

Methodological Note

Evaluating Economic Indicators in Post-WTO China*

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The study of economic development in the PRC has particularly been plagued by problems of conceptualization, missing data, incorrect reporting, sampling error where complete enumeration is not achievable, inconsistency of "mirror" statistics, and other pitfalls. Such data problems have long posed difficulties to students of contemporary China, most recently helping to exacerbate the debate over the likely effects that China's entry into the World Trade Organization (WTO) will have on the country's economy. Some fear that increased international competition will heighten domestic economic problems and push China into economic collapse, while others hold that WTO membership will bring China a bonanza of foreign direct investment, massively increased trade opportunities, and more rapid domestic economic growth. Evaluating these conflicting claims is difficult due to problems in accurately measuring China's current economic performance, especially gross domestic product (GDP). The first section of this essay reviews the "coming collapse" hypothesis and—finding it wanting in the short term—section two moves on to examining the longer-time horizon. The analysis in these two sections provides many

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alternative and indirect methods of data measurement. These methods of data collection and evaluation, moreover, help show that China's prospects for continued economic development under the WTO, while assuredly not all positive or risk-free, are on the whole quite positive.

KEYWORDS: state of the field; China; economic indicators; World Trade Organization (WTO); methodology.

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The range of opinion on the effect that China's entry into the World Trade Organization (WTO) will have on the country's economy is wide. At one end of the spectrum is the prediction that increased international competition following from China's WTO commitments will lead to rural immiseration, growing urban unemployment, and increased foreign domination of domestic industry. Such effects are expected to feed rising xenophobia that, when combined with endemic corruption within the Chinese Communist Party (CCP), will lead to the collapse of the state and the end of rule of China by the CCP.¹

Some proponents of the collapse school of thought have seized on an emerging if somewhat esoteric debate among foreign specialists on the magnitude of China's recent economic performance.² If official data vastly exaggerate recent performance, perhaps economic collapse is already on the way rather than being only a distant possibility. The debate about the degree of exaggeration in the official growth numbers has been fueled by disclosures in the Chinese press that official economic statistics have been distorted and manipulated for years.³ One highly regarded foreign economist suggests that the cumulative growth of the Chinese economy over the four years 1998-2001 is in the range of from only 0.4 to 11.4 percent, far below the official data showing cumulative growth of 34.5 percent.⁴ If

¹Gordon G. Chang, *The Coming Collapse of China* (New York: Random House, 2001).

²Arthur Waldron, "China's Economic Façade," *The Washington Post*, March 21, 2002.

³Zhu Qiwen, "Crackdown Due on False Statistics," *China Daily*, April 15, 2002, 4; and "China: How Cooked Are the Books?" *The Economist*, March 16, 2002, 45-46.

⁴Thomas G. Rawski, "What Is Happening to China's GDP Statistics?" *China Economic*

the Chinese economy on the eve of its entry into the WTO was already performing at a rate far below the officially claimed pace, might not the regime's vulnerability to the increased competitive pressures stemming from China's WTO commitments be even greater than is commonly believed?

At the other end of the spectrum is the prediction that China's membership in the WTO will lead to a bonanza of foreign direct investment, massively increased trade opportunities, and more rapid domestic economic growth for China.⁵

Evaluating these conflicting claims, both short-term and long-term, is difficult. The recent economic performance question is difficult to evaluate since measurement of gross domestic product (GDP) is always a complex task. For all countries "there are problems of concept, missing data, incorrect reporting, sampling error where complete enumeration is not achievable, inconsistency of 'mirror' statistics, and other pitfalls."⁶

The Hypothesis of Collapse in 1998-2001

The hypothesis that China has experienced a several-year drastic economic growth slowdown starting in 1998 merits testing. One crude approach is to see if the claim is consistent with other economic data in which there is strong reason to have confidence. Foreign trade data, for example, appear to be relatively reliable for several reasons. First, Chinese trade data can be easily checked against the trade volumes reported by China's trading partners, making it less likely that China's statistical authorities would misstate the levels of imports and exports. Second, trade

Review 12, no. 4 (2001): 347-54. See also Thomas G. Rawski, "Beijing's Fuzzy Math," *The Wall Street Journal Online* at <<http://interactive.wsj.com>>, April 22, 2002 (accessed on April 23, 2002).

⁵Alastair Newton and Robert Subbaraman, *China: Gigantic Possibilities, Present Realities* (Lehman Brothers, January 2002).

⁶Lawrence Klein and S. Ozmucur, "The Estimation of China's Economic Growth Rate" (Unpublished paper presented at the ICAS Spring Symposium, Washington, D.C., May 8, 2002).

data are collected by a vertically organized, national agency—the China Customs General Administration (海關總署)—rather than provincial or municipal governments which in the past have reported puffed up economic growth figures to the central government. Third, China has a limited number of ports. Fourth, import and export values are reported in value terms. Thus compared to many components of gross national product (GNP), which are estimated from complex valuation procedures, trade volume is relatively easy to measure. Finally, the China Customs General Administration must turn over the tariff revenue it collects on imports and a few exports to the Ministry of Finance (財政部). It seems quite unlikely that the Customs Administration would overstate imports or exports since such a move would raise the revenues that the organization would be expected to remit to the treasury.

