

CRS Report for Congress

Foreign Direct Investment: Effects of a “Cheap” Dollar

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Prepared for Members and
Committees of Congress

Foreign Direct Investment: Effects of a “Cheap” Dollar

Summary

Since 2002, the dollar has depreciated against a broad basket of currencies and against the euro. This depreciation has prompted some observers to question whether the “cheap” dollar is leading to a “fire sale” of U.S. firms, especially of those firms that can be identified as part of the Nation’s defense industrial base. Congress has displayed a long and continuing interest in foreign direct investment and its impact on the U.S. economy. Since September 11, 2001, Congress has demonstrated a heightened level of concern about the impact of foreign direct investment in critical industries or in sectors that are vital to homeland security. On July 26, 2007, the 110th Congress passed **P.L. 110-49 (H.R. 556)**, the National Security Foreign Investment Reform and Strengthened Transparency Act of 2007. The measure reflects a heightened level of concern about the presence of foreign investors in the economy by increasing Congressional oversight over federal reviews of foreign direct investment and by expanding the current areas of review to include homeland security and critical infrastructure. The continued weakness in the exchange value of the dollar and its potential effects on direct investment likely will continue to attract the attention of Members in the second session of the 110th Congress.

Academic research and analysis has been relatively limited on the topic of the relationship between a depreciated dollar and any impact on foreign purchases of U.S. firms. There is also a relatively limited amount of information on this topic. Nevertheless, direct investment transactions as a whole seem to be tied more directly to the relative rates of economic growth between economies, as well as expected long-run rates of return and other economic factors, than to relatively short-term movements in the exchange rate of the dollar. Actual and expected movements in the exchange rate may influence the timing and the magnitude of foreign investors’ decisions, but little research has been done on this issue.

Firms also engage in a variety of tactics to nullify or mitigate the effects of movements in the exchange rate, which would weaken the linkage between movements in the exchange rate and direct investment transactions. U.S. and foreign multinational firms have come to raise a significant part of their investment funds in the capital markets in which they are investing, which also lessens the impact of movements in the exchange rate. Furthermore, U.S. and foreign multinational firms have become skilled at using various techniques to hedge the risks of changes in exchange rates. This report assesses the current state of knowledge concerning the role of exchange rate movements in direct investment transactions, presents data on some of the major factors that influence direct investment, and provides an overview of some of the factors that influence the way in which firms finance their investments.

This report will be updated as events warrant.

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Foreign Direct Investment: Effects of a “Cheap” Dollar

Overview

The United States is unique in that it is the largest foreign direct¹ investor in the world and also the largest recipient of foreign direct investment. This dual role means that globalization, or the spread of economic activity by firms across national borders, has become a prominent feature of the U.S. economy. Through direct investment the U.S. economy has become highly enmeshed into the broader global economy. Some observers are concerned that the depreciation in the value of the dollar relative to a number of major currencies could lead to a “fire sale” of U.S. firms. Direct investment commonly refers to investment in new or established businesses and real estate, compared with portfolio investment, which refers to investment in U.S. government securities and corporate stocks and bonds. This report focuses on foreign direct investment.²

Foreigners invested \$180 billion in U.S. businesses and real estate in 2006 and more than \$200 billion in 2007, according to balance of payments data published by the Department of Commerce.³ As **Figure 1** shows, this represents an increase over the \$104 billion invested in 2005 and compares to the sharp increase in the amount U.S. firms invested abroad in 2006 relative to the amount they invested abroad in 2005. The increase in U.S. direct investment flows mirrors a turnaround in global flows. According to the United Nation’s *World Investment Report*,⁴ global foreign direct investment flows increased by 29% in 2005 and 38% in 2006, the third year of strong growth in direct investment flows.

