

The U.S. trade deficit: Made in China?

Chad P. Bown, Meredith A. Crowley, Rachel McCulloch, and Daisuke J. Nakajima

Introduction and summary

Most economists and policymakers agree that open international markets create important mutual benefits for the United States and its trading partners. By encouraging countries to focus on the activities in which they have a comparative advantage, the free international exchange of goods and services allows all countries to raise their living standards. Accordingly, the United States played a central role in the establishment in 1995 of the World Trade Organization (WTO), which now sets the ground rules for national trade policies worldwide and helps resolve trade disputes among its members.¹ Within the WTO framework, U.S. officials have worked to eliminate remaining tariffs, quotas, and other policy barriers to trade. At the same time, they have also negotiated agreements that further encourage trade flows with particular partners, such as the North American Free Trade Agreement (NAFTA) with Canada and Mexico.

Ongoing global trade liberalization has contributed to a major expansion of both exports and imports for the United States and most other countries. However, freeing trade from policy restrictions does not ensure that trade among nations will be balanced, either overall or with any particular trading partner. Aggregate trade deficits or surpluses reflect underlying macroeconomic conditions in each country. In some countries, such as China in recent years, exports have grown faster than imports, resulting in an overall trade surplus. In other countries, including the United States, imports have grown faster than exports, resulting in an overall trade deficit.² Moreover, China has emerged as a major source of U.S. imports, leading to a widespread view that the record overall U.S. trade deficits of recent years are “made in China.” A large and persistent trade imbalance may raise policy concerns because of its perceived links to domestic production and employment—specifically, the fear that more imports

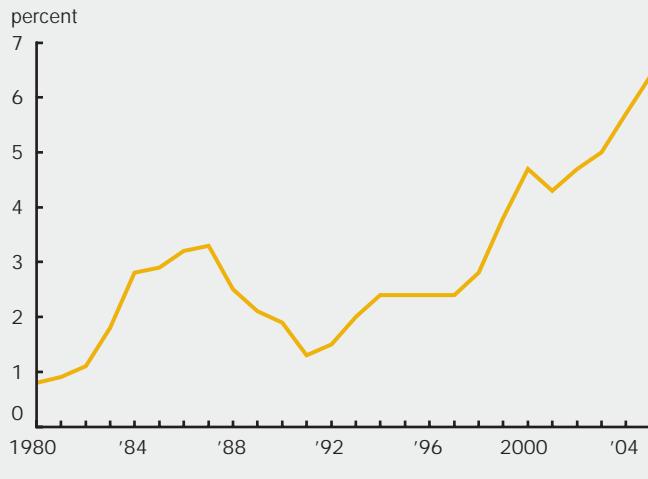
will mean less production and fewer jobs in the United States. A large and persistent trade deficit may also be worrisome to the extent that it increases U.S. reliance on international borrowing—the sale abroad of U.S. bonds and other securities.

Overall U.S. performance in trade is most frequently reported and publicized as the trade balance, or more specifically as the *merchandise* trade balance. This number, released monthly by the U.S. Department of Commerce, is the difference between the dollar value of all U.S. exports of tangible goods (merchandise) and the dollar value of all U.S. imports of tangible goods. Broader measures include the balance on goods and services trade and the current account balance.³ Figure 1 illustrates the recent increase in the merchandise trade deficit as a share of gross domestic product (GDP). In 2004, the U.S. merchandise trade deficit topped \$665 billion or 5.6 percent of GDP.⁴ This deficit set a new record, and most analysts are forecasting an even larger trade gap in 2005.

The overall trade balance can be expressed as the sum of the bilateral trade balances added up over all trading partners or, alternatively, as the sum of the industry-level trade balances added up over all industries. In a trading system with many countries and many goods, there is no theoretical reason to expect trade to be balanced with any particular partner or in any

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FIGURE 1
U.S. merchandise trade deficit, percent of GDP



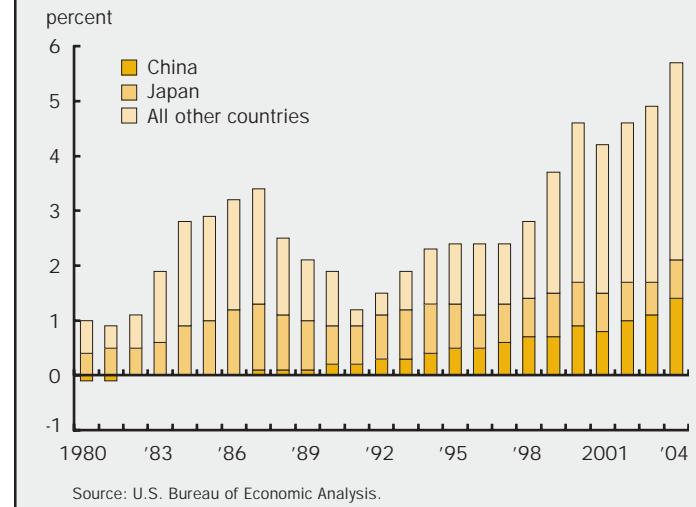
particular product category. Even when a country's trade is balanced overall, it will usually show surpluses with some partners and deficits with others, and likewise surpluses in some industries and deficits in others. These partner-specific and sector-specific balances are determined by factors such as comparative advantage, input prices, exchange rates, and trade policies. Nonetheless, bilateral and sectoral imbalances do sometimes become a focus of attention, especially when the overall imbalance is large. This, in turn, may give rise to policies that focus on specific partners or traded products rather than on the macroeconomic conditions that underlie the overall imbalance. For the United States in 2005, this has meant a focus on China and textiles.

The U.S. merchandise trade deficit with China alone accounted for about \$162 billion in 2004, or nearly one-quarter of the total U.S. trade deficit, up from a negligible share in the mid-1980s.⁵ Figure 2 highlights the growing contribution of China to the overall deficit and the declining contribution of Japan over the same period. Coming at the same time as record overall trade deficits, the rapidly growing bilateral trade deficit with China has prompted calls for new barriers to U.S. imports from China and pressure on China to allow further appreciation of the yuan.⁶ Measures directed specifically at China often reflect an implicit assumption

that a reduction in the U.S. trade deficit with China will translate into a similar reduction in the nation's overall trade deficit. The purpose of this article is to examine the bilateral trade relationship with China, particularly the likely consequences of instituting measures intended to limit U.S. imports from China. Our appraisal of recent and prospective U.S. trade policy focuses on textiles and apparel, sectors where the growth of imports from China has been especially prominent. We also consider the role that yuan appreciation might play in shrinking the bilateral and overall trade deficits.

We begin our analysis by examining the macroeconomic factors that shape the trade balance. The U.S. merchandise trade deficit is necessarily equal in size to the difference between the nation's total domestic goods production and its total expenditure on goods. Sectoral trade policies, such as recent measures to limit certain apparel imports from China, can change the composition of U.S. trade by shifting U.S. import demand toward other foreign suppliers or substitute products. However, reduction of the overall trade deficit will occur only to the extent that total U.S. production rises or total U.S. expenditure falls; neither is a probable outcome of targeted trade policies affecting only selected trading partners and products. Yuan appreciation might likewise

FIGURE 2
Bilateral deficits on U.S. trade with China, Japan, and all other countries, percent of GDP



change the composition of U.S. trade by shifting U.S. demand toward alternative suppliers. Again, the overall trade gap can change only to the extent that changes in the international value of the dollar result in more U.S. production or less U.S. expenditure. However, an appreciation of the yuan against the dollar that is not fully anticipated by market participants would likely be associated with an unexpected reduction in the rate of accumulation of U.S. dollar-denominated assets by the Chinese. This, in turn, could cause an unexpected increase in U.S. interest rates. Because higher interest rates tend to reduce U.S. expenditure, yuan appreciation could reduce the overall U.S. trade gap as well as the size of the bilateral deficit with China. Although it is too soon to evaluate the full consequences of China's new exchange rate policy, one immediate effect of the small appreciation announced on July 21, 2005, has been to change expectations—most market participants now see further appreciation as likely.

