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002. report	Economic Trends (from Lardy) (1 page)	c. 4/1998	P1/b(1)
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18. OVERVIEW: CHINA

Current Economic Statistics-China

China—Economic Assessment

~~CNF~~ Chinese Economic Growth Slows

Recent Economic Developments in China

Recent Economic Trends (Lardy)

Boom-at-a-Glance

~~CNF~~ Chart: US Competes for Share of China's Import Market, 1997

Price Reform in China

Reforming the Chinese Economy 1978 - 1998

"Chapter One: China's Economic Reform Strategy," China's Unfinished Economic Revolution, Nicholas R. Lardy, Draft, November 28, 1997.

"Understanding China's Economic Performance," Jeffrey Sachs, Working Paper, Australian National University, February 1997.

- "Why is China Growing So Fast?," Zulu Hu, IMF Staff Paper, International Monetary Fund, 1997.

"Intellectual Property Protection in China," Information Office State Council of the People's Republic of China, June 1994, Beijing.

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INTERNAL FR

John Fernald
April 22, 1998

Recent Economic Developments in China

Overview

- Output growth has slowed steadily in recent years, from 14 percent in 1993 to 8.8 percent in 1997. In the second half of 1997, growth (year-over-year) was only about 8 percent. Growth slowed further in the first quarter of 1998, to (a preliminary) 7.2 percent year-over-year.
- Inflation has declined markedly in recent years. Consumer prices rose 0.7 percent in March 1998 from a year-earlier, compared with inflation of 7 percent in 1996 and 10 percent in 1995.
- In 1997, China had the largest trade surplus in its history along with strong inflows of foreign direct investment. The trade surplus was \$40 billion in 1997, up from \$12 billion in 1996; the dollar value of exports rose 20 percent, while imports rose 3 percent. FDI, which accounts for most capital inflows, amounted to about \$45 billion in 1997 and \$42 billion in 1996. In the first quarter of 1998, the trade surplus was \$10.5 billion, compared with a surplus of \$6.7 billion in the year-earlier period; exports rose 13 percent, while imports rose 3 percent.
- So far, China has remained relatively unaffected by the current financial crisis in Asia, although policymakers have expressed concern that the crisis will reduce export growth and capital inflows. The exchange rate has remained stable against the U.S. dollar since 1995. Total reserves less gold, which increased \$33 billion in 1997 before stabilizing in the first two months of 1998, were \$143 billion in February. China's currency, the renminbi (or yuan), is not convertible on the capital account, so a speculative attack is difficult. The consensus forecast from a mid-March survey of financial market participants shows only a 1 percent nominal depreciation over the next year.

Recent Economic Developments

Economic Activity and Prices: Output Growth has slowed steadily in recent years, falling from 14 percent in 1993 to 8.8 percent in 1997. In the first quarter of 1998, output rose only 7.2 percent (preliminary) from the year-earlier period. Investment, in particular, has slowed sharply, due to continued tight credit to state-owned enterprises and restrictions on fixed asset investment.

The official urban unemployment rate was 3.1 percent at the end of 1997. This rate is misleadingly low, however, since it includes only official urban residents (29 percent of the population). Hence, it does not include the presumably substantial unemployment among the "floating population" of at least 30 million (estimates range as high as 110 million, or 9 percent of the population) generally unskilled rural workers who have moved to the cities in search of jobs.

Inflation has declined markedly during the past three years. Consumer prices rose 0.7 percent in March from a year-earlier; this compares with inflation of 7 percent in 1996 (Dec./Dec.), 10 percent in 1995, and 26 percent in 1994. The decline in inflation reflects a slowdown in economic activity, tighter credit conditions, and record harvests in 1996 and 1997 that have kept food prices low.

Monetary Policy: China's government sets interest rates on deposits and loans administratively. The PBOC has primary responsibility for setting and administering interest rates, although any changes require approval from the State Council, China's cabinet.

On March 24, China cut interest rates, with lending rates falling by an average of 60 basis points, and deposit rates falling by an average of 16 basis points. The Chinese government continues to set the interest rates that banks and other financial institutions can charge, and the rate cut appears to reflect concerns about China's slowing economy. (The one-year deposit rate, for example, which stood at 11 percent from the middle of 1993 through April 1996, has been cut three times since then, and now stands at 5.9 percent.) In a related move, the PBOC also substantially cut reserve requirements on deposits. China had previously required reserves of 13 percent, along with additional required "providential" or "excess" reserves of 5-7 percent. These two separate reserve requirements have now been merged, with the new unified reserve ratio set at 8 percent. The PBOC pays interest on these reserves, but it reduced the interest rate by 230 basis points, reducing the incentive for depository institutions to hold excess reserves with the central bank rather than making loans.

Broad money growth slowed in 1996 and 1997. M2 growth was about 30 percent in 1995, but slowed to 25 percent in 1996, and 17 percent in 1997.

Government Finance: The official budget deficit was slightly under 1 percent of GDP in 1997. Until 1994, the government primarily financed budget deficits through borrowing from the PBOC, and debt issues were small. Since the beginning of 1994, however, the government can no longer order the PBOC to finance deficits through money creation, giving bond issuance a more central role in financing public sector deficits. The total outstanding stock of government debt was about 8 percent of GDP (equivalent to \$65 billion) at the end of 1996.

In 1996, China began issuing discount treasury bills with maturities between three months and one year, in order to provide instruments for central bank intervention. Previously, no discount bills or bonds were issued. Nevertheless, short-term issues remain the exception; most debt has a maturity of between two and five years. In addition, the majority of government debt issues have not been legally tradeable.

The official deficit figure does not include SOE deficits. However, China has steadily removed enterprise subsidies from the budget, relying instead on policy loans by the state-managed banking system. The World Bank estimates that SOE borrowing from the banking system adds an additional 7 to 9 percent of GDP to China's consolidated public sector deficit. Not all of this SOE borrowing reflects quasi-fiscal subsidies, since some SOEs are creditworthy. Nevertheless, given that many SOEs are not sound, a significant fraction of this lending reflects off-budget enterprise subsidies.



Balance of Payments: In recent years, China has recorded sizeable trade surpluses along with strong net capital inflows. In 1997, China had a trade surplus of \$40 billion, the largest trade surplus in its history. This compares with a surplus of \$12 billion in 1996 and \$17 billion in 1995. In 1997, the dollar value of exports rose 20 percent, while imports rose 3 percent. Foreign direct investment accounts for most capital inflows, and amounted to about \$45 billion in 1997 and \$42 billion in 1996.¹

China reported current account surpluses of \$2 billion in 1995 and \$7 billion in 1996, as deficits on services and income partially offset the strong trade surpluses. Strong capital inflows and current account surpluses have translated into a rapid accumulation of foreign exchange reserves. Total reserves less gold rose by \$84 billion between the end of 1993 and the end of 1996. Reserves increased another \$33 billion in 1997 before stabilizing in early 1998, reaching \$143 billion at the end of February, the second highest in the world after Japan.

In the first quarter of 1998, the trade surplus was \$10.5 billion, compared with a surplus of \$6.7 billion in the year-earlier period. The dollar value of exports rose 13 percent, while the value of imports rose 3 percent. Trade data for March do suggest some slowdown in export growth and increase in import growth, consistent with some loss in Chinese competitiveness relative to other Asian economies; exports were only 9 percent higher than a year-earlier, while imports were 7 percent higher.

China's exchange rate has remained stable at around 8.3 renminbi/dollar since the middle of 1995. At the end of 1996, China eliminated all restrictions on currency convertibility for current account transactions. In January 1998, China announced explicitly that it has no plans to ease restrictions on capital account transactions.

Chinese statistics indicate that external debt was \$130 billion at the end of 1997, amounting to about 14 percent of GDP.² The World Bank committed \$3 billion in loans to China each year from 1994 to 1996, making China the Bank's largest borrower in terms of new commitments. China has not had an IMF program since 1987.

Financial Crisis in Asia: So far, China has remained relatively unaffected by the region's current financial crisis, with the currency remaining stable against the dollar and foreign-exchange reserves increasing. In part, this reflects the lack of convertibility of China's currency, which makes a speculative attack difficult. In addition, China has a

¹ Interpreting China's balance of payments data requires caution, given "errors and omissions" of -\$18 billion in 1995 and -\$16 billion in 1996. Errors and omissions are likely to have been even larger in 1997. These unidentified transactions probably reflect unrecorded capital outflows, although other components of the balance of payments are also poorly measured.

² Comparing these data with BIS data, it appears that China's statistics omit foreign bank lending to financial institutions; adding those data bring the total to about \$165 billion, still only 19 percent of GDP.

large current account surplus, large foreign-exchange reserves, a relatively low ratio of debt-to-GDP, and relatively little portfolio investment. These factors may all contribute to China's relative immunity so far.

Over time, the Asian depreciation is likely to reduce Chinese net exports, and may put some downward pressure on the exchange rate. However, the consensus forecast, from a mid-March survey of financial market participants, shows only a 1 percent nominal depreciation over the next year.

On February 20, Moody's downgraded the outlook to negative from stable on China's foreign currency country ceilings. However, Moody's suggested that the strength of China's external position offered some protection from Asia's financial turmoil, instead citing political and financial uncertainties surrounding China's accelerated pace of state enterprise reform as the rationale for the downgrade.

Bilateral Issues: The Clinton Administration has encouraged high-level contact between U.S. and Chinese officials as part of its policy of engaging the Chinese in areas of economics, human rights, and non-proliferation. Over the past several years, however, U.S.-China relations have often been confrontational. Trade issues are particularly contentious, in part because the United States runs large bilateral trade deficits with China (\$50 billion in the 1997, following an annual deficit of \$40 billion in 1996).³ This deficit has spurred ongoing bilateral negotiations on a broad array of topics, including the protection of intellectual property rights and numerous market-access issues.

China's accession to the WTO remains another source of friction. Since 1994, China has stated on numerous occasions that U.S. opposition is its main obstacle to accession. However, other WTO members, notably in the European Union, agree with the U.S. position that China's heavily managed trade regime violates numerous WTO provisions, and that substantial reforms remain necessary. In 1997, negotiators from both the United States and China have expressed optimism about the state of progress.

In May 1997, President Clinton announced that he planned to recommend renewal of China's "most favored nation" (MFN) trading status for the next year, and in June, Congress voted not to override President Clinton's decision. The MFN decision must be made annually; President Clinton has until June 1998 to recommend renewal or non-renewal.

³ In 1997, the United States exported \$13 billion to China while importing \$63 billion. Chinese trade statistics showed a much smaller U.S. bilateral deficit of only about \$17 billion, with Chinese imports from the United States of \$16 billion and exports to the United States of \$33 billion. The differences appear largely to reflect differing treatment of transshipments through Hong Kong.

In September 1997, the U.S. Treasury and China's Finance Ministry resumed the U.S.-China Joint Economic Committee (JEC) in Beijing. Vice Chair Rivlin represented the Federal Reserve at these meetings. Following the visit of Chinese President Jiang Zemin to Washington in October 1997, President Clinton plans to visit Beijing in June 1998.

Staff Outlook for China

		<u>1997</u>	<u>1998f</u>	<u>1999</u>
Real GDP Growth		8.8	6	7-1/2
(IMF Forecast for Real GDP Growth)	8.8	7-1/2	<i>n.a.</i>	
Consumer Price Inflation (Dec./Dec.)	0.4	5	5	
Current Account (US\$ billion)	23	18	9	

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Box. Price reform in China

Under the central-planning framework that existed in China until the late 1970s, the prices of almost all goods were administratively set by the central or provincial authorities. These prices therefore did not reflect relative scarcities nor international price levels, but rather were obtained using a cost plus approach, with adjustments for considerations of income distribution or revenue mobilization, leading to a significant degree of distortion in relative prices. In addition, administered prices were adjusted only infrequently. A small proportion of transactions in the economy were conducted at market-related prices: in 1978, 3 percent of total retail sales were conducted at free-market prices, while 97 percent of retail sales were conducted at state-determined fixed prices.

Price reform since 1979 has consisted of two parallel developments: the **adjustment of administered prices** and **price liberalization**. In the early years, much of price reform came in the form of adjustments in administered prices, including agricultural procurement prices. Price liberalization took place on a limited scale initially. By 1983, for example, the proportion of agricultural goods sold at market prices was only 10.5 percent. An additional 18.4 percent of agricultural output was sold at "guided prices" which were subject to a government-determined maximum and/or minimum.

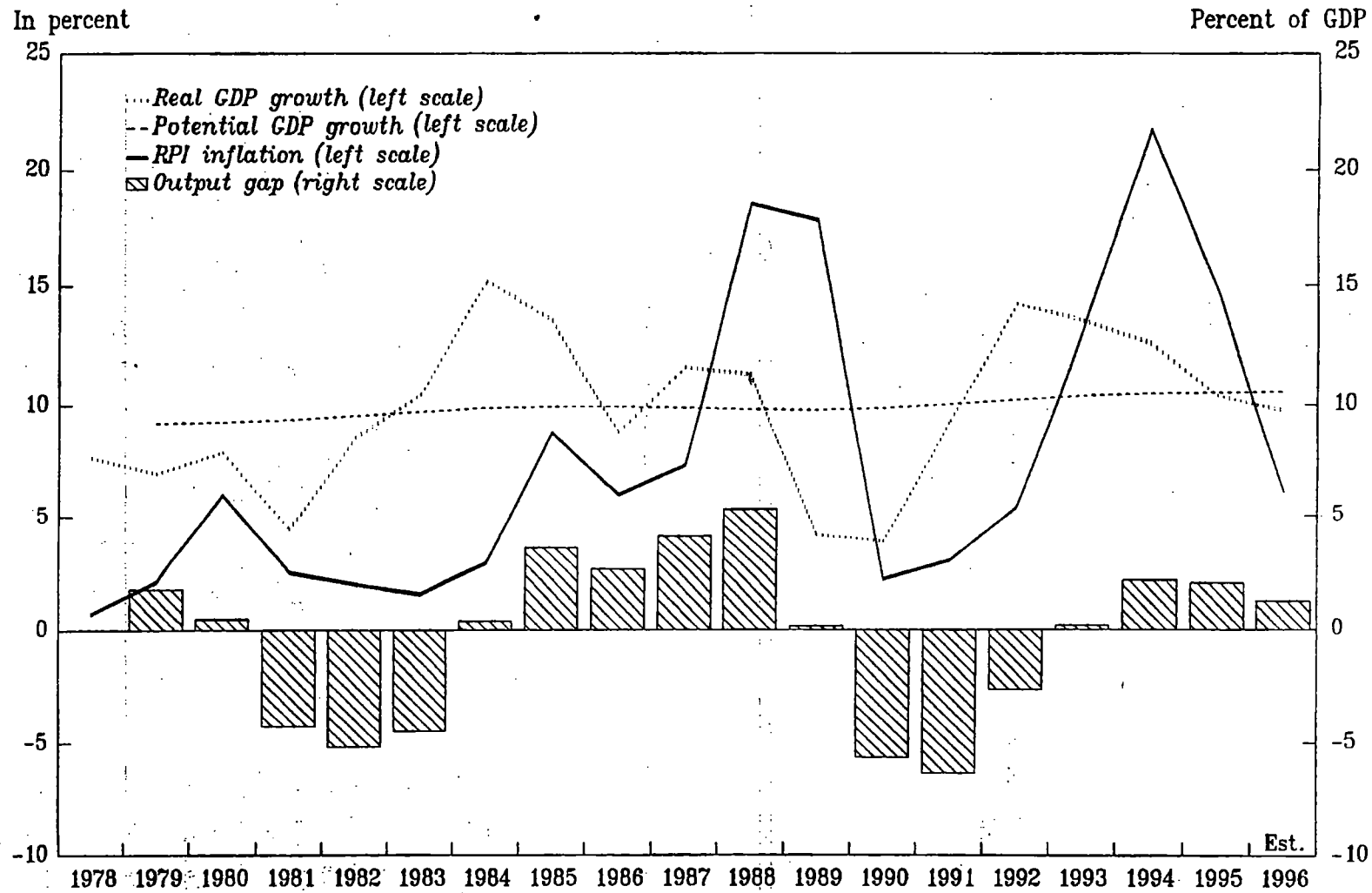
Price liberalization took on importance when, by the mid-1980s, the authorities introduced a two-tier pricing system for a number of sectors. Under the new procurement system for agricultural products, the government purchased part of agricultural output at a fixed price and allowed the above-quota output to be sold at market-related prices. The system was soon extended to a number of industrial commodities and means of production: while plan prices prevailed for key industries and for production within the state-determined quotas, production in excess of quota could be sold in the free market. For a significant portion of total sales, however, guided pricing persisted, so that, in effect, the two-track system had three sets of prices: (i) prices fixed by the state; (ii) guided prices, for which the state authorities determined a range; (iii) free-market prices. "Free-market" prices are not always fully market-determined, and there have been varying levels of official intervention in the form of price management and indirect controls. Introduction of the two-track pricing system led to a rapid increase in the proportion of goods sold at market prices. In 1985, 34 percent of retail sales took place at free-market prices, while 19 percent was subject to price guidance (Chart II.2). And by 1986, the proportion of goods sold at fixed prices had fallen below 35 percent. Similarly, in agriculture the proportion of output sold at fixed prices fell from 68 percent in 1984 to 37 percent in 1985.

A temporary setback in the drive towards price liberalization came in the late 1980s, when the authorities—in response to emerging macroeconomic imbalances—adopted a "Rectification" program, which included a part-reversal of earlier price reform, as the prices of a number of important commodities were brought back under direct central government control. These measures are reflected in Chart II.2 as a reversal of the trend towards liberalization. The slowdown in economic activity and the declining inflation rate in 1989 and 1990 initially led to a limited relaxation of these controls, and in the following years price reform was stepped up. In agriculture, this took the form of reducing the coverage of administered pricing, raising administered prices towards market levels, and creating regional and national wholesale markets for key commodities. By 1993, the proportion of agricultural output sold at market-related prices increased to almost 90 percent. In industry, a major price liberalization reduced the proportion of producer good sold at state-determined prices from nearly half in 1990 to 20 percent at the end of 1992.

Despite the rapid price liberalization in 1991–1993, the apparatus for directly controlling prices remained intact, and surging inflation in 1994 led to an intensification of price surveillance, the establishment of benchmark prices for key commodities, increased price subsidies, and some postponement of planned administered price increases. The system today remains largely liberalized, however. The great majority of transactions in the economy takes place at market-determined prices and the authorities estimate that the share of government-regulated prices in retail sales is commensurate with levels in advanced economies.

CHART II.1

CHINA
GDP GROWTH AND INFLATION



Sources: State Statistical Bureau, and Fund staff estimates.

INTERNAL FR

John Fernald
April 22, 1998**Reforming the Chinese Economy 1978-1998****Overview**

- China began economic reforms in 1978, and has slowly moved from nearly complete reliance on a central plan towards increasing reliance on decentralized markets. The results have been striking. China has grown at an average annual rate of more than 9 percent since 1978, after growing at 5-6 percent per year for the previous 30 years.
- China did not begin economic reforms with a clear vision of the system it sought to create. Initially, the role of the market was viewed as a useful supplement to—but no substitute for—a predominately planned economy. Political views have evolved over time, however, and a market-based economy is now viewed as compatible with either capitalism or socialism.
- Reforms began in agriculture and foreign trade, and spread to industry in the mid-1980s. Although much progress has been made, reforms in all areas remain incomplete, particularly in areas of state-owned enterprises, financial markets, government finance, trade, and property rights.
- China has usually introduced reforms through intermediate mechanisms. For example, China liberalized prices by establishing a dual-track pricing system: input and output prices remained administratively fixed for the quantities required to fulfill the physical plan, with free-market pricing for other sales.
- This incremental and experimental approach has three advantages, according to Chinese authorities. First, gradualism avoids major disruptions, and if policies work poorly they can be modified. Second, leadership has built political support for reform by implementing first those policies that are likely to succeed, hence minimizing social unrest and political conflict. Third, China has had time to develop some of the prerequisites for successful markets, including training personnel and developing new institutions and a new legal and regulatory framework.
- China's approach is usually characterized as "gradualist," though some authors have argued that the dual-track approach achieves full economic efficiency rapidly, since at the margin, markets determine prices and the allocation of resources. Unlike a "big bang" approach of liberalizing all markets instantaneously, the dual-track approach is Pareto-improving: No one is made worse off and at least someone is made strictly better off.
- In September 1997, President Jiang Zemin announced that China plans to sell off or close the majority of state-owned enterprises, particularly small and medium-sized ones. In early 1998, authorities announced several additional reforms, including reducing substantially the government bureaucracy (eliminating 11 out of 40 ministry-level bodies), issuing about \$33 billion in bonds to increase the capital of the four major banks, and restructuring the central bank along the lines of the Federal Reserve System.
- Enormous interrelated problems remain—notably, China must rely on banks to finance state enterprises, in part to finance the social services that these enterprises provide, since the government lacks the fiscal and institutional capacity to provide these services directly. Chinese policymakers appear to have concluded that they must move quickly to resolve these issues. Numerous obstacles remain, however, including opposition by special interests, and the lack of necessary institutional and human capital for rapid reforms. Finally, policymakers remain concerned about maintaining social stability in the face of rising unemployment.

Introduction

China began reform efforts in 1978 at a time of relatively stable macroeconomic conditions. Inflation was low, and fiscal and external accounts were more or less in balance. Saving and investment rates were high. The resulting accumulation of capital had contributed to 30 years of relatively steady though unspectacular growth, with broad gains in health and primary education.

Total factor productivity growth was probably negative, however, after the 1950s. Sustaining high output growth required that investment rates continue to rise, leaving little prospect for significant gains in personal consumption. Moreover, by the late 1970s, it was clear that China's economic performance compared poorly with that of its southeast Asian neighbors. Hence, while there was no economic crisis, there was nevertheless general dissatisfaction with economic conditions, which contributed to a new willingness to experiment with economic reform.

Since 1978, many reforms have been introduced, and China has slowly moved from nearly complete reliance on a central plan towards increasing reliance on decentralized markets. China focused in the late 1970s and early 1980s on rural reforms, gradually freeing markets for agricultural commodities and abolishing communes in favor of family farms. Early on, China also introduced the "open door policy," eliminating the central government's monopoly over foreign trade by establishing four special economic zones (SEZs). In the mid-1980s, China began reforming industry. Since then, fewer and fewer goods have passed through the hands of the planners. Market pricing has spread, and hence relative prices more accurately reflect true scarcities. Competition has spread through the economy from a number of sources, including foreign trade and investment and the growth of new industrial collectives.

