
China: The Great New Economic Challenge?

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China has been the world's fastest-growing economy since initiating economic reform two and a half decades ago. Its influence on the global economy has expanded dramatically, particularly its role as a global manufacturer and trader. For example, in 2004, China will overtake Japan to become the world's third largest trading economy (measured as the sum of imports and exports). But its participation in the global economy is not limited to trade. It has been the largest developing-country recipient of foreign direct investment (FDI) for more than a decade and also raises significant amounts of funds in international capital markets. China's economic diplomacy has accelerated as well, as it pursues an increasingly visible role both in global trade liberalization in the Doha Round of multilateral trade negotiations and in regional and bilateral agreements. The latter range from free trade agreements (FTAs) with trading partners as diverse as the Association of Southeast Asian Nations (ASEAN), Australia, and Chile to an Asian regional framework agreement on energy cooperation known as the Qingdao Initiative.¹

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1. ASEAN and China signed an agreement covering goods in October 2004 and expect to conclude negotiations on services and investment by the middle of 2005. Australia and China reached an agreement to study the prospects for a bilateral FTA in late 2003. The study was launched in January 2004 and is scheduled for completion at the end of October 2005. Chile and China began their FTA study in April 2003. In November 2004 the leaders of the two countries announced their decision to start formal negotiations on an FTA.

For reasons discussed below, China is likely to sustain a relatively high rate of growth for at least another decade, during which it will continue to become an ever-larger economic and trading power. The long-term implications of this for the United States, however, are uncertain. China's rapid emergence on the global economic stage, particularly its burgeoning bilateral trade surplus with the United States, suggests to some that China poses a potential threat to US economic and security interests (US-China Economic and Security Review Commission 2004, 1). As a growing portion of this deficit is composed of advanced technology products, rather than just apparel, footwear, and toys, some see China as eroding US leadership in technological innovation and international competitiveness in advanced technology industries (Preeg 2004).

In contrast, this chapter suggests that China's pace of technological progress is frequently overstated and that China is more of an economic opportunity than an economic threat to the United States and other high-income economies. But China's increasing interdependence with the global economy is likely to be accompanied by growing trade frictions as well. The final section of this chapter contains recommendations for ameliorating these frictions.

China's Emergence in the Global Economy

China's real GDP in 2003 was nine times that in 1978, when reform began, a record that places it among the fastest-growing economies in any two-and-a-half-decade period in modern economic history. Measured at current exchange rates, China is now the world's sixth largest economy, after the United States, Germany, Japan, the United Kingdom, and France. On present trends, in the next year or two China will overtake both the United Kingdom and France to rank fourth globally. In terms of GDP measured by purchasing power (a metric that adjusts for the relatively low price of services in developing countries), the World Bank since 1995 has ranked China number two, behind only the United States. Of course, given its immense population of 1.3 billion, China remains very poor in per capita terms. This has important implications, as discussed below.

China's rapidly expanding international trade enhances the global significance of its growing economy. Since reforms began in 1978, China's trade has grown substantially above average: Its share of global trade expanded from 0.6 percent in 1977 to almost 6 percent in 2003. When reforms got under way, about 30 countries were ahead of China in terms of trade value, but in 2003 China ranked fourth and in 2004 will rank third, after only the United States and Germany. Since 2000, China has made a particularly outsized contribution to global trade growth. Indeed, in 2000–03 China accounted for a larger share of global trade expansion than any other country, including the United States. During that period US trade ex-

panded by only \$17 billion, while China's grew by \$377 billion.² In 2003, China alone accounted for fully a fifth of global trade expansion.

Policies welcoming FDI, particularly in manufacturing, have been a major contributor to China's rapid trade expansion. By the end of 2003, foreign firms had invested about \$500 billion in China, the world's third largest stock of FDI after only the United States and the United Kingdom. Indeed, in 2003 direct investment inflows into China for the first time exceeded inflows into the United States (OECD 2004, 3).³ Over half of this investment has gone into manufacturing, where China places few restrictions on foreign ownership. By 2003, foreign firms accounted for over one-quarter of China's output of manufactured goods, a share that is well ahead of that of the United States and about the same as that of the European Union.⁴

Moreover, through its tariff and other policies, China allows foreign firms that produce for the export market to operate at international prices. Imported machinery and equipment that go into foreign joint ventures and wholly foreign-owned firms, for example, are entirely exempt from import duties. And foreign-sourced parts and components, when reexported in the form of finished goods, also are exempt from import duties. Moreover, manufacturers are eligible for a rebate of almost all domestic value-added taxes they have paid on any content in their exports that is sourced from within China. Combined with relatively low-cost labor, these trade and investment policies have made China one of the most competitive global locations for the assembly of manufactured goods for export. As a result, foreign firms now account for more than half of China's exports.

The expansionary effect of China's growing trade is particularly evident in Asia. In 2002 and 2003, when China's global imports rose by a total of \$170 billion, it accounted for one-half the growth of exports of a number of other Asian countries, notably Korea and Taiwan (World Bank 2004, 9). Surging exports to China, for example, were a major driver of the recovery in Japan's economic growth starting in the fourth quarter of 2003. Most notable has been the rapid growth of Japanese exports to China of machinery and electrical machinery, metals, and precision instruments. The acceleration of demand for some products has been so strong that it stimulated a revival of investment activity in these sectors in Japan. Taiwan is also increasingly linked to China; indeed the share of its exports going to

2. In both cases, the trade value is measured as the sum of imports and exports of goods and services in 2003 minus the sum of imports and exports of goods and services in 2000.

3. Technically, Luxembourg remains the largest recipient of FDI, due to large matching inflows and outflows through holding companies and other special purpose entities located there. Apart from Luxembourg, China was the world's largest recipient of FDI for the first time in 2003, according to the Organization for Economic Cooperation and Development.