In the second part of this article, we take a closer look at current and prospective U.S. trade policies toward China. In the 1980s, U.S. policymakers took steps to limit surging imports from Japan (see box 1). Now they seem inclined to take similar steps to reduce U.S. imports from China. Although sector-specific measures cannot have an important effect on the overall U.S. trade imbalance, they may have a significant impact on trade flows at the industry level, including U.S. and Chinese trade with other nations. Past experience with U.S. policies targeting specific foreign suppliers, such as Japan and Korea, suggests that restrictions on U.S. imports from China are more likely to divert U.S. demand toward other low-cost foreign suppliers than toward domestic import-competing industries (Moore, 1996; Prusa, 2001; Bown, 2004). Such restrictions may also affect the flow of Chinese exports toward other potential markets (Bown and Crowley, 2005b), perhaps causing other importing countries to impose their own trade barriers on the same types of products. Indeed, research suggests that the probable result of selective trade policies is the reduction of national and world well-being without a significant effect on the overall trade balance.

External imbalances and domestic macroeconomic fundamentals

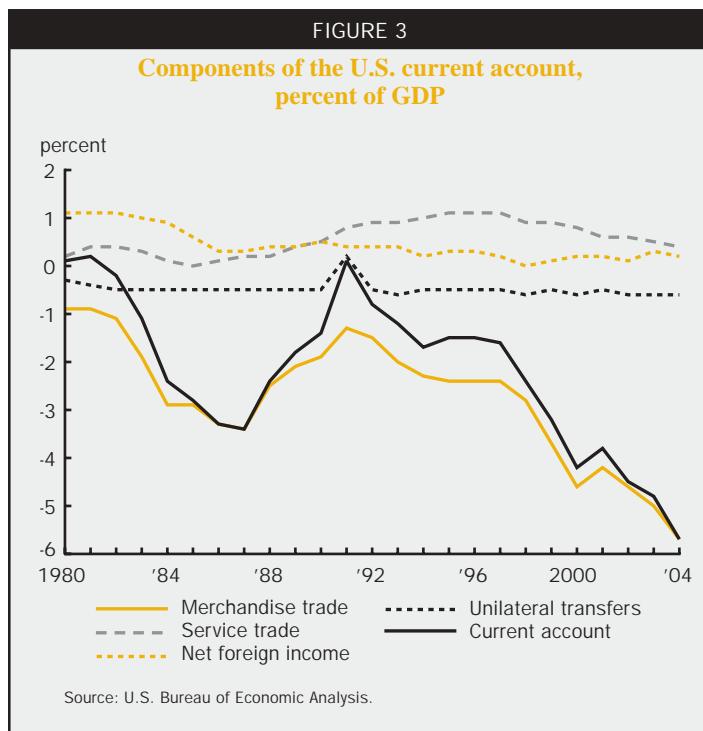
We have noted that the overall trade balance can be expressed as the sum of the bilateral trade balances added up over all trading partners or as the sum of the industry-level trade balances added up over all industries. However, an alternative approach comparing domestic production of goods and domestic expenditure

on goods reveals an important relationship between the overall trade balance and macroeconomic conditions. For each category of goods at the industry or sub-industry level, U.S. net exports (exports minus imports) must equal total domestic production of such goods minus total domestic expenditure for such goods.⁷ Summing over all categories of goods, this implies that the nation's merchandise trade balance must equal the difference between total goods production and total goods expenditure. The overall trade deficit thus reflects macroeconomic conditions and can change only to the extent that those macroeconomic conditions change. Although sectoral policies, such as tariffs and quotas, can have important effects on the trade balances of particular industries or with particular trading partners, these policies can reduce the overall trade deficit only to the extent that they affect macroeconomic conditions, that is, to the extent that they increase total domestic production or reduce total domestic expenditure.⁸

The merchandise trade balance reflects only transactions involving tangible goods, which account for a declining share of total U.S. production and expenditure. To link the nation's overall income and expenditure to its international position, we use the current account, which includes not only transactions involving tangible goods but also trade in services, net foreign income, and unilateral transfers. In macroeconomic terms, the current account deficit is equal to the difference between the nation's total income and its expenditure on consumption and domestic investment or, equivalently, to the gap between the nation's total (public and private) savings and its total domestic (public and private) investment spending.

The counterpart to the current account balance is the financial account balance, which records net U.S. spending for foreign assets (U.S. capital outflows) and foreign spending for U.S. assets (U.S. capital inflows). The U.S. financial account surplus, roughly equal in size but opposite in sign to the current account deficit, is loosely interpreted as indicating U.S. net borrowing from the rest of the world—the borrowing needed to cover the gap between U.S. spending and receipts as recorded in the current account.⁹ The large U.S. current account deficit and the large increase in U.S. borrowing from the rest of the world are therefore two sides of the same coin.

While reports in the popular press often portray the trade and current account deficits as alarming developments, economic theory shows that a trade or current account deficit (or surplus) is inherently neither bad nor good in itself.¹⁰ Whether a deficit should be seen as a problem depends on a country's present and future circumstances. The deficit is a benign development only



as long as the required level of borrowing is reasonable, given the country's economic prospects and the interest rate on borrowed funds. Thus, policymakers may become concerned if the current account deficit grows sufficiently large.¹¹

Although rapid growth of the merchandise trade deficit underlies recent growth of the U.S. current account deficit (see figure 3), the current account deficit and the trade deficit differ in terms of public response and the political fallout. The two main issues raised by the large and persistent U.S. current account deficit are sustainability and intergenerational equity. The sustainability issue concerns the prospect for financing an ever-growing current account deficit—how long lenders abroad will continue to supply capital to the United States on the same terms, and what will happen if and when they stop. Intergenerational equity concerns implications for the well-being of future U.S. citizens. A current account deficit (financial account surplus) means that a country is borrowing more from residents of other countries than it is lending to them. The nation's increasing indebtedness to the rest of the world may be viewed as placing an unfair burden on future generations. In contrast, concerns about the trade deficit focus on its implications for overall macroeconomic performance, as well as for employment and output in particular "trade-sensitive" manufacturing industries, such as steel, autos, textiles, and apparel.

However, empirical analysis reveals no causal link from trade deficits to macroeconomic performance or job creation.¹²

Why focus on China?

Analysts estimate that the U.S. current account deficit, now 6 percent of GDP, would need to drop to 2–3 percent of GDP in order to achieve long-run sustainability (Kouparitsas, 2005; Roubini and Setser, 2004).¹³ Thus, without reductions in other bilateral imbalances, sustainability could not be achieved even if the U.S.–China trade deficit dropped to zero. Furthermore, unless accompanied by changes in overall macroeconomic conditions in the United States, any reduction in the U.S. deficit on trade with China, whether achieved through trade policy or yuan appreciation, would cause corresponding increases in other bilateral deficits, as U.S. demand for products previously purchased from China was diverted to other foreign suppliers. Thus, the effect on overall trade and current account balances would likely be minimal. So why emphasize the role of China?