China's import performance is not consistent with the hypothesis that economic growth collapsed for several years starting in 1998. China's imports in 2001 of US\$243.6 billion were about 70 percent more than 1997 imports of US\$142.4 billion.⁷ In every country import growth is a function of changes in relative prices of imports and domestic goods and the growth of real income or GDP. Changes in relative prices could occur because of trade liberalization, for example, reducing tariffs, which tends to reduce the price of imports relative to domestic goods. Moreover, changes in the real value of a country's domestic currency will also change the relative price of imports.⁸ The Chinese currency is pegged to the U.S. dollar and thus actually appreciated somewhat in real terms during the early stages of the Asian financial crisis when most other currencies in the region depreciated against the U.S. dollar. Appreciation of a currency in real terms, of course, makes imports relatively less expensive than domestic goods, allowing for

⁷State Statistical Bureau, *China Statistical Yearbook 2002* (Beijing: China Statistics Press, 2002), 611.

⁸A change in the real value of a country's currency is simply the change in the nominal value of the currency adjusted for changes in the price level in that country compared to the rest of the world. For example, if the value of the Chinese currency appreciated by 10 percent but the relative domestic price level in China fell by 10 percent compared to the rest of the world, the real value of the Chinese currency would be unchanged.

the possibility that a country's imports might grow even in the absence of income growth. By the year 2000, however, the value of the Chinese currency on a trade-weighted basis in real terms returned to approximately its pre-crisis level.⁹ Thus an appreciating domestic currency could not have contributed to rising Chinese imports over the period in question. Liberalization of the trade regime after 1997 lowered the price of imported goods somewhat; this cannot, however, explain more than a very small portion of the real growth of imports.¹⁰ Thus it would appear difficult if not impossible to explain the reported increase in imports with cumulative economic growth of from 0.4 to 11.4 percent.¹¹

One possible explanation of robust import growth in the face of a collapse in domestic economic growth is that foreign firms operating in China were the primary driver of Chinese imports. Many of these firms use China as an export platform, assembling goods predominantly from imported parts and components. Most of these firms also source their investment goods from the international market rather than from within China. Thus imports of foreign firms into China either directly or indirectly are driven by world economic growth rather than growth in China. This gives rise to the possibility that Chinese import growth is more a reflection of the growth of external demand rather than the pace of expansion within China's domestic economy. This is an easy hypothesis to test since the Chinese

⁹By 2000 the *Renminbi* (RMB) actually had depreciated 5 percent compared to 1997. See International Monetary Fund (IMF), *International Financial Statistics Yearbook 2001* (Washington, D.C.: IMF, 2001), 354-55.

¹⁰China's nominal tariff rate fell from 17.0 percent in 1997 to 15.3 percent in 2001, a decline of 10 percent. Thus tariff cuts would have reduced the average price of imports by only 1.5 percent ($1.153/1.17 = 0.985$). If the price elasticity of demand for imports were in the range of from 1.0 to 1.5, the cuts in tariffs would have led to an increase in imports of only 2 to 3 percent. In addition there was some reduction of non-tariff barriers during the four-year period. Estimating how much these reductions would have cut the average price of imports, however, is beyond the scope of this paper.

¹¹If tariff reductions explain import growth of from 2 to 3 percentage points, about 65 percentage points of import growth remain to be explained by the growth of income. If income expanded by 34.5 percent, the official claim, the implied income elasticity of demand for imports would be 1.9. While high by international standards, this is not implausible. If growth of the economy were as low as 11.4 percent, the implied income elasticity of demand would be 5.7, which is far outside the range of recorded experience of any country.

Ministry of Foreign Trade and Economic Cooperation (MOFTEC, 對外貿易經濟合作部) publishes data on imports related to foreign firms in China. One could strip from China's data on total imports both the machinery and equipment that foreign firms bring into China to equip their factories as well as the parts, components, and assemblies that foreign firms use to produce processed exports. Such an exercise would result in what might be called "domestic" imports, i.e., imports closely related to the level of domestic rather than international economic activity. These "domestic" imports over the four years 1998-2001 grew by just over 80 percent, however, making this measure of imports even more inconsistent with the hypothesis of economic collapse starting in 1998. Put differently, it would appear difficult if not impossible to explain China's import performance without real economic growth that is reasonably close to the official data.

A Longer-Term Perspective

Even if it is unlikely that economic growth collapsed for several years starting in 1998, what about the longer-term impact of China's WTO commitments on the Chinese economy? What is the mix of costs and benefits that China faces as it implements its WTO obligations?

China made sweeping commitments to further open its economy in order to gain membership in the WTO.¹² These include significant reductions in statutory tariffs that will bring the average level to just under 10 percent by 2005; the introduction of a tariff-rate quota system that establishes tariff rates for key agricultural commodities (such as wheat and several other grains) at almost zero for a significant volume of imports; the gradual elimination of all quotas and licenses that have restricted the flow

¹²China's commitments are outlined in its Protocol of Accession of China and the Report of the Working Party on China's Accession. The protocol includes nine annexes as well as China's schedule of tariff commitments. Both the protocol and working party report are legally binding WTO documents. See the PRC's MOFTEC website at <<http://www.chinawto.gov.cn/article/articleview/555/>> (accessed on February 24, 2003).

