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U.S. Economic Sanctions Against China: Who Gets Hurt?

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Abstract:
United States maintains a broad spectrum of economic sanctions against China ranging from export controls to prohibitions on certain imports. Our study finds that, although from a macroeconomic perspective, U.S. sanctions have had no significant adverse effect on China's overall economic growth and trade between the two countries, they do have a negative impact on individual firms and consumers in both countries. U.S. economic sanctions have hindered technology transfer to China and U.S. investment in China. U.S. restrictions on imports from China have caused deadweight losses for the U.S. due to higher domestic production costs for import substitutes and a reduction in consumption. U.S. export controls have hindered U.S. exports to China and contributed to large U.S trade deficits with China. The export controls have also caused losses of high-paid jobs in the United States and benefited competitors from other countries. In addition, U.S. economic sanctions against China have had significant third-party effects. China's diversification of imports to sources other than the United States may have a long-term effect on U.S. exports to China even after U.S. economic sanctions against China are lifted.

This paper is a part of an on-going and broader study of economic sanctions incorporating the philosophy of sanctions; an aggregate study with the gravity model, three detailed case analyses of China, Cuba and Iran; and a number of surveys on US perspectives, sanctioned country perspectives and the perspectives of third countries.

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[1] All errors and omissions owed solely to the authors

I. INTRODUCTION

U.S. economic sanctions against China have evolved over the past half a century. The United States imposed an embargo on all trade with China from the time of the Korean War until mid-1971. Since the embargo was lifted, U.S. exports to China have been subject to a complex system that restricts exports of goods, services, and technology with military or dual-use military and civilian applications (Lardy 1994). The Tiananmen crisis in June 1989 has made human rights a more prominent basis for U.S. economic sanctions or the threat of sanctions against China. In more recent years, as China's trade with the United States has expanded and U.S. trade deficits with China have grown, U.S. economic sanctions have also been used to address intellectual property rights and market access issues.

The rationale and structure of U.S. economic sanctions against China reflect all of the major goals of U.S. foreign policy (Preeg 1999). Geopolitical considerations, national security concerns, human rights/democratization issues, domestic politics, and commercial interests all have played a significant role in motivating the various types of sanctions or threats of sanctions against China that exist today. On the grounds of human rights, the United States has threatened to employ broadly based or comprehensive sanctions by terminating China's most-favored-nation (MFN) trading status. On the grounds of arms proliferation and national security, the United States has used export controls restricting China's access to advanced technologies. On the grounds of intellectual property rights protection and market access, the United States has threatened to use punitive tariffs against major imports from China (mainly labor-intensive goods) and withhold China's application for accession to the World Trade Organization (WTO).

U.S. economic sanctions against China reflect U.S. relations with China, and current U.S.-China relations are characterized by cooperation and tension. While interdependence and mutual interest have often brought the two countries together in the international arena, differences in their political systems and cultural backgrounds and a historic lack of mutual trust have often generated political tensions. It should be noted at the outset that many of the issues that have motivated U.S. economic sanctions against China are politically sensitive and highly controversial. China has consistently denied the allegations on which U.S. sanctions have been based and disputed the rationale for the sanctions.

Despite claims in recent years that the two countries are committed to building a constructive and strategic partnership, U.S. economic sanctions against China are likely to persist. This is due to the delicate and fragile nature of their relationship. As Ross (1998) points out, instability arises from such factors as historical legacies, elite and societal ideological differences, interest groups, and domestic economic and political interests. Thus, U.S. economic sanctions against China pose an issue of long-term relevance for both policy and international business research.

This study focuses on the economic and business impact of U.S. sanctions against China. The consequences of sanctions are evaluated from both countries' perspectives at both the macroeconomic and firm levels. At the macroeconomic level, we examine how sanctions have affected trade flows (both exports and imports), investments, employment, and overall economic development. At the microeconomic level, we highlight the impact on companies and industry sectors.

II. U.S. ECONOMIC SANCTIONS AGAINST CHINA

U.S. economic sanctions against China can be divided into three major categories: (1) U.S. laws and regulations that apply to China but are not exclusive to China; (2) Multilateral sanctions that the U.S. leads or participates in that apply to China but are not exclusive to China; and (3) U.S. sanctions imposed specifically on China, although such sanctions may not necessarily be unique for China.

U.S. Trade Laws and Regulations that Apply to Trade with China

U.S. trade laws and regulations that affect U.S. – China trade the most are export controls. According to U.S. House of Representatives (1999), U.S. export controls date to before World War II, when restrictions on exports were imposed to ensure that adequate supplies of commodities would be available to meet wartime needs. After the war, export controls were continued, although changes were made in accordance with developments in the international environment. There are two principal statutes that govern U.S. export controls pertaining to China today: (1) The Export Administration Act of 1979, as amended, which controls

"dual-use" items and is administered by the Department of Commerce - These items comprise what is often called the "Commerce Control List," or CCL; (2) The Arms Export Control Act, which targets munitions items and is administered by the Department of State. These items constitute the "U.S. Munitions List," or USML. These two statutes govern exports of commercial communication satellites, high-performance computers, machine tools and other "dual-use" or high-tech products.

Multilateral sanctions

The United States has led and joined a number of multilateral arrangements to enforce a uniform export control policy (EAA 1979). The Wassenaar Arrangement on Export Controls is one such example. Until its dissolution in March 1994, the Coordinating Committee on Multilateral Export Controls (COCOM) was the primary multinational export control organization through which the United States and the other member countries controlled the export of items for security purposes. China was a COCOM-proscribed country. In September 1996 COCOM was replaced by a new multinational organization called the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies (Wassenaar Arrangement). The Wassenaar Arrangement maintains a control list of export items similar to the previous COCOM list as it existed in 1993 (U.S. House of Representatives 1999). Some items in the Wassenaar control list are included in the U.S. Commerce Control List and the remainders are included in the U.S. Munitions List. This agreement, in theory, obligates other member countries to impose the same export controls on China as the United States imposes.

U.S. Sanctions Imposed Specifically on China

Much of the authority to impose, waive, or lift sanctions rests with the U.S. president. In the case of China, however, the U.S. Congress has played an active part in constructing the U.S. sanctions regime (Rennack 1997). In addition to more general export controls administered by the Department of Commerce and the Department of State, the United States imposes specific sanctions against China, including the following:

Prohibition of nuclear trade and cooperation. On 23 July 1985, China and the United States signed the "Agreement for Cooperation Between the Government of the United States of America and the Government of the People's Republic of China Concerning Peaceful Use of Nuclear Energy." When Congress took up the matter in December of the same year, it enacted a resolution that conditions nuclear cooperation under the agreement on presidential certification of certain conditions (Rennack 1997). The U.S. Foreign Relations Authorization Act, Fiscal Years 1990 and 1991, required the suspension of nuclear trade and cooperation with China.

Suspension of trade financing programs. The 1964 U.S. Foreign Assistance Appropriation Act prohibited the U.S. Export-Import Bank (Ex-Im Bank) from engaging in financing transactions with communist countries, including China, unless the president determined it was in the national interest and reported so to Congress. The prohibition was reenacted annually in subsequent foreign aid appropriation legislation. Before 1989, several presidential waivers were granted for the Ex-Im Bank to extend credits for exports to China. Following the Tiananmen crisis in 1989, the United States again prohibited Ex-Im Bank financing for China. But many times since then, the president has determined it is in the national interest of the United States for the Ex-Im Bank to extend credits to China. After the Tiananmen crisis, the United States also postponed its support for new Multilateral Development Bank (MDB) loans for China and stopped China-related activities of the U.S. Overseas Private Investment Corporation (OPIC) and the Trade and Development Agency (TDA).

Prohibition of certain imports produced by prison labor. On several occasions since 1992, the U.S. Customs Service has determined that certain products imported from China were manufactured with the use of convict, forced, and/or indentured labor and therefore could be prohibited from importation into the United States or seized by customs officials on importation. Some of these restrictions have since been lifted, while others remain active.

Prohibition of imports of munitions and ammunition. On 26 May 1994, President Clinton announced that he would renew MFN status for China and de-link the extension to human rights conditions. At the same time he announced that, effective May 28, the importation of munitions and ammunition from China would be prohibited. This sanction remains active today.

Prohibition of U.S. funding for certain U.N. programs. The Foreign Operations Appropriations Act for fiscal year 1995 prohibited U.S. contributions to the United Nations Population Fund (UNFPA) from being made available for programs in China.

Prohibition of procurement contracts with, and importation from, certain individuals and companies. The U.S. State Department from time to time issues public notices determining that certain Chinese entities and persons have engaged in chemical weapons proliferation activities that require the imposition of sanctions. The U.S. government is prohibited from entering into procurement contracts with, or importing from, the sanctioned Chinese individuals and entities.

Denial of Generalized System of Preferences status. The preceding sanctions are mostly related to U.S. export controls. On the import side, the most significant discrepancy in the treatment of China is reflected in the U.S. designation of beneficiary countries for the Generalized System of Preferences (GSP). Intergovernmental negotiations held in the 1960s under the auspices of the United Nations Conference on Trade and Development (UNCTAD) resulted in the adoption of the GSP, whereby preferential tariff treatment is granted on a non-reciprocal and non-discriminatory basis by most developed countries to exports from developing countries. China has been considered to be a developing country and is accorded that status for purposes of the European Union's GSP.[1] The U.S. GSP provides preferential duty-free entry for more than 4,650 products from approximately 140 designated beneficiary countries and territories. Yet China is noticeably absent from this group. The fact that China has been withheld from the beneficiary list reveals that the United States has serious reservations about China, and its exclusion from the U.S. GSP treatment represents virtual economic sanctions on China.

Conditions on China's WTO membership. In November 1999, the United States and China reached a bilateral agreement on China's WTO membership that has built-in conditions to allow future U.S. restrictions on imports from China. Under the product-specific safeguard included in the agreement, the United States has the option of imposing unilateral restrictions on imports from China under conditions that no other member of the WTO has ever been required to accept. According to Lardy (2001), these conditions are relatively easy to meet and restrictions based on them can be directed solely against imports from China. Similarly, China has agreed to a special textile safeguard that allows the United States to impose unilateral restrictions on the import of Chinese textiles and apparel for a period of four years after the current quota system is phased out. During the period 2005-08, China will be the only member of the WTO potentially subject to quota restrictions on its textile and apparel products (Lardy 2001).

III. U.S. ECONOMIC SANCTIONS AGAINST CHINA: IMPACT ON TRADE

Impact on Bilateral Trade

Trade statistics seem to suggest that U.S. economic sanctions against China have had no significant adverse impact on overall trade between the two countries. Both nations are considered large traders in the world, although China is far behind the United States. According to the WTO, the United States accounted for 12.3% of total world exports and 18.9% of total world imports in 2000, while China accounted for 3.9% and 3.4% of world exports and imports, respectively.

China became a major trading partner of the United States in the last decade of the twentieth century by all broad measures. According to U.S. statistics for 2000, China was the fourth-leading supplier of U.S. imports, the eleventh-largest purchaser of U.S. exports, and the fourth-largest trading partner for the United States after Canada, Mexico, and Japan. China surpassed Japan in 2000 as the country with which the United States has the largest trade deficit on an annual basis, although (as will be discussed shortly) trade data reported by China have differed significantly from statistics reported by the United States.

The United States figures more prominently in China's international trade. The United States was China's top export market and third-largest import source in 2000, accounting for 20.93% and 8.98% of China's total exports and imports, respectively.

[1] General information about the Generalized System of Preferences is available from the United Nations Council for Trade and Development (UNCTAD) and its Web site, http://www.unctad.org. Information about the European Union's GSP operations is posted on two Web sites, http://www.eurunion.org and http://www.europa.eu.int. The GSP operations of the United States are managed by the Office of the United States Trade Representative. For specific information, see the office's Web site at http://www.ustr.gov.