To begin with, China currently has the largest bilateral trade surplus with the United States; relative to the size of China's economy, the surplus is even larger.¹⁴ And China's bilateral surplus is also among the fastest growing. To the extent U.S. policymakers believe that bilateral balances with other regions will not be affected, they may see policies aimed at China as the most efficient way to make progress in bringing down the overall deficits. Moreover, most researchers believe that China has kept the value of its currency artificially cheap, thus implicitly subsidizing its exports and taxing its imports.¹⁵ This view is bolstered by China's large accumulation of official U.S. dollar reserves. China's unwillingness to allow the yuan to appreciate has, in turn, made other Pacific Rim countries reluctant to allow their own currencies to appreciate, lest export sales be lost to Chinese rivals. Following China's recent announcement of its new exchange rate regime, Malaysia responded by shifting its own currency regime from a dollar peg to a basket peg. However, given the very small initial change in the yuan's value, most countries in the region have adopted a wait-and-see attitude.

At the sectoral level, many of China's exports to the United States compete with domestic manufacturing industries already facing stiff competition from other

Is China the new Japan?

Rapid export-led growth and escalating rhetoric: The basics of today's U.S.-China confrontation over trade and currency misalignment closely resemble those of the U.S.-Japan trade conflict in the 1980s. Just as today, many U.S. officials seized upon the large and growing bilateral trade deficit with Japan as a "smoking gun"—seemingly incontrovertible evidence that America's problems were rooted in trade and currency practices abroad (McCulloch, 1988). In some specifics, the two situations are strikingly similar. Just as today, the United States in the 1980s was running not only a large bilateral trade deficit with Japan but also large overall trade and current account deficits. Also similar to the recent situation with China, Japan in the 1980s prevented its currency, the yen, from appreciating relative to the U.S. dollar through massive official purchases of U.S. securities, thus allowing the United States to finance a large and growing U.S. fiscal deficit without driving up U.S. interest rates. Mann (2005) describes the recent U.S. relationship with China (and other surplus nations) as one of co-dependency; China's willingness to add to its already huge stock of official U.S. dollar assets has provided the United States with cheap financing and thereby, to some extent, sustained the high level of U.S. expenditure.

The similarities extend beyond macroeconomic roots. In both Japan and China, government subsidies to export industries played at least a supporting role in export success. Moreover, both countries' exports were subjected to country-specific U.S. trade policies—policies benefiting established U.S. trading partners as well as, and sometimes more than, competing domestic firms. Beginning in 1981, a voluntary restraint agreement limited Japan's fast-growing exports of autos to the United States. Today bilateral actions limit China's fast-growing exports of textiles and apparel to the U.S. market, and Chinese exporters in a number of other industries face high U.S. antidumping duties.

However, there are also notable differences between the two situations. In the 1980s, Japan's overall imports, and especially imports of intermediate goods, were low compared with other industrialized economies. In contrast, China's overall imports are large and growing; China's goods production is highly integrated with the world economy. While Japan in the 1980s ran a sizeable overall trade surplus as well as a large bilateral surplus on trade with the United States, the rapid growth of China's imports has meant that its overall trade surplus, though recently trending upward, is much smaller than its bilateral surplus on trade with the United States. Moreover, where multinational corporations had little success in penetrating Japan in the 1980s, China has become an important magnet for foreign direct investment and ranked first among developing host countries in 2004. By most measures, China can be considered a very open economy—even more so given its size and level of development.¹

Perhaps the most important difference is that Japan's total labor force limited the growth of its economy and its exports. In the 1980s, Japan was already near full employment. In contrast, China is only in the early stages of mobilizing its huge labor supply. Many unemployed and underemployed workers, including those displaced through the restructuring of agriculture and state-owned enterprises, have yet to be drawn into the more market-oriented and efficient parts of the Chinese economy. Thus, China's rapid growth has the potential to continue for decades. If the current growth rate were to be maintained, China could overtake the United States as the world's largest economy—and most important market—within a few decades.

Do the consequences of the intense U.S. policy focus on Japan in the 1980s shed any light on the current situation with respect to China? The results of U.S. efforts included a substantial appreciation of the Japanese yen relative to the dollar beginning in February 1985 and bilateral trade agreements for automobiles, semiconductors, agriculture, and other sectors in which U.S. negotiators sought to restrict imports from Japan or increase U.S. exports to Japan. Although it is not possible to identify specific causal links to subsequent developments, some of these developments are worth noting in connection with recent U.S. policy initiatives toward China.

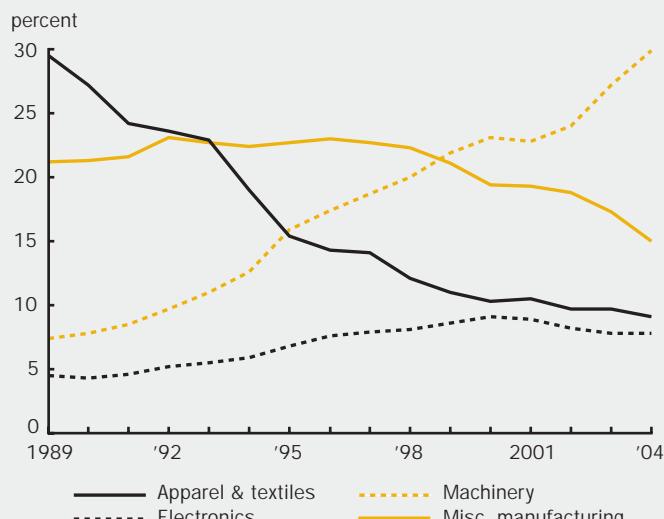
First, these measures did not close the bilateral trade gap. Japan continued to maintain a substantial surplus on trade with the United States as well as a global trade surplus despite bilateral trade measures and yen appreciation. As figure 2 (p. 3) shows, the U.S. bilateral imbalance on trade with Japan has only recently been eclipsed in size by the record deficit on trade with China. Yet, Japan's continuing surpluses on trade did not translate into continuing vigorous growth of the Japanese economy. Perhaps as a consequence of macroeconomic policies aimed at countering the effects of the strong yen, Japan's economic growth slowed to a crawl during the "lost decade" of the 1990s (Bergsten, Ito, and Noland, 2001); meanwhile, the United States experienced vigorous growth but also a rising trade deficit.

Effects at the sectoral level are also instructive. Faced with negotiated limits on the volume of U.S. auto imports from Japan, Japanese producers upgraded the quality and price of cars destined for the U.S. market (Feenstra, 1988). U.S. auto imports from Europe and later Korea surged, while many Japanese companies established U.S. production facilities. Japan's Toyota now rivals General Motors and Ford in U.S. sales and far exceeds them in profitability. Autos and auto parts still dominate Japan's exports to the United States.

¹Other things being equal, larger countries tend to have a lower ratio of trade to GDP; likewise, developing countries tend to have a lower ratio of trade to GDP.

FIGURE 4

**Major U.S. imports from China, by sector,
percent of total imports from China**



Source: U.S. International Trade Commission.

foreign suppliers. Foremost among these industries are apparel and textiles, sectors with significant protection from competing imports. Although apparel and textiles together now account for a low share (9 percent in 2004) of total U.S. imports from China, and that share has been declining (see figure 4), China's role at the industry level is significant and growing. China is currently the largest foreign supplier, accounting for about one-fifth of total U.S. imports. Also, Chinese exports of textile and apparel products to the United States have continued to grow as a share of total U.S. imports at the industry level (figures 5 and 6) and as a share of U.S. domestic consumption (figure 7).