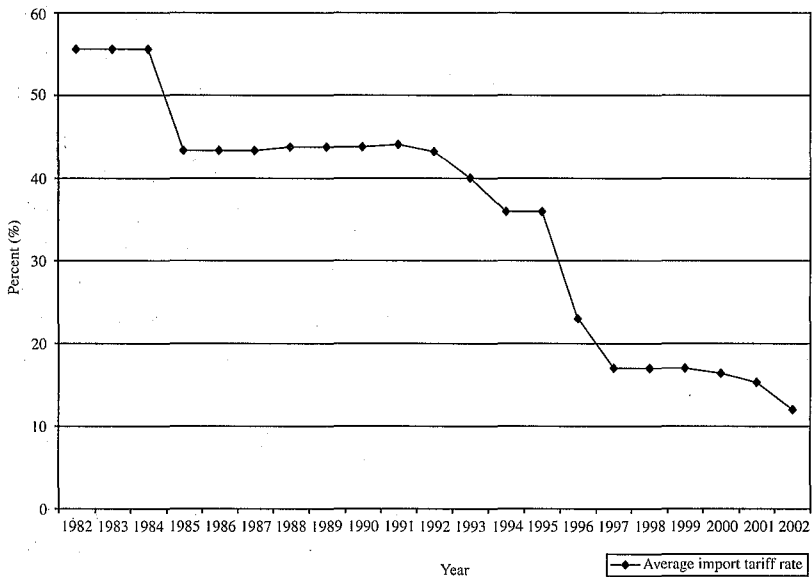
of some imports; a substantial increase in the availability of trading rights, which will reduce the government's ability to use state trading companies as an instrument to control the volume of imports of agricultural and other key commodities; and the opening of critical service sectors such as telecommunications, distribution, banking, insurance, asset management, and securities to foreign direct investment. In addition, China has agreed to abide by international standards in the protection of intellectual property and to accept the use by its trading partners of a number of unusual mechanisms that could be used to reduce the flow of Chinese goods into foreign markets. The latter include two special safeguard measures that are unique to China as well as Beijing's agreement to let other WTO members use special procedures, referred to as the non-market economy methodology, in anti-dumping cases against Chinese imports.

Some studies forecast that China will incur significant restructuring costs in meeting the sweeping WTO commitments summarized above. One study, for example, predicts that the opening in agriculture alone will result in the loss of jobs of about 8 million wheat farmers—about 30 percent of the number engaged in wheat production. Substantial reductions in employment and output are also forecast for a number of other products including rapeseed oil, natural rubber, plastics, and rolled-steel.¹³ Similarly, the Development Research Center of China's State Council (國務院發展研究中心) estimates that employment in the production of rice, wheat, and cotton will decline by 2.46 million, 5.40 million, and 4.98 million, respectively, as a result of China's WTO commitments. After taking into account modest projected employment gains of 160,000 in the production of grain crops other than rice and wheat and an additional 1.51 million farmers growing non-grain crops, cumulatively more than 11.1 million agricultural jobs will be lost as a result of accession.¹⁴

¹³Zhang Shuguang, Zhang Yansheng, and Wan Zhongxin, *Measuring the Cost of Protection in China* (Washington, D.C.: Institute for International Economics, 1998), 29.

¹⁴Development Research Center of the PRC State Council, *The Global and Domestic Impact of China Joining the World Trade Organization* (Beijing: 1998), 35; and "Task Group Assesses WTO Accession," *Ta Kung Pao* (Hong Kong), November 26, 1999, in *FBIS-CHI*-1999-1204.

Figure 1
China's Average Import Tariff Rate, 1982-2002



Source: Adapted from Nicholas R. Lardy, *Integrating China into the Global Economy* (Washington, D.C.: Brookings Institution Press, 2002), 34.

These projections, however, almost certainly overstate the challenges that China faced when it finally entered the WTO in late 2001. The reason is simple. These projections were published in 1998 or 1999 but were based on data and conditions that existed in the mid-1990s. They do not take into account either the reforms of China's foreign trade system or the very substantial economic restructuring that occurred in China in the years immediately prior to its entry into the WTO in late 2001.¹⁵

On the trade reform side, China steadily cut its import tariffs throughout the reform era. Thus, as shown in figure 1, by the eve of its entry into the WTO in 2001, the average statutory import duty rate was only 15 per-

¹⁵For example, the study of the Institute for International Economics, cited in note 13 above, was based on statutory tariff levels prevailing in 1994.

cent, two-thirds less than the peak level of the 1980s. Over the five-year period in which China will implement the tariff cuts outlined in its WTO obligations, the average tariff rate will fall by only 5 percentage points, from 15 to just under 10 percent. The largest portion of this cut was implemented in the beginning of 2002 when China cut its average import tariff rate to 12.3 percent; only an additional cut of just over two percentage points remained. In short, for almost two decades before joining the WTO, China already was on a glide path toward the long-term import tariff rate of just under 10 percent. Thus most of the increased competition that domestic firms face as a result of tariff reductions occurred *before* China entered the WTO.