Newton's theory of gravitation has often been used for the analysis of bilateral trade flows. The gravity model predicts that trade between two countries should be proportional to the size of their economies and retarded by the geographical distance between them. On the positive side, China's economy has grown faster than that of most countries in the last two decades and is now one of the largest in the world. Correspondingly, China has become one of the top ten countries in world trade and in trade with the United States. On the negative side, few countries in the world are farther away from the United States (China is literally on the other side of the globe). This distance, a factor often regarded as a proxy for transportation costs in international trade, should hinder trade between the two countries. The fact that China has become a major trading partner with the United States confirms that the economic size factor in the gravity model wields significant explanatory power. On the other hand, the greater trade volumes between the United States and Canada and Mexico, whose economies (as measured by GDP) are not as large as China's, seem to suggest that distance matters.

With GDP and geographical distance as explanatory variables in the gravity model, estimated U.S. imports from China and exports to China for the years 1987 to 1998 are actually lower than the corresponding actual imports and exports (see Table 1). This seems to suggest that U.S. economic sanctions against China have had no adverse impact on U.S. trade with China. In fact, as Table 1 shows, gravity model residuals assume an increasing trend, particularly for U.S. imports from China. One plausible interpretation of the positive residuals and the increasing trend is that China is relatively more open to trade than the world norm, which would explain why U.S.-China trade has grown faster than the world average.

Given the gravity model assessment, can one conclude that U.S. sanctions against China have had no impact on trade between the two countries? Such a conclusion may be premature. The gravity model does not capture certain aspects of the Chinese economy that underlie China's trade with the rest of the world and, in particular, with the United States. Therefore, the model may fail to reveal the full impact of sanctions.

One fundamental factor that may have been overlooked in discussions of China's economic growth is per-capita income. Despite a high economic growth rate and significant improvements in living standards, China's per-capita income is still among the lowest in the world. It can be argued that a lower per-capita income represents a lower purchasing power for foreign goods and, thus, a negative impact on the country's total trade and on imports in particular. Gravity models for trade studies often include per-capita income to capture the effects of intra-industry trade, which is assumed to occur among high per-capita income countries.

But lower per-capita income can also translate into lower production costs, particularly for labor-intensive industries, thus representing a comparative advantage in international trade. It is true that such a translation is not automatic; in many instances, low per-capita income may be associated with low productivity and, hence, high production costs. In the case of China, with its huge labor force that is willing to work hard and improve its fortunes, low per-capita income does represent, and has translated into, low production costs.

Its comparative advantage in labor costs has made China a leading source of low-priced manufactured products for the world and for the United States in particular. Table 2 presents the industry distribution of U.S.-China trade in 2001, with industries categorized by the United Nations' Standard International Trade Classification (SITC). It can be seen that the United States has an overall surplus in the five sectors that constitute basically agricultural products and raw materials, but a relatively large deficit in the five sectors that are considered manufacturing industries.

The one-digit SITC classification codes may be too broad to reveal trade patterns between the United States and China in manufactured products. For example, SITC 7 (machinery and transport equipment) includes highly diversified products ranging from non-motorized cycles, which represent products with moderate-level technology, to high-tech aircraft. According to congressional testimony (Hecker 1996), the top five U.S. imports from China in 1995--which accounted for about 65% of total U.S. imports from China--were (1) miscellaneous manufactured articles, such as toys and games, (2) clothing and apparel, (3) footwear, (4) telecommunications and sound recording and reproduction equipment, and (5) electrical machinery. A U.S. Department of Commerce official was quoted as saying that China acted as a provider of low-cost goods to the United States that largely compete with similar products from India and Indonesia (Hecker 1996).

In the same year, the top five U.S. exports to China--which accounted for about 45% of total U.S. exports to China--were (1) fertilizers, (2) transport equipment (mainly aircraft and aircraft parts), (3) cereals and cereal preparations, (4) textile fibers, and (5) telecommunications and sound equipment. According to the U.S. Department of Agriculture, China has become an increasingly important market for U.S. agricultural exports. In 1995, China purchased nearly 40% of all U.S. fertilizer exports and nearly 10% of all wheat and corn exports sold by U.S. farmers.

Low labor costs and price competitiveness have allowed China's labor-intensive products to survive and at times thrive in the U.S. market, even though China has not been afforded GSP treatment by the United States. The increased presence of Chinese products in U.S. markets has caused ongoing concern in the United States, particularly among labor unions and their representatives in political circles. China's textile products have been subject to U.S. quota restrictions, and the two countries often have disputes over U.S. reductions in quota restrictions. As mentioned earlier, fear of increased Chinese textile exports to the United States prompted the inclusion of a textile safeguard in the U.S.-China agreement on China's accession to the WTO. The safeguard, which permits U.S. companies and workers to respond to increased imports of textile and apparel products from China, will remain in effect until 31 December 2008, four years after the WTO agreement on textile and clothing expires.[2]

China's export performance also has been helped by foreign investment in China. According to Lardy (1996), the U.S. trade deficit with China primarily reflects China's openness to foreign investment, not unfair trading practices. Investors from Hong Kong, Taiwan, and South Korea have moved facilities that produce footwear, garments, toys, sporting goods, and other labor-intensive products to China to take advantage of low labor costs. These products account for a large share of U.S. imports from China. The growing U.S. trade deficit with China has been accompanied by declining U.S. deficits with Hong Kong, Taiwan, and South Korea.

In addition to low labor costs, an improving investment environment--including preferential treatment for foreign investment--has also attracted investors from industrial countries, including the United States. As part of their international business strategy, a number of multinational firms have shifted production to China and distributed their products made in China to the rest of the world, including their home markets. Such business strategies are reflected in the trade balances between China and its partners.

For example, many U.S. firms produce goods in China and sell their products back to the United States. Such sales are recorded as Chinese exports and U.S. imports. These multinational firms have been a major contributing factor in China's increasing exports and economic growth. According to Lardy (2001), almost half of China's exports were produced by firms either fully or partly owned by foreign companies operating in China in 2000.

In sum, given China's huge population and its comparative advantage in labor-intensive products, trade between the United States and China might have increased even more if U.S. economic sanctions had not been in place.

The Position of Hong Kong

While it seems that the price competitiveness of Chinese products has helped China weather some price-based U.S. economic sanctions (e.g., the denial of GSP treatment), more severe sanctions such as the trade embargo and export controls have had long-lasting effects on China's development and on trade between the two countries. These effects are reflected in the role Hong Kong has played for decades in economic relations between China and the rest of the world and, more recently, in the burgeoning U.S. trade deficit with China.

The position of Hong Kong--and, to a lesser extent, that of Taiwan--in trade between the United States and China is prominently reminiscent of U.S. economic sanctions against China in recent history. During the years of the U.S. trade embargo against China, Hong Kong served as a window for China to reach out to the world and a gateway for the world to reach out to China. After years of isolation caused by the embargo, China and the industrialized world needed time to understand each other and build the trust necessary for commercial exchange. This has been a long and complex process, as evidenced by the periodic tensions that continue to flare some three decades after the lifting of the U.S. trade embargo against China.

Hong Kong's unique position has allowed it to serve as an intermediary in trade between China and the rest of the world. This role has helped Hong Kong emerge as a major trader--the tenth largest exporter and ninth largest importer in the world in 2000. From 1980 to 2000, Hong Kong's exports and imports experienced annual growth rates of 12.87% and 12.56%, respectively. Mainland China, the United States, the European Union, and Japan (in that order) have been Hong Kong's main export markets, while Mainland China, Japan, the European Union, and the United States have been the main suppliers of its imports.

[2] The WTO agreement on textile and clothing permits industrial countries to phase out their quota restrictions on textile and clothing imports by the end of 2004 (China Trade Relations Working Group 2000).

The extraordinarily large volumes of trade that Hong Kong has reported include significant amounts of re-exports and reflect Hong Kong's position as an intermediary between China and its other trade partners. As Table 3 shows, re-exports represented 77.2%, 83.9%, and 84.7% of Hong Kong's imports and 84.8%, 88.5%, and 89.6% of Hong Kong's exports in 1996, 2000, and 2001, respectively. China and the United States are the main destinations for Hong Kong's re-exports, accounting for more than 55% of its total re-exports in 1996, 2000, and 2001. Mainland China, Japan, Taiwan, and the United States are the main sources of Hong Kong's imports and hence re-exports, accounting for more than two-thirds of its total imports for the same years. Hong Kong also has been the intermediary between mainland China and Taiwan, as there are no direct commercial dealings between the two sides despite the willingness of businesses on both sides to trade with each other.

Hong Kong's position as an intermediary has its challenges, however. The importance of this intermediary position depends on relations between China and the industrialized world, particularly the United States. At one extreme, with a total trade embargo against China, Hong Kong would have no role to play; at the other, with China fully integrated into the world economy, Hong Kong's role also would diminish. Hong Kong thus faces challenges in both directions. Its economy is at risk when trade tensions between China and the United States rise, but with China joining the WTO and direct trade between the mainland and Taiwan expected to materialize in the future, Hong Kong's intermediary role will likewise be marginalized. The continued success of Hong Kong's economy will depend on a structural change that will make Hong Kong less dependent on being an entrepôt in international trade.

The U.S. Trade Deficit

The U.S. trade deficit with China increasingly has become a political as well as economic issue between the two countries. Current analyses of the issue address not only the causes of the trade deficit, but also its actual size (see Yang 1998 and Lardy 1997 for discussions of the issue). The statistical treatment of Hong Kong's re-exports between the United States and China and U.S. export restrictions on China are believed to be among the relevant factors for understanding this deficit.

The unusually large discrepancies in the U.S. trade deficit with China as reported by the United States and China (see Table 4) began to attract attention in the early 1990s. The U.S. Department of Commerce and its Chinese counterpart, the Ministry of Foreign Trade and Economic Relations (MOFTEC), together with China Customs, conducted a study of the issue for 1992 and 1993 (DOC, 1995). The study found that the primary cause of the discrepancies was the large amount of U.S.-China trade shipped through Hong Kong and other intermediaries. Both nations followed international guidelines in their published trade statistics, but these guidelines created some inconsistencies between corresponding import and export statistics. Most importantly, exports were attributed to the country of final destination known at the time of export, which might not, in fact, be the final destination. For example, for eastbound trade (Chinese exports/U.S. imports), many of the goods identified by the United States as imports from China were shown by China as exports to Hong Kong. Since many of China's exports were shipped through Hong Kong, China's export statistics were much lower than U.S. import statistics.

According to the report, about 80% of U.S. imports from China was intermediated, with Hong Kong accounting for all but 3-4% of the intermediary trade. Nearly 30% of the value of Chinese goods re-exported by Hong Kong to the United States consisted of Hong Kong's markup, equivalent to a 41% increase in the cost of the Chinese goods when imported by Hong Kong. The initial values and the markup of the re-exports by Hong Kong were both counted as imports from China in U.S. statistics. About 25% of China's imports from the United States traveled via Hong Kong or other intermediaries, and many of these exports were reported by the United States as exports to Hong Kong or elsewhere.

A plausible inference from this study is that the United States may have overestimated U.S. trade deficits, while China may have underestimated them. As Table 4 shows, the study correctly predicted that the two countries' trade statistics would continue to differ. "Not only is the final destination frequently unknown at the time of exportation from China, but the U.S. import value includes the value added in the intermediary," the report noted. "There were also differences in the methods used to determine country of origin."

By definition, a U.S. trade deficit with China means U.S. exports to China have lagged behind imports from China. Export controls have played a significant role in the export performance of the United States. Trade between the two countries should be a classic example of gains for both nations: China is abundant in labor resources and has a comparative advantage in labor-intensive products, while the United States is abundant in capital and technology and has a comparative advantage in high-tech goods. In addition, given the

high labor cost in the United States and China's enthusiasm for modernizing its economy, trade between the two countries should complement each other's needs.

However, export controls imposed by the United States on China have held back exports of products that represent new and high technologies, as they can easily be classified as "dual-use" items. The fear of being caught exporting high-tech goods to China may make U.S. exporters wary as well. One *Financial Times* report stated, "If the U.S. had removed the sanctions on high technology exports, which are worth several billion [U.S. dollars] each year, it is thus questionable who would be enjoying the surplus" (Harding 1997).