The results of reform have been striking. GDP grew at an average annual rate of more than 9 percent per year from 1978-1997, after averaging about 5 percent per year for the previous 30 years. Much of this growth reflects substantial capital investment, since domestic saving and investment have averaged nearly 40 percent of GDP since reforms began. In addition, several academic studies estimate that annual total factor productivity growth rose from roughly zero before 1978 to 3-5 percent per year since then.¹ The benefits of economic growth are widespread. The World Bank estimates that between 1978 and 1985, for example, the number of people living in "absolute poverty" fell from 270 million to 100 million, and is currently estimated by the World Bank to be fewer than 80 million.

¹ Numbers in this paragraph are primarily from *China 2020: Development Challenges in the New Century*, World Bank (1997, Chapter 1 and Appendix). It is often argued that China's real growth is overstated because price deflators do not fully measure inflation. *China 2020* estimates that using reasonable alternative deflators, GDP growth was 1.2 percentage points lower than the official figures—still a very high 8 percent per year. Nicholas Lardy (Chapter 1 of *China's Unfinished Revolution*, 1997) argues informally that because of statistical shortcomings, true total factor productivity growth may have been very small since 1978. By contrast, *China 2020* argues that using alternative deflators has little effect on TFP measurement, since the adjustments reduce growth in capital input as well as growth in output.

Part of these gains reflect the economy's low starting level. Economic liberalization improved allocative efficiency, allowing output and hence productivity to rise even with unchanging inputs and technology. Inputs and technology have not, however, remained unchanged. That is, long-run potential growth has risen, both because of rapid capital accumulation and because of incentives for technology transfer and innovation.

Despite widespread gains in economic efficiency, China's reforms remain incomplete. One implication of China's partial financial market reforms, for example, is that macroeconomic management increasingly difficult. The old direct instruments of control have lost much of their power. But new indirect instruments are not yet effective enough to take their place. The resulting loss of macroeconomic control has contributed to cycles of economic activity since 1978. The attempt to develop new tools of macroeconomic control, as well as to keep growth high, has motivated the latest round of reform plans.

Economic Reforms 1978-1997

Unlike countries in Eastern Europe and the former Soviet Union, China did not begin economic reforms with a clear vision of the system it sought to create. Initially, the role of the market was viewed as a useful supplement to—but no substitute for—a predominately planned economy. Political views have evolved over time, though, and a market-based economy is now generally viewed as compatible with either capitalism or socialism. At the 15th Communist Party Congress in September 1997, President Jiang Zemin enshrined as official party doctrine what he euphemistically referred to as "socializing ownership of the means of production"—in other words, privatizing (a word Chinese politicians still usually avoid). For example, the state officially now finds it acceptable to sell off all or parts of most of its enterprises as shareholding enterprises. Broad share ownership, in turn, preserves the "socialist" desire for broad public ownership of the means of production.

China has generally introduced reforms through intermediate mechanisms. For example, China opened to foreign investment by establishing SEZs in the late 1970s and early 1980s, only slowly opening more completely in recent years. China liberalized prices by using a dual-track pricing system: input and output prices remained administratively fixed for the quantities required to fulfill the plan, with free-market pricing at the margin for other sales. In foreign-exchange markets, China established relatively free-market swap centers in 1986, and the official and free-market rates coexisted until they were unified in 1994.

This incremental and experimental approach had three advantages, according to Chinese authorities. First, moving slowly avoided major disruptions, and if policies worked poorly they could be modified. Second, leadership built political support for reform by implementing first those policies that were most likely to succeed, hence minimizing social unrest and political conflict. Third, China had time to develop some of the prerequisites for

successful markets, including training personnel and developing new institutions and a new legal and regulatory framework.

This style of reform is usually described as "gradualist"—"feeling the stones to cross the stream," in Deng Xiaoping's words. Several authors have argued, however, that China's "dual-track" reform strategy was not, in fact, gradual.² In particular, a dual-track strategy can, in principle, achieve full economic efficiency as quickly as the big-bang strategy of abolishing the central plans and immediately opening all markets. With a dual-track approach, at the margin, markets determine prices and the allocation of resources; the central plan provides for intramarginal rent transfers. In addition, the dual-track approach may be easier to implement politically than a big-bang approach, since the dual-track approach can be Pareto-improving: No one is made worse off and at least some one is made strictly better off. Since the pre-existing distribution of rents under the plan remains, the dual-track approach in essence implements lump-sum transfers to compensate any losers under the reforms.

The argument that China has not followed a gradualist strategy almost surely overstates the case. First, not all markets opened immediately and simultaneously, so marginal efficiency conditions have not necessarily been achieved. Second, China's property rights remain poorly defined, and hence contracts cannot always be enforced. This lack of property rights prevents some Pareto-improving transactions from taking place. Third, the need to provide subsidies to loss-making state-owned enterprises (SOEs) have led to continuing distortions in financial markets. Fourth, many intermediate inputs (for example, steel and energy) continue to be produced only by SOE monopolies, who do not necessarily price at marginal cost, and who often ration quantities because they cannot meet demand. These continuing distortions in intermediate input markets lead the economy to produce inside its production possibilities frontier, as shown long ago (in analyzing optimal tax policy) by Diamond and Mirrlees.

Nevertheless, the argument that in principle, a dual-track strategy can quickly achieve efficiency points out that China's approach is not necessarily less radical than the big-bang approach. Nor should we be surprised that China has grown so quickly despite its substantial remaining distortions.

To date, prominent areas of reforms include the following:

● **Agriculture.** In the late 1970s, China broke up large communes and returned agricultural production to individual households. Land transfers remain difficult and sometimes impossible, but households have to a limited extent received property rights through long-term leases. Agricultural surpluses have largely funded the growth of rural industry.

● **Industry.** Most enterprises now sell some or all outputs and buy some or all inputs in free markets. State-owned

² Lawrence Lau, Yingyi Qian and Gérard Roland, "Reform Without Losers: An Interpretation of China's Dual-Track Approach to Transition." Center for Economic Policy Research Working Paper No. 1798, February 1998.

enterprises (SOEs) no longer must remit all profits to the state. Managers receive monetary rewards related to firm performance, and have increasing control over what, how, and how much to produce. In addition, numerous collective and private firms now exist to fill market gaps, especially in light industry. This "nonstate" sector includes township and village-owned enterprises (TVEs), and hence is not necessarily private; the key characteristic of these nonstate firms is that unlike SOEs, they are not owned by the central government, they face hard budget constraints, and can legally sell their assets. One advantage of TVEs is that their ownership by local governments helped substitute for the lack of clear property rights, since local bureaucrats could help provide political protection. In 1978, the nonstate sector produced 19 percent of China's industrial output; in 1996, it produced 66 percent. Collectives and TVEs have increased their share from under 5 percent to 26 percent.

• *Prices.* China began price reforms in agriculture, and after 1985 adopted the two-track price system for industry. Prices of consumer goods were liberalized earlier than prices of industrial materials. In recent years China has begun to phase out the two-track system. About 80 percent of production materials, 85 percent of agricultural products, and 95 percent of consumer goods now are reportedly priced by the market.³ (When inflation rises, however, China tends to reimpose price controls. For example, between 1993 and 1994, the share of agricultural prices set by the market fell from 88 percent to 80 percent, before rising again to 85 percent in early 1997.)

• *Foreign Trade and Investment.* Merchandise trade (the sum of exports and imports) rose from \$5 billion (10 percent of GDP at the official exchange rate) in 1975 to \$325 billion (36 percent of GDP) in 1997. Numerous SEZs have been established to free foreign investors and exporters from red tape. Since 1978, cumulative foreign direct investment of more than \$200 billion has brought foreign technology and management techniques. The proximity to Hong Kong clearly helped China, since about two-thirds of FDI came from Hong Kong. Hong Kong producers have steadily shifted production to Southern China, with head offices remaining in Hong Kong. China actively seeks to enter the WTO.

• *Public Finance.* China implemented major tax reforms at the start of 1994, unifying corporate tax rates and introducing a value-added tax and a graduated individual income tax. The purpose of these tax changes was to broaden the tax base and increase central government revenues. Tax revenue as a share of GDP has steadily fallen over time, and the reforms appear to have stabilized revenue as a share of GDP at about 11 percent in 1995 and 1996. The value-added tax accounts for more than 40 percent of revenue; the income tax accounts for less than 2 percent.

• *Financial Markets.* In 1984, China separated the central banking activities of the People's Bank of China (PBOC) from its commercial banking activities. Numerous nonbank financial institutions have been allowed to operate. New

³ These data from a speech by the Minister of the State Planning Commission in Davos, Switzerland, in February 1997, and appear to refer to early 1997 or late 1996. These data are consistent with data reported by the IMF for 1994.

capital markets have formed, including equity markets and secondary markets in government bonds.

Reforms in all areas remain incomplete. The authorities often protect SOE monopolies, for example, and if these firms lose money they face soft budget constraints. While many prices have been freed, key prices (notably for energy and transport as well as most factor prices for land, labor, and capital) are still controlled. Even "market prices" remain subject to official intervention, either through occasional price caps or through the release of buffer stocks of basic commodities such as grain. The government still directs much of bank credit to borrowers who are unlikely ever to repay; and the inefficient interbank market and payments system make bank reserve management difficult. Trade restrictions are often opaque, and enforced capriciously.

Recent and Prospective Reforms

In 1997 and early 1998, the pace of proposed reforms has accelerated markedly, with a particular focus on state-owned enterprises and financial markets (separate notes discuss reforms of the People's Bank and China's financial sector at greater length).

China currently has more than 300,000 SOEs, including more than 100,000 industrial SOEs. From 1991 to 1996, industrial output by SOEs grew at an average rate of 7 percent per year, compared with growth of 28 percent per year in the non-state sector; output of SOEs now accounts for less than a third of industrial output. Nevertheless, SOEs account for about two-thirds of industrial employment, and more than half of total investment—much of which appears to have a low rate of return. SOEs receive strong political support, and hence face soft budget constraints.

At the 15th Party Congress in September, President Jiang Zemin announced that China plans to keep state control over only about 1,000 of the largest core enterprises. (Policymakers have occasionally suggested that Korean chaebol system as a model, although the Asian financial crisis appears to have led to some reconsideration of this point.) Of the rest, some may be merged with more successful partners, some may sell stock to employees or through a stock-market listing, and some may be sold outright to the private sector. Non-viable firms are expected to go bankrupt. (Chinese leaders generally avoid the word "privatization," preferring phrases such as "clarifying property rights," or establishing "common ownership" through stock sales.)

The announcements clear many of the ideological hurdles to selling state assets. Nevertheless, major reforms are unlikely to take place quickly, irrespective of official announcements. First, China lacks effective corporate governance. The stock market lacks large institutional investors who could provide such governance, and in any case, the market probably lacks the capacity to absorb the required quantity of new issues. Second, many Chinese enterprises are probably not commercially viable; outside investors may be unwilling to buy them at any positive price. The state sector currently employs about 100 million workers (two-thirds of the urban labor force), and policymakers appear

concerned that closing non-viable enterprises would substantially raise unemployment, thus threatening social stability.

In order to facilitate enterprise restructuring, China is trying to reduce the importance of enterprises in providing social services such as education, health, pensions, and housing. Numerous cities have begun preliminary efforts to put social programs in place—pooling pensions at a city-wide level, for example, rather than enterprise-by-enterprise. In 1998, Premier Zhu Rongji announced substantial housing reforms. The reforms are slated to include: ending the allocation of state-subsidized housing, starting in the second half of 1998; gradually increasing state-subsidized rents; paying cash subsidies to state workers to compensate for rising rents; widespread selling of government housing to current occupants at low prices; increasing availability of provident and commercial mortgage loans for private home buyers.

China's legal system remains inadequate. Chinese companies—and the Chinese government itself—often do not view contracts as binding, and enforcement through the courts remains unreliable at best. As a result, many foreign investors attempt to find alternative mechanisms to ensure payment, such as developing close ties to their customers or dealing only with firms with identifiable overseas assets.

However, China has made some progress at providing clearly defined property rights and improving its judiciary. The National People's Congress has approved numerous new laws in the past few years, establishing formal legal underpinnings in numerous areas. In financial areas, for example, China has passed laws regulating the central bank, the commercial banks, insurance markets, and trade in negotiable instruments. In some areas, China's courts now appear increasingly willing to enforce the laws on the books. For example, numerous foreign firms have filed court cases regarding violations of intellectual property rights (a source of bilateral conflict between the United States and China), and the Chinese courts have increasingly been willing to rule in their favor. Nevertheless, even in this relatively high-profile area, courts move slowly, it remains difficult to win cases, and even winners rarely get more than token compensation for monetary damages.

Conclusion

China's approach to reform differs substantially from the approach taken by Russia and other countries of the former Soviet Union and Eastern Europe, who generally implemented market reforms much more quickly. Chinese economists sometimes point to post-reform problems in Russia's economy as vindication for the go-slow approach. This conclusion is probably not warranted, since Russia and China had very different initial conditions and structural characteristics at the onset of reform.

As noted by the World Bank's *1996 World Development Report*, China remains much less industrialized than

Russia, even after 19 years of reform. In 1978, industry accounted for 15 percent of China's employment, while agriculture accounted for 71 percent. As of 1994, the share in industry had risen to 18 percent, while the share in agriculture had fallen to 58 percent. By contrast, in 1990 industry accounted for 42 percent of Russia's employment, while agriculture accounted for only 13 percent; the shares have changed little since then. One consequence of this different employment mix is that China's economy was much less centrally planned and administered than the Soviet economy.

The World Bank thus concludes that "the right reform mix must reflect initial conditions, and so cannot simply be transplanted between such starkly different countries as China and Russia." Moreover, when the World Bank surveys the range of transition economies, they find that those countries that liberalized rapidly and extensively also turned around more quickly.

For China, an incremental and experimental approach has served well over the past two decades. However, enormous interrelated problems remain—notably, China must rely on banks to finance enterprises, in part to finance the social services that these enterprises provide, since the government lacks the fiscal and institutional capacity to provide these services directly. Chinese policymakers appear to have concluded that they must move quickly to resolve these issues, and have therefore set a three year time frame for achieving reasonable results.

Numerous obstacles remain. Local politicians and SOE managers, for example, oppose reforms that eliminate their power to direct resources towards themselves and their friends. In addition, China may lack the necessary institutional and human capital for rapid reforms; corporate governance, for example, remains weak, and banks lack experience making loans on commercial grounds. Hence, the road ahead remains difficult and uncertain.

Extra stuff....

Macroeconomic Management

The partial nature of reforms complicates macroeconomic management. As economic and bureaucratic power has been decentralized, policy coordination becomes necessary but difficult, curbing the effectiveness of existing fiscal and monetary tools. Under central planning, the physical plan and the credit plan provided two sources of administrative oversight over aggregate demand. The physical plan is now relevant for only a few decisions, and the credit plan is easily bypassed. At the same time, the mechanisms and institutions needed for successful use of indirect instruments are not fully in place.

The primary monetary instrument for managing the economy remains the credit plan. The credit plan is formulated by the PBOC under the direction of the State Council and the State Planning Commission. Traditionally, the credit plan served a passive role in facilitating the physical plan that specified output targets. Market reforms have minimized the importance of the physical plan, giving monetary policy a more active role in affecting how resources are allocated. At the same time, however, market reform and decentralization make it more difficult to control credit while also loosening the link between credit and activity.

The credit plan is designed centrally, but implemented locally. For several reasons, this leads monetary policy to accommodate demand shocks, especially the "investment hunger" of the SOEs, and the plan has typically been exceeded in recent years. First, in the creation of the plan there appears to be room for bargaining between firms and specialized banks, and between specialized banks and the PBOC. In the past, the ability to bargain was restricted by the need to receive an entitlement from the physical plan as well as the credit plan. Second, local PBOC authorities are heavily influenced by local political and economic interests. Third, financial market developments, such as the growth of nonbank financial institutions and securities markets, have created new non-plan sources of credit. These factors make credit creation and aggregate demand more difficult to administer by fiat.

Although direct monetary tools have been blunted, indirect tools are not yet sharp enough to replace them. Reforming financial markets and the SOEs are key for sharpening them. Open market operations or changes in reserve requirements, for example, generally work by changing market signals such as interest or exchange rates. In China, however, these signals often do not fully reflect underlying supply and demand conditions, and in any case many economic agents are relatively unresponsive to the changes in these signals. Because of interest rate controls, directed credit, and the inefficient interbank market, for example, banks have little incentive to behave competitively or to be sensitive to their costs of funds in deciding lending rates or the volume of loans. Even if lending rates did respond, firms facing soft budget constraints do not determine their borrowing and investment decisions on the basis of price.

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Chapter One

China's Economic Reform Strategy

China's gradual approach to economic reform appears to offer critical advantages compared to the much more rapid economic transitions initiated in the early 1990s in several states of Eastern Europe and in parts of the former Soviet Union. In contrast to a period of sharply declining real output in these latter states, China's reform generated record rates of positive economic growth from the outset. In distinct contrast with the transition in Russia where inflation accelerated dramatically, China has held average inflation to a single digit level since economic reform began in the late 1970s. Moreover, economic growth in China, particularly in the early years of reform, was broadly shared among all regions and segments of society.¹ The precipitous decline in poverty in the first seven years of economic reform was especially dramatic. In 1978 270 million individuals or 28 percent of China's total population lived below the poverty line. By 1985 that number declined to 97 million, less than 10 percent of the population.² These early successes allowed China's reformers to build a solid coalition of support for ever more far reaching reforms.³ By contrast in Russia the combination of a disintegrating social safety net and declining real output have inflicted sharply lower living standards on large segments of the population, even as a small class of nouveau riche Russians enjoy ostentatious life styles.

Similarly, China's reforms facilitated its rapid integration into the world economy. By the early 1990s China's share of world trade had quadrupled compared to the pre-reform period and it regularly was the recipient of more foreign direct investment than any other transition or developing country. Indeed in 1993, when these inflows exceeded those into all developed economies as well, China was the recipient of more foreign direct investment than any other country in the world. Moreover, it was the first transition economy to be awarded an investment grade rating for its sovereign debt in international capital markets and has raised far more capital in these markets than any other transition economy. China also has raised more capital by selling shares of its companies on international equity markets than any other transition economy.⁴

Because of this pattern of contrasting economic performance, students of transition economies have debated intensely the questions of the optimal pace and sequence of economic reforms. China eschewed the conventional recommended combination of rapid privatization, overnight price reform, and the immediate dismantling of trade barriers. Although a variety of new forms of ownership

have flourished, twenty years after reform began few state-owned firms have been privatized.⁵ Relative prices in China for the most part have converged to world levels, but this process was extremely gradual. The state ended controls on many agricultural prices first and then, by the mid-1980s, introduced a two-tier pricing strategy for most industrial goods.⁶ Under this system planned output continued to be distributed at a state-fixed price whereas supply and demand in the market determined the price of over-plan output. Market prices provided firms appropriate information on the relative scarcity of both inputs and outputs, creating the possibility of efficiency enhancing adjustments of production technology and output mix. Planned output was provided at fixed prices that typically were below-market levels, to privileged end-users, mitigating resistance to this form of price reform. Since planned output levels tended not to grow in absolute terms over time, by the mid-1990s the share of output distributed at below-market prices had shrunk dramatically, paving the way for the elimination of fixed prices in favor of a single market price for most industrial goods. Opening the economy to foreign trade was similarly gradual and was a key part of the process by which relative domestic prices converged to world level.⁷ As a result, China's stunning combination of rapid economic growth, relative price stability, broadly shared real income gains, and increased participation in international goods and financial markets has led some to argue that a more gradual approach to economic reform leads to superior economic performance in transition economies.⁸

While not denying the success of China's strategy, others have argued that its initial conditions were unique and that the more gradual Chinese approach was not a viable option for the countries of Eastern Europe or the former Soviet Union.⁹ China, most importantly, was far more dependent on agriculture as a source of employment and output than were the countries of Central Europe or the former Soviet Union. Moreover, because of their rapid political transformations, new leaders in these latter countries were able to work for more far-reaching transformations of economic institutions. Rather than trying to preserve the primacy of state-owned firms, for example, they were able to try more radical reforms, such as the voucher privatization approach of the Czech Republic.

Overlooked in this debate is the economic cost of largely deferring fundamental reform of China's state-owned enterprises. Because of the extraordinarily rapid growth of non-state industry, particularly township and village enterprises, the share of output produced in the state-owned sector of the economy has fallen dramatically since reform began. This decline is the basis for the characterization of China's economic reform strategy as "growing out of the plan."

Upon closer examination, however, a different picture appears. Employment in state-owned firms has increased by 40 million since reform began and the sector continues to absorb a disproportionately large share of investment resources. This expansion of both employment and fixed assets in the state-owned sector seems not to be part of a process of restructuring, in which unprofitable firms shrink or go out of business while profitable firms expand and entrepreneurs create new firms to exploit emerging opportunities. State-owned firms have grown much more slowly than non-state firms. But exit

of unprofitable state firms through bankruptcy or merger continues to be relatively infrequent, even though the share of state manufacturing firms incurring financial losses has increased almost continuously since the mid-1980s. Unwilling to tolerate the level of urban unemployment that would accompany the widespread bankruptcy of loss-making firms, the state assumed the burden of subsidizing growing losses through fiscal subsidies and, increasingly, through so-called policy loans from the state-owned banking system. Since the late 1980s these direct and indirect subsidies absorbed 10 per cent or more of gross domestic product every year.¹⁰ In short, the strategy of preventing the emergence of economic losers has been accomplished largely by deferring industrial restructuring, a process financed by the buildup of huge financial liabilities on the part of Chinese firms.

This strategy of gradualistic economic reform has created three economic trends that appear to be unsustainable over the long-run. First, state-owned enterprises are becoming ever more indebted, particularly to banks. These firms increasingly borrow not only to finance the purchase of new equipment or other productive assets, but also to finance the purchase of inputs used in production, to pay their wage bills, to provide a broad range of social services to their workers, and in some cases even to meet their pension obligations. In short, on average they are not able to cover their total costs with the income they receive from the sales of their products.¹¹ In addition to their massive indebtedness to banks, these firms also have built up huge unfunded pension liabilities, unpaid tax liabilities, and interenterprise arrears.¹² For the average state-owned enterprise the sum of the bank debt, unpaid taxes, unfunded pension liabilities, and net indebtedness to non-state firms far exceeds the value of its assets. As a result, many state-owned firms already are bankrupt and more appear to be headed in that direction.