As we document below, U.S. trade policy since the 1990s has imposed greater restrictions on imports from China than on those originating elsewhere. Moreover, as a new entrant to world markets, China has been at a disadvantage in contesting U.S. trade policies that limit its exports. Before its accession to the WTO in 2001, China could not bring trade disputes under WTO rules and had no formal role in multilateral negotiations. Even though China is now in the WTO, the terms of its accession allow for a long transitional

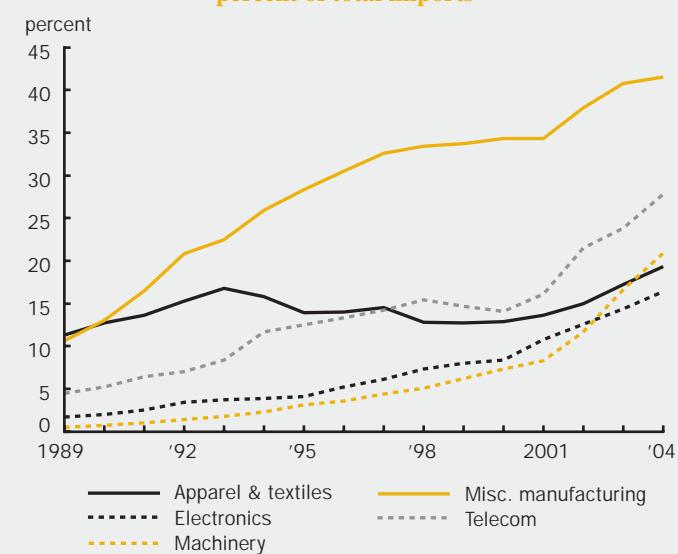
period of potentially discriminatory treatment by other WTO members. Moreover, China has not been included in recent U.S. efforts to negotiate preferential trade agreements. Therefore, Chinese exports must compete in the U.S. market with goods from an increasing number of countries that face lower trade barriers.

U.S. officials may also be looking ahead to competition with China in other sectors. Despite the recent emphasis on textiles and apparel, where U.S. imports from China soared in early 2005 following the elimination of U.S. quotas on these products, Chinese competition in other manufacturing industries has been growing even more rapidly (see figure 5). As with textiles and apparel, to a large extent these Chinese gains have come at the cost of traditional exporters. The depreciation of the U.S. dollar relative to the euro and the Canadian dollar has reinforced this trend by redirecting U.S. import demand toward China, Japan, and other East Asian export-

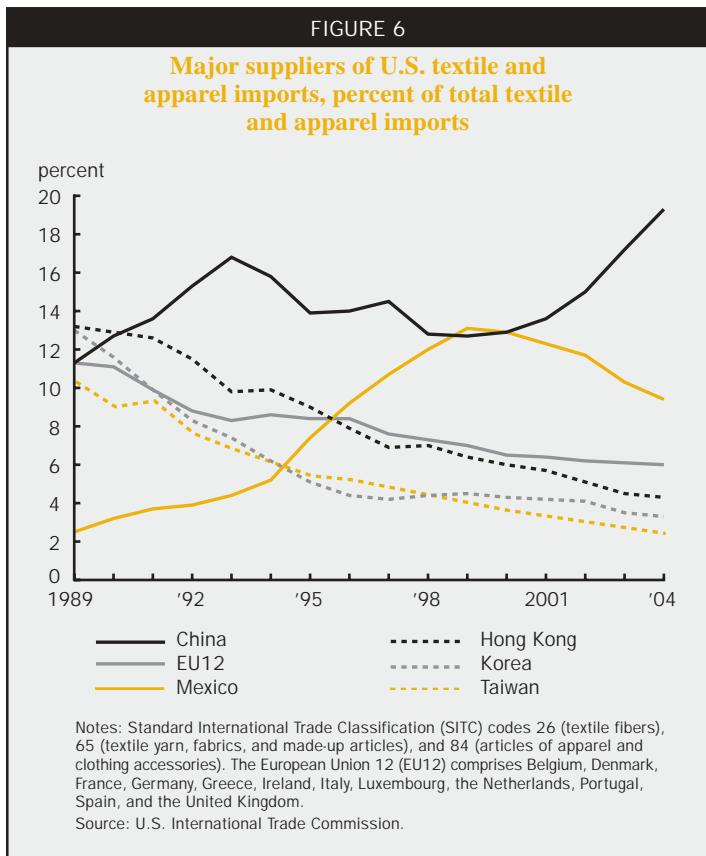
ers. Moreover, Chinese producers have proved to be adept at producing increasingly sophisticated products.¹⁶ Chinese auto parts are already entering the U.S. market in substantial quantities; imports of Chinese-built vehicles are expected as early as 2007 (Power, 2005).

FIGURE 5

**U.S. imports from China, by sector,
percent of total imports**



Source: U.S. International Trade Commission.

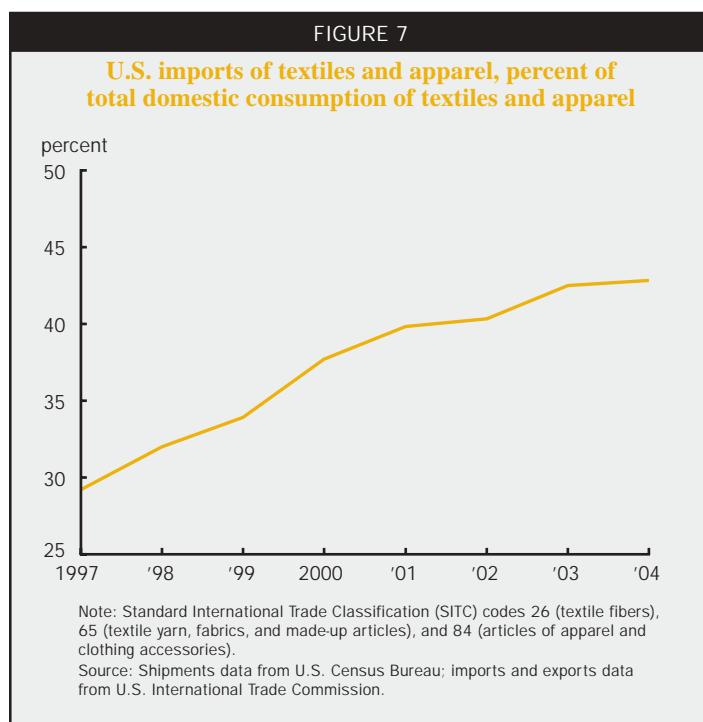


These factors have combined to produce growing support both from within the United States and from established U.S. trading partners for new action to limit China's access to U.S. markets. So far, pressure on China has been focused primarily in two areas: exports of apparel and the yuan-dollar exchange rate. But industry-specific measures are unlikely to have a noticeable effect on the overall U.S. trade deficit. Reducing U.S. imports of apparel through measures targeted only at China would mainly divert U.S. import demand toward other foreign suppliers, thus restoring some of the sales these countries have recently lost to their Chinese competitors. Although overall U.S. well-being would likely decline as American consumers face higher prices, some benefits would be reaped by rival producers abroad and perhaps also some producers in the United States. In contrast, as we discuss later, a significant realignment of the yuan has the potential not only to reallocate U.S. imports among

trading partners but also to affect U.S. macroeconomic conditions and thus the overall size of the trade and current account deficits.

U.S. trade policy toward apparel and textile imports from China

U.S. bilateral agreements with China as well as the terms of China's WTO accession provide for special safeguards aimed at Chinese exports of apparel and textiles. Until its ten-year phaseout was completed on January 1, 2005, the international Multi-Fiber Arrangement (MFA) set a quantitative limit on each country's exports of each individual textile and apparel product to each importing country. During the phaseout, China made important gains in the U.S. market at the expense of other developing countries, as well as at the expense of U.S. domestic production (see figures 5 and 6); imports from China surged in the early months of 2005. New restrictions on U.S. imports from China thus enjoy the support not only of competing domestic producers, but also of established foreign suppliers in Asia, the Caribbean and Central America, and Africa.