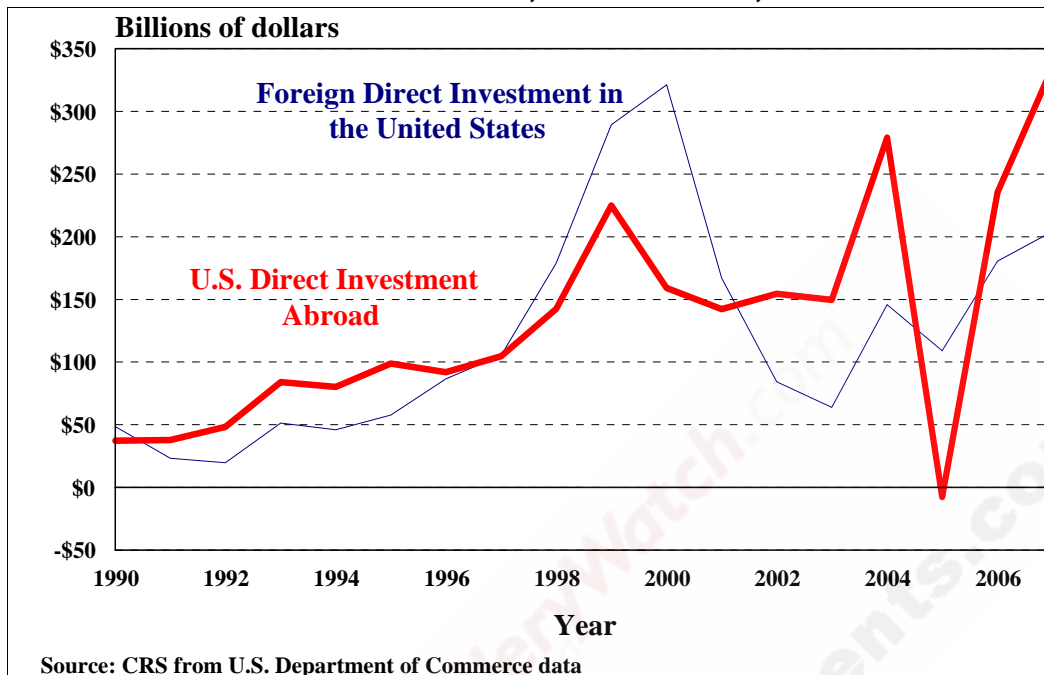
¹ The United States defines direct investment abroad as the ownership or control, directly or indirectly, by one “legal person” (individual, corporation, branch, partnership, association, government, etc.) of 10% or more of the voting securities of an incorporated business enterprise or an equivalent interest in an unincorporated business enterprise. 15 C.F.R § 806.15 (a)(1).

² For information about foreign portfolio investment in the United States, see CRS Report RL32462, *Foreign Investment in U.S. Securities*, by James K. Jackson.

³ Bach, Christopher L., “U.S. International Transactions in 2007.” *Survey of Current Business*, April 2008, p. 48. Direct investment data reported in the balance of payments differ from capital flow data reported elsewhere, because the balance of payments data have not been adjusted for current cost adjustments to earnings.

⁴ United Nations Conference on Trade and Development, *World Investment Report 2007*, United Nations, 2007, p. 3.

Figure 1. Foreign Direct Investment in the United States and U.S. Direct Investment Abroad, Annual Flows, 1990-2007



Note: the drop in U.S. direct investment abroad in 2005 reflects actions by U.S. parent companies to take advantage of a one-time tax provision.

The cumulative amount, or stock, of foreign direct investment in the United States on a historical cost basis⁵ increased by \$180 billion in 2006 to over \$1.8 trillion. This marked an increase of 8% over the previous year and a significant change from the decline in foreign investment spending that had occurred since 2000.⁶ The rise in the value of foreign direct investment in the United States includes an upward valuation adjustment of existing investments and increased spending that was driven by the relatively stronger growth rate of the U.S. economy, the worldwide resurgence in cross-border merger and acquisition activity, and investment in the U.S. manufacturing, information and depository institutions as overseas banks

⁵ The position, or stock, is the net book value of foreign direct investors' equity in, and outstanding loans to, their affiliates in the United States. A change in the position in a given year consists of three components: equity and intercompany inflows, reinvested earnings of incorporated affiliates, and valuation adjustments to account for changes in the value of financial assets. The Commerce Department also publishes data on the foreign direct investment position valued on a current-cost and market value bases. These estimates indicate that foreign direct investment increased by \$231 billion and \$416 billion in 2006, respectively, to reach \$2.1 and \$3.2 trillion.

⁶ Ibarra, Marilyn, and Jennifer Koncz, "Direct Investment Positions for 2006: Country and Industry Detail," *Survey of Current Business*, July 2007, p. 21.

and finance and insurance companies sought access to the profitable U.S. financial market.⁷

New spending by U.S. firms on businesses and real estate abroad, or U.S. direct investment abroad, rose sharply in 2006 to \$235 billion, up markedly from the \$8 billion U.S. firms invested in 2005, according to the Department of Commerce.⁸ New investment in 2007 likely exceeded \$330 billion, according to balance of payments data published by the Department of Commerce.⁹ The drop in U.S. direct investment abroad in 2005 reflects actions by U.S. parent firms to reduce the amount of reinvested earnings going to their foreign affiliates for distribution to the U.S. parent firms in order to take advantage of one-time tax provisions in the American Jobs Creation Act of 2004 (P.L. 108-357).