Second, state-owned banks and other financial institutions are extending loans at what appears to be a pace that economically will not be sustainable. Loans outstanding relative to gross domestic product have roughly doubled since reform began and by the mid-1990s were almost equal to total output. In a market economy an increase in the size of the financial sector, as measured by assets (mostly loans) relative to real output, can indicate financial deepening, which is usually considered positive for economic growth. For several reasons, however, it is extremely doubtful that the exceptionally rapid rise in the ratio of loans to gross domestic output in China is a positive development. First, the rapid rise in loans relative to output has led to an unusually rapid expansion of the money supply. As a result the ratio of money to gross domestic product in China by 1996 had reached 110 percent, about three times the average of developing economies and one of the highest levels in the world.¹³ Second, and more importantly, a rising and now large share of bank loans are non-performing.¹⁴ Given the modest amount of their own capital and their tiny loan-loss reserves, after taking into account the magnitude of non-performing loans, several of China's major banks already are insolvent.¹⁵ Since households continue to add enormous amounts of funds to their savings accounts, these banks remain liquid and a financial crisis has been avoided. But this would not appear to be sustainable in the long run.

Third, government revenues declined by two-thirds relative to output between 1978 and 1996.¹⁶ Thus during the reform era the state increasingly has been unable to finance normal government expenditures from the budget. Although the official budget deficit has been modest, and in recent years financed entirely through the sale of treasury bonds, the broader public sector nonfinancial deficit in the mid-1990s has been running at an unsustainable level of over 10 percent of gross domestic output for almost a decade.¹⁷

These three problems are closely interrelated. Declining tax revenues have led the government to force more social obligations on state-owned firms. One of the reasons enterprises have been forced to borrow such large sums is that they are obligated to provide a broad range of social services that should be financed from the government budget. They also are required to keep an excessive number of workers on their payrolls in order to meet the political objective of maintaining low levels of open unemployment in urban areas. These pressures contribute to the declining financial performance of state-owned enterprises, which are unable to service their debt. This, in turn, is a major contributor to the insolvency of large parts of the banking system.

These interrelationships also mean that the strategy of gradualism that has characterized Chinese reform since the late 1970s is likely to be less effective in the future than it has been in the past. The banks can not begin to operate on commercial terms until the behavior of their principal borrowers fundamentally changes. But many enterprises will find it difficult to improve their financial performance and deal with banks on a normal commercial basis until the state relieves them of the obligation of providing a broad range of social services and of employing more workers than economically are necessary. The state will not be able to finance either these social expenditures or the needed recapitalization of the banking system from the budget until it is able to institute a fundamental reform of the tax structure that increases government revenues relative to output. Thus Beijing's reformers must develop a strategy that offers a coordinated and simultaneous attack on all three of these areas.

This study analyzes the banking and financial system both as a means of understanding the magnitude of the reform challenges that have been deferred and to suggest elements of a strategy that will address simultaneously the three problems just summarized. The balance of this chapter provides a brief analysis of the economic consequences of deferring reform in the state-owned sector. The second chapter focuses on the remaining challenges of reform of state-owned enterprises. Chapter Three analyzes how the problems of the enterprise sector have dramatically weakened the banking and financial system. The following chapter outlines the reforms necessary to create a modern banking system. The concluding chapter analyzes the implications for China's participation in the world economy and for our general understanding of the process of economic transition.

The most convenient way of measuring the consequences of deferring reform in the state-owned sector of the economy is the nonfinancial public sector deficit or public sector borrowing requirement. This provides a broad measure of the extent to which the annual resource requirements of the state, including not only government agencies and institutions but also state-owned industrial and commercial enterprises, exceed current budgetary revenues.¹⁸ It includes not only borrowing to finance the government's budget deficit, i.e. the sale of government bonds to the public and borrowing by the treasury from the central bank, but also the sale by state-owned enterprises of bonds and stocks to the public and net public sector borrowing from the banking system. The latter item is simply the increase in borrowing by state-owned firms from banks less any increase in their deposits in the banking system.

The public sector deficit is important for several reasons. The first is that a high public sector deficit is "a key factor underlying inflationary pressures in the economy."¹⁹ In the view of the World Bank the macroeconomic fluctuations of the reform period can be traced at least in part to the high public sector deficit, which has contributed to a growth of the money supply far in excess of the real growth of the economy.

Second, a high public sector deficit reduces the flow of savings available to finance non-state investment. As will be discussed in Chapter Three, state-owned firms have received the lion's share of bank lending, leaving non-state firms with little direct access to bank credit. Instead they have relied more on informal credit markets and the reinvestment of profits to finance their growth. That has meant that non-state firms to date have played only a marginal role in more capital intensive industries characterized by significant economies of scale in production. The start up costs of such firms exceed the capacity of informal credit markets. As a result, unlike more labor intensive manufacturing, where many new non-state firms now provide competition to existing state-owned firms, capital intensive manufacturing remains the domain of large state-owned firms. As will be discussed in Chapter Two, limited competition from the non-state sector is one of the reasons the economic performance of many state-owned firms has lagged.

Third, since a significant portion of the borrowing by state firms from banks is nonrecoverable, over time the public sector deficit accumulates, reducing the net worth of government assets below the level they would otherwise attain. In China the value of internal debt, i.e. the stock of government bonds outstanding, is still quite small. But the stock of government bonds is a substantial understatement of total public sector debt, since the annual public sector deficit has been financed in recent years largely through the growth of borrowing of state-owned firms. As long as the government provides an implicit guarantee of the value of deposits placed in the banking system by the public, a broader definition of internal debt, inclusive of nonrecoverable lending of state banks, is a more appropriate measure of the state's domestic debt.

The present rate of build up of public sector debt, both implicit and explicit, is not sustainable over the long run. Since lending is growing far

more rapidly than output and, at least through 1995, the share of this lending that is non-performing has been steadily increasing, implicit government debt as a share of output has been rising. In addition, explicit government debt also has risen, although it is much smaller in size. As the total stock of government debt rises eventually investors will lose confidence in the ability of the government to finance its expenditures on a noninflationary basis over the long-term. When this occurs they will demand an ever higher rate of interest on government bonds to compensate them for this anticipated increase in inflation. Thus the interest cost of financing the explicit debt will balloon. And, as the government's implicit debt rises, savers eventually will lose confidence in the credibility of the government's implicit guarantee of their deposits and withdraw their savings from the banking system, creating the potential for a domestic banking crisis.

Explaining China's Rapid Growth

If China's reforms are seriously flawed, as reflected in large ongoing quasi-fiscal deficits that are accumulating to form a public sector debt that is expanding more rapidly than output, how has China been able to grow so rapidly? And why has inflation on average been so low, when conventional economic analysis suggests that China's large public sector deficit should have led to much more rapid price increases? Put alternatively, why should China's leadership contemplate a difficult restructuring of the state-owned sector that could dramatically increase urban unemployment, at least on a transitory basis, when China is at or near the top of the world economic growth leagues and its inflation performance is far better than most other transition economies?

Measurement of the pace of Chinese growth and a full explanation of its causes both lie well beyond the scope of this study. However, several important points need to be borne in mind. First, official data somewhat overstate the rate of growth during the reform period.²⁰ This exaggeration appears to arise primarily because of the procedures that the State Statistical Bureau uses to deflate output measured in current prices in order to be able to express the rate of growth of gross domestic product in real terms. The problem is that the deflators used show a much lower rate of price inflation than alternative measures of price inflation.²¹ One study suggests this problem is particularly acute in collectively-owned manufacturing firms, where official data are estimated to overstate the growth by about a third.²² Since collectively-owned firms produce a large share of manufactured goods, making an adjustment to take into account this overstatement would result in a substantial downward revision in the rate of growth of manufactured goods output in the reform era.²³ The World Bank has recently applied alternative deflators to the consumption and investment components of gross domestic product and concluded that the official data may overstate the real rate of growth by about 1.3 percentage points per year for the period 1986 through 1995.²⁴

Although considerable uncertainty remains, Chinese official data may overstate the average rate of growth of output by from 1 to 2 percentage points. Thus any assessment of the success of China's reform strategy needs to begin by recognizing that real growth between 1978 and 1996 may have been as low as 7.9 percent per annum, rather than the 9.9 percent official figure.

Second, most of the growth of output can be explained simply by "capital accumulation supported by an extraordinarily high savings rate that has come to depend increasingly on China's thrifty households."²⁵ The World Bank estimates that two-thirds of the growth of output between 1985 and 1994 can be accounted for by capital formation. The average rate of investment has risen significantly during the reform period. Most of this investment has been financed by domestic savings, which increased from 35 percent of gross domestic product in 1979 to 44 percent in 1994.²⁶ As will be discussed below, in the absence of more far reaching reform of the financial system, it is not clear whether these exceptionally high rates of savings can be sustained over the longer-run.

Third, productivity improvements account for the balance of growth not explained by factor accumulation. However, a large portion of this is explained by the reallocation of labor and other factors of production from high to low productivity sectors, rather than an improvement in productivity within each sector. The World Bank estimates that simply moving large numbers of workers from agriculture to manufacturing, and to a lesser extent to services, accounts for 1.5 percentage points per year of China's growth since output per worker in the latter sectors is greater than in agriculture.²⁷ But, as the World Bank points out, "the potential for productivity gains from reallocating labor from agriculture to other sectors will diminish as surplus labor in agriculture is reduced."²⁸

; Long-term productivity gains in any economy are the result of improvements in productivity within each sector, rather than the result of reallocation of factors among sectors. Here China's record is less impressive. According to two World Bank studies, improvements in productivity within each sector accounted for about one-fourth of annual growth.²⁹ But this number is calculated as a residual in an estimate that relies entirely on official Chinese data on economic growth. If one used an alternative estimate of economic growth that is from 1 to 2 percentage points below the official figure, the estimated contribution of total factor productivity growth to economic output could be vanishingly small, at most a percentage point per year.³⁰ In short, while China's economic growth has been rapid, official data overstates its pace. Sustaining future economic growth will depend increasingly on financial and related reforms that will lead to improved efficiency in the allocation of capital. Financial and enterprise reforms also are needed to sustain the high rate of savings that has been so important in achieving high rates of economic growth in the reform era. By the mid-1980s Chinese households had emerged as the principle source of savings in the Chinese economy. Yet the central bank's controls on interest rates meant that the average real rate of return on household savings was relatively low. Households effectively are taxed in the form of below-market interest rates so that borrowers, mostly state-owned firms, can get access to funds at more favorable rates. Some countries with bank-dominated financial systems, such

as Japan, have been able to sustain high household savings rates even when real interest rates paid on savings are not very attractive.³¹ However, the absence of significant competition from capital markets in such systems typically has led to inefficiency in the allocation of funds and a low rate of return on bank capital.

Chinese banks, of course, will be unable to offer very attractive rates of return to savers until they are allowed and are able to develop the capacity to lend on a much more selective basis than has been the case to date. That, in turn, implies a restructured enterprise sector, particularly the exit of firms that are not financially capable of paying market-determined rates of interest on their borrowing. Should the savings rate decline because these reforms are not undertaken and banks are unable to offer more attractive returns to depositors, China's rate of growth could fall significantly, even if total factor productivity performance, discussed above, improves.

Finally, without further financial and enterprise reform, inflation on average is likely to be much higher in the future than it has been to date. The reason is that the first decade and a half of reform was characterized by both a huge increase in the demand for cash and a large increase in the rate of savings. These developments allowed the government to run large public sector deficits with lower inflationary consequences than would be expected. For reasons explained below, however, this is unlikely to continue indefinitely. Thus without further reforms that bring down the public sector deficit, inflationary pressure is likely to become more severe in the future.

During the reform era the government has issued increasing amounts of currency, a phenomena called seignorage, adding directly to tax revenues, thus reducing the government deficit.³² The demand for cash increased rapidly in the first decade and a half of reform because of increased monetization of the economy, rapidly rising real household income, and the absence of a modern payments system. The first factor is perhaps the most obvious. In the pre-reform era the degree of economic self-sufficiency in China was quite high, particularly in the countryside. Mao Tse-tung repressed most rural marketing during the Cultural Revolution so that peasant households were almost entirely self-sufficient. They were rewarded for their labor on communally run farms largely in the form of grain, which was raised collectively. Households grew their own vegetables on small private plots and relied on traditional handicraft techniques to produce much of the non-agricultural products they required. Per capita annual cash income from collective rural production on the eve of reform was only RMB 13, the equivalent of two U.S. pennies a day!³³ Cash income was used to purchase salt, kerosene, and a few other basic commodities that could not be produced locally by households in rural communities.

When agricultural reform began the Chinese Communist Party abandoned the ideology of self-sufficiency. Rural markets expanded dramatically both in number and in the magnitude of transactions.³⁴ Households were given long-term leases to what previously were communal lands and they began to specialize in growing the crops that were best suited to local agronomic conditions, selling them on the market and using the income to purchase other products.³⁵ This increasing specialization meant commercial transactions were

growing even more rapidly than rural output, generating a huge increase in the demand for cash.

This underlying cause of the increasing demand for currency was enhanced by rapidly rising real incomes in both rural and urban areas. As incomes rose so did transactions related to consumption. Thus the demand for cash rose as well.

This trend also was reinforced by China's lack of a modern payments system. As will be discussed in Chapter Three, until quite recently banks have provided households neither checking accounts or credit cards to make payments. Households have been forced to rely almost exclusively on cash as a means of payment. Workers in industry and service trades also are paid in cash, for the most part, further reinforcing the tendency for urban households to use cash in virtually all of their purchases. Banks do provide savings accounts for households but the inconvenience of going frequently to the bank and the absence of alternative payments mechanisms means that households hold huge amounts of cash. Indeed the ratio of currency in circulation to gross domestic product in China is extraordinarily high by international standards. For example, in the mid-1990s it was about 6.5 times the ratio in the United States where payment systems are especially well developed.³⁶

The central government has benefitted from the rapid growth in the demand for cash since the central bank issues the currency. As will be discussed in Chapter Four, since holders of currency receive no interest, cash is an ideal liability for a central bank. In effect currency is an interest-free loan to the government on the part of those that hold the currency. Thus, at least in the short run, issuing currency is similar to collecting taxes.

As reflected in Table 1.1, the amounts of currency issued rose rapidly once the effects of reform began to be felt in the economy. The amount of currency issued as early as 1980 was 1.7 percent of gross domestic product, more than three times the level of 1978. The amount in the years 1984 through 1996 averaged more than 2.5 percent of gross domestic product. If the demand for cash had not been rising so rapidly the government either would have had to reduce its expenditures proportionately or would have run much larger deficits, thus putting considerably more upward pressure on prices than was actually observed.

Already, as reflected in Table 1.1, the demand for increased cash began to rise more slowly beginning in the mid-1990s. The annual additions to currency in circulation peaked in 1993 at RMB 153 billion, an amount approaching 5 percent of gross domestic product that year. By 1996 the increase was only RMB 92 billion, well under 2 percent of gross domestic product that year.

The decline in seignorage in the mid-1990s reflects at least three factors, two of which suggest a continued slower expansion of currency in the future. The first is the increasing monetary constraint exercised by the central bank as part of its program of reducing the rate of retail price inflation which peaked at more than 20 percent in 1993. Second, by the mid-

1990s the monetization of the economy may be largely complete, making the underlying growth of the economy the principle source of increased demand for cash to finance transactions.³⁷ Third, the introduction of modern payments systems may be slowing the growth in the demand for currency. In recent years banks have begun to provide checking accounts and to issue debit cards to households in the largest urban centers. Employers in some urban areas have begun to offer direct deposit of wages into worker bank accounts. Even if these are still too rare to have already influenced the demand for cash, as direct deposit of wages and modern means of payments become more common, the demand for cash by urban households is likely to shrink relative to real output of the economy. They can be expected to hold a larger portion of their funds in bank deposits and other financial assets and less in the form of currency, thus shrinking the rate of growth of currency in circulation. The resulting reduction in seignorage will place enormous pressure on the central government which, in effect, has relied on the issuance of cash to finance a significant portion of its expenditures.

This upward pressure on prices will be reinforced by the likely trend in the savings rate. The government was able to finance the large public sector deficit in the last decade by the increasing rate of household savings, mobilized almost entirely through the banking system. Household savings as a percent of gross domestic product rose from about 2 percent in 1978 to 22 percent by 1994.³⁸ Since household savings rates are already very high by international standards, however, it is unlikely that the savings rate will rise further. That will make it more difficult to finance the large public sector deficit and the continued build up of the stock of public sector debt, both implicit and explicit, reinforcing the upward pressure on prices that likely will result from decreased seignorage.

Banking in China's Economic Transition

Measured by economic growth, expanding foreign trade, and massive capital inflows, China is clearly among the most successful of the transition economies. However, China has not yet successfully addressed fundamental problems of declining tax revenues relative to output, deteriorating financial performance of state-owned enterprises, and the increasing fragility of the banking system.

As already suggested, these problems are closely intertwined and China's reform strategy needs to address all three simultaneously. Yet this study focuses more on banking than the other topics for three reasons. The first is relative ease of measurement. Declining financial performance of state-owned enterprises and the fiscal decline of the state ultimately are reflected in the growing public sector deficit. Since this deficit is financed through loans it has a direct effect on the banking and financial system. While, as will be shown in Chapter Three, financial and banking statistics are subject to many shortcomings, they are more tractable than some of the data emerging from the enterprise sector, which have provided an uncertain assessment of the

success of reform in the state-owned portion of the economy.

Second, the most pressing stimulus within China for reform of state-owned enterprises and the fiscal system now comes from the deteriorating condition of the financial system. The collapse of several small financial institutions in the mid-1990s has increased substantially the sense of urgency of financial reform at the highest levels of China's leadership. Financial reform was a major focus of discussion at the National People's Congress in the spring of 1997, for example. Thus a better understanding of the financial sector is key to evaluating the impetus for the overall economic reform process. And the failure to address the problems of China's unfinished economic reform would likely be reflected first and most starkly in the financial system.

Finally, while China's banking and finance system has been studied less than the enterprise sector and the fiscal system, it is central to the ultimate goal of economic reform--improving the efficiency of resource allocation within the domestic economy.³⁹ China's economic reform was not stimulated by economic stagnation. Economic growth in the two decades leading up to the reform era averaged between 5 and 6 percent per annum in real terms, a stark contrast with the economic stagnation or even absolute decline that had set in in many other centrally planned economies. Rather, the impetus for reform was declining economic efficiency and a imbalanced pattern of growth. In the First Five-Year Plan (1953-57) China grew at an annual rate of about 9 percent, fueled by a rate of investment of about 25 percent. But, in the years prior to reform the investment rate was significantly higher, averaging somewhat over 30 percent, while, as already noted, the growth rate had come down by about a third, to 5 to 6 percent. Moreover, agricultural production on a per capita basis had stagnated, both because individual incentives were weak and because economic planning discriminated against the farm sector. Stagnant levels of food consumption and the combination of ever slower growth with ever rising rates of investment clearly were not politically or economically sustainable. Thus Deng Xiaoping began the process of economic reform, ultimately in order to raise economic efficiency.

The role of banks in achieving this objective is paramount simply because China has a financial system that is heavily dominated by banks. Their share of financial intermediation is almost nine-tenths, a ratio that exceeds that found in almost all other Asian countries. The only region of the world where banks account for such a large share of the assets of the entire financial system is Latin America.⁴⁰

The challenge China faces in reforming its banking system in certain respects exceeds that of most other emerging markets, where banking crises have occurred with increasing frequency in the past two decades.⁴¹ In part this is because virtually all banks in China are state-owned. Empirical evidence suggests that a high degree of state ownership of banks, or substantial government involvement in allocating credit extended by nominally private banks, is a chief cause of banking crises. A high degree of state ownership is not only associated with poor lending decisions but also frequently is accompanied by over staffing, over development of branch networks, and other practices that contribute to relatively high operating

costs. As will be discussed in Chapter Three, these are prominent features of China's banking system.

The challenge China faces in reforming its banking system is more severe in part because its central bank is a relatively new institution. By the time the People's Bank of China was established in the mid-1980s the volume of loans outstanding by the financial system was already quite high. In the ensuing years the central bank has not gained sufficient independence and, equally important, it has not yet been able to develop the capacity to supervise effectively the emerging commercial banking system. This problem is compounded by weaknesses of China's financial accounting systems and disclosure practices.

China's economic reform, judged from the perspective of the financial system, is only half complete. China has abandoned the heavy reliance on budgetary financing of investment that was characteristic of the pre-reform era. Investment is now financed primarily through banks. But these institutions are state-owned and embedded in a financial system that impedes the efficient allocation of capital. Moreover, the new system has the additional shortcoming that it involves the build up of enormous liabilities to households, the source of the savings that the banks channel to state-owned firms. However inefficient the allocation of resources was in the pre-reform system, at least investment through the budget was financed from current tax revenue and involved no cumulation of liabilities to households. In short, in the all important matter of resource allocation the role of the state remains too large and the role of the market too limited.

If China fails to transform its banking system the consequences are predictable. The intermediation of funds between savers and investors by banks likely would continue to be marked by the inefficiencies already evident. As the contributions to economic growth of various once-for-all factors wind down, one would expect the rate of growth of the economy to slow. An inefficient banking system also would impede the development of stock and bond markets that, as per capita output rises, normally come to play an important supplementary role in the allocation of resources. The continued fragility of the banking system would limit the ability of the People's Bank, through the more active use of interest rate policy, to dampen the fluctuations in economic activity that have characterized the reform era. Ultimately, the failure to transform the banking system could undermine the high rate of household savings that has provided most of the fuel for China's high rate of economic growth.

The international consequences of China's failure to transform its banking system are also predictable. A sound banking system is a prerequisite for moving to convertibility on capital account transactions. China will be unable to make much progress toward providing national treatment of foreign banks and non-bank financial institutions. Until China's banking system has been restructured and placed on a sound financial foundation, foreign financial institutions will be forced to continue to operate under the many severe restrictions placed on them by the People's Bank. That means that China will fall short of meeting the expectations of the international community, which are likely to be reflected in any protocol governing China's

accession to the World Trade Organization.

Table 1.1: Net Issue of Currency, 1978-1996

Year	Amount of Currency Issued	
	RMB millions	Percent of GDP
1978	1,600	0.5
1980	7,850	1.7
1984	26,230	3.7
1985	19,570	2.2
1986	23,060	2.3
1987	23,610	2.0
1988	67,950	4.6
1989	21,000	1.2
1990	30,040	1.6
1991	53,340	2.5
1992	115,820	4.3
1993	152,900	4.4
1994	142,400	3.1
1995	59,670	1.0
1996	91,670	1.4

Sources: State Statistical Bureau, China Statistical Yearbook 1995 (Beijing: China Statistical Publishing House, 1996), p. 574; China Statistical Yearbook 1996, p. 32. Xinhua, December 30, 1996; The People's Bank of China, China Financial Outlook '94, p. 87; China Financial Outlook '95, p. 92; China Financial Outlook '96, p. 92; "Materials on Financial Statistics for the Fourth Quarter of 1996," Jinrong shibao (Financial News), January 21, 1997, p.1.