Recent U.S. efforts to limit apparel and textile imports from China are the latest manifestation of a long tradition in U.S. trade policy. Textile imports from Japan had already begun to threaten U.S. producers before World War II, and the United States responded by implementing Japan-specific trade restrictions. In 1956, the United States negotiated a voluntary export restraint on Japanese cotton textile products, resulting in an increase in U.S. imports from other suppliers and of other fibers. International efforts to control this diversion of trade started with the Short-Term and Long-Term Cotton Textile Arrangements (1961–73) and eventually culminated in the Multi-Fiber Arrangement, which regulated most world trade in textile products from 1974 until the end of 1994. These various arrangements meant that international trade in textile products was highly distorted. The system was perceived to be inefficient and unfair. This contrasted sharply with international trade in other manufactured goods, which had been governed since 1947 by rules established under the General Agreement on Tariffs and Trade (GATT).

Lengthy international negotiations completed in 1994 established the World Trade Organization, which replaced the General Agreement on Tariffs and Trade.¹⁷ At the same time, negotiators agreed to bring trade in textile products gradually into conformity with the GATT/WTO system's basic rules. From 1995 until the end of 2004, trade in textiles and clothing was to be covered by the Agreement on Textiles and Clothing (ATC), which gradually phased out the MFA's system of quantitative restrictions. When the ATC was being negotiated, the idea of scrapping the MFA enjoyed strong support from developing countries, which included many countries with established or potential comparative advantage in these products; the apparel sector in particular has long been the first step on the road to industrial development. Elimination of all quantitative restrictions on trade in apparel and textiles, thus bringing these products under standard GATT/WTO rules, was expected to provide significant benefits to developing countries. In fact, the agreement to phase out the MFA was widely viewed as a key element in the negotiations, a long-awaited change valuable enough to induce developing countries to accept new rules on services and a more stringent system to protect intellectual property rights.

In the early 1990s, when developing country negotiators “won” ultimate elimination of the MFA, they did not anticipate the rapid pace of China’s integration into the global economy and its acceptance in 2001 as a member of the WTO. As China has emerged as the most important exporter of many apparel and textile

products and begun to enjoy the most favored nation (MFN) status afforded to all WTO members,¹⁸ other developing-country exporters have become active, first in urging a delay in full elimination of the MFA and more recently in attempting to maintain established markets in the United States.

Exports from China have made substantial inroads in the U.S. market despite China-specific import barriers. However, the effect of these barriers can be seen by comparing China’s 2003 share in total U.S. imports of textiles and clothing with China’s share in Australia and Japan, countries at a similar stage of development to the United States. These countries offer a useful comparison because, unlike other industrialized countries, Australia and Japan were not using country-specific quotas to restrict textile and apparel imports in 2003.¹⁹ Although both countries applied tariffs to imports of textiles and apparel, import tariffs still allowed lower-cost producers, such as China, to capture larger shares of their import markets. Indeed, as table 1 indicates, in 2003 China accounted for a significantly *smaller* share of total imports in the United States than in the two other markets. Neither country offers an ideal comparison with the United States because of their greater geographical proximity to China. Still, if Chinese firms’ penetration of the Australian and Japanese import markets is roughly indicative of China’s comparative advantage in textile and clothing production, Chinese exporters have the potential to achieve a substantial further increase in their U.S. market share. As in the past, this gain in market share would likely come at least in part at the expense of other exporters.

Competing exporters can maintain their established shares in the U.S. market by arranging to receive lower tariffs on their exports of textiles and clothing than those applied to exports from China. This can be achieved in at least two different ways. The first is by negotiating a preferential trade agreement with the United States in which each party agrees to give preferential market access to the other, usually along with other concessions. This type of preferential treatment gives some exporters to the U.S. market an advantage in competition with Chinese exporters. As table 2 shows, the United States has recently concluded such negotiations with countries in the Andean region (ATPDEA), Central America (CAFTA-DR), Cambodia, Bahrain, and Morocco. The table also indicates that most of these countries may have been motivated to negotiate such an agreement at least partly because a substantial fraction of their exports to the United States is in textiles and clothing, sectors in which they face increased competition from China for the U.S. market.

Exporting country	TABLE 1 U.S., Australian, and Japanese imports of textiles and apparel, 2003		
	Share of of U.S. market	Share of Australia's market	Share of Japan's market
(percent of total textile and apparel imports)			
China	17.4	49.9	71.7
Mexico	9.9	0.3	0.1
EU12	6.0	9.5	9.1
Hong Kong	4.5	2.1	0.3
India	4.3	3.6	1.1
Canada	4.1	0.4	0.1
Korea	3.5	2.7	2.6
Taiwan	2.9	2.6	1.4
Pakistan	2.7	2.3	0.3
New Zealand	0.1	6.9	0.1
U.S.	—	3.8	2.7
Others	44.6	15.9	10.4

Notes: Standard International Trade Classification (SITC) codes 26 (textile fibers), 65 (textile yarn, fabrics, and made-up articles), and 84 (articles of apparel and clothing accessories). The European Union 12 (EU12) comprises Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, and the United Kingdom.

Source: Organization for Economic Cooperation and Development.

China-specific import barriers

A second way other foreign suppliers can face lower tariff rates in the U.S. market than their Chinese competitors is if the U.S. government raises trade barriers against Chinese producers alone. There are several trade policies, all consistent with WTO rules, through which this is possible: antidumping duties, the standard safeguard, the China safeguard, and the China-specific textile and apparel safeguard.²⁰ For textiles and apparel, the most frequently used policy has been the China-specific textile and apparel safeguard, which is administered by the Office of Textiles and Apparel (OTEXA) in the U.S. Department of Commerce. Table 3 indicates a number of investigations of Chinese exports of various textile and apparel products undertaken by the OTEXA in 2004. Domestic textile and apparel producers in the United States are not the only potential beneficiaries from imposition of safeguards on imports from China. Because producers in other developing countries may have higher costs than their Chinese counterparts and yet still enjoy a large cost advantage relative to U.S. producers, gains to these other foreign suppliers may be even greater than gains to U.S. producers.

A particular concern regarding the OTEXA process is its lack of transparency. In contrast to the administration of other U.S. trade remedies, including antidumping, the standard safeguard, and the China safeguard, the quasi-judicial and independent U.S. International Trade Commission plays no role in reviewing applications for the China-specific textile

and apparel safeguard. Instead, the entire process is carried out internally by the OTEXA in the U.S. Department of Commerce. Because the OTEXA mandate is specifically to assist domestic textile and apparel producers, the OTEXA's decisions may err on the side of protection by giving little weight to the costs imposed on domestic consumers of the affected products.

