grain output to fight food-price inflation
1996	Worker layoff and reemployment program, piloted in 1994, spreads to 200 cities
1996	New five-year plan includes 1995 enterprise reform “Hold onto large, drop the small.”

Sources: Dong 1999, vol. 2, 491–94; Gao 1993; Hong 1995; Bidani et al. 2002; Garnau et al. 2004, 3.

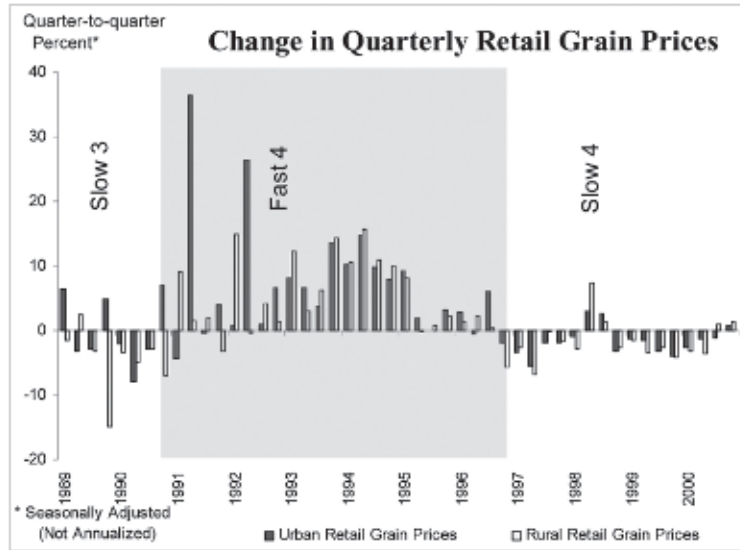
tion? Did Deng’s encouragement enable its continuation despite worries about inflation? This is possible and even probable, but definitive evidence is hard to find. By late 1992, however, the authorities were clearly worried about the high single-digit inflation, and as figure 2.3 shows, by June 1993 inflation had climbed into the middle teens.

In response to double-digit inflation, the policy crackdown on bank credit was swift, beginning in June 1993 and intensifying into the fall (see table 3.7). Strangely, however, this time the credit tightening did not work.

The liberalization of urban grain prices in 1991–1992 led to the informal liberalization of grain markets in rural areas, where government procurement price guidelines temporarily broke down. As rural grain and other farm product prices rose through 1994, official procurement prices had to adjust as well. See the dramatically higher rural farm procurement prices for these years shown in figure 3.11. These higher 1994 rural procurement prices supported rural household incomes and temporarily reversed their deterioration compared with urban standards of living. Subsequent analysis later in this report will analyze rural developments in the 1990s in more detail. Here, suffice it to say that this pricing boost to rural incomes provides the strongest explanation for the ex-

Figure 3.10. Grain Price Reforms, Quarter-on-Quarter, Seasonally Adjusted, 1989–2000

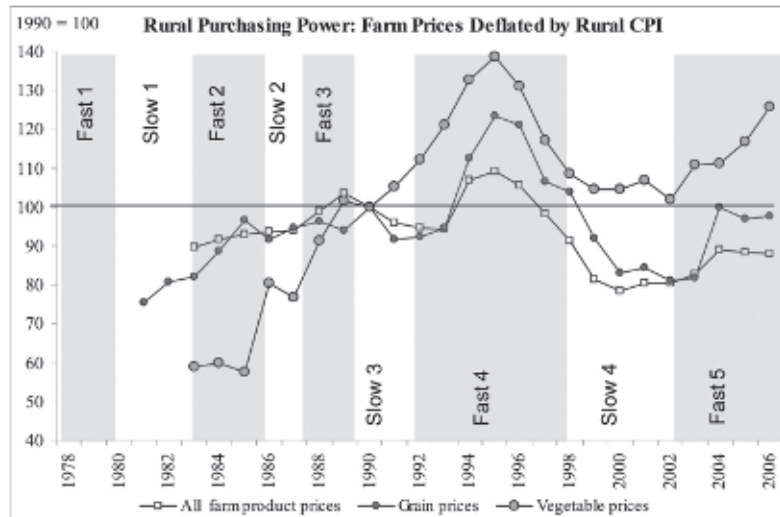
Chinese price reform policies administratively raised urban retail grain prices dramatically in two stages, early in 1991 and 1992. Rationing ended. A more prolonged period of market-driven grain price inflation in both urban and rural areas became serious only after severe credit tightening policies began in middle 1993. Once brought under control, grain prices declined for four straight years, 1997–2000.



Source: China National Bureau of Statistics, Monthly Bulletin, various years, with the author's calculations.
* The quarter-to-quarter price reform is seasonally adjusted (not annualized).

Figure 3.11. Farmgate Prices Showing Rural Purchasing Power Levels, 1981–2006

Prices farmers received for their products, when adjusted for the prices rural consumers had to pay for consumer goods, improved through 1995—and dramatically so in 1994—before declining into the later 1990s. The grain price recovery in 2004 only returned real price levels to their 1990 levels.



Sources: China National Bureau of Statistics, China Statistical Yearbook, various issues.
Note: A price for vegetables in 2001 is not available, so these calculations apply the price change for all farm products to the vegetable price series for that one year.

tension of the 1991–1996 fast-growth period beyond the 1993 attempted crackdown on overheated national growth.

An additional contribution to continued strong growth in 1994 was the acceleration of exports in concert with the rapid accumulation of FDI begun in 1992 and the ongoing 1991–1993 currency devaluation of the primary commercial exchange rate in China's dual exchange rate system and the one-time devaluation of its official exchange rate on January 1, 1994. Exports during the early boom years (1991–1993) had declined and trade slipped into deficit (see figure 3.2), so trade clearly was not the cause of the boom's initial three-year onset. But exports and the trade surplus did jump in 1994—followed, however, by declines as a share of GDP through 1996 (again, see figure 3.2).

Were exports the principal cause of China's strong 1994 growth record? Both official and international measurement methods put GDP growth that year at roughly 13.5 percent—an extremely high pace of expansion (see figure 1.1). Easy calculations show that only 3.1 percentage points of this growth were due to trade expansion. The rest, more than 10 percentage points, were due to a combination of consumption and investment demand—all domestic. Hence, though trade in that one year of 1994 clearly contributed to the 1990s' extended growth surge, it is more reasonable to consider it a contributing factor than the major cause.

This boom period in the middle 1990s was also one of buoyant inflows of FDI. However, figure 3.12 shows that its contribution to overall investment growth was strong only in 1992–1993. These were years of sudden expansion in FDI, but they were also years when the do-

mestic value of this FDI was increased by the 1991–1993 depreciation of China's commercial exchange rate. China had a dual exchange rate at this time, with the second rate inaccurately nicknamed the “swap rate” and officially known as the rate on the “foreign exchange adjustment market.” Despite this distortion, it is nevertheless credible to give this influx of foreign capital a role to play in explaining China's growth surge in 1992–1993. But figure 3.12 also shows that this influence dropped dramatically in 1994–1996, so it cannot account for the continued growth surge during these later years of the 1991–1996 expansion.

As for government budgets and fiscal policy, figure 3.1 makes it clear that both revenues and expenditures declined as a share of GDP throughout this entire 1991–1996 period, with no meaningful change in the small deficit except for a slight increase in 1994. The fiscal growth stimulus was thus negligible, if not negative.

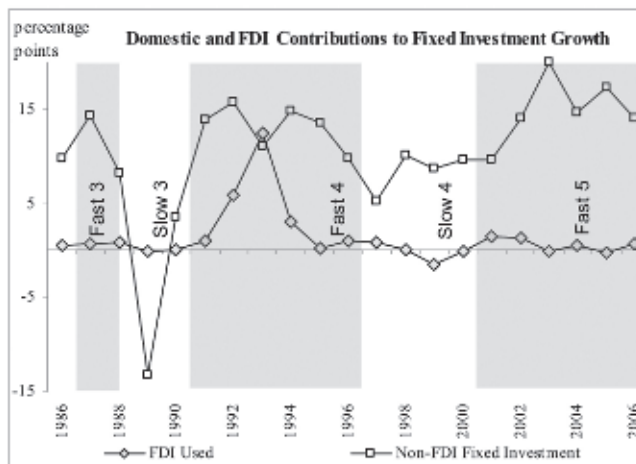
Overall, looking at the 1991–1996 fast-growth period, its growth acceleration was part of a two-stage process. Causal schema 3.7 summarizes the causal analysis.

CAUSAL INVESTIGATION FOR THE SLOW-GROWTH YEARS 1997–2000

At the end of the 1990s, specifically from 1997 to 2000, GDP growth slowed dramatically, especially as measured by the expenditure method (see figure 1.1). During these years, inflation was also eliminated, and some price indexes even showed falling prices (figure 1.2). Numerous other developments also crowded into these years. For example, the government launched corporate reforms and laid off large numbers of urban workers. The Asian financial crisis created economic and financial chaos in

Figure 3.12. Contributions of Domestic Investment and Foreign Direct Investment (FDI) to Real Fixed-Investment Growth, 1986–2006

China's total fixed-investment growth has gone through clear surges and slowdowns, but the data on FDI show that this pattern is almost wholly due to domestic fluctuations. The one exception is the surge in 1993, when FDI's apparent contribution briefly equaled that of domestic investment. China's de facto exchange rate devalued strongly in 1992–1993, exaggerating yuan FDI levels for those years.



Sources: FDI data are from the China National Bureau of Statistics, Statistical Yearbook of China, various years. Note: FDI flows in U.S. dollars were converted to Chinese yuan at the average commercial exchange rate and then deflated by the domestic investment price deflator. This real investment trend was then compared with its domestic counterpart. The domestic deflator may not completely account for domestic price changes, reflecting currency devaluation in 1991–1993. Exchange rates are official exchange rates except for 1981–1993, when they are weighted averages China's various dual exchange rates.

much of the rest of East Asia. These events are summarized in table 3.8.

There are at least four major competing explanations for the inflation-dampening slowdown in 1997–2000. The first is the Asian financial crisis, which broke out in July 1997. The second is the claim that success in increasing manufacturing output was so great that China had achieved a “surplus economy,” meaning that product availability had outstripped need. The third possibility is that official efforts to reduce overheating and inflation through a “soft landing” approach had begun four years earlier, in 1993, and these policy steps to cut investment and bank credit may have finally had an exaggerated national impact. Fourth and finally, because the growth of rural household

consumption turned negative for three years in the late 1990s, linked to the collapse of farm prices, inadequate effective national consumer demand, worsened by related slowing of investment, contributed to the deceleration of overall GDP growth.

The impact of the 1997–1998 Asian financial crisis on China's economic growth could potentially have been due to shifts in foreign trade and foreign investment. But the data and analysis indicate that this impact was minimal at most. Foreign trade patterns, given in figure 3.2, show that while exports as a share of GDP increased several percentage points in 1997, after that they first declined and then leveled off, before surging again in 2000, the last year of this slow subperiod. However, net exports—

Causal Schema 3.7. Explaining the Fast-Growth Years 1991–1996

Overall causal conclusion: early growth in this fast period was triggered by policy decisions in 1990 to expand the money supply and credit availability, coupled with two-stage price reform begun in 1991 and extended to 1992 with the encouragement of Deng Xiaoping's 1992 "Walk in the South." Growth in foreign direct investment (FDI) also contributed significantly in 1992–1993 but not later. Later acceleration of the subperiod's expansion and inflation appear to reflect rural economic developments. Export growth in 1994, responding to currency devaluation, was a secondary contributing factor for that one year. Otherwise, neither foreign trade, nor foreign investment, nor fiscal stimulus was relevant.

Is the hypothesis verified? Are its needed supporting facts and data valid?*	Valid?	Verified?
1. Did foreign trade trigger the early growth in 1991–1993?		No
A. Did exports increase markedly in 1991?	Yes	Yes
B. Did the trade surplus increase in 1991?	No	No
C. Did both exports and the trade surplus decline in 1992–1993?	Yes	No
2. Did foreign trade cause the surprising continued growth acceleration in 1994–1996?		No
A. Did exports and net exports increase substantially in 1994?	Yes	Yes
B. Was the 1994 percentage-point contribution of net exports to GDP dominant?	No	No
C. Did either exports or net exports increase in 1995–1996?	No	No
3. Did FDI contribute to the 1991–1993 growth surge?		Yes
A. Does 1993 yuan FDI growth appear strong enough to make it a major factor?	Yes	Yes
B. Did devaluation of the average exchange rate exaggerate yuan FDI in 1993?	Yes	No
4. Did FDI contribute to the 1994–1996 growth surge continuation?		No
A. Did FDI contribution to total fixed-asset investment collapse in 1994–1996?	Yes	No
5. Did a surge in government budgetary spending or its deficit promote growth?		No
A. Did budgetary outlays in 1991–1996 decrease as a share of GDP?	Yes	No
B. Did the fiscal deficit remain basically unchanged as a share of GDP in 1991–1996?	Yes	No
6. Did policies stimulating credit and money growth cause early 1991–1993 GDP growth?		Yes
A. Did a late-1990 official meeting end the two-year anti-inflation campaign?	Yes	Yes
B. Did policies in 1990–1991 dramatically expand credit to enterprises?	Yes	Yes
C. Did money supply growth (M_2) recover at rapid rates of expansion in 1990?	Yes	Yes
D. Were all interest rates (for deposits and loans) significantly lowered in 1991?	Yes	Yes
E. Did growth of cash in circulation (M_0) dramatically accelerate in 1991?	Yes	Yes
F. Did real growth of investment accelerate from 2% in 1990 to 15% in 1991?	Yes	Yes
G. Did officially reported GDP growth go from 4% in 1990 to over 9% in 1991?	Yes	Yes
7. Did continued double-digit growth in 1994–1996 reflect official policies?		No
A. Did dramatic efforts to cool off the economy begin in June 1993?	Yes	No
B. Did making deposit rates equal to inflation rates end net bank withdrawals?	Yes	No
C. Did growth of both broad money (M_2) and cash (M_0) plummet in 1983–1984?	Yes	No
8. Did rapid increases in farm product prices stimulate rural development in 1994–1996?		Yes
A. Did vegetables see rapid price increases in 1991 through 1995?	Yes	Yes
B. Did grain prices experience very rapid price rises in 1994–1995?	Yes	Yes

Sources and explanation: See the text.

* A supporting fact could be true and still fail to verify the hypothesis; similarly, unsuccessful validation of a relevant fact could support the hypothesis; it all depends on the logic of the known relationship(s).

shifts in trade surpluses and deficits—are the most relevant channel through which foreign trade directly affects GDP demand. Figure 3.13 shows that at the onset of this 1997–2000 slow-growth period, net exports actually stimulated GDP growth rather than slowing it. Hence, the most obvious conclusion is not that a trade slump hurt China’s GDP growth but rather that trade actually compensated in a positive way for whatever was causing the growth-rate downturn.

Evidence of a possible negative net trade impact in this slow-growth period appears for only one year (1999) late in the subperiod and two years after the onset of the Asian financial crisis. What is more, figure 3.2 shows that this decline in net export demand was not only late in coming but was also due to a surge in imports, implying that the 1999 net export dip was due not to poor export demand but rather something else. Examples might be stronger domestic demand, a more relaxed import regime, or market success for imports due to the crisis-devalued currencies of many Asian competitors—or some combination of these. National accounts data show that inventories declined in 1999 for the third straight year, albeit by less than in 1997–1998. This further drop in domestic inventory improves the likelihood that imports did not seriously crowd out domestic production and output sales (see figure 3.15).

To the degree that net-export deterioration in 1999 reflected the impact of the Asian financial crisis on China’s trade-weighted effective exchange rate and hence the competitiveness of imports, we can say that the crisis may have been significant. It could be one reason why the slow-growth period hit bottom in 1999. But this effect was secondary, late in the period, and short-lived, lasting just for that one year.

Furthermore, China’s inflation had declined to near zero before the crisis, and any possible effect on inflation of China’s crisis-related effective currency revaluation came later—it did not cause the initial inflation drop. The overall conclusion thus must be that the trade effects of the Asian financial crisis did not cause the 1997–2000 slump in China’s GDP growth.

As for FDI, the combination of data trends and policy timing sharply undermines the idea that the Asian financial crisis hurt Chinese growth by dramatically weakening FDI. Figure 3.12 shows that FDI’s contribution to overall investment growth declined by 2.5 percentage points from 1996 to 1999, and this change is small compared with the roughly 10-percentage-point drop in domestically sourced investment from 1995 to 1997. In 1997 alone, a 4-percentage-point drop in domestically sourced investment brought overall investment growth to only 6 percent, its lowest level since 1990.