Endnotes

1. On declining disparities in the regional distribution of output in the first decade of reform see David L. Denny, "Provincial Economic Differences Diminished in the Decade of Economic Reform," in *China's Economic Dilemmas in the 1990s: The Problems of Reforms, Modernization, and Interdependence*, Study Papers submitted to the Joint Economic Committee, Congress of the United States (Washington, D.C.: U.S. Government Printing Office, 1991) Vol. 1, pp. 186-208 and Huo Shitao, "Regional Inequality Variations and Central Government Policy, 1978-1988," in *Changing Central-Local Relations in China: Reform and State Capacity*, edited by Jia Hao and Lin Zhimin (Boulder, Colorado: Westview Press, 1994), pp. 181-206. On urban-rural inequality see Zhao Renwei, "Three Features of the Distribution of Income during the Transition to Reform," in *The Distribution of Income in China*, edited by Keith Griffin and Zhao Renwei (New York: St. Martin's Press, Inc., 1993), pp. 74-92. Professor Zhao shows that rural incomes as a percent of urban incomes rose from 1978 through the mid-1980s and then began to fall. By 1990, the last year for which he presents data, the degree of income disparity prevailing in 1978 had been almost exactly restored. According to the World Bank inequality in the distribution of income within rural China declined in the early years of economic reform. The gini coefficient fell from 0.257 in 1979 to 0.225 percent in 1982. World Bank, *China: Long Term Issues and Options* (Washington, D.C.: World Bank, 1985), p. 29.

2. The poverty line is defined as the income level required to purchase a 2,150 calories per day food consumption basket that supplies adequate nutrients for normal human functioning plus a sum for expenditures on non-food commodities and services based on the average expenditure pattern of the poor. World Bank, *China: Strategies for Reducing Poverty in the 1990s* (Washington, D.C.: The World Bank, 1992), pp. ix, 22.

3. Carol Graham, *Safety Nets, Politics, and the Poor: Transitions to Market Economies* (Washington, D.C.: The Brookings Institution, 1994). Susan Shirk, *The Political Logic of Economic Reform in China* (Berkeley, California: University of California Press, 1993).

4. Nicholas R. Lardy, *China in the World Economy* (Washington, D.C.: Institute for International Economics, 1994), p. 58-63.

5. Thomas G. Rawski, "Progress Without Privatization," Research Paper Series Number CH 17, Transition and Macro-Adjustment Division, Policy Research Department, World Bank, October 1992.

6. William Byrd, "The Impact of the Two-Tier Plan/Market System in Chinese Industry," *Journal of Comparative Economics*, Vol 11, No. 3 (September 1987), pp. 295-308. Wu Jinglian and Zhao Renwei, "The Dual Pricing System in China's Industry," *Journal of Comparative Economics*, Vol. 11, No. 3 (September 1987), pp. 309-318.

7. Nicholas R. Lardy, *Foreign Trade and Economic Reform in China, 1978-1991* (New York: Cambridge University Press, 1992).

8. The literature is voluminous. See, for example, Peter Murrell, "The Transition According to Cambridge, Mass.," *Journal of Economic Literature*, Vol. 33, No. 1, (March, 1995), pp. 164-178. Andrew Walder, "China's Transitional Economy: Interpreting Its Significance," in *China's Transitional Economy* (Oxford: Oxford University Press, 1996), pp. 1-17; John McMillan and Barry Naughton, "How to reform a planned economy: Lessons from China," *Oxford Review of Economic Policy*, Vol. 8, No. 1 (Spring 1992), pp. 130-143. Barry Naughton, *Growing Out of the Plan: Chinese Economic Reform 1978-1993* (Cambridge: Cambridge University Press, 1995); Thomas G. Rawski, "Implications of China's Reform Experience," in *China's Transitional Economy*, pp. 188-211.

9. Jeffrey D. Sachs and Wing Thyee Woo, "Structural Factors in the Economic Reforms of China, Eastern Europe, and the Former Soviet Union," *Economic Policy*, Vol. 18, No. 1 (1994), pp. 102-145. Wing Thyee Woo, "The Art of Reforming Centrally Planned Economies: Comparing China, Poland, and Russia," *Journal of Comparative Economics*, Vol. 18, No. 3 (June 1994), pp. 276-308.

10. This estimate of subsidies to state-owned enterprises is inclusive of explicit fiscal subsidies paid from the central government budget to offset financial losses; implicit fiscal subsidies in the form of interest rate subsidies on funds borrowed from the Construction Bank plus funds provided directly by the State Planning Commission, both to cover capital construction expenditures; and quasi-fiscal subsidies, the amount of lending by the central bank to the financial system for policy loans to meet the working capital needs of state enterprises. Harry Broadman, *China: Meeting the Challenge of Enterprise Reform*, Discussion Paper No. 283 (Washington, D.C.: The World Bank, 1995), p. 15. These subsidies to state-owned enterprises form a very large share of the state public sector deficit, discussed below.

11. Many of these firms thus appear to be value subtractors, i.e. the value of the output they produce is less than the value of the inputs into the production process. For a discussion of this phenomenon in transition economies see Ronald I. McKinnon, *The Order of Economic Liberalization: Financial Control in the Transition to a Market Economy*, Second edition (Baltimore and London: The Johns Hopkins University Press, 1993), pp. 162-186.

12. Unfunded pension liabilities are analyzed in Chapter Two. Only a portion of interenterprise arrears, what the Chinese call triangular debt, is included in the calculation of the relative value of assets and liabilities presented below. Unlike taxes, which are entirely liabilities to the state, loans, which are entirely liabilities to banks, or pensions, which are entirely liabilities to workers, interenterprise arrears are partly debts within the state-owned enterprise sector. Although these interenterprise debts are large in gross terms, the net debt of state firms to non-state firms comprised only about two-thirds of total triangular debt at year-end 1994. See Chapter Two, note 53.

13. The concept of money here is M2, i.e. currency in circulation plus demand and time deposits of households, enterprises, and institutions. "Materials on Financial Statistics for the Fourth Quarter of 1996," Jinrong shibao (Financial News), January 21, 1997, p. 1. State Statistical Bureau, "Statistical Communique on Socio-Economic Development in 1996," Beijing Review, March 10-16, 1997, p. 23. Morris Goldstein and Philip Turner, Banking Crises in Emerging Economies: Origins and Policy Options, Economic Papers No. 46, (Basle: Bank for International Settlements, 1996), p. 14.

14. An article based on an interview with Dai Xianglong, then Vice-Governor of the central bank, states that the proportion of non-performing loans of China's large state-owned banks "has been rising by 2 percentage points per annum in recent years." Zhao Yining, "The Financial Situation and Financial Reform," Liaowang (Outlook), May 15, 1995, pp. 12-13. As discussed in detail in Chapter Three, for China's four largest banks the magnitude of non-performing loans at year-end 1995 reached 22 percent of all loans outstanding.

15. Bank insolvency occurs when the value of a bank's assets is less than the value of its liabilities.

16. Total government revenues relative to gross domestic product fell from 31.2 percent in 1978 to 10.9 percent in 1996. State Statistical Bureau, China Statistical Yearbook 1996 (Beijing: Statistical Publishing House, 1997), pp. 44, 223. Liu Zhongli, "Report on the Implementation of the Central and Local Budgets for 1996 and on the Draft Central and Local Budgets for 1997," Beijing Review, April 7-13, 1997, p. 30. State Statistical Bureau, "Statistical Communique on Socio-Economic Development in 1996," Beijing Review, March 10-16, 1997, p. 23. Because some revenue and expenditure items have been reclassified over time the 1978 and 1996 revenue data are not exactly comparable. For example, subsidies for losses of state-owned enterprises beginning in 1986 were treated as a negative revenue item. Adjusting the 1996 data to make it comparable to that for 1978 would add 35.3 billion or 0.5 percent of gross domestic product (see Table 2.4). On the other hand price subsidies financed from the state budget were treated as a reduction in revenue until 1986 when they were changed to a budgetary expenditure. Adjusting the 1978 revenue figure to make it comparable to that for 1996 adds approximately one percentage point.

17. The Chinese Economy: Fighting Inflation, Deepening Reform, p. 66. World Bank, Economic Note (Beijing: World Bank Resident Mission, February 1997), p. 14. See also Christine P. W. Wong, Christopher Heady and Wing T. Woo, Fiscal Management and Economic Reform in the People's Republic of China (Hong Kong: Oxford University Press, 1995), p. 27-29, where they estimate China's "consolidated deficit," a concept similar to the public sector non-financial deficit.

18. World Bank, The Chinese Economy: Fighting Inflation, Deepening Reform, p. 65.

19. World Bank, The Chinese Economy: Fighting Inflation, Deepening Reform, p. 10.

20. Thomas G. Rawski, "How Fast Has Chinese Industry Grown?" unpublished manuscript, March 1991. Robert Michael Field, "China's Industrial Performance Since 1978," *The China Quarterly* No. 131 (September 1992), p. 588. Gary Jefferson, "Growth and Productivity Change in Chinese Industry: Problems of Measurement," in *Asian Economic Regimes: An Adaptive Innovation Paradigm, Research in Asian Economic Studies*, Vol 4B, edited by M. J. Dutta, (Greenwich, CT: JAI Press, 1992), pp. 427-442, cited and summarized in Peter Harrold, "China: Enterprise Reform Strategy," unpublished manuscript, August 27, 1993, p. 49. Jeffrey D. Sachs and Wing Thye Woo, "Chinese Economic Growth: Explanations and the Tasks Ahead," in *China's Economic Future: Challenges to U.S. Policy*, study papers submitted to the Joint Economic Committee, Congress of the United States (Washington, D.C.: Government Printing Office, 1996), p. 75. Ren Ruoan, *China's Economic Performance in an International Perspective* (Paris: Organization for Economic Co-operation and Development, 1997).

21. For example, the deflator that the Bureau uses to calculate the rate of growth of industrial output shows that prices have doubled between 1978 and 1995. On the other hand the Bureau's separately published index of producer goods shows that prices have tripled over the same period. State Statistical Bureau, *China Statistical Yearbook 1996* (Beijing: Statistical Publishing House, 1996), pp. 42, 271.

22. Official data show the output of collectively-owned firms grew in real terms at 16.1 per cent per annum between 1980 and 1992. The independent estimate suggests a growth rate of 12.4 percent. Gary H. Jefferson, Thomas G. Rawski, and Yuxin Zheng, "Chinese Industrial Productivity: Trends, Measurement Issues, and Recent Developments," *Journal of Comparative Economics*, Vol. 23, No. 2 (October 1996), p. 165.

23. The overstatement of the rate of economic growth is an issue separate from the question of whether Chinese data understate the level of economic output. On the latter question see Albert Keidel, *China: GNP Per Capita* (Washington, D.C.: The World Bank, 1994).

24. World Bank, *China 2020: Development Challenges in the New Century* (Washington, D.C.: The World Bank, 1997), p. 3.

25. World Bank, *The Chinese Economy: Fighting Inflation, Deepening Reform*, p. 13.

26. World Bank, *The Chinese Economy: Fighting Inflation, Deepening Reform*, p. 72.

27. That is about one-sixth of the average annual rate of growth of 9.4 percent between 1978 and 1995. World Bank, *China 2020*, p. 5.

28. World Bank, *The Chinese Economy: Fighting Inflation, Deepening Reform*, p. 13.

29. *The Chinese Economy* (p. 14) estimates that improvements in total factor productivity account for 2.2 percentage points per year or 22 percent of the growth rate of 10.2 percent per annum between 1985 and 1994. *China 2020* (p.

5) puts the factor productivity gain at 2.7 percentage points or 29 percent of the growth rate of 9.4 percent per annum between 1978 and 1995.

30. A one percentage point reduction in the rate of economic growth does not necessarily imply a one percentage point reduction in the estimated gains in factor productivity. The reason is that if the real rate of growth of output is less than that given by official Chinese data that also implies that the official data overstates the rate of growth of capital. The precise effect of a one percentage point reduction in the rate of economic growth on estimated gains in factor productivity depends on the extent to which overstatement of output is concentrated in the producer goods sector and the assumed elasticity of output with respect to capital.

31. Richard Cookson, "A Survey of Japanese Finance," *The Economist*, June 28, 1997.

32. The underlying reason issuing currency increases tax revenues of the government is that it increases the profits of the central bank. The mechanism through which seignorage accrued to the government changed over time. Initially the profits of the central bank were remitted in their entirety to the Ministry of Finance. Subsequently the central bank was subject to tax on its profits but was allowed to retain the balance. Thus only part of the increased profits associated with seignorage now flow directly to the treasury. The rest are reflected in the balance sheet of the central bank.

33. Nicholas R. Lardy, *Agriculture in China's Modern Economic Development* (Cambridge: Cambridge University Press, 1978), p. 161. The conversion to U.S. currency is at the average official exchange rate prevailing during 1978, RMB 1.68 per dollar.

34. In the first five years of reform the number of rural markets expanded by more than one-fourth and the annual value of transactions on these markets increased 130 percent. State Statistical Bureau, *China Statistical Yearbook 1993* (Beijing: China Statistical Publishing House, 1993), p. 386.

35. Nicholas R. Lardy, *Agriculture in China's Modern Economic Development*, pp. 66-74.

36. At the end of 1995 the value of U.S. currency outstanding was \$375 billion. Of this \$200-\$250 billion was abroad. Thus currency in circulation within the U.S. was \$125 to \$175 billion or roughly 2 percent of gross domestic product of \$7,253 billion. Richard D. Porter and Ruth A. Judson, "The Location of U.S. Currency: How Much is Abroad?," *Federal Reserve Bulletin*, October, 1996, p. 883. By contrast, in China currency in circulation at year-end 1996, RMB 880.2 billion was 13 percent of gross domestic product of RMB 6,780 billion.

37. Ronald I. McKinnon, *The Order of Economic Liberalization*, p. 206.

38. World Bank, *The Chinese Economy: Fighting Inflation, Deepening Reform*, p. 14.

39. In addition to various World Bank reports cited throughout this study see the following: William Byrd, *China's Financial System: the Changing Role of Banks* (Boulder, CO: Westview Press, 1983). Paul Bowles and Gordon White, *The Political Economy of China's Financial Reforms: Finance in Late Development* (Boulder, CO: Westview Press, 1993). Leroy Jin, *Monetary Policy and the Design of Financial Institutions in China, 1978-1990* (New York: St. Martin's Press 1994). Gang Yi, *Money, Banking, and Financial Markets in China* (Boulder, Colorado: Westview Press, 1994). On Kit Tam, editor, *Financial Reform in China* (London and New York: Routledge, 1995). Brian W. Semkow, General Editor, *China Finance Manual* (Hong Kong: Asia Law and Practice Ltd., 1995).

40. Argentina, Brazil, and Venezuela have financial systems in which banks control an even higher share of all financial assets than in China. Columbia and Mexico have financial systems where banks control a portion of all financial assets that is comparable to that in China. Morris Goldstein and Philip Turner, *Banking Crises in Emerging Economies: Origins and Policy Options*, p. 19. Bank for International Settlements, 66th Annual Report (Basle: Bank for International Settlements, 1996), pp. 120, 126.

41. Morris Goldstein, *The Case for an International Banking Standard*, Policy Analyses in International Economics No. 47 (Washington, D.C.: Institute for International Economics, 1997), pp. 3-5.



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UNDERSTANDING CHINA'S ECONOMIC PERFORMANCE

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Abstract

Broadly speaking, two schools of thought have emerged to interpret China's rapid growth since 1978: the experimentalist school and the convergence school. The experimentalist school attributes China's successes to the evolutionary, experimental, and incremental nature of China's reforms. Specifically, the resulting non-capitalist institutions are claimed to be successful in (a) agriculture where land is not owned by the farmers; (b) township and village enterprises (TVEs) which are owned collectively by rural communities; and (c) state owned enterprises (SOEs) where increased competition and increased wage incentive, but not privatization, have been emphasized.

The convergence school holds that China's successes are the consequences of its institutions being allowed to converge with those of non-socialist market economies, and that China's economic structure at the start of reforms is a major explanation for the rapid growth. China had a high population density heavily concentrated in low-wage agriculture, a condition that was favorable for labor-intensive export-led growth in other parts of East Asia. The convergence school also holds that China's gradualism results primarily from a lack of consensus over the proper course, with power still divided between market reformers and old-style socialists; and that the "innovative" non-capitalist institutions are responses to China's political circumstances and not to its economic circumstances.

Perhaps the best test of the two approaches is whether China's policy choices are in fact leading to institutions harmonized with normal market economies or to more distinctive innovations. In this regard, the recent policy trend has been towards institutional harmonization rather than institutional innovation, suggesting that the government accepts that the ingredients for a dynamic market economy are already well-known.

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UNDERSTANDING CHINA'S ECONOMIC PERFORMANCE

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I. INTRODUCTION

China achieved the impressive average annual growth rate of gross domestic product of 9.5 percent between the start of its market reforms in 1978 and 1994, and rapid growth seems to have continued since then. This successful growth performance, perhaps the highest in the world during this period, has dramatically transformed China's economic structure. The proportion of the labor force engaged in agriculture dropped from 71 percent in 1978 to 54 percent in 1994, and the proportion of gross industrial output produced by state-owned enterprises (SOEs) declined from 78 percent to 34 percent in the same period. The integration of China into the world economy has been equally dramatic: trade (exports plus imports) rose from 10 percent of GNP in 1978 to 45 percent in 1994, and direct foreign investments was \$28 billion in 1993 compared to \$2 billion in 1983. Human development indicators, including life expectancy, literacy, infant mortality, per capita income, and the incidence of poverty, all show a dramatic improvement, in line with the rapid economic growth.

China's rapid growth performance presents various paradoxes, that have become the subject of heated debate within the economics profession. Why is it that a country that espouses socialist practice is among the fastest growing countries in the world, when virtually all other socialist economies have collapsed? While there is little disagreement about the role of market reforms in spurring China's rapid growth, there is strong dispute about the character of those reforms. Have they been gradual or rapid? Has the gradualism been a source of success, or a hindrance? Are the non-market aspects of China's economy, such as the large state ownership that persists till today, a source of potential destabilization in the years ahead? What lessons, if any, does China's experience offer for other countries in the transition from central planning to a market economy?

Broadly speaking, two schools of thought have emerged to interpret the Chinese experience. One school of thought gives great credit to the *evolutionary*, *experimental*, and *incremental* nature of China's reforms. In this view, China has been groping, with considerable success, towards a unique Chinese economic model. A sign of this groping is the changing characterization that China's leaders have given to the goals of markets reform, as shown in Table 1. Since 1992, China has proclaimed its goal to be a "socialist market economy with Chinese

characteristics." A faster approach to reforms, according to the experimentalist school, would have led to more social conflict, instability, and poorer economic policies (because of less experimentation). Barry Naughton (1995) is a clear proponent of the experimentalist view:

Reforms have been gradual and evolutionary ... Reforming without a blueprint, neither the process nor the ultimate objective was clearly envisaged beforehand ... It can be seen, ex post, that there is substantial coherence to these different elements. Reduction of the state's monopoly led to rapid entry of new firms. Entry of new firms, combined with adoption of market prices on the margin, led to enhanced competition, and began to get state-sector managers accustomed to responding to the marketplace. Gradual price decontrol was essential. Competition eroded initially high profit margins for state firms, and induced the government, as owner of the firms, to become more concerned with profitability. The government experimented with better incentive and monitoring devices, and this improved state-sector performance... (pp. 5-13)

Other distinguished members of the experimentalist school include Thomas Rawski (1994b), Peter Nolan and Robert Ash (1995), and Justin Lin, Fang Cai and Zhou Li (1994).

The other school of thought holds that Chinese institutions are in fact gradually converging with those of non-socialist market economies, especially those in East Asia. We therefore use the term "convergence school" to characterize this point of view. This convergence, it is argued, is occurring despite official pronouncements to the contrary (including the stated intention to build a "socialist market economy"), as well as despite inconsistencies of many reforms in the short term. In this view, the faster the convergence, the better will be the outcomes. Gradualism, in this view, has not been a strategy so much as a result of continuing political conflict and other difficulties inherent in setting a policy course in a country of some 1.2 billion people. Moreover, favorable outcomes have emerged not because of gradualism, but *despite* gradualism. According to the convergence school of thought, China has achieved the greatest success in precisely the areas (e.g. agriculture and coastal provinces) where market reforms have gone the furthest.

Scholars of this school, in which we include ourselves, put great stress on China's *economic structure* at the start of reforms as a major explanation of rapid growth, and of why gradualism was not a barrier to growth.² China began its high growth period with a high population density heavily concentrated in low-wage agriculture, and very conditions that were favorable for labor-intensive export-led growth in other parts of East Asia.

¹ Naughton thus concluded that: "Big bang transitions thus sacrifice most aspects of the virtuous cycle that characterized Chinese reforms" (pp.320). Rawski (1994a, pp. 273) also provided a similar unintended virtuous cycle description of China's reform process.

² Members of the convergence school includes Michael Bruno (1994), Gang Fan (1990 and 1994), and Geng Xiao (forthcoming). While we clearly take sides in the debate, we strive for a balanced view of the issues throughout this essay, and avoid highlighting the extreme views of some members of the experimentalist school.

Compared with the Soviet Union, China faced a much simpler problem of dismantling, or circumventing, the stifling effects of socialist institutions. Scholars of this view therefore concur with the succinct appraisal of the 1996 World Development Report on the transition economies, which is worth quoting at length:

Despite the industrialization efforts of the 1950s and 1960s, China was very poor and largely rural at the start of its reforms. Agriculture employed 71 percent of the work force and was heavily taxed to support industry. Social safety nets extended only to the state sector -- about 20 percent of the population. Poor infrastructure and an emphasis on local self-sufficiency led to low regional specialization and large numbers of small and medium-sized firms. The economy was far less centrally planned and administered than the Soviet economy. Local governments had greater power and developed considerable management capacity, preparing them for a more decentralized economy. Chinese industry also received subsidies, but cross-subsidization was less pervasive [than in the Soviet Union].