The China-specific textile and apparel safeguard provision administered by the OTEXA is due to expire in 2014. However, the U.S. antidumping law can also be used to impose country-specific protection. Traditionally, there has been no need to deal with imports of apparel and textiles through antidumping, since imports were already being man-

aged through the MFA, the WTO Agreement on Textiles and Clothing, and, most recently, the China-specific textile and apparel safeguard. But in other industries, the application of U.S. antidumping duties has had a disproportionate effect on imports from China.²¹ Evidence from table 4 indicates how producers in other industries have managed to use the antidumping provisions to gain an advantage over Chinese exporters through imposition of country-specific protection. Over the past 15 years, China has been investigated more often and has faced antidumping duties on more products than any other country.²²

Antidumping duties are designed to restrict imports of products supplied to the U.S. market at a price below their cost of production or below the price the same firms charge in a foreign market. Most economists believe antidumping duties are usually harmful to overall national well-being. Nonetheless, such duties often find political support because they can be used to limit the competitive pressure in high-cost domestic industries from low-cost foreign competitors. Table 4 lists the average antidumping duty imposed on each of the top ten country targets of U.S. antidumping actions after affirmative investigations. The table indicates that the typical antidumping duty imposed on Chinese firms is much higher than the duty facing firms from other countries. Thus, if an exporter in another country is confronted with a U.S. antidumping measure at the same time as a Chinese exporter, what matters is the size of its duty relative to that levied on a lower-cost supplier in China.²³

TABLE 2
Textile and apparel exports to the U.S., 2003, by U.S. PTA partners and China

Country	Textiles and apparel as percent of total exports to U.S.	Textiles and apparel as percent of total imports by U.S.
Andean Trade Promotion and Drug Eradication Act (ATPDEA) countries		
Colombia	8.61	0.66
Bolivia	18.53	0.04
Peru	21.48	0.62
Ecuador	0.74	0.02
Central American–Dominican Republic Free Trade Agreement (CAFTA–DR) countries		
Dominican Republic	48.23	2.58
El Salvador	86.90	2.11
Honduras	77.78	3.10
Nicaragua	62.98	0.58
Guatemala	60.55	2.15
Costa Rica	17.84	0.72
Cambodia	99.12	1.51
Morocco	19.49	0.09
Bahrain	49.64	0.23
China	9.80	17.87

Notes: PTA indicates preferential trade agreement. North American Industry Classification System (NAICS) product categories 313 (textile mills), 314 (textile product mills), and 315 (apparel manufacturing).

Source: U.S. International Trade Commission.

The higher average duty for Chinese exporters reflects the methodology that the U.S. Department of Commerce uses to compute the dumping margin, which is the estimated difference between a product's sale price and its "fair value" (Blonigen, 2003). Commerce Department officials are permitted to choose among alternative methods of calculating the dumping margin, but in the case of China, it is typically the difference between the price charged by Chinese exporters in the U.S. market and an estimate of the Chinese firm's cost of production. However, because of China's non-market-economy (NME) status and resulting claims that input prices do not reflect true costs, the Commerce Department frequently uses input prices from "proxy" countries with similar characteristics to estimate the Chinese firms' costs. The Commerce Department is able to use discretion in the choice of comparison countries; officials can pick

countries so as to generate high cost estimates and thus maximize the benefit to the petitioning domestic industry and also to exporters in other countries.

TABLE 3
China textile safeguard investigations by the United States, 2004

OTEXA category	Product under investigation
349/649	Brassieres and other body supporting garments
350/650	Dressing gowns and robes
222	Knit fabric
447	Wool trousers
620	Other synthetic filament fabric
301	Combed cotton yarn
352/652	Cotton and man-made fiber underwear
338/339	Men's & boys' and women's & girls' cotton knit shirts and blouses
340/640	Men's & boys' cotton and man-made fiber shirts, not knit
638/639	Men's & boys' and women's & girls' man-made fiber knit shirts and blouses
647/648	Men's & boys' and women's & girls' man-made fiber trousers
347/348	Men's & boys' and women's & girls' cotton trousers

Note: Requests for China textile safeguard action between October 8 and December 1, 2004.
Source: U.S. Department of Commerce, Office of Textiles and Apparel (OTEXA), 2004, <http://otexa.ita.doc.gov/chinare1dec1.pdf>.

TABLE 4

U.S. antidumping actions against trading partners most frequently investigated, 1990–2003

Country	Number of antidumping investigations	Number of investigations resulting in duties	Mean duty, conditional on duties imposed, percent	Percent of total U.S. imports	Rank among U.S. imports sources, 1996
1. China	91	61	127.02	3.5	8
2. Japan	53	33	68.44	14.0	2
3. Korea	39	20	16.65	2.7	10
4. Taiwan	30	15	20.46	3.7	7
5. Mexico	26	11	41.18	10.0	3
6. Germany	26	10	37.60	4.9	4
7. India	25	11	52.89	0.8	24
8. Canada	25	6	25.35	21.0	1
9. Brazil	24	12	76.47	1.2	16
10. Italy	19	10	22.75	2.3	11
Other	272	105	54.55	35.9	
Total	630	294	64.15	100.0	

Sources: Data compiled by the authors from the *Federal Register*; U.S. import data from Feenstra (2000).

A high calculated margin may also result when foreign firms fail to respond to the U.S. antidumping investigation process—perhaps because of the short time deadlines, language barriers, or unfamiliarity with the U.S. legal system, all problems that may be particularly acute for a new market entrant like China. In this instance, the Commerce Department is authorized to use the “Facts Available” or the “Best Information Available” in constructing a measure of the foreign firm’s costs—these may be the petitioning domestic industry’s own (high) estimates of those costs.

Implications of restrictions on U.S. imports from China

Restrictions on imports from China impose higher costs on U.S. consumers, who now have to pay more for products. However, contrary to the usual justification for these measures, U.S. workers employed in the industry may not be protected. As data in Levinsohn and Petropoulos (2001) illustrate for textiles and apparel, these highly protected industries are characterized by ongoing entry of new firms (and hiring of new workers) at the same time that current plants are closing (and laying off current workers). Protection may increase profitability of the domestic industry, thus encouraging new investment at the same time that older plants, often in a different part of the country, are closing. Although protection can allow the domestic industry to “survive” for a longer period, there is little reason to expect current workers to benefit. The high entry and exit rates reported by Levinsohn and Petropoulos (2001) suggest that protection, by raising the industry’s profitability, may actually accelerate

new entry and relocation, thus adding to competitive pressures on current plants and thereby speeding rather than retarding layoffs at these plants. The largest gains from protection are likely to accrue to capital owners who can lower costs by substituting technology and capital for labor in the production process. Abroad, exporters with implicit or explicit preferential access²⁴ to the U.S. market relative to China will also gain.

Moreover, U.S. imposition of barriers toward imports from China is likely to have substantial international repercussions. China-specific import barriers could cause trade deflection, that is, the redirection of restricted exports to other import markets. There is empirical evidence of trade deflection associated with trade actions limiting U.S. imports from Japan (Bown and Crowley, 2005a). The import surges in other markets may in turn contribute to new protection in those other markets, as officials use their own antidumping or China-specific safeguard laws to cope with actual or threatened import surges (Messerlin, 2004).

In some cases, however, countries may instead choose to benefit from access to deflected, and thus cheaper, imports as well as an increased variety of available products. To the extent that the deflected imports are intermediate inputs, such as auto parts or steel, the lower prices and greater variety will enhance the competitiveness of foreign consuming firms relative to consuming firms in the United States, which are typically in the higher value-added industries that require these inputs.

With the United States and other trading partners (for example, the European Union and Brazil) imposing or threatening to impose safeguards on Chinese

apparel imports, in May 2005 the Chinese government responded by proposing export restrictions on the same products, thus “voluntarily” restraining their exports (Barboza and Bradsher, 2005). How would the effects of an export-restricting Chinese policy (for example, an export tax) compare with those of a U.S. import restriction (for example, an import tariff)? Either a Chinese export tax or a U.S. safeguard tariff on imports would reduce trade volume and raise the prices U.S. consumers pay for imported products. But under a Chinese export tax, the Chinese government would collect tax revenue equal to the size of the tax multiplied by the volume of exports. Under a U.S. import tariff, the U.S. government would collect the tax revenue. The standard analysis of a U.S. safeguard tariff on apparel imports predicts that it will reduce the well-being of the economy as a whole, even taking into account possible gains for competing domestic producers and tax revenue generated. If the trade restriction takes the form of a Chinese export tax rather than a U.S. import tariff, the negative impact on U.S. economic well-being would be even larger because the revenue is collected by the Chinese government rather than the U.S. Treasury. For similar reasons, the loss to China is smaller with an export tax than an import tariff.