4. The foreign firms' share is measured by value added. Measured by gross value, the foreign firms' share in 2003 was 30.6 percent. See National Bureau of Statistics (2004, 124).

the mainland now exceeds that of any other economy. Exports of ASEAN countries to China grew by more than 50 percent in 2003 alone.

But China's impact on global economic growth extends far beyond Asia. China, for example, is now the number two trading partner of both Canada and Mexico, ahead of each in the other country's market despite the North American Free Trade Agreement. Trade between Brazil and China, for example, quadrupled in 1999–2003. In 2004, Brazil's expanding exports to China, notably of soybeans and iron ore, are on track to account for half of Brazil's global export growth and a quarter of the country's targeted 3.5 percent GDP growth.

The expansion of China's economy and trade is so large that it had a dramatic effect on global prices for some critical raw materials and basic industrial goods in 2003 and the first part of 2004. China is now the world's largest consumer of copper, tin, zinc, platinum, steel, and iron ore; the second largest consumer of aluminum, petroleum, and lead; the third largest consumer of nickel; and the fourth largest user of gold (Asian Development Bank 2004, 43). For many of these products, China's sharply rising demand has been met increasingly by imports, causing global prices for many commodities to increase at record rates. In both 2002 and 2003, China's steel imports soared as it became the world's largest importer, driving global prices up sharply. It is also one of the largest importers of iron ore to feed its domestic steel industry, which has ranked number one globally since 1996. China's soaring iron ore imports in 2003 led to the largest increase in ore prices in 23 years.

Because China's GDP is very strongly concentrated in manufacturing (for reasons discussed below), rapid growth has also led to a substantial growth of consumption and imports of energy, notably petroleum. In 2003, China's crude oil imports rose more than 30 percent to 91.12 million metric tons, accounting for a third of total petroleum consumption in China (National Bureau of Statistics 2004, 127, 162). China overtook Japan in 2003 to become the second largest consumer of oil, after the United States. China alone accounted for 45 percent of the increase in global oil demand in 2002–03, contributing significantly to the growth of global demand relative to supply, thus driving world oil prices to record levels. It remains a major source of growing world demand for crude oil in 2004 (International Energy Agency 2004).

What are the prospects that China will be able to sustain its record-breaking pace of economic growth and continue to make an outsized contribution to global trade expansion and thus to global economic growth? In the short run, of course, China's leaders have recognized the financial risks associated with the record expansion of bank credit and fixed asset investment that occurred in 2003 and the first part of 2004. They are moderating the growth of credit and of fixed asset investment to slow the pace of overall economic expansion to a more sustainable level. If they succeed, China's trade growth likely will slow from its recent (2001–04) pace

of more than 25 percent a year to something closer to its long-term (1980–2000) annual growth of about 15 percent, thus likely diminishing the outsized role that China has played in global growth in recent years.

While China seeks to moderate its pace of growth in the short run, in the medium and long run, several factors are likely to interact to generate growth rates that will be quite high by global standards. First, China's national saving rate of roughly 40 percent of GDP is one of the highest in the world. That provides enormous resources for financing the fixed asset investment that is so important for economic growth, especially in a low-income economy. The saving rate likely will decline as China begins to age rapidly and the share of households that maintain their living standards not from current income but by spending their accumulated savings grows. But based on China's demographics, this decline in the saving rate is likely a decade or so away.

A second positive driver for rapid growth is that China is at a relatively early stage of the transformation of its labor force, from one engaged predominantly in agriculture to one engaged primarily in manufacturing and services. Although the share of the labor force employed in farming has shrunk over the past couple of decades, 350 million workers—or one-half of China's labor force—are still employed in agriculture. Given China's extreme shortage of arable land, output per farm worker is relatively low, so transferring labor to other sectors of the economy raises real economic output. Most observers believe that at least 100 million—perhaps as many as 150 million—workers could be moved from agriculture to either services or manufacturing with little or no adverse effect on agricultural output. This shift will be a major source of growth over the next decade or so.

Finally, China's openness to foreign trade and investment (both analyzed below) also are likely to contribute further to rapid economic growth. Both imports and domestic sales of foreign affiliates are likely to continue to rise relative to GDP. That, in turn, will contribute to a more competitive domestic economy, which will likely stimulate further productivity growth in domestic firms, adding to overall economic growth.⁵

US–China Economic Relations

Bilateral trade and investment ties between China and the United States have grown rapidly in recent years. China is now the United States' third largest trading partner and the sixth largest export market for firms located in the United States. The United States is China's second largest trading partner and has long been the single largest export market for firms located in China, taking over 30 percent of total exports produced

5. For a comprehensive review of the literature on the influence of trade on economic growth, see Cline (2004, 228–38).

within China. These firms are now the second largest supplier of imports to the United States, having gone ahead of Japan in 2002 and Mexico in 2003. But firms located in the United States have been only a modest supplier of imports to China, for reasons discussed below. US firms had made about \$45 billion in direct investments in China through the end of 2003, far more than in any other emerging market.

Causes of the Bilateral Trade Imbalance

While bilateral economic ties between China and the United States are robust, they have been characterized by a steadily growing bilateral trade imbalance. Initially the balance in China's favor was small, but it now constitutes United States' single largest bilateral trade deficit. The principal cause of this growing imbalance, which reached \$124 billion in 2003, is neither an undervalued Chinese currency nor Chinese protectionist measures that keep out US and other foreign goods. China's bilateral surplus with the United States has grown steadily for more than two decades. During most of this time, China's currency was significantly overvalued. Rather, the growing imbalance is because China has become a leading location for the assembly of a broad range of manufactured goods, mostly by foreign firms that have relocated their assembly activities to China from other sites in Asia. The parts and components that constitute these goods are purchased mainly from other Asian countries. On the other hand, the United States and the EU-15 supply only 12 percent of the inputs but purchase about half of the final goods produced under China's export processing scheme.⁶ It is no accident that as the US bilateral deficit with China soared from \$10 billion in 1985 to \$124 billion in 2003, the share of China's exports produced by foreign firms rose from 1 to 55 percent.

