

CRS Report for Congress

Received through the CRS Web

Is China a Threat to the U.S. Economy?

August 10, 2006

Craig K. Elwell and Marc Labonte
Specialists in Macroeconomics
Government and Finance Division

Wayne M. Morrison
Specialist in International Trade and Finance
Foreign Affairs, Defense, and Trade Division

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 10 AUG 2006		2. REPORT TYPE N/A		3. DATES COVERED -	
4. TITLE AND SUBTITLE Is China a Threat to the U.S. Economy ?				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Congressional Research Service The Library of Congress 101 Independence Ave SE Washington, DC 20540-7500				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release, distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT SAR	18. NUMBER OF PAGES 66	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

Is China a Threat to the U.S. Economy?

Summary

The rise of China from a poor, stagnant country to a major economic power within a time span of only 27 years is often described by analysts as one of the greatest economic success stories in modern times. From 1979 (when economic reforms were first introduced) to 2005, China's real gross domestic product (GDP) grew at an average annual rate of 9.7%, the size of its economy increased 11-fold, its real per capita GDP grew eightfold, and its world ranking for total trade rose from 27 to 3. By some measurements, China has become the world's second-largest economy, and it could be the largest within a decade.

China's economic rise has led to a substantial growth in U.S.-China economic relations. Total trade between the two countries has surged from \$4.9 billion in 1980 to \$289 billion in 2005. For the United States, China is now its third-largest trading partner, its fourth-largest export market, and its second-largest source of imports. Inexpensive Chinese imports have increased the purchasing power of U.S. consumers. Many U.S. companies have extensive manufacturing operations in China in order to sell their products in the booming Chinese market and to take advantage of low-cost labor for exported goods. China's large-scale purchases of U.S. Treasury securities have funded federal deficits and helped keep U.S. interest rates relatively low. Despite the perceived threat from China, the U.S. economy has recently maintained full employment and robust economic growth. To date, the growth in Chinese exports appears to have come partly at the expense of Asian competitors.

However, the emergence of China as a major economic superpower has raised concern among many U.S. policymakers. Some express concern that China will overtake the United States as the world's largest trade economy in a few years and as the world's largest economy within the next two decades. In this context, China's rise is viewed as America's relative decline. Another concern are the large and growing U.S. trade deficits with China, which have risen from \$10.4 billion in 1990 to \$202 billion in 2005, and are viewed by many Members as an indicator that China uses unfair trade practices (such as an undervalued currency and subsidies to domestic producers) to flood U.S. markets with low-cost goods and to restrict U.S. exports, and that such practices threaten American jobs, wages, and living standards. Many warn that this situation will get worse as China increasingly moves toward production and export of more high-value products, such as cars and computers. A more recent concern has been efforts by Chinese state-owned firms to acquire U.S. companies and China's accumulation of U.S. Treasury securities. Negative congressional perceptions of China's economic practices have led to the introduction of numerous bills, including some that would impose sanctions against China unless it reforms its currency policy, and others that would apply U.S. countervailing laws on Chinese products deemed to have been subsidized by the government.

This report examines the implications (both challenges and opportunities) for the U.S. economy from China's rapid economic growth and its emergence as a major economic power. It also describes congressional approaches for dealing with various Chinese economic policies deemed damaging to various U.S. economic sectors. This report will be updated as events warrant.

Contents

China's Economic Growth: Causes and Prospects	4
Historical Perspective on China's Economic Miracle	4
The Introduction of Economic Reforms	4
Results of Economic Reforms	5
Why Is China Growing So Fast?	7
High Savings and Investment	7
Foreign Direct Investment	8
Productivity Increases	9
Can China Continue To Grow at Rapid Rates Over the Long Term?	11
Projections of China's Future Economic Growth	12
Comparing the Size of the U.S. and Chinese Economies: Will China	
Overtake the United States?	13
Historical Perspective on China's Economy	13
Using Purchasing Power Parity To Compare the Economies of the	
United States and China	13
Will China Overtake the U.S. Economy?	14
China as the World's Largest Exporting Economy?	16
Growth in U.S.-China Economic Relations	16
Growing U.S. Exports to China	17
The Growth of U.S. Imports from China	19
Why Are U.S. Imports from China Rising So Quickly?	19
Growing Trade in Advanced Technology	21
U.S. Direct Investment in China	23
Does Trade with China Harm the U.S. Economy?	23
Trade and Jobs	24
Sectoral Employment Effects	26
Trade and Wages	29
"Unfair" Trade Practices and the Gains from Trade	33
Effects of the Bilateral Trade Deficit and the Exchange Rate Peg on	
the U.S. Economy	39
Effect on Exporters and Import-Competitors	39
Effect on U.S. Borrowers	40
Effect on U.S. Consumers	41
Net Effect on the U.S. Economy	41
The U.S.-China Trade Deficit in the Context of the Overall U.S.	
Trade Deficit	42
Purchase of U.S. Treasuries To Maintain the Peg	43
What Will Happen to the Terms of Trade?	45
Chinese Takeovers of U.S. Companies	51
Congressional Concern over the CNOOC Bid	51
Rising Chinese Demand for Commodities	53

Conclusion	56
Appendix: Congressional Legislation on U.S.-China Trade Issues	59
Comprehensive China Trade Legislation	59
Bills Addressing China's Currency Policy	60
Other Bills	61

List of Tables

Table 1. China's Average Annual Real GDP Growth Rates, 1960-2005	5
Table 2. China's Merchandise World Trade, 1979-2005	6
Table 3. Foreign Direct Investment in China, Selected Years	8
Table 4. Exports and Imports by Foreign-Invested Enterprises in China: 1986-2005	9
Table 5. Projections of China's Real GDP Growth: 2006-2030	12
Table 6. Historical Comparison of U.S. and Chinese GDP	13
Table 7. U.S., Japanese, and Chinese GDP and Per Capita GDP in Nominal U.S. Dollars and PPP, 2005	14
Table 8. Global Insight Projections of U.S. and Chinese GDP and Per Capita Income (PPP Basis), Selected Years	15
Table 9. Chinese and U.S. Exports of Goods and Services: 2005 and Projections through 2030	16
Table 10. U.S. Merchandise Trade with China: 1980-2005	17
Table 11. U.S. Merchandise Exports to Major Trading Partners in 2001, 2005, and January-March 2006	18
Table 12. U.S. Imports from Asia and China, as a Percentage of Total U.S. Imports	20
Table 13. Leading Foreign Suppliers of U.S. Computer Equipment Imports: 2000-2005	21
Table 14. U.S. Trade with China in Advanced Technology Products: 2000 and 2005	22
Table 15. U.S. Foreign Direct Investment Flows to China: 1979-2005	23
Table 16. China's Foreign Exchange Reserves and Chinese Ownership of U.S. Treasuries	44

Is China a Threat to the U.S. Economy?

The rise of China from a poor, stagnant country to a major economic power within a time span of only 27 years is often described by analysts as one of the greatest economic success stories in modern times. Prior to 1979, China maintained a Soviet-style command economy under which the state controlled most aspects of the economy. These policies kept the economy relatively stagnant and living standards quite low. However, beginning in 1979, the government began a series of free market reforms and began opening up to the world in terms of trade and investment. These reforms have produced dramatic results. From 1979 to 2005, China's real gross domestic product (GDP) grew at an average annual rate of 9.7%, the size of its economy increased 11-fold, its real per capita GDP grew eightfold, and its world ranking for total trade rose from 27 to 3.

China's economic reforms and growth have benefitted (or could benefit) the U.S. economy in a number of ways:

- Over the past few years, China has been the fastest growing U.S. export market and now ranks 4th overall. China's rapid economic growth, coupled with its large population and development needs, makes it a potentially huge market for the United States.
- China has become the second-largest source for U.S. imports. In many instances, China has replaced other East Asian nations as a source for many manufactured products imported by the United States. Low-cost imports from China have helped restrain inflation and increased the purchasing power of U.S. consumers, and boosted demand for other products. This has helped U.S. production to shift into areas where the United States has a comparative advantage.
- China has become the second-largest purchaser of U.S. Treasury securities. These purchases have helped to fund the U.S. federal budget deficit and keep interest rates relatively low.

At the same time, however, China's emergence as an economic power has raised a number of concerns among some Members of Congress who perceive China as a threat, or potential threat, to the U.S. economy. As one Member stated, "China's competitive challenge makes Americans nervous. From Wall Street to Main Street, Americans are nervous about China's effect on the American economy, American jobs, on the American way of life."¹ Areas of concern include the following issues:

¹ Statement of Senator Max Baucus during the Senate Committee on Finance hearing on U.S.-China Relations, June 23, 2005.

- Analysts project that in the near future, China will replace the United States as the world's largest economy and exporter. In this context, China's economic rise is viewed as America's decline.
- The surge in U.S. imports from China is viewed by many as a threat to various U.S. economic sectors, particularly in manufacturing. China's nearly unlimited pool of low-cost labor is viewed by some as a serious competitive threat to U.S. manufacturing and is blamed for bankruptcies and/or plant relocation to China, job losses, and stagnant U.S. wages. This process could get worse as China begins to manufacture more advanced products that compete directly with those made by U.S. domestic firms.
- Many are concerned that China employs a number of unfair economic policies intended to benefit its economy at the expense of its trading partners, such as the United States. Many policymakers view the large and growing trade imbalance with China as proof that China does not trade fairly. They contend, for example, that China's policy of pegging its currency to the U.S. dollar is a deliberate policy meant to make Chinese exports relatively cheap in world markets, while discouraging imports. They also contend that China uses industrial policies (such as subsidies) and other unfair trade practices (such as dumping) to promote the development of various industries (such as autos and steel) deemed important to national development, which undermines the ability of U.S. firms in these sectors to compete in global markets, including the domestic U.S. market. In many respects, the rise of China as a global economic power is subject to the same interpretation as the economic rise of Japan during the 1970s and 1980s and the impact that rise was thought to have on the U.S. economy.²
- Analysts describe a number of negative consequences of China's rapid economic growth, such as increasing demand for oil and raw materials (which drives up their prices) and growing pollution (which could have global implications). In addition, the lack of an effective intellectual property rights (IPR) enforcement regime (and limited market access for IPR-related products) has led to widespread IPR piracy in China. Not only does such piracy greatly diminish China as a market for IPR-related industries (such as music and software), such industries are further harmed by China's export of pirated products.

² During the 1980s, Members complained of a growing U.S.-Japan trade imbalance, Japan's growing trade surplus and accumulation of foreign exchange reserves, Japanese trade and investment barriers, government industrial policies intended to promote the development of targeted industries, and Japanese purchases of U.S. assets in the United States (government securities, land, and companies).

- Some analysts have raised concern over the possible consequences if China decided to reduce its large holdings of U.S. Treasury securities. Others worry about the potential effect of Chinese state-owned companies' attempts to purchase U.S. firms.

This report examines the implications for the U.S. economy of China's rapid economic growth and its emergence as major economic power.³ It addresses various contentions that have been put forth that certain aspects of China's economic growth, policies, and practices pose a threat to the U.S. economy. It also addresses several questions, including the following:

- Why is China's economy growing so fast? Will China overtake the United States as the world's largest exporter or largest economy? If so, what are the implications for the U.S. economy?
- What are the causes of the large and increasing trade deficits with China? Have these resulted from China's economic and assessment practices or other global forces? Do they negatively affect the U.S. economy?
- How do allegedly unfair Chinese trade practices, such as trade barriers, industrial policies, and failure to adequately protect U.S. intellectual property rights, affect the U.S. economy?
- How does the high level of low-cost imports from China affect U.S. employment, wages, and terms of trade?
- Is Chinese ownership of U.S. firms and U.S. public debt securities good or bad for the U.S. economy?
- What legislation has been proposed in Congress to respond to unfair Chinese trade practices? What other options might be available to U.S. policymakers?

The report concludes that although China will likely become the world's largest economy within the next decade or two (provided it can continue to deepen economic reforms), its living standards (as measured by per capita GDP) will remain substantially below those in the United States for several decades to come. The assessment presented in this report suggests that China's economic ascendancy will not in and of itself undermine or lower U.S. living standards — these will be largely

³ The rise of China as an economic power has a number of important political, military, and strategic implications for the United States that are not addressed in this report. For an examination of these issues, see CRS Report RL32882, *The Rise of China and Its Effect on Taiwan, Japan, and South Korea: U.S. Policy Choices*, by Dick K. Nanto and Emma Chanlett-Avery; CRS Report RL32688, *China-Southeast Asia Relations: Trends, Issues, and Implications for the United States*, by Bruce Vaughn and Wayne M. Morrison; CRS Report RL33055, *China and Sub-Saharan Africa*, by Kerry Dumbaugh and Mark P. Sullivan; and CRS Report RS22119, *China's Growing Interest in Latin America*, by Raymond W. Copson, Kerry Dumbaugh, and Michelle Lau.

determined by U.S. economic policies. In addition, although various Chinese economic policies may have negative effects on certain U.S. economic sectors (and there are valid economic reasons why many of these should be addressed), other U.S. sectors (as well as consumers) have benefitted, and thus far the overall impact of China's economic growth and opening up to the world appears to have been positive for both the U.S. and Chinese economies. From an economic perspective, describing China's economic rise or its economic policies as an economic "threat" to the United States fails to reflect the complex nature of the economic relationship and growing economic integration that is taking place. It might be more accurate to say that China's economic growth poses both challenges and opportunities for the United States.

China's Economic Growth: Causes and Prospects

Historical Perspective on China's Economic Miracle

Prior to 1979, China maintained a centrally planned, or command, economy. A large share of the country's economic output was directed and controlled by the state, which set production goals, controlled prices, and allocated resources throughout most of the economy. During the 1950s, China's individual household farms were collectivized into large communes. To support rapid industrialization, the central government undertook large-scale investments in physical and human capital during the 1960s and 1970s. As a result, by 1978 nearly three-fourths of industrial production was produced by centrally controlled state-owned enterprises subject to centrally planned output targets. Private enterprises and foreign investment were nearly nonexistent. A central goal of the Chinese government was to make China's economy relatively self-sufficient. Foreign trade was generally limited to obtaining only those goods that could not be made in China.

Although some growth occurred, these government policies kept the Chinese economy relatively stagnant and inefficient, mainly because there were few profit incentives for firms and farmers. Competition was virtually nonexistent, and price and production controls caused widespread distortions in the economy. Chinese living standards were substantially lower than those of many other developing countries.

The Introduction of Economic Reforms

Beginning in 1979, the Chinese government reversed course and launched several economic reforms in the hope that they would significantly increase economic growth and raise living standards. The central government initiated price and ownership incentives for farmers, which enabled them to sell a portion of their crops on the free market. In addition, the government established four special economic zones along the coast for the purpose of attracting foreign investment, boosting exports, and importing high-technology products into China. Additional reforms, which followed in stages, sought to decentralize economic policymaking in several sectors, especially trade. Economic control of various enterprises was given to provincial and local governments, which were generally allowed to operate and

compete on free market principles, rather than under the direction and guidance of state planning. Additional coastal regions and cities were designated as open cities and development zones, which allowed them to experiment with free market reforms and to offer tax and trade incentives to attract foreign investment. In addition, state price controls on a wide range of products were gradually eliminated.

Results of Economic Reforms

Since the introduction of economic reforms, China's economy has grown substantially faster than during the pre-reform period (see **Table 1**) and has been one of the world's fastest growing economies. From 1960 to 1978, annual real GDP growth averaged 5.3%.⁴ However, in the post-reform period from 1979 to 2005, growth averaged 9.7% (it grew by 9.9% in 2005 over the previous year). During the first quarter of 2006, real GDP rose by 10.3% over the comparable period in 2005.

Table 1. China's Average Annual Real GDP Growth Rates, 1960-2005

Time period	Average annual growth (%)
1960-1978 (pre-reform)	5.3
1979-2005 (post-reform)	9.7
1990	3.8
1991	9.3
1992	14.2
1993	14.0
1994	13.1
1995	10.9
1996	10.0
1997	9.3
1998	7.8
1999	7.6
2000	8.4
2001	8.3
2002	9.1
2003	10.0
2004	10.1
2005	9.9

Source: Official Chinese government data.

⁴ Many analysts contend that Chinese government economic data (prior to reforms) may have been exaggerated for propaganda purposes, especially during periods of economic upheaval that took place during the Great Leap Forward (1958-1972) and the Cultural Revolution (1966-1976). Similar doubts remain about the quality of current data.

Economic reforms have transformed China into a major trading power. Chinese exports rose from \$18 billion in 1980 to \$762 billion in 2005, while imports over this period grew from \$20 billion to \$660 billion (see **Table 2**). Trade has constituted an important source of China's economic growth and efficiency.

In 2004, China surpassed Japan as the world's third-largest trading economy (after the United States and European Union). China's trade continues to grow dramatically: from 2002 to 2005, the size of China's exports and imports more than doubled. In 2005, exports and imports rose by 28.4% and 17.6%, respectively. China's trade surplus, which totaled \$32 billion in 2004, tripled to \$102 billion in 2005.

Table 2. China's Merchandise World Trade, 1979-2005
(\$ billions)

Year	Exports	Imports	Trade Balance
1979	13.7	15.7	-2.0
1980	18.1	19.5	-1.4
1985	27.3	42.5	-15.3
1990	62.9	53.9	9.0
1995	148.8	132.1	16.7
2000	249.2	225.1	24.1
2005	762.0	660.1	101.9

Source: International Monetary Fund, *Direction of Trade Statistics*, and official Chinese statistics.

In addition to the data cited above, some highlights of China's mercurial economic rise and current level of economic development are reflected in the following data:

- China's GDP as a percentage of world GDP rose from 4.5% in 1984 to 13.6% in 2005.⁵
- Foreign direct investment in China rose from \$109 million in 1979 to over \$72 billion 2005, making it the largest destination for FDI among developing countries and the third-largest overall FDI destination after the United States and the United Kingdom.⁶
- According to the U.S. Commerce Department, China's middle class (defined as per capita income over \$8,000) currently totals 200

⁵ Based on purchasing power parity measurements. Source: EIU.