IV. U.S. ECONOMIC SANCTIONS AGAINST CHINA: IMPACT ON CHINA

It is extremely difficult, if not impossible, to evaluate the full impact of U.S. economic sanctions against China given the complex nature of both the sanctions and the Chinese economy. We would, however, like to highlight a few major areas where U.S. economic sanctions against China are obviously seen or felt. These areas include the lingering impact of U.S. sanctions against China long after they are lifted, specific effects on some sectors of the Chinese economy that are subject to U.S. export controls, effects on trade-related programs such as U.S. and international financing for China, and the effects on Hong Kong, Taiwan, and other economies that have a significant stake in the Chinese economy.

The Lingering Effects of U.S. Economic Sanctions

The complex impact of U.S. economic sanctions against China has its origins in a number of factors. First, unlike a total trade embargo, U.S. economic sanctions against China since the normalization of diplomatic relations between the two countries in 1979 have been imposed within the context of mutual normal trade status. Despite periodic tensions between the two countries, normal trading status--or most-favored-nation (MFN) treatment, as it was called previously--has not been denied China by the United States since 1979. The most noticeable sanctions on China have been the U.S. denial of Generalized System of Preferences (GSP) treatment and restrictions on some specific imports from China, such as textiles. Second, China's trade with the United States has grown rapidly since 1979 and to such an extent that the economic interests of the two countries have increasingly become intertwined and interdependent. Third, China's economy has experienced the fastest growth in its history and in comparison with the rest of the world since the beginning of economic reform in 1978, which coincided with the normalization of relations with the United States.

In addition, U.S. investment in China has achieved a prominent presence and made significant contributions to the growth of the Chinese economy and trade between the two countries. Given the fast growth of the Chinese economy, the increase in trade between the United States and China, and the rise in U.S. investment in China, it is reasonable to argue that U.S. sanctions have had minimal impact on the Chinese economy.

Yet the Cold War, during which many U.S. economic sanctions against China originated, created lingering suspicions toward business relations between the two countries. The recurring tensions between the two countries and the frequent imposition or threat of U.S. sanctions against China have taken a toll on the Chinese economy, albeit often of a transitory nature. Immediately after the Tiananmen crisis, for example, many U.S. businesses closed their offices in China or withdrew their prospective investment projects. China's imports and economic growth suffered a temporary setback in 1990 following the Tiananmen-related sanctions imposed by the United States and other industrialized countries.

Increased political tensions between the two countries, coupled with a few dramatic events such as the NATO bombing of the Chinese embassy in Yugoslavia in May 1999 and the collision between U.S. and Chinese aircraft along the Chinese coast in April 2001, have had chilling effects on the overall atmosphere between the two countries. From time to time, events like these and the accompanying rhetoric and reactions on both sides remind people of the Cold War and cause anxiety over the future course of relations between the two countries. This uncertainty has a direct economic impact on both the United States and China.

Effects on U.S. Investment in China

As Tables 5 and 6 show, the United States has become a major investor in China, accounting for more than 10% of external direct investment in China at the end of the twentieth century and ranking second after Hong Kong in 1999. U.S. investment in China in 2001 was concentrated in manufacturing (59.13%), petroleum (19.28%), and financial services (7.73%), as Table 7 indicates. Many U.S. multinational companies have gained brand recognition and dominance in some consumer markets in China: General Motors automobiles, Dell computers, Motorola cell phones, Kodak film, Coca-Cola and Pepsi-Cola soft drinks, McDonalds hamburgers, and Marlboro cigarettes (to name just a few) have become household names and are popular in major Chinese cities. In fact, one can find almost all brand-name consumer products in major cities in China that one can find in other major cities around the world. According to Lardy (2002), at the turn of the twenty-first century, foreign manufacturers, led by Motorola, Nokia, and Ericsson had captured 95 percent of the market for cellular phones; Coca-Cola was the dominant supplier of carbonated beverages with a market share fifteen times its closest domestic competitor; McDonald's and Kentucky Fried Chicken, with almost 900 outlets between them, dominated China's rapidly growing fast food market; Kodak had captured half the market for film and photographic paper; and Proctor and Gamble had more than half of the shampoo market.

U.S. investment in China has, however, been confined largely to major U.S. multinational companies. The majority of U.S. businesses, particularly small and medium-sized companies, still shy away from China in their long-term investment strategies. This is evidenced by the relatively low overall U.S. investment in China compared with total U.S. investment abroad and with U.S. investment in other specific countries. As is apparent from Table 8, U.S. direct investment in China accounted for only 1.05% of its total direct investment abroad in 2001, compared with 16.66% in the United Kingdom, 14.18% in Canada, and 12.40% in Mexico. On a cumulative basis, U.S. direct investment in China accounted for 0.77% of its total overseas direct investment as of 2000, compared with 18.75% in the United Kingdom, 10.16% in Canada, and 2.85% in Mexico (see Table 9).

The relatively low level of U.S. investment in China may reflect the effects of U.S. economic sanctions, as investment in China has been subject to the same restrictions that the U.S. government has imposed on exports. The majority of U.S. business executives and managers, even those in non-controlled sectors of the economy, have been reluctant to so much as explore the possibility of doing business with or in China. This is due to the influence of daily political rhetoric and media coverage regarding China as well as to legitimate concerns about China's business environment.

Impact on Technology Transfer

The key impact of U.S. export controls is their hindrance of U.S. technology transfer to China. While pressing China to further liberalize markets for U.S. investment in telecommunications, retail trade, and financial services (such as banking and insurance), the United States maintains control over technology transfer by U.S. companies to China. Technological improvements in China's production facilities have caused constant concern in the United States.

Semiconductors. A report by the U.S. General Accounting Office (GAO) said that rapid advances in China's semiconductor industry underscore a need for fundamental U.S. export control policy review (GAO 2002). The report states that, since 1986, China's efforts to improve its semiconductor manufacturing capability have narrowed the gap between U.S. and Chinese semiconductor manufacturing technology from between 7 to 10 years to 2 years or less. China's most advanced commercial manufacturing facilities can produce chips that are only one generation behind current, commercial state-of-the-art technology. The report claims that the growing sophistication of China's semiconductor manufacturing facilities, which has improved its ability to develop more capable weapons systems and advanced consumer electronics, has been fueled by China's success in acquiring manufacturing technology from abroad (GAO 2002). According to this report, U.S. practice has aimed at keeping China at least two generations (about three to four years) behind state-of the-art semiconductor manufacturing capabilities. The current U.S. export control system has not effectively slowed China's ability to obtain billions of dollars in advanced semiconductor equipment as part of its national strategy to modernize its semiconductor industry, and thus the system needs to be re-examined (GAO 2002). To improve the effectiveness of the U.S. export control system, the report recommends that the U.S. secretary of commerce, in consultation with the secretaries of defense and state, reassess and document U.S. export policy on semiconductor manufacturing equipment and materials to China. Specifically, the report recommends that these agencies complete the analyses needed to serve as a sound basis for an updated policy;

develop new export controls, if appropriate, or alternative means for protecting U.S. security interests; and communicate the results of these efforts to the U.S. Congress and industry (GAO 2002).

High-performance computers. Exports of high-performance computers (HPC) to China also are subject to restrictive U.S. controls. U.S. policy with respect to the export of computers and other sensitive technology is to seek a balance between the economic interest in promoting exports and the national security interest in maintaining a military advantage over potential adversaries and denying the spread of technologies used to develop weapons of mass destruction. The United States has long controlled the export of high-performance computers to "sensitive" destinations, such as Russia and China (Johnson 2000), as part of a policy that organizes countries into four "tiers," with each higher-numbered tier representing a successively higher level of concern related to U.S. national security interests. China is designated a Tier 3 country. This control system has significantly limited China's imports of U.S. computers. According to a 1998 report, Tier 1 countries, mainly U.S. friends and allies, accounted for 72.1% of high-performance computer exports for the period January 1996 to September 1997, while China accounted for only 1.7% of total U.S. exports (GAO 1998).

Nuclear technology. Besides semiconductors and high-performance computers, the United States also has restricted exports and technology transfer to China in many other industries on the basis of national security concerns. The nuclear power industry is a clear example. China has been building nuclear power plants to meet rapid growth in electricity demand. Two nuclear power plants are operating in China: one was designed and built independently by China and began operating in 1991, while the other was imported from France and began operating in 1994. Four more nuclear power plants are under construction, one designed by China and the other three imported from France, Canada, and Russia, respectively. These plants are expected to begin operation in the early 2000s. Even with these additional plants, however, China's nuclear power generating capacity will still be very limited. In the late 1990s, China's operable nuclear capacity was only 0.63% of the world's total, and accounted for only 1.2% of China's total energy supply (CAEA 2002).

The United States has long prohibited American companies from selling nuclear power-generating equipment to China. Although there has been no specific evaluation of how this export ban has affected China's nuclear power development, the lack of U.S. participation in China's nuclear power industry may reflect missed opportunities for both sides.

Exports of satellites. In part to promote better ties with China, the Reagan administration, in September 1988, first notified Congress of its decision to approve licenses for exports of satellites for launch from China (Kan 1998). It is believed that such exports are mutually beneficial. For the United States, as the Clinton administration argued, "Satellite exports to China have benefits for commercial competitiveness, nonproliferation goals, spread of democracy, and the policy of engagement (Kan 1998)." China, on the other hand, gains several benefits from launching satellites for foreign customers, including foreign capital, technical expertise, and international prestige. However, considerations of post-Tiananmen sanctions and missile proliferation activities have been added to the export control process since 1990. Presidential waivers are now needed before licenses can be approved for export of satellites or parts to China.

The debate over whether to allow satellite exports to China has been very tense in the United States since 1990, but one common theme prevails--forbidding the transfer of technology to China. Kan (1998) provides a list of views from both sides of the debate. On one side is the White House, which believes there are several advantages to the United States in allowing satellite exports to China. First, such a policy would help U.S. firms compete in the world satellite export market yet still protect U.S. security interests through export licensing procedures and strict security measures (including escorts of satellites by Pentagon officials) that would preclude any assistance to Chinese missile programs. Allowing Pentagon officials access to China's secretive aerospace and missile complex might provide a second benefit, while the satellites themselves could prove advantageous by promoting the spread of democratic values.

Opponents of U.S. satellite exports to China say, first, that the practice indirectly subsidizes and assists China's missile research and development efforts. They also argue that exporting small amounts of technology or technical assistance with each satellite may, over time, have the cumulative effect of conveying valuable expertise to China. Third, satellite exports may enable Chinese engineers to learn important quality control processes and other lessons in missile technology development from their American and European counterparts. Finally, opponents say, allowing the Chinese to launch U.S. satellites may jeopardize U.S. efforts to prevent missile proliferation.

From December 1989 to February 1998, Presidents Bush and Clinton issued 13 waivers out of 20 proposed satellite projects, a denial rate of 35% (Kan 1998). Responding to continued criticism of satellite

exports to China, the Clinton Administration announced on 22 February 1999 that it would refuse to license the export of a $450 million American-made satellite to China. Those arguing for denial of the export license maintained that the Hughes satellite was a new design that had not been launched by the Chinese before and would give China the opportunity to learn the new technology.

U.S. Investment Insurance and Export Financing

U.S. sanctions prohibiting several U.S. government agencies from operating in China have contributed to losses of investment and trade opportunities for both countries. The U.S. Overseas Private Investment Corporation (OPIC) is a federal agency that sells investment services to American companies. Its stated mission is "to mobilize and facilitate the participation of United States private capital and skills in the economic and social development of less developed countries and areas, and countries in transition from non-market to market economies, thereby complementing the development assistance objectives of the United States." OPIC claims that its political risk insurance and loans help U.S. businesses of all sizes invest and compete in more than 140 developing nations and emerging markets (OPIC 2002). Yet, more than a decade after it suspended its activities in China in 1989, OPIC is still prohibited from resuming its operations in China. This may partly explain the lack of investment in China by small and medium-sized U.S. companies.