As a result of China's emergence as a major base for foreign firms to assemble manufactured goods, China runs trade surpluses with the United States and the European Union and significant deficits with most Asian countries. Thus China's overall current account surplus is substantially smaller than its bilateral surplus with the United States. As reflected in table 4.1, its global current account surplus has averaged about 2 percent of GDP since it pegged its currency to the US dollar in 1994.

China's global pattern of trade—surpluses with the United States and Europe but deficits with most of its Asian neighbors—stems from China's

6. In 1999, 25 percent of the imports for export processing came from Japan; 20 percent from Taiwan; and 20 percent from Hong Kong, Singapore, and Korea. But only 5 percent came from the United States and 7 percent from the European Union. On the other hand, 26 percent of the resulting product was sold directly to the United States, and adjusting for reexports through Hong Kong, the US share was probably slightly in excess of 30 percent. Comparable numbers for the European Union are 14 and 19 percent, respectively. See Lemoine and Ünal-Kesenci (2004, 833).

Table 4.1 China's current account balance, 1994–2003

Year	Billions of dollars	Percent of GDP
1994	7.7	1.4
1995	1.6	0.2
1996	7.2	0.9
1997	29.7	3.3
1998	29.3	3.0
1999	15.7	1.6
2000	20.5	1.9
2001	17.4	1.5
2002	35.4	2.9
2003	45.9	3.3

Sources: National Bureau of Statistics of China, *China Statistical Yearbook* 2000, 2001, 2002, and 2003; State Administration of Foreign Exchange, 2003 National Income and Expense Accounts Report, www.safe.gov.cn (accessed May 3, 2004).

rapidly increasing role in the global production chains of multinational corporations. China's openness to FDI, its trade policies, and its relatively abundant labor supply have made it the premier location for the assembly of manufactured goods for the global market. This burgeoning role as an assembler of manufactured goods is reflected in two indicators.

First, the migration of global manufacturing capacity to China is so great that it has boosted the share of GDP originating in the industrial sector to an almost unprecedented 45 percent (National Bureau of Statistics 2004, 16).⁷ As a consequence, China produces 7 percent of the world's manufactured goods, almost twice its share of global GDP.⁸

China's increasingly competitive global position in labor-intensive manufactures is clearly reflected in a second indicator—the pattern of US imports from China. Starting in the late 1980s, China began to displace Korea, Taiwan, and Hong Kong to become by 1991 the single largest source of imported toys and sporting goods in the US market. China at the same time also started to displace Korea and Taiwan to become by 1992 the single largest source of imported footwear in the US market. A decade later in 2002, China displaced Japan, the European Union, and Mexico to become the largest single source of US imports of consumer electronic products and information technology hardware such as computers (American Electronics Association 2003).

But how does China's outsized role in global production of manufactured goods lead to a pattern of trade in which China runs trade surpluses

7. Industry includes manufacturing, mining, and utilities. The share of GDP originating in manufacturing (excluding mining and utilities) in China is more than half again as large as the average of lower-middle-income countries, the category where China falls (World Bank's *World Development Indicators* 2004).

8. See "The New Workshop of the Globe Is Attracting the Biggest Companies on the Planet," *Financial Times*, June 21, 2004, 8.

with the United States and, to a lesser extent, the European Union, while running trade deficits with many of its Asian neighbors? The explanation lies in three characteristics of China's very large FDI inflows. First, Asian firms account for a much larger share of China's inward foreign investment than do European and American firms. Firms based in Hong Kong, Taiwan, Korea, and Japan, for example, account for about two-thirds of China's inward FDI. In contrast, the United States and the European Union combined account for less than a fifth of China's inward FDI.

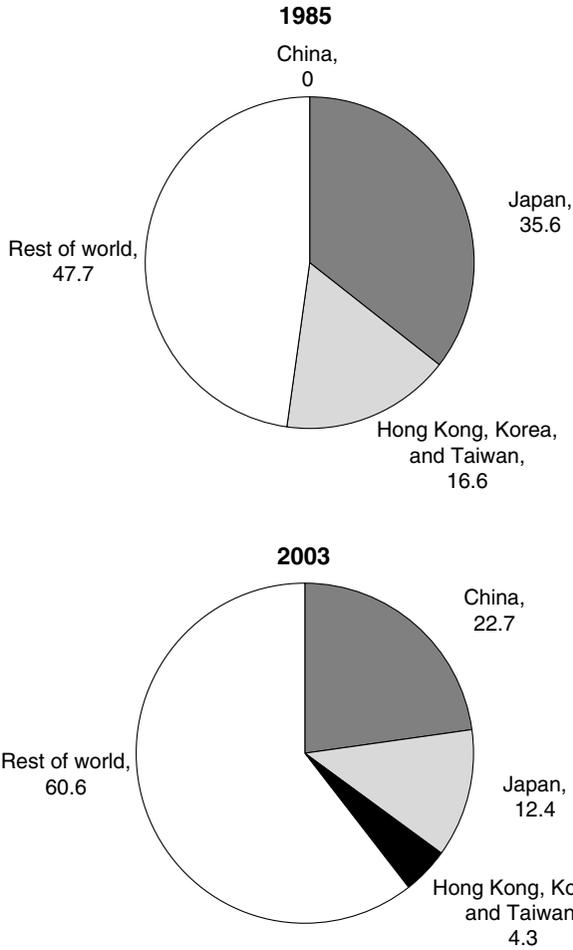
Second, Asian firms relocate to China primarily to use China as an export platform whereas most American and European firms invest in China primarily to sell into the domestic market. The best example of the latter is Volkswagen, which has had a dominant share of the Chinese car market for over a decade. The output of Volkswagen's two joint ventures, one in Shanghai and the other in Changchun, is sold entirely on the domestic market. The same is true for the joint venture Buick plant in Shanghai.