⁶ United Nations Conference on Trade and Development, *World Development Report, 2005*, p. 1.

million people. According to Merrill Lynch, in 2004, China had 300,000 millionaires (holdings of at least \$1 million in assets).⁷

- China currently has the world's largest mobile phone network and one of the fastest-growing markets, with 377 million cellular phone users as of 2005 (48 million new subscribers were projected to be added in 2006).
- In 2002, China replaced Japan as the world's second-largest personal computer (PC) market.⁸ China also became the world's second-largest Internet user (after the United States), with 111 million users at the end of 2005, up from 22.5 million in 2000.⁹
- According to the World Bank, from 1981 to 2001, economic reforms helped raise more than 400 million people out of extreme poverty.¹⁰
- China's foreign exchange reserves rose from \$2.5 billion at the end of 1980 to \$819 billion at the end of 2005. In February 2006, China overtook Japan as the world's largest holder of foreign exchange reserves (\$854 billion).

Why Is China Growing So Fast?

Table 1 indicates that China's real GDP in the reform period has grown nearly twice as fast as before the reform period. What factors have caused this to occur? Economic theory holds that economic output can be boosted by increasing inputs of physical and human capital (e.g., investment in plant and equipment, education, infrastructure) and/or labor (i.e., growth in the labor force). At some point, however, barring technical advances, increases in capital and labor eventually produce diminishing returns to output, and hence the accelerated economic growth is unlikely to be sustained. However, output can also be boosted by productivity gains (i.e., improvements in the efficiency with which inputs are used). Productivity gains can be obtained, for example, by adopting technological advances or improving managerial practices. As a result, greater output can be achieved using the same level of capital and labor inputs.

High Savings and Investment. Several economists have attributed China's rapid economic growth since 1979 to a large accumulation of capital and to vast improvements in productivity that have resulted from economic reforms. These two factors generally went hand in hand. Improved productivity increased growth and generated funds used for new investment. China also benefitted from having a very

⁷ Merrill Lynch, Capgemini, *2005 World Wealth Report*, 2004, p. 29.

⁸ *People's Daily*, Jan. 22, 2003.

⁹ This accounted for only 8.5% of the Chinese population (compared with 68.6% in the United States). See Internet World Stats, [<http://www.internetworldstats.com/stats3.htm>].

¹⁰ Poverty level based on the number of people living on less than \$1 dollar per day standard. Source: World Bank, *Fighting Poverty: Findings and Lessons from China's Success*.

large pool of domestic savings to draw from to finance investment when reforms were begun. When reforms were initiated in 1979, domestic savings as a percentage of GDP stood at 32%. However, most Chinese savings during this period were generated by the profits of state-owned enterprises (SOEs), which were used by the central government for domestic investment. Economic reforms, which included the decentralization of economic production, led to substantial growth in Chinese household savings (these now account for half of Chinese domestic savings). As a result, savings as a percentage of GDP has steadily risen; it reached 49.8% in 2005, among the highest savings rates in the world.¹¹

Foreign Direct Investment. China's trade and investment reforms and incentives led to a surge in foreign direct investment (FDI), which has been a major source of China's capital growth. Annual FDI in China showed the fastest growth in the 1990s, when it grew from \$3.5 billion in 1990 to \$37.5 billion in 1995, more than a 10-fold increase. From 1995 to 2005, the level of annual FDI more than doubled to \$72.4 billion.¹² Although small relative to domestic saving, it is argued that this capital is used much more efficiently (much domestic saving flows to state owned enterprises), and thus makes an outsized contribution to economic growth. The cumulative level of FDI in China at the end of 2005 stood at about \$633 billion (see **Table 3**).

Table 3. Foreign Direct Investment in China, Selected Years

Year	FDI (\$ millions)
1979	109
1985	1,658
1990	3,487
1995	37,521
2000	40,714
2005	72,410
1979-2005 (Cumulative)	632,790

Sources: U.S. Departments of Commerce and State, *Doing Business In China: A Country Commercial Guide for U.S. Companies*, 2005, and *China Daily*.

Note: In June 2006, Chinese officials revised their 2005 FDI data from \$60.3 billion to \$72.4 billion to include FDI flows into the banking, insurance, and securities sectors. Therefore, 2005 data may not be comparable to previous data.

¹¹ In comparison, the U.S. savings rate was 10.4%. Savings defined as aggregate national savings by the public and private sector as a percentage of nominal GDP. (*Economist Intelligence Unit* database.)

¹² Chinese officials recently revised China's 2005 FDI total to \$72.4 billion, claiming previous estimates excluded FDI in the banking, insurance, and securities sectors. (See *People's Daily*, June 9, 2006). However, revisions were not made for previous years.

Much of the FDI going into China has gone into export-oriented manufactured goods, such as consumer electronics. The level of both Chinese imports and exports attributed to foreign invested enterprises (FIEs) in China has risen dramatically, as shown in **Table 4**. In 1986, only 1.9% of China's exports were from FIEs, but by 2005, this share had risen to 58.3%. A similar pattern can be seen with imports: FIEs accounted for only 5.6% of China's imports in 1986, but rose to 58.7% in 2005.

Table 4. Exports and Imports by Foreign-Invested Enterprises in China: 1986-2005

Year	Exports by FIEs		Imports by FIEs	
	\$ billions	As a % of total Chinese exports	\$ billions	As a % of total Chinese imports
1986	\$0.6	1.9%	\$2.4	5.6%
1990	7.8	12.6	12.3	23.1
1995	46.9	31.5	62.9	47.7
2000	119.4	47.9	117.2	52.1
2005	444.2	58.3	387.5	58.7

Source: Chinese Ministry of Commerce.

Productivity Increases. Several studies have shown that productivity gains have been a major cause of China's rapid economic growth since reforms were implemented. For example —

- An International Monetary Fund (IMF) study concluded that productivity growth was a significant cause of China's economic growth during its reform period. The study estimated that from 1952 to 1978, capital accumulation accounted for 65% of China's output growth, with productivity and labor input growth accounting for 18% and 17%, respectively. In contrast, between 1979 and 1994 (during China's economic reform period), productivity growth accounted for nearly 42% of its economic output growth, while increases in capital and labor inputs accounted for 58%.¹³ The IMF study concluded that "[a]lthough growth rates in both capital and labor inputs rose significantly in 1979-1994, the productivity growth differential appears to explain the bulk of the difference in output growth between pre-reform and reform periods."¹⁴

¹³ Hu, Zuli F., and Khan, Mohsin S. *Why Is China Growing So Fast?* International Monetary Fund Staff Paper, vol. 44, no. 1, March 1997, p. 116.

¹⁴ *Ibid*, p. 117.

- A World Bank study reached similar conclusions, estimating that (total factor) productivity grew by more than 3% annually from 1985 to 1994 (a rate the World Bank describes as “exceptional by international standards”), and that one-third of the increase in China’s output was the result of increased productivity.¹⁵
- Goldman Sachs estimates that China’s total factor productivity grew at an estimated 3.4% per annum between 1979 and 2004, accounting for 36% of China’s growth.¹⁶ According to Goldman Sachs, the productivity gains were the result of China’s extremely low starting point of economic development when reforms began, and a “profound evolution of government policies that have gradually but consistently reduced inefficiencies in the system.”¹⁷

Economists note that China’s economic reforms have led to a reallocation of resources to more productive uses, especially in sectors that were formerly controlled by the central government, such as agriculture, trade, and services. Agricultural reforms boosted production and freed workers to pursue employment in activities where their marginal product was higher. From 1978 to 1994, the proportion of the workforce engaged in agricultural production dropped from 71% to 54%. A large share of these workers found employment in locally controlled enterprises or foreign joint ventures. In addition, a greater share of investment was being made by the non-state sector (such as privately owned firms), whose output tended to grow more rapidly than SOEs. The Organization for Economic Cooperation and Development (OECD) found that market reforms, which led to a significant decline in the role of the state sector in the economy and a sharp increase in the role of the non-state sector, were a major contributor to China’s rapid productivity gains and economic growth. The OECD estimated that the private sector was responsible for as much as 57% of the value-added produced by the non-farm business sector (up from 43% in 1998) and three-fourths of China’s exports in 2003. It also found that the growth of the private sector (including the role of foreign invested firms in China) was a major cause of China’s productivity gains and that private firms enjoy a significantly higher rate of return on their assets than SOEs (15.0% versus 10.2%).¹⁸ China’s opening up to trade and investment has contributed to China’s productivity gains. An important result of foreign investment in China and increased trade has been significant spillovers in technology and managerial know-how to Chinese firms.

¹⁵ World Bank, *World Development Report*, 1996, p. 25.

¹⁶ Other contributors to growth included capital stock (36%), educational attainment (15%), and labor (13%).

¹⁷ Goldman Sachs, *China’s Ascent: Can the Middle Kingdom Meet its Dreams*, Global Economics Paper No. 133, November 11, 2005, p. 8.

¹⁸ Organization for Economic Cooperation and Development, *Economic Survey of China*, September 2005.

Can China Continue To Grow at Rapid Rates Over the Long Term?

Growth theory holds that countries can increase their level of economic growth by boosting their savings/investment levels and by increasing productivity. Over time, adding more capital per worker has a diminishing rate of return; therefore, economic growth is equal to the growth in the work force, the so called “steady state” rate of growth. The only way to increase the steady state rate of growth is to increase productivity. Thus, countries such as China with very high savings and investment rates, and improvements to productivity (through acquisition of foreign know-how and reforms to their economy), can obtain very high rates of growth in the short run. Over time, the level of growth will likely slow as capital produces diminishing rates of return and productivity gains slow because the benefits of copying and catching up diminish. At that point, it is expected that China’s growth rate would slow to a rate comparable to the United States or Japan. But with a per capita income equal to only one-seventh that of the United States (at purchasing power parity), China still has plenty of room for rapid catch-up growth in the near term.

At the same time, however, China maintains a number of inefficient and potentially harmful policies that could significantly limit future economic development if not addressed. Some of these include —

- **Support for inefficient firms.** SOEs, which account for about one-third of Chinese industrial production, put a heavy strain on China’s economy. It is estimated that between a third and one half of all SOEs are unprofitable and must be supported by subsidies, mainly through loans by government-controlled banks. Many SOEs do not repay these loans, and as a result, the banks have accumulated substantial level of non-performing loans. Government support of unprofitable SOEs diverts resources away from potentially more efficient and profitable enterprises (especially in the private sector) and puts the banking system at risk to future financial crises.
- **Public unrest.** The Chinese government reported that there were more than 87,000 protests/public disturbances in 2005 (up from 53,000 protests reported in 2003) involving millions of people. Sources of these protests have reportedly included issues such as pollution, government corruption, resentment over growing income disparities, layoffs from SOEs, and government land seizures.¹⁹ Growing unrest could threaten political stability and hence undermine future growth.
- **Growing Pollution.** Pollution poses serious health risks to the population, and this could undermine worker productivity. According to the World Bank, 20 out of the world’s most polluted

¹⁹ See CRS Report RL33416, *Social Unrest in China*, by Thoms Lum.

cities are in China.²⁰ According to Zhu Guangyao, deputy chief of the State Environmental Protection Agency, environmental damage costs the country \$226 billion, or 10 percent of the country's GDP, each year.²¹ The Chinese government estimates that there are more than 300 million people living in rural areas that drink unsafe water (affected by chemicals and other contaminants).²² Toxic spills in China over the past few years threatened the water supply of millions of people.

- **The lack of the rule of law** in China has led to widespread government corruption, financial speculation, and mis-allocation of investment funds. In many cases, government “connections,” not market forces, are the main determinant of commercial success in China. The lack of the rule of law in China limits competition and undermines the efficient allocation of resources in the economy. These problems may undermine China's attempts to promote the development of its own globally competitive firms.

Projections of China's Future Economic Growth. The economic projections of China's real GDP growth by three economic forecasting firms (Global Insight, the Economist Intelligence Unit [EIU], and Goldman Sachs) over several years are indicated in **Table 5**. Although the three projections differ on how fast China will grow, they all predict that China will be able to maintain rapid economic growth in the near and medium term, but that the rate of growth will slow over time. Five-year average real GDP growth projections are projected to slow from a range of 7.1% to 8.6% during 2006 to 2010 to a range of 4.5% to 6.1% from 2021 to 2025. Goldman Sachs projects that China's real GDP will average 3.8% between 2031 and 2040, and 3.2% from 2041 to 2050 (in 2050, real GDP will average 2.7%).

Table 5. Projections of China's Real GDP Growth: 2006-2030

Average Annual Growth (%)	Global Insight	Economist Intelligence Unit	Goldman Sachs
2006-2010	8.6	8.0	7.1
2011-2015	7.2	5.5	5.8
2016-2020	6.4	4.4	5.0
2021-2025	6.1	4.5	4.5
2026-2030	n.a.	4.7	4.1

Sources: Global Insight, *China — Interim Forecast*, May 2006; the Economist Intelligence Unit, *EIU Country Data* (database); Goldman Sachs, *China's Ascent: Can the Middle Kingdom Meet its Dreams*, Global Economics Paper No. 133, Nov. 11, 2005.

²⁰ World Bank, *China Quick Facts*.

²¹ *China Daily*, June 6, 2006.

²² Xinhua News Service, Dec. 22, 2004.

Comparing the Size of the U.S. and Chinese Economies: Will China Overtake the United States?

This section compares China's economy relative to the United States in terms of GDP, per capita GDP, and trade. It also provides projections of future economic performance of the two countries.

Historical Perspective on China's Economy. A 2001 OECD report, which attempted to measure world GDP and that of major countries (in 1990 international dollars) from 1500 to 1998, determined that for many years, China's was the world's largest economy (see **Table 6**).²³ In 1820, for example, China constituted nearly one-third of the world's economy, 18 times the share of the United States. However, by 1913, China's share of world GDP dropped to 8.9% and its economy was less than half the size of that of the United States; by 1950, it was about a third as large. By 1973, China's economy was roughly one-fifth the size of the United States' economy. Although China's GDP grew significantly between 1950 and 1973, the size of its economy relative to that of the United States and the world as a whole changed little. However, this trend reversed significantly after China began to reform its economy. By 1998, China's share of world GDP rose to 11.5%, and its economy was a little more than half the size of the U.S. economy.

Table 6. Historical Comparison of U.S. and Chinese GDP
(millions of 1990 international dollars)

	United States		China		
	GDP	As a % of world GDP	GDP	As a % of World GDP	As a % of U.S. GDP
1820	12,548	1.8	228,600	32.9	1814.3
1870	98,374	8.9	189,740	17.2	192.9
1913	517,383	19.1	241,344	8.9	46.6
1950	1,132,434	21.2	239,903	4.5	21.2
1973	3,536,622	22.0	740,048	4.6	20.9
1998	7,394,598	21.9	3,873,352	11.5	52.4

Source: Angus Maddison, *The World Economy: A Millennial Perspective*, OECD, 2001.

Using Purchasing Power Parity To Compare the Economies of the United States and China. The actual size of China's economy has been a subject of extensive debate among economists. Measured in U.S. dollars using nominal exchange rates, China's GDP in 2005 was about \$2.2 trillion; its per capita GDP (a commonly used measure of living standards) was \$1,700. U.S. GDP and per capita GDP were \$12.5 trillion and \$42,130, respectively. Japan's nominal GDP and per

²³ OECD, Angus Maddison, *The World Economy: A Millennial Perspective*, 2001.

capita GDP were \$4.6 trillion and \$35,880, respectively. These data could suggest that China's economy was substantially smaller than those of the United States and Japan.

Many economists, however, contend that using nominal exchange rates to convert Chinese data into U.S. dollars substantially underestimates the size of China's economy. This is because prices in China for many goods and services are significantly lower than those in the United States and other developed countries. Economists have attempted to factor in these price differentials by using a purchasing power parity (PPP) measurement, which attempts to convert foreign currencies into U.S. dollars on the basis of the actual purchasing power of such currency (based on surveys of the prices of various goods and services) in each respective country. This PPP exchange rate is then used to convert foreign economic data in national currencies into U.S. dollars.

A comparison of economic data using nominal exchange rates and PPP for China, Japan, and the United States for 2005 appears in **Table 7**. Because prices for many goods and services are significantly lower in China than in the United States (and other developed countries), and prices in Japan are relatively higher than those in the United States, the PPP exchange rate raises the estimated size of Chinese economy from \$2.2 trillion (nominal dollars) to \$8.4 trillion (PPP dollars), more than twice the size of Japan's GDP in PPP (\$4.6 trillion) and about two-thirds the size of the U.S. economy. PPP data also raise China's per capita GDP to \$6,386, equal to about 20.1% of Japan's level and 15.2% of the U.S. level.

Table 7. U.S., Japanese, and Chinese GDP and Per Capita GDP in Nominal U.S. Dollars and PPP, 2005

Country	Nominal GDP (\$ billions)	GDP in PPP (\$ billions)	Nominal Per Capita GDP	Per Capita GDP in PPP
United States	12,487	12,487	42,053	42,053
Japan	4,571	3,914	35,880	30,720
China	2,262	8,359	1,700	6,386

Source: Economist Intelligence Unit Data Services and Global Insight.

Note: PPP data for China should be interpreted with caution. China is not a fully developed market economy; the prices of many goods and services are distorted by price controls and government subsidies.

Will China Overtake the U.S. Economy? Based on measurements of China's GDP on a PPP basis and projections of China's economic growth over the next several decades, it appears highly likely that China at some point will overtake the United States as the world's largest economy. Global Insight's projections (which are the highest of the three presented) project that China will achieve 7.1% average real growth over the next 20 years. In comparison, the U.S. economy is projected by Global Insight to grow at an average annual real rate of about 3.0%, less than half China's rate. Global Insight's projections indicate that China could

overtake the United States as the world's largest economy by 2013.²⁴ By the year 2025, China's economy is projected to be 59% larger than the U.S. economy, according to Global Insight (see **Table 8**).

Table 8. Global Insight Projections of U.S. and Chinese GDP and Per Capita Income (PPP Basis), Selected Years

	GDP (\$ billions)			Per capita income (\$)		
	China	United States	China's as a % of U.S.	China	United States	China's as a % of U.S.
2005	8,359	12,487	66.9	6,386	42,053	15.2
2010	13,882	16,041	86.5	10,247	51,702	19.8
2015	22,210	20,169	110.1	15,838	62,309	25.4
2020	35,734	27,584	129.5	25,102	75,971	33.0
2025	57,145	35,963	158.9	39,544	92,790	42.3

Source: Global Insight.