Furthermore, the decline in FDI in the 1997–1999 period was heavily influenced by the elimination in 1996 of significant tax advantages for a wide range of FDI projects. This change showed up clearly in drops in contracted FDI timed precisely with the shift in tax policy, which predated and was independent of the Asian financial crisis. Hence, both data trends and FDI policy patterns argue convincingly that FDI influences from the Asian financial crisis were not significant factors in explaining China’s GDP growth slowdown in 1997–2000. In the final analysis, the Asian financial crisis did not cause China’s growth slump in this period.

The “surplus economy” explanation for slow growth in this period is also difficult to credit with validity. In both rural and urban areas, China’s per capita consumption levels for the

Table 3.8. Chronology of the Slow-Growth Years 1997–2000

Date or Period	Policies and Events
1996–1997	Elimination of significant foreign direct investment tax advantages
1996–1999	Interest rates reduced 7 times—the most, by 1.5 percentage points, in June 1999
1997, winter	Widespread Chinese media stories on state enterprise financial losses
1997	Asian financial crisis, especially serious in South Korea, Thailand, and Indonesia
1997	State enterprise layoffs (下岗) begin on a large scale
1997	Three-level urban social safety net launched
1998	Start of economic stimulus strategy by increased public investment spending
1998	Stepped-up “Go West” policy strengthens fiscal investment stimulus
1999	China concludes WTO accession agreement negotiations with the United States
2000	Grain-planting requirements dramatically relaxed
2000	Fee-to-tax reform in Anhui starts reduction in rural tax and fee burden
2000	Rural government mergers and staff reductions begun in pilot counties

Sources: Dong 1999, vol. 2, various pp.; miscellaneous news clippings.

whole range of normal and superior consumer goods typically consumed throughout the world were well below world standards. International comparisons of these kinds of data make it difficult to argue that Chinese citizens were satiated in their demand for food, clothing, vehicles, entertainment, and personal services. Anecdotal information suggests that weakened demand was a factor. In 2002, the author of this study interviewed the manager of a township instant noodle factory in central Henan Province. Sales had collapsed in 1997 not because farmers were sick of instant noodles, the manager explained, but because farmers no longer could afford them.

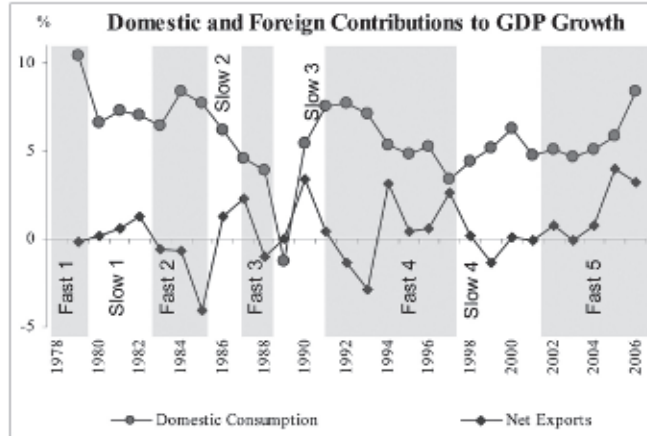
More generally, rapid increases in per capita production and the consumption of all goods and services across the board resumed after

2000, indicating that the problem was not one of surplus due to maximized levels of citizens' physical satisfaction but rather one of inadequate effective demand due to slow growth of disposable income. One clue as to why “surplus” might be used to describe these years is in the sense that inventories of unsold manufactured goods had built up to very high levels, especially for low-quality goods.¹⁰ This was the surplus. One likely cause of such slow sales and the inventory buildup for lower-quality goods is weak rural demand. This possibility is discussed below (see figure 3.17).

The third possible category of explanations for slow growth in the period 1997–2000 is China's macroeconomic policy regime. Policy-oriented explanations are clearly supported by statistical evidence. However, the investigation needs

Figure 3.13. Net Export* Demand and Domestic Demand Contributions to GDP Growth**

Domestic and international components of GDP growth by expenditure accounts show that most fast-slow subperiods have little or, if anything, negative correlation between net exports and the pace of economic activity. Exceptions are in 1998 and 2005, late in each of the most recent slow and fast periods, when the net influence of foreign trade on GDP growth is in the same direction as overall economic activity.



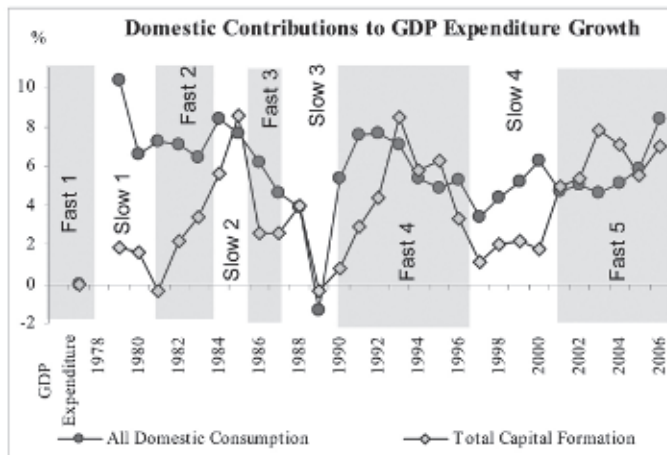
Sources: Expenditure account GDP and various price indexes, China National Bureau of Statistics, Statistical Yearbook of China, various years, and author's calculations. The methodology is from Keidel 2001.

* Net exports are for trade in goods and services, balance of payments basis.

** Subsector contributions to GDP growth, in percentage points, equal growth rates multiplied by shares in the total. They are added together (vertically) to obtain total growth figures. For expenditure account GDP growth, see figure 1.1.

Figure 3.14. Domestic Demand Contributions* to GDP Growth, 1979–2006

Domestic GDP demand component trends show a strong role for both investment and consumption in determining overall growth rates after 1978, with consumption taking the lead in all but the most recent years. Both had declined sharply by 1997. The investment surge in 2003, reflecting policies intended to counter the effect of the SARS epidemic, is the most striking feature of the 2001–2006 fast-growth period.



Sources: China National Bureau of Statistics, Statistical Yearbook of China 2006, and author's calculations. The method is from Keidel 2001.

* Contributions to GDP growth, in percentage points, are added together to obtain subtotal and total growth figures. For total expenditure account GDP growth, see figure 1.1.

to separate out two different questions: What caused the growth slowdown in the first place? And what sustained slow growth for several years further? It seems clear that conscious policies were not the reason that the slow-growth period went on for so long.

The role of dramatically slower investment growth through 1997 deserves special attention when examining the initial slowdown. Chinese officials had begun to strenuously tighten the economy as early as 1993. Real investment growth declined steadily from 24 percent in 1993 to 11 percent in 1996 and finally to a very low 6 percent in 1997 (see figures 1.2 and 3.12). In terms of direct contributions to GDP growth, figure 3.14 confirms that investment's role declined sharply and steadily from 1993 to 1997. The success of this policy program is also reflected in the inflation record, because consumer price increases had slowed to below 5 percent by the middle of 1997 (see figure 1.3).

Two related trends complement the drop in investment. First, the real growth of cash in circulation (adjusted for purchasing power) fell essentially to zero for all of the period 1994–1996 (see figure 3.9) but then oddly recovered as of 1997 (figure 3.18). Clearly, monetary policy tightening before the onset of the slowdown had dramatically cut increases to liquidity in the economy.

Second, real interest rates (that is, corrected for inflation) had risen from zero in 1994 and early 1995 to 5 percent in 1996 (see figure 2.7) before surging to roughly 10 percent in 1997–1998 (figure 3.16). Such a significant rise in real interest rates (both for deposits and loans) from 1994 to 1997–1998 was virtually certain by itself to have had a strongly debilitating effect on both investment and consumption.

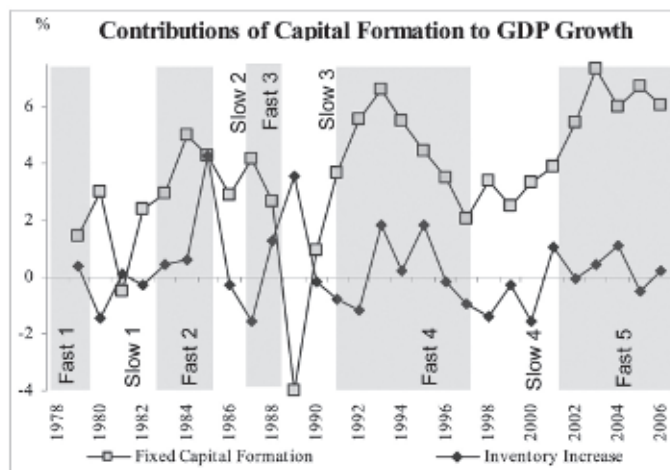
But it is not clear that the continued decline in domestic investment after 1997 was an intentional result of these earlier policies, especially when the launch of the new five-year plan in 1996 was accompanied by significant government consumption spending increases (see figure 3.17).

The 1997 jump in real interest rates is a case in point. Official policy was to methodically lower nominal interest rates, beginning in the second half of 1996. But these interest rates, despite official intentions, came down too slowly to keep up with the drop in inflation. Figure 3.16 shows this relationship for deposit rates. Central Bank interest rate schedules indicate a similarly paced decline for bank loan interest rates. Once again, the normal effect of such high real interest rates would be to discourage investment borrowing and deposit withdrawals, even though official policy was to lower interest rates. Despite official intentions, the excessively slow pace of interest rate lowering extended the earlier period's tightening policies well beyond the time when policy goals had shifted back to a stimulus effort. It is interesting that it may have been success in fighting inflation that ushered in a period of slow growth, because administratively adjusted interest rates then adjusted too slowly to this success.

Are high real interest rates the only reason why growth remained so slow in 1997–1998? Inflation-fighting policies ended and were replaced by fiscal stimulus during this period. The whole thrust of official policy was to stimulate the economy and, eventually, to fight deflation. For example, in addition to declining nominal interest rates, the growing fiscal deficit in 1999–2000 (figure 3.1) and the government consumption stimulus beginning in 1996 and continuing through 2000 (figure

Figure 3.15. Capital Formation Contributions* to GDP Growth

Investment (also known as capital formation) has two physical components, but nonmarket forces in China's economy can make them difficult to interpret. A pattern that seems to represent investment growth outstripping demand for output combines rapid fixed-asset growth and subsequent large increases in inventories. This was a pattern from 1992 to 1995. From 2004 to 2005, inventory declines also reflected surging net exports.



Sources: China National Bureau of Statistics, Statistical Yearbook of China 2006, and author's calculations. The method is from Keidel 2001.

* Contributions to GDP growth, in percentage points, were added together (vertically) to obtain subtotal and total growth figures. For total investment growth, see figure 1.2.

3.17) verify an official policy of macroeconomic stimulus. This policy was also linked to the "Go West" program of investment priorities in the 1996–2000 five-year plan targeting western China. Because of official efforts to stimulate the economy in this period, the extended 1997–2000 slowdown—apart from tardy interest rate reductions and the lingering effects of the earlier "soft-landing" program—was not the result of conscious official policy.

A final additional explanation for the 1997 investment drop comes from rural China. An autonomous, market-determined collapse of investment in rural enterprises, the subject of the subsequent analysis, also appears relevant. This is related to the three-year absolute decline in rural household consumption for 1997–1999. Figure 3.17 demonstrates that

rural household consumption growth, both nominal and real, collapsed to negative values, resulting in a 2-percentage-point drop in GDP growth. This collapse turns out to be a complicated phenomenon—linked to high urban food price inflation in the earlier period; to China's international grain security policies; and to the internal vibrancy of the rural economy's many dimensions, both farming and non-farming, in the previous period. The negative impact on prices of farm products is obvious from figure 3.11. This question of the rural economy's impact on GDP in this period is one important focus of the remainder of this report.

The decline in rural consumption in this slow-growth period is especially striking when compared with the strong growth of urban consumption. Even though this 1997–2000 period

is significant for its draconian urban labor force reforms, which laid off tens of millions of workers, urban household consumption jumped substantially. Unemployment resulting from these reforms should have caused weaker urban consumer demand and slower GDP growth. But the data given in figure 3.17 show just the opposite. Indeed, urban layoff compensation schemes and reemployment programs provided significant income supplements and employment retraining programs, and these appear to have made major contributions to urban living standards. There were no such programs for rural households.

Overall, then, the cycle of fast- and slow-growth periods from 1991 to 2000 is complex, because although the usual reform and macroeconomic policy steps appear to have been responsible for major shifts in economic trends, the 1991–1996 fast-growth period continued too long for these to be satisfactory explanations. Similarly, the downturn in 1997–1999 was too severe and long-lived to have resulted from the 1993–1994 sharp cutoffs of credit and investment authorizations. It turns out, as we will see later in the report, that this period is unusually complex and interesting in its rural dimensions, especially the negative role of grain in rural incomes.

This 1997–2000 slow-growth period was most likely caused by a combination of domestic factors, including low investment growth, high real interest rates, and some contribution from difficulties in the rural economy. It was not the result of the Asian financial crisis, or a “surplus economy,” or conscious government policies. Indeed, policy errors may be the best way to summarize its causes—too slow a reduction in nominal rates and a mismanagement of rural affairs. The related causal analysis is summarized in causal schema 3.8.

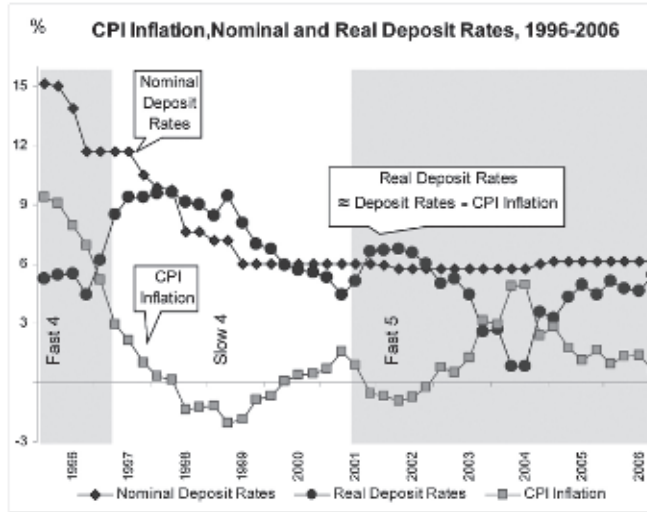
THE 2001–2006 PERIOD: SARS INVESTMENT BOOM AND EXPORT SURGE

China's final macroeconomic cycle to date, which began with a strong growth recovery in 2001, is still continuing as of this writing in late 2007. The expansion experienced a minor government effort to cool it off in 2004, after excessive investment promotion during the 2003 SARS epidemic. But strong investment has continued, and only after the middle of 2007 did China's statistical record show that inflation had become a concern. Hence, it appears that the cycle has been in a protracted rapid-growth phase. These events are summarized in table 3.9.

A causal analysis of China's most recent rapid-growth period, from 2001 through the time of this writing, is made more intriguing by the length of the growth period's duration. The factors that were dominant at the outset of the expansion's acceleration appear to have been supplemented by others as the period continues. For example, later in the period, the shorter-than-expected SARS epidemic in 2003 and resulting national policy initiatives to stimulate investment were followed by cooling-off efforts in 2004 that included reinstated grain-planting inducements for 2004. Also much later in the period, beginning in late 2004, foreign trade's prominence clearly increased and provided significant supplemental growth stimulus, which continues as of this writing. The timely management of overheating threats, in particular the contained growth of cash in circulation, avoided the necessity for draconian cooling-off policies. Finally, the whole period witnessed China's ability to increase its investment share in GDP without significant inflation—at least not until late 2007. Such higher investment rates naturally, by themselves, accelerate growth.