Third, foreign firms producing for the domestic market tend also to source their inputs largely on the domestic market rather than from their home countries. Virtually the entire content of Volkswagen's top-selling models in China, for example, is sourced from within China. In contrast, as Asian firms have relocated their assembly operations to China, they have continued to source needed high-value-added parts and components from their traditional suppliers, which tend to be located elsewhere in Asia. This is particularly obvious in the case of Taiwan-based manufacturers of electronic products. As a result, China in 2003, for example, ran a trade deficit of more than \$24 billion in its trade with Taiwan, an extraordinarily large amount given the small size of Taiwan's economy. Two-thirds of China's imports from Taiwan consist not of finished goods but of parts and components that subsequently are assembled into final goods in factories owned by Taiwanese firms. These goods then are exported, predominantly to the United States and Europe.

In short, American and European direct investment in China is relatively modest and geared primarily to sell into the domestic market. The investment of Asian firms in China is not only much larger but also tends to be directed to sales in the United States and Europe. And these Asian firms source a large share of parts and components they use from firms in their home countries. The combination of these factors creates the pattern of trade sketched earlier. The result is that China has become the source of many goods the United States once imported from Japan, Hong Kong, Korea, and Taiwan. As shown in figure 4.1, the share of the US global trade deficit arising from East Asian countries as a group has actually declined in the two decades since the bilateral deficit with China first emerged in the mid-1980s.

Finally, China's large and growing bilateral trade surplus with the United States does not constitute evidence that China's trade practices are systematically protectionist. China does protect some specific sectors and

Figure 4.1 Share of US trade deficit, by region (percent)



Sources: US Department of Commerce, Bureau of Economic Analysis, International Economic Accounts, US International Transactions Accounts Data, www.bea.gov.

products, to some extent in violation of its commitments to the World Trade Organization (WTO). But by all of the relevant metrics, China is certainly one of the most open—perhaps the most open—of all developing economies.

China's high degree of openness to imports is reflected in several measures beyond its openness to FDI, already analyzed earlier. First, its global imports have been growing at a prodigious rate in recent years: Imports of goods expanded from \$53.4 billion in 1990 to \$295 billion in 2002, a growth rate of more than 15 percent annually. In 2003, the growth of

China's imports hit an all-time high rate of 40 percent, leading imports to expand by almost \$120 billion. In 2003, China's global imports of \$413 billion for the first time exceeded those of Japan, making China the third largest importing nation in the world, after only the United States and Germany. In the nine months of 2004, imports grew an additional 38 percent above the level in the same period in 2003. It is a measure of the relative openness of the Chinese economy that as its economic growth accelerated in 2003 and maintained rapid growth in 2004, its import growth accelerated at an even more rapid rate.

China's rapid growth of imports has led to a sharp increase in the ratio of its imports to GDP, a measure referred to as a country's import ratio. China's import ratio increased from under 15 percent in 1990 to 30 percent in 2003. China's import ratio in 2003 was more than three times Japan's import ratio of 9 percent and twice the 14 percent import ratio of the United States.

A second measure of openness is the large volume of sales of foreign affiliates on China's own domestic market. As already noted, foreign affiliates account for one-quarter of all manufactured goods produced in China. There are almost no restrictions on where these goods can be sold, and sales are about evenly divided between exports and China's internal market. Foreign affiliate sales on the domestic market in 2003 reached \$285 billion. Goods sold by foreign affiliates in the domestic market in most cases are close substitutes for imports, making China an almost textbook case of how openness to foreign investment can increase competition on the domestic market.

A third measure of China's openness is the modest degree of protection that import tariffs provide for domestically produced goods. Even before China became a member of the WTO, it had reduced its average import tariff rate by about three-quarters, from a peak of 56 percent in 1982 to 15 percent at the beginning of 2001 (Lardy 2002, 34). In 2003, China's average import tariff was 11.5 percent, and the average tariff on manufactured goods was only 10.3 percent. China's tariff rates compare favorably with the rates agreed to by other large emerging markets in the Uruguay Round of trade negotiations that led to the formation of the WTO. China's bound rate across all goods is 10 percent, far lower than the commitments of other large emerging markets. For example, Argentina's bound rate is 31.9 percent, Brazil's is 31.4 percent, India's 49.8 percent, and Indonesia's 37.1 percent.⁹

9. Bound rates are ceilings that cannot be exceeded except under unusual circumstances. All four comparator countries currently have applied tariff rates that are significantly lower than the bound rates cited above. In 2002-03, they ranged from 6.9 percent for Indonesia to 29 percent for India. When China's tariff phase-ins are completed in 2005, its average applied rate will have to fall to the bound rate of 10 percent, which will be somewhat above that of Indonesia, somewhat less than that of Argentina and Brazil, and significantly below that of India.

In short, by all important standards—openness to foreign investment, the large size and rapid expansion of the volume of imports, the high and rising ratio of imports to GDP, the rapid growth of domestic market sales of foreign affiliates, and the sharply declining and relatively low degree of tariff protection—China is a relatively open economy.

China as a Technological Leapfrog

Another concern voiced with regard to China is that government industrial policy is allowing it to move up the technology ladder at an unprecedented rate. China's emergence as a major supplier of information technology, communication, and electronic products is said to be a consequence of policies described as "high-tech mercantilism," which poses a major challenge to US commercial and security interests (Preeg 2004, 9).