Although China's rise to the world's largest economy may shock and alarm some in the United States (who might view it as reflective of poor U.S. economic performance), it is hardly surprising to most economists, given that China's population is 4.4 times larger and that China's economy continues to grow rapidly from improvements to productivity (through catching up). Economists contend that a more appropriate measurement of a nation's well-being or standard of living is per capita GDP on a PPP basis. As noted earlier, China's per capita GDP (PPP basis) in 2005 was 15.2% percent as large as that in the United States. Global Insight projects that this level will grow to 19.8% in 2010, 25.4% in 2015, 33.0% in 2020, and 42.3% in 2025. These data indicate that although China's economy could soon overtake the U.S. economy in size, Chinese living standards are likely to remain significantly below those of the United States for many years to come.

Economic growth is not a zero-sum game: China's growth is not offset by a decrease in the output of the United States or any other foreign economy. Although a larger Chinese economy would produce more goods that Americans might consume, it would also consume more goods that American workers might produce. As discussed below, the long-run net effect of China's growth on American well-being will depend on how it affects the terms of trade by which American goods are exchanged for Chinese goods. China's future growth will also increase the demands on the world's natural resources and commodities (see below), which may affect America's terms of trade as well.

²⁴ EIU's forecasts of the U.S. and Chinese economies predict that China will not overtake the United States as the world's largest economy until 2018.

Likewise, there is no particular advantage to being the world's largest economy from the perspective of living standards. For example, the three countries in the world with a higher per capita income than the United States — Luxembourg, Norway, and Switzerland — are hardly known for their size. Trade takes place not between countries, but between millions of individual economic agents within countries, so country size does not confer any market power that allows a country to negotiate favorable market price. (Size may afford greater bargaining power in trade negotiations and international organizations, however.)

China as the World's Largest Exporting Economy? In 2005, China was the world's third-largest merchandise export economy, after the European Union and United States. China's merchandise exports, fueled largely by high levels of foreign direct investment (FDI) in China, have risen dramatically over the past several years. From 2002 to 2005, the size of China's exports more than doubled, and in 2005 they rose by 28.4%. Given these rapid growth levels, Chinese merchandise exports are likely to exceed U.S. export levels within a very short time period, perhaps by the year 2007.²⁵ However, the United States currently enjoys a comparative advantage in trade in services. An examination of projections of U.S. and Chinese exports of both goods and services indicates that the United States would not be overtaken by China as the world's largest exporter after 2025, as indicated in **Table 9**.

Table 9. Chinese and U.S. Exports of Goods and Services: 2005 and Projections through 2030

Year	Chinese Exports (\$billions)	U.S. Exports (\$billions)	Chinese Exports as a % of U.S. Exports
2005	802	1,298	61.8
2010	1,700	1,997	85.1
2015	2,752	3,058	90.0
2020	4,133	4,535	91.1
2025	6,632	6,681	99.3
2030	11,158	9,871	113.0

Source: EIU DataServices.

Growth in U.S.-China Economic Relations

U.S.-China trade rose rapidly after the two nations established diplomatic relations (January 1979), signed a bilateral trade agreement (July 1979), and provided mutual most-favored-nation (MFN) treatment beginning in 1980. Total trade (exports plus imports) between the two nations rose from about \$5 billion in 1980, to \$20 billion in 1990, to an estimated \$286 billion in 2005 (see **Table 10**). China

²⁵ EIU estimates that China will be the largest exporter of goods and services in 2014.

is now the third-largest U.S. trading partner. Over the past few years, U.S. trade with China has grown faster than that of any other major U.S. trading partner.

Table 10. U.S. Merchandise Trade with China: 1980-2005
(\$billions)

Year	U.S. Exports	U.S. Imports	U.S. Trade Balance
1980	3.8	1.1	2.7
1985	3.9	3.9	0
1990	4.8	15.2	-10.4
1995	11.7	45.6	-33.8
2000	16.3	100.1	-83.8
2005	41.8	243.5	-201.6

Source: U.S. Department of Commerce.

Growing U.S. Exports to China

China's ranking as a destination for U.S. merchandise exports rose from 23 in 1979 to 18 in 1990, 11 in 2000, 5 in 2004, and 4 in 2005. U.S. merchandise exports to China in 2005 accounted for 4.6% of total U.S. exports (compared with 3.9% in 2003). The top five U.S. exports to China in 2005 were aerospace products (\$4.5 billion), semiconductors and electronic components (\$4.0 billion), waste and scrap (\$3.7 billion), soybeans (\$2.3 billion), and resins and plastic materials (\$2.1 billion).

Over the past few years, China has been the fastest growing U.S. export market (see **Table 11**). U.S. exports to China rose by 20.5% in 2005 over the previous year, and by 117.7% from 2001 to 2005. These were much faster increases than with any other top-10 U.S. export market (2005) or the world as a whole. U.S. exports to China during January-March 2006 were up by 39.3% over the same period in 2005.

Table 11. U.S. Merchandise Exports to Major Trading Partners in 2001, 2005, and January-March 2006

	2001 (\$billions)	2005 (\$billions)	Percent Change: 2004-2005 (%)	Percent Change: 2001-2005 (%)	Percent Change: Jan.-Mar. 2006 over Jan.-Mar. 2005 (%)
Canada	163.7	211.4	12.6	29.1	10.9
Mexico	101.5	120.0	8.4	18.2	16.5
Japan	57.6	55.4	1.9	-3.8	9.5
China	19.2	41.8	20.5	117.7	39.3
United Kingdom	40.8	38.6	7.4	-5.4	16.1
Germany	30.1	34.1	8.8	13.3	14.3
South Korea	22.2	27.7	5.1	24.8	16.5
Netherlands	19.5	26.5	9.1	35.9	7.1
France	19.9	22.4	5.5	12.6	10.3
Taiwan	18.2	22.1	1.5	21.4	-7.1
World	731.0	904.4	10.8	23.7	14.2

Source: USITC DataWeb.

Note: Ranking based on top 10 U.S. export markets in 2005. Data unadjusted for inflation.

Many trade analysts argue that China could prove to be a much more significant market for U.S. exports in the future if rapid economic growth continues. China's goal of modernizing its infrastructure and upgrading its industries is predicted to generate substantial demand for foreign goods and services. According to a U.S. Department of Commerce report, "China's unmet infrastructural needs are staggering. Foreign capital, expertise, and equipment will have to be brought in if China is to build all the ports, roads, bridges, airports, power plants, telecommunications networks and rail lines that it needs."²⁶ Finally, economic growth has substantially improved the purchasing power of Chinese citizens, especially those living in urban areas along the east coast of China. China's growing economy and large population make it a potentially enormous market. For example:

- The Chinese government projects that by the year 2020, there will be 140 million cars in China (seven times the current level), and that

²⁶ U.S. Department of Commerce, *FY1998 Country Commercial Guide: China*, Aug. 1997.

the number of cars sold annually will rise from 4.4 million units to 20.7 million units.

- Boeing Corporation predicts that China will be the largest market for commercial air travel outside the United States for the next 20 years; during this period, China will buy 2,300 aircraft, valued at \$183 billion. By 2023, Chinese carriers are expected to be flying more than 2,801 airplanes, making China the largest commercial aviation market outside the United States.²⁷
- Credit Suisse predicts that by the year 2014, China will be the world's second-largest consumer market after the United States (compared to 7th in 2004), with total household spending of \$3.7 trillion (2004 U.S. dollars), accounting for 11% of world consumption (compared to 3% in 2004).²⁸
- Global Insight projects that China's merchandise imports will increase by 475% (nearly fivefold) over the next 10 years (from \$660 billion in 2005 to \$3,133 billion in 2015). Assuming U.S. exports to China grow at the same rate as the projected increase in China's total imports, U.S. merchandise exports to China could increase from \$41.8 billion in 2005 to \$198.4 billion in 2015.

The Growth of U.S. Imports from China

China has become a relatively large source of many U.S. imports, especially labor-intensive products. In 2005, imports from China totaled \$243 billion, accounting for 14.6% of total U.S. imports in 2005 (up from 6.5% in 1996). U.S. imports from China rose by 23.8% in 2005 over the previous year. The importance (ranking) of China as a source of U.S. imports has risen dramatically, from eighth-largest in 1990 to fourth in 2000 and second in 2004 (and 2005). The top five U.S. imports from China in 2005 were computers and parts, miscellaneous manufactured articles (such as toys and games.), apparel, audio and video equipment, and communications equipment.

Why Are U.S. Imports from China Rising So Quickly? Many analysts contend that the sharp increase in China's exports is, to an extent, the result of movement in production facilities from other Asian countries to China. That is, various exports that used to be made in Japan, Taiwan, Hong Kong, for example, are now being made in China (in many cases, by foreign firms in China) and exported to the United States. This trend is reflected in **Table 12**, which lists data on U.S. imports from Asia as a whole and from China for 1996-2005. The share of U.S. imports from Asia to total imports decreased from 38.8% to 35.7% in 2005, whereas U.S. imports from China as share of total U.S. imports rose from 6.5% to 14.6%. U.S. imports from China as a percentage of total imports from Asia increased from

²⁷ Boeing Corporation, *The Boeing Company and China*, available at [<http://www.boeing.com/companyoffices/aboutus/boechina.html>].

²⁸ Credit Suisse, *The Rise of the Chinese Consumer Revisited*, Jan. 6, 2006.

16.8% to 40.8%. In absolute terms, the pattern is similar. Between 2000 and 2005, U.S. imports from Japan, South Korea, Taiwan, Malaysia, Singapore, Hong Kong, and Thailand fell by \$42 billion in 2000 dollars, whereas imports from China rose by \$119 billion. The shift becomes more striking when one considers that imports from the former group fell at a time when overall imports to the United States were rising rapidly. According to Morgan Stanley, the shift in production by East Asian firms to China has saved U.S. consumers more than \$100 billion per year since 1997.²⁹

Table 12. U.S. Imports from Asia and China, as a Percentage of Total U.S. Imports

	1996	2000	2005
U.S. Imports from Asia (including China)	38.8	36.6	35.7
U.S. Imports from Asia (excluding China)	32.3	29.2	21.1
U.S. Imports from China	6.5	8.2	14.6
U.S. Imports from China, as a % of Total U.S. Imports from Asia	16.8	22.4	40.8

Source: USITC DataWeb.

Another illustration of this shift can be seen in the U.S. imports of computer equipment and parts from 2000 to 2005 (**Table 13**). In 2000, Japan was the largest foreign supplier of U.S. computer equipment (with a 19.6% share of total shipments), while China ranked 4th (at a 12.1% share). In just five years, Japan's ranking fell to 4th, the value of its shipments dropped by over half, and its share of shipments declined to 7.8% (2005). Singapore and Taiwan also experienced significant declines in their computer equipment shipments to the United States during this period. By 2005, China had become by far the largest foreign supplier of computer equipment, with a 45.4% share of total imports. While U.S. imports of computer equipment from China rose by 327.7% over the past six years, the total value of U.S. imports from the world of these commodities rose by only 14.2%. Many analysts contend that a large share of the increase in Chinese computer production has come from foreign computer companies that have manufacturing facilities in China.

²⁹ Morgan Stanley, Global Economic Forum, *China: Punishing Whom?* Sept. 11, 2003.

Table 13. Leading Foreign Suppliers of U.S. Computer Equipment Imports: 2000-2005
(\$billions and % change)

	2000	2001	2002	2003	2004	2005	2000-2005 % change
World	68.5	59.0	62.3	64.0	73.9	78.2	14.2
China	8.3	8.2	12.0	18.7	29.5	35.5	327.7
Malaysia	4.9	5.0	7.1	8.0	8.7	9.9	102.0
Mexico	6.9	8.5	7.9	7.0	7.4	6.7	-2.9
Japan	13.4	9.5	8.1	6.3	6.3	6.1	-54.5
Singapore	8.7	7.1	7.1	6.9	6.6	5.9	-32.1
Taiwan	8.3	7.0	7.1	5.4	4.1	2.9	-65.1

Source: U.S. International Trade Commission Trade Data Web.

Note: Ranked according to top six suppliers in 2005.

Growing Trade in Advanced Technology

Throughout the 1980s and 1990s, nearly all U.S. imports from China were low-value, labor-intensive products such as toys and games, footwear, and textiles. However, over the past few years, an increasing proportion of U.S. imports from China has consisted of more technologically advanced products, such as computers. According to the National Science Foundation, the Chinese share of world high-technology production has risen from 1.0% in 1980 to 9.3% in 2003.³⁰

Table 14 lists U.S. trade with China in “advanced technology products” (ATP), a classification developed by the U.S. Census Bureau to identify trade in new or leading-edge technologies.³¹ These data indicate that U.S. ATP exports to China rose by 123.6% between 2000 and 2005, while imports increased by 454.2%. During that period, ATP exports as a share of total U.S. exports dropped slightly from 33.7% to 29.4%, while for imports, the share rose from 10.7% to 24.4%. These data indicate the importance of China as a destination of U.S. advanced technology exports: their share rose from 2.2% to 5.7%, while the import share of these products rose from 5.4% to 22.8%. The United States went from a \$0.1 billion trade surplus with China for ATP to a \$47 billion trade deficit.

³⁰ National Science Foundation, *Science and Engineering Indicators 2006*, February 2006.

³¹ They include products in 10 main categories, including biotechnology, life science, opto-electronics, information and communications, electronics, flexible manufacturing, advanced materials, aerospace, weapons, and nuclear technology. See U.S. Census Bureau trade website at [<http://www.census.gov/foreign-trade/www/index.html>] for more detailed descriptions of these categories.

Table 14. U.S. Trade with China in Advanced Technology Products: 2000 and 2005
(\$billions and %)

Year	Exports (\$billions)	As a % of Total U.S. Exports to China	% of Total U.S. Advanced Technology Exports	Imports (\$billions)	As a % of Total U.S. Imports From China	% of Total U.S. Advanced Technology Imports
2000	5.5	33.7	2.2	10.7	10.7	5.4
2005	12.3	29.4	5.7	59.3	24.4	22.8

Source: U.S. Census Bureau, *Foreign Trade Statistics*.

Some analysts view these statistics with alarm, contending that they are an indicator that Chinese firms will pose an increasing competitive challenge to U.S. high-technology firms. For example, the U.S.-China Economic and Security Review Commission warned in its 2005 annual report to Congress that

the technology that China is developing and producing is increasing in sophistication at an unexpectedly fast pace. Advances in China's technological infrastructure and industries, along with similar advances in other developing countries, pose a significant competitive challenge that is eroding U.S. technology leadership.³²

On the other hand, a joint study by the Center for Strategic and International Studies and the Institute for International Economics concluded that data on China's high-technology trade is misleading, noting, for example, that more than 90% of China's exports of electronic and information technology are produced by foreign firms in China using imported components,³³ and that China adds relatively little value to products such as computers and mobile phones before export. For example, assembly may take place in China, but research and development takes place elsewhere. The study concluded that Census data on U.S. ATP trade with China "hardly reflect a dramatic deterioration in U.S. competitiveness. Rather they reflect China's emergence as the location for final assembly of a small number of very popular consumer electronic products."³⁴

³² U.S.-China Economic and Security Review Commission, 2005 Annual Report, pp. 86-87, at [http://www.uscc.gov/annual_report/2005/annual_report_full_05.pdf].

³³ To illustrate, Taiwan has shifted nearly all of its notebook computer manufacturing to China.

³⁴ Center for Strategic and International Studies and the Institute for International Economics, *China: The Balance Sheet*, 2006, p. 105.

U.S. Direct Investment in China

China has become a major destination for U.S. foreign direct investment. As indicated in **Table 15**, Cumulative U.S. FDI in China at the end of 2005 was \$51.1 billion (according to Chinese data), accounting for 8.2% of total FDI in China, and making the United States the third-largest investor after Hong Kong and Taiwan.

**Table 15. U.S. Foreign Direct Investment Flows to China:
1979-2005**

Year	Total FDI (\$ millions)	U.S. FDI (\$ millions)	U.S. FDI in China as a % of Total
1979-84 (average)	510	46	9.9
1985	1,658	357	21.5
1990	3,487	456	13.1
1995	37,521	3,083	8.2
2000	40,714	4,384	10.8
2005	60,325	3,061	5.1
Cumulative	622,300	51,090	8.2

Source: Official Chinese government estimates.

Does Trade with China Harm the U.S. Economy?

The U.S. trade deficit with China has grown significantly in recent years, due largely to a surge in U.S. imports of Chinese goods relative to U.S. exports to China. That deficit rose from \$30 billion in 1994 to \$202 billion in 2005 (see **Table 10**). The U.S. trade deficit with China is now larger than that of any other U.S. trading partner, and in 2005 it was nearly equal to the combined U.S. trade deficits with Japan, Canada, and Mexico. Some analysts contend that the large U.S. trade imbalance with China is an indicator that China maintains a number of unfair trade practices that seek to restrict imports of U.S. goods and services while boosting Chinese exports to the United States. According to China's critics, these include currency manipulation, trade and investment barriers, industrial policies, failure to protect intellectual property, dumping, and low labor and environmental standards.

The next section discusses the costs and benefits of trade with China in general and evaluates some of the specific complaints made by critics. The report then considers the effects of China's trade deficit and currency regime.

Trade and Jobs

Imports from China (and other countries) can destroy jobs in the parts of the U.S. economy that produce the same products. But economic analysis indicates that due to off-setting job creation in other parts of the economy, the inflow of imports is unlikely to cause a *net* loss of jobs economy-wide. There are two complementary reasons for the relative steadiness of total employment and output in the face of a rising level of imports or other disruptive market forces. First, the Federal Reserve, using monetary policy, works to set the overall level of spending in the economy to a level generally consistent with full employment.³⁵ Although deviations from full employment can occur, a well-run monetary policy can minimize the incidence and duration of such episodes and help keep the total level of employment high in most years despite outsourcing, trade deficits, or trade in general.