The U.S. Trade and Development Agency (TDA) is a U.S. agency that helps create jobs for Americans by assisting U.S. companies in pursuing overseas business opportunities. The TDA funds feasibility studies, orientation visits, specialized training grants, business workshops, and various forms of technical assistance to "enable American businesses to compete for infrastructure and industrial projects in middle-income and developing countries (TDA 2002)." In January 2002, the TDA reopened its program in China following a national interest waiver lifting a 1989 sanction that had suspended the agency's operations in China. Prior to 1989, the TDA had a very successful program in China, with $24 million in grants facilitating $1.4 billion in U.S. exports (TDA 2001).

The Export-Import Bank of the United States (Ex-Im) Bank is a federal agency that provides financing for American exports. Its primary products and services are guarantees, insurance, loans that protect against nonpayment by a foreign buyer, guarantee loans to produce goods or provide a service for export, and assistance to importers to obtain financing at advantageous terms (Ex-Im Bank 2002). After the Tiananmen crisis in 1989, the U.S. government ordered the selective withholding of Ex-Im Bank loans and credit guarantees for exports to China for non-economic or non-security reasons.

Environmental protection also has become a rationale for denying financing programs. In 1992, China launched the Three Gorges Dam project, a hydroelectric power project being built over the Yangtze River, the world's third largest river after the Amazon and the Nile. The Three Gorges Dam, according to some claims, will be the largest water control project in the world when completed. In September 1994, the International Rivers Network (IRN) and a coalition of U.S. environmental, development, and human rights groups encouraged the Clinton administration to withhold financial support for U.S. companies interested in bidding on the project. After more than a year, the U.S. National Security Council concluded that the U.S. government should stay clear of the Three Gorges Dam. In May 1996, the Export-Import Bank announced it would not guarantee loans to U.S. companies seeking contracts for the dam (IRN 2002).

Multilateral Development Bank Financing

Since 1989, the U.S. government has required the U.S. director on the Executive Board of the World Bank to vote against or abstain from voting on all China loans not devoted strictly to meeting basic human needs. This sanction had an initial impact on World Bank financing for China: Immediately after the Tiananmen crisis, the World Bank announced it would defer consideration of about $780 million in new loans to China, but would continue to disburse funds under existing commitments (Riddell 1989).

U.S. opposition to China loans from the World Bank and other multilateral development banks has seldom been effective, however. Based on data in a Congressional Research Service report, from November 1990 to March 1997, 200 loans for China were considered by multilateral development banks such as the Asian Development Bank (ADB), Global Environmental Facility (GEF), International Bank for Reconstruction and Development (commonly called the World Bank), International Development Association (IDA), International Finance Corporation (IFC), Asian Development Foundation (ADF), and the Japanese Special Fund (JSF) of the ADB. The United States voted "no" in 27 cases and abstained in 173 cases. All the loans were approved (Rennack 1997).

There was one case, however, in which a World Bank loan for a China poverty reduction project failed to materialize.[3] The project, called the Qinghai project, was a component of China's Western Poverty Reduction Project (WPRP) aimed at alleviating poverty in Gansu, Inner Mongolia, and Qinghai, three poor provinces in western and northwestern China. A campaign against the project began shortly after negotiations between the World Bank and China had been completed in April 1999. The protest was led by the International Campaign for Tibet (ICT) in the United States and Tibetan support groups around the world and focused mainly on the proposed resettlement of large numbers of non-Tibetans in the project area and on environmental damage the project allegedly would cause.

According to Bottelier (2001), opposition to the project was essentially political in nature, but the conflict took the form of a proxy battle over compliance with World Bank operational guidelines and safeguard policies. The president of the bank, James Wolfensohn, and bank directors were inundated with thousands of letters and e-mails from all over the world protesting the Qinghai project and World Bank support for it. Wolfensohn also was urged to drop support for the project by 60 members of the U.S. Congress as well as the U.S. secretary of the treasury in his capacity as the U.S. representative on the bank's Board of Governors. In the end, the United States and Japan were the only two member countries of the World Bank to oppose the project. All other shareholders supported it in principle, but some (including European shareholders as well as Canada and Australia) required that it be resubmitted for Board approval after completion of additional studies and assessments. China refused to accept this condition and decided to use its own resources to implement the project.

Impact on Hong Kong and Taiwan

As discussed earlier, trade between the United States and China is crucial to Hong Kong's economy. As Taiwan increasingly orients its economy toward China and exports from the mainland to the United States, U.S.-China trade has become instrumental to Taiwan's business success. Rising land and labor costs in Taiwan have prompted many Taiwanese firms to relocate their export-oriented, labor-intensive operations to the mainland. As a result, many labor-intensive products that previously were exported from Taiwan to the United States are now being exported from China to the United States.

U.S. footwear imports from China and Taiwan exemplify the switch of U.S. imports from Taiwan to mainland China. According to one researcher, more than half of Taiwan's footwear manufacturers have moved to the mainland (Klintworth 1995), where they operate 300-plus factories and employ 100,000 workers to produce brand-name shoes such as Nike and Reebok for export to the United States and elsewhere. While Taiwan's shoe exports to the entire world dropped from 800 million pairs in 1987 to 370 million pairs in 1991, exports of shoe parts to China ballooned by almost 60% in 1991 alone. That same year, 40% of the 500 million Chinese-made shoes sold in the United States were manufactured in Taiwanese factories on the mainland. China has now replaced Taiwan as the biggest shoe supplier to the United States.

Many Taiwanese manufacturers in other industries also have moved to the mainland. By 1995, more than 80% of Taiwan's ceramic manufacturers, one-third of its plastics industry, and a quarter of its toy and leather goods factories had shifted operations to China. The majority of their mainland production (up to 70%) was exported to the United States and elsewhere, with 20% sold in China and 10% sold back to Taiwan (Klintworth 1995). Based on Taiwan's trade statistics (Taiwan Bureau of Statistics 1995), Taiwan's shares of world exports of footwear and parts, garments, and ceramic products fell from 7.80%, 9.51%, and 1.04%, respectively, in 1986 to 1.86%, 2.73%, and 0.41% in 1994. These three groups of products comprised 18.35% of Taiwan's total exports in 1986, but accounted for less than 5% in 1994.

The threat of U.S. economic sanctions on imports from China is seen as a threat to the well-being of both Hong Kong and Taiwan. Indeed, all countries that have investment stakes in China or ties to the Chinese economy can be hurt by U.S. sanctions on China. When China's trade status was being debated in the 1990s, the United States was constantly being urged by its trading partners in Asia not to deny MFN status for China.

Impact on China's Policies

U.S.-China economic relations in general, and U.S. economic sanctions in particular, have had important consequences for China's overall economic policies. During the years of total embargo, China had no choice but to adopt a policy of self-reliance and hard struggle. China's alliance with the former Soviet

[3] For a detailed description of the project and the World Bank loan process for the project, see Bottelier (2001).

Union was to some extent both a cause and a result of the U.S. embargo. The lifting of the embargo in the early 1970s and the subsequent normalization of diplomatic relations between the two countries provided a prelude to, and a necessary external environment for, China's open-door policy and economic reform that began in 1978.

As China's trade with the United States has increased, so has its dependence on the U.S. market for its exports. Although China has objected to almost all the rationales that have motivated U.S. sanctions against it, China has cooperated with the United States in solving issues and averting escalations of tensions that might have led to trade wars. Since the beginning of China's economic reform, China has established many trade-related laws and regulations (including those on intellectual property rights protection and nuclear exports), improved trade transparency, liberalized its domestic market, and generally established harmonization with international commercial practices.

V. U.S. ECONOMIC SANCTIONS AGAINST CHINA: IMPACT ON THE UNITED STATES

Economic sanctions interfere with normal trade and exchange between countries. If free trade is good for all trading nations, as most economists agree in theory, then economic sanctions hurt both the target country and the sanctioning country. Thus, basic economic theory suggests that U.S. sanctions against China should inflict economic costs not only upon China but upon the United States as well. U.S. import restrictions, for example, will raise prices of its imports and reduce consumer welfare, while U.S. export restrictions will deprive U.S. exporters of international markets and hurt U.S. employment, thus reducing the welfare of U.S. workers.

The assumption underlying this argument is that both the United States and China are large economies that can influence supply and demand, and hence prices, in each other's markets. Economic theories also suggest that a small economy (in terms of market power) is more dependent on a large economy in terms of export market and international price determination. Accordingly, a large country's economic sanctions against a small economy will cause more economic pain to the small country than vice versa. Indeed, it is believed that U.S. economic sanctions against China hurt China more than the United States, since China presumably is more dependent on the trade relationship. This belief is substantiated by the fact that the United States accounts today for more than 20% of China's export market and about 9% of its imports, while China accounts for only about 2% of the U.S. export market and less than 10% of its imports. In addition, the United States is better able to find substitutes for its imports from China as they are basically low-priced manufactures, while its exports to China can be high in technology content and command high prices.

But the assumption that China depends more on trade with the United States than vice versa should not trivialize the fact that U.S. economic sanctions against China do exert costs--at times, very large costs--on the United States itself. This can be particularly true in a global economy in which China is perceived as a relatively large market.

As a study of U.S. sanctions policy by the European-American Business Council pointed out, measuring the impact of sanctions on the U.S. economy and on multinational companies is a complex and challenging task (EABC 1997). Few, if any, companies have analyzed thoroughly the dollar and employment losses they have suffered from U.S. sanctions. From the aggregate U.S.-China trade statistics, one may draw only very rough estimates of the losses that U.S. economic sanctions may have caused the United States.

On the import side, U.S. losses due to economic sanctions on China may be seen in how U.S. consumers have been affected. U.S. imports from China in 2000 were somewhere between $52 billion (Chinese data) and $100 billion (U.S. data). Since China has been denied GSP treatment (which eliminates tariffs for most goods from developing countries) by the United States, U.S. consumers have had to pay higher prices for imports from China. Assuming that the average duty on imports from China is 4%--the average U.S. tariff charged in normal trade--U.S. consumers paid between $2.04 and $4.24 billion in duties on imports from China.

One should be cautioned that this estimate is very primitive and based on plausible but rudimentary assumptions. The added cost is not a net national loss but a simple income transfer from U.S. consumers to the U.S. government. Still, the reduction in consumption of imports from China due to higher prices and quantity limitations can result in large deadweight losses that are not recovered by anyone else within the United States. These deadweight losses include increased domestic production costs for import substitutes as well as consumers' welfare losses due to reduced consumption.

On the export side, U.S. export controls have contributed at least partly to the U.S. trade deficit with China ($83.83 billion based on U.S. data and $29.79 billion based on Chinese data for 2000). According to a U.S. Department of Commerce study, $1 billion of goods exported in 1992 supported 15,500 jobs, both directly in the exporting firms and indirectly in their suppliers (Davis 1996). If the same estimates still applied in 2000, U.S. job losses due to its trade deficit with China would have ranged from 461,745 (based on China's data) to as many as 1,299,365 (based on U.S. data). These estimates are grounded in the assumption that the U.S. trade deficit with China can be eliminated through U.S. exports, which is plausible in the absence of U.S. export controls. A loss of more than a million jobs sounds unbelievable, but it indicates how large an impact U.S. export controls on China may have.

Even more difficult to calculate are losses from the "chilling effect" of U.S. economic sanctions on certain trade and investment opportunities. A chilling effect occurs when companies forego certain business opportunities rather than risk being subject to sanctions (EABC 1997). With China labeled a "sensitive" country by the United States, one can easily imagine that U.S. firms are very wary of doing business with China. It is true that many U.S. companies are operating in China, but it is hard to estimate the damage these barriers to entry impose on U.S. firms.

Political tensions are often coupled with economic sanctions and can produce the same chilling effect. As Mastel (1997) explained, this chilling effect is one of two factors underlying the poor performance of U.S. exports to China. First, as discussed before, the United States has at several points held up export financing to China and barred China from many of its aid programs. The second factor has been the ongoing political tension between the United States and China. According to Mastel, in its role as a world leader, the United States has been prominent in criticizing China for violations of human rights, arms sales, piracy of intellectual property, and a raft of other issues. This has led to significant ongoing tensions between the United States and China and claims from China that the United States was seeking to "contain" Chinese influence. The U.S. Congress, in an effort to apply leverage on these issues, has also threatened to impose high tariffs on Chinese exports to the United States. The combined effect of all these tensions has been to insert acrimony and uncertainty into the U.S.-China relationship, which can only damage U.S. export prospects (Mastel 1997).