Foreign Direct Investment and the Dollar

Since 2002, the dollar has depreciated against a broad basket of currencies and against the euro. This depreciation has prompted some observers to question whether the “cheap” nominal dollar is leading to a “fire sale” of U.S. firms, especially of those firms that can be identified as part of the Nation’s defense industrial base. While some aspects of foreign investment have been studied extensively by academics and others, relatively few economic studies have addressed the linkage between direct investment and movements in the exchange rate and even those studies have produced mixed results.

In general terms, most economists argue that depreciation in the exchange value of the dollar is not the key factor that drives the decision by most foreign firms to invest in the United States, although the corresponding appreciation of foreign currencies would lower the cost of assets acquired in the United States. The lower value of the dollar, however, means that the value of returns from U.S. assets are reduced as well, which would leave the overall rate of return on such investments unchanged.¹⁰ In one study, two economists argue that an appreciation of foreign currencies relative to the dollar could boost foreign direct investment in the United States, because the appreciation leads to increased wealth for foreign firms relative to their U.S. counterparts and greater access to low-cost funds in local markets.¹¹

⁷ McNeil, Lawrence R., “Foreign Direct Investment in the United States: New Investment in 2006,” *Survey of Current Business*, June 2007, pp. 44-46.

⁸ Weinberg, Douglas B., Kelly K. Pierce, and Erin M. Whitaker, “U.S. International Transactions, Second Quarter of 2006,” *Survey of Current Business*, October 2006, p. 85. Direct investment data reported in the balance of payments differ from capital flow data reported elsewhere, because the balance of payments data have not been adjusted for current cost adjustments to earnings.

⁹ Bach, U.S. International Transactions in 2007, p. 48.

¹⁰ Blonigen, Bruce A., *A Review of the Empirical Literature on FDI Determinants*, NBER Working Paper Series #11299, April 2005.

¹¹ Froot, Kenneth A. and Jeremy C. Stein, “Exchange Rates and Foreign Direct Investment: (continued...) ”

Another economist argues that appreciation of the yen in the 1980s provided some impetus for Japanese firms to increase their direct investments in the United States, because the appreciated yen lowered the price of certain firm-specific assets, such as technology and managerial skills, but that it did not necessarily improve the nominal returns to Japanese firms.¹² Actual and expected changes in the exchange rate of the dollar may well influence the timing and the magnitude of foreign investors' decisions, but little research has been done on this issue.

Foreign Direct Investment and GDP

Generally, economists argue that relative rates of growth between the U.S. and foreign economies are indicative of relative rates of return and corporate profitability and, therefore, are key factors in determining the direction and magnitude of capital flows, including direct investment flows.¹³ These flows also are affected by relative rates of inflation, taxes, interest rates, and expectations about the performance of national economies, which means they can be quite volatile at times. Since the mid-1990s, a combination of strong growth and low inflation in the U.S. economy likely were the main factors in attracting foreign investors. The sheer size of the U.S. economy, the vast number of investment opportunities, and the relative liquidity of the market likely also enhance the appeal of investments in the United States. From 2002 to 2005, U.S. direct investment abroad was more than twice the amount foreigners invested in the U.S. economy, reflecting the period of slower growth in the U.S. economy from 2001-2003. Both U.S. direct investment abroad and foreign direct investment in the United States increased in 2006 and 2007, reflecting both the stronger rate of growth of the U.S. economy and growth in corporate earnings.

Table 1 shows annual data from 1999 to 2007 for U.S. and foreign direct investment. The data show annual inward and outward flows of direct investment and they provide some detail on the composition of the sources of those funds. The table also presents index numbers representing the nominal trade-weighted exchange rate of the dollar relative to a broad basket of currencies with the year 2000 as the base year and the annual rate of economic growth in percentage terms for the real gross domestic product (GDP) of the U.S. economy. Similar sets of index numbers were constructed for the euro, the British pound, and Japanese yen, and for euro-area countries, British, and Japanese direct investment in the United States.¹⁴ The index

¹¹ (...continued)

An Imperfect Capital Markets Approach." *The Quarterly Journal of Economics*, November 1991, pp. 1191-1217.

¹² Blonigen, Bruce A., "Firm-Specific Assets and the Link Between Exchange Rates and Foreign Direct Investment." *The American Economic Review*, June 1997, pp. 447-465.