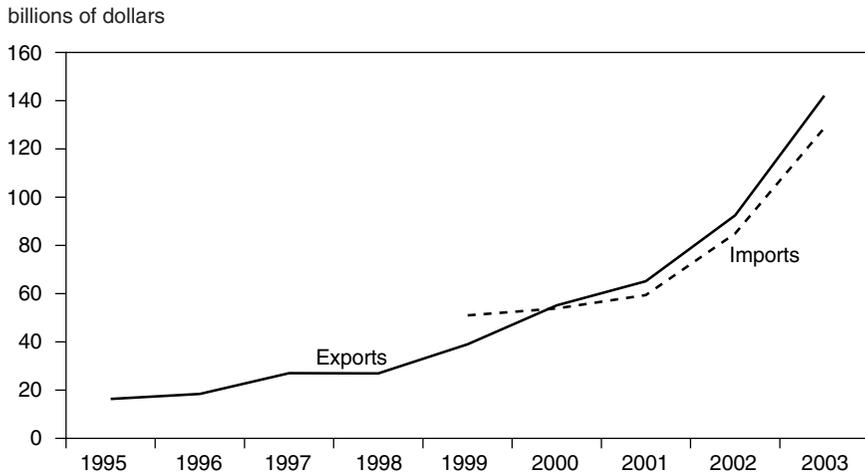
China has emerged in recent years as a major producer and exporter of electronic and information technology products, such as consumer electronics, office equipment and computers, and communications equipment. Its global exports of these products soared from only \$39 billion in 1999 to \$142 billion in 2003.¹⁰ The United States is a major purchaser of such goods, with imports from China more than doubling from \$25 billion in 1999 to \$59 billion in 2003. In 2000, China ranked behind Japan, Mexico, and the European Union as a supplier of high-tech goods to the United States, but by 2002 it had displaced all three to become the single largest supplier (American Electronics Association 2003).

This critique of Chinese industrial policy falls short on three levels. First, most of the electronic and information technology products, which are classified as high technology or advanced technology in the studies cited above, should not be considered high tech. The single biggest US import products from China in the consumer electronics, office equipment and computers, and communications equipment categories, respectively, are DVD players, notebook computers, and mobile telephones. Each of these is a high-volume commodity sold primarily by mass merchandisers of electronic products. For example, in 2003 the United States imported more than 31 million DVD players from China with an average unit cost of under \$80, more than 7.5 million notebook computers with an average unit cost of \$550, and more than 20 million mobile telephones with an average unit cost of less than \$100.¹¹ The huge volumes and low unit costs of these products undermine the argument that these are high-tech products.

10. See Ministry of Information Industry's 2003 *Electronic and Information Industry Economics Statistical Communiqué*, www.mii.gov.cn/mii/hyzw/tongji/2004-040501.htm (accessed April 20, 2004) and "China IT exports rose 45% year-on-year in 1999," *China Online*, February 8, 2000.

11. Data are from the United States International Trade Commission's Interactive Tariff and Trade DataWeb at <http://dataweb.usitc.gov>.

Figure 4.2 China's trade in electronics and information technology products, 1995–2003



Sources: Ministry of Information Industry, 2003, *Electronic and Information Industry Economics Statistical Communique*, www.mii.gov.cn, (April 20, 2004); "Healthy Forecast for IT Field," *China Daily*, January 17, 2003, 5; Minister on Information Technology Development, Beijing Qiushi, No. 20, October 16, 2002; "PRC Information Minister Wu Jichuan on plans for major IT growth," *China Daily*, February 17, 2001; "China IT exports rose 45% on-year in 1999" *China Online*, February 8, 2000; China Economic Information Service (Xinhua); ISI Securities; and *Zhongguo Jisuanji Bao* (China Info World) No. 12, February 26, 2001.

Second, China is able to export huge quantities of electronic and information technology products only because it imports almost all of the high-value-added parts and components that go into these goods. China, in short, does not in any real sense manufacture these goods. Rather, it assembles them from imported parts and components. Domestic value added accounts for only 15 percent of the value of exported electronic and information technology products; the rest is import content. This dependence on imported parts and components is reflected in figure 4.2, which shows both China's exports and imports of electronic and information technology products. While China exported \$142 billion in electronic and information technology products in 2003, China's imports of these products, overwhelmingly parts and components rather than finished goods, were over \$128 billion. In short, China's net exports of electronic and information industry products in 2003 were only \$14 billion.

A huge share of China's imports of electronic and information technology products is semiconductors and microprocessors, the most sophisticated component of all electronic and information technology products. China's imports of microprocessors and semiconductors quadrupled from \$12 billion in 1999 to over \$47 billion in 2003. The entire global market for semiconductors in 2003 was \$166 billion, meaning that demand

from China alone accounted for more than one-quarter of global output. The degree to which China is an assembler of imported parts and components, rather than a true manufacturer of consumer electronic and information technology products, is reflected in the modest volume of China's domestic production of semiconductors and microprocessors compared with the value of its imports of these products. Although domestic semiconductor production is growing rapidly, it is from an extremely small base. In 2003, domestic production was only \$4.25 billion, less than one-tenth of the value of imports. Investment in domestic production of semiconductors has increased significantly in recent years, which will provide the capacity for rapidly rising production. However, given the continued expansion of capacity for manufacturing consumer electronics and information technology products in China, it is likely to remain far and away the world's largest importer of semiconductors and microprocessors for years.