Given the difficulties in compiling more systematic and comprehensive estimates of the impact of U.S. economic sanctions, most analyses have been anecdotal. Even anecdotal figures, however, illustrate the high cost that U.S. sanctions impose on U.S. companies (EABC 1997). As mentioned before, from 1988 to 1998 the U.S. government refused seven of twenty satellite export projects to China. One such refusal cost Hughes $450 million in exports to China. To protest U.S. trade policies toward China, Beijing passed up Boeing in favor of Airbus in placing a $1.89 billion order for 34 planes in 1996 (Burstein and Keijzer 1998). Caterpillar reported in 1998 that the prohibition of U.S. Ex-Im Bank financing for sales of construction equipment for the Three Gorges Dam project gave foreign companies a competitive edge (ITC 1998). According to a *Financial Times* report, a Chinese official once specifically mentioned Westinghouse as a "very strong competitor in bidding for China's nuclear power construction" (Harding 1997). But U.S. sanctions on nuclear power plant exports to China pushed the opportunities to competitors from other nations--through 1996, China had purchased or contracted for approximately $8 billion of nuclear power equipment from France, $3 billion from Canada, and $4 billion from Russia.

Anecdotal evidence also highlights the cost or potential cost of U.S. unilateral sanctions on broad U.S. economic sectors. According to an editorial in the *Washington Post*, restrictions on U.S. credit guarantees for China as proposed in legislation (S. 2645) in the 106th Congress sponsored by Sens. Thompson and Torricelli would have dealt a devastating blow to American farmers, who were suffering a serious economic downturn because of the steep drop in U.S. farm exports to Asia (Donohue 2000). The editorial stated as follows:

> Losing China--which the U.S. Department of Agriculture projects could account for one-third of growth in U.S. farm exports--would be a major setback. In short, Thompson-Torricelli sanctions won't strengthen U.S. leverage. Instead, the bill would ensure that China buys European aircraft, Japanese cars, Canadian wheat and Australian beef--all of which benefit from subsidized export financing.

In 1999, following the release of the House report on illegal technology transfers to China, the U.S. Congress decided to transfer authority over satellite export licensing from the Commerce Department to the State Department. A year later, U.S. Rep. Sam Gejdenson, D-Conn., ranking member of the House International Relations Committee, claimed that "[T]he new process has led to a loss of almost 40 percent of

the market share to our competitors, while sales internationally have increased. This jeopardizes our commercial advantage as well as our national defense capabilities" (U.S. House of Representatives 2000).

The uncertain supply of U.S. products caused by U.S. economic sanctions has long-term effects on U.S. companies and their exports. According to a report published by the Center for Strategic and International Studies, the reputation of the United States as an unreliable supplier has led foreign firms to avoid U.S. laws by designing products that have few, if any, U.S.-made components or developing foreign replacements for U.S.-made components. Airbus Industries, for example, was once dependent on a significant number of U.S. parts for its aircraft, but it changed designs so that it could, when necessary, manufacture an Airbus composed of less than 10 percent U.S. parts, thereby escaping U.S. trade controls. Similar tactics have been adopted by the foreign subsidiaries of U.S. firms (Collins and Bowdoin 1999).

This supply uncertainty can help explain the weak performance of U.S. exports to China. China has for many years tried to diversify its sources of imports for its development. Such diversification is seen in many key industries, such as telecommunications, power generation, and machine tools, to name just a few. Multinational companies from the EU and Japan as well as the United States are major players in these industries in China.

Some indication of the overall third-country effect of U.S. economic sanctions against China may be found in the changing trade shares of China's major trade partners. As Table 10 shows, China's imports from the United States, Japan, the EU, and Hong Kong have followed different paths. The U.S. share of China's total imports has been declining, from more than 20% in the early 1980s to less than 10% in 2000. Similarly, Japan's share of China's total imports has declined from almost 36% in 1985 to less than 20% in 2000. On the other hand, China's imports from the EU have remained relatively stable at about 15% over the same time period. The fact that the U.S. share declined more than Japan's and the European Union's may reflect the diversion of China's imports from the United States to other industrialized countries. The sharp decline in the share of China's imports from Hong Kong, from more than 25% in the early 1990s to less than 5% in 2000, is an indication that U.S. sanctions may have reduced the role of Hong Kong as a re-exporter of U.S. products to China.

The share of China's imports from the four major sources--namely Japan, the European Union, the United States, and Hong Kong--has experienced a steady overall decline, from about 70% in the 1980s to less than 50% today. There may be two interpretations for this overall decline. First, the multilateral sanctions that the industrialized countries imposed on China after the 1989 Tiananmen crisis have had a long-lasting impact on China's imports from these sources. Indeed, the early 1990s seemed to be a turning point--that is, China's imports from these four sources were increasing until 1990, at which point they reversed direction. Second (and correspondingly), China has effectively diversified its import sources. As shown in Table 11, South Korea became the second largest source of China's imports in 2000. Other countries in the Asia-Pacific area, such as Malaysia, Singapore, and Australia, also have become major sources of China's imports.

The third-country effect of U.S. sanctions against China is not apparent on China's exports. The share of China's exports to the United States has increased from around 8% in the 1980s to more than 20% in 2000 (see Table 12). The share of China's exports to the EU has remained relatively stable, with a slight upward trend. But the share of China's exports to Japan has declined steadily, from better than 20% in the early 1980s to around 17% in the late 1990s. The overall share of China's exports to the four major destinations--the United States, Hong Kong, Japan, and the EU--increased from around 65% in the early 1980s to more than 75% in the early 1990s, then declined to a little over 70% in 2000.

VI. U.S. ECONOMIC SANCTIONS AGAINST CHINA: EFFECTIVENESS AND RATIONALE

Measuring the effectiveness of economic sanctions is not only difficult, but controversial. There are at least two points at issue: objective and causality. If the objective is to cause pain and suffering in the target economy, economic sanctions should be considered effective, albeit to different degrees for different countries under different circumstances. After all, economic sanctions interfere with normal trade. But if the objective is too ambitious, economic sanctions may be considered ineffective. According to Thomas J. Donohue (2000), president and chief executive officer of the U.S. Chamber of Commerce, "In the past century, we've imposed unilateral sanctions 120 times against country after country, hoping that one day they would achieve their stated purpose of destroying economies or destabilizing governments. They never do."

U.S. economic sanctions did cause China a lot of pain and suffering during the embargo years (1950-1971), as evidenced by the absence of trade between the two countries even when China was in severe need of food during a three-year famine in the early 1960s. The sanctions also have hindered the transfer of U.S. technology to China since the embargo was lifted, although the impact of this hindrance is almost impossible to quantify. But despite the difficulties that these sanctions may have imposed, China has made remarkable progress in both economic growth and technological improvement in the last two decades. China has become a major trading nation in the world and has accumulated a high level of international reserves. Judging from the overall performance of the Chinese economy, U.S. economic sanctions have not had a significant adverse impact.

While economic losses may be appropriate measures of the cost of economic sanctions, they are not, in many cases, the objective or purpose of sanctions. Indeed, the effectiveness of an economic sanction should be measured not by the volume of business activity deterred, but rather by the desired behavioral changes on the part of the target regime(s) (EABC 1997). To some, U.S. economic sanctions against China have been very effective. According to a recently declassified analysis by the U.S. Arms Control and Disarmament Agency, "The history of U.S.-China relations shows that China has made specific nonproliferation commitments only under the threat or imposition of sanctions" (Helms 1999).

U.S. Senator Jesse Helms, R-N.C., former chairman and now ranking member of the Senate Foreign Relations Committee, views unilateral sanctions as the linchpin of U.S. nonproliferation policy, saying, "Short of war, sanctions are the main leverage the United States has over China" (Helms 1999). He also believes U.S. sanctions against China have played a crucial role in trade disputes between the two countries:

> The threat of unilateral sanctions on China over intellectual property rights and unfair trade barriers has forced China several times to yield. In November 1991, the U.S. trade representative threatened $1.5 billion in trade sanctions if an intellectual property rights agreement was not reached by January 1992. Not surprisingly, such an agreement was struck on January 16, 1992. No wonder business lobbyists are so keen to retain unilateral sanctions in the trade arsenal--even as they campaign to remove them from our nation's foreign policy (Helms 1999).

It is true that China has made nonproliferation commitments and signed various trade agreements with the United States over the past decades. It is believed that China made huge concessions to the United States in its negotiations to join the WTO. But if these Chinese actions are seen as a result of U.S. economic sanctions or the threat of U.S. economic sanctions, one might wonder about the value of the commitments and agreements. The causality of these same commitments and agreements may, in fact, be seen in an entirely different light: cooperative efforts by the two countries to avert confrontation that would be good for neither.

There have been different evaluations of the effectiveness of U.S. economic sanctions against China. James Dorn, vice president for academic affairs at the Cato Institute, a public policy research foundation that advocates limited government, individual liberty, free markets, and peace, believes economic sanctions have little chance of success against China (Dorn 1996). He cites three factors behind his thinking.

First, U.S. sanctions against China are politically and operationally infeasible. American consumers would see higher prices and immediately protest. China, meanwhile, could trans-ship products through Hong Kong or other channels, and U.S. customs officials would find it hard to identify the point of origin. Likewise, restricting American exports to China or curtailing the billions of dollars U.S. investors have poured into China would cause a political backlash from stakeholders and be difficult to enforce.

Second, third-country effects exist. Dorn argues that even if the U.S. government could block flows of goods and capital to China, there is no guarantee other countries would not step in to fill the gap. For example, instead of buying from Boeing or looking to American investors, the Chinese would shift to Airbus Industries and look to European and Asian trading partners for additional capital. U.S. investors, for their part, would try to reroute their funds into China rather than abandon their invested capital.

Third, China could retaliate if America were to ban trade with China. The ensuing trade war would harm both countries as well as the so-called Asian tigers and do irreparable damage to the evolution of economic and civil society in China.

VII. CONCLUSION

China has been subject to different types of U.S. economic sanctions for more than half a century: a trade embargo from 1949 to 1971 and targeted sanctions afterwards. At present, the United States still maintains a broad spectrum of economic sanctions against China ranging from export controls to prohibition on certain imports.

The impact of these sanctions on China can be summarized as follows. First, from a macroeconomic perspective, U.S. sanctions have caused pain to China but had no significant adverse effect on China's economic growth. The U.S. trade embargo effectively blocked all trade between China and the Western world, isolating China and contributing to the hardships it suffered in those years. After the embargo was lifted, trade between the United States and China increased, making both countries major trade partners with each other. In the past two decades, China has achieved significant economic growth.

Second, based on estimates from a simple gravity model, U.S. economic sanctions against China apparently have not held back trade between the two countries since the mid-1980s. However, the U.S. denial of GSP treatment for China may have caused U.S. consumers more than $2 billion each year in higher costs for Chinese imports. U.S. restrictions on imports from China also may have caused deadweight losses due to higher domestic production costs for import substitutes and a reduction in consumption.

Third, U.S. export controls have hindered U.S. exports to China and contributed to large U.S trade deficits with China. The export controls may have caused losses of 500,000 to more than a million jobs in the United States in 2000.

Fourth, U.S. export controls on China have benefited U.S. competitors (e.g., France and Japan) in some high-tech industries, such as nuclear power generation and telecommunications. In the nuclear power industry alone, U.S. competitors have generated revenues of about fifteen billion U.S. dollars in exports to China over the past few years. This third-country effect is also evident in China's overall trade with countries other than the United States. While China's share of imports from the United States has been declining, its share of imports from other sources, particularly the European Union, has remained steady or increased.

Fifth, U.S. economic sanctions against China also have affected economies that are involved in trade between China and the United States. Hong Kong, Taiwan, and (to some extent) Korea have moved a significant part of their manufacturing operations to China and export their products to the United States. U.S. economic sanctions on China have a direct impact on the viability of these economies.