To give some perspective on the typical magnitude of “job loss” and its relationship to total employment, consider that in any quarter of 2000, at the peak of the last economic expansion, with total U.S. employment at about 137 million, *gross* job losses tallied between 8.5 million and 9.0 million, and some fraction of those job losses were likely the consequence of foreign trade. Nevertheless, the economy at this time was operating at the lowest rate of unemployment in 40 years. In fact, over the whole course of that expansion, the gross number of jobs lost actually rose as the unemployment rate steadily fell. This was possible because with strong economy-wide spending, it was possible to create job gains, including jobs created by foreign trade, that more than offset losses. Similarly, in the far weaker labor market of 2004, *gross* job losses per quarter measured about 7.4 million. But gross job gains in the same time period were about 7.8 million per quarter, leading to a rise in total employment over the year. In either time period, *gross* job losses occurred on a scale well beyond what is currently attributed to foreign trade, suggesting that on an economy-wide basis, job loss due to foreign trade may be relatively minor occurrence, even though particular industries may be hit hard.³⁶

Second, against the economic backdrop of adequate aggregate spending, any increase in the purchase of imports will tend to generate an equal increase in the sale of the country’s exports of goods or assets. This outcome follows from the fundamental economic requirement that imports must be paid for and exports are the

³⁵ Economies always have some amount of unemployment. Each economy will tend to have a natural rate of unemployment around which the actual unemployment rate fluctuates. This natural rate will also represent the rate at which the economy is effectively at full employment, because a lower rate of unemployment would not be sustainable due to the inducement of higher a rate of inflation. The natural rate is not zero because at any point in time, there will be some people who are changing jobs and other people whom normal market forces have temporarily displaced. The more fluid the economy’s labor markets, the lower its natural rate of unemployment is likely to be. For most of the last 30 years, the U.S. economy’s natural rate was judged to be in the 5.5% to 6.0% range. Since the mid-1990s, the natural rate has likely fallen to the 4.5% to 5.0% range. Most often, an appropriate level of aggregate spending is that consistent with employment at the natural rate.

³⁶ U.S. Department of Labor, Bureau of Labor Statistics, *Business Employment Dynamics*, various issues.

only means for making that payment. The export sold can be a domestically produced good or service, or it can also be the sale to a foreigner of an asset such as a deposit in a bank account, shares of stock, bonds, or real property. Therefore, when tallied across transactions in goods and assets, a nation's trade is always in balance, in the sense that any imbalance in goods trade must be offset by a compensating imbalance in asset trade. Moreover, both types of exports have a positive effect on domestic employment.³⁷

Consider, for example, a situation where a good once produced domestically is now imported from China. Because foreign suppliers do not spend dollars, the U.S. importer will have to buy the foreign currency needed from the foreign exchange market or pay in dollars and let the foreign supplier buy local currency from its foreign exchange market. Either way, to generate the foreign exchange, the United States must export something. It can sell U.S. goods or services, or it can sell U.S. assets (e.g., bank deposits, stocks, bonds, real property).

The positive stimulus to employment from increased export of goods is direct. When foreigners increase their purchases of U.S. goods, domestic output and employment rise. This will counter the loss of jobs caused by the increase of imports. If U.S. exports of goods increase less than the increase of imports, the United States then must, in effect, borrow to fully pay for the increased imports through the sale of an asset.

The positive stimulus to domestic employment from an increased export of assets is indirect, however. Because the sale of an asset is equivalent to an increase in the flow of saving available to the United States, it exerts a downward push on domestic interest rates, stimulating interest-sensitive activities such as spending on consumer durables and residential construction, and raising output and employment in these sectors.³⁸ Therefore, the negative effects that increased imports have on output³⁹ and employment in one part of the economy are offset by the positive economic effects of increased exports of goods or assets in other parts of the

³⁷ The official data on U.S. international transactions are presented in two sections: the current account that tallies flows of goods and services and the financial account that tallies flows of assets. The two accounts must be equal in magnitude but opposite in sign.

³⁸ Of course, asset sales represent borrowing to sustain *current* domestic spending by transferring to foreigners a claim on some amount of the *future* output of the United States. The repayment of the loan will manifest as a future trade surplus and a net outflow of U.S. exports of goods and services and, thereby, lead to reduction of future domestic spending below what it otherwise would be.

³⁹ The focus of this discussion is the circumstance when an import is a direct substitute for domestic output. Imports, however, are not always substitutes for domestic output. An import can be seen by consumers as a distinct product and primarily generate an increase in total demand rather than a substitute for some domestic product. An imported good can be an essential component necessary for the expansion of domestic output. An import can satisfy a domestic demand that can not be readily supplied by domestic producers due to capacity constraints. Imports from one country can be a substitute for imports formerly obtained from another country.

economy.⁴⁰ The composition of output and employment will change in response to these changed demands, but as long as the Federal Reserve can maintain aggregate spending at the an appropriate level, total output and employment will not change. This scenario is discussed in greater detail below.

Bureau of Labor Statistics (BLS) data on job loss can also provide some perspective on the possible employment effects of trade with China. Beginning in 2004, the BLS has collected data on job loss due to transfer of work outside of the United States. These data are a measure of *gross* job loss and show that through 2005 such lay-offs occurred on a small scale — between 3,000 and 5,000 workers per quarter, or 12,000 to 20,000 per year. That represents about 2.0% of the total layoffs in each quarter and an extremely small share of the U.S. total labor force of more than 149 million workers.⁴¹

Although these data do not tell to which country work was transferred, one would have to conclude that, even if all of the reported layoffs were the result of production being shifted to China, the impact is small. Moreover, the overall effect of trade on jobs is a *net* effect, reflecting the jobs that are created by international trade in general or with China in particular. Unfortunately, there are no public data series that allow a ready tallying of the *net* impact of trade on employment. However, given the very small size of gross job loss observed in the BLS data, it is reasonable to believe that the impact is either a very small net job loss or a net job gain.

Sectoral Employment Effects. The impact of increased trade with low-wage economies such as China's might not have a net negative effect on overall employment, but it likely does have some negative effect on employment in particular trade-sensitive sectors of the economy. The employment problems of the U.S. manufacturing sector are often cited as a consequence of, in part, the rising tide of imports from China. Manufactured goods are far more important in U.S. international trade than in the overall economy, making up about 80% of international trade in goods but only 18% of U.S. GDP. Therefore, the expectation is that factors that affect international trade will be more strongly felt in the manufacturing sector than in the wider economy.

In the context of balanced goods trade, an increase in imports will be paid for with an equal valued increase of exports. Although the increase of imports can destroy jobs in manufacturing, the increase of exports tends to create jobs in that

⁴⁰ Export related jobs generally pay on average 7% to 13% higher wages than jobs in import-competing industries. So, most often, better jobs are being created than those that are being destroyed. However, the new jobs are not necessarily going to be filled by those whose jobs were destroyed. See Andrew B. Bernard and J. Bradford Jensen, "Exporters, Jobs, and Wages in U.S. Manufacturing," *Brookings Papers on Economic Activity: Microeconomics* no. 47, 1995, pp. 67-112.

⁴¹ For these data, see United States Department of Labor, Bureau of Labor Statistics, *Extended Mass Layoffs*, various issues. For further discussion of layoffs, see CRS Report RL30799, *Unemployment Through Layoffs: What are the Underlying Reasons*, by Linda Levine.

sector. In the context of unbalanced trade, an economy such as the United States' that is inclined by macroeconomic forces (largely separate from trade activity) to run trade deficits can result in a net negative effect on employment in manufacturing.⁴² However, depending on the rate of capacity utilization in the sector, the structure of final demand, and the degree of indirect demand for domestic manufactured goods stimulated by the capital inflow that finances the trade deficit, the negative employment effect on manufacturing can be significantly smaller than the size of the deficit suggests.

An accurate assessment of trade's possible negative impact on employment in the U.S. manufacturing sector, however, requires consideration of factors other than trade that also affect employment. These include the existing stage of the business cycle, changes in the underlying demand for manufactured goods in general, and the impact of increased productivity in manufacturing. Analyzing the large decline in manufacturing employment since 2000, a 2004 CRS report found that as much as 60% of the job losses between 2000 and 2002 were the result of strong increases in productivity in the manufacturing sector. About 20% of the lost jobs were found to be the result of recession and slow recovery, and about 20% were considered to be the result of a large and rising trade deficit.⁴³ Again, none of these negative impacts are a *necessary* consequence of a rising level of trade with China and other low-wage economies.

Because of their sizeable presence in domestic production and even greater presence in international trade, some sense of the magnitude of the impact of increased trade with China on U.S. jobs can be gleaned from any changes in the distribution of employment between home and foreign locations by U.S. multinational companies (MNC).⁴⁴ Thus, if a rising level of international trade were diverting a large number of domestic jobs overseas, it would be evident in the changing distribution of employment between MNC domestic parents and foreign affiliates. Also, changes in the distribution of employment across countries would give some indication of whether there has been a shift of jobs towards low-wage economies, particularly if there has been a substantial shifting by multinationals of employment from the United States to China.

The U.S.-parent share of total MNC employment decreased from 78% in 1977 to 72% in 2003 (the most recent year for which data are available). This decrease is part of a decline that began in 1987, well before trade with China was a significant economic force. Employment by foreign affiliates continues to be concentrated in high-wage countries, however, with a share of about 65%. But employment in foreign-affiliates in high-wage countries has grown more slowly than that in low-wage countries, pushing the share of high-wage countries down from a high of about 70% in 1991. In the 2000-2003 period, when a large increase of imports from China

⁴² See the discussion of trade deficits below.

⁴³ See CRS Report RL32350, *Deindustrialization of the U.S. Economy*, by Craig Elwell.

⁴⁴ In 2001, the MNC's domestic parents produced about 25% of U.S. gross domestic product (GDP) and employed more than 23 million workers, or about 20% of the nonbank work force. MNCs are even more important in U.S. international trade, being involved in nearly 60% of total goods exports and about 40% of total goods imports.

is suspected of causing a large loss of domestic jobs, the domestic parents of U.S. multinational companies decreased employment by 165,000 jobs. At the same time, employment in Chinese affiliates of U.S. MNCs increased by 95,000 jobs, but employment in relatively high-wage European affiliates increased by 98,000 jobs as well. What is also interesting is that there are also some significant decreases in employment by affiliates in other low-wage economies. For example, Mexico had a decrease of 21,000 jobs, and the whole South and Central American region had a decrease of 52,000. Similarly, affiliates in some countries in Asia have had decreases in employment. This has occurred to varying degrees in Taiwan, Thailand, Malaysia, and the Philippines for a combined loss of about 60,000 jobs.⁴⁵

This pattern of change in employment by U.S. multinationals could indicate that domestic jobs were shifted to China. But it is also consistent with a pattern of jobs in China being shifted from other low-wage countries. The changing national composition of U.S. imports gives support to the latter scenario. As discussed above, the increase in share of total U.S. imports coming from China has been largely matched by a decrease in the share of goods imported from other Pacific Rim countries. One reason offered for this changed pattern of trade is that China has increasingly taken over the role as the final assembly and shipping point for many exports that would previously have been exported from other low-wage economies on the Pacific Rim and elsewhere. So U.S. trade with low-wage economies is not necessarily rising to the degree widely believed; rather, it is shifting location (see **Table 13**). Furthermore, this implies that the negative employment effects of this change fell more heavily on workers in Pacific Rim countries and low-wage countries in other regions economies rather than on workers in the United States.⁴⁶

The natural “two-way” nature of trade suggests that for a complete view of trade’s employment effects, we also consider the behavior of foreign MNCs in the United States. A U.S. company can destroy jobs by diverting production abroad, but a foreign company can create jobs by diverting production to the United States. Economic reasoning tells us that if it is more efficient to produce some products abroad, it is also likely that it is more efficient to produce other products in the United States. Therefore, we might expect there to be outsourcing into and out of the U.S. economy. During the 1977-2001 period, employment *in* the United States by *foreign* MNCs grew by 4.7 million, exceeding the 2.8 million increase in employment in the foreign affiliates of U.S. MNCs.⁴⁷ These data could indicate that

⁴⁵ Raymond J. Mataloni Jr., “A Note on Patterns of Production and Employment by U.S. Multinational Companies,” *Survey of Current Business*, vol. 84, no. 3 (March 2004), pp. 52-56.

⁴⁶ This also suggests that any restriction placed on China’s imports to the United States would not increase domestic output, but would increase the output of the Pacific Rim economies whose exports to the United States would increase as they become a replacement for restricted Chinese goods. For a discussion of this and other aspects of trade with China, see *The Economic Report of the President* (Washington: GPO, 2004), pp. 65-68, and CRS Report RL32165, *China’s Exchange Rate Peg: Economic Issues and Options for U.S. Trade Policy*, by Wayne M. Morrison and Marc Labonte.

⁴⁷ See Mataloni op. cit. For a closer look at the nature and extent of outsourcing, see CRS (continued...)

considering inflows and outflows the United States was overall more likely to be the destination than the departure point for foreign outsourcing.

Trade and Wages

Another common concern with a rising level of trade with China (and other low-wage economies) is that it puts downward pressure on the wages of domestic workers. Foreign trade is commonly seen as a process driven by the search by American companies for low-wage environments, which ultimately places American workers in effective competition with a vast pool of lower-wage foreign labor and exerts downward pressure on the wages of domestic workers. This competition, it is argued, will result in the so-called “race to the bottom” between domestic and foreign workers.

The reality of the supposed deleterious effect of increased trade with low-wage economies on wages of American workers was given apparent credence for many people by the observed concurrence, over a 20 year period beginning in the mid-1970s, of slower growth of the average real wage and widening gap between the wages of skilled and less-skilled workers with the steady increase in the U.S. economy’s level of trade. The growth of real wages accelerated in the booming 1990s, deflecting some of the concerns about the effect of rising globalization on worker compensation (although inequality continued to widen). But since the 2001 recession, real wages have been flat while the level of trade with China and other low-wage economies has increased, generating renewed concern about the adverse effects of that trade on worker wages.

In thinking about relative wages levels, international cost competition, and trade between the United States and China, economic theory leads to two general conclusions relevant to the impact of trade on the wages of American workers. First, differences in the level of wages between countries are most often a reflection of differences in worker productivity. Wages in the U.S. economy are high because worker productivity is high; wages in the Chinese and other emerging economies are low because worker productivity is commensurately low. Therefore, a comparison more telling of the true differences in production cost between high-wage and low-wage economies is differences in *unit labor costs*, the wage per hour divided by output per hour. Because of the substantial concordance of wages and productivity, differences in unit labor costs across countries tend to be much smaller than differences in money wage rates. For example, one would expect that if a low-wage economy’s average wage is only 10% of the average American wage, but its worker’s productivity is also only 10% of the American worker’s productivity, there would be no difference in unit labor costs and no labor cost advantage. Because there is seldom a *perfect concordance* between a country’s wage level and productivity, estimates of actual unit labor costs will not always just compensate for the money wage difference. In most cases, however, unit labor costs in low-wage countries are a substantial percentage of U.S. unit labor costs and in some cases actually exceed

⁴⁷ (...continued)

Report RL32292, *Offshoring (a.k.a. Offshore Outsourcing) and Job Insecurity Among U.S. Workers*, by Linda Levine.

the U.S. level. For example, one study found that Korea, Mexico, Brazil, and Thailand had average unit labor costs 70% to 80% of that of the United States, whereas Malaysia, Philippines, and India had average unit labor costs above that of the United States.⁴⁸ Other studies that have looked at the Chinese economy have also found unit labor costs there to be 75% to 80% of the U.S. level.⁴⁹ If we then consider that the other elements needed for production such as capital, raw materials, energy, and infrastructure are relatively more costly in most emerging economies, any absolute cost advantage over the United States may be nil.

If there is no large absolute cost advantage to production in low-wage economies, why does the United States buy imports from them? Answering this question leads to the second general conclusion of economic theory on trade's effect on wages. Economic theory tells us that differences in the absolute cost of production do not determine whether it is more beneficial to trade for a good or to produce it domestically. The potential for mutually beneficial trade is determined by differences in *relative cost*, or what economists term the presence of *comparative advantage* in the production of a good.

The essential condition for a comparative advantage to exist is that for each trading country there be a difference in the rate at which the production of one tradable good must be decreased in order to increase production of another good. In other words, what matters is the existence of differences in opportunity cost, not absolute cost. Regardless of differences between countries in absolute production costs, if these relative opportunity costs are different, then each country has a comparative advantage in the production of one of the tradable goods, and by specializing in the production of this good and trading for (importing) the other, the country expands its consumption possibilities of both goods and thereby raises its overall economic well-being.

Differences in comparative advantage will arise between countries because of differences in the relative abundance or scarcity of the factors of production. Comparative advantage will be found in those activities that make intensive use of the abundant productive resource. For example, the United States, with a relative abundance of high-skilled labor compared with many other countries, will find that specialization in the production of goods that use high-skilled labor intensively will, with trade, raise national income. By contrast, China, which has a relative abundance of low-skilled labor and relative scarcity of high-skilled labor, would find that specialization in the production of goods that use low-skilled workers intensively would, with trade, raise that country's real income.

Such specialization and trade would be expected to raise overall economic well-being, but it also could have a disparate effect on the wages of American workers of

⁴⁸ Stephen Golub, *Does Trade with Low-Wage Countries Hurt American Workers?* (Federal Reserve Bank of Philadelphia, 1998).

⁴⁹ Sebastian Dullien, *China's Changing Competitive Position: Lessons from a Unit Labor Cost Based FEER* (Economics Working Papers Archive, 2005), and Chi Hung Kwan, *The Myth of Chinese Competitiveness: Are Low-Wages China's Strength or Weakness?* (Research Institute of Economy Trade, and Industry, 2002).

different skill levels. When trade with China expands, there is an increase in the demand for high-skilled American workers, tending to raise their wage, but there is a decrease in the demand for less-skilled workers, tending to decrease their wages. (Meanwhile, China experiences the opposite effect.) The average level of wages does not change as the result of trade, being determined by the average level of labor productivity, but the distribution of wages between skilled and less-skilled has become less equal and the absolute level of economic well-being of less-skilled workers would also fall.

The actual effect of trade on wages in the U.S. economy has been the focus of numerous empirical studies over the last 15 years, and the conclusions that may be drawn from these efforts are as follows:

- As regards the slow growth of the average real wage from the mid-1970s to the late 1990s, increased trade is not seen as being the cause of that sluggish performance. Rather, the identified reason was slow productivity growth. Labor's share of the economic pie was not getting smaller; the economic pie just was not growing as fast.⁵⁰ That the level of wages is most often reflective of the level of worker productivity also explains why higher-wage American workers are not necessarily at a disadvantage to lower-wage foreign workers.
- As regards trade and increased wage inequality, the research indicates that trade was a contributing factor, but a minor one, accounting for perhaps 10% to 20% of the observed increase in wage inequality between skilled and less-skilled workers.⁵¹ The principal contributing force causing the rise in wage inequality is thought to most likely be the character of recent technological change to generally raise the demand for higher-skilled workers. It would seem then that from the standpoint of the economy as a whole, trade with low-wage economies has, so far, not triggered a "race to the bottom."