Third, most exports of electronic and information technology products are assembled not by Chinese-owned firms but by foreign firms that are using China as an export platform. Taiwanese firms that have relocated to the mainland dominate the production of electronic and information technology products that are exported from China. For example, the importance of foreign firms in China's emergence as the largest supplier of computers to the US market is confirmed by both aggregate data and by the rankings of the top 200 export companies compiled by the Chinese Ministry of Commerce. In 2003, for example, foreign firms accounted for 92 percent of China's \$41 billion in exports of computers, components, and peripherals and 74 percent of China's \$89 billion in exports of electronics and telecommunications equipment (Gilboy 2004, 39).

The dominance of foreign firms in this sector is confirmed by the firm-level data on the largest exporters from China. In 2003, Hong Fu Jin Precision Industry, a wholly owned subsidiary of Taiwan's Hon Hai Precision Industry Company (better known by its trade name Foxconn), with exports of \$6.4 billion, was China's number one-ranked export company for the third successive year. Hon Hai Precision Industry is Taiwan's largest contract electronics manufacturer, churning out videogame consoles, mobile phones, and other electronic products for Sony, Apple, and Nokia, among others. Coming in second was Tech Front (Shanghai), a subsidiary of Taiwan's Quanta Computer, Inc., the world's largest producer of notebook computers. Quanta is the single largest supplier for Dell Computer Company. Tech Front's exports in 2003 were \$5.2 billion. Rounding off the top three, with exports of \$3.1 billion, was Magnificent Brightness, owned by Taiwan's Asutec Computer, another global heavyweight in the production of notebook computers. In all, there are 28 Taiwan-owned firms on the list of the 200 largest exporting firms in China. All are electronics manufacturers.¹²

12. See "Top Three China Exporters All Taiwan-Invested," Chinese Economic News Service, June 28, 2004, <http://news.cens.com>.

In short, the rapidly changing commodity composition of China's exports does not constitute evidence that China is leapfrogging ahead technologically. Indeed, there may be a growing technology gap between foreign firms operating in China and domestic Chinese companies. In part this is because foreign firms in the electronics and information technology market in China are almost entirely wholly foreign-owned companies rather than joint ventures. Wholly foreign-owned firms have strong incentives to protect their technology from competitors, both domestic and foreign, limiting the diffusion of technology to indigenous firms. Furthermore, indigenous Chinese firms spend little on research and development to develop new technologies on their own (Gilboy 2004, 40).

China's Exchange Rate

Finally, some charge that China is similar to other Asian countries that have long managed their exchange rates by intervening in foreign exchange markets to limit appreciation of their currencies in order to sustain growth-oriented trade surpluses (Dooley, Folkerts-Landau, and Garber 2003). Is China's currency undervalued? If so what is the appropriate Chinese response? What difference would this response make to bilateral trade between the United States and China?

First, while China's currency is now almost certainly undervalued, it is worth underlining that in contrast with Japan and several other countries in the region, this is a relatively recent phenomenon. Moreover, to some extent the recent very large buildup of foreign exchange reserves in China reflects short-term speculative capital inflows rather than an underlying large capital account surplus.

What is the evidence for the judgment that the currency is undervalued in recent years? Since it pegged its currency to the dollar in 1994, China's current account surplus has averaged 2 percent of its GDP, but this number rose to an average of 3.1 percent in 2002–03. And unlike its Southeast Asian neighbors, in the five years since the Asian financial crisis (1999–2003), China also had a capital account surplus of a little over 2 percent of GDP, and this number also rose to a little over 3 percent in 2002–03. Although China nominally maintains a relatively closed capital account, before 2001 unrecorded capital outflows largely offset these current and capital account surpluses. As a result, China's buildup of foreign exchange reserves was modest by Asian standards. But in 2001 these outflows shrank significantly, and from the beginning of 2002 through 2003 China experienced significant unrecorded capital inflows. To continue to keep the currency pegged at 8.28 renminbi to the dollar, China's authorities since 2001 have had to purchase massive amounts of foreign exchange, and reserves have risen accordingly.

The Chinese authorities, through their own actions, have implicitly admitted that the renminbi is undervalued. To date they have chosen to try to reduce the pressure on the currency through a series of ad hoc measures, rather than making any change to their exchange rate. Beginning on January 1, 2004, the government reduced by an average of 3 percentage points the rate at which it rebates the value-added tax on exports, which tends to make Chinese exports more expensive in international markets. But, unlike a currency revaluation, lowering the rebate rate on the value-added tax on exports does not lower the price of imports in the domestic market. The authorities also have signaled an easing in the approval process for outward FDI, liberalized outbound Chinese tourism, and allowed one domestic financial institution to issue dollar-denominated debt. They are contemplating approving a qualified domestic institutional investor (QDII) program that would allow Chinese financial institutions such as insurance companies to invest, within carefully defined limits, in securities traded on foreign markets. Each of these measures would tend to increase the demand for or reduce the supply of foreign exchange, which would contribute to reducing the buildup in official foreign exchange reserves.

The US policy of encouraging China to liberalize its capital account and adopt a floating exchange rate system, first articulated by Treasury Secretary John Snow in the fall of 2003, is certainly appropriate as a long-term objective. Over the years, the Chinese authorities have repeatedly expressed the goal of moving toward a fully convertible currency and a much more flexible exchange rate regime. There is no debate on the long-term desirability of such a policy. A flexible exchange rate regime would not only help to equilibrate China's international accounts but would also give the authorities considerably more ability to use monetary policy to moderate the cyclical character of fixed asset investment growth.

In the short and medium runs, however, a fully convertible currency with a floating exchange rate is a risky option for China. Chinese households hold more than 12 trillion renminbi (an amount roughly equal to China's GDP) in domestic savings deposits. Very few Chinese savers have had an opportunity to diversify the currency composition of their financial savings. Eliminating capital controls could lead to a substantial move into foreign currency-denominated financial assets, most likely held outside of Chinese banks. Given the well-known weaknesses of China's banks, such a move could precipitate a domestic banking crisis. As a result, the authorities do not anticipate relaxing capital controls on household savings until they have fully addressed the solvency problems of the major state-owned banks. This process is well under way but is likely to take a minimum of three to five years to complete.