¹³ Lipsey, Robert E. and Irving B. Kravis, *The Competitive Position of U.S. Manufacturing Firms*. Cambridge, Mass., National Bureau of Economic Research, 1985. (Working Paper No. 1557), p. 2; and Ray, Edward John. *The Determinants of Foreign Direct Investment in the United States: 1979-1985*. Cambridge, Mass., National Bureau of Economic Research, 1988, p. 2

¹⁴ For the purposes of this analysis, Chinese direct investment in the United States is not (continued...)

numbers that represent the exchange rate between the dollar and various foreign currencies were constructed such that an increase in the value of the index means that more dollars are required to buy foreign currency, or that the dollar has depreciated relative to the value of the foreign currency. Similarly, a decline in the index means that fewer dollars are required to buy foreign currency, or that the dollar has appreciated.

Table 1. U.S. Direct Investment Abroad, Foreign Direct Investment in the United States, and Indexes of Currencies, 1999-2006

	1999	2000	2001	2002	2003	2004	2005	2006	2007
U.S. direct investment abroad (in \$billions)									
Capital	\$224.9	\$159.2	\$142.3	\$154.5	\$149.6	\$279.1	\$-7.7	\$235.4	\$335.4
Equity capital	98.9	78.0	60.9	42.7	35.5	110.0	43.4	30.2	93.9
Reinvested earnings	64.2	93.6	69.8	85.3	120.7	165.7	-20.4	220.1	254.3
Intercompany debt	61.8	-12.4	11.6	26.5	-6.6	5.4	-30.7	-15.0	-12.8
Foreign direct investment in the United States (in \$billions)									
Capital	\$289.4	\$321.3	\$167.0	\$84.4	\$63.8	\$145.8	\$109.0	180.6	204.4
Equity capital	221.6	259.6	140.9	105.3	93.4	92.9	56.6	98.0	142.1
Reinvested earnings	4.1	-0.3	-33.9	1.6	14.5	49.4	47.7	70.6	64.1
Intercompany debt	63.8	61.9	60.0	-22.6	-44.0	3.5	4.7	12.0	-1.8
Dollar index(broad, nominal)	102.9	100.0	94.8	94.2	100.1	105.2	107.87	109.9	115.5
Real GDP (% change)	4.5	3.7	0.8	1.6	2.5	3.6	3.1	2.9	2.2
Euro (index)	115.5	100.0	97.0	102.4	122.6	134.7	134.8	136.5	148.4
Euro-country investment (index)	70.5	100.0	38.8	6.7	22.7	20.8	21.6	70.8	26.7
Pound (index)	93.7	100.0	105.3	100.9	92.7	82.7	83.3	82.3	75.8
British investment (index)	131.4	100.0	3.4	25.7	-5.3	34.0	41.5	13.9	33.0
Japanese yen (index)	94.8	100.0	88.7	86.1	93.0	99.7	97.9	92.7	91.9
Japanese investment (index)	147.8	100.0	-40.1	83.1	109.3	223.8	177.7	272.3	341.5

Source: Department of Commerce and Federal Reserve Board.

Note: The nominal broad dollar index is the weighted average of the foreign exchange value of the U.S. dollar against a broad group of U.S. trading partners developed by the Board of Governors of the Federal Reserve System that shows the dollar price of foreign currency; the base year of the index is 2000 with a value of 100. Real GDP is the annual growth rate in real Gross Domestic Product (GDP). Euro, pound, and yen index values represent the dollar price of the respective currencies with a base value of 100 for the year 2000. Euro-country, British, and Japanese direct investment in the United States are represented by index numbers with the base year of 2000 = 100. Index values were developed by CRS.

¹⁴ (...continued)

included, since the Chinese yuan is effectively pegged against the value of the dollar.

The index numbers in **Table 1** are constructed primarily as a device to facilitate the comparison of the timing and the direction of changes in the measures, not the relative magnitudes of the actual values involved. The data also show the similarity in trends between U.S. direct investment abroad and foreign direct investment in the United States. Such a similarity seems counterintuitive, since inward and outward investment flows are thought by some to be substitutes. If they are substitutes, U.S. direct investment abroad would be expected to be strongest during periods when the U.S. economy is not performing well relative to foreign economies and foreign direct investment in the United States would be expected to be weak. Instead, during periods when U.S. direct investment abroad is strong, foreign direct investment in the United States is also strong and vice versa.