Figure 3.16. Quarterly Real Deposit Interest Rates, 1996–2006

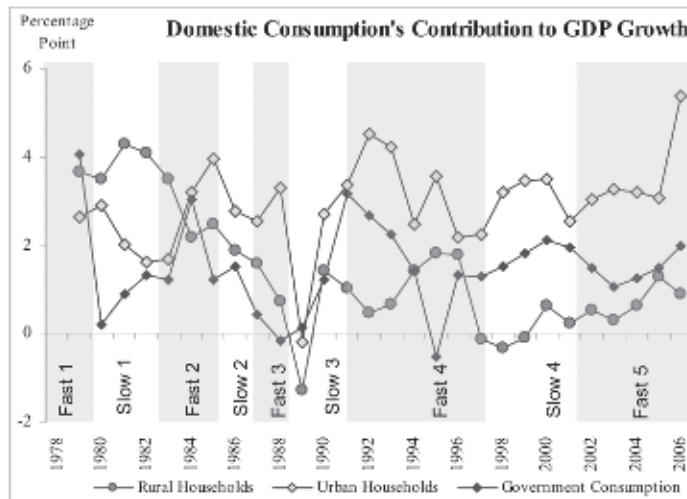
In the late 1990s, official lowering of both deposit (shown) and loan rates, in multiple stages from 1996 to 1999, at first failed to match the drop in inflation, causing a period of high real rates, lasting until the second half of 1999 and potentially discouraging consumption and investment. After 2000, consumer price index (CPI) inflation irregularly lowered the real rate below 5 percent, especially in 2003–2004, threatening over-heated bank withdrawals.



Sources: China National Bureau of Statistics, Monthly Statistical Bulletin, various issues; benchmark interest rate schedules, People's Bank of China.

Figure 3.17. Urban, Rural, and Government Consumption Contributions* to GDP Growth

In China's reform period, rural household consumption growth outstripped urban consumption growth only before 1984 and in the single year 1996. In the 1997–2000 slow-growth period, the clearest reason why slow growth persisted is the 1997–1999 three-year period of negative rural household consumption growth.



Sources: GDP expenditure accounts, price indexes, and household survey consumption data as reported in China National Bureau of Statistics, China Statistical Yearbook, various years. The methodology is from Keidel 2001.

* Contributions to real GDP growth, in percentage points, are added together (vertically) to obtain subtotal and total growth figures. For total expenditure account GDP growth, see figure 1.1.

Candidates for causal relevance throughout the period include a strong growth in export demand and ultimately in net export levels, linked to China's accession to the World Trade Organization (WTO), explicit government stimulus, investment encouragement, government deficit spending, continued stimulatory credit and monetary policies, and a temporary shift in rural policies permitting farmers to diversify crops away from grain to more lucrative products.

First of all, was the 2001–2006 surge export led? “Export-led growth” is a phrase that describes a strategy of reliance on export growth to sustain GDP growth. Its counterpart at the other extreme is an “import-substitution” strategy.¹¹ The combination of domestic and foreign demand contributions to GDP (shown in figure 3.13) makes it clear that foreign net demand is a secondary contributor to China's overall growth that was negligible until 2004–2005. Even the strong net export surge after 2004 did not reflect export growth acceleration but rather an import growth slowdown related to domestic policy efforts to cool the investment boom in 2003–2004 (figure 3.2). Reviewing export performance at the start of the period, figure 3.2 reveals that export levels actually declined as a share of GDP in 2001, the first year of the fast-growth period, before starting a sustained export growth climb in 2002.

Indeed, it is relevant that China's export (and matching import) surge began in 2002, just as the United States entered a recession (see figure 1 above). An export-led growth explanation would have predicted that recession in the United States would trigger a slowing, not an acceleration, in China's growth. This did not happen—quite the reverse. It is also useful to notice that China's slow-growth period from 1997–2000 corresponded with the U.S. “dot-

com” expansion, which nevertheless failed to “lead” China to significantly higher GDP growth (figure 1). The combination of these observations rules out explaining China's expansion after 2000 as export-led growth.

Could China's WTO accession explain the sustained nature of growth in this period? It is well known, of course, that this period's rapid growth in both exports and imports reflects to an important degree the WTO-related increase in international-trade-related business ventures in China, both foreign and domestic. Many of them primarily import materials, parts, and kits for completion and assembly for final shipment elsewhere. To this extent, China's superficial expansion in both imports and exports did not play a role commensurate with appearances. Even without considering pass-through and assembly trade, however, the purely statistical evidence indicates that exports and net exports were not primary factors causing this period's growth surge, if they were factors at all.

It is more difficult to dismiss trade's later growth-promoting role, in light of China's large global trade surplus, which suddenly appeared in the second half of 2004 and continued in the period 2005–2007. Even though its importance for GDP growth was much smaller than overall domestic demand—4 versus 11 percentage points for domestic demand (see figure 3.13)—it suggests a possible new phase in this long period of economic expansion. Will China's export sector, as a result of WTO accession and other factors, become a main driver of growth in coming years? It is too early to know. Too many dimensions of China's overall trade regime and those of its trade partners are still shifting too rapidly to allow a mature understanding of future prospects. The balance of these implications will not play out fully for

Causal Schema 3.8. Explaining the Slow-Growth Years 1997–2000

Overall causal conclusion: Government tightening policies, dating from 1993, could not have purposely caused low investment levels in 1997, because they had already been discontinued. The best explanations for the growth slump are excessively slow interest rate reductions, consequent high real rates and low investment, collapse of farm prices and rural consumption in 1997–1999, and some weakness in net exports for 1999 as a secondary factor. The policy and statistical record rules out other explanations, such as the Asian financial crisis, appearance of a “surplus economy,” large-scale urban layoffs or intentional government slowdown policies for 1997–2000.

Is the hypothesis verified? Are its needed supporting facts and data valid?*	Valid?	Verified?
1. Did the Asian financial crisis cause China’s growth slowdown in 1997–2000?		No
A. Did exports increase in 1997, then decline a little and level off through 2000?	Yes	No
B. Did net exports surge in 1997 and remain historically high through 2000?	Yes	No
C. Did net exports dip 1.5 percentage points in 1999 because of an import surge?	Yes	Yes
D. Could the 1999 import surge/net export dip reflect strong domestic demand?	Yes	No
E. Could the 1999 import surge/net export dip reflect relaxed import restrictions?	Yes	No
F. Could the 1999 net export dip reflect real devaluations by Asian competitors?	Yes	Yes
G. Did inventory increases continue to decline for a third year in 1999?	Yes	No
H. Did FDI dip significantly as a share of total investment?	No	No
I. Did the small FDI dip reflect policy shifts predating the Asia financial crisis?	Yes	No
2. Did the 1997–2000 growth slowdown reflect China’s status as a “surplus economy?”		No
A. Was per capita consumption of various products close to OECD entry levels?	No	No
B. Did rapid growth of per capita consumption for all goods resume after 2000?	Yes	No
3. Did explicit government slowdown policies contribute to the initial 1997 slump?		Yes
A. Did government sharply cut money growth, credit, and investment in 1993	Yes	Yes
B. Did investment’s 1994–1997 growth contribution decline continuously?	Yes	Yes
C. Did 1997–2000 nominal interest decline too slowly despite low inflation?	Yes	Yes
D. Were slower growth and inflation-reduction policy priorities for 1997?	No	No
E. Did money growth return to double digit levels in 1995–1996?	Yes	No
F. Was higher government consumption in 1996 used to stimulate the economy?	Yes	No
4. Did government GDP growth-slowing policies continue the 1997–2000 deceleration?		No
A. Did government continue its slowing policies after 1997?	No	No
B. Did government implement (unsuccessful) stimulus policies in this period?	Yes	No
C. Was the “Go west” strategy an explicit component of the stimulus program?	Yes	No
D. Did government consumption’s contribution surge in 1996 and remain high?	Yes	No
E. Do budgetary data show an increase in deficits as part of the stimulus effort?	Yes	No
5. Did urban enterprise reform and layoffs cause the 1997–2000 growth slump?		No
A. Did layoff programs include significant compensation and financial support?	Yes	No
B. Do survey data show healthy real urban consumption growth in this period?	Yes	No
C. Do GDP data indicate high sustained urban growth contributions after 1997?	Yes	No
6. Could deterioration in rural incomes and consumption explain the growth slump?		Yes
A. Did the State Council 1996 grain responsibility system seek lower prices?	Yes	Yes
B. Did grain planted area and output in 1996 increase dramatically?	Yes	Yes
C. Did prices for grain decline sharply and steadily from 1996 to 2000?	Yes	Yes
D. Did the index of prices for all farm products decline even more than grain?	Yes	Yes
E. Did real rural consumption decline for three straight years, 1997–1999?	Yes	Yes
F. Could weak rural consumption cause weak rural enterprise investment?	Yes	Yes

Sources and explanation: See the text.

Note: OECD = Organization for Economic Cooperation and Development.

* A supporting fact could be true and still fail to verify the hypothesis; similarly, unsuccessful validation of a relevant fact could support the hypothesis; it all depends on the logic of the known relationship(s).

Table 3.9. Chronology of the Fast-Growth Years 2001–2006

Date/Period	Policies and Events
2001	Policy efforts to reverse deflationary price declines continue and strengthen
2001	Beijing accelerates reforms to eliminate dual urban-rural citizenship system
2001, late fall	China joins the World Trade Organization
2002–2005	Illegal capital inflows speculate on renminbi revaluation with real estate investments
2003, spring	SARS epidemic crisis triggers government-led financial and investment expansion
2003, fall	Central government instructs provincial governors to increase grain production
2004	Farm output prices, especially grain prices, raised administratively
2004–2005	Comprehensive government efforts to cool investment, especially in real estate
2004–2006	“New Village” movement to correct “three rural problems,” farming, farmers, villages
2005	Repeal of the agricultural tax; rural fees abolition reform complete.

Sources: Author's interviews; various financial and economic press reports.

several more years. But one thing is clear: For the earlier parts of the current growth surge, trade was not a major causal factor.

If it was not foreign trade, what other factors are responsible for the current growth surge? For its very first year, 2001, the answer is an unexpected one: increased inventories. The case for domestic capital formation's leading role appears strong throughout the period (figure 3.14), but for 2001 this is largely because of the 2.6-percentage-point increase in the contribution of its inventory change component to overall GDP demand (see figure 3.15). If we also consider separately FDI's 0.6-percentage-point growth contribution that year, the increase in domestically sourced fixed-asset investment's contribution was zero (figure 3.12).

Domestic consumption's contribution is even less impressive than domestically sourced in-

vestment growth at the start of the period, because urban household consumption demand's growth contribution declined sharply in 2001 and government consumption's contribution declined through 2003 (figure 3.17). Consequently, consumption's overall role remained well below its importance in the previous fast-growth period (1991–1996), at least from 2001 to 2004. This is in large part because the rural household contribution also remained weak early in the period. Only late in the period, in 2004–2006, is a revival of rural consumption's demand contribution also relevant (figure 3.17). Just as in the preceding slow-growth period (1997–2000), however, and especially in 2006, consumption growth was dominated by urban households, contributing to the growing levels of reported urban=rural inequality.

We must come to the conclusion that neither domestic consumption demand nor domestically sourced fixed-capital investment accounts

for the 2001 growth surge. Instead, we have an unusual alliance in 2001 of strong GDP growth contributions from an inventories reversal decline to increase (totaling 2.6 percentage points) and a surge in FDI (0.6 percentage point). Together, the total increase in their combined contribution to growth in 2001 was 3.2 percentage points (explaining the large jump in capital formation's contribution for that year, shown in figure 3.14). As with earlier booms in 1985 and 1993, the real growth contribution of capital formation climbed in 2001 to equal that of consumption (figure 3.14).

Is there any possible link between the 2001 strong inventory increase and the surge in FDI? The most obvious hypothesis is that China's pending admission to the WTO in December of 2001 encouraged both new FDI inflows and the replenishment of inventory stocks depleted in the previous four years (see figure 3.15). This conclusion requires adjusting our evaluation of China's WTO accession. Even though trade patterns can claim no significant role in stimulating the growth surge, the expectations of higher rates of production and overall demand, taken together, likely stimulated FDI and, most of all, strengthened confidence that increased production, even if temporarily going into inventories, would soon be sold.

An alternative explanation for the jump in inventory demand is that government policies—launched in the late 1990s to stimulate the economy and combat deflationary pressures¹²—finally took hold in 2001 and encouraged higher production by making liquidity and working capital available. Monetary policy and trends support arguments for this explanation of the strong 2001 inventory recovery. Monetary expansion had been in the works for several years before 2001. With inflation close to zero and sometimes negative after the middle of 1997,

the Central Bank by 1999 had significantly lowered the interest it charged financial institutions, from over 10 percent in 1997 to under 4 percent. It further lowered the rate in 2002 to close to 3 percent. At the same time, as we have seen, other real interest rates gradually came down, in the case of deposit rates from over 10 percent in 1997 to just over 5 percent in early 2002 (figure 3.16).

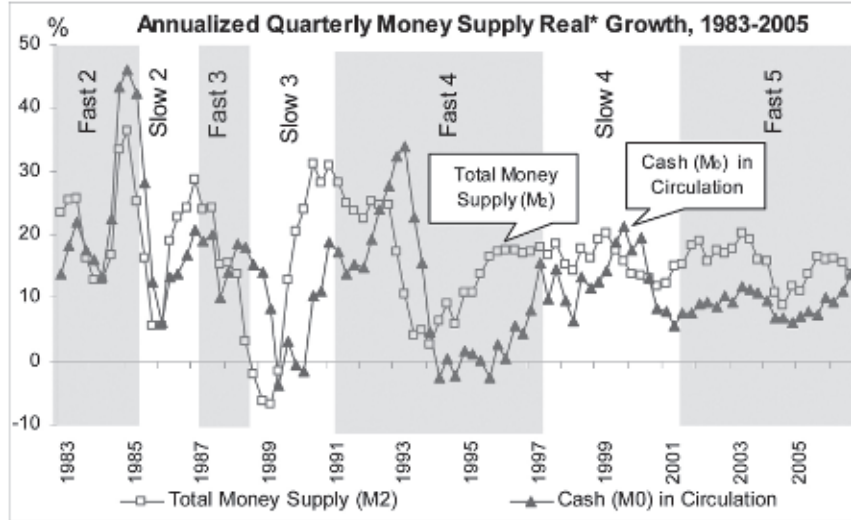
Although the piecemeal nature of these interest rate declines may have prolonged the 1997–2000 period of slower growth, it served to launch a growth recovery after 2000 that was more gradual than those of earlier periods. Evidence that domestic demand had indeed gradually strengthened by 1999–2000 appears in figure 3.13, which presents the large GDP contribution of domestic capital formation and consumption, contrasting it with the much smaller contribution from net exports.

The data on the money supply supporting the argument that these interest rate policies were effective appear in figure 3.18. Nonnegative growth of cash in circulation (M_0) had resumed by 1997–1998. But it took until 1999–2000 for M_0 to receive a one-time growth boost, as the result of the largest drop in deposit rates for the series (in June 1999) and a major restructuring of bank balance sheets in 1999 that gave banks more freedom to make fresh loans (see figure 3.19) and removed many onerous debt-service obligations from industrial and commercial enterprises. Figure 3.19 shows that bank lending of all kinds jumped in 1999 to levels consistent with those in the 1992–1993 boom years.

Moderate real monetary growth continued after 2001, while the growth of cash in circulation, with its potential risk for triggering inflation, was kept relatively low. Hence, both

Figure 3.18. Quarterly Growth of Money (M2) and Cash in Circulation (M0), 1983–2005

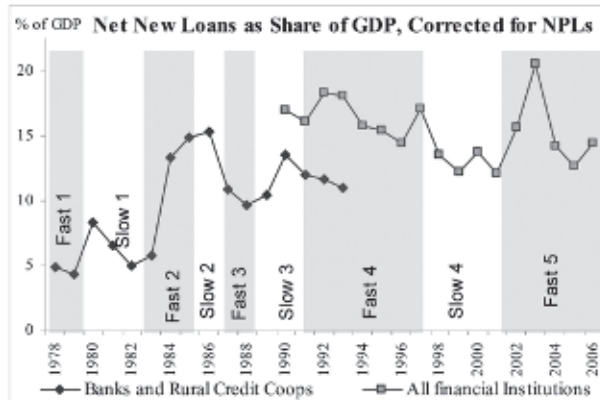
The growth of money aggregates (corrected for inflation) has shown a significant decline in volatility since the middle 1990s. In particular, except for a brief 1999–2000 surge in the growth of cash in circulation (M0), M0's growth in the most recent rapid-growth period (2001–2005) has been slower than overall monetary growth, helping to explain why inflation has generally been subdued for the whole period.



Sources: People's Bank of China, Financial Yearbook of China, various years; China National Bureau of Statistics, Monthly Statistical Bulletin, various issues.