If the renminbi continued to be undervalued for three to five years, there would be substantial adverse effects on China's trading partners,

and China's central bank would continue to be very constrained in using interest rates as a macroeconomic policy tool. Thus the preferred approach is to revalue the currency in the short term and only much later, after completing the transformation of the domestic banking system, move to eliminate capital controls and, at the same time, float the currency. How large an initial revaluation of the currency is called for? My colleague Morris Goldstein and I tentatively judged in 2003 that the renminbi was undervalued by an amount in the range of 15 to 25 percent. We estimated that a revaluation in this range in 2003 would have led to an overall equilibrium in China's balance of payments, thus ending the buildup of foreign exchange reserves. It would also have assisted the central bank in controlling the expansion of the money supply and credit and thus helped to alleviate inflationary pressure. We also argued that at the same time the authorities revalue the currency, they should take two additional steps. First, they should significantly widen the band within which they permit market forces to determine the value of the currency. Second, at the new parity, the authorities should peg the Chinese currency to a basket of currencies rather than solely to the US dollar.¹³

What difference would a revaluation of the renminbi by 15 to 25 percent in 2003 have made to the bilateral trade balance? Over time, it would have reduced China's current account position by about \$55 billion (i.e., imports would increase and exports would contract by an amount summing to \$55 billion). Since the United States accounts for somewhat less than one-quarter of China's trade, a crude estimate of the reduction in the US bilateral trade deficit with China would be roughly \$15 billion. Given the lags with which price effects of an exchange rate change work through the markets, the reduction would likely be reflected in a slowdown in the rate at which the bilateral trade imbalance grows, rather than a reduction in its absolute size.

As C. Fred Bergsten and Michael Mussa point out in their chapters in this book, the effect of a Chinese revaluation on the overall US current account, however, could be larger than the influence on the bilateral trade balance alone. The reason is that China may be the key to the continued general misalignment of Asian currencies. Given China's increasing competitiveness as a global exporter, Malaysia, Korea, Taiwan, and other Asian economies have been intervening in the market, adding substantially to their foreign exchange reserves to limit the appreciation of their currencies vis-à-vis the renminbi. China's revaluation should be part of the coordinated adjustments of the other Asian currencies. The cumulative effect on the overall US current account deficit of such a general realign-

13. See Morris Goldstein and Nicholas Lardy, "A Modest Proposal for China's Renminbi," *Financial Times*, August 26, 2003, and Goldstein and Lardy, "Two-Stage Currency Reform for China," *Asian Wall Street Journal*, September 12, 2003.

ment of Asian currencies would be several times the \$15 billion estimated reduction in the US bilateral trade deficit with China.

Implications for US Policy

China's rise as a global economic power appears to represent primarily an opportunity rather than a challenge for the global economy and the United States. China's openness to FDI and relatively low barriers to imports are unprecedented for a large, low-income economy. The results are apparent in record foreign capital inflows and a doubling of the ratio of imports to GDP between 1990 and 2003. US firms have benefited substantially from this trend. Since the beginning of the 1990s, exports by US firms to China have been growing more rapidly than to any other large market. In 2003, US exports to China, led by soybeans, aircraft, semiconductors, and cotton, grew by almost 30 percent to reach \$28.4 billion.¹⁴ In contrast, US exports to the rest of the world grew less than 4 percent. As a result China alone accounted for one-fifth of the growth of US exports in 2003.

China's large and rising surplus in its trade with the United States reflects primarily the relocation to China from elsewhere in Asia of substantial capacity to assemble manufactured goods, rather than Chinese protectionism. Since these goods are assembled with parts and components imported preponderately from elsewhere in Asia, whereas the major markets for the final products are in the United States and Europe, China's trade with Asia is in deficit while that with the United States and Europe is in surplus. This pattern is almost certain to persist and even deepen as the global share of manufactured goods assembled in China continues to rise over the next few years.

While the appearance of a growing share of its exports suggests that China is leapfrogging up the technology ladder at an unprecedented pace, this is not the case. Rather, once China's dependence on imports of high-value-added parts and components is taken into account, its pattern of trade largely conforms to the classic pattern of comparative advantage: It exports products that are produced with relatively large amounts of unskilled labor and little capital or land and imports products produced with large amounts of capital, highly skilled labor, and land. As China's national income rises, it will move up the technology ladder. But given the 100 million or more underemployed workers who are available to move out of agriculture and into the modern sector, real wages for entry-

14. Like all official US data on exports to China, this number excludes goods that are sold to Hong Kong companies and subsequently reexported to China. I estimate the value of these sales in 2003 at \$5.5 billion.

level unskilled jobs are likely to increase relatively slowly. Thus China's comparative advantage is likely to remain in labor-intensive products for many years.

Even if China's general pattern of trade continues to conform to its underlying comparative advantage in labor-intensive goods, it is almost certain to be the source of significant, growing trade frictions. The underlying reason is that no other relatively poor country has ever had as large a share of global trade as China now enjoys. Despite more than two decades of rapid economic growth, China's per capita income calculated at the current exchange rate exceeded \$1,000 for the first time in 2003. Low per capita income means relatively low wages, which, when combined with foreign technology and international marketing skills of foreign affiliates provides China with a strong comparative advantage in labor-intensive manufacturing. China's ability to ramp up production of labor-intensive goods poses a competitive threat to many industries that are likely to seek protection from rapidly expanding imports from China.

Nowhere is this likely to become more apparent than in apparel. At the end of 2004, the quota system, which has long distorted global trade in textiles and apparel, will be dismantled. China, given its relatively low production costs, will be able to perhaps as much as double its share of the global apparel market, assuming trade is market determined (Lardy 2002, 123–25). This is certain to lead to large domestic adjustment costs in the United States and other apparel-producing countries.