Why has the impact of trade on wages been so modest? One reason is probably a matter of scale. Trade with low-wage countries has been relatively small, amounting to less than 5% of GDP in 2005. In fact, among U.S. trade partners the average wage level in manufacturing relative to the U.S. manufacturing wage level

⁵⁰ This conclusion is also confirmed by the absence of any sustained deterioration in labor's share of national income, which has remained at about 70% throughout the post-World War II era.

⁵¹ See Cline, William R., *Trade and Wage Inequality*, Institute For International Economics, Washington, DC, 1997; and Borjas, George, and Richard B. Freeman; Lawrence F. Katz. "How Much Do Immigration and Trade Affect Labor Market Outcomes?" *Brookings Papers on Economic Activity*, 1997, pp. 1-90; Susan Collins, *Trade and the American Worker*, Brookings Institution, Washington, DC, 1997; and Lawrence and Litan, op. cit.

grew from 60% in 1975 to 76% of the U.S. level in 2000.⁵² This has occurred because many trading partners that were once low-wage economies, with open trade and steady economic growth, have now become high-wage economies. China's scale of trade with the United States has increased greatly, but relative to the U.S. economy, it still remains small. In 2005, the U.S. trade deficit with China was \$202 billion, a size equivalent to less than 2% of U.S. GDP and not large enough to have a major effect on overall wages in the United States.

The scale of impact is also related to the overall size of the U.S. sectors producing tradeable goods. Keep in mind that the U.S. economy is still largely domestic in orientation, with perhaps as much as two-thirds of the labor force, including large numbers of low-skilled workers, working and having wages determined in activities largely unaffected by trade. A sector like manufacturing, which produces a large share of U.S. tradable goods, employs only about 14 million workers out of a total labor force of nearly 140 million. In contrast, the service sector, which produces a largely non-tradeable output, employs nearly 110 million workers.

Rising income in the world is also likely to raise the demand for the products whose production uses low-skilled labor intensively. Once low-wage economies transform to high-wage economies, two events occur: (1) they tend to produce fewer of the goods typically produced by low-wage workers, and (2) they tend to increase their absolute demand for the products produced by low-wage workers. The two effects exert upward pressure on the wages of these workers, including any producing similar products in the United States. This outcome is consistent with the evidence that for the United States, the relative price of unskilled, labor-intensive, import-competing goods rose in the 1980s and 1990s.⁵³

This shifting of the location of production for products made by low-skill workers is particularly relevant for understanding the probable impact on the U.S. economy of sharply rising imports from China in recent years. China has picked up the role of producer of these types of products, as other East Asian economies have withdrawn from that type of production as these economies did when Japan shifted away from low-wage based production. Reviewing the period 1994 through 2003, the Council of Economic Advisors concluded that for the United States, the increase in share of total U.S. imports accounted for by imports of goods from China has been *largely offset* by a decrease in the share of goods imported from other Pacific Rim countries. The value of imports from both sources has increased considerably. Still, many of the export jobs in non-China Asia are migrating to China, so the

⁵² U.S. Department of Labor, Bureau of Labor Statistics, "A Perspective on U.S. and Foreign Compensation Costs in Manufacturing," *Monthly Labor Review*, vol. 125, no. 6 (June 2002), pp. 36-49.

⁵³ Jagdish Bhagwati and Vivek Dehejia, "Freer Trade and Wages — Is Marx Striking Again," in Jagdish Bhagwati and Marvin Kosters, eds., *Trade and Wages: Leveling Wages Down?* (Washington: AEI Press, 1995), pp. 36-75.

distributional effects of this change fell on workers in China and the Pacific Rim economies rather than on workers in the United States.⁵⁴

Economies of scale are also a factor that likely helps hold up industrial wages in the face of low-wage foreign competition. The beneficial effects on cost from a larger-scale production are thought to be significant in many industries in high-wage countries, tending to increase worker productivity and decrease unit labor costs. It is also possible that the increase of competition itself spurs companies to higher levels of efficiency, which lowers unit labor costs and helps preserve higher wages.

Of course, it cannot be ruled out that if trade with relatively low-wage economies such as China continues to grow in importance, the negative effects on U.S. worker wages of such trade would grow in significance. Yet, there is probably an upper bound to this effect, for it is possible that in the future, with only relatively moderate differences between home and foreign production costs, *complete specialization* could occur. That is, the United States would no longer produce much of what is imported from low-wage foreign economies. There would be short-run transition costs for those displaced from low-wage jobs at that time. But since the United States would then no longer have industries that use low-wage labor intensively, there would be no downward pressure on domestic wages caused by such trade from that point forward. To the extent that this pattern of trade allows for a fuller realization of economies of scale and lowers product prices, the real wage of the average domestic worker could be increased.

“Unfair” Trade Practices and the Gains from Trade

Some critics argue that “fair” trade with a country that “plays by the rules” would be beneficial to the United States, but that China employs many unfair trading practices that make trade with it not in America’s self-interest. Major issues of concern include a wide assortment of tariff and non-tariff barriers, China’s currency policy (addressed below), industrial policies to promote domestic industries, selling goods below cost (dumping), low wages and poor environmental practices, and failure to protect U.S. intellectual property rights (IPR).

- **Trade and investment barriers.** Critics charge that although China has significantly liberalized its trade regime since joining the WTO in 2001 (such as lowering tariff and removing a number of non-tariff barriers), implementation of its WTO commitments has been uneven and incomplete and has prevented U.S. firms from enjoying the level of market access they expected to obtain. On February 14, 2006, then-U.S. Trade Representative (USTR) Rob Portman complained

⁵⁴ This also suggests any restriction placed on China’s imports to the United States would not increase domestic output; rather, it would increase the output of the Pacific Rim economies whose exports to the United States would increase as they become a replacement for restricted Chinese goods. For a discussion of this and other aspects of trade with China, see *The Economic Report of the President* (Washington: GPO, 2004), pp. 65-68, and CRS Report RL32165, *China’s Exchange Rate Peg: Economic Issues and Options for U.S. Trade Policy*, by Wayne M. Morrison and Marc Labonte.

that “overall, our U.S.-China trade relationship today lacks equity, durability, and balance in the opportunities it provides.”⁵⁵

- **Industrial policies.** The USTR noted in its 2005 China WTO compliance report that many of the shortcomings in China’s implementation of its WTO obligations stemmed from its incomplete transition to a free market economy.⁵⁶ Many U.S. policymakers have raised concerns over China’s policies to promote the development of mainly state-owned industries (often referred to as “pillar industries”) deemed by the government to be critical to future development and growth, such as autos, steel, energy, electronics, and information technology. For example, in July 2005, the Chinese government issued new guidelines on steel production, which included provisions for the preferential use of domestically produced steel-manufacturing equipment and domestic technologies; extensive government involvement in determining the number, size, location, and production quantities of steel producers in China; technology transfer requirements on foreign investment; and restrictions on foreign majority ownership. Other U.S. complaints include the issuance of regulations on auto parts tariffs that discourage the use of imported parts, attempts to develop unique national standards in a number of high technology areas that could lead to the extraction of technology or intellectual property from foreign rights-holders, and draft government procurement regulations mandating purchases of Chinese-produced software.⁵⁷ Many U.S. policymakers contend that China’s industrial policies violate its WTO commitments.⁵⁸ China is hoping to move from an export platform of foreign multinational companies invested in China to a major exporter of advanced Chinese designed and made products. For example, two Chinese auto companies have announced plans to begin exporting cars to the United States by 2007.
- **Dumping.** A number of groups have charged that China often sells its products to the United States at less than fair market value and that China’s low wages and poor labor conditions give Chinese products an unfair advantage in the United States and third markets. They charge that these practices have damaged several U.S. industries (such as textiles) and the loss of millions of U.S.

⁵⁵ Remarks by Ambassador Rob Portman, press conference on U.S.-China Trade Relations, Top-to-Bottom Review, Feb. 14, 2006.

⁵⁶ USTR, *2005 Report to Congress on China’s WTO Compliance*, Dec. 11, 2005, p. 3.

⁵⁷ Prepared testimony of Assistant USTR Timothy P. Stratford before the U.S.-China Economic and Security Review Commission, Apr. 4, 2006.

⁵⁸ Chinese industrial policies that discriminate against foreign products have been the target of two U.S. cases against China in the WTO involving semiconductors and auto parts.

manufacturing jobs (see below). As a result, China has been the biggest target of U.S. anti-dumping measures.

- **Low labor and environmental standards.** Chinese firms have been widely criticized for environmental practices that would not be allowed in the United States. U.S. firms argue that this confers a cost advantage against which they, with their cost of environmental compliance, cannot compete. Similarly, U.S. firms argue that they cannot compete with Chinese firms because of the cost of complying with the workplace protections afforded to U.S., but not Chinese, workers. This dynamic is often referred to as a “race to the bottom,” as the United States will purportedly be forced to eventually lower its labor and environmental standards to developing country levels in order to compete with developing countries.
- **International property rights (IPR).** U.S. IPR industry officials estimate that IPR piracy in China cost U.S. copyright firms \$2.4 billion in lost sales in 2005 and that the piracy rate for IPR-related products in China is among the highest in the world.⁵⁹ U.S. firms contend that IPR piracy in China has worsened in recent years. In addition, China accounts for a significant share of imported counterfeit products seized by U.S. Customs and Border Protection: \$64 million, or 69% of total goods seized, in FY2005.

Although it is beyond the scope of this report to evaluate all of the specific claims that have been made about China, it is perhaps useful, as a first step, to consider some general observations regarding “unfair” trade. This will help clarify the economic reality of this issue and suggest economically efficient policy responses.

Virtually all economists argue that free trade leads to a more efficient allocation of worldwide productive resources that result in higher real income and economic well-being for each trading partner. Critics maintain, however, that unless such trade is also “fair,” in the sense that each trading partner has the same rules and regulations governing its trading practices, then the gains from trade will not occur or be much smaller than they otherwise would be.

The metaphor most often invoked by the proponents of fair trade is the need for a “level playing field.” If U.S. trading partners abide by the same rules and regulations governing business and trade practices, the “playing field” will no longer be tilted to the disadvantage of the United States, undercutting its ability to compete in trade with these nations. The problem with such sports metaphors is that they do not give an accurate characterization of the true nature of trade. In sports, games are a zero-sum activity, where there is a winner and a loser. Trade, however, is a “positive-sum” activity, where both parties benefit. So long as the foreign producer

⁵⁹ The International Intellectual Property Alliance (IIPA) estimated China’s piracy rates in 2005 in the following areas: motion pictures (93%), records and music (85%), business software (88%), and entertainment software (92%). See [<http://www.iipa.com>].

sells the good to you at a relative cost below that of producing the good at home, it can be said that there is an economic gain to the United States, regardless of whether the foreign producer's trade practices are "unfair."

More fundamentally, as indicated by the economic theory of comparative advantage, the cost advantage results from there being significant economic difference between trading countries. In other words, it is the "tilted playing field" that creates the possibility for mutual gains from trade. The difference could be in the relative abundance of productive resources like land, capital and labor, or the level of technology, or in climate. But it could also be the result of differences in government-initiated rules and regulations governing business and trade practices. Nor is it necessarily unreasonable for countries to have significantly different rules and regulations governing economic activity, as they will often reflect legitimate differences in social preferences, as well as the realistic choices of countries with vastly lower levels of national income that are trying to pull themselves up out of poverty. Although labor and environmental standards may be low now, the higher income that trade brings might be an important force for the eventual elevation of wage and environmental standards in these countries.

Individual industries in the United States may be harmed by the trade that emerges as a result of these differences in rules and regulations, but a policy by the United States, such as a tariff on imported products that leads to a "level playing field," would also erase the gains from trade. The tariff may help those individual industries, but its overall effect could be to turn a positive-sum activity into a negative-sum activity in which both countries are net losers.

That it is possible to have gains from trade in the presence of various "unfair" trade practices does not mean that better outcomes are not possible. Despite substantial reduction in the post-World War II era, significant tariff barriers continue to exist in rich and poor countries alike. Removing the tariff barriers that remain would raise the level of world trade and increase the mutual gains from trade. The steady reductions of tariffs and other trade barriers by the world's economies over the last 60 years was largely achieved by successive rounds of multilateral reductions. Since WWII, there have been eight major multilateral trade agreements, the most recent being the Uruguay Round, which was completed in 1994. From a public policy perspective, the use of unfair trade practices can undermine public support (especially by representatives of domestic firms and workers that are hurt by these practices) for bilateral, regional, and multilateral trade agreements that might further liberalize trade rules and thus boost economic growth.

Other alleged "unfair" trade practices are likely to be more difficult to resolve for, to an important degree, the unfairness is "in the eye of the beholder." For example, the dumping of exports is seen by the United States as an unfair trade practice. It is illegal under U.S. law, and the government has actively used the law to impose anti-dumping duties on the imports of offending countries. Yet, determining whether dumping has occurred is often far from straightforward, and the process is seen by many to be biased against the foreign producer. More important, economists place little economic merit in most claims of dumping, seeing price cutting as a useful element of competition that is widely practiced by domestic firms, and it leads to greater efficiency and economic benefit to consumers. Because they

are being sanctioned for actions that would not be illegal for a U.S. firm domestically, it is natural for exporters to the U.S. market to see the ready use or threat of use of the anti-dumping levy as the “unfair” trade practice, being, in their eyes, thinly veiled protectionism.

This same inversion of perspective can also arise when rich countries, in an attempt to “level the playing field,” push for higher labor and environmental standards in poor countries. As countries with low standards might see it, standards in the United States and other rich countries have been set too high and are being used to create a trade barrier. It is seen as a trade barrier because to conform to the higher standards, foreign rivals would incur increased production costs and become unable to maintain a competitive position in the U.S. market. This is an example of what is called “export protectionism,” meaning rather than use a tariff to deter imports, the cost of the product is forced to rise, accomplishing the same result as a tariff.

In other instances, the unfair trade practice may be more costly than beneficial to the country that pursues it. This is probably true of subsidies to promote exporting industries. If the subsidy lowers the price of goods the U.S. imports, there would be a favorable terms of trade effect that causes a shifting of the division of the overall gains from trade from the exporting country to the importing country. If the subsidy lowers the price of a good that competes with U.S. exports, there would be an unfavorable shift in the U.S. terms of trade and a reduction in the U.S. gains from trade. However, based on the experience of Japan in the 1970s and 1980s and of South Korea, Thailand, and Indonesia in the 1980s and 1990s, it is more likely that the subsidy policy will fail overall, not being successful at establishing any form of competitive exporting industry, while imposing significant costs on the overall economy by diverting scarce resources from more efficient uses.

There are also arguments that certain unfair trade practices could threaten to undermine so-called “strategic industries.” These are generally considered to be high-technology sectors that are deemed critical to future economic development because of the important spillover effects they have over other parts of the economy, and therefore warrant strong government action, including trade protection.⁶⁰ Sometimes this is called the “infant industry” rationale for protectionism, because it suggests that these strategic industries need government assistance to become commercially viable, although they may eventually be able to compete on their own. The problem with this argument is that it suggests that the government can “pick winners” more effectively than markets, perhaps because it has a longer time horizon. On the contrary, private investors are often willing to take losses on new companies, particularly in high-tech industries, for several years if they believe they will ultimately be profitable. Moreover, governments may have other motives besides profit maximization behind the winners that they back.

⁶⁰ Such spillovers could include the development and diffusion of new technology throughout the economy, an improvement in a nation’s term of trade, growth in other related industries, an increase in productivity, and the creation of high-paying jobs.

A closely related argument is that certain U.S. industries are critical to U.S. national security and must be defended against unfair trade practices. For example, some analysts contend that national security needs require the United States to maintain an independent supply of steel. China is the world's largest steel producer, accounting for 31% of the world's steel production; its production levels in 2005 rose by 25% over the previous year. The U.S. steel industry has expressed growing fears that overinvestment and overcapacity will lead China to flood world markets with cheap steel.⁶¹ The problem with these arguments is how to identify such industries and to prevent trade policies from being used mainly to protect firms from foreign competition for political reasons.

Finally, IPR piracy is an issue that most economists would agree has economic costs that outweigh any benefits. There are a number of costs to consider. First, the distribution of pirated products can lower the sales of legitimate products, thus undermining the attainment of greater economies of scale by U.S. firms, making them less competitive. Second, many firms expend a significant level of resources on research and development (R&D) to create develop new products (such as medicines) with the expectation that these costs will later be recovered through sale of the product. However, widespread piracy of that product undermines the ability to recover R&D costs and thus may discourage innovation. Likewise, creators of intellectual property are responding to the financial incentives that copyrights and trademarks provide. If piracy undermines those incentives, the economic benefits to creation of intellectual property could decline. Third, pirated products that use false labels to pass as legitimate brand name products are generally inferior in quality and thus can undermine a company's reputation and reduce its legitimate sales. Another concern is over the health of consumers, such as when pirated drugs and medicines (that lack effectiveness) are sold, and safety, such as when pirated brake pads are used to replace old pads on a car. Finally, the prevalence of pirated low-cost products in China makes it substantially more difficult for U.S. firms to sell their products in the Chinese market.

Piracy also poses challenges to China's economy. The Chinese government estimated that in 2001, \$19-\$24 billion worth of counterfeit goods were sold in China. A study by the Motion Picture Association of America estimated that China's domestic film industry lost about \$1.5 billion in revenue to piracy in 2005.⁶² Chinese press reports indicate a number of health and safety problems resulting from counterfeit products in China.⁶³ This indicates that IPR piracy has had a significant negative impact on various Chinese economic sectors as well. Without a solid IPR enforcement regime, innovation and growth of IPR-related industries in China will likely be greatly retarded.

⁶¹ According to U.S. officials, China's excess steel capacity in 2006 could be larger than total U.S. steel production. Such concerns have led the United States to begin a Steel Dialogue with China, which first met in March 2006 to discuss issues of concern to the U.S. steel industry.

⁶² *Reuters*, "China Piracy Costs Film Industry \$2.7 Billion in 2005," June 19, 2006.

⁶³ For example, in 2004, 13 infants in China reportedly died, and hundreds were sickened, from drinking fake baby formula. See *New York Times*, "China: Prison for Two in Baby Formula Scandal," Aug. 6, 2004, p. A4.