Figure 3.19. Net New Lending as a Share of GDP, 1978–2006

Net new bank loans as a share of GDP have fluctuated with some, if not completely consistent, links to China's fast and slow periods. The record since 1990 is especially interesting. Lending remained strong through the first year of the 1997–2000 slow period, and surged again in 1999 at the time of bank restructuring, before lending slowed again for two years. The SARS year of 2003 clearly witnessed excessive lending—quickly corrected by a much lower lending pace in 2004–2005.



Sources: People's Bank of China, Financial Yearbook of China, various years; Research and Statistics Department data, People's Bank of China; GDP expenditure data and financial institution lending data from China National Bureau of Statistics, China Statistical Yearbook 2006.

Note: The statistical derivation of net new lending from end-year loan stock data after 1998 was corrupted by the transfer of nonperforming loans out of banks by several waves of bank restructuring in 1999–2005. The trends shown here for all financial institutions have used changes in official end-year stocks of loans outstanding, published by the People's Bank of China for 1990 to 1997. Beginning in 1998, the series is based on internal People's Bank of China data on net increases in loans, which corrected changes in published end-year loan stocks to correct for nonperforming-loan transfers and other necessary adjustments.

Causal Schema 3.9. Explaining the Fast-Growth Years 2001–2006

Overall causal conclusion: A sudden sharp 2001 increase in inventory investments started the fast-growth period, for two reasons. First, monetary policy and loan growth increased enterprise liquidity for funding the increases. Second, China's accession to the WTO encouraged firms to expand inventories. Neither export growth nor domestically-funded investment was responsible. Domestic consumption and investment demand dominated subsequent continued fast growth through 2007, supplemented by the 2003 anti-SARS investment stimulus and the net export surge in 2004-07.

Is the hypothesis verified? Are its needed supporting facts and data valid?*	Valid?	Verified?
1. Was the 2001–2006 growth surge export led?		No
A. Was the GDP growth contribution of net exports negligible until 2004-2006?	Yes	No
B. Did exports as a share of GDP decline in 2001, at the start of the surge?	Yes	No
C. Did the U.S. economy go into recession in 2002 as China's boom accelerated?	Yes	No
D. Even in 2004–2006, was domestic demand's GDP contribution much larger?	Yes	No
E. Did tightening policies slow imports in 2004-06, causing net exports to surge?	Yes	No
2. Can we now know whether China's WTO accession caused sustained high growth?		No
A. Did the GDP contribution of net exports suddenly surge in 2005?	Yes	Yes
B. Did tightening policies slow imports in 2004–2006, causing net exports to surge?	Yes	No
C. Is it too soon for all WTO-related shifts in China's trade regimes to appear?	Yes	No
D. For this period, did new imports for processing explain much export growth?	Yes	No
3. Did non-FDI fixed-asset investment growth contribute to the 2001 growth surge?		No
A. Was non-FDI fixed-asset investment's GDP contribution unchanged in 2001?	Yes	No
4. Did a combination of inventory increase and FDI explain the 2001 growth surge?		Yes
A. Did 2001 inventory increases cause 2.5 percentage points of GDP growth?	Yes	Yes
B. Did 2001 FDI increases contribute 0.6 percentage point to GDP growth?	Yes	Yes
C. Did 2001 household consumption's GDP growth contribution decline?	Yes	Yes
D. Did 2001 government consumption's GDP growth contribution decline?	Yes	Yes
5. Could WTO accession explain the 2001 combination of inventory and FDI stimulus?		Yes
A. Was China's late-2001 WTO accession a sure thing by early 2001?	Yes	Yes
B. Did WTO accession increase confidence in the profitability of FDI?	Yes	Yes
C. Could WTO accession have emboldened investments to restock inventories?	Yes	Yes
6. Could money and credit policies explain the 2001 inventory increase stimulus?		Yes
A. Did expansionary monetary and interest rate policies begin as early as 1998?	Yes	Yes
B. Did M2 growth recover from single digits to the teens by 1997–1998?	Yes	Yes
C. Were nominal interest rates systematically lowered from 1996 to 2002?	Yes	Yes
D. Did the June 1999 large drop in interest rates render real interest rates lower?	Yes	Yes
E. Did the 1999 interest rate drop cause a 1999-2000 increase in growth of M0?	Yes	Yes
F. Did financial institution lending only surge in 2001, two years after 1999?	Yes	No
7. Could relaxation of grain-planting duties in 2000–2001 explain the growth surge?		No
A. Did farmers diversify crops away from grain abruptly in 2001?	Yes	Yes
B. Did grain prices and prices for all crops improve dramatically before 2004?	No	No
C. Did growth of rural household consumption recover significantly in 2001–2002?	No	No

Sources and explanation: See the text.

Note: WTO = World Trade Organization; FDI = foreign direct investment.

*A supporting fact could be true and still fail to verify the hypothesis; similarly, unsuccessful validation of a relevant fact could support the hypothesis; it all depends on the logic of the known relationship(s).

interest rate adjustments and the management of the money supply indicate modest and gradually expanding supplies of money and liquidity.

New loan trends also reveal how lending surged to what policy makers felt were excessive levels in 2003, as part of the government's encouragement for the economy to continue to grow in the face of the SARS epidemic.

The macroeconomic tightening after SARS, in 2004–2005, cut the level of net new lending to levels lower than lending in the 1990–1997 pre-slump period. And yet GDP growth accelerated. The fact that bank loans declined dramatically in 2004–2005 just as investment's share in GDP surpassed 40 percent in the same two years also indicates a diminishing role for bank loans in funding investment. Equity investments and retained earnings (so-called self-raised funds) had been gaining in importance and in 2005 accounted for more than 60 percent of all fixed-asset investment, compared with 53 percent in 2001.

Although FDI and inventory increase accounted for growth in 2001, by 2002 their influence dropped to near zero. In their place, a 1.5-percentage-point increase in domestically sourced fixed-capital investment for 2002 (figure 3.15) and slightly less than 1 percentage point of growth from net exports helped further accelerate GDP growth.

It is thus clear that GDP growth was doing quite well by the time the SARS epidemic struck in the first half of 2003 (see the 2002 GDP growth rate in figure 1.1). To fight the negative economic impact of SARS, the government stimulated investment substantially and—given how

rapidly the authorities controlled the disease outbreak—actually stimulated it excessively. When SARS quickly came under control, the government shifted its efforts to slow investment. These efforts to control inflation and cool off overheated sectors like real estate began in 2004 and continued throughout much of 2006. In an earlier cycle, such a combination of fast- and slow-growth periods would have shown much more dramatic ups and downs—and certainly more inflation. An interesting question is how authorities avoided inflation throughout 2006, especially in light of significant illegal speculative foreign capital inflows. Whatever the method, China's economy successfully sustained high GDP growth rates with low inflation through 2005 and beyond.

Finally, one clear additional correlation with growth recovery in 2000–2001 is the drop in the area planted with grain that began in 2000. This shift in planting patterns follows directly from the policy decision to allow farmers to diversify their crops away from grain. The alacrity with which farmers responded is a good indicator of the financial burden represented by official pressures to plant more grain at the expense of other, more lucrative, crops. The expected result is higher farm incomes and consumption levels. By 2004–2005, the recovery of rural incomes and consumption patterns finally appeared in the statistical record (figure 3.17). Chapter 4 discusses these factors in more detail. Causal schema 3.9 gives a summary of the causal analysis.

THE SIGNIFICANCE OF THE APPEARANCE AND EVOLUTION OF CHINA'S STOCK MARKET

Chinese stock market activity dates from the early 1990s. However, the limited number of listed companies, their administrative rather than market-based selection, and the popular

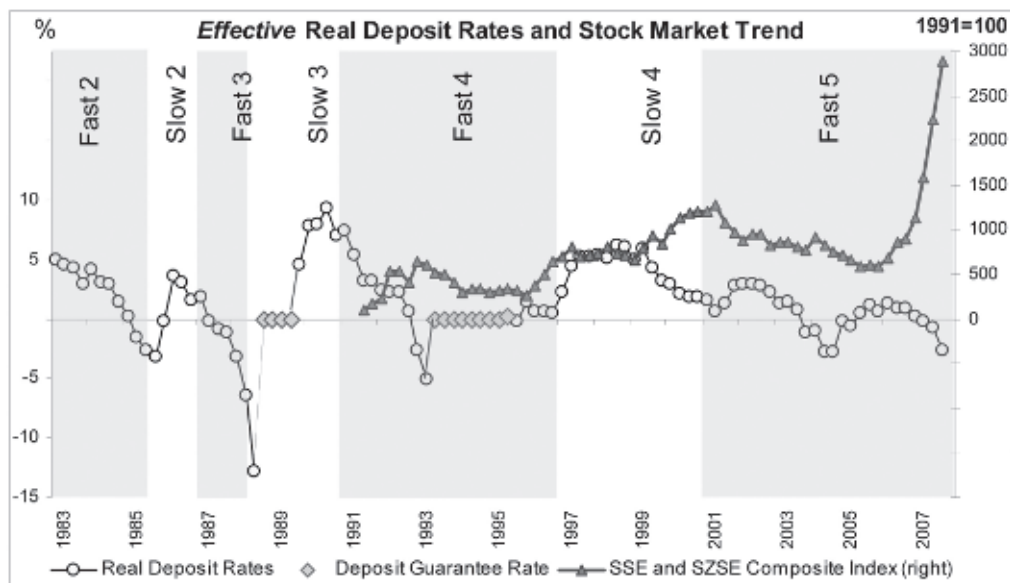
use of stock market investment as a gambling pursuit all limited its macroeconomic significance well into China's most recent fast-growth period. For these reasons, and given additional governmental interventions and nonmarket influences, even by 2006 the stock market's role in the economy was questionable, both as a store of household wealth and as a bellwether of coming economic adjustments. Note that during the whole economic surge from 2001 to 2005, while growth accelerated, China's stock market went through a long decline (figure 3.20).

However, despite the need for the stock market's continued development—for example, with a larger volume of listed companies, a more significant distribution of dividends, and much stronger participation by institutional

investors—by 2006–2007 the stock market appeared to have become important enough that future use of analysis in this report should consider the degree to which the stock market's role requires adjustments to policy conclusions. For example, as real bank deposit rates once again became negative in 2007, this trend did not immediately translate into a surge in cash in circulation, and thus M_0 growth slowed to single digits in the third quarter of 2007. See, for comparison, the analysis of earlier periods in chapter 2. In contrast to earlier periods, the negative return on most bank deposits in 2007 appeared to be a contributing factor in the extraordinary run-up in the stock market for the years 2006–2007 (figure 3.20). Bank interest rates are clearly not the only explanation, however, because the run-up began before real interest rates turned negative. The timing

Figure 3.20. Chinese Stock Market Trends and Real Bank Deposit Rates, 1988–2007

Whereas negative real bank deposit interest rates contributed to consumer goods purchasing power in 1988 and 1993, in 2007 the stock market absorbed a significant amount of cash seeking higher returns.



Sources: People's Bank of China, China Financial Yearbook, various years; China National Bureau of Statistics, Monthly Statistical Bulletin, various issues), and Shanghai stock market data: Tsinghua 2007.

was also due to government regulatory adjustments and the treatment of special shares that the government controlled.

Still, by late 2007 negative deposit rates were becoming a factor as well. Even monetary data felt the influence of the stock market, because brokerage accounts became larger and possibly began to influence data on M_1 , which includes demand deposits in banks—close to cash in their liquidity. Because the 2001-2007 fast-growth period had not ended by the fall of 2007, this observation will be useful more for analysis of events in the future than for those in the past (see the discussion of 2007 inflation in the overview of this paper).

CONCLUSION

This quick examination of China's economic cycles since reforms began in 1978 establishes that its economy has been until recently dominated by economic cycles and that they are largely the result of domestic policy actions and reactions. What remains to be seen is whether these cycles affected rural areas differently than urban areas, and how their effects were transmitted. There is also the possibility that rural economic cycles influence national cycles, in part because rural economies appear to have some degree of internal dynamism that gives them a more important role to play than as the passive recipient of national trends.

Chapter 4

Macroeconomic Cycles and the Rural Economy

China's rural economy is traditionally treated as a vast, flexible farming hinterland capable of supporting the formal urban and national economy by providing food, raw materials, and inexpensive labor. But a closer look shows that the rural economy has a more complex relationship than this with China's more modern sectors. This complexity shows itself in the rural economy's interaction with the rest of the country during both the fast- and slow-growth periods of the post-1978 reform era. The analysis in this chapter shows that China's rural economy did more than just absorb the blows of the modern sector's expansion and tightening spasms. It contributes to those spasms. Most important, official concern limiting foreign fine grain imports has penalized the rural economy, imposing lower rural incomes and forcing a more rapid exodus of migrant labor.

INTRODUCTION: FOUR QUESTIONS

The analysis here explores the rural economy's record of interaction with the cyclical fast- and slow-growth periods of the overall national economy. It asks and answers four questions.

First, does the rural economy have an independent dynamism—an economic life all its own? Or is it a passive companion to the more modern urban economy—meeting its needs for food, raw materials, and labor? The answer is that in some but not all fast- and slow-growth periods, it seems to have had a self-generating pace of growth and income expansion, with its own rural demand driving the rural output of nonfarm goods and services. Acknowledging this rural capacity for indigenous growth en-

courages an appreciation of the rural regions' contributions to China's post-1978 economy.

Second is a factual question: Has the impact of China's fast- and slow-growth periods since 1978 been more difficult for the rural economy than for the rest of the country? Were the peaks of inflation and overinvestment and the slumps of slow growth and weak consumption more serious in the countryside than in China's cities? The answer is yes, frequently, but not always. Other, longer-term swings provide a better generalization. Through the late 1980s, the rural economy fared well off and on—and it did well once again in the middle 1990s. The rest of the time, it suffered more than the cities from macroeconomic swings.

Third, how much did national and urban policies and fluctuations directly cause fluctuations in the rural economy? The answer, it turns out, is quite a lot. Money supply growth, shifts in administrative pricing policies, credit loosening and tightening, and reductions in rural-urban market barriers are a few of the clearest ways that national fluctuations and the policies responsible for them also affected rural areas.

Fourth and finally, did the rural economy have its own independent influence on the national economy? Here again, the answer is definitely yes, but not always. The clearest instances are in the early 1980s and middle to late 1990s. At other times, the rural economy merely followed the same influences and trends affecting the rest of the country.

THE RURAL ECONOMY'S CAPACITY FOR INDEPENDENT DYNAMISM

Two interacting factors together explain how China's rural economy has been able, at times,

to exert an independent economic dynamism. The first is the fluctuations in its grain-producing subsector. Grain—more accurately, staple food—plays a dominant role in both farm policies and farming livelihoods. The second factor is the nonfarm dimensions of rural China—both manufacturing and service provision. Rural manufacturing and services have grown dramatically since reforms began in 1978. Originally known as township and village enterprise activity, rural China's nonfarm economy has in many ways been much more responsive to market forces and individual incentive signals than the overall national economy.

As important as these two rural components are, a third trend appears to be gradually overtaking them in significance: income from rural migrants working in urban settings and sending funds back home. This trend has rapidly become the most important income source for rural households. Better roads and communications have significantly weakened the earlier barriers to integration of the rural population into urban life, and in recent years this trend has made it increasingly difficult to treat the rural economy as an entity entirely separate from the rest of the country. Still, despite this trend, the rural economy offers a sometimes-untapped opportunity for China to balance the structure and pace of its economic expansion.

CHINA'S GRAIN CYCLE: CONTRADICTION UPS AND DOWNS

For both economic and political reasons—including national security reasons—China's grain economy exerts a powerful and not always beneficial influence on the rural economy and its part in China's cyclical macroeconomic instability. The ups and downs of China's grain sector reflect the constant tug of war between a national policy that resists importing fine

grain and the low income that farmers must earn from grain if the price of grain is to stay within boundaries acceptable to the urban population's food budget.

With regard to this grain economy, the best option from an economics perspective is officially rejected. It would permit the importation of a much larger volume of grain from world markets, allowing more farmers to diversify into other, higher-profit products and achieve a better standard of living. But this is rejected because China's "Grain Security Strategy" has a major goal, as a contingency plan during some future international confrontation: to minimize China's possible vulnerability to outside pressures threatening sanctions to cut off food grain supplies. At least that is one argument. It is also possible that other reasons are important, such as concerns about spending valuable foreign exchange to support income and consumption standards for rural citizens or "peasants" instead of for the development of the modern sector.