Because the agricultural sector had been so heavily repressed, freeing it up had immediate payoffs. Between 1981 and 1984 agriculture grew on average by 10 percent a year, largely because the shift to family farming improved incentives. This allowed for the reallocation of surplus agricultural labor to new rural industries, which generated 100 million new jobs between 1978 and 1994 and encouraged further reform. China thus started transition largely as a peasant agrarian economy and with far greater scope for reallocating labor than Russia.

There are, to be sure, very large areas of agreement between the two approaches. Both believe in the importance of the spread of market institutions, macroeconomic stability, China's integration into the world economy, reduction of discrimination against the private sector, a public-goods role for the state, and the establishment of market-supporting institutions. The debate is about the process of reform and the endpoints of reform. Is gradualism desirable or harmful? Is China evolving towards a unique system between socialism and capitalism, or is it converging to the capitalist economic systems of East Asia?

This paper reviews the state of the debate over China's reforms, comparing the approaches of those who emphasize China's experimentalism and innovation, versus those who emphasize China's increasing harmonization of economic institutions with those of East Asian market economies.³ Of course, real scholarship is more complex than this dichotomy suggests. Every scholar has a unique position, sometimes drawing arguments from both schools of thought. Nonetheless, we feel that by highlighting the differing interpretations, we can help the outside reader better understand the ongoing debates about China's reforms. In brief, we are employing the narrative device of Murrell (1995) who coined the term "the Cambridge (Mass.) Group perspective" to describe one coherent viewpoint of the transition from central planning, even though the alleged

³ As our primary purpose is to assess an ongoing debate on the nature of China's economic growth, and not to survey all the significant contributions to the study of the Chinese economy, readers should consult Perkins (1988 and 1994) for general surveys; Lardy (1992 and 1994) for international trade; Huang (forthcoming) for agriculture; Ren (forthcoming) for PPP-based comparisons of production structure; Wong, Heady and Woo (1995) for fiscal system; Yi (1994) for financial sector; and World Bank (1992) for the poverty situation.

up members differ considerably among themselves on specific issues.

The experimentalist school proposes four basic economic propositions concerning China's reforms:

- 1) Gradualism in market reforms has been key to China's rapid growth;
- 2) China's gradualist strategy is transferable to other economies in transition from central planning;
- 3) China's experiments in non-capitalist institutions are proving to be successful in (a) agriculture; (b) township and village enterprises (TVEs) in the rural areas; (c) state owned enterprises (SOEs);
- 4) China is evolving towards a unique set of economic institutions, as a result of experimentalism in policy design.

The convergence school counters with four alternative theses:

- 1) China's rapid growth has come *despite* gradualism, in areas of the economy characterized by radical rather than gradual reforms. China's ability to grow rapidly *despite* gradual reforms reflects China's particular economic structure;
- 2) China's gradualist strategy is not transferable to Eastern Europe and the former Soviet Union (hereafter, EU), because of fundamental differences in economic structure;
- 3) China's experiments in non-capitalist institutions are proving to be unsuccessful in (a) agriculture; (b) rural industry; (c) state industry, and are therefore in need of further reform towards more typical capitalist institutions;
- 4) China is gradually harmonizing its economic institutions with those of East Asian market economies.

In terms of political analysis, there are also important differences that should be mentioned. The experimentalist school tends to see China's gradualism as a reflection of a deliberate (and desirable) experimental approach of China's political leadership. The convergence school takes a more sceptical view. Gradualism results simply from a lack of consensus over the proper course, with power still divided between market reformers and old-style socialists. In addition, gradualism reflects vested interests of the political leadership, which fears more radical measures not simply in regard to economic outcomes but for the threat they might pose to political control.

A great deal of the debate regarding China actually surrounds the claims for and against the "shock therapy" or "big bang" reforms in Eastern Europe (we will use the two terms interchangeably). After several communist Eastern European economies embarked on radical economic reforms at the start of the 1990s, an intense debate has raged over the relative merits of gradualist versus big bang reforms. Therefore, before coming to the Chinese experience itself, it is useful to clarify the real content of big bang reforms. In our view, big bang reforms include: rapid and comprehensive price and trade liberalization, macroeconomic stabilization, alignment of the official exchange rate to the market rate, ending legal discrimination against all

types of non-state enterprises, and an early *commitment* to mass privatization of state-owned enterprises (SOEs), recognizing that actual privatization will take several years in practice.

The avowed long-term aim of big-bang reforms is to create a "normal" capitalist economy, based on private ownership, commercial law, and substantially open trade. In the case of Eastern Europe, normalcy is typically defined as the economic institutions of the mixed capitalist economies of Western Europe. In the philosophical approach of "big bang" advocates, the key point is that little institutional experimentation is needed or desired. *The long-run goals of institutional change are clear, and are found in the economic models of existing market-based economies.*

By these standards, the only transition countries to have actually implemented a big-bang reform are the Czech and Slovak Republics, Estonia, Poland, Slovenia, and arguably Hungary.⁴ This is borne out by indexes of reforms created by the World Bank (1996a) and the European Bank for Reconstruction and Development (1996), which aim to measure the extent and speed of market reforms in the transition economies of the EEFSU. These, then, are the appropriate counterparts for comparing "gradualism" à la China with "big bang" in Eastern Europe. Russia does not offer an appropriate comparison: the unending struggle in Russia between reformers and conservatives has produced the confusing combination of big-bang *rhetoric* and mostly *gradualist* practice: rapid price liberalization in 1992 and rapid mass privatization of state industry in 1993, but vacillating macroeconomic policies and the absence of extensive enterprise and fiscal reforms as late as 1996.

We summarize the differences in outlook across the two schools of thought in Table 2. Our aim in this paper is to examine the contrasting interpretations of the China's rapid economic growth by looking at the key questions that divide the two approaches:

- (1) Is China's rapid growth the result of gradualist policies?
- (2) Would Chinese-style gradualism have improved performance in the EEFSU? Would big bang reforms have improved the performance in China?
- (3) Have China's institutional reforms succeeded in agriculture, state enterprises, and rural industry?
- (4) In the future, will China's reforms be guided by institutional experimentation and innovation, or rather by harmonization with East Asian economies?

⁴ Hungary is far advanced as a private-ownership, market-based economy. It was already farthest along in market reforms before 1989, but then moved fairly gradually in many areas of reform after 1989.

These questions are taken up as follows. Section II addresses the first and second question by discussing main sources of growth in China, and offering some comparisons of experiences in China and EEFSSU. Sections III and IV address the third question by describing the responses of the SOE sector and the rural sector (agriculture and the TVEs), to China's partial reforms. The fourth question is necessarily most speculative. Section V we assess the prospects for future reforms in China, mainly by examining institutional trends in the last recent years.

THE SOURCES OF CHINA'S ECONOMIC GROWTH

In this section we discuss alternative explanations of China's rapid growth since 1978. Before turning to the evidence, however, it is important to be clear about the timing and scope of China's reforms to put the alternative viewpoints in proper perspective. China's reform strategy after 1978 has best been described (by different schools of thought) as a dual-track approach: the establishment of a market track in parallel to the pre-existing plan track, with the market track (generally) increasing in importance over time. The dual-track approach pervades almost every aspect of policy-making: sectoral reform, price deregulation, enterprise restructuring, regional development, trade promotion, foreign exchange management, central-local fiscal arrangements and domestic currency issuance.

The dual-track approach started at the end of 1978 with rapid and comprehensive liberalization of the cultural sector, but limited liberalization of the other sectors. The most notable aspects of the agricultural reform were the elimination of the commune-brigade system of collective farming, replaced by the leasing of the former commune land to the individual peasant households. These households remained responsible for the delivery of a portion of the output to the state according to plan, but were also allowed to engage in free-market transactions for production above the state procurement quota. The impressive growth of the agricultural sector and marketization led to broader liberalization of the secondary (industrial) and tertiary (service) sectors in the 1980s, with important reforms beginning in 1984. The state-owned enterprises (SOEs), located mainly in urban areas, were liberalized by devolving incrementally to them decision-making power on production, marketing, and investment.¹

The agricultural reforms at the end of the 1970s rapidly placed a substantial proportion of the economy

In 1993, the proportion of agricultural output value and of industrial output value set by the state plan had dropped to 15%.

and workforce effectively outside of the state apparatus. Agriculture accounted for almost 40 percent of GDP at the end of the 1970s,² but, more importantly, no less than 70 percent of the economically active population were peasant farmers! While peasants had to continue to deliver a part of their output as a quota, they operated *on the margin* in a relatively free market environment. Not only was the quota effectively a tax on private production, it was essentially a lump-sum (i.e. infra-marginal) tax, so that households effectively faced market prices for many key output and input decisions. The one major area that remained in state control was land distribution: while peasants received the use-rights of land, the typical leases were for 15 years or shorter, so that long-term improvements in the land (e.g. irrigation projects and other capital-intensive projects) were still problematical from the point of view of household incentives.

The growth of the non-state sector quickly spread beyond the abolition of the communes themselves. The steady relaxation of the regulations governing the registration and supervision of non-state enterprises since 1984 has caused the non-state sector, particularly in the form of community-owned enterprises (COEs) located in the rural areas, to grow explosively. It must be emphasized, however, that the SOE sector is not withering away; its share of total employment was 18 percent in 1978 and 1993 - there were 35 million more SOE workers in 1993 than in 1978.³

Dual track regional development was adopted as the means to integrate China gradually into the world trading and financial systems. In 1980, four southern coastal cities (Shantou, Shenzhen, Xiamen and Zhuhai) were designated "Special Economic Zones" (SEZs). SEZs were given autonomy to experiment with new institutions, mainly related to the international economy, like approval of foreign-funded enterprises and discretion over the collection of many taxes. SOEs operating within the SEZs were exempted from many parts of the central plan, labor regulations and the tax code. The resulting phenomenal growth of the SEZs spurred other regions to demand and receive special privileges as well.⁴ The rise in the export-GDP ratio from 4 percent

¹ Measured using 1990 relative prices because relative prices in 1978 was regulated to favor industrial products.

² An SOE is a nationally-owned enterprise in the sense that the central government is the ultimate authority for the operations of the enterprise and the disposition of its assets, even though the SOE in most cases has been assigned to the provincial or county government for supervision and management. The non-state enterprises are those enterprises in which the central government lacks final authority over the disposition of assets. The non-state sector consists of community-owned enterprises, co-operatives, individual-owned enterprises, private corporations, and foreign joint-ventures.

³ The result is a plethora of designated cities that have various subsets of the privileges granted to the SEZs: there are now 14 open coastal cities, 20 economic and technological development districts and 72 comprehensive reform experimenting cities. Hainan province became the fifth SEZ in 1988.

1978 to 23 percent in 1994 shows that export-processing has become a major component of China's industrialization strategy.⁹

Note that several of the reforms – dismantling of the communes and replacement by household farms, liberalization of the TVEs, and opening of the coastal regions – were radical measures introduced quite early at the end of the 1970s and early 1980s. In these areas, there is little to distinguish the *pace* of reform in China with that in Eastern Europe. The dismantling of the communes in 1979 covered approximately 790 million people, or 81 percent of the population, and was effectively achieved in a brief period of 30 months. Similarly, the liberalization of TVEs covered roughly the same potential population (who were now free to leave cultural activities), and also occurred in a brief time span. The opening of the Chinese economy proceeded gradually, but the designation of special economic zones and open cities between 1979 and 1984 rapidly brought millions of Chinese workers into an export-oriented labor market.

Chinese reforms were more gradualist or incremental in several other ways, however. First, in the rural areas, leasing of farm land rather than private ownership was made the rule. Second, with few exceptions, the farms were to be owned by local government, rather than purely private owners. Third, the opening of the economy was restricted to particular geographical regions, and was based mostly on free trade for *export* firms (access of these firms to world markets for imported inputs, and for the sale of output), rather than free trade imports more generally. Fourth, and most important, the state enterprises were not privatized, nor was any long-term goal of privatization enunciated in the course of the reforms (at least until very recently, as discussed below). Instead, the SOEs were the subject of various attempts at introducing market incentives for improved management and productivity.

Aspects of Growth in the Reform Period

There are several aspects of China's economic growth performance since 1978 that are not in dispute. The non-state sector (including household agriculture, rural industry, private enterprises, urban collectives, joint ventures) has grown much faster than the state sector. Therefore, the share of state-owned enterprises

⁹ As noted by a referee, the total export data are collected in US\$ and then converted to yuan with the official exchange rate, although a multiple exchange rate system was usually in force. Even if we assume that the black market rate in 1978 was twice the official rate, hence doubling the 1978 export-GDP ratio to 9 percent, the increase in the export-GDP ratio between 1978 and 1994 is still very impressive.

in aggregate production has declined markedly. In industry, the share of SOE production fell from 78 percent in 1978 to 69 percent in 1984, and then to 34 percent in 1994.¹⁰ Therefore, all observers agree that China is gradually "growing out of the plan." Second, agriculture provided the major impetus to growth during 1978-84, but played a much lesser role after 1984. As a summary statement, we can say that agriculture experienced a one-time burst of productivity growth in the first few years after the reversion to the household production system, but then slowed markedly after 1984 (we return to this issue below).

Table 3 shows the growth rates of various sub-sectors of the economy during the period 1978-94, and for subperiods 1979-84 and 1985-93. The non-state sector includes agriculture, collectively owned industrial enterprises (industrial COEs), individually owned industrial enterprises, "other ownership forms" industrial enterprises, and part of the construction and tertiary sectors. Note that collectively owned industrial enterprises include both urban COEs and rural COEs, with rural COEs typically labelled as township and village enterprises (TVEs). We see clearly that within industry, the growth of the non-state sector significantly outpaced the growth of the state sector. Table 4 shows the contribution of each subsector to overall growth. Note that we cannot allocate construction and services to the state versus non-state sectors. If we assume, conservatively, that the non-state enterprises account for half of the growth of construction and services (the share is likely to be even higher), then the non-SOE sectors account for more than 70 percent of total growth during 1979-94. This is despite the fact that over 75 percent of all banking credit has been allocated to the state-owned sector.¹¹

A third undisputed point is that exports have been a leading sector in China's growth, consistent with the patterns of export-led growth seen elsewhere in East Asia. Total exports rose from US\$10 billion in 1978 to US\$149 billion in 1995. A sharply rising portion of exports comes from the non-state sector, including TVEs, private firms, and foreign investments (sometimes under contracts to, or in cooperation with, state enterprises). Some basic facts on exports are shown in Table 5.

Virtually all analysts see China's market reforms as unleashing the rapid growth since 1978. The evolutionary-school advocates see gradualism (or incrementalism) as having played a constructive role in China's growth for two main reasons. First, it is argued that China avoided the political and economic strife

¹⁰ Strictly speaking, data before 1984 are not comparable because prior to 1984 much of the industrial output by the communes was categorized as agricultural output.

¹¹ The qualitative nature of the conclusions drawn here from Tables 3 and 4 is unchanged when we take into account the underdeflation of industrial output from the non-state sector; Woo (1996).

associated with "shock therapy" reforms. Second, it is argued that incrementalism allowed China to find viable institutions on an experimental -- usually localized -- basis, and then to proliferate the successful stories to the whole of the Chinese economy. In this "non-dogmatic way," many successful innovations, such as the Township and Village Enterprises, the Household Responsibility System of land leaseholds, and the Special Economic Zones were discovered and spread.

The convergence school sees things differently. First, the sources of growth were precisely in the mainly non-state sectors of the economy -- agriculture first, followed by TVEs, and coastal export-oriented enterprises. These reforms unleashed growth, even more reform would have unleashed faster growth. Second, the amount of dislocation involved in "shock therapy" is greatly exaggerated, especially in an economy of China's structure: overwhelmingly agrarian in the distribution of the workforce. Third, the partial character of the reforms in several areas is merely delaying serious problems for the future.

The problem for both points of view is the absence of a complete theoretical or empirical framework for weighing one point of view or another. Both schools of thought must, to some extent, grab at slivers of information. The experimentalist perspective is probably correct to stress that China's two-track approach reduced the number of short-term losers resulting from market liberalization. Most importantly, the two-track approach allowed the growth of new firms in China *without forcing layoffs in existing state enterprises*. In terms of overall proportions of the workforce, non-state, non-agricultural employment increased at the expense of the agricultural workforce, not at the expense of the state enterprise workforce. Indeed, state enterprise workers until the most recent years were protected in their subsidized jobs by virtually ironclad job guarantees (the so-called "iron rice bowl"), and state enterprise employment actually rose by 35 million in the 1978-93 period.

Two other propositions of the experimentalist school are much more doubtful, however. The first is that similar gradualism -- especially continued guarantees of employment in the state enterprises -- would have been possible in EEFSU. While many China analysts have rebuked the EEFSU economies for undertaking the locations of "shock therapy," mainly by allowing major layoffs in the state enterprise sector, these analysts have given insufficient weight to the differing economic structures in the two regions. In the former Soviet Union, more than 85 percent of the workforce was in non-agricultural state enterprises, compared with around 18 percent of the workforce in China (Table 6). Perhaps 99 percent of the labor force of the former Soviet Union (including the 14 percent of the labor force in state farms and collective farms) were entitled to an "iron rice

bowl" under the Soviet system as of 1985 (see Cook, 1993, for extensive documentation of worker protections in the Soviet Union). Very high proportions of workers in the Eastern European economies enjoyed similar guarantees.

Would it have been possible to engineer a two-track approach when 90 percent of the workforce was in the first (i.e. state) track, compared with less than 20 percent in the Chinese case? Our answer is "no," and the best evidence is that gradualism was in fact tried. The Chinese two-track approach was indeed the *favoured* model of communist reformers such as Mikhail Gorbachev in the Soviet Union, Janos Kadar in Hungary, and Wojciech Jaruzelski in Poland in the mid-1980s. The model had obvious appeal. It seemed to offer the prospect of faster growth with minimal social costs or political disruption.

In each case, the Chinese model failed in EEFSU, for two main reasons. First, as in China, tax collections from the state sector declined after the operational autonomy of SOEs was increased, a consistently observed pattern that result in part from the fact that state enterprises can easily use the new discretion to skim state income and to hide state profits, and in part from the fact that non-state enterprises provide competition for the state sector. The decline in tax revenues was much harder to manage in the EEFSU, since huge social expenditure commitments and subsidies to preserve guaranteed jobs in the state sector -- in both cases covering nearly 100 percent of the population -- could not be financed out of the falling tax revenues.

Second, in both China and EEFSU, most state-sector workers did not voluntarily leave their "iron rice bowls" after legalization of the non-state sector. The non-state sector in China grew up as a result of new entrants to the labor force and workers leaving agricultural employment to take jobs in industrial or service sectors. In EEFSU, there was no such large pool of non-state workers to join the new enterprises. Labor force growth was essentially nil, and the non-state sector was virtually non-existent. Even agricultural workers on the state farms and the collective farms in EEFSU had their own "iron rice bowls," so that unlike Chinese peasants, they were mostly unwilling to leave their heavily subsidized jobs.

Table 6 makes clear that the Soviet Union, and Soviet-type economies in Eastern Europe, had no reserve of labor outside of the SOE sector that could provide the engine of growth for a new non-state sector. The growth of the non-state sector required the decline of the state sector almost as a matter of accounting, since the state sector dominated the economy. Only by ending the subsidization of the state sector was it possible to free

sources for the new non-state sectors in the economy." Two-track gradualism could not work in that context."

In short, gradual liberalization in the EEFSU unleashed financial destabilization, but *without* promoting growth of a new private sector because the state-enterprise sector was not cut in the gradualist phase. Conversely, recent studies have shown that *collapse* of production in the EEFSU economies after 1989 cannot possibly be related to the speed of reforms. Rather, output declined because of vastly overextended heavy industry. When cheap energy sources from the Soviet Union ended -- both because of falling energy production in the Soviet Union and rising prices charged by the Soviet Union (and then Russia) to the post-Soviet economies -- and when the Soviet military-industrial sector declined, every economy in EEFSU faced a sharp industrial contraction. But it was precisely the fast-reforming countries that first and most vigorously reversed the industrial declines through the growth of new industrial and service sector activities.

A recent study by Aslund, Boone and Johnson (1996) of 22 EEFSU countries and Mongolia found that the magnitude of a country's decline in output after 1990 was *unrelated* to the speed and comprehensiveness of reform package, and that *recovery* began sooner and private sector development was more dynamic in the "big bang" countries. Similarly, we have also regressed the average growth rates of the EEFSU countries between 1989 and 1995, on the logarithm of their income in 1989, and its rating on a Reform Index constructed

Naughton (1996) argues against this point of view by claiming that the whole state sector could not have been liberalized, since when every sector is subsidized then no sector actually receives a net subsidy. But it is quite possible that the state sector is subsidized relative to the (potential) non-state sector, if the state sector receives subsidies while non-firms do not. In this context, only explicit cuts in state subsidies would permit the growth of the non-state sector. In a more realistic example, suppose that subsidies are paid for through the inflation tax. The state sector receives subsidies; the non-state sector does not. While it is true that net subsidies -- defined as subsidies minus the inflation tax -- to the state sector are zero, the state sector is still subsidized relative to the non-state sector (which is taxed, on net, by inflation).

In Sachs and Woo (1994), we summarized the argument as follows: "Differing performance primarily reflects different economic structures prior to reform: China was a peasant agricultural society, EEFSU was urban and overindustrialized ... faced the classic problem of normal economic development, the transfer of workers from low productivity agriculture to her productivity industry. In EEFSU, the problem is structural adjustment: cutting employment in inefficient and liberalized industry to allow new jobs in efficient industry and services."

Several articles have challenged our depiction of China as a predominantly agricultural economy in 1978 and of 1978 growth as mainly normal economic development, e.g. Lin, Cai and Li (1994). They interpreted China in 1978 as an overindustrialized economy because industry accounted for 48 percent of GDP in 1978 and 47 percent in 1994 -- no sign of industrial growth being higher than aggregate output growth. In our opinion, their interpretation is misguided. Most importantly, the argument over flows of workers and political economy of reform rests on the allocation of labor, not GDP. As a count, there is no doubt (nor disagreement) that China was substantially agrarian and rural. Second, official estimates of GDP share of industry greatly inflate the industrial share, since industrial prices were artificially inflated relative to agricultural prices. Therefore, one step of reforms involved the step-by-step freeing of repressed agricultural prices. For example, if we use constant 1990 prices to weight the various sectors of the economy, the industry share of GDP was 37 percent in 1978 and 51 percent in 1994.

by the European Bank of Reconstruction and Development (1996), and found that faster reform was associated with higher, not lower, growth (t-statistics in parentheses):

$$\text{Annual Growth Rate} = -0.024 - 0.029 \log(\text{Initial Income}) + 0.007 (\text{Reform Index})$$

$$(-0.13) \quad (-1.07) \quad (3.43)$$

$$R^2=0.40; \text{Root MSE}=0.05$$

Each 1 point on the reform scale (which varies from a minimum of 10 in Turkmenistan to a maximum of 33 in the Czech Republic and Hungary) was associated with 0.7 percentage points faster annual growth. Russia is rated at 23 in the rankings, so that the shortfall in Russia's reforms from the leaders is associated with lower annual growth during the interval of 7 percentage points (10 x 0.7).