Effects of the Bilateral Trade Deficit and the Exchange Rate Peg on the U.S. Economy

Some argue that trade with China is not necessarily harmful to the U.S. economy per se, but becomes harmful because imports to the United States are matched by a trade deficit rather than by exports to China. As noted earlier, both imports from China and the trade deficit have grown rapidly. U.S. exports to China have also grown rapidly, but remain small compared with imports. Many U.S. policymakers have expressed concern that the trade deficit is reducing economic output and employment in the United States, particularly in the manufacturing sector. They believe that China's exchange rate policy is at the root of the trade imbalance. From 1994 to July 21, 2005, China kept its exchange rate fixed to the U.S. dollar at a rate of 8.3 yuan to the dollar. (The operation of the peg is discussed below.) Although it is difficult to estimate how much the yuan might have appreciated in the absence of government intervention, many U.S. critics claimed that the undervaluation was large.

The Chinese government modified its currency policy on July 21, 2005. It announced that the yuan's exchange rate would become "adjustable, based on market supply and demand with reference to exchange rate movements of currencies in a basket." (It was later announced that the composition of the basket includes the dollar, the yen, the euro, and a few other currencies.) Further, it announced that the exchange rate of the U.S. dollar against the yuan would be immediately adjusted from 8.28 to 8.11, an appreciation of about 2.1%. Unlike a true floating exchange rate, the yuan would (according to the Chinese government) be allowed to fluctuate by no more than 0.3% on a daily basis against the basket. It does not appear that the Chinese intended to allow these exchange rate movements to accumulate, however, because the yuan has appreciated only about 1% against the dollar since the July 2005 reforms were initiated (through June 2006).

Fixing the yuan to a basket of currencies does not rule out the possibility that the yuan could depreciate or appreciate against the dollar. When the other currencies in the basket depreciate against the dollar, so will the yuan, but to a lesser extent. How closely the yuan moves with the dollar against other currencies will depend on how large a weight the dollar has in the basket. It does not appear that the other currencies are given a significant weight in the basket, because the yuan has tracked the dollar's value so closely, whereas currencies like the Japanese yen have changed in value against the dollar since 2005. This indicates that the Chinese government is still keeping the value of its currency close to fixed against the dollar.

Although an undervalued yuan does depress the output of the U.S. trade sector, the overall effect on the U.S. economy is more complex, as discussed below.

Effect on Exporters and Import-Competitors. When China's exchange rate policy causes the yuan to be less expensive than it would be if it were floating, it causes Chinese exports to the United States to be relatively inexpensive and U.S. exports to China to be relatively expensive. As a result, U.S. exports and the production of U.S. goods and services that compete with Chinese imports fall, in the

short run. This causes the U.S. trade deficit to rise and reduces aggregate demand in the short run, all else equal.

China has become the United States' second-largest supplier of imports (2005 data). A large share of China's exports to the United States are labor-intensive consumer goods, such as toys and games, textiles and apparel, shoes, and consumer electronics. Many of these products do not compete directly with U.S. domestic producers; the manufacture of many such products shifted overseas several years ago. However, there are a number of U.S. industries (many of which are small and medium-sized firms), including makers of machine tools, hardware, plastics, furniture, and tool and die equipment that are expressing concern over the growing competitive challenge posed by China.⁶⁴ An undervalued Chinese currency may contribute to a reduction in the output of such industries.⁶⁵

On the other hand, U.S. producers also import capital equipment and inputs to final products from China. For example, U.S. computer firms use a significant level of imported computer parts in their production, and China was the largest foreign supplier of computer equipment to the United States in 2005. An undervalued yuan lowers the price of these U.S. products, increasing their output and competitiveness in world markets. And many imports from China are produced by U.S.-invested enterprises (as discussed above), which benefit from an undervalued peg.

Effect on U.S. Borrowers. An undervalued yuan also has an effect on U.S. borrowers. When the United States runs a current account deficit with China, an equivalent amount of capital flows from China to the United States, as can be seen in the U.S. balance of payments accounts. This occurs because the Chinese central bank or private Chinese citizens are investing in U.S. assets, which allows more U.S. capital investment in plant and equipment to take place than would otherwise occur. Capital investment increases because the greater demand for U.S. assets puts downward pressure on U.S. interest rates, and firms are now willing to make investments that were previously unprofitable. This increases aggregate spending in the short run, all else equal, and increases the size of the economy in the long run by increasing the capital stock.

Private firms are not the only beneficiaries of the lower interest rates caused by the capital inflow (trade deficit) from China. Interest-sensitive household spending on goods such as consumer durables and housing is also higher than it would be if capital from China did not flow into the United States. Consumer durables and residential investment have been two of the strongest sectors of the economy in the current expansion.

⁶⁴ Testimony of Franklin J. Vargo, National Association of Manufacturers, before the House Committee on Financial Services, Subcommittee on Domestic and International Monetary, Trade, and Technology Policy hearing, *China's Exchange Rate Regime and Its Effects on the U.S. Economy*, Oct. 1, 2003.

⁶⁵ As discussed above, U.S. manufacturing has been particularly affected by trade with China. The bilateral trade deficit likely attenuates the effect of trade on manufacturing because many services are non-tradeable. As a result, manufacturing bears a disproportionate burden of any trade deficit.

In addition, a large proportion of the U.S. assets bought by the Chinese, particularly by the central bank, are U.S. Treasury securities, which fund U.S. federal budget deficits. According to the U.S. Treasury Department, China (as of March 2006) held \$321 billion in U.S. Treasury securities, making China the second-largest foreign holder of such securities (after Japan). If the U.S. trade deficit with China were eliminated, Chinese capital would no longer flow into this country on net, and the government would have to find other buyers of its U.S. Treasuries. This would increase the government's interest payments, increasing the budget deficit, all else equal.

Effect on U.S. Consumers. A society's economic well-being is usually measured not by how much it can produce, but by how much it can consume. An undervalued yuan that lowers the price of imports from China allows the United States to increase its consumption of both imported and domestically produced goods through an improvement in the terms-of-trade. The terms-of-trade measures the terms on which U.S. labor and capital can be exchanged for foreign labor and capital. Because changes in aggregate spending are only temporary, from a long-term perspective, the lasting effect of an undervalued yuan is to increase the purchasing power of U.S. consumers.⁶⁶

Net Effect on the U.S. Economy. In the medium run, an undervalued yuan neither increases nor decreases aggregate demand in the United States. Rather, it leads to a compositional shift in U.S. production, away from U.S. exporters and import-competing firms toward the firms that benefit from the lower interest rates caused by Chinese capital inflows. In particular, capital-intensive firms and firms that produce consumer durables would be expected to benefit from lower interest rates. Thus, it is expected to have no medium- or long-run effect on aggregate U.S. employment or unemployment. As evidence, one can consider that the United States had a historically large and growing trade deficit throughout the 1990s at a time when unemployment reached a three-decade low and there was no decline in manufacturing employment. However, the gains and losses in employment and production caused by the trade deficit will not be dispersed evenly across regions and sectors of the economy: on balance, some areas will gain while others will lose.

Although the compositional shift in output has no negative effect on aggregate U.S. output and employment in the long run, there may be adverse short-run consequences. If output in the trade sector falls more quickly than the output of U.S. recipients of Chinese capital rises, aggregate spending and employment could temporarily fall. If this occurs, then there is likely to be a decline in the inflation rate as well (which could be beneficial or harmful, depending on whether inflation is high or low at the time). A fall in aggregate spending is more likely to be a concern if the economy is already sluggish than if it is at full employment. Otherwise, it is likely

⁶⁶ Some commentators have compared the undervalued exchange rate to a Chinese tariff on U.S. imports. One major difference between a tariff and the peg is that a tariff does not result in any benefit to U.S. consumers, as the peg did. A more appropriate comparison might be an export subsidy, which benefits consumers who purchase the subsidized product at a lower cost, but may harm some domestic firms that must compete against the subsidized product.

that government macroeconomic policy adjustment and market forces can quickly compensate for any decline of output in the trade sector by expanding other elements of aggregate demand. The deficit with China has not prevented the U.S. economy from registering high rates of growth since 2003.

By shifting the composition of U.S. output to a higher capital base, the size of the economy would be larger in the long run as a result of the capital inflow/trade deficit. U.S. citizens would not enjoy the returns to Chinese-owned capital in the United States. U.S. workers employing that Chinese-owned capital would enjoy higher productivity, however, and correspondingly higher wages.

The U.S.-China Trade Deficit in the Context of the Overall U.S. Trade Deficit. Although China is a large trading partner, it accounted for only about 14.6% of U.S. imports in 2005 and 24.0% of the sum of the bilateral trade deficits. Over a span of several years, a country with a floating exchange rate like the United States can run an ongoing overall trade deficit for only one reason: a domestic imbalance between saving and investment. This has been the case for the United States over the past two decades, where saving as a share of gross domestic product (GDP) has been in gradual decline.⁶⁷ On the one hand, the United States has high rates of productivity growth and strong economic fundamentals that are conducive to high rates of capital investment. On the other hand, it has a chronically low household saving rate and, recently, a negative government saving rate as a result of the budget deficit. As long as Americans save little, and foreigners use their saving to finance profitable investment opportunities in the United States, the trade deficit is the result.⁶⁸ The returns to foreign-owned capital will flow to foreigners instead of Americans, but the returns to U.S. labor utilizing foreign-owned capital will flow to U.S. labor.

For this reason, economists generally are more concerned with the overall trade deficit than bilateral trade balances. Because of comparative advantage (and other forces that shape the structure of trade), it is natural that a country will have some trading partners from which it imports more and some trading partners to which it exports more. For example, the United States has a trade deficit with Austria and a trade surplus with the Netherlands, even though both countries use the euro, which floats against the dollar. Of concern to the United States from an economic perspective is that its low saving rate makes it so reliant on foreigners to finance its investment opportunities, and not the fact that much of the capital comes from

⁶⁷ See Congressional Budget Office, *Causes and Consequences of the Trade Deficit*, March 2000.

⁶⁸ Nations that fail to save enough to meet their investment needs must obtain savings from other countries with high savings rates. By obtaining resources from foreign investors for its investment needs, the United States is able to enjoy a higher rate of consumption than it would if investment were funded by domestic savings alone (although many analysts warn that America's low savings rate could be risky to the U.S. economy in the long run). The inflow of foreign capital to the United States is equivalent to the United States borrowing from the rest of the world. The only way the United States can borrow from the rest of the world is by importing more than it exports (running a trade deficit).

China.⁶⁹ If the United States did not borrow from China as a result of the exchange rate peg, it would still have to borrow from other countries.⁷⁰

Purchase of U.S. Treasuries To Maintain the Peg

The Chinese central bank maintained the exchange rate peg to the dollar from 1994 to July 2005 by buying (or selling) as many dollar-denominated assets in exchange for newly printed yuan as needed to eliminate excess demand (supply) for the yuan.⁷¹ As a result, the exchange rate between the yuan and the dollar basically stayed the same, despite changing economic factors that could have otherwise caused the yuan to either appreciate or depreciate relative to the dollar. Under a floating exchange rate system, such as the arrangement between the dollar and the euro, the relative demand for the two countries' goods and assets would determine the exchange rate of the yuan to the dollar, and the central bank would not systematically intervene in currency markets to influence its value.

Many economists contend that for the first several years of the peg, the fixed value was likely close to the market value. But in the past few years, economic conditions have changed such that the yuan would likely have appreciated if it had been floating. The main evidence that the yuan was undervalued was the rapid increase in China's foreign exchange reserves, as seen in **Table 16**. Comparing the increase in Chinese ownership of U.S. Treasuries to the increase in foreign reserves, one can see that U.S. Treasuries made up only a portion of the foreign reserves accumulated by China. The remainder were securities of other foreign countries, and perhaps U.S. agency securities (e.g., the debt obligations of Fannie Mae and Freddie Mac). Not all of the U.S. Treasuries were bought by the Chinese central bank; some were likely bought by private Chinese firms and citizens.

⁶⁹ From a political perspective, some U.S. policymakers have expressed concern over the high level of U.S. government debt owed to the Chinese government.

⁷⁰ For more information, see CRS Report RL30534, *America's Growing Current Account Deficit: Its Cause and What It Means for the Economy*, by Marc Labonte and Gail Makinen.

⁷¹ China may have been able to partially offset the inflationary effects of this policy because it maintains capital controls. This may have allowed the central bank to remove some of the newly printed yuan from circulation without attracting capital inflows.

Table 16. China's Foreign Exchange Reserves and Chinese Ownership of U.S. Treasuries

Year	Chinese Ownership of U.S. Treasuries	Chinese Central Bank's Foreign Exchange Reserves
2000	60.3	168.3
2001	78.6	215.6
2002	118.4	291.1
2003	158.4	403.3
2004	222.9	609.9
2005	310.9	818.9

Source: U.S. Treasury, Economist Intelligence Unit.

Note: Year-end values.

As discussed in the previous section, the purchase of U.S. Treasuries by the Chinese central bank resulted in greater demand for — and therefore lower interest rates on — the U.S. government's debt. This reduces interest rates and increases interest-sensitive spending throughout the U.S. economy.

As long as the peg was maintained, the Chinese central bank was obliged to buy as many U.S. Treasuries as necessary to maintain the peg. Now its obligations are somewhat different. To limit the yuan's daily fluctuation to 0.3%, it is likely the Chinese central bank will still actively buy and sell foreign reserves. Because the exchange rate is no longer exclusively tied to the dollar, a smaller proportion of their future foreign reserve transactions may be in dollar-denominated assets. To date, the new arrangement (and its effect on the U.S. economy) has not produced significantly different results than the previous fixed exchange rate regime.

If the Chinese moved to a freely floating exchange rates, as many U.S. policymakers have requested, then it would no longer be necessary for the Chinese central bank to maintain large holdings of U.S. Treasuries. Some have feared that the Chinese might then dump their holding of U.S. Treasuries on the market, disrupting U.S. financial markets, and thereby damaging the overall economy. While there is a legitimate concern that financial markets would be disrupted in this scenario, it is unclear why this action would be in China's self interest. Were the Chinese central bank to dump enough Treasuries on the market to push down their price, it would be forced to take capital losses on the sale. A depreciation of the dollar would also reduce the yuan value of China's holdings of U.S. securities. If the losses were great enough, it could cause the Chinese central bank's liabilities to exceed its assets. Even if China no longer needed U.S. Treasuries to maintain the peg, it would still want to hold Treasuries to maintain a well-balanced portfolio of foreign reserves. Given China's focus on maintaining exchange rate stability and discouraging

currency speculation, it is unlikely to wish to reduce its overall foreign reserve holdings either. Finally, it would not be in China's self-interest to reduce growth in its largest export market. It is possible, however, that the move could be made for geopolitical, rather than economic, reasons.

Some commentators have referred to the maintenance of the peg as a new form of mercantilism. Mercantilism is a school of thought originating in the 17th century that held that the goal of a nation's trade policy should be to maximize the accumulation of gold and silver reserves through large trade surpluses. In this case, it is argued, China is trying to maximize its foreign reserve holdings (mainly U.S. Treasuries and other foreign debt) instead of gold and silver. David Hume's forceful rejection of the mercantilist's logic applies to the current situation as well. Economic welfare is measured by total consumption over one's lifetime, not by the hoarding of foreign exchange reserves. Those foreign exchange reserves could be sold at some point to finance future consumption, but if the earnings on those reserves are relatively low (as is the case with U.S. Treasuries), future consumption will be worth less than the consumption forgone today to accumulate them. Furthermore, any attempt to accumulate unlimited reserves will automatically be thwarted by the inflationary effects of such a policy, which will reduce the trade surplus. Ultimately, a nation's wealth lies in its productive capacity rather than its reserve holdings.

What Will Happen to the Terms of Trade?

In economics, the central economic question to be answered in regard to increased international trade is not its particular effect on employment or wages. Those effects are not to be ignored, but they are symptoms of a larger process. The answer economic analysis attempts to provide is whether that larger process ultimately makes the United States richer or poorer. As economic growth abroad expands the number of competitive sources of production, will substituting foreign for domestic output generate *gains from trade* and raise overall economic well-being in the United States? As examined above, there will likely be negative effects from trade, but in most circumstances, including increased trade with China and other low wage economies, the strong expectation of economists is that gains outweigh losses and that trade's disruptive reshuffling of the economy's productive resources does ultimately result in an increase in overall economic well-being.⁷² This expectation is confirmed by the preponderance of evidence.⁷³

The gains from trade are not a static phenomenon, however. At any point in time, trade increases economic well-being over what it otherwise would be; however,

⁷² The gains from trade can emerge from comparative advantage, economies of scale, and inducements to innovation and the generation of faster economic growth. See for example, Max W. Corden, "The Normative Theory Of International Trade," in *The Handbook of International Economics*, vol.1 (Amsterdam: North Holland, 1984).

⁷³ See for example, Edward E. Leamer and James Levinsohn, "International Trade Theory: The Evidence," in *The Handbook of International Economics*, vol. 3 (Amsterdam: North Holland, 1995); and Jeffery Frankel and David Romer, *Does Trade Cause Growth?*, National Bureau of Economic Research, Working Paper no. 5476, June 1999.

over time, the size of the gain that accrues to an economy from a given volume of trade could rise or fall as the relative economic circumstances of trading partners change. Such changes in circumstance could arise from changes in consumer tastes, resource endowments, or technology. Trade can continue to be a *positive-sum* process of mutual gain in that an economy would be worse off by not trading, but the apportionment of total gains among trading partners can be altered, causing either an enhancement or an erosion of a particular economy's *share* of the total gains from trade.

Therefore, it can be telling of the economy's international trade performance and its view of how it is faring from increased trade to also consider whether there has been any long-term trend in the nation's share of the gains from trade. More specifically, this is a question of whether, over time, the U.S. economy's *terms of trade*, defined as the ratio of the economy's average export price to its average import price, has tended to rise or fall as the industrial output and export sales of China and other low-wage economies has grown. This expansion of world output may not only put downward pressure on the price of U.S. imports, but may also have an impact on the price of U.S. exports through, at once, a rising demand for U.S. goods and a rising supply of goods competitive with U.S. exports at home and in the wider world market.