By rejecting the best economic option and insisting on import restrictions that end up sourcing virtually all its fine grain domestically, China has two choices, in principle. First, it could allow the domestic price of grain to rise high enough so that farmers will voluntarily want to plant enough of it. This would result in high grain prices, the need for higher urban wages to compensate, the resulting higher price of everything produced, and urban discontent triggered by related general inflation.

Alternatively, the government could use some combination of subsidies, arm twisting, and persuasion to ensure that farmers plant enough grain so that a large harvest can keep the market price low and urban inflation in check. A

side effect is lower farm incomes, at least in areas officially dedicated to grain production. China has adopted this latter approach as its basic strategy, but the strategy gets in trouble because periodically it is too successful.

The strategy gets into trouble because at some point after farmers start planting more grain, there is a year with good weather, the harvest is plentiful, and the price of grain collapses to levels that cannot support an acceptable rural standard of living. When this has happened over the past twenty-five years, the government has stepped in and tried to subsidize the purchase of grain at prices that would allow a stable standard of living for farmers. These subsidies, in each instance, become too expensive for the government to keep up.

When grain purchase subsidies get too expensive, with grain supplies plentiful and the price very low, the government relaxes its subsidies and arm-twisting grain-planting persuasion programs, and farmers switch to other crops, sometimes very quickly. It then takes a few years for grain inventories to shrink and prices to start to rise. At that point, the grain-planting cycle begins again. Because of this on-again/off-again government policy of "encouraging" grain planting, the cycle has flourished with variations since the years 1982–1983, when family farming replaced communes, and has been repeated again in 1986–1987, 1995–1996, and most recently 2003–2004.

The resulting cycles in grain planting are clear from figure 4.1. With the 1979 official increase in grain prices, and the 1982–1983 breakup of the communes, the area planted with grain gradually declined from levels in the planned, prereform era. With even higher government prices in 1983–1984, from a policy that paid

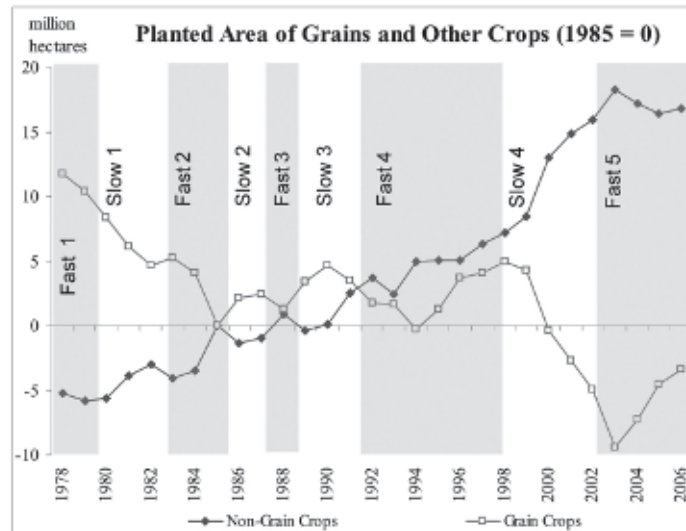
the highest prices for extra above-quota farmer sales, the planted area was stabilized and output grew with good weather. But by the end of 1984, the government purchasing stations had run out of money, and many closed. This was the first instance of the government's failure to afford its grain-production incentive package.

In a way, by 1984, the urban population had become incapable of matching the combination of rural productivity and higher prices. In rural areas, it was dubbed a period of "hard to sell and hard to buy" (in Chinese, 难卖难买). It was "hard to sell" because farmers had a lot of grain, but purchase shops were closed, even though they were obligated to buy. It was "hard to buy" because even though farmers had a lot of cash, the retail stores ran out of consumer goods and producer goods, like clothing, tools, and other everyday goods made in the cities.

The official response in 1985 was to reduce guaranteed farm prices and free farmers to decide whether or not they wanted to plant grain, under a new "contract system." The response in reduced grain planting was dramatic (see the change in planted area from 1984 to 1985 in figure 4.1 and in per capita output in figure 4.2). Similar switching out of grain erupted in other periods of lax discipline—in 1988, 1994, and 2000–2003. When discipline was restored, planting and output recovered.

Figure 4.1. Grain Planting Cycles Relative to 1985 Area Planted

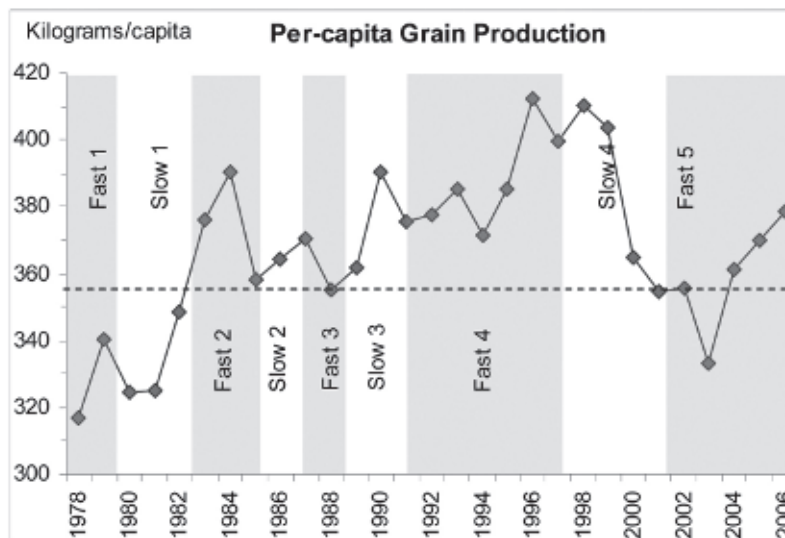
When they have been permitted to do so, farmers have switched out of planting grain and into planting other crops, especially in 1985, 1988, 1994, and 2000–2003. When the government has reintroduced the “duty” or “responsibility” to plant grain, grain-planted areas have soared.



Sources: China National Bureau of Statistics, Statistical Yearbook of China, various years.

Figure 4.2. Grain Production Per Capita, 1978–2006

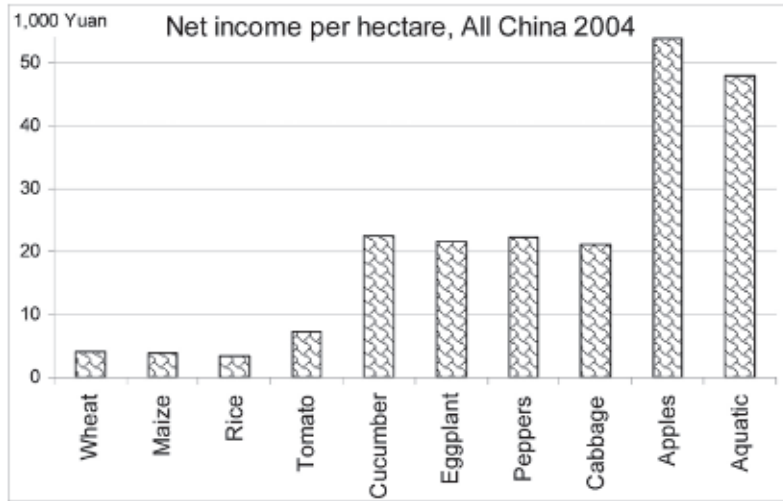
Fluctuations in China’s grain output per capita follow the planted area trends in figure 4.1 and, to a certain degree, mirror the overall macroeconomic fast and slow periods in the economy since 1978. After the communes broke up in 1982, fast periods eventually saw low output, while slow periods featured high output.



Sources: China National Bureau of Statistics, Statistical Yearbook of China, various years.
Note: Per capita production in 1985 is a benchmark because of the political criticism that year’s level brought.

Figure 4.3. Net Income* for Different Farm Products, 2004

Even in 2004, when official government policies raised grain prices dramatically, a family's financial return per land unit planted in grain was much lower than the return to land producing other crops and products.

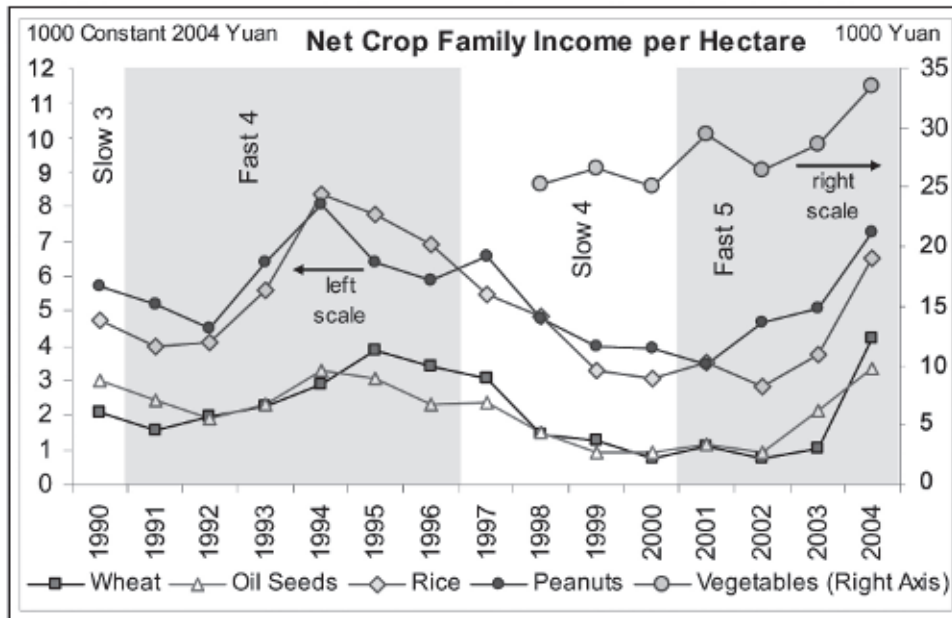


Source: China National Bureau of Statistics 2006.

* "Income" refers to the combination of family labor income plus profits after all costs—cash and in kind.

Figure 4.4. Net Income* per Hectare for Selected Products, 1990–2004

The incentive to switch farmland out of grain planting and growing has been strong for many years. Even if farm prices improve, the gap in profitability per unit of land remains, especially for vegetables.



Source: China National Bureau of Statistics 2006.

* "Income" refers to the combination of family labor income plus profits after all costs—cash and in kind.

The impact of this cyclical variation on rural incomes was strong, and the reason is not hard to see. Grain brings farmers very little profit, even to the point of resulting in a loss if farmers valued their own labor time at a modestly reasonable wage.¹³ The difference in return per hectare can be seen from survey data on agricultural product sales revenues and costs. The data presented in figures 4.3 and 4.4 show that family income per farmland area unit is between four and ten times higher for non-grain products than for grain. The price of grain would have to be significantly higher for many farmers to remain interested in planting grain voluntarily.

Looking at more than one year, the gap in return per land unit planted persists. Over time, crop prices in China experience strong up-and-down swings, but the relationship between returns on planting grain and returns on other crops, especially vegetables, remains important throughout. Most nongrain crops and products that compete for land (like fish ponds) are significantly more profitable than grain. The durability of earning disparities by product appear in figure 4.4, which confirms that as grain prices were raised in 2004, so were prices of other crops, maintaining disparities in profitability.

The limited evidence on government subsidy trends (figure 4.5) shows how important they have been from time to time, especially after farm procurement prices were raised in the period 1979–1982. Such subsidies helped keep urban retail grain prices low. With dramatic administrative increases in grain prices and the end of ration coupons in 1991–1992 (see figure 3.10), the need for subsidies declined sharply.

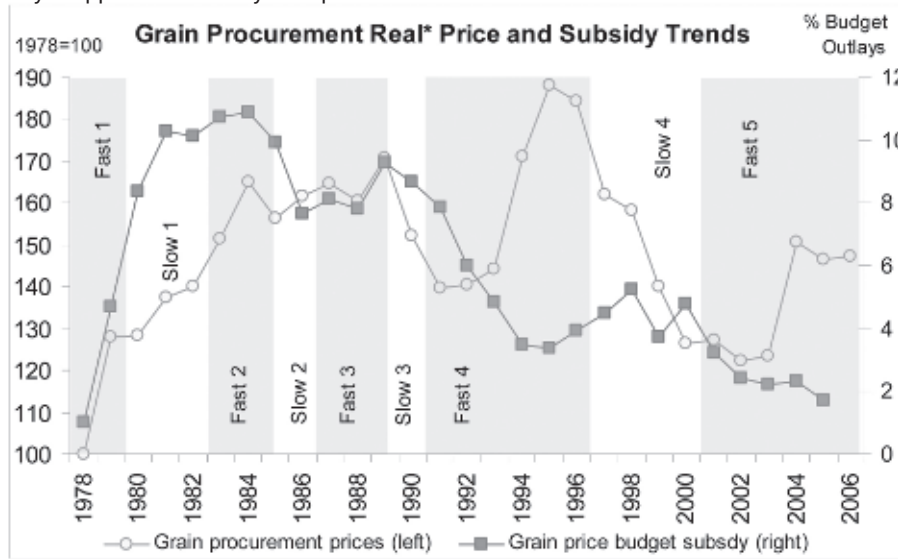
The sustained period of enforced grain planting and high grain output in the late 1990s, beginning in 1996 (figures 4.1 and 4.2), and the consequent strong decline in market prices for grain (figures 4.6 and 3.11) induced the need for subsidies of a second kind, to alleviate farmers' devastated incomes. These subsidies are not apparent from figure 4.5, except to a limited degree in 1997–1998. What subsidies there were after that came through the Agricultural Development Bank's loans to the government grain purchasing office. However, in the face of such strong market price declines, the inability of both the budgetary subsidies and the Agricultural Development Bank to support rural prices adequately was one reason for rural income difficulties in the late 1990s and the related decline in rural household consumption in 1997–1999.

By 2004, budgetary expenditures for grain price subsidies were negligible. Rural consumption data show that despite improvements in farm income from reduced grain planting in 2001, rural households continued to struggle with low consumption growth through 2003 (see figure 3.17). When grain-planting requirements were reintroduced or strengthened for the 2004 crop year, both supply tightness and government supports brought higher grain purchase prices. At the same time, the government eliminated agricultural taxation and, in principle, most local government fees.

The elimination of these rural taxes and fees was equivalent to an increase in rural subsidies—financed not through increased expenditures but through reduced budget revenues.¹⁴ The tax reductions benefited all farmers, however, not just those struggling with low incomes in regions dedicated to grain production (called "grain base regions"). As a consequence, they did little if anything to reduce the policy bias

Figure 4.5. Government Budgetary Grain Price Subsidy* Trends, 1978–2006

Subsidies either keep urban prices low when rural prices are high or support rural prices when market prices are low. They dropped dramatically with price liberalization in the 1990s.



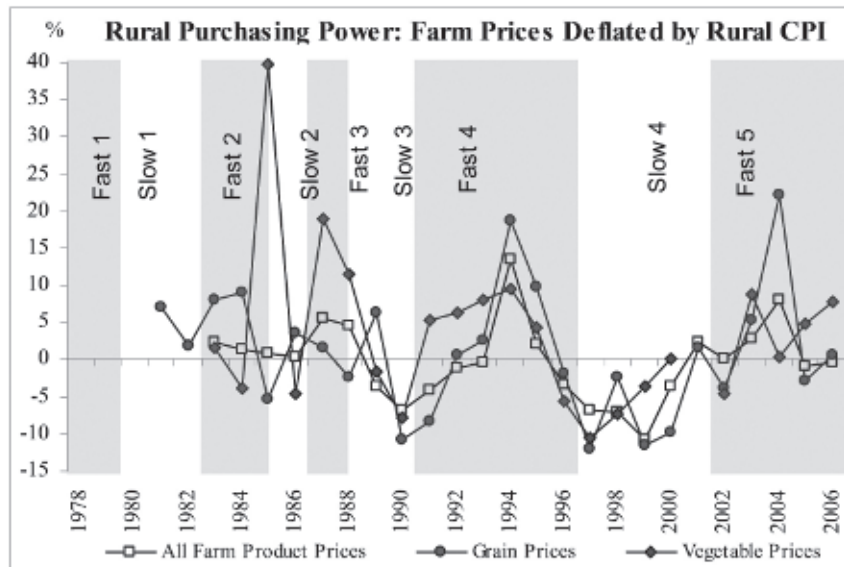
Source: China National Bureau of Statistics 2006.

Sources: Price data are from China National Bureau of Statistics; subsidies are from China Fiscal Yearbook, various years.

* The subsidies shown here do not include those from the Agricultural Development Bank, which supported procurement in the later 1990s.