Sixth, China's diversification of imports to sources other than the United States may have a long-term effect on U.S. exports to China even after U.S. economic sanctions against China are lifted.

Seventh, U.S. economic sanctions against China may have contributed to the relatively small share of U.S. investment in China as compared with total U.S. overseas investment. The sanctions also have held back U.S. financing of exports to China and financing for China from international institutions.

Despite the U.S. sanctions against China, economic relations between the two countries have become increasingly interdependent. The United States has become a major investor in China, and U.S. multinational companies have achieved market dominance in a number of sectors of the Chinese economy. With China joining the WTO at the end of 2001, it is believed that U.S. companies will have even more business opportunities in China in the future.

But as long as China is viewed as a potential adversary to the United States and sanctions are considered an effective source of leverage against China to solve differences between the two countries, U.S. economic sanctions against China likely will continue. Periodic tensions between the two countries can only serve to intensify the application of sanctions. The economic impact of such sanctions will be more severe than ever before for both countries, given the extent of their interdependence. Third-country effects may help alleviate some pains, but cannot totally negate the adverse effects on two such large economies.

Future studies of U.S. economic sanctions against China should focus on the issues that have motivated these sanctions. While there may be many alternative ways to approach the conflict areas (economic sanctions being one), enhancing mutual understanding may work in the best interests of both countries.

References

Askari, Hossein, John Forrer, Hildy Teegen, and Jiawen Yang. 2003. *Economic Sanctions: Examining Their Philosophy and Efficacy*. New York: Quorum Books.

Bottelier, Pieter. 2001. "Was World Bank Support for the Qinghai Anti-Poverty Project in China Ill-Considered?" *Harvard Asia Quarterly* 5 (1): 47-55.

Burstein, Daniel, and Arne De Keijzer. 1998. *Big Dragon*. New York: Simon & Schuster.

China Atomic Energy Authority (CAEA). 2002. "Peaceful Uses of Nuclear Energy: Nuclear Energy Development in China." Beijing: China Atomic Energy Authority.

Collins, Joseph J., and Gabrielle D. Bowdoin. 1999. *Beyond Unilateral Economic Sanctions--Better Alternatives for U.S. Foreign Policy*. Washington, D.C.: Center for Strategic and International Studies.

Davis, Lester A. 1996. *U.S. Jobs Supported by Goods and Services Exports, 1983-94, Including Special Focus on Exports by High Technology Industries*. Washington, D.C.: U.S. Department of Commerce, Office of International Macroeconomic Analysis.

Department of Commerce (DOC). 1995. *Comparison of the 1992-1993 Merchandise Trade Statistics of the United States and the People's Republic of China*. Washington, D.C.: U.S. Department of Commerce, Bureau of the Census, Economics and Statistics Administration.

Donohue, Thomas J. 2000. "A Counterproductive Approach to China." *The Washington Post*, 10 July.

Dorn, James A. 1996. "Trade and Human Rights: The Case of China." *Cato Journal* 16 (1): 77-98.

European-American Business Council (EABC). 1997. *Is the Price Too High? The Cost of U.S. Sanctions Policies*. Washington, D.C.: European-American Business Council.

Export Administration Act of 1979 (EAA). U.S. Public Law 96-72. 96th Cong., 1st sess., 29 Sept. 1979.

Export Administration Regulations (EAR). 2002. *Part 738: Commerce Control List Overview and the Country Chart*. Washington, D.C.: Department of Commerce, Bureau of Industry and Security.

Export-Import Bank of the United States (Ex-Im Bank). "Ex-Im Bank Programs--Overview." Washington, D.C.: Export-Import Bank of the United States.

General Accounting Office (GAO). 1998. *Export Controls: Information on the Decision to Revise High Performance Computer Controls*. Washington, D.C.: U.S. General Accounting Office.

---. 2002. *Export Controls: Rapid Advances in China's Semiconductor Industry Underscore Need for Fundamental U.S. Policy Review*. Washington, D.C.: U.S. General Accounting Office.

Harding, James. 1997. "China Urges End to High-tech Ban." *Financial Times*, 18 August.

Hecker, JayEtta. 1996. "International Trade: Challenges and Opportunities for U.S. Businesses in China." Testimony before the Committee on Banking and Financial Services, U.S. House of Representatives. 104th Cong., 2d sess. Washington, D.C.: General Accounting Office.

Helms, Jesse. 1999. "What Sanctions Epidemic? U.S. Business' Curious Crusade." *Foreign Affairs* 78 (1): 2-8.

International Rivers Network (IRN). 2001. "IRN's China Campaigns." Washington, D.C.: International Rivers Network.

International Trade Commission (ITC). 1998. *Overview and Analysis of Current U.S. Unilateral Economic Sanctions*. Washington, D.C.: U.S. International Trade Commission.

Johnson, Harold J. 2000. "Export Controls: National Security Risks and Revisions to Controls on Computers." Testimony before the Committee on Armed Services, U.S. Senate, 106th Cong., 2d sess. Washington, D.C.: U.S. General Accounting Office.

Kan, Shirley A. 1998. "U.S. Policy Regarding Satellite Exports to China." Testimony before a joint hearing of the Committees on International Relations and National Security, U.S. House of Representatives, 105th Cong., 2d sess. Washington, D.C.: Library of Congress, Congressional Research Service.

Klintworth, Gary. 1995. *New Taiwan, New China: Taiwan's Changing Role in the Asia-Pacific Region*. New York: Longman St. Martin's Press.

Lardy, Nicholas R. 1994. *China in the World Economy*. Washington, D.C.: Institute for International Economics.

---. 1996. "China and the WTO." *Policy Brief 10*. Washington, D.C.: The Brookings Institution.

---. 1997. "Is China MFN an Effective Foreign Policy Tool?" Testimony before the Subcommittee on East Asian and Pacific Affairs, Committee on Foreign Relations, U.S. Senate, 105th Cong., 1st sess. Washington, D.C.: Brookings Institution.

---. 2001. "U.S.-China Economic Relations: Implications for U.S. Policy." Testimony before the Subcommittee on East Asia and the Pacific, Committee on International Relations, U.S. House of Representatives. 107th Cong., 1st sess. Washington, D.C.: Brookings Institution.

---. 2002. *Integrating China into the Global Economy*. Washington, DC: Brookings Institution Press.

Mastel, Greg. 1997. *The Rise of the Chinese Economy: The Middle Kingdom Emerges*. Armonk, New York: M.E. Sharpe.

Overseas Private Investment Corporation (OPIC). 2002. "What is OPIC?" Washington, D.C.: Overseas Private Investment Corporation.

Preeg, Ernest H. 1999. "China: Where It All Comes Together." In *Feeling Good or Doing Good with Sanctions*. Washington, D.C.: Center for Strategic & International Studies.

Rennack, Dianne E. 1997. *China: U.S. Economic Sanctions*. Washington, D.C.: Library of Congress, Congressional Research Service.

Riddell, Peter. 1989. "World Bank Defers China Plans." *Financial Times*, 27 June.

Ross, Robert S. 1998. "The Strategic and Bilateral Context of Policy-Making in China and the United States: Why Domestic Factors Matter." In *After the Cold War: Domestic Factors and U.S.-China Relations*. New York: M.E. Sharpe.

Taiwan Bureau of Statistics. 1995. Taiwan Statistical Data Book. Directorate-General of Budget, Accounting and Statistics, Taiwan.

Trade and Development Agency (TDA). 2001. "TDA Reopens U.S. Export Promotion Program in China." *TDA Update* 8 (1). Washington, D.C.: U.S. Trade and Development Agency.

---. 2002. "About TDA." Washington, D.C. U.S. Trade and Development Agency.

U.S. House of Representatives. 1999. *Report of the Select Committee on U.S. National Security and Military/Commercial Concerns with the People's Republic of China*. 105th Cong., 2d sess. H. Rept. 105-851.

---. 2000. "Gejdenson Introduces Satellite Exports Bill." *Press Release*, U.S. House of Representatives, Committee on International Relations, Democratic Office (Washington, DC.–May 3, 2000).

Yang, Jiawen. 1998. "Some Current Issues in U.S.-China Trade Relations." *Issues & Studies* 34 (7): 62-84.

Table 1

Differences of U.S. Actual Trade with China Over Gravity Model Estimates
(Amount in millions of dollars)

Year	Exports			Imports		
	Actual	Estimated	Residual	Actual	Estimated	Residual
1987	3,497.30	2,593.20	904.1	6,293.50	4,904.07	1,389.43
1988	5,021.40	3,345.04	1,676.36	8,510.90	3,617.85	4,893.05
1989	5,755.40	3,404.99	2,350.41	11,989.90	6,642.47	5,347.43
1990	4,806.40	3,694.82	1,111.58	15,237.30	5,158.99	10,078.31
1991	6,278.30	3,875.00	2,403.30	18,969.00	4,506.67	14,462.33
1992	7,418.40	4,069.10	3,349.30	25,727.60	3,125.26	22,602.34
1993	8,762.80	4,392.86	4,369.94	31,539.90	3,192.60	28,347.30
1994	9,281.80	6,698.79	2,583.01	38,786.70	7,338.72	31,447.98
1995	11,753.60	8,505.76	3,247.84	45,543.20	8,160.02	37,383.18
1996	11,992.60	7,736.95	4,255.65	51,512.60	12,800.59	38,712.01
1997	12,862.30	10,069.77	2,792.53	62,557.60	14,169.00	48,388.60
1998	14,241.30	10,345.74	3,895.56	71,168.70	21,728.75	49,439.95

Note:

The estimation model is specified as:

$$\log(T_{ij}) = \alpha + \beta_1 \log(GDP_i * GDP_{US}) + \beta_3 \log(DIST_{ij}) + \upsilon_i$$

where T denotes imports or exports between the U.S. and its trade partners, GDP_{US} is U.S. GDP, GDP_i is the corresponding GDP for U.S. trade partners, and DIST is the geographical distance between the U.S. and its trade partners.

See Askari et al. (2003) for details of data and variable descriptions.

Table 2

U.S. – China Trade Composition, 2001
(Million dollars)

SITC	Description	U.S. Export To China	U.S. Imports From China	U.S. Balance
0	Food and Live Animals	510.78	1,143.72	-632.94
1	Beverages and Tobacco	6.07	40.37	-34.30
2	Crude Materials, Inedible, Except Fuels	3,145.86	594.76	2,551.10
3	Mineral Fuels, Lubricants and Related Materials	93.45	387.22	-293.77
4	Animal and Vegetable Oils, Fats and Waxes	14.16	5.68	8.48
5	Chemicals and Related Products, N.E.S.	2,211.23	2,064.68	146.55
6	Manufactured Goods Classified Chiefly by Material	1,106.52	10,803.65	-9,697.13
7	Machinery and Transport Equipment	10,284.63	34,943.68	-24,659.05
8	Miscellaneous Manufactured Articles	1,653.25	51,068.26	-49,415.01
9	Commodities and Transactions, N.E.S.	208.89	1,228.47	-1,019.58
	TOTAL	19,234.83	102,280.48	-83,045.65

Source: U.S. Census Bureau, Historical Trade Data.

Standard International Trade Classification (SITC-United Nations Statistical Papers, Series M, No. 34/Rev.3) is a statistical classification of the commodities entering external trade designed to provide the commodity aggregates needed for purposes of economic analysis and to facilitate the international comparison of trade-by-commodity data.