U.S. direct investment abroad and foreign direct investment in the United States may follow similar investment trends over time as firms in both the United States and in foreign markets respond to increases or decreases in demand for goods and services as the U.S. economy expands or contracts, respectively. For instance, as the U.S. rate of economic growth rises, U.S. firms would increase their investments at home in response to improved profitability and stronger sales. In addition, these firms may well increase their investments abroad as production by foreign firms increases to meet the higher level of demand in the United States. Although U.S. foreign affiliates export only about 10% of their worldwide production back to the United States, increased levels of exports by foreign firms and the correspondingly higher levels of production abroad may well stimulate production and investment abroad by the foreign affiliates of U.S. firms.

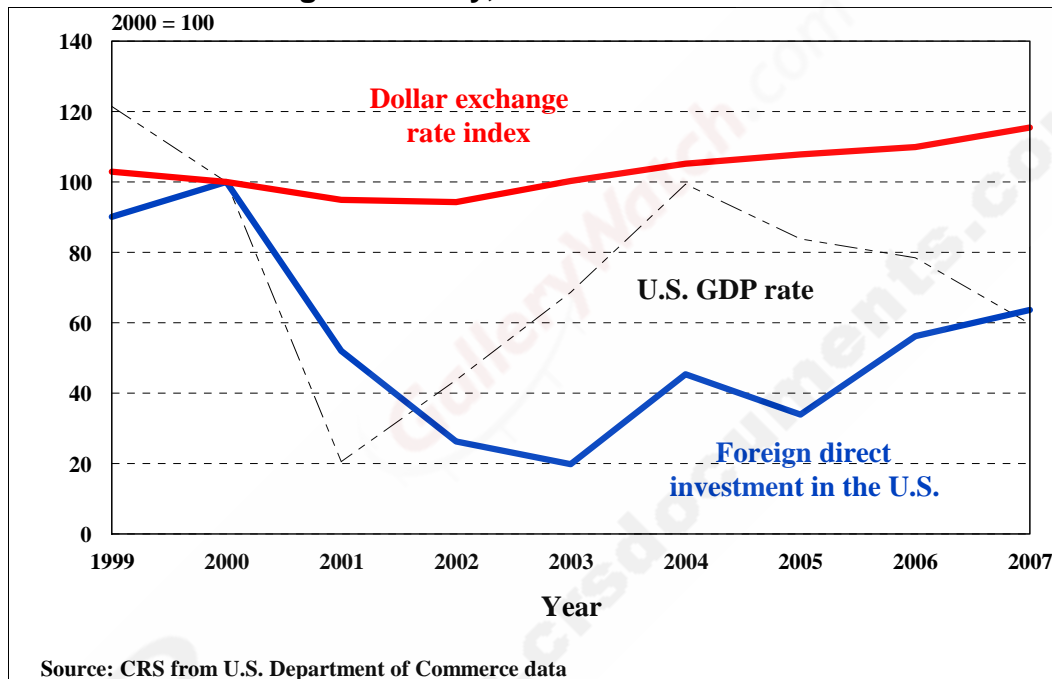
Overall, the data provide some support for the general conclusion that the inflows and outflows of direct investment are tied more directly to the overall rate of growth in the economy than they are to movements in the exchange rate of the dollar. Nevertheless, movements in the exchange rate of the dollar likely affect flows of direct investment through common linkages to the rate of growth in the economy and as firms adjust their payments of remittances in response to movements in the exchange value of the dollar.

To the extent that the rate of growth of U.S. GDP, movements in the dollar, and direct investment flows are interrelated, these interrelationships complicate efforts to separate out cause and effect chains of influence and the relative importance of any one factor. The data in **Table 1** generally tend to support the concept that the rate of growth in the U.S. economy, as reflected by U.S. GDP, likely has a greater influence on direct investment flows than does the exchange rate of the dollar. Data from **Table 1** on U.S. GDP, the nominal broad index of the dollar price of a basket of foreign currencies, and an index of foreign direct investment in the United States are shown in **Figure 2**. Again, the index numbers for the dollar are constructed such that a rise in the value of the index indicates that it takes more dollars per unit of foreign currency, or that foreign currencies have appreciated relative to the dollar.

If movements in the exchange rate of the dollar were a key factor in driving inflows and outflows of foreign direct investment, then it would be reasonable to assume that the index for the dollar and for foreign direct investment in the United States in **Figure 2** would move in similar directions. In other words, a rise in the exchange rate of the dollar to foreign currencies means that it would take more

dollars to buy foreign currency, or that the dollar had depreciated in value relative to the foreign currency so that it would be less costly for foreign investors. Then, an appreciation in the value of foreign currencies, and a corresponding depreciation in the value of the dollar, would be accompanied by an increase in foreign direct investment in U.S. businesses because such purchases would be cheaper in foreign currency. Such a similar movement in the exchange rate of the dollar and foreign direct investment in the United States is observed from 2005 to 2007, a time during which the annual rate of growth in the U.S. economy is slowing.