In the 1970s and 1980s, the United States negotiated voluntary export restraint (VER) agreements with Japan and other highly competitive new exporters as a way to reduce U.S. imports selectively without disrupting relations with established suppliers. As VERs are now prohibited by WTO rules, China’s actions in voluntarily restraining its exports may be seen as inconsistent with China’s obligations under the WTO (Bown, 2002). However, such actions are unlikely to be challenged within the WTO because of the self-enforcing nature of the system. Instead, the export tax revenue may be viewed as implicit compensation paid by the United States to China for imposing a restriction on its own exports.

Yuan appreciation

From June 1995 until July 2005, China pegged the value of its currency at 8.28 yuan per U.S. dollar.²⁵ In the mid-1990s, this nominal rate approximated an equilibrium market rate (the rate at which the market demand for yuan was equal to the market supply). But recently the demand for yuan at this fixed price greatly exceeded the supply, obliging the Chinese central bank to intervene to meet the excess demand for yuan. Operationally, maintaining the dollar peg required China to buy foreign exchange at the official rate, that is, to supply yuan in exchange for U.S. dollars or other reserve currencies to meet any excess demand for yuan.

In the absence of these official transactions, market forces would have caused the yuan’s value to appreciate.

The demand for yuan is derived from foreign demand for Chinese goods and services and also for portfolio and direct investments in China. The supply of yuan is likewise derived from China’s own purchases of foreign goods, services, and assets. Recent upward pressure on the yuan, and the associated surge in China’s official reserves, reflects not only China’s export performance but also strong net inflows of foreign capital, including speculative inflows. In 2004, a record \$55 billion of net foreign direct investment plus substantial portfolio capital inflows contributed to the demand for yuan that had to be met by purchases of foreign exchange. By the end of 2004, China’s official foreign-exchange reserves stood at \$610 billion, with a substantial share in the form of U.S. dollar assets. Holdings of U.S. Treasury securities accounted for an estimated \$194 billion, making China second only to Japan (with \$712 billion) in recorded foreign holdings of U.S. Treasuries (Prasad and Wei, 2005).

A pegged exchange rate is one of many options available to members under current International Monetary Fund (IMF) rules, and China was hardly alone among developing countries in its choice to peg its currency to the U.S. dollar. It would also be hard to argue that China, which was relatively untouched by the 1997–98 financial crisis that severely affected other countries in the region, could have turned in a better performance under a different currency regime. For two years, Chinese officials rebuffed U.S. efforts to influence China’s currency policy. However, on July 21, 2005, China announced a new policy that responded—at least in qualitative terms—to recent U.S. pressure for yuan appreciation and a more flexible exchange rate regime.

Under the new policy, the yuan will be pegged to a currency basket,²⁶ another option permitted under current IMF rules and in use elsewhere. The policy change entailed an immediate increase in the dollar value of the yuan by 2.1 percent, and the possibility of further increases relative to the currency basket by as much as 0.3 percent per day. Although a statement from China’s central bank denied any plans for further revaluation in the near future (Barboza and Fuerbringer, 2005), Federal Reserve Chairman Alan Greenspan and U.S. Treasury Secretary John Snow nonetheless welcomed the Chinese decision as a constructive first step—presumably a first step toward a significantly larger appreciation of the yuan relative to the dollar (Andrews, 2005). But China will not make the decision to permit a more significant revaluation lightly. Significant appreciation could undercut export momentum

and might slow inflows of foreign direct investment as costs of production in China rise relative to those in other potential host nations. Appreciation of the yuan also means a fall in the local-currency value of China's huge holdings of U.S. dollar assets.²⁷

If the yuan does continue to move upward relative to the U.S. dollar, can the United States expect to see a reduction of its trade deficit? Most answers to this question focus on the resulting change of relative prices. Depending on the extent to which a higher international value of the yuan is passed through to U.S. consumers in the form of higher dollar prices of Chinese goods, substantial yuan appreciation could indeed reduce the U.S. bilateral trade deficit with China. However, this improvement would come mostly through substitution by U.S. importers of goods from other foreign sources, with the pattern depending partly on which nations follow China in allowing their own currencies to appreciate. The effect on the overall U.S. trade deficit could therefore be minor. Yuan appreciation and possible follow-the-leader appreciation by China's competitors would likewise reduce the local currency prices of some U.S. exports to those markets, thus shifting some international demand toward U.S. producers.

Because the U.S. overall trade deficit must be the difference between U.S. goods production and U.S. expenditure for goods, an overall improvement can occur only to the extent that macroeconomic conditions change so as to raise U.S. production relative to expenditure. Shifting demand toward U.S. suppliers could raise aggregate U.S. production only to the extent that new demand falls on sectors with capacity to expand without significant price increases. Higher import prices could reduce total aggregate expenditure through a wealth effect that makes Americans feel poorer and thus less willing to consume and more willing to produce.

However, a significant appreciation of the yuan relative to the dollar could also affect the U.S. economy through a second and more fundamental channel: by reducing the rate of China's accumulation of foreign exchange reserves and purchases of U.S. dollar assets. An unanticipated reduction in the demand for dollar-denominated securities would likely put upward pressure on U.S. interest rates. Higher U.S. interest rates would in turn be expected to moderate domestic spending and thereby reduce U.S. demand for *all* goods and services, not just imports from China. The implication is that, through its effect on relative prices and U.S. capital markets, substantial yuan appreciation could indeed reduce both the bilateral trade deficit and the overall trade deficit.²⁸

Conclusion

Is the U.S. trade deficit made in China? The short answer is no. In recent years U.S. bilateral trade deficits have been increasing not only vis-à-vis China but most other trading partners as well (Mann, 2005); the imbalance on bilateral trade with China, though large, still accounts for less than one-quarter of the total. However, official purchases of U.S. dollar assets by China and other U.S. trading partners have facilitated the continued high level of U.S. domestic spending, and some analysts believe that large foreign purchases of U.S. assets have been responsible for keeping U.S. long-term interest rates low (Krugman, 2005; Setser and Roubini, 2005).

Selective trade policies targeting China, such as the recently implemented restrictions on apparel imports, will do little but redistribute U.S. imports across trading partners or products. Moreover, textiles and apparel are likely to be just the beginning of Chinese incursions into U.S. markets and perhaps also just the beginning of U.S. trade policy actions toward China. China already has substantial export growth in steel and auto parts, thus entering into competition with two additional domestic industries that have benefited historically from import protection. If the United States also moves to protect these industries from Chinese competitors, how might other exporters to the U.S. market respond? In contrast to the case of apparel and textiles, in the steel and auto sectors China's main competitors in the U.S. market are not just other developing countries but also the European Union, Japan, Korea, and other industrialized countries. Will these countries attempt to negotiate preferential trade agreements with the United States? Will a system evolve along the lines of the 2002 steel safeguard (Bown, 2004), in which U.S. tariffs were applied on a non-preferential (MFN) basis, but with substantial product exclusions favoring specific foreign suppliers? Will affected firms increase foreign direct investment in the United States, thus allowing their U.S. subsidiaries to use the domestic protection-seeking process from an insider's perspective?