Suppose that China had in fact pursued more rapid liberalization of the economy, including a harder budget constraint on state enterprises and a faster unification of product markets and the market for foreign exchange. How much larger would have been the dislocations in the economy? While we cannot answer this crucial question with any precision, it is instructive to look next door at the case of Vietnam. During 1985-88, Vietnam implemented a gradual reform strategy that did not address serious macroeconomic imbalances. The program failed: inflation and import of rice accelerated while growth performance remained unchanged. In 1989, Vietnam enacted an Eastern-European style "big bang," including across-the-board price liberalization, a 450 percent devaluation to unify the exchange market, and a tight credit policy. The collective farms were returned to family farms with long-term leases. Growth accelerated, inflation ended, agricultural productivity soared (turning Vietnam into a rice exporter in 1989), and small, non-state enterprises proliferated, Riedel and Comer (1996). The "big bang" did not cause an output decline in Vietnam as in Eastern Europe. The difference in outcome lies in Vietnam's economic structure in 1989, in which 77 percent of the labor force was engaged in agricultural activities. As an overwhelmingly agricultural economy, Vietnam enjoyed the same gains as China from liberalization of agricultural, and the flow of peasants to the non-agricultural sector. Strong market-oriented reforms (macroeconomic stabilization and liberalization), not gradualism *per se*, tended to accelerate this shift.

China's Rapid Growth: Innovative Institutions or East Asian Pattern?

Another important claim of the experimentalist school is that China's successful growth is due to

stitutional innovations in China, which have given China a remarkable capacity for rapid growth. In one sense, this claim is surely true. Through the development of the household responsibility system, township and village enterprises, and special economic zones in the coastal areas, China found a way to reconcile fast growth with its continuing political commitment to state ownership (if not central planning). The relevant analytical question, however, is whether such innovative institutions are really the *source* of rapid growth, or whether they are simply perfect substitutes for normal market institutions that would have provided China with rapid growth at less cost in terms of long-run distortions.

We will analyze these underlying institutions in later sections. Here, we want to make the point that China's broad growth performance is in line with the performance of other East Asian economies. Virtually every market economy in East Asia has grown very rapidly in the past thirty years, based on a strategy of rapid export growth of labor-intensive manufactures. During 1986-94, China averaged an annual per capita growth of around 5.6 to 6.8 percent in PPP-adjusted GDP. Other East Asian countries also showed remarkably high, or even higher, rates of annual per capita growth in PPP-adjusted GDP over the longer period of 1965-90, including Hong Kong, 5.8; Korea, 7.4; Singapore, 7.4; Taiwan, 6.3; Indonesia, 4.7; Malaysia, 4.5; and Thailand, 4.6.¹⁴ As shown in Lee, Radelet, and Sachs (forthcoming), the East Asian economies have shared several fundamental characteristics that have allowed them to achieve historically unprecedented rates of growth:

- a low initial per capita income level, giving ample scope for rapid catching up;
- favorable physical access to international sea lanes;
- export orientation, through favorable tax and regulatory conditions for exporters (e.g. duty-free access to imported inputs and tax holidays for foreign investors in export sectors);
- a high proportion of the labor force in agriculture or other low-wage activities, providing an elastic labor force of labor-intensive manufactures;¹⁵
- favorable demographics (including a low old-age dependency ratio), supporting a high national saving rate;

¹⁴ Growth rate for China is calculated from tables S-1 and S-3 in Ren (forthcoming), and the other growth rates are calculated from Penn World Tables V.5.6.

¹⁵ Minami (1973) and Paauw and Fei (1973), among others, emphasize the importance of labor migration from agriculture to industry in the course of rapid East Asian growth. Recent growth accounting studies by Woo (1996) and the World Bank (1996) attribute at least one percentage point per year of growth to the direct effect of reallocating labor from low-productivity agriculture to higher productivity industry and services. State Councillor Chen Junsheng reported that in 25, seventeen years since reforms began, there were 120 million surplus rural workers out of a total rural labor force of 700 million (*China Daily*, "Rural laborers need jobs," February 9, 1995). Chen and Hu (1993) surveys the various estimates of surplus labor, and reports an estimate that 35 percent of rural labor in 1981 was surplus labor.

(6) fiscal policies supporting high national savings (including high government saving, and the absence of state pension systems tending to crowd out private saving).

In the cross-country empirical growth model for the years 1965-90 estimated in Lee, Radelet, and Sachs (forthcoming), China's per capita growth rate of 5.1 percent per year during 1965-90 (in PPP-adjusted GDP) is almost perfectly explained by the cross-country explanatory variables, with the various regression estimates predicting a growth rate of around 5 percent per year during 1965-90.¹⁶ In other words, China fits the international regression line, as if it were a "normal" country rather than a transition economy. The message seems to be that China's liberalization of the non-state sector (in agriculture, rural industry, and coastal industry and services) afforded China the opportunity to grow at *typical* East Asian growth rates despite the absence of the full-fledged market institutions as in the other countries. China's novel institutions evidently were not the *source* of rapid growth, but neither were they a definitive barrier.

III. THE SOE SECTOR UNDER REFORM

China's reform of its state enterprise sector has been undoubtedly incremental and experimental. Reforms have typically taken the form of new practices being allowed for a small number of SOEs, and then being more widely adopted over time. Furthermore, before full coverage was reached, another set of new measures would be implemented on an experimental scale which might then in turn be expanded in scope. So, at most points in time, there may be the preponderance but not exclusive existence of a particular reform configuration.

Market socialism has been the guiding force behind SOE reform, and this explains why the general reform direction has been the steady expansion of the operational autonomy of the SOEs with almost no serious discussions (until very recently) of privatization as a reform option. From 1979 onward, managers received in piece-meal fashion the rights to make decisions about bonuses, how and what to produce, pricing, marketing, and investment. In parallel with this expansion of managerial autonomy was the steady decontrol of prices; with the prices of final goods being gradually liberalized since 1979, and the prices of inputs liberalized via the dual-track system since February 1985.

¹⁶ Of course, precision must be taken with a grain of salt, since China's actual growth rate is subject to severe measurement problems. In the regression analysis, Lee, Radelet, and Sachs (1996) rely on the growth estimates in Perkins and Sabin (1996).

The fiscal relationship between the SOE and the state has exhibited bigger twists and turns, however. Before the reform period, Chinese state enterprises operated under the state plan with little autonomy, and the state did little to create a hard-budget constraint¹⁷ because there was no need to do so. By 1983, a de facto contract responsibility system (CRS) had emerged. An SOE would sign an individually-negotiated contract with a supervising agency specifying the annual amount of revenue (tax-cum-profit) to be turned over to the state, thereby supposedly giving the firm the incentive to maximize its financial surplus. However, SOEs remained subject to a soft-budget constraint, being absolved of the responsibility of paying the contracted amount if the financial outcome was poor. As a result, the state found the decline in revenue expressed as a percent of GDP to be much larger than anticipated.

In 1983, the state began to replace the CRS with an income tax (the *ligaishui* reform). This income tax system was short-lived however because it not only failed to arrest the decline in revenue-GDP ratio, but its excessive marginal tax rate was also perceived to be a damper on economic growth. By 1986, SOEs were returning to an expanded CRS. The CRS was again replaced by an income tax in January 1994.

None of the preceding SOE reforms fundamentally altered the ownership structure of the enterprises, although they did significantly affect the control structure. A fundamental change in official philosophy about reform occurred at the end of 1993 when the Central Committee of CPC identified the ambiguity of property rights to be an important cause of the unsatisfactory performance of SOEs, and decided that:

Large and medium-sized State-owned enterprises are the mainstay of the national economy; ... [for them,] it is useful to experiment with the corporate system ... As for the small State-owned enterprises, the management of some can be contracted out or leased; others can be shifted to the partnership system in the form of stock sharing, or sold to collectives and individuals.¹⁸

By the end of 1995, the above decision had been formulated into the slogan of "holding on to the large ones, and freeing the small SOEs (*zhua da fang xiao*).¹⁹ The current debate on SOE reform in China is over the definition of "large", and the optimal form of "letting go," or privatization, of the "small" SOEs.

Assessments of the above decentralizing reforms on SOE performance have differed widely. Adherents of the experimentalist school accord great success to the state enterprise reforms in China, while adherents of the

A hard-budget environment is when the firm has autonomous responsibility for its own financial results.

¹⁷Decision of the CPC Central Committee on issues concerning the establishment of a socialist market economic system," *China Daily*, Supplement, November 17, 1993.

convergence school tend to see chronic failures in SOE reforms. On the experimentalist side, Jefferson and Rawski (1994, pp.58) have concluded that:

... reform has pushed China's state-owned enterprises in the direction of "intensive" growth based on higher productivity rather than expanded resource consumption ... we observe a consistent picture of improved results - higher output, growing exports, rising total factor productivity, and increased innovative effort - against a background of gains in static and dynamic efficiency that reflect the growing impact of market forces.

However, China's own leadership has been much more pessimistic. Vice-Premier for Economy, Zhu Rongji, announced in 1996, that the SOE sector is deeply plagued with problems. According to the Vice Premier:

The current problems of SOEs are: excessive investments in fixed assets with very low return rates, resulting in the sinking of large amounts of capital; low sales-to-production ratio giving rise to mounting inventories. The end result is that the state has to inject an increasing amount of working capital through the banking sector into the state enterprises.²⁰

Vice-Premier Zhu's pessimistic verdict represents the dominant view of Chinese economists and officials throughout the reform period - a view shared by foreign economists of the convergence school. According to Naughton (1995), though, who continues to defend the results of the state enterprise reforms, this negative assessment is the result of ignorance on the part of Chinese observers and of ideological prejudice on the part of some foreign observers:

Focusing on profitability, [state bureaucrats] see the erosion in state sector profits as a profound crisis of the state sector. Without good measures of total factor productivity, they conclude that state sector performance is deteriorating. Foreign observers, hearing the cries of alarm from the state planners, shake their heads knowingly as they perceive still further evidence that state ownership is intrinsically inefficient. Neither party sees that the difficulties are the result of an ultimately beneficial transition to a different type of economy, and are entirely compatible with gradually improving efficiency.

It is clear that opinions about SOE performance are strongly split and the facts are hotly disputed. The main propositions of the experimentalist school vis-a-vis SOE performance are that:

- (1) China's state enterprise reforms have improved productivity growth (particularly total factor productivity growth) in the SOEs;
- (2) China's state enterprise reforms have improved the sectoral allocation of production and investment; and
- (3) China may be able to avoid privatization of the SOEs in the future.

The convergence school, on the other hand, holds that:

- (1) China's state enterprise reforms have failed to improve productivity performance;

²⁰"Guo you qiye sheng hua gaige ke burong huan," (No time shall be lost in further reforming state owned enterprises), speech at the 4th meeting of the 8th People's Congress, *People's Daily, Overseas Edition*, March 11, 1996.

China's state enterprise reforms have failed to improve the financial performance of the SOEs;

China's state enterprise reforms have failed to improve the sectoral allocation of production and investment;

China will need to pursue a strategy of privatization in the future, both for purposes of fiscal balance and allocative efficiency.

Is TFP Growth Accelerated in the SOEs?

The productivity performance of the SOEs remains a highly contentious issue. Some see improvements, while other researchers do not. Before reviewing the debate, however, it is worthwhile to remember two important points of agreement: (1) SOE productivity growth has been lower than non-state productivity growth; (2) improvements in TFP, if any, have been modest in magnitude. Nonetheless, a debate has raged as to whether TFP growth in the SOEs has in fact risen in the course of China's reforms.

The first generation of empirical studies were generally of the opinion that the post-1978 SOE reforms did not raise TFP growth.²⁰ The picture has become cloudier since then with roughly three sets of results. The first set found "high" TFP growth rates, e.g. Jefferson, Rawski and Zheng, JRZ (1992), and Groves, Hong, Millan, and Naughton, GHMN (1995a).²¹ The second set found little or deteriorating technical changes, e.g. Luo, Hai, Jin and Fan, WHJF (1994).²² The third set found results in between the first two sets, often with a leveling down of TFP growth after 1985.²³

The wide range of TFP estimates in the literature could be caused by a wide array of factors which

²⁰ For example, Dernburger (1988), Lardy (1989), and Rawski (1986).

²¹ JRZ (1992) found that annual TFP growth averaged 2.4 percent in the 1980-88 period; and JRZ (1996) revised it to 2.5 percent for the 1980-92 period. GHMN (1995a) estimated annual TFP growth in the 1980-89 period to range from 2.3 percent in the food products sector to 7.9 percent in the electronic sector.

²² Huang and Meng (1995) found the annual TFP growth rate to be negative 5 percent in the 1986-90 period, and the number of skilled workers in SOEs to be excessive. WHJF (1994) found TFP growth to be zero in the 1984-88 period; and in (forthcoming) found annual TFP growth to range from -0.7 to 0.2 percent in the 1989-93 period.

²³ Wu and Wu (1994) found TFP to increase in the 1979-84 period but to be stagnant in the 1985-92 period. Perkins, Ng and Cao (1993) established that there were significant regional variations in TFP growth: for the Special Economic Zone of Xiamen, the TFP index went from 100 in 1980 to 139 in 1985 and then to 131 in 1988; for Shanghai, it went from 100 in 1980 to 104 in 1985 and then declined steadily to 81 in 1988. The overall national average was that the TFP index rose from 100 in 1981 to 104 in 1985 and then declined steadily to 81 in 1988. Using samples for medium and large state-owned construction enterprises, Parker (1995 and forthcoming) found annual TFP growth to average 1 percent in the 1985-1991 period but to decline significantly over time.

include the choice of data set (e.g. geographical and sectoral representation, time period)²⁴, the specification of the production function (e.g. Cobb-Douglas, Griliches-type), the assumption of technical change (e.g. Hicks-neutral, labor-augmenting), the estimation method (e.g. OLS, stochastic frontier), the selection of deflators for output and inputs, and ad hoc exclusion of observations. Another serious problem is that all the studies we know estimate TFP by using the size of the capital stock and the labor force instead of using the actual hours of equipment operation and the actual labor hours spent in production. This mis-measurement is particularly serious because energy shortage has varied according to time period, region and firm ownership. So an increase in the availability of energy could increase TFP estimates that were derived from stock rather than flow data of capital and labor.

In the debate between WHJF and JRZ on their different results, the main focus has come to rest on two inter-related issues: the validity of the output and input deflators used in the studies, and the degree to which the production structure of China's industrial SOEs differ from those of industrial enterprises in other countries. The attention on these two issues arose when WHJF (1994) found that the implicit value added deflator (VAD) constructed from the nominal value added series and the real value added series in JRZ (1992) declined secularly in the 1980-86 period in contrast to the secularly rising consumer price index (CPI). WHJF considered this opposite trend movement in CPI and JRZ's VAD to be "anomalous" because it was internationally unprecedented. WHJF argued that the apparent rise in TFP in the SOEs was due to an overstatement of value added caused by two biases, the *overstatement of gross output* and the *understatement of the intermediate inputs* used in production. JRZ (1996) defended their deflators for gross output and intermediate inputs, and attributed the declining VAD to the *unusual production structure* of China's manufacturing sector.²⁵

²⁴ Because most samples are collected through contract with the State Statistical Bureau, the absence of independent monitoring raises the possibility of Potemkin datasets.

²⁵ Specifically, JRZ (1996) claimed that China's manufacturing sector had an unusually low gross value added (GVA) to gross output value (GVO) ratio. They computed the (GVA/GOV) ratio to be 46% for the United States, 40% for Japan, 45% for West Germany and 44% for the United Kingdom compared to the (GVA/GOV) ratio for China which was 33% in 1980, 31% in 1984, 29% in 1988, and 25% in 1992. However, JRZ's finding of an unusual Chinese industrial structure for China appears to be a fragile one. Specifically, JRZ's proposition which is based on Industrial Yearbook data does not hold when the 1987 Input-Output Table data are used instead. Ren Ruoen (private communication) found that the ratio of gross value added to gross output value for the industrial sector was 44% for the United States, and 42% for China when Input-Output Table data were used. (Ren adjusted China's official GVA to render it consistent with the US Industrial Census definition.) JRZ's low and declining ratios for China suggest to us under-measurement of GVA caused by the appropriation of capital

Though the debate over TFP performance continues, the broader conclusion that SOE productivity performance lags behind non-state productivity performance continues to win much wider assent. As Andrew Der (1995b) notes of the TFP debate, the "dispute so far appears inconclusive, especially given the small productivity increases under dispute." (emphasis added). While Putterman (1995) is impressed by the robustness of the positive findings of efficiency gains in the state sector, he too emphasizes the "widespread element in China at least that ... previous reforms in the sector had accomplished far too little." Similarly, Nee and Matthews (1996) have recently declared "the need to remain skeptical about overly optimistic assessments [Jefferson, Rawski and Naughton] of the prospects for successful adaptation to a marketizing economy by state-owned firms. The industrial heartland of Northeastern China dominated by state-owned enterprises, is following the path of the state-owned firms in the former Soviet Union."

Issue of Allocative Efficiency

Even allowing for some increase in TFP, the SOE sector is widely challenged by the convergence school on other grounds: allocative efficiency and financial performance (with consequent threats to economic stability). According to Bai, Li and Wang (BLW, 1996), TFP improvements (if any) have not raised economic welfare in China, and this is why the Chinese general public and Chinese leaders have continued to see SOE reform as a failure. BLW pointed out that TFP growth is a good index of welfare improvement only:

in the context of profit-maximizing and market-oriented firms. However, for SOEs under reform, these conditions are not satisfied (in fact, this is the very reason for SOE reform) ... One of the important non-profit objectives of the managers is their excessive pursuit of output.

In BLW's judgement, Kornai's (1992) observation that "SOE managers are embedded in a bureaucratic hierarchy, in which the size of the firm, or output level, is a proxy for status" still applies to China. Furthermore, in a system where the soft-budget constraint is real, it is to the managers' advantage to make their SOEs "too big to fail." GHMN's (1995b) finding on SOE managers compensation that "sales are significant in determining wages over full sample period but that profits are just insignificant" reveals the existence of incentives

by SOE personnel - an issue that we will discuss later. The phenomenon of declining VAD also applies to the empirical works of GHMN, see Naughton (1994b).

to Chinese managers to attach importance to the output level, as well as to profits.²⁰

When both output and profits were included in the objective function of SOE managers, BLW found that "a higher productivity as measured by the TFP growth may actually lead to lower profitability and therefore, in many cases, lower economic efficiency." The image of some Chinese SOEs producing undesired goods, but with greater efficiency, finds some support in the aggregate data on inventories. Inventory investment in China averaged 7 percent of GDP in the 1980-93 period, compared to an average of 2 to 3 percent for the OECD countries. Only some Eastern European countries prior to 1990 had such high inventory investment rates. These high inventory levels suggest considerable production that is simply not marketable.

Even if one believes that SOE managers in China are mainly maximizing profits, technical innovations comprise only one method of maximizing an SOE's profits. It may be financially even more rewarding for an SOE manager in China to spend time developing good relations with the state bureaucracy than increasing production efficiency. Until the 1990s, the large and medium-sized SOEs had to fulfill production quota at below-market prices, and they received subsidized inputs in return. If the amount of subsidized inputs was high, the quota system would generate a positive rent to the enterprise. Li (1994) estimated that an SOE which made positive market profits on its above-quota production in the 1986-88 period received a rent that was 2.7 times that of its market profit.²¹ Bureaucratic haggling was vastly more profitable than competing in the market! Li's rent estimate may be the lower bound because it did not include the rent that an SOE received from tax bargaining, a practice so pervasive that an SOE paid an effective income tax rate of 33 percent instead of the legal rate of 55 percent then in force.

Taken together, these arguments suggest that there are likely to be serious problems of allocative efficiency within China's SOE sector which the TFP index would not measure. These allocative efficiency problems have not been adequately discussed or measured in the literature.

Financial Performance of the SOE Sector

²⁰ However, GHMN also found indications that the importance of sales decreased over time while that of profits increased. Parker's (forthcoming) finding of over-usage of capital and labor in Chinese state-owned construction firms confirms that such "growth for growth sake" type of incentives did have an impact on firms' operations.

²¹ So total profits equaled the sum of market profits plus rent.

There has been a steady increase in SOE losses since additional decision-making powers were given to SOE managers in the mid-1980s. The situation stabilized in the 1990-91 period when the state attempted to transfer some of the decision-making power devolved to the SOEs. In 1992, decentralizing efforts accelerated at the initiative of local leaders after Deng Xiaoping called for faster economic reforms in order to avoid the fate of the Soviet Union. The unexpected event was that the faster economic growth was accompanied by larger SOE losses. About two-thirds of Chinese SOEs ran losses in 1992 when output growth in that year was 13 percent. These enterprise losses cannot be blamed on price controls because price controls covered only a small proportion of SOEs in 1992. State enterprise losses have continued to accelerate since then. In the first quarter of 1996, the SOE sector slid into the red for the first time since the establishment of the People's Republic of China in 1949, it reported a net deficit of 3.4 billion yuan.¹

The literature has identified three possible factors as being responsible for the disappearing SOE profits. The first factor is the emergence of competition from the non-state enterprises,² the second factor is the failure of SOEs to improve their efficiency despite the new profit incentives from the decentralizing reforms,³ and the third factor is the over-compensation of SOE personnel.⁴ The difference between the experimentalist school's explanation and the convergence school's explanation for the sharp collapse in SOE profit rates lies in the different weights that they put on each of the above three factors. The experimentalist school, as exemplified by Naughton (1995), considered only the first and second factors, and dismissed the empirical importance of the third factor on the basis of the empirical work of GHMN (1994, 1995a and 1995b) and JRZ (1992 and 1996) reviewed earlier. The convergence school, on the other hand, sees similar forces behind the mounting SOE losses during the decentralizing reforms of pre-1990 EEFSSU and post-1978 China: the increasing ability of SOE leaders to appropriate the income and assets of the SOEs, and the continued inefficiency of the SOEs.