Figure 4.6. Real* Farm Price Changes, 1981–2006

Farm output price variations were substantial beginning in the early 1980s, and in general rural prices decline in slow periods and recover in faster periods. The steep decline heading into the 1997–2000 slow period was stark.



Source: Consumer price index and farm price data are from the China National Bureau of Statistics.

* Nominal farm output prices are corrected for CPI inflation's impact on household purchasing power.

against those farmers, mostly in outlying and isolated regions, who are “encouraged” to plant more grain.

Grain output and grain-planting policies and farmer behavior thus have their own fluctuations, sometimes directly linked to urban and national macroeconomic fast- and slow-growth periods. Urban and national fast-growth periods, with their risks of overheated price inflation and especially their concerns about food prices, have since 1978 regularly resulted in arm-twisting policies to “persuade” farmers to plant more grain and hence suffer income reductions and slower, if not negative, growth in consumption.

THE NONFARM RURAL ECONOMY’S DRAMATIC EXPANSION AFTER 1978

The second major element in rural China’s linkages to macroeconomic fast- and slow-growth periods is rural manufacturing and other non-farm production, officially known as township and village enterprise (TVE) activity. The Ministry of Agriculture officially oversees this TVE activity, but in fact it has expanded far beyond the confines of an agricultural setting. Even the word “township” indicates that many of the production facilities are in towns, while others are in the well-developed but still officially “rural” suburbs of major cities. Nevertheless, TVE linkages to the rural economy and, most important, to the rural labor force are dominant. Few urban-registered citizens work in TVEs.

Official TVE statistics show that TVE value added increased from less than 6 percent of GDP in 1978, when it was known as “commune industry,” to 28 percent of GDP in 2005.¹⁵ This is significantly higher than agriculture’s entire output share in GDP, which by 2005 had fallen to

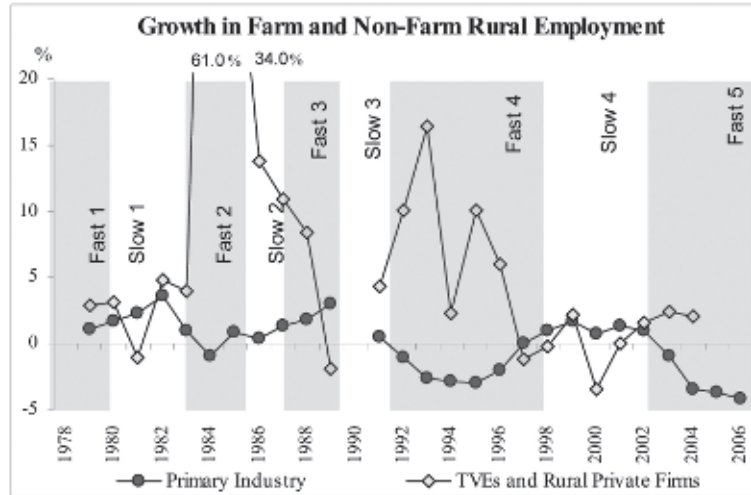
12.6 percent. In addition, TVE value-added output levels surged in major periods of national macroeconomic expansion and leveled off in national periods of slow economic activity.

The cyclical variation in TVE activity is confirmed by data on rural employment. Figure 4.7 presents the contrast between the expansion of nonfarm employment and shrinking of the agricultural labor force in times of rapid economic activity. The pattern is especially clear after 1990. In general, in the fast-growth years 1991–1996, farm employment declined while TVE and rural private enterprise employment grew rapidly. With the slowing of economic activity after 1996, agricultural employment again began to increase while the number of workers in nonfarm activities became unstable and on average declined. With growth recovery after 2000, rural employment trends reversed again, although with a lag of several years. Agricultural employment did not decline again until 2003, suggesting that the rural labor force’s participation in China’s most recent growth recovery was significantly delayed.

The labor trends shown in figure 4.7 also indicate a two-step expansion in nonfarm rural employment in the 1991–1996 fast-growth period. The first acceleration in off-farm employment coincided with the urban-based fast growth that ended with strenuous credit tightening in the second half of 1993. The 1994 slowdown in off-farm employment growth appears to reflect these influences. But then in 1995–1996, rural nonfarm employment growth surged once again, apparently independent of the slower growth affecting the more formal urban economy. Employment in farming also continued to decline. In these years, 1995–1996, China’s rural economy exuded an energy level quite independent of that in the rest of the country.

Figure 4.7. Rural Employment in Farm and Nonfarm Labor, 1978–2006

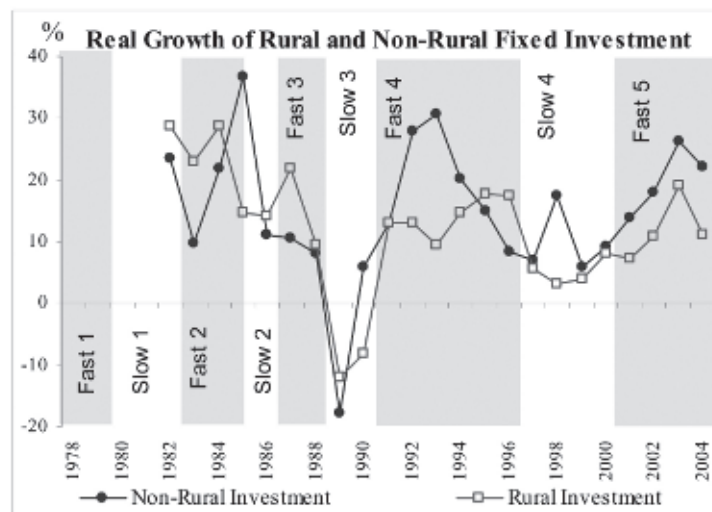
Employment in China's primary sector, virtually all of which is agriculture, has varied inversely with the speed of activity in China's overall macroeconomy. In fast-growth periods, farm employment declined absolutely while nonfarm employment surged. In slow periods, nonfarm employment growth deteriorated.



Sources: China Labor Statistical Yearbook, various years; Ministry of Agriculture, China TVE Statistical Yearbook, various years.
 Note: Statistical revisions after the 1990 population census caused a major break in the consistent employment growth rate series.

Figure 4.8. Rural Fixed-Asset Investment Real*Growth, 1982–2004

Nonrural investment—that is, urban and foreign investment—shifted out of sync with rural investment in 1991–1996. In particular, as urban investment growth slowed sharply in 1994–1996, rural investment accelerated.



Source: China National Bureau of Statistics investment data.
 * Both investment series are corrected for inflation using the national investment price deflator.

Investment trends in rural areas also confirm a surge in the 1994–1996 years that is out of sync with trends in urban areas. This is true both of overall fixed-asset investment and its largest component, so-called self-raised funds. Self-raised funds represent mainly equity contributions and enterprise retained earnings. The trends shown in both figures 4.8 and 4.9 indicate that while the credit contraction of 1993 worked to slow economic investment in urban areas, it not only had no effect in rural areas; on the contrary, rural investment took off with remarkable energy.

The rural investment trends shown in figures 4.8 and 4.9 also show how dramatically rural investment collapsed in the slow-growth years of 1997–2000, impervious to the temporary success in stimulating urban investment indicated for 1998. Finally, these same data indicate that rural investment mirrors the labor trends given in figure 4.7 and did not recover momentum until 2003, well into the current fast-growth period.

CONCLUSION: CHINA'S RURAL ECONOMY HAS SHOWN SELF-SUSTAINED INDEPENDENCE

The evidence marshaled above strongly indicates that at least in the middle and late 1990s, China's rural economy demonstrated its potential for independent cyclical behavior, delinked—even if only temporarily—from traditional national macroeconomic influences. The data given above and in chapter 3 argue for the existence of a rural economic stimulus sequence of causal relationships with four steps. The first step combines the influence of grain prices closer to their domestic market value and freedom for crop diversification that increases rural income from nongrain products earning a higher-value yield per hectare. This benevolent circumstance is consistent with the

decline in the grain-planted area from 1990 to 1995 shown in figure 4.1 and the surge in prices for grain and other farm products following urban grain price reforms in 1991–1992 (see figures 4.6 and 3.11).

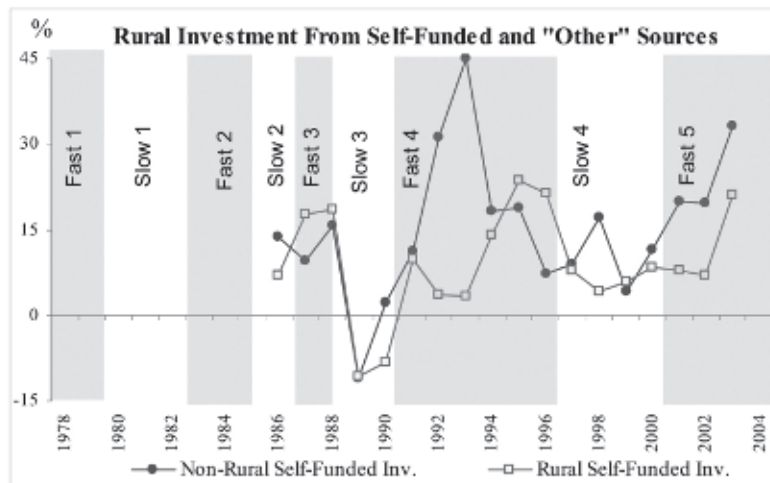
The second step translates this growth in rural income into rural consumer demand both for manufactured goods and for higher-quality farm products like meats and vegetables. The enhanced demand for farm products serves to reinforce the initial step-one income gains in farming, while the increase in demand for non-farm goods and services extends the demand beyond farm boundaries. This rural consumer demand effect is consistent with the clear acceleration in rural consumer demand reflected in figure 3.17. Rural consumption growth in 1994–1996 surged to levels not seen since the initial rural reform years of the early and middle 1980s.

The third phase in the rural self-stimulation pattern reflects this increased rural demand for nonfarm goods and services, that is, for such products as household appliances, processed foods, transportation, and entertainment. The immediate effect of such demand increases is to increase employment in rural enterprises that produce and distribute them. This aspect of the causal sequence is consistent with the surge in rural nonfarm employment indicated in figure 4.7. The second surge in rural employment growth, in 1995–1996, appeared as rural consumption growth accelerated and peaked in 1994–1996.

Finally, the fourth step in the semi-independent rural growth sequence reflects the reaction of rural entrepreneurs to the healthy growth in demand and sales. They invest in new production capacity. This investment brings with it

Figure 4.9. Real* Growth of Rural Investment from "Self-Raised" Funds, 1986–2003

Trends in rural and nonrural self-funded investment contrast even more sharply than the trends for overall investment shown in figure 4.8. The apparent independent rural surge in 1994–1996 was strong.



Source: China National Bureau of Statistics investment data.
* Inflation corrections use the national investment price deflator.

new growth in construction employment, more gains in rural income, and resulting further increases in rural demand for goods and services of all kinds. The scale, timing, and structure of rural investment growth in 1994–1996, shown in figures 4.8 and 4.9, are evidence that this investment component was working. Not only did rural investment jump in 1994–1996; its largest component—self-funding—was its major source of the growth.

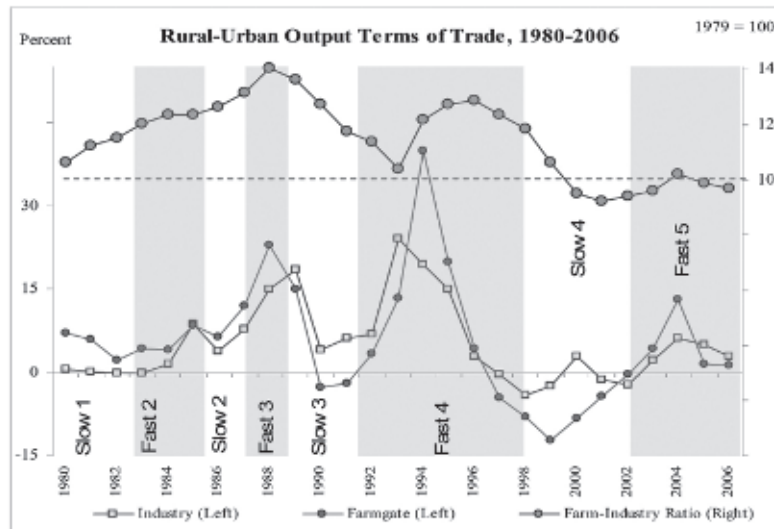
The overall conclusion, then, is that if given favorable initial price and diversification conditions, an economic priming of sorts, the rural economy has the capacity to reinforce its own growth and sustain that growth beyond the period when national policies might want it to continue. The rural economy has a potentially comprehensive vitality, which if managed well can contribute significantly to sustaining national growth.

By the same token, if initial favorable conditions are reversed, as they were in 1996, the self-stimulating characteristics of the rural economy can potentially turn into a self-dampening process. Restrictions on crop and other product diversification, like the “grain responsibility” policies introduced in 1995–1996, had a double impact on rural incomes. First, they significantly increased the supply of grain, contributing to a drop in market food prices. Second, they reversed the lucrative diversification of land use into profitable market-oriented products.

During such a rural downward spiral, the overall effect of weaker farm income is naturally a softening of rural household demand for non-farm products, with unfavorable influences on rural nonfarm employment and, ultimately, on rural investment. This downward-spiraling pattern is consistent with rural price, consump-

Figure 4.10. Rural-Urban Output Price Fluctuations and Terms of Trade, 1980–2006

Prices for agricultural and industrial products surged and retreated in the same overall cyclical rhythm, but the shifts in both directions, up and down, were stronger for farm products, making adjustment harder.



Source: China National Bureau of Statistics, GDP production series in NBS 2006 and other issues

Note: Industry and farmgate price indices are deflators implicit in the respective GDP sector real and nominal growth rates.

tion, employment, and investment trends in the slow-growth years 1997–2000 (and even to 2002). The government implemented arm-twisting “grain responsibility” pressures to convert nongrain land back into grain in 1995–1996, and new grain-planting patterns finally translated into late-1996 bumper harvests and rural income effects first felt in early 1997. Rural household consumption began its sharp weakening trend in 1997. By maintaining grain-planting pressures in force until 2000, downward pressures on rural incomes and consumption demand remained stubbornly strong throughout the rest of the 1990s.

The self-stimulating and self-dampening capacity of China’s rural economy is especially important for understanding the linkages between China’s national macroeconomic cycles and their rural counterparts. In a sense, the

rural economy has been capable in the past of amplifying the stimuli and policy effects of national cycles. An appreciation of this capacity leads to even more careful attention to the role that China’s rural economy can play in adjusting both the pace and structure of its economic growth.

IS CHINA’S CYCLICAL MACROECONOMIC IMPACT STRONGER IN RURAL AREAS?

Given the self-reinforced volatility of the rural economy, in some dimensions—especially price inflation and deflation—China’s national fast- and slow-growth periods have often been experienced more harshly in rural areas than in cities. This has been especially so on the downswing of cycles. On the upswing, by many measures, urban areas frequently have fared better. This pattern calls for a greater awareness on the part of policy makers of

the unintended rural consequences that their macroeconomic policies can generate—with potentially serious consequences for both national growth stability and efforts to reduce inequality and poverty.

Producer prices offer a clear case of how rural areas' traditional products experienced more extreme variations in each phase of the cycle than did products of representative urban sectors. Figure 4.10 presents implicit output proxy price indexes for industry and agriculture. After the middle 1980s, with reforms well under way, each major fast-growth period increased agricultural output prices faster than industrial prices, but each slow-growth period slowed and even reduced agricultural prices more than it did industrial prices. Consequently, the terms-of-trade ratio between agriculture and industry showed strong shifts over the twenty years from 1984 to 2004.

The industrial-goods purchasing power of farm products, shown in figure 4.10, hit bottom twice. The first time was in the slow-growth period dedicated to inflation control in 1989–1990, followed by the early years of urban inflation up to 1993. The second time was after several years of price deflation in the late 1990s. In both instances, farm prices' relative worth dropped to 1980s levels. How much does this matter, given that the shifting rural-urban terms of trade apply to both urban and rural areas? Though the shift in terms of trade was the same for both, the nominal price shifts that brought it about were more severe, in both directions, for farming households than industrial firms. Hence, the real-time adjustments needed in nominal budgeting, management, and anticipated earnings were more difficult for farming areas.