The story is similar with respect to China's most important non-tariff barriers. By the eve of China's accession to the WTO, the state already had reduced the number of imported products restricted by quotas and licenses by 80 percent compared to the early 1990s. Only 4 percent of all tariff lines remained encumbered by import quotas and licenses.¹⁶ On the eve of China's entry into the WTO, these products accounted for only 8.45 percent of all imports.¹⁷

Similarly, by the time China entered the WTO the government had largely phased out limitations on the right to trade, traditionally another of the most important non-tariff barriers limiting imports. At the outset of reform the right to trade every commodity was monopolized by a single state trading company. By 2001, however, trading rights were restricted to a single state-owned trading company and only for seven commodities—grain, vegetable oil, sugar, tobacco, crude oil and refined petroleum products, chemical fertilizer, and cotton.¹⁸ For an additional six products

¹⁶There were 237 tariff lines subject to both import quotas and licensing and an additional 24 lines subject to licensing only. See "Agreement on Market Access between the People's Republic of China and the United States of America" (Mimeo, November 15, 1999). At that time there were a total of 6,940 tariff lines in China's tariff schedule. See Zhang Yan, "Import Tariff Schedule to Be Adjusted," *China Daily*, January 4, 2000, 5.

¹⁷World Trade Organization, *Draft Report of the Working Party on the Accession of China to the WTO* (Geneva, July 18, 2000), available at <<http://www.insidetrade.com>> (accessed on July 28, 2000).

¹⁸In the case of crude oil and refined petroleum products, four companies—rather than one—

—natural rubber, timber, plywood, wool, acrylics, and steel and steel products, trading rights were limited to trading companies designated by the central government. For example, in 2000 the central government authorized 159 companies to import steel and steel products.¹⁹

Trade liberalization prior to China's entry into the WTO had a profound effect on the country's volume of trade. Most obviously, from the late 1970s through 2001 China increased its share of world trade more rapidly than any other country in the post-World War II era. Figure 2, which shows the growth of world and Chinese trade from 1977 through 2001, reflects the astounding story. China's relatively rapid trade growth in the early years of reform could be explained in part by its relatively small initial level of external trade, which reflected the strategy of autarky that was so important during the decade-long Cultural Revolution that ended in 1976. China's stellar trade performance has, however, continued in recent years, even after the PRC entered the ranks of the world's top ten trading nations. In 2001 the story continued: world trade fell by 4 percent, the first absolute decline in two decades, while China's trade rose by 7.5 percent;²⁰ in the process China's rank as a world trader notched up yet again in 2001, surpassing Canada's trade value to become the world's sixth largest trading economy.

China's trade performance is distinctly different from that of Japan or many European countries, where for several decades import growth has been significantly less than economic growth. In China, by contrast, imports have grown since 1978 by an average of 14.5 percent per year, sub-

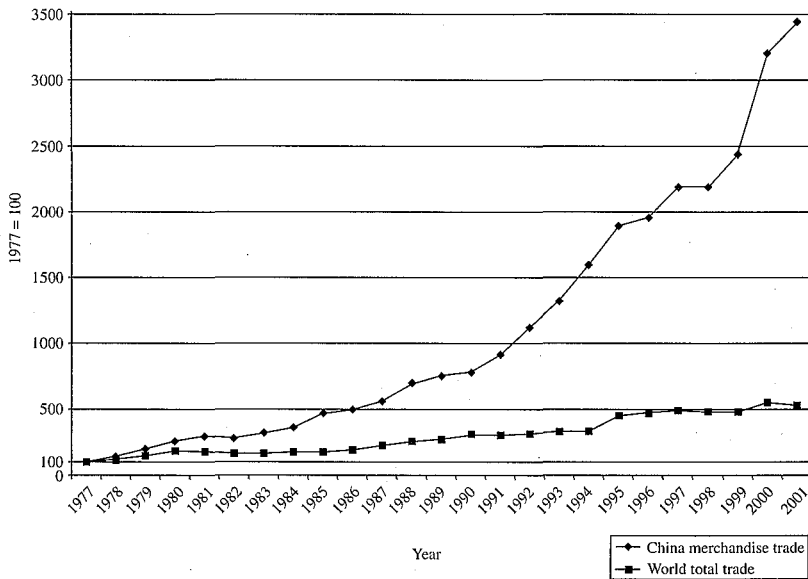
are authorized to trade. The four companies are China Chemicals Import and Export Corporation, China International Petroleum Chemicals Allied Corporation, China Petroleum Allied Corporation, and the Zhenrong Company. See MOFTEC, "Measures for Organizing the Implementation of the Import of Crude Oil and Finished Oil," in Editorial Board of the Almanac of China's Foreign Economic Cooperation and Trade, *Almanac of China's Foreign Economic Relations and Trade 2000* (Beijing: China Foreign Economic Relations and Trade Publishing House, 2000), 116-20.

¹⁹MOFTEC, "Notice on the Checked and Ratified Import Companies Operating the Five Commodities (steel included) and Relevant Issues," in *ibid.*, 152-63.

²⁰World Trade Organization, *WTO Annual Report 2002*, chap. 2, p. 8, available at <<http://www.wto.org>> (accessed on May 5, 2002).