Naughton's (1995) evidence in support of competition being the only factor behind the SOEs' losses

¹ "Record loss suffered by state sector," *South China Morning Post International Weekly*, June 29, 1996.

² For example, Naughton (1995) and Jefferson and Rawski (1994).

³ An exasperated view commonly found in official Chinese statements, e.g. Vice-Premier Wu Bangguo stated that: "The situation as regards the economic efficiency of [state] enterprises has remained very grim ... And the prominent feature is the increase in the volume and size of losses" (*The Washington Post*, "Losses of State-Owned Industries Pose Problems for China's Leaders, November 3, 1996).

⁴ For example, Reynolds (1987) and Fan and Woo (forthcoming).

consisted of showing the sector-wide (average of SOEs and non-SOEs) rates of return to capital in different sectors of industry in 1980 and 1989. In 30 out of 38 cases, the 1989 profit rates were lower than in 1980. The main difficulty with Naughton's explanation that increased competition is driving down the profit rates is that the profit rates of SOEs in sectors of industry that experienced little entry by non-SOEs have shown the same dramatic drop as the profit rates of SOEs in sectors with heavy penetration by non-SOEs. Fan and Woo (forthcoming) compared the SOE profit rate and the proportion of output sold by SOEs in different sectors of industry in 1989 and 1992. In four of the five cases where the degree of SOE domination was unchanged, the profit rates were lower in 1992, e.g. the profit rate of the tobacco industry dropped 82 percentage points, and that of petroleum refining dropped 13 percentage points. The 1992 profit rates were lower in six of the seven cases where the degree of SOE domination had declined by less than five percentage points. A regression estimation of the change in SOE profit rate on the change in SOE market share yield an insignificant negative relation between the two variables and an R^2 of 0.3.

The convergence school emphasizes the "spontaneous appropriation" of firm profits by managers and workers as the most important cause for the general decline in SOE profits. With the end of the central plan and the devolution of financial decision-making power to the SOEs, the key source of information to the industrial bureaux regarding the SOEs were reports submitted by the SOEs themselves. This reduction in the monitoring ability of the state in a situation of continued soft-budget constraints meant that there was little incentive for state-enterprise managers to resist wage demands because their future promotion to larger SOEs was determined in part by the increases in workers' welfare during their tenure.⁵

One of the earliest attributions of the erosion of SOE profits to the decentralizing reforms was a 1986 report by the China Economic System Reform Research Institute (Tigaisuo) which pointed out the emerging tendency of SOEs to over-consume and over-invest through various book-keeping subterfuges.⁶ Woo, Hai, Jin and Fan (1994), Woo (1994), and Fan and Woo (forthcoming) used various samples and national data to show

⁵ This SOE tendency to over-reward workers received official acknowledgment in 1984 when the government introduced a progressive bonus tax to control the generous dispensation of bonuses that began in 1979. An annual bonus of up to 4 months of basic wages was exempted from the bonus tax; but a fifth month bonus would require the SOE to pay a 100 percent bonus tax, a sixth month bonus would be subject to a 200 percent bonus tax, a seven month bonus would be subject to a 300 percent bonus tax, and so forth.

⁶ This report has been published in English as Reynolds (1987). Tigaisuo was disbanded when Zhao Ziyang was ousted as Party Secretary after the 1989 Tiananmen demonstrations.

that the sum of direct income (wages and bonuses) and indirect income (e.g. subsidies, and in-kind distribution) increased more than labor productivity growth. Minami and Hondai (1995) found that the labor share of output in the machine industry started rising with the acceleration of decentralized reforms in 1985 and exceeded the estimated output elasticity since 1988. Bouin (forthcoming) calculated that the marginal product labor of industrial SOEs increased by 5 percent in 1989-93 while the product wage of industrial SOE workers rose by 7 percent. Meng and Perkins (1996) studied the determinants of wage and labor demand in 149 industrial SOEs and 139 non-state firms in Guangzhou, Xiamen, Shenzhen and Shanghai (four coastal economies that are marked by more intense market competition) in the 1980-92 period. Meng and Perkins found that the SOEs were maximizing income per employee (by dipping into profits) like labor-managed firms, while non-state firms were maximizing profits like capitalist firms.

Naughton (1994b) was skeptical of the excessive compensation explanation because "the SOE wage bill, including all monetary subsidies, has remained approximately unchanged at about 5% of GNP since 1978." There are two difficulties with this point of view. The first is that the correct test for the excessive compensation hypothesis is to normalize the SOE wage bill by value-added in the SOE sector and not by economy-wide GDP. The second difficulty is that direct cash income is only a part of the total package of labor compensation, and that the main categories of direct cash compensation have been under strict state regulation in order to control inflation and embezzlement. The wage and bonus regulations have forced the SOEs to increase workers' income through indirect means like better housing, improved transportation, new recreational facilities, and study tours.²⁴

The financial weakness of SOEs has destabilized the macroeconomy by increasing money creation through three channels. The first channel is the monetization of the growing state budget deficits caused by the declining financial contribution from the SOE sector. SOEs paid income taxes that amounted to 19.1 percent of GDP in 1978, 6.6 percent in 1985 and 1.7 percent in 1993; and they remitted gross profits of 19.1 percent, 0.5 percent and 0.1 percent respectively; World Bank (1995, Table 7.3; and 1996b, Table 23). The second channel or money creation is the financing of mounting SOE losses by bank loans. The third channel is the disbursement of investment loans to the SOEs to make up for their shortage of internal funds to finance capacity

²⁴ These indirect transfers are listed under either production costs or investment expenditure financed from depreciation funds. The ingenuity of disguising extra compensation can be quite impressive. Chen (1994) reported that "in some enterprises, [workers'] shares, with promised interest rate higher than bank deposit rates in addition to fixed dividend payment, are simply a device to raise the level of wages and bonuses which have been regulated by the government to control inflation." Qian (forthcoming) reported cases where workers' shares receive dividend but state's shares do not.

expansion and technical upgrading.

Fan and Woo (forthcoming) have argued that the general reform strategy of decentralization is intrinsically inflationary. Decentralization necessarily worsens the principal-agent problem, and given the soft budget constraint the SOEs' appetite for investment soars because they can now, to a much larger extent, privatize the profits and socialize the losses. The local governments, in the interest of local development, inevitably lobby the local branches of the state banks to grant the SOEs' applications for investment loans. The evidence overwhelmingly shows that the local bank branches have generally not been able to resist the demand for easy money.²⁵

The "disappearing profits" at the SOEs have also contributed to social instability. In December 1995, the State Administration of State Property reported that asset-stripping in the SOE sector "has been about 50 billion yuan [annually] since the early 1980s."²⁶ This would mean that the cumulative loss of SOE assets in the 1983-1992 was equivalent to some 34 percent of the net value of fixed assets in the SOE sector in 1992. In our opinion, this steady stripping of state assets may subvert political legitimacy much more than a transparent method of privatization would.

It is notable that the original demands of the 1989 Tiananmen demonstrators were for reduction of inflation and corruption. We therefore think that the oft-given justifications for the absence of privatization in China on the grounds of preserving social stability may be overlooking the social tensions being created by the asset stripping, corruption, and macroeconomic instability caused by the unreformed ownership structure of the SOEs. (Of course, corruptly managed privatization, as in the case of natural resources in Russia, can also lead to profound inequities and social instability).

The emerging response to the SOEs

There can be little doubt that the Chinese leadership recognizes the increasingly serious economic and

²⁵ The institutional reforms of the central bank and the state banks implemented in July 1993 as part of an austerity campaign have not been successful in changing things. Chen Yuan (1996), Deputy Governor of the central bank, reported that "the enthusiasm for economic growth in some localities is so strong that it is very difficult to stop completely excessive investment financed through forced bank credit" (emphasis added).

²⁶ "State asset drain must end," *China Daily*, December 13, 1995. See also "State toughens stand to protect its possessions," *China Daily*, June 2, 1995; "Asset checks can stop fiddlers" *China Daily*, June 7, 1995; "Market investigated for losing State assets," *China Daily*, June 2, 1995; and Wang and Li (1993).

itical problems created by the agency problem innate in the decentralizing reforms of market socialism. This why the debate between the conservative reformers and the liberal reformers has progressed from "whether privatization is necessary" to "what is the optimal amount and optimal form of privatization." In late 1995, the most market-oriented of the conservative reformers were in favor of keeping the 4000 large industrial SOEs and 500 medium industrial SOEs under state ownership, and privatizing the more than 87,700 small industrial SOEs; while the most radical of the liberal reformers were in favor of the state keeping ownership of only the 10 largest industrial SOEs. There are now 25 official property rights exchanges and about 150 unofficial property rights exchanges where state assets are sold to the public, with the latter disappearing temporarily whenever there appears to be a swing back to more orthodox socialism at the center, Fan (1995).

Recent reports indicate that full-scale sales of small and medium SOEs have occurred in several places. The best known example is Zhucheng city in Shandong province which started privatizing SOEs in 1992 when two-thirds of its SOEs were losing money or just breaking even.¹ Almost ninety percent of county-supervised SOEs in Zhucheng have already been privatized. Sichuan province has been steadily selling off money-losing SOEs, and Guangdong province has been selling profitable SOEs as well in order to finance local infrastructure and clear the debts of unprofitable SOEs to prepare them for sale. Heilongjiang province has just announced its plan to privatize 200 SOEs after having sold 160 successfully.²

The acceleration in SOEs' conversion to joint-stock companies reflects the leadership's opinion that partial privatization through public offering in the stock markets and through joint ventures with foreign companies would be an improvement over the contract responsibility system. The important point about partial privatization is that the movement of the stock price of the firm is a publicly available indicator of the firm's productive performance. The existence of this objective indicator limits the supervising agency's ability to impose non-economic objectives on the firm, and places more pressure on the supervising agency to monitor the returns on state assets.

As is clear from the above, China has not been an exception to absorbing the positive international experience with privatization of SOEs. However, it is a serious concern of the Chinese Communist Party that the explicit and larger-scale privatization under its leadership may undermine its political legitimacy. The

¹ "China City Turns Into a Prototype for Privatization," *Wall Street Journal*, June 10, 1995.

² "Heilongjiang puts 200 firms on the block," *China Daily*, June 7, 1996.

likely outcome of this political concern is that privatization would continue under the protection of a terminological haze.

IV. RURAL REFORMS

Rural reforms have included fundamental changes in agriculture -- the reversion to household farming after the dissolution of the commune system -- as well as deep changes in non-agricultural rural sectors, especially the rise of the TVEs. Without question, the quality of rural life has improved markedly under these reforms. Agricultural productivity rose sharply after 1978, and non-agricultural production in the TVEs has soared. Nonetheless, there are serious debates about the extent and adequacy of the rural reforms, and the future prospects for the rural sector. We turn first to agriculture, and then to the TVE sector.

Agriculture

Agriculture is another quintessential case of partial reform. On the one hand, the end of the commune system led to significant gains in efficiency and individual freedom in the countryside. On the other hand, the reforms stopped well short of true private ownership of farm land. Here we review some of the consequences of partial reform.

The 1978 agriculture reforms temporarily reversed the 1949-78 trend of urban consumption per capita rising relative to rural consumption per capita. Per capita consumption in the rural areas doubled in real terms between 1977 and 1983. However, the rapid increase in rural income was temporary. In 1985, urban consumption resumed its faster increase vis-a-vis rural consumption. By 1995, the urban-rural ratio of per capita consumption of around 3-to-1 was slightly above the pre-reform ratios of 1978. The initial decrease and subsequent widening of the urban-rural consumption gap mirrors well the jump in agriculture yield (kilo per hectare) growth after 1978, followed by relative stagnation after 1985, as shown in Table 7.

The data suggest that the impressive agricultural growth in the early years of the agriculture reform was a one-shot improvement in productivity that followed the liberalization of the agricultural sector and the introduction of the household responsibility system for land tenure. A simple extrapolation exercise indicates that the big achievement of the 1978 agricultural was to return rice and wheat yields to their underlying trends that were suppressed by the stringent collectivist agriculture practices of the 1958-1977 era (collectivization

ded up in 1956 and culminated in the disastrous Great Leap Forward of 1958).³

Three factors have contributed importantly to the agriculture slowdown after 1985. The first factor is farmers' uncertainty about future land use rights. Despite the 1984 government decision that farmers could get as much as fifteen years, Prosterman, Hanstad and Li (1996) found in their field work that:

local officials have not implemented this policy to any significant degree... [In] many villages, representatives from the collective take back all the land in the village every three to six years and reallocate the plots [to adjust for changes in household size]

As a result, the fact is that farmers have refrained from making the many small long-term improvements (e.g. digging ditches and small feeder drains, applying more organic fertilizer) in the land that would have increased grain

1.⁴⁰

Johnson (1994) pointed out that some of the government's policy responses to the post-1985 slowdown were: increased farmers' concerns about land security, and hence reduced farmers' work efforts and investments in land. For example, the government announced in late 1990 that some farming operations, like plowing, sowing and harvesting, would be re-collectivized in order to reap economies of scale from mechanization. A major problem with this action according to a knowledgeable official was that:

The peasants' misgiving that the contract responsibility system based on households... would be abolished has never been dispelled... Because of such misunderstandings, when they heard about developing the collective economy and improving dual operations, they took it as abolishing the household contract system. (Johnson, 1994, pp. 11)⁴¹

The second important factor for agriculture stagnation is that state procurement prices after the early 1980s have not been raised in line with the increases in input prices. The government has been reluctant to raise procurement prices because urban retail grain prices usually lagged behind procurement prices, creating large budgetary subsidies for food. In fact, when the state decided to clamp down on inflation in late 1993, grain procurement quotas were re-introduced and price controls were put on 27 agricultural commodities. Worse yet, whenever credit was tightened to fight inflation (1985, 1989 and 1992), the government would pay for part of its

³ Specifically, the 1982-91 yield levels for rice and wheat lie on the straight lines extrapolated from the 1952 yield levels and the yield growth rates of the 1952-57 period.

⁴ To us, this finding of widespread uncertainty about future land use rights explains the long time puzzle why rural land markets in China have been surprisingly inactive despite the legality of lease transfers. For another case-study, see "No Incentive Means No Incentive for China's Farmers," *New York Times*, December 15, 1996.

⁵ Johnson (1994) also concluded that there were no significant economies of scale in Chinese agriculture, and he interpreted the true aim of the 1990 policy to be the strengthening of "the power and influence of the local cadres."

grain procurement with coupons (IOUs) instead of cash. With such adverse relative price trends after 1984 (when prices of industrial products accelerated), the flagging of growth in grain production is understandable.

A third factor contributing to the post-1985 slowdown in agricultural productivity growth has been the large reductions in state investment in agricultural infrastructure (e.g. irrigation works) in the years after 1979. The level of real investment in agricultural infrastructure in 1994, for example, was only 58 percent of the 1979 level. It appears however, that in many rural areas, the decline of state investment in agricultural infrastructure was accompanied by a reduction in state efforts to develop human resources. The World Bank (1992) reported that:

In urban areas, schools benefit from a much greater local revenue base and from categorical grants from the provincial or national government. Rural primary schools, however must rely almost entirely on local community support... Health services are the weakest component of the rural safety net... Available evidence does document a significant erosion of township and village level health infrastructure and personnel after 1975.

Lower health and education levels in the rural areas would ultimately be deleterious to agriculture growth.

In summary, it appears that China's agriculture sector is under duress because of incomplete deregulation, incomplete privatization, and unequal social policies. The stagnation of the rural sector could be a source of future political instability, as evidenced by the rural unrest in 1992 and 1993.⁴² Unless agriculture growth is greatly increased, it is likely that rural-urban migration will accelerate, adding to the 100-150 million rural-urban migrants that already constitute China's so-called "floating population."

The Township and Village Enterprises

In rural areas, non-agricultural enterprise growth has been dominated by TVEs. The TVEs have expanded at a remarkable rate, with the share in total employment in China rising from 7 percent in 1978, to 11 percent in 1984, and then to 21 percent in 1995. Since 1987, the TVEs have been allowed to participate directly in international trade - rather than just indirectly as sub-contractors to state trading companies and SOEs - and the result was a dramatic increase in TVE exports. The share of overall exports accounted for by TVEs has risen from 9.2 percent in 1986 to more than 40 percent in 1996.⁴³

⁴² See *Far Eastern Economic Review* ("Now the Peasant Revolt: Get Off Our Backs"), 15 July 1993; and *Japan Economic Newswire* ("Beijing Abolishes 37 Rural Taxes"), 21 June 1993.

⁴³ "China: The money and the muck," *The Economist*, November 16, 1996.

The TVEs represent a unique Chinese institutional form, in that rural industry is owned -- at least partly -- by the local government or collectively by members of a village. The TVEs are non-state enterprises in the sense that they operate entirely outside of the state plan, and with rather hard budget constraints (receiving almost no subsidies from the state budget, or state banks, and only rarely from local government). At least formally, they are not private enterprises, however, since they lack clear private owners.

Without question, the local governments have viewed the TVEs as an important potential source of revenues for local budgets, Oi (1992). In the early 1980s, the central government introduced explicit tax sharing, a system of fiscal contracts where the central government negotiated a revenue quota with each province. This fiscal contract arrangement is replicated at each level of government down to the township level. The revision in fiscal relations makes the local governments (and/or local residents later) the residual claimants of the profits generated by any firms established by them at the local level. "As a result, local governments use any method possible, including many which straddle the boundaries of legality, to promote rural industry, at the same time milking it to supplement their government budgets" (Zweig, 1991).

As in other areas of China's reform, the success of TVEs has generated an intense debate. The experimentalist school views them as an important and highly successful institutional innovation, melding market incentives with public ownership. The convergence school, by contrast, views them as a partially successful half-way house to real private ownership. While the experimentalist school emphasizes the special fit of TVEs with China's undeveloped economic conditions, the convergence school emphasizes serious problems ahead unless China now moves to real privatization of the TVEs.

The foundation for collective-owned rural industrial enterprises was laid during the decade-long Cultural Revolution when the official emphasis on self-reliance and the breakdown of the national distribution system forced the rural communes to expand their non-agricultural activities. These non-agricultural activities were organized into production units now called TVEs as the commune system began to dissolve in 1979. The concern over rural underemployment and local development has led to steady liberalization of the rules governing the operation of TVEs; and, since 1984, the terms of approval and supervision of TVEs have varied greatly across provinces.

There are three main types of TVEs. The first type is known as the Jiangsu Model because of its concentration in Wuxi, Suzhou and Changzhou, three cities in southern Jiangsu province. The local authorities in Jiangsu exercised tight controls over the TVEs (e.g. participating in production and investment decisions, and

regulating wages and labor mobility across TVEs), and protected their TVEs by limiting the number of partnerships and individual firms that could be set up.

The second type of TVE form is known as the Zhejiang Model. The local governments in Zhejiang province, although a significant shareholder in many TVEs, normally refrain from intervening in the production, dividend and personnel decisions of the TVEs, provided that the enterprise makes an annual contribution to the village funds. The Zhejiang TVEs resemble leased companies, with the difference that their managers could be removed by the local officials.

The third TVE form is true private enterprises masquerading as TVEs. In this case, the entire capital of the enterprise is from an individual or a small group, and the enterprise pays a fee to the local authority in order to be allowed to register itself as a TVE, a charade that is popularly referred to as "wearing the red cap". The main reasons for the desire to disguise the true ownership are lower tax rates, easier approval procedures, less restrictions on the size and operations of the enterprise, and shelter against possible reversal in the political fortunes of the reformers.⁴³

Until the 1990s, the Jiangsu Model was considered the best TVE form because it was closest in its adherence to traditional socialist concepts.⁴⁴ However, like the traditional SOEs, the Jiangsu-type TVEs have run into financial problems, and the result was that:

In the second half of ... [1992], Wuxi, Suzhou and Changzhou transferred the operation rights of some deficit ridden small-scale State or publicly-owned enterprises to private businessmen through rental or auction sales.⁴⁵

Given the varieties of TVEs, the vagueness about their ownership and control, and their evolving nature, it is therefore natural that different authors have emphasized different "basic" characteristics of the TVEs, often without acknowledging their great diversity over time and space. For example, Nee (1996) regards TVEs as informal joint ventures between the state and the private sector, often with "extensive informal privatization of collective-owned assets and firms," whereas Walder (1995a) views TVEs as "under a form of public ownership no different from the large urban state sector." Peng (1992) emphasizes the "semi-private" nature of TVEs to

⁴³ "It is commonly believed that the number of 'red-capped' private enterprises is greater than the number of registered private enterprises. A 1993 survey found that in one county in Hebei province where there were 'at least 1000 private businesses, the official number was eight.' ('Enterprises shake protection cover,' *China Daily*, March 31, 1995)

⁴⁴ "Stuck in an ideological morass," *China Daily*, June 2, 1993.

⁴⁵ "Successfully combining socialist market theories," *China Daily*, December 15, 1993.

in their operational autonomy, while Oi (1995) accents a state-centered view in which TVEs are the production units in "a large multi-level corporation" managed by the county-township-village hierarchy.⁴

The terminological haze has thickened in the 1990s with the additional easing of restrictions on the operation of firms as TVEs, making the co-existence of true TVEs and red-capped private enterprises a common phenomenon in many places, as stressed by Ronnas (1993). To distinguish between them in a politically-neutral manner, some Chinese researchers have taken to referring to them as "collective TVEs" and "non-collective TVEs" respectively, with the latter being an obvious oxymoron.

Defining the Ownership Form, Fast Growth, and Higher Efficiency

The TVE ownership structure is highly unusual by international standards. In most East Asian countries rural industry, such as Indonesia and Thailand, ownership of small enterprises is private, often within a family. By contrast, TVE ownership is collective, at least officially. Some scholars have argued that collective ownership reflects deep Chinese cultural patterns, Weitzman and Xu (1994). However, this "cooperative ownership" hypothesis would appear to be called into question by the dominance of small private enterprises in rural China, as well as by the prevalence of small, Chinese-owned private firms throughout East Asia. If there is any natural affinity regarding small business, it would seem to be for private, family-owned businesses rather than collectively owned businesses.

Other scholars have said that collective ownership is an effective way to raise capital funds for rural development and to reduce the principal-agent problem by shortening the supervision distance, Oi (1995) and Oi (1995a). The experimentalist school has used these reasons to interpret the TVE ownership structure as an adaptation to market failures caused by China's underdeveloped markets for factors of production. (Liu and Naughton (1994a):

Banks are ill-equipped in the early stages of transition to process small-scale lending applications and assess risks. Local government ownership in China played a crucial role in financial intermediation. Local governments could better assess the risks of start-up businesses under their control ... and serve as guarantors of loans to individual TVEs.