Although output price data show greater extremes in both directions for farm prices, other indices give a less clear-cut conclusion about the differential impact of China's macroeconomic cycles in rural and urban areas. For example, the shifts in rural and urban cost-of-living indices in figure 1.2 show very little urban-rural difference in the impact of inflation on everyday household purchases. An exception to this pattern was relatively high inflation in the so-called periodic markets in rural areas in the early 1980s.

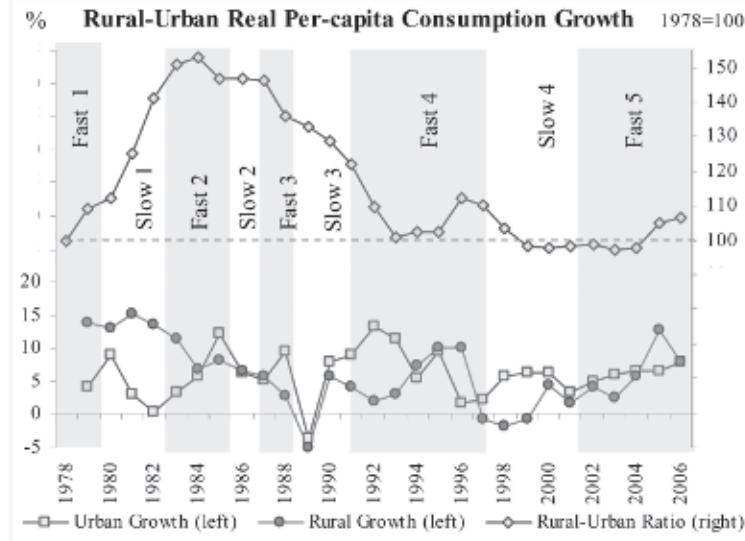
For the most important welfare-related variables, income and consumption, in slow-growth periods the rural economy faced the more extreme experience while urban areas fared better. In fast-growth periods as well, however, except for the early 1980s, urban areas have generally done at least as well as rural areas. Hence, the conclusion must be not that the rural impact was more extreme in both fast and slow phases but rather that rural areas came out less well off in both phases.

The long-term effect of this differential experience was a worsening gap in per capita urban and rural income and consumption, beginning after 1984 through the end of the 1990s. Figure 4.11 makes it clear that all the rural per capita consumption gains from the reform years of the early 1980s had been undone by 1999. Rural per capita consumption levels, compared with those in towns, were back to their prereform 1978 level by 1999 and remained there through 2004. Only at the very end of the period under study, in 2005–2006, did rural household consumption show signs of recovery.

Links between the deterioration of rural consumption relative to urban levels and the fast-

Figure 4.11. Urban and Rural Real* Per Capita Growth of Household Consumption

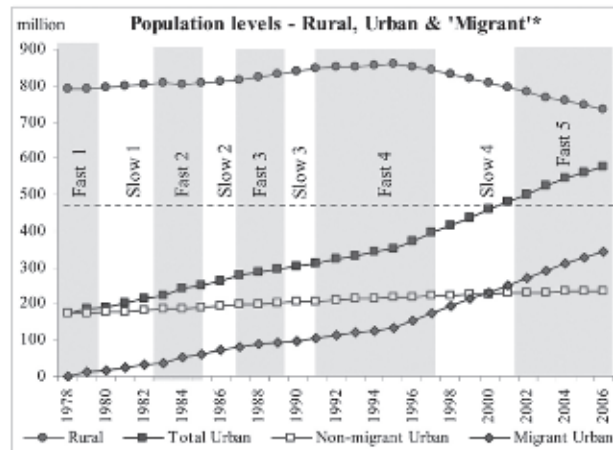
Rural consumption levels relative to urban areas peaked in 1984 and declined after that, with the exception of improvements in 1996 and 2005. The management of macroeconomic cycles, therefore, beginning with the first anti-inflation effort in 1985, coincided with a worsening rural-urban consumption gap through 2004.



Source: China National Bureau of Statistics, GDP expenditure accounts data and rural household survey data, with author calculations
 * Urban and rural consumption are corrected for inflation using respective urban and rural CPI indexes...

Figure 4.12. The Migrant* Component of China's Urban Population, 1978–2006

Rural-to-urban migration has increased China's urban population growth rate above natural growth rates. The most conservative methodology (see note below), indicates that more than 60 percent of China's urban population today has rural origins. This fact affects any evaluation of the impact of macroeconomic fluctuations on the "rural" economy by emphasizing that many "rural" persons now live in cities and towns.



Source: China National Bureau of Statistics, urban (chengzhen) and rural (nongcun) population statistics, with calculations.
 * "Migrant" here is an ex-post concept, calculated as follows: Despite strong evidence that natural population growth is higher in rural areas because of the relaxation of the one-child policy there, if one assumes that the original rural population would have only grown at the national rate, the difference between what this would have meant for a 2005 rural population and the actual rural population in 2005 implies that more than 300 million persons in urban areas have origins in rural China.

and slow-growth periods of economic activity indicate two basic forces at work. One is increasing inflation in fast-growth periods, which promoted urban incomes but slowed rural consumption growth when corrected for inflation. The second cyclical impact, during slow-growth periods, came from a renewed official emphasis on grain planting, especially in 1988–1990 and 1997–1999. In other words, both the fast and slow phases of China's macroeconomic management record show a deleterious impact on rural consumption performance. The exceptions are 1996 and 2005. In 1996, the rural economy's own internal dynamism, at a time of urban macroeconomic slowdown, registered rural gains. In 2005–2006, explanations for the surge in consumption growth include official support for higher grain prices and continued increases in rural labor force participation in the ongoing urban economic boom.

Indeed, by 2005, the scale of rural labor migration to urban areas had become one of the most important, if not the most important, rural economic development. Making the lowest possible estimate, by the end of 2005, 60 percent of China's urban population originally came from rural areas over the previous quarter century. In other words, of China's current urban population, at most 40 percent are descendants of the subsidized urban population at the start of reforms in 1978. Well over 300 million out of a total urban population of 560 million in 2005 were originally from rural families. The population trends given in figure 4.12 show the decline of the rural population after 1995 and how the originally rural part of China's urban population became larger than the originally urban part by 2000.

The inclusion of this "migrant-roots urban" component of China's urban population in the analysis of urban/rural disparities raises impor-

tant conceptual measurement difficulties. Is the "migrant-roots urban" population urban or rural? When evaluating economic policy and reforms for their impact on the rural economy, the fact that more than 300 million persons originally from rural backgrounds now live in towns and cities would argue that they be considered "rural" for purposes of comparison. In other words, it does not make analytical sense to compare existing urban and rural population standards of living when evaluating the impact of reforms and macroeconomic policy on the rural economy. Indeed, specialized and local survey information indicates that rural migrants living in urban areas have a substantially higher standard of living than their relatives who remained behind in rural areas. If economic reforms and policies have been part of a process providing more than 300 million rural persons with urban standards of living, albeit likely at the lower end of the urban welfare spectrum, this is a clear benefit to the originally rural population.

How much better are living standards for the "migrant-roots urban" part of the urban population? Unfortunately, China's urban household surveys are not well designed to help answer this question because of the still-evolving treatment of migrants in the urban survey. Living standards for "migrant-roots urban" consumers in China are almost certainly higher than average rural standards of living, but not as high as those of families descended from original urban households—most of whom retain important dimensions of their urban citizen benefits. This report can only conclude that a final analysis of the impact of macroeconomic cycles and related policies must include an evaluation of this three-tiered population structure. The benefits now accruing to originally rural families currently living in cities and towns are an important, albeit difficult-to-measure, indicator of how China's cyclical mac-

roeconomic fluctuations have in fact improved the living standards of the rural population.

Overall, then, the statistical record does not support the idea that China's rural economy has had a rockier experience than urban China in both the fast and slow phases of China's macroeconomic cycles. In an important sense, however, and considering only that part of the rural population still living in rural areas, the actual pattern is worse for the rural economy and for inequality patterns in China. China's macroeconomic adjustment policies since the middle 1980s have systematically left rural areas at a disadvantage relative to the country's cities and towns. This macroeconomic policy bias against rural areas is in many ways an unintended consequence of practical efforts to control inflation and stimulate growth.

HOW HAVE NATIONAL CYCLES INFLUENCED RURAL CYCLES?

Chapter 3's analysis concluded that the overwhelming factors explaining China's macroeconomic cycles were government policies—policies intended to reform economic systems, stimulate growth, and then control the inflation and other excesses of overstimulated growth. International developments have played a minor, even negligible, role. Reviewing each of the cycle phases analyzed in chapter 3 indicates that, in most cases, national policy steps affected both the urban and rural components of China's economic fluctuations. In other words, in the large majority of cases, national cycles and the policies that caused them had a profound influence on rural cycles as well.

A second principal finding, already presented in the previous section, is that the influence of China's national macroeconomic policies have

left China's rural economy at a long-term disadvantage. How have they done so? In both stimulus and tightening policy modes, national influence appears to have benefited the urban population more or hurt it less.

The major exceptions to the supremacy of national trends and policies over rural developments occurred in the middle and late 1990s. The evidence given in chapter 3 indicates that the rural economy's performance at this time defied national trends and policies for a number of years, before finally responding to their overwhelming influence.

In general, the overwhelming influence of national forces in rural areas is evident in both fast- and slow-growth periods. Stimulus measures for rapid growth disproportionately benefited urban areas, whereas policies to slow the economy hurt rural areas more. During fast-growth periods after the middle 1980s and with the exception of 2004–2005, credit growth generally steered bank loans to urban projects, especially for infrastructure. At the same time, wage adjustments meant to compensate for the costs of official market-oriented price adjustments helped reduce the adverse impact of many reforms—but only for registered urban workers.

During slow-growth periods, an important part of macroeconomic tightening and control generally included efforts to counter agricultural price increases, especially grain prices. These steps, outlined at the beginning of this chapter, regularly involved inducements and informal pressures on farmers to plant more low-profit grain as a way to boost food supplies and control price increases. Furthermore, social safety net provisions for dealing with the impact of economic tightening on the ur-

ban population have not been available to the rural population. Hence, though retraining stipends, unemployment insurance, and guaranteed minimum incomes became part of a "cushion" against reform difficulties in urban areas after the middle 1990s, they were not available to the rural population.

In sum, both stimulus and tightening measures, by their nature, benefited urban populations more during fast-growth periods and hurt them less during slow-growth periods.

Focusing on the purely rural impact, macroeconomic management tools in China include a range of market and administrative methods. The most important national developments and policies that stimulated the rural economy's own cycles were the price reforms of 1979, the commune breakup of 1982–1983, the freeing of rural enterprises in 1983–1994, the liberalization of vegetable sales in 1985, administrative increases in sideline farm product prices in 1987, the reform of urban grain prices in 1991–1992, the administrative validation of higher grain procurement prices in 1994, and the administrative validation of increases in grain procurement prices in 2004. Overarching this whole period was the gradual relaxation of migration restrictions, as first more and more rural workers and then families relocated to towns and cities. The chronologies and causal schemas in chapter 3 give the details.

A more economic, less administrative extension of national policies into rural life was monetary and credit policies. Many rural families keep their savings in national banks, so the dramatic shifts in deposit rate policies presented in chapter 2 also applied to many rural households. As for loans, chapter 3 outlined the variations in national credit flows

(see figure 3.19), and in particular the declines in net new loans as a share of GDP during certain slow-growth periods, such as 1981–1982 and 1988–1989, or during attempts to cool off overheated years, such as 1994–1996 and 2004–2005. These credit shifts had their own impact in rural areas as well.

In rural areas, many loan transactions are local and informal, but national lending policy has a strong presence in the form of rural credit cooperatives (RCCs). The RCC record of either making more new loans or calling in more old loans is reflected in the net new lending trends shown in figure 4.13. RCC credit surges are clear just before or during major fast-growth periods, such as 1984, 1986–1987, 1991–1992, and 2000–2001.

The sharp national credit-tightening policies of 1985 and 1988 were felt especially strongly in rural areas. Conversely, the severe national credit tightening in the second half of 1993 did not show up in RCC lending until 1995, a delay of two years. Even then, this national credit tightening did not succeed in slowing the rural economy until 1997. This is consistent with the analysis above and in chapter 3—that 1994–1996 was a period of unusual economic independence for China's rural economy, as the effects of liberalized higher crop prices and freedom to diversify planting patterns provided independent funding for the expansion of both consumption and investment activity.

In conclusion, on the question of national influence over rural economic fluctuations, the answer is clear: National cyclical influences were dominant, with only a few exceptions in the middle and late 1990s.

A final point, however, deserves attention. The truly long-term impact of national fluctuations on rural economic life increasingly hinges on migration and off-farm employment for the rural labor force. Not only are families moving to towns, but those remaining in rural areas have come to rely increasingly on wages, transfers from migrants, and other nonfarm income sources. This pattern appears clearly in figure 4.14. The net income impact of the 2004 grain price increases, though significant, was overshadowed in 2005 by an even larger increase in nonfarm income. Hence, though an analysis of the rural economy as a separate entity is still valid and important, migration and off-farm income have come to dominate rural income.

HOW HAVE RURAL CYCLES INFLUENCED NATIONAL CYCLES?

This chapter has argued that for some periods, in particular 1994–2000, the rural economy has exhibited a significant degree of independent activity. How much has the rural economy, at this and at other times, become a separate factor influencing national macroeconomic cyclical behavior? The causal analysis in chapter 3 argues that, by and large, the rural economy has been a passive participant in China's cyclical economic fluctuations. The exceptions to this rule are in the early 1980s, when rural investment activity helped increase national prices for construction materials, and in the middle to late 1990s, when the rural economy played an especially strong role in influencing overall GDP demand.

The evidence for the early 1980s is mostly anecdotal—verbal accounts of how rural demand pushed up urban prices for timber, glass, bricks, and cement. The evidence for the 1990s, however, is statistically clearer. Strong rural consumption growth in the 1994–1996 period

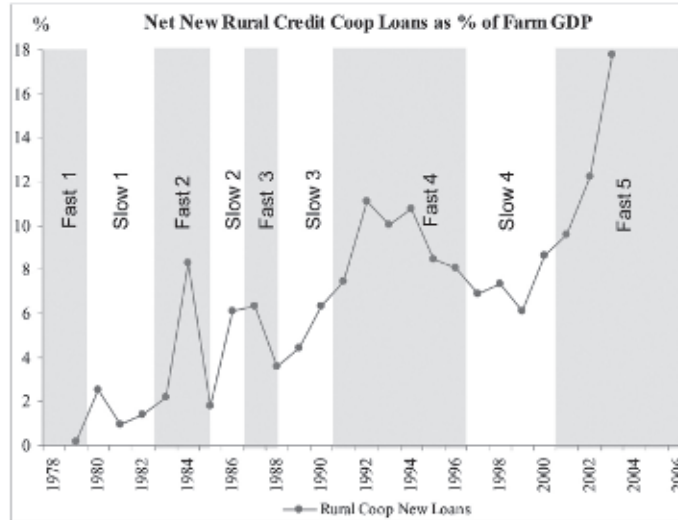
compensated for weakening government and urban consumption growth (figure 3.17). In this chapter, figure 4.7 shows how strong the shift of employment was out of agriculture into TVE activity through 1996, three years after the urban credit contraction and macroeconomic slowdown policies. Similarly, figures 4.8 and 4.9 show clearly that rural enterprise and housing investment took off in 1994–1996, just when urban investment in both spheres declined sharply.

In terms of the deleterious effect of twenty years of weakening rural household consumer demand, the accelerated decline beginning in 1997, as shown in figure 4.15, is a second impact of rural cycles on national trends—this time a negative one. Indeed, the analysis in chapter 3 concluded that deterioration in rural incomes and consumption significantly contributed to the downturn in GDP growth in 1997–1999 (see item 6 in causal schema 3.8). Of course, part of the long-term decline in rural consumption demand is due to the decline in the rural population, but weak consumer demand growth after the late 1980s and its complete collapse in 1997–1999 argue for giving a significant role to the health of the rural economy when considering what policy approaches were responsible for exacerbating the rural cycle—and hence the whole national cyclical slowdown in turn.