Like China-specific trade policies at the level of individual products, a stronger yuan may benefit other U.S. trading partners, especially ones that have recently lost market share due to depreciation of the U.S. dollar against their own currencies. But yuan appreciation also means lower Chinese official purchases of U.S. dollars, which would likely put upward pressure on U.S. interest rates and thus moderate domestic spending. So yuan appreciation could reduce the U.S. overall trade imbalance, although it is not necessary to address the fundamental cause of the deficit, which lies in current macroeconomic conditions at home.

NOTES

¹For the functions and rules of the World Trade Organization, see Crowley (2003).

²Once a country's trade balance is in deficit or surplus, even equal growth rates of exports and imports would mean an equal rate of growth of the trade imbalance. However, the *ratio* of the trade balance to gross domestic product (GDP) would remain constant if output also grew at the same rate. To reduce the size of a trade deficit, exports would need to grow at a faster rate than imports; to reduce the trade deficit to GDP ratio, it would be sufficient for exports and imports to grow at the same rate as long as output was growing faster.

³The balance on goods and services trade adds exports and imports of services (for example, international shipping services and the services of engineering or consulting firms) to the merchandise trade balance. The current account balance adds two further items: net foreign income (mostly interest and dividends from U.S. assets abroad and foreign assets in the United States) and unilateral transfers (including remittances, private charitable contributions, and foreign aid). Thus, the current account deficit summarizes the net of all non-asset spending and receipts over a given period—the final bill the nation must settle.

⁴Although the merchandise trade balance is a relatively narrow measure of U.S. trade performance, we focus on it here because, empirically, it is the largest component of the current account (see figure 3, p. 5), and proposals motivated by the size of the overall current account deficit often seek to use trade policy to reduce the merchandise trade deficit.

⁵This figure is based on U.S. government data. Chinese customs data give a much smaller figure. The discrepancy is due to differences in the statistical treatment of trade that passes through Hong Kong. Adjustments by Feenstra et al. (1999) and Schindler and Beckett (2005) yield estimates of the bilateral deficit that lie between the official U.S. and Chinese figures.

⁶On July 21, 2005, the Chinese government announced that it would no longer peg the yuan to the U.S. dollar. The new policy entailed an immediate appreciation of 2.1 percent of the yuan relative to the dollar and the possibility of further increases over time.

⁷Total domestic goods expenditure can be broken down into private consumption and investment spending plus purchases by all levels of government.

⁸Empirical research has shown that trade barriers targeting specific countries (Moore, 1996; Prusa, 2001; Bown, 2004) or specific products (Feenstra, 1988; Goldberg, 1995) cause similar imports from other countries or in other (higher quality) product classes to rise; Greenspan (2005) emphasized this substitution in remarks before the U.S. Senate Finance Committee. Because induced imports offset the decline in targeted imports, the restrictions produce little or no effect on the overall level of imports or the size of the trade deficit. A number of theoretical papers (Razin and Svensson, 1983; van Wijnbergen, 1987; Gardner and Kimbrough, 1989) derive conditions under which tariffs that are broadly applied to imports from all countries and in all sectors can reduce the overall trade deficit. These authors emphasize that even broadly applied tariffs can reduce the trade deficit only in specific circumstances.

⁹This interpretation is loose because not all transactions recorded in the financial account represent lending and borrowing. Financial account transactions include changes in equity positions. These differ from loans in that there is no predetermined schedule of

interest or principal payments. For example, the construction of a U.S. factory or the purchase of a U.S. department store by a foreign firm would appear as capital inflows along with loans to U.S. borrowers or purchases of U.S. bonds by foreign banks. Moreover, a country with a financial account surplus may be selling off foreign assets accumulated in previous years rather than borrowing abroad.

¹⁰Obstfeld and Rogoff (1996) and Krugman and Obstfeld (2003) are among many standard international economics textbooks that establish this point.

¹¹Opinions may differ as to when this point is reached and what to do about it. The U.S. Trade Deficit Review Commission failed to reach consensus on the causes and consequences of the U.S. trade and current account deficits. Most chapters of the Commission's final report included separate sections detailing the conflicting views of the Democratic and Republican commissioners (U.S. Trade Deficit Review Commission, 2000).

¹²As Collins (1999) emphasizes, the trade balance is determined together with other macroeconomic variables, such as output growth and job creation.

¹³Although most discussion of sustainability has focused on the current account, some authors also derive sustainable ratios of the deficit on trade in goods and services to GDP, which is currently about 4 percent. Kouparitsas (2005) calculates a maximum sustainable ratio of 1.4 percent; Roubini and Setser (2004) derive a maximum ratio of 1 percent. Because the United States is a net exporter of services, these figures would imply a slightly higher sustainability ratio for the merchandise trade deficit to GDP.

¹⁴Japan's bilateral trade surplus with the United States is only half as large as China's, while Japan's economy is more than twice as large as China's. On U.S. bilateral trade with other Asian countries, see Hufbauer and Wong (2004).

¹⁵A survey article in *The Economist* reports estimates of yuan undervaluation ranging from over 40 percent to as little as 7 percent (Economist Newspaper Limited, 2005). The small appreciation on July 21, 2005, leaves the yuan undervalued even in terms of the lower bound of these estimates.

¹⁶A related concern is that many Chinese businesses do not respect intellectual property rights. U.S. business groups claim that ongoing violations—patent and copyright infringement as well as outright counterfeiting and piracy—are costing them billions of dollars each year in foregone sales or royalty revenue (Office of the U.S. Trade Representative, 2005). Although China is similar to many other developing countries in its failure to control unauthorized use of intellectual property, the size of the Chinese market means that estimated losses are much larger.

¹⁷Hoekman and Kostecki (1995) provide a detailed history of negotiations preceding the establishment of the WTO.

¹⁸Most favored nation treatment, that is, nondiscrimination among trading partners in terms of the barriers to their exports, is a central element of WTO rules. In practice, however, MFN treatment is subject to several important exceptions. See Crowley (2003).

¹⁹Australia abolished textile and apparel quotas in favor of import tariffs in 1991 (Garnaut, 2002). Japan never applied country-specific quotas to imports of textiles and apparel.

²⁰Although WTO rules prohibit most tariff increases that target exports from a specific country, the rules permit tariffs used to implement antidumping and safeguards.

²¹For details of China-specific U.S. trade measures and their effects, see Bown and McCulloch (2005).

²²Data from Zanardi (2004) indicate that this result is not specific to the United States; Chinese firms have been targeted most frequently by all users of antidumping policies worldwide.

²³This assumes that the U.S. antidumping duty faced by non-Chinese exporters is not high enough to redirect all import demand to domestic producers.

²⁴Exporters may obtain preferential access through a preferential trade agreement, or if lower antidumping duties are levied on their products, or if a China-specific safeguard is imposed.

²⁵This means the *nominal* exchange rate remained fixed. In real terms, the yuan depreciated about 2.4 percent relative to the dollar over this period, because cumulative inflation in China was slightly higher than in the United States (Hanke and Connolly, 2005).

²⁶As of August 2005, the Chinese government had indicated the composition of the basket but not the weights or other details of the operation of the new currency regime. In practice, this means China has broad latitude in determining future movements of the yuan.

²⁷Yuan appreciation could put further pressure on the already weak Chinese banking system to the extent that those banks hold U.S. dollar-denominated assets or have made loans for which repayment depends on export revenues.

²⁸Upward pressure on U.S. interest rates due to reduced Chinese purchases of U.S. Treasury bonds would tend to raise demand from other investors, thus moderating the effect on U.S. rates.

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