Figure 2

The Growth of China Trade vs. World Trade, 1977-2001

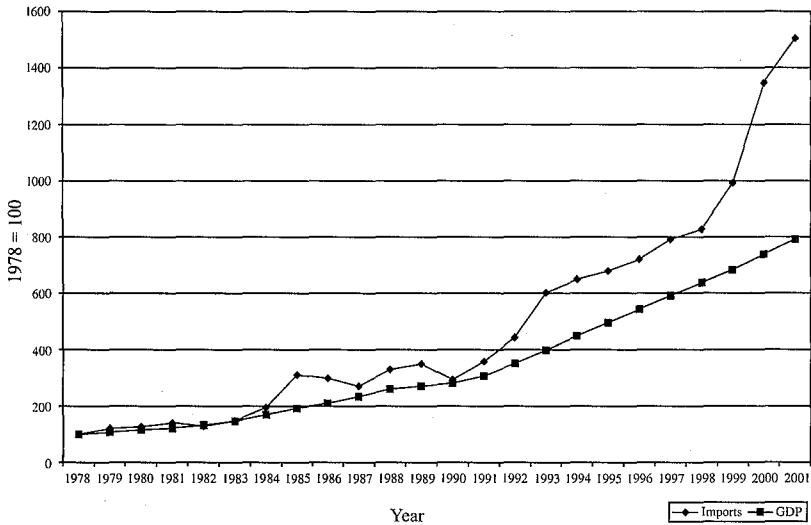


Sources: Lardy, *Integrating China into the Global Economy*, 5; and World Trade Organization, *Annual Report 2002*, chap. 2, p. 8, available at <www.wto.org> (accessed on May 2, 2002).

stantially more rapidly than the 9.0 percent per year average pace of economic growth.²¹ In that respect China is similar to the United States where import growth has outpaced the expansion of the economy in recent decades. Figure 3 shows the growth of China's GDP and its imports, both measured in real terms. As the figure starkly reflects, the growth of China's demand for imports relative to the pace of underlying economic expansion actually increased significantly after 1990 as compared with the first

²¹In the figures, cited trade growth is measured in nominal terms while economic growth is measured in real terms. World prices of traded goods have increased by less than 2 percent per year over the past two and a half decades, so the more meaningful comparison is 12.5 percent trade growth and 9 percent economic growth.

Figure 3
Growth of China's Imports vs. GDP, 1978-2001



Note: Imports and gross domestic product are each expressed in real (i.e., constant) price terms. The GDP data are those released by the State Statistical Bureau. The import data released by China's Ministry of Foreign Trade and Economic Cooperation (MOFTEC), given in nominal terms, have been deflated utilizing a World Trade Organization index of world prices of traded goods.

Sources: State Statistical Bureau, *China Statistical Yearbook 2001*, 49, 51; *China Statistical Abstract 2001*; General Agreement on Tariffs and Trade, *International Trade 1985-86* and *International Trade 1991-92*, Table A1; and WTO, *International Trade Statistics 2001*, Table A1; WTO, *Annual Report 2002*, chap. 2, pp. 5, 8.

twelve years of economic reform. This would appear to support the view that trade, foreign exchange, foreign investment, and related reforms deepened considerably after 1990.

Not only did China substantially reform its foreign trade system in the runup to its accession to the WTO, there exists evidence that the pace of real domestic economic restructuring also increased in the years just prior to its WTO entry. The restructuring of manufacturing companies accelerated after Premier Zhu Rongji's (朱鎔基) speech to the National People's Congress (NPC, 全國人民代表大會) in the spring of 1998, when he

pledged to solve (for the most part) the problem of money-losing state-owned companies within three years. More than 36 million state workers, one-third of the total, lost their jobs in the three and a half-year period from 1998 through the middle of 2001.²² Job cuts were focused in sectors that were the biggest money losers for the state.

One example is the spinning and weaving industry, whose origins can be traced to the pre-1949 era, when it was China's largest industry.²³ After the establishment of the PRC, the textile industry continued to be the country's largest, employing 7.6 million workers at its peak in 1991.²⁴ Beginning in the early 1990s, the industry went into the red for the first time. In an effort to raise productivity and curtail financial losses, the industry began to shed workers. By 1996 employment in the industry had shrunk to 6.34 million. The textile industry's losses had grown to *Renminbi* (RMB, 人民币) 9.6 billion, however, making it—by a very substantial margin—the biggest money-losing sector in state-owned manufacturing.²⁵ The industry, long characterized by outdated equipment and high production costs, initiated a more radical restructuring beginning in 1998 in response to Premier Zhu Rongji's charge to cut losses of state-owned firms. The state closed more than 600 state-owned textile factories (one-fifth of the total), eliminated 9.4 million cotton spindles, and laid off an additional 1.4 million workers by the end of 2000. By 1999 state-owned textile companies recorded a slight profit of RMB 800-900 million, their first in seven

²²State Statistical Bureau, *China Statistical Yearbook 2000* (Beijing: China Statistics Press, 2000), 126; *China Statistical Abstract 2001* (Beijing: China Statistics Press, 2001), 39; and Reuters, "City Unemployment Rate to Be Kept Below 5pc," *South China Morning Post*, August 7, 2001, available at <<http://china.scmp.com>> (accessed on August 7, 2001).