The terms of trade can be understood as a measure of the *export cost of acquiring imports*. An increase in this ratio — an improving terms of trade — means that any given *volume* of export sales will now exchange for a larger *volume* of imports, indicating an increase in the gains from trade. A rising trend would indicate that a country's trade performance has improved relative to other trading countries, reaping an increasing share of the gains from trade, and real income benefits for the economy. Similarly, a decrease in the ratio of export prices to import prices — a deteriorating terms of trade — raises the export cost of acquiring imports and reduces the gains from trade. A falling trend would be indicative of deteriorating trade performance, decreasing share of the gains from trade, and decrements to real income. Deterioration in the terms of trade does not necessarily mean that trade, overall, is not beneficial and that we would be better off without trade. It merely has become less beneficial. In circumstances where the volume of trade is rising there may not be an absolute decline in real income, rather the rate of growth of income will be slower than it otherwise would be.⁷⁴

⁷⁴ Also, the terms of trade will not fully reflect the gains from trade that come from the realization of economies of scale. This is of some significance for trade between mature economies that have similar factor proportions (i.e., the United States, Europe, Japan, and Canada) and has most likely steadily risen in importance for such economies. This can be taken as, at least, a partial offset to any loss in the gains from trade indicated by a falling terms of trade. Nevertheless, movement in the terms of trade would still be indicative of changes in the gains from trade coming from rising trade with low wage economies that would still have very different resource endowments (i.e., relatively large supplies of low-skill labor and relatively small supplies of capital and high skill labor). Nor will the terms of trade fully reflect the benefit to consumers that come from access to, not just more goods, but a wider variety of goods.

Over time, it is possible that economic growth in the rest of the world will tend to show a bias either towards production of goods a country exports or towards production of the goods a country imports. If export-biased, the economic growth abroad will cause a more than a proportionate increase in the worldwide supply of goods that compete with U.S. exports, tending to reduce the price of our exports, inducing a deterioration of the U.S. terms of trade. That deterioration is a decrement to our economic welfare and an increase to that of our trading partners. In contrast, if economic growth in the rest of the world is import-biased, there is a more than proportionate increase in the worldwide supply of the goods the U.S. imports, pushing down import prices and inducing an improvement in the U.S. terms of trade over time. That improvement translates into a gain in U.S. economic welfare to the detriment of our trading partners.

A rising level of trade is clearly a manifestation of economic growth in the rest of the world, and in recent years, this has included the expanded participation of low-wage developing economies such as China in the internationally fragmented production processes (in which an import has value added in several locations during production) that now propels a large and growing share of international trade. Has the increase in such trade adversely affected the U.S. economy's terms of trade?

Relative to its peak in the mid-1960s, the U.S. economy's terms of trade has certainly declined, but the period of trend-like decline stops around 1980. The deterioration in this period was at about 1.0% per year. The impact, however, of this fall of the terms of trade on U.S. economic welfare would be proportional to the share of imports in GDP, which in this period was about 10%. This would then translate into an annual real income loss of about 0.1%. This deterioration is moderate but significant, particularly if judged by its cumulative impact. This deterioration most likely reflects the recovery and return to competitive posture of the many high-income economies from the devastation of World War II. These were largely economies that had resource endowments similar to that of the United States and who, with economic recovery, could be expected to increasingly compete against U.S. exports in global markets. In this period, growth in the rest of the world was *export-biased* and accordingly pushed down the average price of U.S. exports.

Since the 1980s, the U.S. terms of trade has fluctuated but has not shown a sustained track, up or down. It rose in the early 1980s, fell in the late 1980s and early 1990s, and then moved up again through the late 1990s to the present. It is likely that this undulating but trend-less path was mostly a reflection of the effect of relatively short-term movements of the dollar's exchange rate on export and import prices, suggesting that there were no enduring forces, up or down, being generated by the underlying demand and supply conditions in the global economy that would most often cause enduring trends in export and import prices. It is, of course, in this recent trend-less period that trade by low-wage economies with the United States and other advanced industrial economies grew in importance. So whatever impact this growth had on the U.S. terms of trade was not strong enough by itself to induce an upward or downward trend in that measure. It would seem then that growth in the rest of the world in this period was, on balance, without a bias towards either the goods the United States exports or imports.

Although there is no precise way to isolate the impact of economic growth in China on the U.S. terms of trade, some qualitative observations may be informative. First, it has certainly been the case that recent economic growth in China has been rich in the production and export of many labor-intensive goods that the United States imports, and it seems likely this production, if anything, has exerted a downward push on the price of U.S. imports and an upward pull on the terms of trade.

Second, economic growth in China, in contrast to the prior experience with Japan and other East Asian economies at a similar stage of development, has occurred with relatively open trade, leading to strong demand for imports, particularly of high-tech capital goods, from the United States and other advanced economies. U.S. exports to China more than doubled between 2001 to 2005, rising from about \$19 billion to \$42 billion. This rising demand likely exerted an upward pull on the price of U.S. exports and the U.S. terms of trade.

Third, it seems unlikely that there has been strong, large-scale, head-to-head competition between U.S. and Chinese exports in global markets. The greater part of U.S. merchandise exports are in relatively high-tech goods, such as computer accessories, semiconductors, and telecommunications equipment; in sophisticated industrial machinery, such as electrical apparatus, industrial engines, and measuring testing and control instruments; in transportation equipment such as aircraft, aircraft parts, and aircraft engines; and in medical related goods, such medical equipment and pharmaceuticals. In contrast, a large portion of Chinese exports are in relatively low-tech consumer goods, such furniture, toys, footwear, and apparel. China also exports a rising volume of electrical machinery and equipment that might be seen to be in more direct competition with some U.S. exports. But these exports primarily reflect China steadily becoming the location for final assembly of many consumer electronics, computers, and information technology goods. Sophisticated components used in this assembly process are likely to be an export from the high-wage economies. Therefore, despite the high-tech nature of the components and the final good, this assembly process is a relatively low-tech undertaking that lends itself to the intensive use of low-skilled labor and is not in competition with U.S. exports.

Another major difference in the composition of U.S. and Chinese exports is the importance of services. In 2004, the United States exported \$350 billion in services, representing nearly 40% of all U.S. exports. The largest type of services export was in the category called *other private services*, which includes business services, financial services, insurance services, telecommunication services, and engineering services. In comparison, China's services exports in 2004 were only about \$60 billion and heavily composed of travel and tourism services. Services exports are growing rapidly in China, up 34% in 2004, and growth over the last decade averaged a 14% annual rate. However, China's demand for services imports is equally strong, totaling nearly \$72 billion and growing 31% in 2004, with a decade annual average pace of 13%. This pattern of trade in services suggests that whatever impact China's increased services exports are having on the price of service exports of the United States and other advanced industrial nations may well be offset by the opposite impact from China's growing demand for services.

At this point, there does not seem to be strong reason to believe that the recent economic growth of China has had an eroding effect on the U.S. terms of trade. Of course, future economic growth could have a more adverse outcome for the U.S. gains from trade if the path of economic development China (and other low-wage economies) follows is also linked to a change in their resource endowments to the capital and skill abundant form characteristic of advanced economies, making it more likely that a rising proportion of their expanding output will consist of goods and services in direct competition with the exports of the advanced economies.

However, there are also several reasons that suggest there may not be a significant deterioration of the U.S. terms of trade associated with future economic growth in China. First, the Chinese economy is far more open to imports than Japan and other East Asian economies were at this stage of their development, and the openness of the domestic Chinese market seems likely to increase. This would likely increase the probability that already strong Chinese demand for U.S. exports will grow stronger as their economic growth proceeds. Of particular importance in this regard is the ongoing Chinese liberalization of trade in services — an area where the U.S. economy has significant comparative advantage and a good prospect of generating substantial gains from trade.

Second, given that many production processes will continue to be geographically fragmented and a large share of the final value of this type of Chinese exports will be derived from imported components, a large share of the gains from trade associated with the sale of this type of Chinese export will accrue to the workers and inventors, outside of China, who produce these components, including many in the United States. It seems reasonable to expect a sizable portion of any future growth of such gains would also accrue to the U.S. economy.

Third, also unlike other trading partners in Asia, 58% of Chinese exports are produced by foreign-owned firms. Therefore, even if China accounts for the bulk of value-added on the products produced and exported by such enterprises, with economic growth, a relatively larger share of the gains from trade would accrue to foreign investors like the United States through repatriated earnings from the foreign affiliate to the domestic parent than was true of the growth of Japan and other East Asian countries at this stage of their economic development.

Fourth, for China to compete in the future on a large scale against U.S. exports in world markets it would have to have command of the same scope and level industrial technology as the United States. This would likely require that China not only effectively absorb existing technology but also be able to regularly generate new technology as the U.S. does. Some argue that the current structure of the Chinese economy raises some doubts about this occurring.

Again, unlike what occurred in Japan and other East Asian economies, technological transfer and diffusion in China has, so far, been relatively limited. A recent analysis by George Gilboy points to possible reasons why the Chinese economy is unlikely any time soon to challenge the technological leadership of the

United States, Europe, and Japan.⁷⁵ First, as noted earlier, foreign-funded enterprises produce nearly 60% of China's exports, and the share of high-tech exports may be near 90%. Moreover, beginning in the 1990s, the Chinese government allowed foreign enterprises to move away from joint ventures and establish wholly owned foreign enterprises, and this form now accounts for 65% of recent foreign investment in China. Such enterprises are much less inclined to share their technical knowledge, for doing so would give up their competitive advantage, over both indigenous Chinese companies and other foreign enterprises, in expanding their market share of the domestic Chinese market. Second, China's unreformed political system suppresses the development of the "horizontal networks" that establish fruitful linkages of the firm to research institutions, investors, suppliers, customers, as well as for collaborations with other Chinese firms. The importance of such horizontal networks is that they are often thought to be the means by which new technical knowledge is nurtured and spread through the economy. Third, most Chinese firms have not invested strongly in the creation of new technologies, with economy-wide R&D spending as a share of GDP falling well below the average share devoted to R&D by the advanced industrial economies.

However, this optimistic outlook is certainly conditional on the United States continuing to do those things that have made it economically dynamic and innovative, and steadily able to offer the world economy a wide array of new and desirable goods and services. How can this be ensured? The terms of trade is unlikely to be at the center of most discussions of trade policy or macroeconomic policy because it is not a variable that is easy to influence directly. Because your gain is going to be at their expense, other nations are likely to try to counter such policies. This is a situation that could all too easily devolve into a vicious cycle of retaliation and counter-retaliation, shrinking the volume of world trade and leaving all parties worse off.

Nevertheless, economic policy may be able to *indirectly* influence the economy's terms of trade in a favorable manner. This can occur as a beneficial by-product of an array of policies that support an "infrastructure" that furthers the goal of vigorous economic growth. These policies will raise the probability (but certainly not assure) a favorable terms of trade effect. Relevant policies would likely include macroeconomic policies that minimize economic instability and raise the incentive for economic agents to undertake the forward looking activities of investment and innovation, policies that give focused public support of knowledge producing activities such as education and scientific research that are very likely undervalued and under-produced by the private market, and continued initiatives toward the lowering of trade barriers at home and abroad. In this way, terms of trade gains would likely be seen as emerging from a process that has probably increased the gains to each trading partner (although not necessarily equally), and thereby not seen by other nations as a "zero-sum game" where our gain is their loss.

⁷⁵ George Gilboy, "The Myth Behind China's Miracle," *Foreign Affairs* (July/August 2004), pp.88-97.

Chinese Takeovers of U.S. Companies

With a few exceptions (mainly dealing with national security concerns), the United States has maintained a relatively liberal and open policy regarding foreign investment in the United States because it is believed that such investment benefits the U.S. economy through increased production, job creation, increased competition, expansion of trade, and improvements to productivity.

China's rise as an economic power has raised a number of concerns among U.S. policymakers, including recent efforts by Chinese companies with substantial state ownership to take over major U.S. companies. Many Members believe these takeovers could pose risks to U.S. economic (as well as national security) interests. Some of these major takeover bids include:

- On December 8, 2004, Lenovo Group Limited, a computer company primarily owned by the Chinese government, signed an agreement with IBM Corporation to purchase IBM's personal computer division for \$1.75 billion. On April 30, 2005, the acquisition was completed.
- On June 20, 2005, Haier Group, a major Chinese home appliances manufacturer, made a \$1.28 billion bid to take over Maytag Corporation. The bid was withdrawn on July 19, 2005, after Whirlpool made a higher bid.
- On June 23, 2005, the China National Offshore Oil Corporation (CNOOC), through its Hong Kong subsidiary (CNOOC Ltd.), made a bid to buy a U.S. energy company, UNOCAL, for \$18.5 billion. On August 2, 2005, CNOOC withdrew its bid.

Congressional Concern over the CNOOC Bid. CNOOC's bid to take over Unocal was particularly troublesome to many Members of Congress. On June 27, 2005, Representative Joe Barton, Chairman of the House Energy and Commerce Committee, and Representative Ralph Hall, chairman of the House Energy and Commerce Subcommittee on Energy and Air Quality, sent a letter to President Bush expressing "deep concern" over CNOOC's bid to take over Unocal, describing it "a clear threat to the energy and national security of the United States." In the Senate, letters written by Senators Conrad and Grassley expressed concerns that CNOOC's bid to take over Unocal would be heavily subsidized by the Chinese government and urged the Administration to determine whether the CNOOC bid would be a violation of China's WTO commitments. Several bills were introduced on CNOOC's bid, including some that would have blocked the sale had it gone through.

CNOOC made a number of pledges to allay concerns, including promising that most of the oil and gas produced by UNOCAL in the United States would still be sold in the United States and that most Unocal jobs in the United States would be retained. The chairman of CNOOC stated that his company's main interest in UNOCAL was its large holdings of oil and gas in Asia, not the United States. However, on August 2, 2005, CNOOC announced it was withdrawing its bid, citing

significant political opposition to the sale in the United States, which the company termed as “regrettable and unjustified.”⁷⁶

Despite these high-profile cases, Chinese foreign direct investment in the United States remains small enough that the Bureau of Economic Analysis (BEA) does not provide data for it in its quarterly and annual reports on FDI in the United States.⁷⁷ However, it does list such data from time to time in various issues of the BEA’s *Survey of Current Business*.⁷⁸ China’s total FDI in the United States (on a historical cost position basis) grew from \$277 million in 2000 to \$490 million in 2004. In comparison, Taiwan’s FDI in the United States was \$3.2 billion. China’s FDI in the United States accounted for .03% of total FDI in the United States.⁷⁹ The United States, by contrast, held \$51.1 billion of FDI in China in 2005, according to Chinese data.⁸⁰

Congressional concern over Chinese efforts to purchase U.S. firms appears to be driven in part by the perception that China does not play by the rules in international trade policy. For example, most of China’s major companies are wholly or partially owned by the state. CNOOC, for example, is 70% owned by the Chinese government. These firms are believed to be heavily subsidized by the government, primarily through the banking system, where loans often go unpaid. Some analysts contend that the Chinese government has a plan to direct companies under its control to purchase major international companies to obtain their brand names and thus become global companies. Some analysts believe that the Chinese government may also be involved in financing takeover bids. Finally, many Members contend that Chinese firms should not be allowed to take over U.S. firms because, in most cases, China does not allow foreign firms to take over major Chinese companies (rather, it sometimes permits minority ownership in some companies).

Some analysts contend that, given U.S. complaints over the size of the U.S.-China trade imbalance, the United States should be encouraging China to invest in the United States.⁸¹ They suggest that in some cases, Chinese FDI in the United

⁷⁶ For an overview of this issue, see CRS Report RL33093, *China and the CNOOC Bid for Unocal: Issues for Congress*, by Dick K. Nanto, James K. Jackson, and Wayne M. Morrison.

⁷⁷ See BEA website for listing of FDI data at [<http://www.bea.gov/bea/di/di1fdibal.htm>].

⁷⁸ BEA, *Survey of Current Business*, U.S. Direct Investment Abroad: Detail for Historical-Cost Position and Related Capital and Income Flows, 2004, September 2005, available at [<http://www.bea.gov/bea/pub/0905cont.htm>].

⁷⁹ This figure will be higher once the Lenovo deal is included in the data.

⁸⁰ U.S. data (as reported by BEA) on its FDI in China differ significantly from China’s data on U.S. FDI in China. According to the BEA, U.S. FDI (on a historical cost basis) stood at \$15.4 billion at end of 2004.

⁸¹ During the 1980s, Japanese companies, such as auto and electronic firms, boosted investment in the United States as a way to respond U.S. criticism over the growing trade imbalance and to discourage the use of trade restrictions by the United States. See CRS (continued...)

States might help revitalize (through an infusion of capital) some manufacturing companies that otherwise might be forced to close down or relocate outside the United States.⁸² According to the State Department, Japanese FDI (among others) in the United States during the 1980s “provided critical support for change, which increased U.S. competitiveness, employment and productivity.”⁸³ Others contend that efforts to block Chinese FDI in the United States might be viewed by other foreign investors as a sign of growing protectionism in the United States against FDI, which could affect future FDI decisions, while others warn that singling out China for FDI restrictions could affect Chinese policy on U.S. FDI in China.

Rising Chinese Demand for Commodities

Demand for commodities and natural resources is another channel through which China’s economic development might affect the U.S. economy. In particular, many commentators have looked to China’s growing economy as the explanation of why world oil prices have risen so precipitously in recent years. As China’s demand for commodities rises, some argue that world commodity prices will rise, making the U.S., as a net commodity importer, worse off. (Although, by the same logic, U.S. producers of commodities would be better off.) If this occurred, it would lower U.S. welfare through a deterioration in the terms-of-trade (see the section above). The deterioration would occur, however, vis-a-vis commodity-exporting countries, not China.

The first question to consider is why China’s commodity demand would suddenly become a factor today. Observers point to China’s high rates of GDP growth, but China’s GDP growth has actually slowed slightly in recent years: in the 1980’s and 1990’s, its economy grew by 9.8% annually; in this decade, it grew by 8.5%. On the other hand, China’s economy now produces a bigger share of world output. As measured by purchasing power parity, China now accounts for 14% of world GDP, compared with 3% in 1980 and 6% in 1990. So even at lower growth rates, China’s output is increasing by more in dollar terms each year today. Although its share of world GDP is growing, its share of world GDP growth in any given year is still relatively small, averaging about 6% over the past three years. China’s role in the world economy is clearly not yet as great as conventional wisdom holds.⁸⁴

⁸¹ (...continued)

Report RL32649, *U.S.-Japan Economic Relations: Significance, Prospects, and Policy Options*, by William H. Cooper.

⁸² Foreign-owned manufacturing firms in the United States often pay higher wages and experience higher worker productivity and output per worker than comparable U.S.-owned manufacturing plants, because most such FDI is in large scale plants. See CRS Report RS21857, *Foreign Direct Investment in the United States: An Economic Analysis*, by James K. Jackson.

⁸³ U.S. Department of State, *U.S.-Japan Economic Partnership for Growth: U.S.-Japan Investment Initiative 2004 Report*, at [<http://www.state.gov/p/eap/rls/rpt/33295.htm>].