Figure 2. Foreign Direct Investment in the United States, the Dollar Price of Foreign Currency, and the U.S. GDP Growth Rate



Likewise a depreciation in the value of foreign currencies and an appreciation in the value of the dollar would be expected to be accompanied by a decrease in foreign direct investment in the United States. During the 2000 to 2002 period, this type of relationship seemingly held as the dollar appreciated and foreign direct investment declined. In addition, as the dollar depreciated between 2002 and 2004, foreign direct investment increased. The relationship, however, did not hold in 2004 as the dollar depreciated and as foreign direct investment declined. The similarities between the general trend in foreign direct investment in the U.S. economy and the rate of growth of the U.S. economy, as represented by the index numbers for GDP, lends some support to the conclusion that the rate of growth in the economy is likely to be a more important factor influencing the flows of direct investment than is the exchange rate of the dollar. Direct investment, movements in the exchange rate, and the relative rate of growth in U.S. GDP likely are interrelated in a number of ways that significantly complicates efforts to separate out the various chains of influence to determine direct cause-effect relationships.

In addition to the nominal values for U.S. and foreign direct investment presented in **Table 1**, **Table 2** displays data on the actual number of investment

transactions from 1996-2007 as published by *Mergers & Acquisitions*. The data represent the number and the value of foreign acquisitions of U.S. companies, U.S. acquisitions of foreign companies, and U.S. acquisitions of U.S. companies. By far, U.S. firms acquiring other U.S. firms represents the largest group of transactions, but the share of total U.S. transactions (U.S. acquisitions of U.S. companies plus foreign acquisitions of U.S. companies) accounted for by purely domestic acquisitions has fallen from 90% in 1996 to 82.5% in 2007 in terms of the number of transactions. Similarly, foreign acquisitions of U.S. firms grew from 10% of the total number of transactions in 1996 to 17.5% in 2007 in terms of the total number of acquisitions.

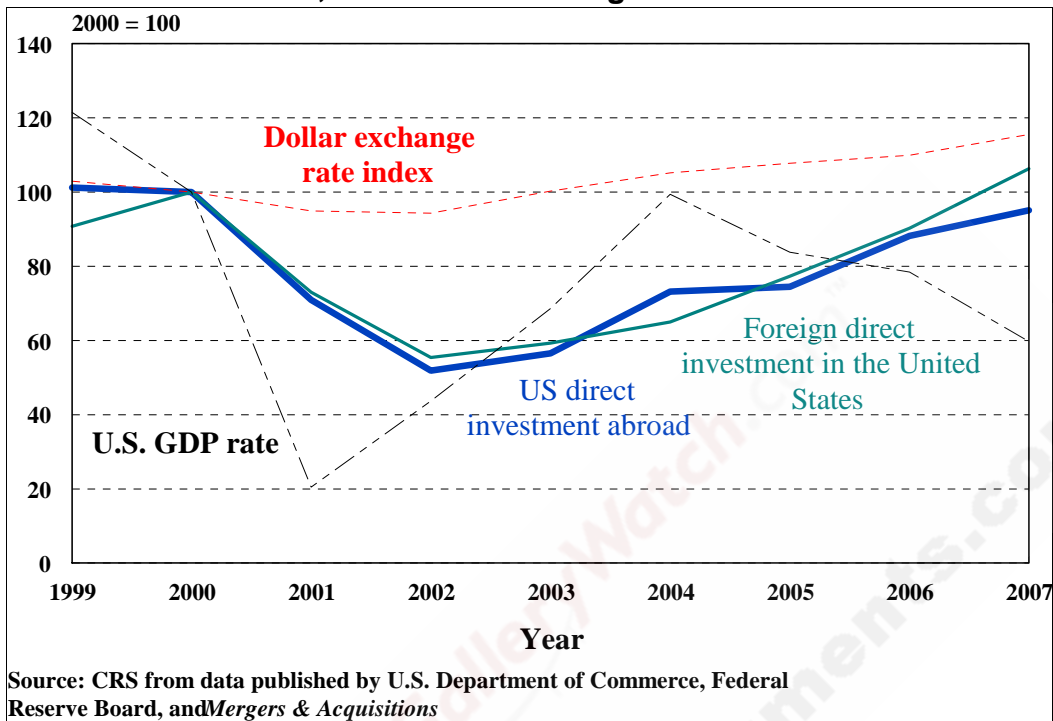
Table 2. U.S. and Foreign Acquisition Activity, 1996-2007