²³Thomas G. Rawski, *Economic Growth in Prewar China* (Berkeley: University of California Press, 1989), 92-105.

²⁴State Statistical Bureau, *Statistical Yearbook of China 1993* (Beijing: China Statistics Press, 1993), 410.

²⁵State Statistical Bureau, *Statistical Yearbook of China 1997* (Beijing: China Statistics Press, 1997), 412, 430-31. The data on financial losses are for state-owned firms. The employment figures are inclusive of textile workers in both state and non-state firms. In 1991, workers in state-owned firms accounted for two-thirds of the total. The published data on employment in the industry for 1996 are not disaggregated by ownership.

years.²⁶ In 2000 profits surged to RMB 6.7 billion.²⁷

The state also aggressively restructured the building materials, non-ferrous metals, and railway industries—all of which returned to profitability in 1999.²⁸ The government continued its efforts to close down money-losing coal mines. Production reportedly was cut by several hundred million tons to prevent a further build-up of inventories, but the sector continued in the red. Steel was another major target, but trimming employment and controlling output in that sector proved more difficult.²⁹

In addition to reductions in employment in industry, another indicator of economic restructuring is a substantial moderation in the rate of inventory accumulation in the economy. From 1990 through 1999, additions to inventories in China were extremely high, averaging 5.2 percent of GDP.³⁰ In the United States, the comparable figure was 0.4 percent.³¹ Unsold inventories, by definition, are not utilized either for consumption or for fixed investment, so they do not contribute either to improvements in social welfare or to increases in productive capacity of the economy. From a social perspective, the real resources that have gone into the production of these goods have been largely wasted.

²⁶Ma Li, "State-Owned Textiles: Reform and Adjustment Are Still Extremely Great," *Zhong-guo jingji shibao* (China Economic Times), January 26, 2000, available at <<http://cet8848.net/20000126/YAOWEN/20001264.htm>> (accessed on March 15, 2000). The use of the word "slight" to characterize profits in 1999 is appropriate since the sum of fixed assets and working capital of state-owned textile firms in 1999 was RMB 247.4 billion. See State Statistical Bureau, *China Statistical Yearbook 2000*, 424-25. Thus profits of RMB 800-900 million represent a rate of return on assets of less than one-half of one percent.

²⁷Xinhua, "State Textiles Out of Doldrums," March 6, 2001 in *FBIS-CHI-2001-0306*.

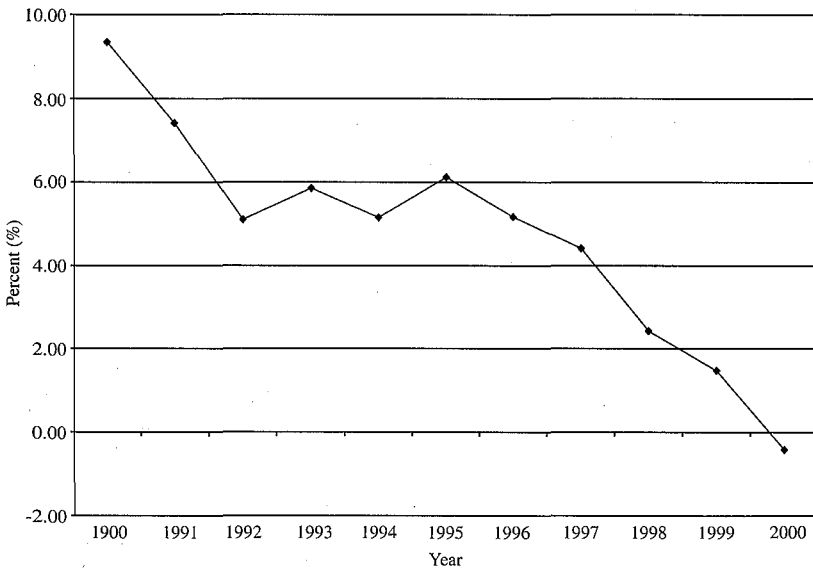
²⁸Zeng Peiyan, "Report on the Implementation of the 1999 Plan for National Economic and Social Development and the Draft 2000 Plan for Economic and Social Development," *People's Daily*, March 15, 2000, available at <<http://www.peopledaily.com.cn>> (accessed on March 15, 2000).

²⁹Employment fell from 1,113,000 in 1996 to 890,000 by year-end 1999, a reduction of a little over a fifth. See Gong Zhengzheng, "Industry Reshuffle Continues," *China Daily Business Weekly*, July 3, 2000, 1.

³⁰State Statistical Bureau, *China Statistical Yearbook 1999* (Beijing: China Statistics Press, 1999), 67-68; *China Statistical Yearbook 2001* (Beijing: China Statistics Press, 2001), 61-62.

³¹U.S. Census Bureau, *Statistical Abstract of the United States 1998* (Department of Commerce, 1998), 451; *Survey of Current Business* 80 (May 2000): National Data D-3.