Table 3
Hong Kong's Imports, Exports, and Re-exports by Major Countries

	Value (HK$ billion)			Share		
	1996	2000	2001	1996	2000	2001
Imports	1,535.6	1,658.0	1,568.2	100.0%	100.0%	100.0%
Mainland China	570.4	715.0	682.0	37.1%	43.1%	43.5%
Japan	208.2	199.0	176.6	13.6%	12.0%	11.3%
Taiwan	123.2	124.2	107.9	8.0%	7.5%	6.9%
U.S.A.	121.1	112.8	104.9	7.9%	6.8%	6.7%
Singapore	81.5	75.0	72.9	5.3%	4.5%	4.6%
Asia-Pacific Economic Co-operation	1,294.0	1,436.9	1,340.9	84.3%	86.7%	85.5%
European Union	170.6	144.3	151.2	11.1%	8.7%	9.6%
Domestic exports	212.2	181.0	153.5	100.0%	100.0%	100.0%
Mainland China	61.6	54.2	49.5	29.0%	29.9%	32.2%
U.S.A.	53.9	54.4	47.6	25.4%	30.1%	31.0%
United Kingdom	10.6	10.7	8.6	5.0%	5.9%	5.6%
Germany	11.4	9.3	5.8	5.4%	5.1%	3.8%
Taiwan	6.7	6.1	5.3	3.2%	3.4%	3.5%
Asia-Pacific Economic Co-operation	163.0	139.6	121.6	76.8%	77.1%	79.2%
European Union	37.0	32.9	25.5	17.4%	18.2%	16.6%
Re-exports	1,185.8	1,391.7	1,327.5	100.0%	100.0%	100.0%
Mainland China	417.8	488.8	496.6	35.2%	35.1%	37.4%
U.S.A.	242.3	311.0	282.2	20.4%	22.3%	21.3%
Japan	80.2	82.1	83.6	6.8%	5.9%	6.3%
United Kingdom	36.0	52.4	46.8	3.0%	3.8%	3.5%
Germany	47.2	50.6	45.8	4.0%	3.6%	3.5%
Asia-Pacific Economic Co-operation	907.4	1,078.9	1,042.8	76.5%	77.5%	78.6%
European Union	170.8	206.9	188.2	14.4%	14.9%	14.2%
Re-exports as of						
Imports	77.2%	83.9%	84.7%			
Total exports	84.8%	88.5%	89.6%			

Source: Census and Statistics Bureau, Hong Kong.

Table 4

U.S.-China Trade Balance as Reported by the U.S. and China
(Million dollars)

Year	As Reported by China			As Reported by US		
	Export To US	Import From US	US Trade Balance	Export To China	Import From China	US Trade Balance
1985	2,336.2	5,198.7	2,862.5	3,855.7	3,861.7	-6.0
1986	2,632.7	4,718.2	2,085.5	3,106.2	4,770.9	-1,664.7
1987	3,030.4	4,835.6	1,805.2	3,497.3	6,293.5	-2,796.2
1988	3,398.7	6,633.0	3,234.3	5,021.4	8,510.9	-3,489.5
1989	4,413.6	7,863.6	3,450.0	5,755.4	11,989.9	-6,234.5
1990	5,313.9	6,591.0	1,277.1	4,806.4	15,237.3	-10,430.9
1991	6,198.0	8,010.3	1,812.3	6,278.3	18,969.0	-12,690.7
1992	8,598.8	8,902.7	303.9	7,418.4	25,727.6	-18,309.2
1993	16,976.5	10,632.8	-6,343.7	8,762.8	31,539.9	-22,777.1
1994	21,421.4	13,976.7	-7,444.7	9,281.8	38,786.7	-29,504.9
1995	24,743.9	16,123.2	-8,620.7	11,753.6	45,543.2	-33,789.6
1996	26,730.6	16,178.9	-10,551.7	11,992.6	51,512.6	-39,520.0
1997	32,743.9	16,289.8	-16,454.1	12,862.3	62,557.6	-49,695.3
1998	38,000.6	16,997.3	-21,003.3	14,241.3	71,168.7	-56,927.4
1999	42,003.1	19,488.7	-22,514.4	13,111.0	81,788.2	-68,677.2
2000	52,161.7	22,374.6	-29,787.1	16,185.3	100,018.4	-83,833.1
2001				19,234.8	102,280.5	-83,045.7

Source: IMF, Direction of Trade Statistics, March 2002.

Table 5

U.S. FDI in Mainland China and U.S. Share
(Amount in million dollars)

Year	Total FDI in China			U.S. FDI in China					
	Number of New Contracts	Value of New Contracts	Actual FDI Utilized	New Contracts		New Contracts		Actual FDI Utilized	
				Number	Share	Value	Share	Value	Share
1979-82	922	4,608	1,771	21	2.28%	281	6.10%	13	0.73%
1983	470	1,731	916	25	5.32%	470	27.15%	5	0.55%
1984	1,856	2,650	1,419	62	3.34%	165	6.23%	256	18.04%
1985	3,073	5,931	1,956	100	3.25%	1,152	19.42%	357	18.25%
1986	1,498	2,834	1,875	102	6.81%	527	18.60%	315	16.80%
1987	2,233	3,709	2,647	104	4.66%	342	9.22%	263	9.94%
1988	5,945	5,297	3,194	269	4.52%	370	6.99%	236	7.39%
1989	5,779	5,600	3,774	276	4.78%	641	11.45%	284	7.53%
1990	7,273	6,596	3,487	357	4.91%	358	5.43%	456	13.08%
1991	12,978	11,977	4,366	694	5.35%	548	4.58%	323	7.40%
1992	48,764	58,124	11,008	3,265	6.70%	3,121	5.37%	511	4.64%
1993	83,437	111,437	27,515	6,750	8.09%	6,813	6.11%	2,063	7.50%
1994	47,549	82,680	33,767	4,223	8.88%	6,010	7.27%	2,491	7.38%
1995	37,011	91,282	37,521	3,474	9.39%	7,471	8.18%	3,083	8.22%
1996	24,556	73,276	41,726	2,517	10.25%	6,915	9.44%	3,444	8.25%
1997	21,001	51,004	45,257	2,188	10.42%	4,940	9.69%	3,240	7.16%
1998	19,799	52,102	45,463	2,238	11.30%	3,898	7.48%	6,484	14.26%
1999	16,918	41,223	40,319	2,028	11.99%	4,200	10.19%	6,000	14.88%
2000	22,347	62,380	40,715	2,609	11.67%	8,001	12.83%	4,384	10.77%
2001	26,150	69,120	46,842	2,594	9.92%	7,505	10.86%	4,858	10.37%

Source: China National Bureau of Statistics, China Statistics Yearbook, various issues.

Table 6

Major Sources of External Direct Investment in Mainland China: 1999
(Value in million dollars)

Source	Number of New Contracts	Value of New Contracts	Average Contract Size	Actual FDI Utilized
Hong Kong	5,902	13,330	2.26	16,360
U.S.	2,028	6,020	2.97	4,220
Japan	1,167	2,590	2.22	2,970
The virgin islands	495	3,490	7.05	2,660
Singapore	503	2,260	4.49	2,640
Taiwan	2,499	3,370	1.35	2,600
Germany	196	940	4.80	1,370
South Korean	1,547	1,480	0.96	1,270
U.K.	230	1,090	4.74	1,040
France	110	470	4.27	880

Source: China National Bureau of Statistics, China Statistic Yearbook 1999.

Table 7
U.S. Direct Investment Position Abroad on a Historical-Cost Basis: Industry Distribution, 2000
(Amounts in million dollars)

Industries	All countries		China		Canada	Latin America and Other Western Hemisphere	Asia and Pacific	European Union
	Value	Share	Value	Share				
All destinations	**1,244,654**	**100.00%**	**9,577**	**100.00%**	**126,421**	**239,388**	**199,599**	**573,416**
Petroleum	**105,486**	**8.48%**	**1,846**	**19.28%**	**18,018**	**9,084**	**29,736**	**26,051**
Manufacturing	**343,992**	**27.64%**	**5,663**	**59.13%**	**50,425**	**50,696**	**60,710**	**168,648**
Food and kindred products	36,840	2.96%	181	1.89%	4,445	10,595	4,117	15,594
Chemicals and allied products	86,081	6.92%	245	2.56%	8,929	10,616	10,314	52,605
Primary and fabricated metals	18,713	1.50%	183	1.91%	3,630	3,304	1,623	9,385
Industrial machinery and equipment	42,523	3.42%	931	9.72%	3,447	3,361	11,111	23,141
Electronic and other electric equipment	43,441	3.49%	3,208	33.50%	3,271	1,987	18,189	17,490
Transportation equipment	41,099	3.30%	147	1.53%	12,707	7,683	4,496	15,497
Other manufacturing	75,294	6.05%	768	8.02%	13,996	13,150	10,861	34,936
Wholesale trade	**88,090**	**7.08%**	**362**	**3.78%**	**9,834**	**9,076**	**17,744**	**34,365**
Depository institutions	**37,155**	**2.99%**	**78**	**0.81%**	**1,999**	**-1,639**	**11,578**	**18,083**
Finance (except depository institutions), insurance and real estate	**497,267**	**39.95%**	**740**	**7.73%**	**29,125**	**140,655**	**51,439**	**239,523**
Services	**79,857**	**6.42%**	**295**	**3.08%**	**8,297**	**7,301**	**13,638**	**47,243**
Other industries	**92,809**	**7.46%**	**594**	**6.20%**	**8,724**	**24,215**	**14,755**	**39,504**

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Data.

Table 8

U.S. Direct Investment Abroad: Country Detail for Capital Outflows
(Amount in Millions of Dollars)

Destination	Amount	Share	*Destination*	Amount	Share	*Destination*	Amount	Share
All countries, all industries	**141,203**	100.00%	Argentina	-264	-0.19%	South Africa	22	0.02%
Canada	**20,023**	14.18%	Brazil	487	0.34%	Other	337	0.24%
			Chile	1,434	1.02%			
Europe	**68,243**	48.33%	Colombia	173	0.12%	Middle East	**1,019**	0.72%
		0.00%	Ecuador	-70	-0.05%	Israel	195	0.14%
Austria	-754	-0.53%	Peru	153	0.11%	Saudi Arabia	60	0.04%
Belgium	537	0.38%	Venezuela	1,020	0.72%	United Arab Emirates	175	0.12%
Denmark	-468	-0.33%	Other	340	0.24%	Other	588	0.42%
Finland	120	0.08%						
France	2,373	1.68%	Central America	18,090	12.81%	Asia and Pacific	**19,561**	13.85%
			Costa Rica	162	0.11%	Australia	-46	-0.03%
Germany	11,964	8.47%	Guatemala	-268	-0.19%	China	1,481	1.05%
Greece	41	0.03%	Honduras	69	0.05%	Hong Kong	2,888	2.05%
Ireland	444	0.31%	Mexico	17,505	12.40%	India	338	0.24%
Italy	2,836	2.01%	Panama	682	0.48%	Indonesia	735	0.52%
Luxembourg	3,296	2.33%	Other	-60	-0.04%	Japan	7,212	5.11%
Netherlands	13,102	9.28%				Korea, Republic of	1,067	0.76%
			Other Western Hemisphere	10,180	7.21%	Malaysia	300	0.21%
Norway	623	0.44%	Bahamas	-140	-0.10%	New Zealand	143	0.10%
Portugal	152	0.11%	Barbados	728	0.52%	Philippines	50	0.04%
Spain	1,078	0.76%	Bermuda	6,819	4.83%	Singapore	3,506	2.48%
Sweden	1,144	0.81%	Dominican Republic	149	0.11%	Taiwan	840	0.59%
Switzerland	5,674	4.02%	Jamaica	86	0.06%	Thailand	1,154	0.82%
Turkey	-29	-0.02%	Netherlands Antilles	128	0.09%	Other	-108	-0.08%
United Kingdom	23,523	16.66%	Trinidad and Tobago	205	0.15%			
Other	2,588	1.83%	U.K. Islands, Caribbean	1,906	1.35%	International/1/	**-482**	-0.34%
			Other	299	0.21%			
Latin America and Other Western Hemisphere	**31,544**	22.34%	Africa	**1,295**	0.92%	Addenda: Eastern Europe/2/	2,287	1.62%
			Egypt	654	0.46%	European Union (15)/3/	59,387	42.06%
South America	3,273	2.32%	Nigeria	281	0.20%	OPEC/4/	3,220	2.28%

Notes:
1. "International" consists of affiliates that have operations spanning more than one country and that are engaged in petroleum shipping, other water transportation, or offshore oil and gas drilling.
2. "Eastern Europe" comprises Albania, Armenia, Azerbaijan, Belarus, Bulgaria, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Moldova, Poland, Romania, Russia, Slovakia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.
3. The European Union (12) comprises Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, and the United Kingdom. The European Union (15) comprises the European Union (12) and the three countries--Austria, Finland, and Sweden—that joined the Union in 1995.