⁸⁴ China’s share of world growth is smaller than its share of world output in part because its
(continued...)

One important commodity whose price has risen sharply in recent years is oil. In real terms, real prices have risen from \$13 a barrel in 1998 to \$23 in 2002 to \$45 in 2005 (all prices in 2000 dollars). Although the effects of this price spike on the U.S. economy have been muted thus far, oil price spikes are a concern, as they have preceded eight of the past nine U.S. recessions. Energy analysts see rising world demand as a major contributor to the recent price spike and point to China as a major source of rising world demand.⁸⁵ In 2005, China accounted for 8.5% of the world's oil consumption, which is the second highest in the world after the United States (25%). China's share of world oil consumption has more than doubled since 1990, when it accounted for 3% of world consumption. Since 1998, Chinese oil consumption has increased by 2.8 million barrels a day, or 65%. Over the same period, U.S. oil consumption has increased by 1.7 million barrels a day, or 9%, and European Union oil consumption has increased only 2%. Chinese oil consumption has grown particularly rapidly recently, rising 16% in 2004 alone, fastest among all of the world's major economies. If Chinese consumption continues to rise so rapidly, world supply will also have to rise rapidly or prices will rise further. However, it would be a mistake to extrapolate past growth rates into the future precisely because rising prices put a curb on future demand growth (by encouraging energy efficiency, for example) and induce supply increases. For example, Chinese annual oil consumption growth slowed to 3% in 2005.⁸⁶

China's consumption of other energy commodities has also shown a sharp increase. Since 1998, its consumption of natural gas has increased by 137% and its consumption of coal has increased by 66%. Prices in these markets are more regionally determined than oil, however, so the effect of Chinese consumption on U.S. prices would be more limited.

Similar growth in Chinese consumption has been seen in other commodity markets as well. According to *The Economist*, China is the world's largest consumer of aluminum, steel, copper, and coal.⁸⁷ In 1998, China produced 1.2 million metric tons of copper, about enough to meet its consumption needs. In 2005, Chinese consumption had risen to 3.6 million tons, but production had only risen to 2 million tons. China's demand for steel has risen from 140 million metric tons in 2000 to 300 million metric tons in 2005. Between 2003 and 2004, the world price of steel has risen about 50%. Chinese aluminum consumption has risen from 3.8 million metric tons in 2001 to 5.9 million in 2005. Chinese imports of iron ore have risen from 55 million metric tons in 1999 to 150 million in 2003, making it the world's largest importer. Between 2002 and 2004, world iron prices more than doubled.⁸⁸

⁸⁴ (...continued)

share of world growth is measured at current exchange rates, not purchasing power parity.

⁸⁵ See CRS Report RL32530, *World Oil Demand and Its Effect on Oil Prices*, by Robert Pirog.

⁸⁶ All oil data come from British Petroleum, *Statistical Review of World Energy*, June 2006.

⁸⁷ "From T-shirts to T-bonds," *The Economist*, July 30, 2005, p. 61.

⁸⁸ All data from David Menzie *et al.*, "China's Growing Appetite for Minerals," U.S. Geological Survey, Open Report 2004-1374.

Some observers have been concerned that China will gain control of commodity supplies and that this would boost prices for U.S. consumers. For example, they point to the Chinese company CNOOC's failed bid to take over the U.S. oil company Unocal (see previous section). What these observers fail to take into account is that national ownership does not affect the price of a commodity whose price is determined in an international market. For example, oil prices have risen internationally, and countries such as Great Britain are not sheltered from this increase just because they are net exporters. If China purchased oil companies or oil supplies, and then directed those companies to only serve the Chinese market, the result would be that other companies who now supply China would reduce their supplies to China 1-to-1 and redirect their supplies to other countries. Thus, there would be no effect on the price or supply of oil to the rest of the world.

It is not a given that rising commodity demand will lead to higher prices — it depends on whether the growth in the supply of commodities can keep pace.⁸⁹ Indeed, most commodities have fallen in value in the long run despite the steady increase in world economic output. *The Economist's* Commodity Price Index has fallen about 60% in real terms since 1950, even though it has risen about 75% since its trough in 2001.⁹⁰ Using data from the Bureau of Labor Statistics, crude commodity prices have fallen 32% in real terms since 1974.⁹¹ And there are already signs that commodity demand growth may be falling in China in response to higher prices.⁹²

A growing concern over China's energy use and rising demand is the possible global environmental consequences. According to one estimate, one-third of the air pollution in the West Coast of the United States comes from China.⁹³ China's pollution levels are expected to worsen. For example, according to the U.S. Energy Information Administration (EIA), China in 2003 was the world's second-largest emitter of dioxide emissions (at 3.5 billion metric tons) after the United States, but by the year 2030 it will be the largest emitter (at 10.7 billion metric tons, three times the level in 2003), with much of these emissions (78%) coming from coal use.⁹⁴

⁸⁹ It is also possible that part of the increase in Chinese demand for some commodities could be offset by lower demand elsewhere. For example, it has been well-documented that the production of some goods has shifted from other parts of East Asia to China in recent years. It is possible that consumption of the commodities used in the production of those goods would, as a result, be greater in China but lower in the country that used to produce the goods.

⁹⁰ "160 Years On," *The Economist*, Feb. 12, 2005, p. 76. Their index consists of 25 commodities and excludes oil and precious metals. Part of the rise since 2001 is because the index is measured in dollar terms and the dollar has depreciated.

⁹¹ Calculated by CRS using crude commodities divided by the consumer price index.

⁹² "From Accelerator to Brake," *The Economist*, Oct. 8, 2005.

⁹³ The Aspen Institute, U.S.-China Relations, Eight Conference (April 9-15, 2006), *China Energy Issues*, by Hal Harvey, M.S., p. 15.

⁹⁴ EIA, *International Energy Outlook*, 2006, p. 93.

Conclusion

China's economic ascendancy over the past 26 years has been described by some as an economic miracle. China has gone from a poor, backward economy to the world's second-largest economy (on a PPP basis). Although many have welcomed China's prosperity and integration into the world economy, others have viewed it with alarm, contending that China's rise as an economic superpower threatens to undermine the U.S. economy. For example, some contend that China's rise must indicate a decline in U.S. economic power. Others contend that China's economic policies, such as subsidies to its state sector, an undervalued currency, and low wages, threaten U.S. jobs, wages, technological edge, and living standards.

China's economic growth has resulted in a substantial increase in commercial ties between it and the United States. China is now the third-largest U.S. trading partner, its second-largest source of imports, and its fourth-largest export market. Over the past five years, China has been the fastest growing U.S. export market. Continued economic growth and a growing middle class will likely make China an enormous market for U.S. goods and services, provided that trade and investment barriers continue to fall. Within a decade or two, it is projected that China will surpass the United States and become the world's largest economy. There is little reason to believe that China's rise will be matched by any fall in U.S. living standards, however.

The high level of relatively low-cost imports from China have benefitted the United States in a number of ways. First, lower-cost imports have helped keep inflation down. Second, low-cost imports have increased overall consumer welfare, enabling consumers to purchase other goods and services (and hence stimulating growth in other sectors of the economy). Finally, low-cost imports have benefitted U.S. firms that use them as inputs for the production of other goods, thus making those firms more competitive. Although trade is often seen as a threat, economists point to comparative advantage and maintain that trade is mutually beneficial. On the other hand, low-cost imports from China have adversely affected a number of firms and workers in the manufacturing sector (such as textiles), diminishing their output, employment, and wages. Nevertheless, they assert that Chinese economic and trade policies are not the cause of the bilateral trade imbalance or net job loss in the manufacturing sector. Most economists contend that an appreciation of China's currency would not have a significant impact on creating jobs in the U.S. manufacturing sector. They maintain that appreciation would largely shift manufacturing production to other low-wage countries, not to the United States. In general, trade and the trade deficit with China has not prevented the United States from achieving full employment in recent years.

China maintains a number of inefficient and distortionary policies, such as government financial support of SOEs, industrial policies intended to promote the development of pillar industries, and an undervalued currency (a de facto export subsidy). Economists note that although subsidies on exports can negatively affect import-competing domestic firms and workers, they also benefit consumers and users of imported inputs who can obtain such goods at lower prices than under the conditions of free trade. In effect, this improves the U.S. terms of trade because it

means a given level of U.S. exports can obtain more imports. On the other hand, the use of subsidies by China lowers its terms of trade and promotes inefficiencies in the economy. Even if Chinese subsidies produce net benefits to the U.S. economy, many U.S. policymakers oppose their use because they do cause some U.S. firms and workers to suffer. Public perceptions that some countries are not playing by the rules of trade may impact their support (and that of their government representatives) for further trade liberalization on a bilateral or multilateral basis. Some trade practices, such as a failure to protect IPR, hurt both the U.S. and Chinese economies.

China traditionally has focused on low-end, labor-intensive manufacturing, much of which did not compete directly with U.S. firms. However, China is attempting to move into more advanced production and hopes to become globally competitive in a number of industries, such as autos and information technology. This has raised concerns that China may pose the kind of competitive challenge to major U.S. industries that Japan posed during the 1980s. Although it is difficult to accurately predict how advanced China's economy will become, it currently lags significantly behind the United States. The divergent experience of the U.S. and Japanese economies since the 1990s suggests that the competitive threat from China is questionable, especially considering the extensive economic challenges China faces in the years ahead.

Chinese purchases of U.S. Treasury securities have helped the federal government fund its budget deficits and therefore have helped keep U.S. interest rates down. At the same time, China has become the second-largest foreign holder of these securities, and some analysts contend that this status gives China economic leverage over the United States. But any attempt to harm the U.S. economy by unloading these holdings would likely cause comparable harm to the Chinese economy. Similar arguments are made regarding China's attempts to purchase U.S. companies. However, analysts contend that it would not be in China's economic interest to purchase U.S. companies if it did not intend to operate them profitably. In general, given the growing importance of the U.S. economy to China's economic growth, policies to destabilize the U.S. economy would destabilize China's economy as well.

China has become one of the most polluted countries in the world, and this poses a problem for the United States to the extent that environmental degradation is a global problem. Many analysts contend that China's massive energy needs and challenging pollution problems offer significant opportunities for U.S. companies. Similarly, the recent rise in price of many commodities has been attributed, in part, to China's rapid growth. While this helps U.S. commodity producers, on balance it may reduce America's terms of trade with commodity-exporting nations.

In the long run, whether China's growth is good or bad for the U.S. economy will ultimately depend on its effect on the terms of trade — whether China's growth raises relative prices for U.S. exports or imports. This is an open question. Since the 1980s, the U.S. terms of trade have shown no upward nor downward trend. But even if China's growth did lead to a decline in the U.S. terms of trade, the gains of continued trade would still exceed welfare levels attainable under a scenario where the United States withdrew from world trade.

Thus, from an economic perspective, describing China's economic rise or its economic policies as an economic "threat" to the United States fails to reflect that China's growth poses both challenges and opportunities for the United States. As one U.S. trade official recently put it: "As China's economy and our bilateral trade grow, our trade relationship has become enormously complex, and does not lend itself to either simplistic characterization or simple policy prescriptions."⁹⁵ The main challenge for U.S. policymakers is to press China to quicken economic and trade reforms, and to fully transform itself into a market-based economy. The United States on a number of occasions has provided technical support to China on such areas as rule of law, IPR protection, pollution control, and banking and currency reforms. The expansion of such programs into other areas could help induce China to quicken economic reforms, especially if Chinese officials believe that doing so will not lead to political upheaval. The United States can also use the dispute resolution mechanism in the WTO to ensure that China fully implements its WTO commitments. The United States used this process to resolve a case with China over its discriminatory tax policies favoring domestically-made semiconductors. It recently brought a similar case involving auto parts. It is currently considering bringing a WTO case against China over its failure to protect IPR. Several bills have been introduced in Congress to address major trade issues. These are described in the **Appendix**.

⁹⁵ Statement of Timothy Stratford, Assistant U.S. Trade Representative for China Affairs, before the Congressional Steel Caucus, June 14, 2006.

Appendix: Congressional Legislation on U.S.-China Trade Issues

A number of bills that would affect U.S.-China trade relations have been introduced in the 109th Congress.

Comprehensive China Trade Legislation

Legislation has been introduced that seeks to address a wide number of trade disputes in U.S.-China relations:

- H.R. 3283 (English) would apply U.S. countervailing laws (dealing with foreign government subsidies) to non-market economies; establish a comprehensive monitoring system to track China's compliance with specific WTO commitments and pledges made at Joint Commission on Commerce and Trade (JCCT) meetings (on market access, IPR protection, and reporting subsidies, for example), and to require reports to Congress on China's progress on meeting these commitments; tighten rules on anti-dumping duties to prevent non-payment; require the Treasury Department to define "currency manipulation," describe actions that would be considered to constitute manipulation and report on China's new currency regime; increase funding for the USTR to improve monitoring and enforcement of U.S. trade agreements; and require the U.S. International Trade Commission to conduct a comprehensive study on U.S.-China trade and economic relations. The bill passed (255 to 168) on July 27, 2005. A similar bill has been introduced in the Senate, S.1421 (Collins).
- S. 2467 (Grassley) would require the Treasury Department to engage the International Monetary Fund (IMF) and other countries to resolve major currency imbalances with the dollar and would take specific action against countries that refuse to promote the fair valuation of their currency; require the Secretary of the Treasury to identify "fundamentally misaligned currencies" that adversely affect the U.S. economy; and require the USTR's office to work more closely with Congress in identifying and resolving the most serious trade and investment barriers faced by U.S. firms.
- H.R. 3306 (Rangel) would apply U.S. countervailing laws to non-market economies; require the USTR to bring a case against China in the WTO over its currency practices; define currency manipulation in U.S. trade law as "protracted large-scale intervention by an authority to undervalue its currency in the exchange market"; narrow the discretion of the USTR and the President to deny relief for U.S. industries that are injured due to import surges from China; tighten rules on anti-dumping duties to prevent non-payment; and would reinstate "Super 301" to require the President to identify trade expansion priorities and to take action

against countries that maintain the most significant barriers to U.S. exports.

- H.R. 4186 (Camp) would create a Chief Trade Prosecutor to ensure compliance with trade agreements. (The sponsors of the bill named China and Japan as the prime targets of their bill.)
- S. 2317 (Baucus) would require the USTR to identify trade enforcement priorities and to take action with respect to priority foreign country trade practices, and would establish within the USTR's office a Chief Enforcement Officer and a Trade Enforcement Working Group.

Bills Addressing China's Currency Policy

In addition to H.R. 3283, S. 2467, and H.R. 3306, the following bills would address China's currency policy:

- S. 14 (Stabenow), S. 295 (Schumer), and H.R. 1575 (Myrick) direct the Secretary of the Treasury to negotiate with China to accept a market-based system of currency valuation, and impose an additional duty of 27.5% on Chinese goods imported into the United States unless the President submits a certification to Congress that China is no longer manipulating the rate of exchange and is complying with accepted market-based trading policies. H.R. 3004 (English) would require the Treasury Department to determine whether China manipulated its currency and to impose additional tariffs on Chinese goods comparable to the rate of currency manipulation.
- S.Amdt. 309 (Schumer) to S. 600 would impose a 27.5% tariff on Chinese goods if China failed to substantially appreciate its currency to market levels. (The amendment contained the same language as S. 295). On April 6, 2005, the Senate failed (by a vote of 33 to 67) to reject the amendment. In response to the vote, the Senate leadership moved to allow a vote on S. 295 no later than July 27, 2005, as long as the sponsors of the amendment agree not to sponsor similar amendments for the duration of the 109th Congress. On June 30, the sponsors of S. 295 agreed to delay consideration of the bill after they received a briefing from Administration officials and were told that China was expected to make significant progress on reforming its currency over the next few months (which it did in July). On March 28, 2006, Senators Schumer and Graham stated that they would move to further delay taking up S. 295, based on their assessment during a trip to China that the Chinese government was serious about reforming its currency policy.
- H.R. 3157 (Dingell) and S. 377 (Lieberman) would direct the President to negotiate with those countries determined to be engaged most egregiously in currency manipulation and to seek an end to

such manipulation. If an agreement is not reached, the President would be directed to institute proceedings under the relevant U.S. and international trade laws (such as the WTO) and to seek appropriate damages and remedies for affected parties.

- H.R. 2208 (Manzullo), S. 984 (Snowe), and S. 1048 (Schumer) add changes to the criteria that the U.S. Treasury Department is required to consider when making a determination on currency manipulation (including a protracted large-scale intervention in one direction in the exchange markets) in its report to Congress on exchange rate policies.
- H.R. 2414 (Mike Rogers) would require the Treasury Department to determine whether China's currency policy interferes with effective balance of payments adjustments or confers a competitive advantage in international trade that would not exist if the currency value were set by market forces. If such a determination were made, the President would be required to bring a WTO case against China to seek across-the-board tariffs on Chinese goods in order to offset the subsidy effects of undervaluation.
- H.R. 1216 (English) and S. 593 (Collins) would apply U.S. countervailing laws to nonmarket economies. H.R. 1498 (Tim Ryan) would apply U.S. countervailing laws to countries that manipulate their currencies.
- S.Res. 270 (Bayh) expresses the sense of the Senate that the IMF should investigate whether China is manipulating its currency.

Other Bills

- H.Amdt. 381 (Sanders) to H.R. 3057 would prohibit the U.S. Export-Import Bank from financing the sale of U.S. nuclear power equipment to China. The amendment passed on June 28, 2005, by a vote of 313 to 114. A similar measure in the Senate (S.Amdt.1242 to H.R. 3057) failed to pass, by a margin of 37 to 62, on July 19, 2005.
- H.Con.Res. 203 (Rangel) expresses the sense of the Congress that the United States should seek a commitment from China to join the WTO Agreement on Government Procurement.
- H.Con.Res. 303 (DeFazio) urges the USTR to take action to ensure that China complies with its obligations to protect IPR.
- H.R. 728 (Sanders) would terminate NTR status for China; S. 2267 (Dorgan) would revoke China's PNTR status.

- H.R. 4808 (Walter Jones) would prohibit imports of Chinese autos unless China maintained the same tariff rate on such vehicles as the United States.
- H.R. 4780 (Christopher Smith) would attempt to promote freedom of expression on the Internet in certain countries (including China). H.R. 4741 (Ros-Lehtinen) would promote the development and deployment of technologies to prevent internet jamming by various countries (such as China).