Figure 4
Changes in Inventories as a Percentage of China's GDP, 1990-2000

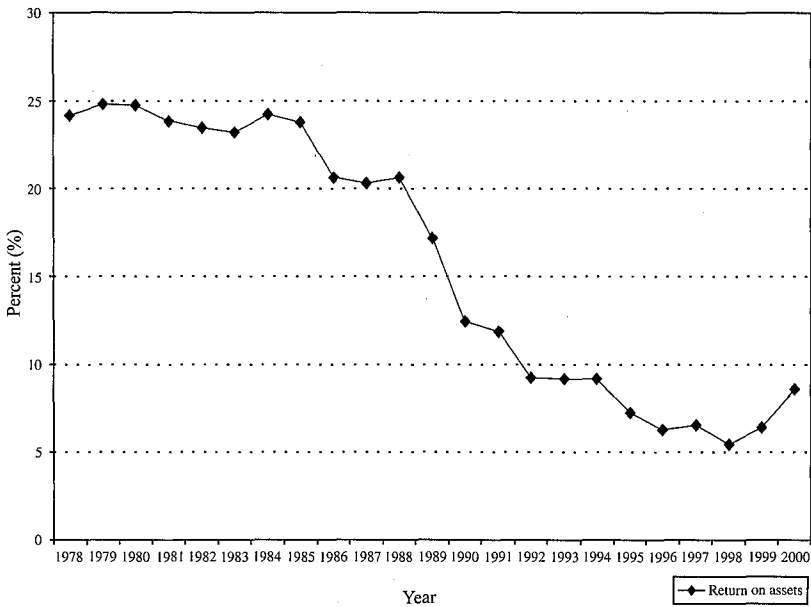


Sources: State Statistical Bureau, *China Statistical Yearbook 2001*, 61-62.

In the first half of the 1990s, the rate of accumulation was particularly high, averaging 6.5 percent. As companies became much more profit-oriented in the second half of the 1990s and banks—under pressure to improve their own profitability—became less willing to finance the build-up of inventories, the rate of inventory accumulation plummeted. As shown in figure 4, by 1999 additions to inventories accounted for only about 1.5 percent of GDP—and in 2000 additions to inventories, for the first time since 1978, turned negative, i.e., inventories shrank in absolute terms.

As a result of the reductions in excessive employment and inventory build-up, the return on assets (measured as pretax profits relative to the sum of the depreciated value of fixed assets plus working capital) in state-owned industrial firms, shown in figure 5, turned upward in 1999, ending a twenty-year slide in profitability. Profits turned up even more

Figure 5
Chinese State-Owned Industrial Enterprise Profitability, 1978-2000



Sources: State Statistical Bureau, *China Statistical Yearbook*, 1994-2001 editions.

strongly in 2000.³²

Restructuring was also under way in the agricultural sector of the Chinese economy long before the PRC became a member of the WTO in late 2001. There is little doubt that the structural change of the country's labor force is one of the greatest challenges China faces. A predominantly

³²Some analysts are skeptical that the reported improvement in profitability reflects improvements in underlying productivity. They point out, for example, that rising prices of petroleum and refined petroleum products in 1999 boosted the profits of PetroChina and other large, state-owned oil companies. The skeptics neglect to note, however, that to the extent these firms sell their output to other state-owned companies, rising prices would redistribute profits across sectors and thus have no effect on the aggregate profits of state-owned industry. While there appear to be no systematic data, clear is that other state firms are major users of refined petroleum products sold by PetroChina, Sinopec, and other state oil refiners. For example, the state-owned railroad system is a major consumer of diesel fuel.

rural society, employed primarily in agriculture, must be transformed to a much more urban society, employed primarily in manufacturing and services. The projected reduction in farm sector employment as a result of WTO membership, however, must be seen in a larger context. Since the beginning of the economic reform era, official data show that the share of employment in agriculture has fallen dramatically—from 71 percent of the work force in 1978 to only 50 percent in 1999. Some independent researchers believe that official data overstate the size of the agricultural labor force, suggesting that the structural transformation of the labor force is more advanced than is reflected in the official data.³³ Given the slow growth of the total labor force and the rapidly declining share employed in agriculture, the official data show that the absolute number of workers employed in agriculture peaked in 1991 at 390 million. Since then the number has fallen by an average of more than 4 million annually to reach 354 million at year-end 1999.³⁴ In comparison, the Development Research Center's projection of a loss of about 11 million farm jobs by 2010 is a slower rate of reduction than China achieved during the decade of the 1990s.

None of the above is meant to suggest that China will not face substantial challenges in meeting its WTO obligations. The point is rather that China already has absorbed a very substantial portion of the costs of restructuring its economy necessary to operate successfully in a more competitive, global environment. There are substantial risks ahead, but they do not appear to be qualitatively different from those that China's leadership has been dealing with for quite some time, particularly in the past five years.

On the other side of the equation, China will reap substantial benefits from its participation in the WTO. Restructuring due to increased competition from imports will lead to the reallocation of factors of production

³³Thomas G. Rawski and Robert Meade, "On the Trail of China's Phantom Farmers," *World Development* 26, no. 5 (May 1998): 767-81.

³⁴State Statistical Bureau, *China Statistical Yearbook 2000*, 116.

to new uses where returns will be higher. This is the standard gains from trade analysis that underlines all of the models used to estimate the economic benefits that China will reap from its participation in the WTO. The models, however, do not capture additional gains that will accrue to China from the reduction and eventual elimination of WTO-inconsistent trade barriers that have been maintained in several foreign markets.