Year	Foreign Acquisitions of U.S. Companies		U.S. Acquisitions of Foreign Companies		U.S. Acquisitions of U.S. Companies		Total	
	Number of Deals	Billions	Number of Deals	Billions	Number of Deals	Billions	Number of Deals	Billions
1996	628	\$69.6	1,134	\$60.3	5,585	\$433.1	7,347	\$563.0
1997	775	84.9	1,387	80.3	6,317	606.3	8,479	771.5
1998	971	227.0	1,647	127.2	7,575	1,019.6	10,193	1,373.8
1999	1,148	264.0	1,576	153.8	6,449	1,005.1	9,173	1,422.9
2000	1,264	338.0	1,557	139.0	6,032	1,304.6	8,853	1,781.6
2001	923	204.3	1,104	113.2	4,269	838.3	6,296	1,155.8
2002	700	85.5	808	89.1	3,989	450.4	5,497	625.0
2003	750	82.0	880	90.7	4,539	352.8	6,169	525.5
2004	822	104.1	1,140	122.6	5,140	628.6	7,102	855.3
2005	977	112.7	1,160	150.3	5,463	733.9	7,600	996.9
2006	1,142	200.9	1,374	218.0	6,105	1,015.5	8,621	1,434.4
2007	1,343	321.2	1,481	265.5	6,343	1,151.0	9,167	1,737.8

Source: *Mergers & Acquisitions*, February 2007. p. 69.

What stands out as an especially prominent feature of the data in **Table 2** is the nearly parallel movements in the number transactions accounted for by foreign acquisitions of U.S. firms and the number of transactions involving U.S. firms acquiring foreign firms. This feature is clearly evident in **Figure 3**, which shows the data for the number of transactions involving foreign firms acquiring U.S. firms (Foreign direct investment in the United States) and U.S. firms acquiring foreign firms (U.S. direct investment abroad). These two series of data have been converted into index numbers with the year 2000 as the base year to make their presentation compatible with the data developed for the exchange rate index of the dollar and for U.S. GDP. As stated previously, the nearly identical pattern in the data for foreign investment in the U.S. and for U.S. investment abroad is counterintuitive to most formulations of the forces that act to influence U.S. and foreign direct investment.

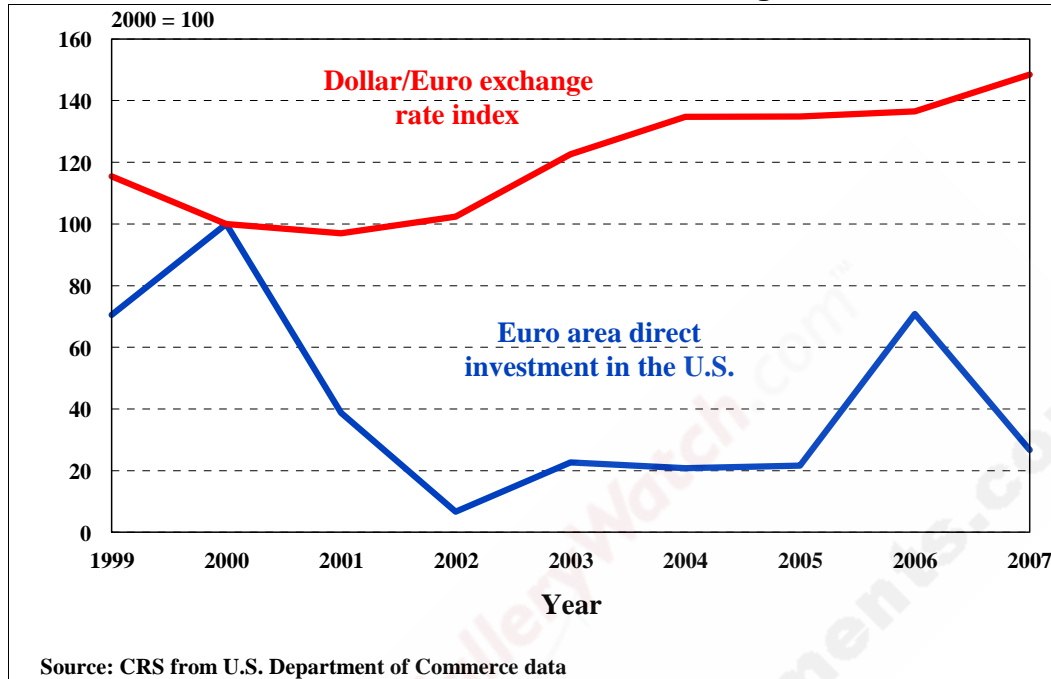
Figure 3. Foreign Direct Investment in the United States, U.S. Direct Investment Abroad, the Dollar Exchange Rate Index and U.S. GDP