Additional data on rural purchases of household durables emphasize how the rural consumption slump in 1997–1999 could worsen the weaker growth in national GDP demand for those years. Rural demand for electric fans, washing machines, and refrigerators represents a direct link between farm households and urban manufacturing sales. Electric fans represent less exotic products, while refrigerators symbolize luxury status purchases. The sta-

Figure 4.13. Rural Credit Cooperatives' Net New Loans, 1979–2003

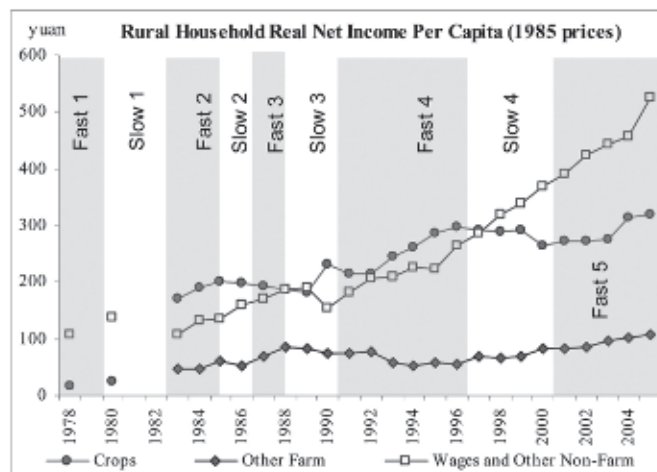
Rural credit cooperatives (RCCs) are the most important formal financial institutions in rural areas. Net new RCC lending is heavily influenced by national policy, and its trends show sharp declines during efforts to cool off the national economy, such as 1985, 1988, and 1997–1999. Conversely, periods of national stimulus or relaxation clearly extended to RCC lending, too, as in 1984, 1986–1987, 1991–1992, and 2001–2002.



Sources: Financial Yearbook of China, various years.
 Note: Net new loan calculations, based on the annual change in end-year statistics for loans outstanding, after 2003 are unreliable because of the sudden acceleration in 2004 of the process of converting RCCs to rural cooperative commercial banks.

Figure 4.14. Rural Household Income: Farm and Nonfarm Sources, 1978–2005

Correcting for inflation, the actual income of rural households has seen the eclipse of farming income, both from crops and noncrops, by wage and other nonagricultural income. This trend accelerated especially quickly in the later 1990s, when rural farm prices and overall rural consumption slumped badly.



Sources: China National Bureau of Statistics and Ministry of Agriculture, rural household survey reports, various years.
 Note: Before 1983, rural China was organized in communes, where farm and nonfarm laborers were mostly paid wages. Hence, statistics for these years are not comparable with the survey data from the family farming era beginning in 1983. Also, crop output income was unusually high in 1990 because of excellent weather, followed by a drought in 1991.

tistical trends presented in figure 4.16 show a clear surge in the net rural household purchases of these items during the 1990s fast-growth period, especially during its latter half, when the analysis earlier in this chapter shows that the rural economy was sustaining national growth rates.

Just as important as support for faster GDP growth in 1994–1996 is the negative national impact of the slump in durables purchases in the slow-growth years 1997–1999. Figure 4.16 indicates that net rural purchases of all three categories of durables weakened dramatically in these years, which helps explain the reported inventory buildups reported in chapter 3’s analysis of this period.

A second concrete example of the rural impact on national macroeconomic cycles is rural housing investment. Chapter 3’s analysis of GDP growth shifts in the 1991–2000 period highlights the major role of capital formation and fixed-capital investment in particular (see figures 3.14 and 3.15). Earlier in this chapter, figures 4.8 and 4.9 emphasized the role of rural investment, especially investment from self-raised funds (retained earnings and equity contributions) and how both surged just when urban investment was buckling under national credit-tightening pressures.

The data on rural housing completions for this same period complement the more general trends already presented. The period 1994–1996 saw a rare growth surge in rural housing completions, as seen in figure 4.17. Double-digit growth in new housing completions for three years running, 1994–1996, represents a dramatic exception to rural housing completion patterns in other periods for which data are readily available. Just as dramatically, ru-

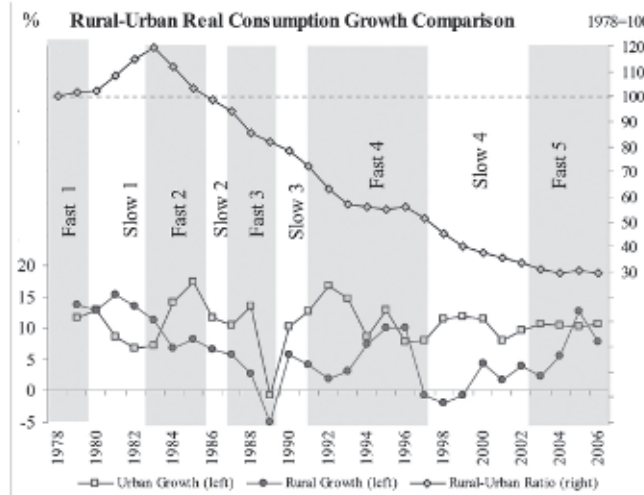
ral housing completions stopped growing in number in 1997–1998 and hardly recovered after that, even through 2003. Construction materials for rural housing, such as bricks and tiles, most often originate in the rural economy, but many other inputs, such as window glass, wiring, plumbing, and other hardware, come increasingly from the urban national economy.

A balanced assessment of the rural impact on China’s national economic fluctuations must conclude that for most periods, the rural economy was a passive responder to national trends, with no striking independent influence. However, for the fast-slow period of the 1990s, the data clearly indicate that the rural economy showed a degree of market-oriented macroeconomic independence, which then exerted an independent stimulus on national trends.

This conclusion is important mainly to illustrate the largely unrealized potential of the rural economy to balance and supplement urban demand in propelling overall GDP growth forward in a healthy way—in a way that minimizes the potential instabilities from the international market arena while at the same time lifting standards of living in rural areas and thereby likely facilitating the transfer of labor and productivity gains from rural to urban areas. Conversely, a failure to appreciate the potential for this rural role in balancing the structure of Chinese GDP growth can result in, and has resulted in, unintended consequences from sudden efforts to control excessive macroeconomic fluctuations. This chapter has shown that a degree of national economic instability in the 1990s was reinforced, if not caused, by unexpected rural fluctuations. These rural fluctuations in turn reflected volatility in grain-planting policies and in the amplifying

Figure 4.15. Urban and Rural Real*Growth of Household Consumption, 1978–2006

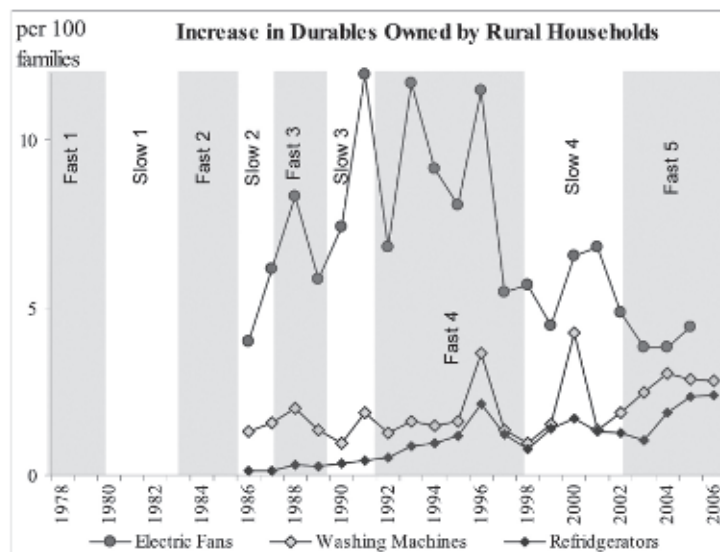
The combination of weaker per capita rural consumption and declining rural population in the 1997–2003 period emphasizes how much significance rural total consumption has lost in the overall GDP trends. From a time in the middle 1980s when rural consumption was more than half the national total, it had fallen by 2003 to a position of less than a third. The data for 2005 show that this trend can be arrested by strong rural recovery.



Sources: China National Bureau of Statistics GDP expenditure accounts data and rural household survey data, with author's calculations.
 * Urban and rural consumption is corrected for inflation using respective urban and rural consumer price indexes.

Figure 4.16. Changes in Rural Household Ownership of Consumer Durables

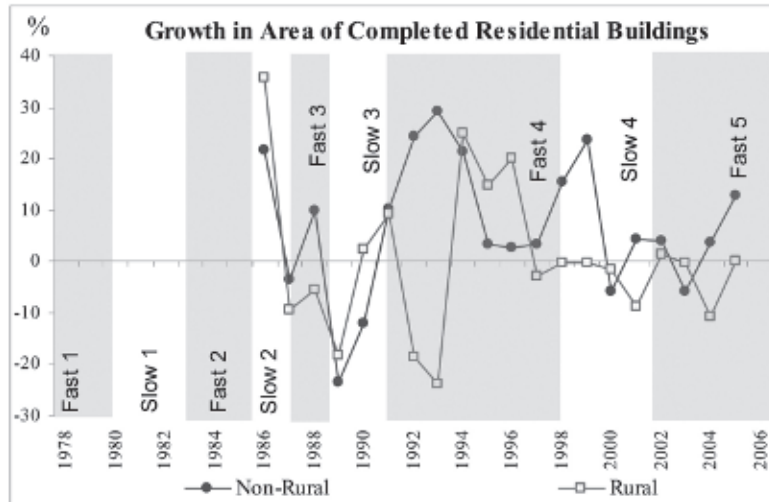
Rural purchases of major consumer durables fluctuated with the fast and slow periods in the 1990s, and since these goods are largely produced by urban national factories, this demand fluctuation represents one of the most direct linkages between a sometimes independently activated rural economy and national trends.



Source: China National Bureau of Statistics, Rural Household Survey Reports, various years.
 Note: Increases are net increases calculated as the change in reported end-year ownership of each durable good.

Figure 4.17. Rural and Urban Housing Completion Rates, 1986–2006

Rural housing completions are another channel through which the rural economy was able to exert independent influence over national economic cycles in the 1994–2000 fast-slow cycle. Rural housing completions surged during the effort to slow the national economy in 1994–1996 and then slumped badly in the 1997–2001 period, despite national efforts to revive overall GDP demand.



Source: China National Bureau of Statistics, urban and rural household surveys.

influence of rural enterprise activity. China's most recent introduction of grain-planting pressures in 2004 indicates that the same strategy behind chronic rural economic instability is still standard operating procedure for Chinese macroeconomic policy makers.

Notes

¹ See Judith A. Giles and Cara L. Williams, "Export-Led Growth: A Survey of the Empirical Literature and Some Non-Causality Results—Part 1," *Journal of International Trade & Economic Development* 9, no. 3 (2000), 261–337.

² For the methodology, see Albert Keidel, "China's GDP Expenditure Accounts," *China Economic Review* (December 2001).

³ David Levy-Faur, "Causal Inference in Comparative Research," online materials for course "Comparative Methods," University of Haifa, 2006 <<http://poli.haifa.ac.il/~levi/inference.html>.

⁴ See "Necessary Connection and the Definition of Cause" under "David Hume," in *Stanford Encyclopedia of Philosophy*, 2002 (<http://plato.stanford.edu/entries/hume/#Necessary>).

⁵ See, for example, the discussion of "enumeration and elimination" in the section "Mill's Empiricism: The Relativity of Knowledge," under "John Stuart Mill," in *Stanford Encyclopedia of Philosophy*, 2006 (<http://plato.stanford.edu/entries/mill/>).

⁶ Price Yearbook Editing Committee, *China Price Yearbook 1989* (Beijing: China Price Yearbook Publishers, 1989) 463.

⁷ Bingqian Wang, "Report Concerning the 1979 National Budget Results, the 1980 National Budget Draft and the 1981 Budget Estimate," in *1981 China*

Economic Yearbook (Beijing: Economic Management Magazine Publisher, 1981).

⁸ Ibid.

⁹ See Furen Dong, ed., *An Economic History of the People's Republic of China*, 2 vols. (Beijing: Economic Science Publishers, 1999). 董辅初 主编, 中华人民共和国经济史 上下, (北京: 经济科学出版社).

¹⁰ See China Information Center, ed., *China Economic Survey 2000*, 2 vols. (Beijing: China Planning Publishing House. 1999) 24. 国家信息中心编, 2000 中国经济展望, 1999 北京: 中国计划出版社.

¹¹ See John A. Eatwell et al., ed. "Import Substitution and Export-Led Growth," in *The New Palgrave Dictionary of Economics*, (London: Macmillan, 1987).

¹² See China Information Center, 24.

¹³ This point was made to the author by farmers in one of Hunan Province's heavily grain-producing counties in the summer of 2006.

¹⁴ Statistical officials in Changsha, the capital of grain-rich Hunan Province, emphasized to the author in June 2006 the efficiency of substituting tax reductions for farm subsidy outlays. Eliminating the agricultural tax eliminated the practical difficulties and related costs of collecting the tax while avoiding the additional burdens and costs of administering what would have otherwise been a complex rural subsidy program.

¹⁵ Ministry of Agriculture 2006, with author's calculations.

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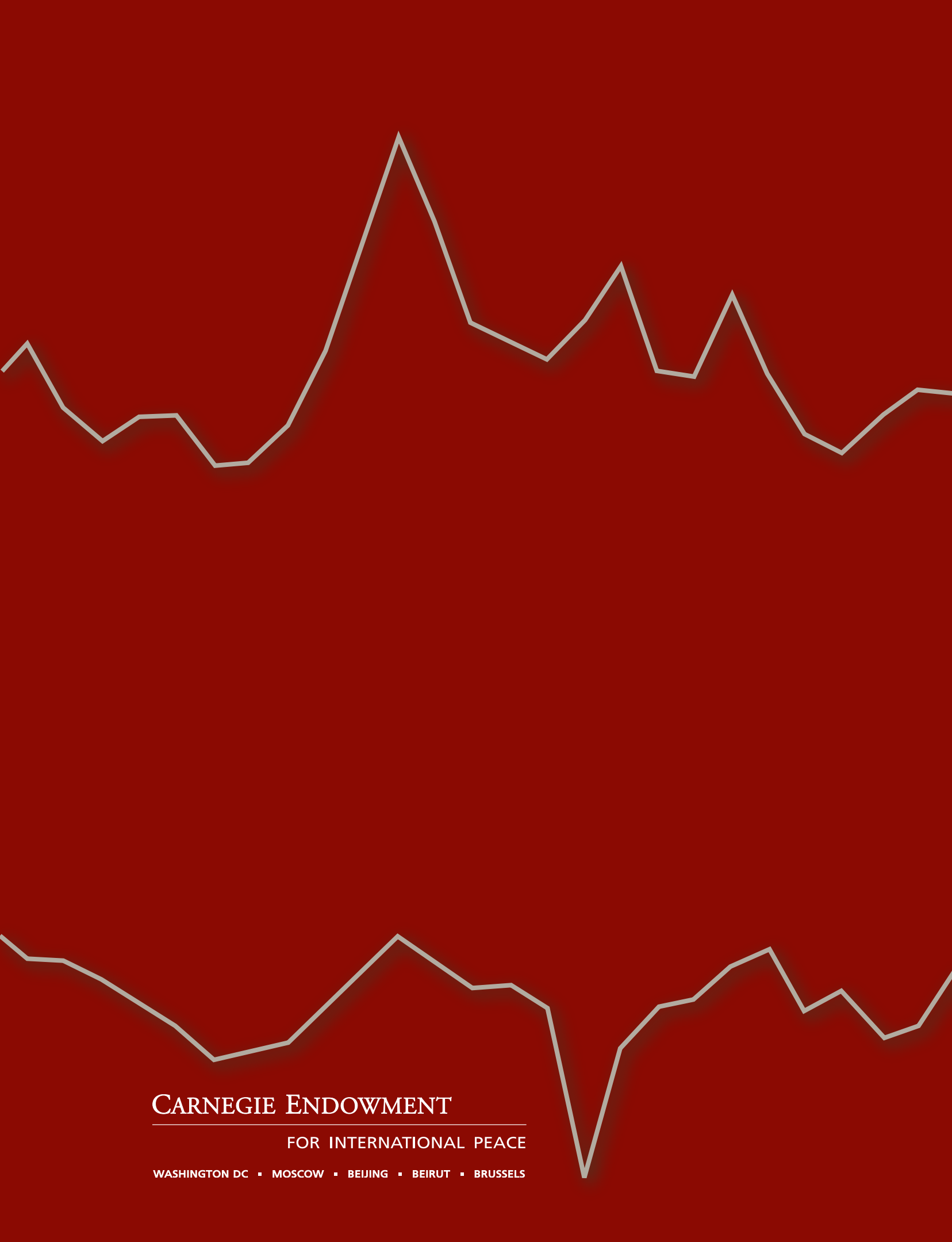
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