The most important markets that maintained WTO-inconsistent trade barriers against Chinese products prior to China's WTO entry were the European Union, Taiwan, and Mexico. Of these three, Taiwan is probably the most important. On the eve when both sides of the Taiwan Strait became WTO members, Taiwan maintained bans on the import of several thousand individual Chinese products, almost half of all the products listed in the island's tariff schedule.³⁵ In contrast, China consistently has treated Taiwanese goods to tariffs and other terms at least as favorable as those afforded to goods from alternative foreign sources of supply. That asymmetry was an important factor in the large deficit that China incurred in its trade with Taiwan. The deficit expanded from US\$1.9 billion in 1990 to more than US\$15.6 billion in 1999.³⁶ Taiwan in early 2002 began to lift the WTO-inconsistent import bans that have contributed to this deficit.

Mexico, prior to China's accession to the WTO, maintained quantitative restrictions or tariffs as high as 1,000 percent on about 1,400 Chinese products, mostly labor-intensive manufactures such as textiles, garments, footwear, and toys.³⁷ The Mexican government imposed these restrictions in 1993, after conducting a dumping investigation. Although Mexico had

³⁵ As of April 2000, the negative list for imports from China maintained by the Board of Foreign Trade (國際貿易局) in Taiwan included 4,563 products, 45 percent of the total of 10,421 items listed under Taiwan's 10 digit harmonized system tariff codes. See Board of Foreign Trade, "Trade Policies and Measures," available at <<http://www.trade.gov.tw>> (accessed on November 29, 2000).

³⁶ State Statistical Bureau, *China Statistical Yearbook 1992* (Beijing: China Statistics Press, 1992), 632; and State Statistical Bureau, *China Statistical Yearbook 2000*, 593.

³⁷ Elliot Spagat, "Mexico Sees Slow Progress Toward China's WTO Entry," *Dow Jones News-wires*, December 20, 2000, available at <<http://interactive.wsj.com>> (accessed on December 21, 2000); and Andrea Mandel-Campbell, "China Puts Mexican Trade in Line of Fire," *Financial Times*, January 10, 2001, 7.

been a member of the General Agreement on Tariffs and Trade (GATT) since 1986, the investigation was not carried out in accordance with the terms of the GATT Antidumping Agreement. Under the terms of the bilateral agreement between Mexico and China, which were incorporated into the terms of China's accession to the WTO, Mexico agreed to phase out all WTO-inconsistent restrictions on Chinese products within six years.

As part of China's WTO accession, the European Union agreed to phase out WTO-inconsistent quotas on certain types of footwear, tableware, and kitchenware imported from China. The EU raised quotas on these products by 10 percent on accession and will increase them by a further 10 percent in 2003 and 15 percent in 2004. The EU will phase out entirely the import quotas on these Chinese goods in 2005.

Conclusion

China's economic growth in the runup to its accession to the World Trade Organization appears to have been quite robust. The impressive growth of imports is not consistent with the hypothesis that economic growth collapsed for several years starting in 1998. China's economic performance is all the more notable because the net contribution of trade to economic growth was negative for the three years 1998-2001.³⁸

The hypothesis that increased competition—engendered by implementing trade liberalization according to the timetable embodied in the PRC's WTO obligations—will lead to a collapse of the Chinese economy also seems ill-founded. Competition in most sectors of China's economy increased significantly throughout the 1990s as a result of sharply reduced tariffs, dramatically reduced non-tariff barriers, and production of a

³⁸ China's trade surplus hit a peak of US\$43.5 billion in 1998. Since that year imports have increased more rapidly than exports, resulting in a slight drag on economic growth. Thus China's trade surplus declined to US\$29.2 billion, US\$24.1 billion, and US\$22.6 billion in 1999, 2000, and 2001, respectively. The frequently voiced opinion that China needs to transition to an economic growth path that relies more on domestic demand and less on exports is not well-founded.

growing share of manufactured goods by joint venture and wholly foreign-owned companies. Competition has stimulated significant reductions in employment in less efficient sectors of the economy, contributing both to a reversal of the long-time drop in profitability of state-owned companies and to a significant decline in the wasteful build-up of inventories.

Of course, there is no question that the Chinese leadership, by agreeing to further open up the economy, has made a gamble of historic proportions. They expect to leverage the increased competition inherent in China's WTO commitments to accelerate the restructuring of the domestic economy in order to raise productivity and sustain economic growth. There is no guarantee that the domestic restructuring will generate new jobs fast enough to offset the increased job losses that are inevitable in China's least efficient sectors. Limitations on geographic mobility of workers compound this problem. Job losses in both agriculture and manufacturing have already been—and will likely continue to be—relatively larger in the northwest while employment generation will likely continue to be most robust in the lower Yangtze region and the southeast coastal region. Finally, China's leaders are gambling that the potentially highly protective mechanisms that China agreed to in its WTO accession package will not be widely utilized by other WTO members. China's prospects for adjusting to more imports will be bleak if other WTO members impose significant restrictions on the import of Chinese goods into their markets.