4. Beginning with 1995, OPEC (Organization of Petroleum Exporting Countries) comprises Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. Prior to 1995, Gabon was also a member.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Data

Table 9

U.S. Direct Investment Position Abroad on a Historical-Cost Basis, 2000
(Amount in millions of dollars)

Destination	Amount	Share	Destination	Amount	Share	Destination	Amount	Share
All countries	**1,244,654**	100.00%	Argentina	14,489	1.16%	South Africa	2,826	0.23%
			Brazil	35,560	2.86%	Other	8,969	0.72%
Canada	**126,421**	10.16%	Chile	10,846	0.87%			
			Colombia	4,423	0.36%	**Middle East**	**11,851**	0.95%
Europe	**648,731**	52.12%	Ecuador	838	0.07%	Israel	3,426	0.28%
			Peru	3,317	0.27%	Saudi Arabia	4,784	0.38%
Austria	3,676	0.30%	Venezuela	8,423	0.68%	United Arab Emirates	573	0.05%
Belgium	16,409	1.32%	Other	1,456	0.12%	Other	3,069	0.25%
Denmark	5,618	0.45%						
			Central America	74,754	6.01%	**Asia and Pacific**	**199,599**	16.04%
Finland	1,279	0.10%	Costa Rica	1,983	0.16%	Australia	35,324	2.84%
France	39,087	3.14%	Guatemala	904	0.07%	China	9,577	0.77%
Germany	53,610	4.31%	Honduras	115	0.01%	Hong Kong	23,308	1.87%
Greece	672	0.05%	Mexico	35,414	2.85%	India	1,258	0.10%
Ireland	33,369	2.68%	Panama	35,407	2.84%	Indonesia	11,605	0.93%
Italy	23,622	1.90%	Other	931	0.07%	Japan	55,606	4.47%
Luxembourg	19,470	1.56%				Korea, Republic of	9,432	0.76%
			Other Western Hemisphere	85,280	6.85%			
Netherlands	115,506	9.28%	Bahamas	668	0.05%	Malaysia	5,995	0.48%
			Barbados	1,227	0.10%	New Zealand	5,340	0.43%
Norway	6,303	0.51%	Bermuda	54,114	4.35%	Philippines	2,910	0.23%
Portugal	1,784	0.14%	Dominican Republic	1,126	0.09%	Singapore	23,245	1.87%
Spain	14,561	1.17%	Jamaica	2,596	0.21%	Taiwan	7,737	0.62%
Sweden	11,371	0.91%	Netherlands Antilles	3,725	0.30%	Thailand	7,124	0.57%
Switzerland	54,873	4.41%	Trinidad and Tobago	1,331	0.11%	Other	1,138	0.09%
Turkey	1,378	0.11%	UK Islands, Caribbean	20,165	1.62%			
United Kingdom	233,384	18.75%	Other	329	0.03%	**International 1**	**2,851**	0.23%
Other	12,760	1.03%						
						Addenda:		
Latin America and Other Western Hemisphere	**239,388**	19.23%	**Africa**	**15,813**	1.27%	Eastern Europe 2	11,009	0.88%
			Egypt	2,735	0.22%	European Union (15) 3	573,416	46.07%
South America	79,354	6.38%	Nigeria	1,283	0.10%	OPEC 4	32,401	2.60%

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Data.

Table 10

Major Suppliers of China's Imports
(Amounts in millions of dollars)

Year	IMPORTS FROM HK		IMPORTS FROM EU		IMPORTS FROM JAPAN		IMPORTS FROM US		Sub-Total Shares	IMPORTS FROM WORLD
1980	569.8	2.92%	3,072.6	15.75%	5,168.9	26.50%	3,830.2	19.64%	64.81%	19,505.0
1981	1,236.3	5.72%	3,129.9	14.47%	6,183.0	28.58%	4,682.4	21.65%	70.42%	21,630.5
1982	1,314.2	6.95%	2,340.6	12.37%	3,901.7	20.62%	4,304.6	22.75%	62.69%	18,920.4
1983	1,709.8	8.02%	3,654.5	17.15%	5,495.2	25.78%	2,753.0	12.92%	63.87%	21,312.6
1984	2,830.2	10.90%	3,716.0	14.32%	8,056.9	31.04%	3,837.1	14.78%	71.05%	25,953.3
1985	4,762.1	11.21%	6,699.3	15.77%	15,178.4	35.73%	5,198.7	12.24%	74.95%	42,479.9
1986	5,572.0	12.88%	8,472.9	19.59%	12,463.2	28.82%	4,718.2	10.91%	72.20%	43,247.4
1987	8,437.0	19.52%	8,026.0	18.57%	10,087.2	23.34%	4,835.6	11.19%	72.61%	43,222.2
1988	12,004.7	21.69%	8,860.9	16.01%	11,062.1	19.99%	6,633.0	11.98%	69.66%	55,351.7
1989	12,540.4	21.20%	9,784.8	16.55%	10,533.9	17.81%	7,863.6	13.30%	68.86%	59,140.1
1990	14,565.0	27.07%	9,146.5	17.00%	7,655.9	14.23%	6,591.0	12.25%	70.54%	53,809.4
1991	17,543.3	27.47%	9,296.8	14.55%	10,031.7	15.71%	8,010.3	12.54%	70.27%	63,874.9
1992	20,538.7	25.09%	10,862.9	13.27%	13,685.6	16.72%	8,902.7	10.87%	65.95%	81,870.8
1993	10,501.1	10.13%	15,738.5	15.19%	23,302.5	22.49%	10,632.8	10.26%	58.07%	103,622.0
1994	9,487.8	8.20%	18,604.2	16.08%	26,318.9	22.75%	13,976.7	12.08%	59.11%	115,705.0
1995	8,599.0	6.51%	21,313.3	16.13%	29,007.3	21.95%	16,123.2	12.20%	56.78%	132,163.0
1996	7,839.0	5.64%	19,882.5	14.31%	29,190.2	21.01%	16,178.9	11.64%	52.60%	138,949.0
1997	6,997.3	4.92%	19,204.5	13.51%	28,989.6	20.39%	16,289.8	11.46%	50.28%	142,163.0
1998	6,666.7	4.75%	20,730.7	14.77%	28,306.8	20.16%	16,997.3	12.11%	51.79%	140,385.0
1999	6,892.4	4.16%	25,466.1	15.37%	33,768.2	20.38%	19,488.7	11.76%	51.66%	165,718.0
2000	9,429.2	4.19%	30,846.7	13.70%	41,511.8	18.44%	22,374.6	9.94%	46.27%	225,096.0

Source: IMF, Direction of Trade Statistics Yearbook 2001.

Table 11

China's Top Trade Partners, 2000
(Amount in millions of dollars)

Export				Import			
Rank	Destination	Amount	Share	Rank	Source	Amount	Share
1	UNITED STATES	52,161.7	20.93%	1	JAPAN	41,511.8	16.66%
2	HONG KONG	44,519.8	17.87%	2	KOREA	23,207.3	9.31%
3	JAPAN	41,654.0	16.72%	3	UNITED STATES	22,374.6	8.98%
4	KOREA	11,292.5	4.53%	4	GERMANY	10,408.8	4.18%
5	GERMANY	9,278.1	3.72%	5	HONG KONG	9,429.2	3.78%
6	NETHERLANDS	6,687.2	2.68%	6	RUSSIA	5,769.9	2.32%
7	UNITED KINGDOM	6,310.2	2.53%	7	MALAYSIA	5,480.0	2.20%
8	SINGAPORE	5,761.3	2.31%	8	SINGAPORE	5,059.7	2.03%
9	ITALY	3,802.3	1.53%	9	AUSTRALIA	5,024.1	2.02%
10	FRANCE	3,714.6	1.49%	10	INDONESIA	4,402.0	1.77%
11	AUSTRALIA	3,428.9	1.38%	11	THAILAND	4,380.8	1.76%
12	CANADA	3,158.0	1.27%	12	FRANCE	3,951.5	1.59%
13	INDONESIA	3,061.9	1.23%	13	CANADA	3,751.1	1.51%
14	MALAYSIA	2,565.0	1.03%	14	UNITED KINGDOM	3,592.5	1.44%
15	BELGIUM	2,300.8	0.92%	15	OMAN	3,261.8	1.31%
	EUROPEAN UNION	38,230.3	15.34%		EUROPEAN UNION	30,846.7	12.38%
	WORLD	249,195.0	100.00%		WORLD	225,096.0	90.33%

Source: IMF, Direction of Trade Statistics Yearbook 2001.

Table 12

Major Destinations of China's Exports
(Amounts in millions of dollars)

Year	EXPORTS TO HK		EXPORTS TO EU		EXPORTS TO JAPAN		EXPORTS TO US		Sub-Total Shares	EXPORTS TO WORLD
1980	4,353.2	24.00%	2,490.5	13.73%	4,032.2	22.23%	982.6	5.42%	65.37%	18,139.2
1981	5,262.7	24.51%	2,682.4	12.49%	4,746.6	22.10%	1,505.1	7.01%	66.11%	21,475.9
1982	5,180.6	23.69%	2,268.9	10.38%	4,806.4	21.98%	1,764.7	8.07%	64.12%	21,864.9
1983	5,796.7	26.23%	2,601.8	11.78%	4,517.0	20.44%	1,713.0	7.75%	66.20%	22,095.8
1984	6,586.1	26.53%	2,330.2	9.39%	5,155.0	20.77%	2,312.5	9.32%	66.00%	24,824.2
1985	7,148.1	26.16%	2,383.8	8.72%	6,091.4	22.29%	2,336.2	8.55%	65.72%	27,329.3
1986	9,776.3	31.17%	4,141.1	13.20%	5,078.6	16.19%	2,632.7	8.39%	68.95%	31,366.7
1987	13,764.2	34.88%	4,101.7	10.39%	6,391.8	16.20%	3,030.4	7.68%	69.15%	39,464.2
1988	18,239.2	38.27%	4,977.5	10.44%	8,046.4	16.88%	3,398.7	7.13%	72.72%	47,662.8
1989	21,915.9	41.42%	5,113.7	9.66%	8,394.7	15.86%	4,413.6	8.34%	75.29%	52,913.8
1990	27,162.6	43.28%	6,275.1	10.00%	9,210.4	14.68%	5,313.9	8.47%	76.42%	62,759.8
1991	32,137.6	44.66%	7,127.4	9.90%	10,251.8	14.25%	6,198.0	8.61%	77.42%	71,965.9
1992	37,511.3	43.81%	8,004.1	9.35%	11,699.3	13.66%	8,598.8	10.04%	76.87%	85,620.1
1993	22,067.5	24.07%	12,257.7	13.37%	15,782.3	17.21%	16,976.5	18.51%	73.16%	91,692.8
1994	32,365.4	26.78%	15,418.0	12.76%	21,489.8	17.78%	21,421.4	17.72%	75.04%	120,865.0
1995	36,003.5	24.17%	19,258.2	12.93%	28,466.4	19.11%	24,743.9	16.61%	72.82%	148,955.0
1996	32,904.0	21.77%	19,868.1	13.14%	30,888.3	20.43%	26,730.6	17.68%	73.03%	151,165.0
1997	43,798.4	23.94%	23,870.8	13.05%	31,819.8	17.40%	32,743.9	17.90%	72.29%	182,917.0
1998	38,782.2	21.11%	28,161.9	15.33%	29,718.1	16.17%	38,000.6	20.68%	73.29%	183,744.0
1999	36,890.6	18.92%	30,244.8	15.52%	32,399.1	16.62%	42,003.1	21.55%	72.61%	194,931.0
2000	44,519.8	17.87%	38,230.3	15.34%	41,654.0	16.72%	52,161.7	20.93%	70.85%	249,195.0

Source: IMF, Direction of Trade Statistics Yearbook 2001.

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