Members of the experimentalist school have even interpreted the TVE record as definitive proof against conventional wisdom that private ownership is the natural ownership form of small-scale enterprises, and

According to Oi, the county government was corporate headquarters, the township governments were regional headquarters, and the villages were companies.

argued that what mattered for efficiency is not ownership but competition in product and factor markets, Nolan (1993).

Advocates of institutional convergence are skeptical of the experimentalist school's functionalistic explanation of TVE ownership form, especially of its emphasis on the state's superiority in financial intermediation. Taiwan's small and medium private enterprises exhibited dynamic growth in the 1960-1985 period even though they were heavily discriminated against by the wholly state-owned banking system. The informal financial markets (curb markets) appeared "spontaneously" to cater to their needs, Shea and Yang (1994). The power of market forces (when tolerated by the local authorities) to induce financial institutional innovations was also recently seen in Wenzhou city in Zhejiang Province when economic liberalization began in 1979. Liu (1992) reported that:

Ninety-five per cent of the total capital needed by the local private sector has been supplied by "underground" private financial organizations, such as money clubs, specialized financial households and money shops ...

Small private enterprises have flourished throughout East Asia, as well as in the transition economies of Eastern Europe. In Poland, for example, the number of small businesses grew from 700,000 in 1989 (the eve of Poland's radical reforms) to 1,800,000 in 1993, Sachs (1993). In 1993, both the Polish small, privately owned businesses and the Chinese TVEs employed around 20 percent of the labor force, with one difference being that Poland achieved most of this employment transformation in just four years compared to fifteen years in China.

In the view of the convergence approach, an adequate general theory for TVE ownership structure should be based on two main considerations. First, private ownership was basically prohibited in many areas until recently. Therefore, collective ownership of rural industry arose as the primary response to the profitable niches created by central planning because other forms of ownership were discriminated against, if not, prohibited. Zhang (1993), using the euphemism of "non-collective TVEs" for red-capped private enterprises, reported that:

in virtually all aspects relating to local governments, the non-collective TVEs tend to be unfavorably treated ... [compared to] their collective counterparts. Areas in which local governments appear to have discriminated against non-collective TVEs include access to bank credits, to larger production premises, to government allocation of inputs and energy, to government assistance in solving technical problems and for initiating joint ventures and so forth. In the field of taxation and profit distribution, there is evidence that non-collective TVEs run a greater risk of being excessively levied, and that local governments tend to treat the non-collective TVEs more arbitrarily than do the collective ones.

In short, according to the convergence school, the "market failures" identified by the experimentalist school are not caused by inefficiencies intrinsic to a private market economy (like externalities and public goods). These so-called market failures are actually created by ideologically-motivated constraints imposed by

state. Specifically, the banks have extended more loans to TVEs than to private enterprises because of state objectives, and not because of the TVEs being intrinsically more efficient or because of the local banks' recognition that the local governments were better assessors of risks than themselves, Chang and Wang (1994).⁴

The second basic consideration for a general TVE theory is that the collective ownership of TVEs initially reflected the low labor mobility in the countryside, which resulted largely from the household registration system that tied the peasants to the land. Community ownership was plausible when community members expected to remain in the same place indefinitely, and there was also no complicating factor of inward migration into rural areas.

There is general assent that the TVEs face stronger market incentives (including harder budget constraints) than do the SOEs. The Jiangsu and Zhejiang types of TVEs are fairly similar in essence to the reformed private enterprises. The local officials have the private incentive to maximize the profits of TVEs because "the careers and salaries of officials at ... [the county, township and village] levels are directly affected by performance and growth of their rural enterprises" (Oi, 1995), and because neither local residents nor workers have legal, formal channels to exercise their ownership rights. In short, informal privatization by local officials reduced the principal-agent problem and rendered the TVEs more efficient than the SOEs.⁵ This private-incentive (informal privatization) hypothesis would explain why Peng (1992) found that the wage determination process was the same for rural public enterprises and rural private enterprises.

If this interpretation of "informal privatization" is valid, then continued TVE efficiency is possible only if the group cohesion of local officials does not degenerate into individual efforts at asset-stripping. We see the lack of group cohesion seen in Jiangsu and Shandong in the 1980s to be the heavy discrimination against private enterprises in these regions. The resulting lack of economic space in these regions to hide looted assets

⁴ Che and Qian (1996) and Li (1996) attribute the mushrooming of TVEs relative to private enterprises, despite their lack of unambiguous property rights, to the need to buy protection and cooperation from the local governments. TVEs are sustained by the lack of commitment by the state to fully accept and protect private property and private contracts, and to provide the institutions that will promote the growth of private businesses.

⁵ Although Walder (1995a) does not accept the "private incentive" hypothesis, he acknowledges its plausibility: "It has sometimes been documented, and is even more widely suspected, that significant numbers of village-run, and perhaps even township-run enterprises are in effect operated as family business, in which there is no clear distinction between officials' income and village revenue. This can occur when village officials grant rights to operate public industrial assets to themselves or family members or other partners on contracts that give them fixed percentage of the enterprises' profits after contractual payments to the government are made. This may also occur through embezzlement and the abuse of expensive inputs ... Unfortunately there are no reliable estimates of how widespread such "hidden privatization" is ..."

diminished the incentive for individual officials to rob the TVEs they oversaw. Without the strong legal discrimination against private property, asset-stripping would have occurred more freely, and the inefficiency normally observed with informal privatization would have become more prevalent.⁶

If this view is correct, the crucial implication is that gradual growth in the relative size of the private sector will eventually undermine the group cohesion among local officials against individual asset-stripping (by providing secured hiding places for looted property), and thereby damage TVE performance.

Beside the less severe principal-agent problems of TVEs, there are three other reasons why TVEs have been more efficient than SOEs. The first is that TVEs face harder budget constraints because their owners (the local governments) cannot print money, or automatically turn to state banks for bailouts. In the 1990 economic downturn, the number of industrial TVEs fell from 7.7 million in 1988 to 7.2 million in 1990 while the number of industrial SOEs increased from 99 thousand to 104 thousand. The second reason is that TVEs have much more operational flexibility and fewer social welfare functions to distract the managers. TVEs can hire and fire freely, and they do not need to provide extensive social services like housing and pension to their workers. The third reason is that TVEs can implement institutional innovations without the approval of the central government. Recent locally-initiated transformation of TVEs into "share-holding cooperatives" shows this feature very well, and this feature has enabled the TVEs to move closer to best international practices in corporate governance.

Future Prospects of the TVEs

Many analysts of both the experimental and convergence schools foresee a diminished role of TVEs in the future. Naughton (1994a) thinks that the development of asset and factor markets will obviate the need for state intervention and make TVEs "less important in the future." Putterman (1995) is pessimistic about the future of the TVEs because he views global and Chinese political trends as (unjustifiably) favoring private enterprises.⁷ Most convergence school advocates simply believe that it would be better for China to move from the half-way house of collective ownership to the next step of real private ownership of small rural enterprises.

⁶ Given the observational equivalence between informal privatization and localized socialism, Walder (1995a, pp. 294) opted for the latter because he thought that corruption was incompatible with the manifest efficiency of the TVEs.

⁷ The "failure of the Soviet model, the no more experiments attitude that has followed that failure throughout the ex-Communist world, collapse of Communism as a world movement, rapid private economy growth in neighboring countries, and burgeoning consumerism and the priority attached to economic goals in China, make long-term commitment to the socialist market concept appear doubtful," (Putterman, 1995, pp. 1061-2)

Advocates of expanded private ownership see four basic problems with the TVEs. The first, and most obvious, is that collective ownership invites political interventions by the local government in the workings of all enterprises, to the detriment of efficiency and fairness.²⁴ These kinds of adverse interventions have a long history in China. The China historian John Fairbank even claimed that local bureaucratic intervention in rural industries was a major reason why China did not develop a vigorous market economy in past centuries. It is worthwhile to quote Fairbank at length on this point:

In feudal Europe the merchant class developed in the towns. Since the landed ruling class were settled in their manors upon the land, the European towns could grow up outside the feudal system instead of being integrated in it. Medieval burghers gained their independence by having a separate habitat in these new towns, and new political authority to protect them, in the persons of the kings of nation-states. In China, these conditions were lacking. The early abolition of feudalism and the dependence of the emperor and his officials upon the local gentry left no political power outside the established order to which the merchant could turn for special protection...Between them, the gentry and officials saw to it that the merchants remained under control and contributed to their coffers instead of setting up a separate economy. (Fairbank, 1992, pp. 180-81)

The second problem with collective ownership is that it defeats risk diversification. When a community puts its wealth only into the narrow range of enterprises in the community, its residents can end up losing everything - their jobs and their savings. The worker is better off investing in financial assets unrelated to the workplace and locality.

A third problem is that collective ownership limits the scale of operations of the enterprise. Currently, an enterprise can grow as a result of new investments by the community (including reinvestment of profits) or through bank loans. It is difficult, however, to get outsiders to invest in the TVE, since the property rights of the outside investors would not be well defined or well protected.

The fourth problem is that collective ownership limits the market for managerial control. Suppose that a local entrepreneur has a good idea for a new enterprise. In a normal market economy, he might be able to raise his own money to start the business, or would be able to purchase an existing business. Both of these options are currently difficult in China, because of the heavy bias towards collective ownership. Conversely, suppose that an existing enterprise has a bad manager, but one that is favored for political reasons by the local government. In a

²⁴ There are now a growing number of stories in the official press about the negative interventions of local officials. For example, *China Daily*, February 18, 1994, reported: "But ambiguous ownership or property rights in the collective economy coupled with the long standing integration of government administration and enterprises management [have] led to some problems. Among these were incidences where some local officials embezzled or diverted collective enterprise funds or enterprises to other purposes, and the rights of enterprises or employees were repeatedly infringed upon" ("Rural firms set 3rd firm wave"). Analyzing a 1990 sample of rural firms, Cheng (1996) found that collective-owned firms were less efficient than private firms and quasi-private firms.

normal market setting, an outside buyer might approach the owners of the business and make a takeover bid, replacing the manager after buying the enterprise. This is unlikely with the collective ownership of the TVEs.

In addition to these problems with the TVE ownership form, a recent development has greatly increased the pressure on the TVEs to "clarify" their property rights. The output expansion of many coastal TVEs in southern China has forced them to rely increasingly on migrant labor from the poorer provinces. The original inhabitants in these richer provinces want to prevent the new residents from having an automatic share in the dividends of the collective-owned enterprises, and so some areas have converted the collective TVEs into "shareholding cooperatives" by corporatising the TVEs and dividing the shares among themselves. The fact that the government has not clamped down on these de-collectivization of TVEs has been viewed as implicit approval, and this has accelerated the conversion of TVEs to shareholding cooperatives.

With the further reduction in discrimination against private ownership since early 1992 to ameliorate the rural unemployment caused by the 1989-91 austerity policies, many TVEs have been taking off their "red hats" - albeit with difficulties in many cases:

As China heads toward a market economy, an increasing number of private companies are no longer feeling the need as "red cap," or collectively-owned ventures ... [because the] difference in preferential treatment between private and public units has been narrowed ... But there is a problem. The collective units are now arguing that private firms could not have developed without their help. As the so-called "owners" of the companies, the State firms usually ask for high compensation for the "divorce" or ask the companies to merge with them. ("Private firms jump to take 'red caps' off," *China Daily*, November 4, 1994.)

V. CONCLUSIONS AND FUTURE PROSPECTS

We have examined China's economic development in the context of the debate between the experimentalist school and the convergence school to present the different interpretations. In many cases, the choice of interpretation rests on one's judgement on the plausibility of the particular "exceptionalism" claimed by one school or the other. The experimentalist school sees China's exceptionalism in a series of innovative institutions marrying market reforms with continued state ownership. The convergence school sees China's exceptionalism in China's economic structure, which according to the convergence school has allowed rapid growth despite the absence of many key institutions of private property.

These two broad interpretations of China's growth have vastly different implications for future reforms in China and elsewhere. The experimentalist school expects that China will continue to liberalize and innovate in a

tive, incremental manner because in order to minimize the cost of any single policy experiment going awry. In contrast, the convergence school would expect China to continue to move closer to the institutions of China's capitalist neighbors in East Asia. As partial reforms lead to "contradictions" in the economy (such as continued stagnation in the SOEs, or stagnation in agricultural productivity), events will prompt China to deepen the reforms and "normalize" its institutions.

Perhaps the best test of the two approaches is whether China's policy choices are in fact leading to institutions harmonized with normal market economies or to more distinctive innovations. In our view, the trend, quite strongly, has been towards harmonization rather than innovation. In our understanding, this trend towards harmonization is the result of internal pressures as well as explicit external pressures towards harmonization, such as China's quest to join the World Trade Organization.

The year 1994, in particular, was a period of rapid reform. In January 1994, China ended its unusual currency system (of Renminbi and Foreign Exchange Certificates) by unifying the exchange rate. By 1996, this had culminated in the effective convertibility of the yuan for current account purposes. Also in 1994, China had a major overhaul of its tax system. Tax farming (revenue contracts with provincial governments and counties) was replaced by setting up central government tax offices in the counties, introducing an enterprise income tax that is (more) uniform across enterprise types, and relying increasingly on the value-added tax for revenue. In summer 1994, China issued its first set of company laws. Special policy banks were set up to enable existing state banks to move to lending that was based entirely on commercial principles. What became very clear over the year was the tolerance of the central government toward the conversion of TVEs into shareholding cooperatives and the removal of red caps by pseudo-TVEs.

By mid-1995, the phrase of "holding on to large SOEs and freeing the small SOEs" had the concrete meaning of transferring some 90,000 small industrial SOEs to the non-state sector by sales, leases, or mergers. Full privatization, and not merely partial privatization (known euphemistically as diversification of ownership, which is offering of a small portion of the SOE's equities on the stock market), has begun in China. The government also extended the maximum period for leases on farm lands to 30 years, up from 15 years. The private bank opened at the end of 1995.

China committed itself at the 1995 APEC summit meeting in Osaka to reduce its average tariff rate by a third in 1996. This step toward tariff convergence, as part of China's bid for membership in the World Trade Organization (WTO), was completed by August 1996. China's innovation of a dual stock market where a firm

offered A-shares to Chinese citizens and B-shares to foreigners was effectively ended in mid-1996 when the restrictions against purchase of B-shares by Chinese citizens were relaxed.

All of the above changes are instances of China harmonizing its economic institutions to those of its capitalist neighbors and trading partners, rather than China experimenting to create institutions with "Chinese characteristics". These post-1993 institutions in China are the results of China studying and adopting market institutions that have proven to be beneficial in foreign settings, and not mainly the results of China having invented new institutions through internal experience. The policy trends, it seems to us, represent a growing acknowledgment by the Chinese government that decentralizing reforms alone will not work, and that China requires deeper integration into world markets on internationally accepted terms, as well as a much clearer set of private-property institutions.

The partial character of China's reforms have left many deep problems to be faced in the coming years. While there is no doubt that there would be many great challenges in any case, we view many of the key problems to be the counterparts of incomplete reforms. While China's state enterprise sector is too small to drag down the non-state sector, it still imposes large financial and allocational costs on the economy, and, perhaps worst of all, it acts as a drag on reforms in other key sectors. For example, in 1994, the state banks were ordered to operate according to normal commercial principles, with the understanding that they would no longer be directed to extend cheap "policy loans" to SOEs. However, when SOE net losses deepened in early 1996, the state banks were ordered in mid-1996 "to satisfy the funding demands of the large and medium-sized State enterprises."³

Another partial reform that has generated significant social costs has been the granting of trade privileges to a restricted set of coastal regions, thereby discriminating against the inland provinces. This discrimination against the inland provinces combined with the inherent geographical advantages of the coastal regions in participating in international trade, has contributed to the massive migration of labor from inland provinces to the burgeoning coastal economies. The growing income gap between coastal and inland provinces, documented in Jian, Sachs, and Warner (1996), has raised demands by the inland provinces for compensatory policies from the center. As a result, the Chinese government is examining the extension of trading and tax privileges to the interior regions.

³ "Central bank urges support for faltering enterprises," *China Daily*, July 8, 1996.

Similarly, China's underdeveloped legal system will be more of a drag on the economy as the complexity of economic life increases, unless legal reform — especially regarding private property rights — can pace with economic growth. Continuing corruption and misuse of state assets will further undermine the support for the existing political institutions. In the 1995 ranking by Transparency International of the seriousness of corruption within 41 countries, China ranked second in the extent of corruption. Such problems play out against a backdrop of continuing serious pressures on the state budget, arising from low tax revenues and financial losses of the state-owned enterprises.

The general point is that partial reform not only postpones confrontation with the most difficult problems, but also generates new tensions. So far, China has moved adroitly in the face of such tensions to reify institutions and to push ahead with market reforms. The success of economic growth in the past 15 years testifies to those efforts, admired by both the experimentalist and convergence schools of analysis. Both schools of thought would also agree that the challenges of continued reform, and the stakes for more than 20 percent of humanity, are very great.

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Table 1: The Evolution of Reform Objective

Period	Desired Endpoint Upon Completion of Reform
Pre-1979	A planned economy under the law of exchange value.
1979 to October 1984	A planned economy supplemented by market regulations.
October 1984 to October 1987	A planned commodity economy.
October 1987 to June 1989	An economy where the state regulates the market and the market regulates the enterprises.
June 1989 to 1991	An economy with organic integration of planned economy and market regulations.
1992 to present	A socialist market economy with Chinese characteristics.

Table 2: Summary of Key Differences

	Experimentalist School	Convergence School
Desirable speed of reform in a transition economy	Sequential trial-and-error	Rapid and comprehensive liberalization, and commitment to making private ownership the overwhelmingly dominant ownership form
Actual speed of reform in China	Sequential trial-and-error	Mixed radical and gradual reform. Radical liberalization of agriculture, and of international trade in coastal provinces. Slow deregulation of SOEs, and of international trade in interior provinces; and gradual clarification of ownership rights. Hesitant privatization of SOEs
Reasons for gradualism (incrementalism)	Economic experimentation	Political compromise; ideological commitment to state ownership
Sources of rapid growth	Unintended virtuous cycle, and little dislocations from large shifts in policies	Existence of surplus agriculture labor; East Asia pattern of labor-intensive export-led growth
Outcomes in the SOEs	Substantial improvements in production efficiency	Little technical progress; and over-compensation of SOE personnel and over-investment that weaken the fiscal situation
Interpretation of the TVEs	Adaptations to China's economic conditions of still-developing markets	Continuing legal restrictions on private ownership, with deleterious consequences for long-term development
Future directions and pace of reform	Policies will change to reflect evolution in material conditions and lessons from continuing experiments	Policies will push China toward a normal private market economy with characteristics similar to other East Asian economies

Table 3: Compound Growth Rate by Sector, and by Ownership in the Industrial Sector
(in percent)

	Growth in 1979-93	Growth in 1979-84	Growth in 1985-93
primary sector	5.2	7.3	3.8
industrial SOEs	5.8	6.8	5.2
industrial COEs	18.1	15.5	19.8
individual-owned industrial enterprises	na	na	73.4
other ownership forms of industrial enterprises	na	na	49.4
construction sector	10.6	10.2	10.9
tertiary sector	10.0	10.8	9.4
Memo Item: industrial non-SOEs	21.2	16.4	24.5

(Calculated from series that have been consistently re-based on 1990 prices.)

na = growth rates for 1979-84 and 1979-93 for industrial enterprises that are individually-owned or of "other ownership form" cannot be calculated because their output levels in 1978 were zero.

Table 4: Share of Contribution to GDP Growth Rate by Sector, and by Ownership in the Industrial Sector

(in percentage points, each column sums to 100)

	Growth in 1979-93	Growth in 1979-84	Growth in 1985-93
primary sector	16.5	31.8	11.6
industrial SOEs	13.8	20.3	11.7
industrial COEs	25.0	12.8	28.9
individual-owned industrial enterprises	5.9	0.2	7.7
other ownership forms of industrial enterprises	6.9	0.8	8.9
construction sector	5.7	5.2	5.9
tertiary sector	26.2	28.9	25.3
TOTAL	100.0	100.0	100.0

(Calculated from series that have been consistently re-based on 1990 prices.)

Even though growth rates for 1979-84 and 1979-93 for industrial enterprises that are individually-owned or of "other ownership form" cannot be calculated because their output levels in 1978 were zero, their proportional contribution to the growth rates of these periods can be computed. The reason is that a sector's share of the aggregate growth rate is the same as its share of the increase in output level.

Table 5: Share of TVEs in Total Exports

	Total Export billions of yuan	TVEs' export as share of Total Export. %	Total Export as share of GDP. %
1987	147	10.9	12
1988	177	15.3	13
1989	196	18.9	12
1990	299	16.4	17
1991	383	17.5	19
1992	468	25.4	19
1993	529	44.4	17
1994	1042	32.6	23

Note: The TVE export data are measured in yuan, while total export data are measured in dollars and converted using the official exchange rates. TVE's share of exports before 1994 is hence overstated because of the multiple exchange rate system in effect to the end of 1993. If we use the swap exchange rate to convert total export earnings to yuan, then the TVE share in 1987 (when the swap rate had a 40 percent premium over the official rate) is 7.8 percent - making the subsequent TVE export growth even more spectacular. Total export would then be 17 percent of GDP in 1987.

Table 6: Distribution of Employment by Type of Organization (% of total employment)

		CHINA			RUSSIA	
	1978	1984	1991		1985	1991
State enterprise	18.6	17.9	18.3		93.1	86.1
Collective agriculture	72.0	67.0	63.9		6.0	5.3
Urban collective	5.1	6.7	6.2		na	na
Industrial TVEs	4.3	7.6	10.0		na	na
Private and other	0.0	0.8	1.6		0.9	8.6

(From Sachs and Woo, 1994)

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Table 7: Trend Growth Rate of Yield (percent per annum)

Period	All Grains	Rice	Wheat
1966-77	3.1	1.4	4.4
1978-84	5.7	5.1	8.0
1985-94	2.0	1.3	1.9

- 96/1 W.J. McKIBBIN, 'Quantifying APEC Trade Liberalization: A Dynamic Analysis'.
- 96/2 HAL HILL, 'Towards a Political Economy Explanation of Rapid Growth in Southeast Asia'.
- 96/3 PETER G. WARR and HELAL AHAMMAD, 'Food Aid, Food Policy and the Uruguay Round: Implications for Bangladesh'.
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