How should the United States mitigate what are likely to be growing bilateral trade frictions? First, because the large and growing US trade deficit with China will become more difficult to sustain politically if it is attributable to lack of access by US firms to China's domestic market, the Office of the United States Trade Representative and other US government agencies should continue to press China to fulfill all of the commitments it made to open its own market at the time of joining the WTO. Significant trade frictions, such as China's plan to adopt its own wireless encryption standard and to provide preferential treatment of domestically produced semiconductors, have already been resolved, suggesting that bilateral negotiations can solve some frictions. For others, notably protection of intellectual property, there has been little or no progress. In this area, the United States should pursue formal cases against China in the WTO if bilateral negotiations do not lead to significant progress. While China's full compliance with its WTO commitments could be quite important for some individual US exporters, it is crucial to bear in mind that it is unlikely that even complete compliance would have a major impact on the US bilateral trade deficit with China. This deficit is primarily a function of the structural factors discussed earlier, not protectionism in China.

Second, revaluation of the renminbi should be a key US policy goal, even though it would be expected to reduce the US bilateral trade deficit

with China only modestly, as long as China continues to maintain global surpluses on both its current and capital accounts. The bulk of the US bilateral trade deficit with China is in products such as apparel, footwear, toys, and sporting goods. Production of these goods began to move out of the United States decades ago, primarily to Asia. Beginning in the late 1980s, in response to sharply rising real wages as well as currency appreciation in these Asian countries, production of these goods began to move to China. Revaluation of the renminbi is very unlikely to bring a significant number of these jobs back to the United States. On the other hand, more recently increased competition from imports originating in China has led to job losses in tool and die, plastic moldings, and so forth. Revaluation clearly would slow the decline of employment in the United States in these industries. Equally important, China's revaluation could pave the way for adjustments in other Asian currencies, which cumulatively could contribute significantly to reducing the US global current account deficit.

Third, the United States and other high-income economies should seek to maintain open markets for Chinese goods, particularly labor-intensive manufactures. When it became a member of the WTO, China made unprecedented commitments to open its markets. Under pressure from the United States, it also agreed to allow other members to utilize unique provisions to restrict the flow of Chinese goods into world markets. One of these provisions allows other WTO members to continue to use quotas to restrict imports of Chinese apparel through 2008. In short, while quotas will be suspended for all other suppliers at the beginning of 2005, at their option the United States and other countries can continue to apply restrictive quotas to imports of Chinese apparel for four additional years. If this authority is widely invoked it will deprive China of the opportunity to expand production in a sector in which it clearly has a strong comparative advantage. That, in turn, would deprive China of a significant source of additional export earnings that it could use to further expand its imports of capital- and land-intensive products in which US producers have a strong comparative advantage. Similarly, in antidumping cases the US Department of Commerce should continue when appropriate to use methodologies that take into account the increasingly market-oriented character of the Chinese economy.¹⁵

Finally, given China's already large and likely continuing expanding role in the global economy, the United States and other industrialized countries should enhance the role of China in international bodies that seek to promote cooperation on international economic policy issues. In their chapter in this book, Jan Boyer and Edwin Truman propose to trans-

15. In the antidumping case against Chinese furniture, the US Department of Commerce in June 2004 found lower-than-expected preliminary antidumping margins because it used market economy prices for a majority of the inputs used to produce the furniture rather than surrogate prices.

form the G-20, established at the level of finance ministers and central bank governors in 1999, from a discussion forum into an action committee. Eventually the G-20 might replace the G-7. Since China and ten other large emerging-market economies are members, enhancing the role of the G-20 would recognize the growing role of large emerging markets in the global economy. If this proposal were adopted, however, there would likely be a substantial transition period during which the G-7 likely would continue to play an important role. Thus, the United States and other G-7 countries should invite China now to participate regularly in the meetings of the G-7 finance ministers. Initially this might be done by inviting China as a guest participant (as was done in the fall of 2004), but because of China's increasing weight in the global economy and the world financial system, China should be invited to become a formal member of the group in the near term.

The case for singling out China for inclusion in the G-7 finance ministers meetings rests on its vastly greater international economic weight than India and the other emerging-market economies that are members of the G-20. For example, on virtually any metric, China is a far larger player than India in the global economy. In 2003, China's foreign trade of \$850 billion was almost seven times that of India's \$130 billion, a gap only partially explained by the fact that China's economy is about twice as large as India's. The *increase* in China's foreign trade in 2003 (\$230 billion) was almost twice the *level* of India's foreign trade in the same year. The huge difference in trade volumes in part reflects India's more protectionist trade and investment policies. For example, India's 29 percent average applied tariff rate in 2002 was more than twice the Chinese level of 12 percent. FDI inflows into China of \$55 billion in 2003 were more than a dozen times India's level of \$4 billion. Indeed inflows into China in 2003 alone substantially exceeded the *cumulative* FDI inflows into India since independence in 1947. China is also a much more substantial industrial power than India. For example, in 2003, China *increased* its steel production by 40 million metric tons, an amount substantially greater than the *level* of Indian output that year of only 38 million metric tons.

China's role in the global economy is likely to continue to expand at a rapid pace. While an ever-growing bilateral trade deficit composed increasingly of high-technology goods might suggest that China poses an unprecedented economic challenge to the United States, the analysis in this chapter suggests that China should be regarded largely as a huge economic opportunity. The United States should continue to press China to fulfill all of its WTO market-opening commitments and at the same time keep its market as open as possible to goods from China. That combination of policies is most likely to generate increased exports of sophisticated US capital goods as well as agricultural products in which the United States enjoys a comparative advantage.

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