Dollar-Euro

Figure 4 shows data for the dollar/euro exchange rate and for direct investment in the United States by euro-area countries. In this figure, a rise in the euro/dollar index indicates an appreciation of the euro relative to the dollar. The data in the figure indicate that direct investment in the United States by euro-area countries during the 1999-2007 period runs counter to the concept that movements in the exchange rate determine flows of direct investment. In fact, as the euro depreciated against the dollar in the 1998-2000 period, direct investment increased and as the euro appreciated (and the dollar depreciated) between 2000 and 2003, direct investment fell sharply. Euro-area country direct investment in the United States has remained fairly flat since 2003, despite the stronger euro.

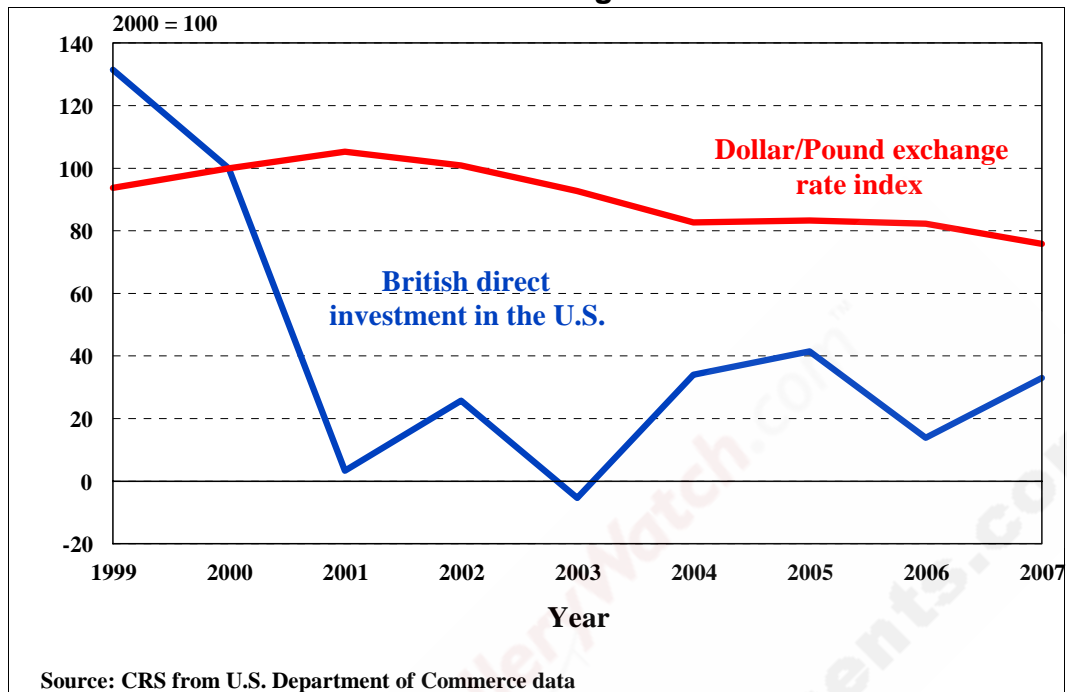
Figure 4. Foreign Direct Investment in the United States by Euro-Area Countries and the Dollar/Euro Exchange Rate Index



Dollar-Pound

Figure 5 shows data for British direct investment in the United States and the dollar/pound exchange rate. Over the 1999-2007 period, the pound appreciated against the dollar until 2001, when it has trended down as the pound depreciated slightly through 2004. From 2004 through 2007, there has been a slight depreciation in the value of the pound relative to the dollar. As the pound appreciated against the dollar between 1999 and 2001, British direct investment tumbled sharply in 1999 and 2000, in concert with the slowdown in the rate of growth of U.S. GDP and the height of the value of the pound against the dollar. After 2002, British direct investment dropped again in 2003, before showing some resurgence in 2004 and 2005, and then again in 2006, even though the pound generally depreciated against the dollar.

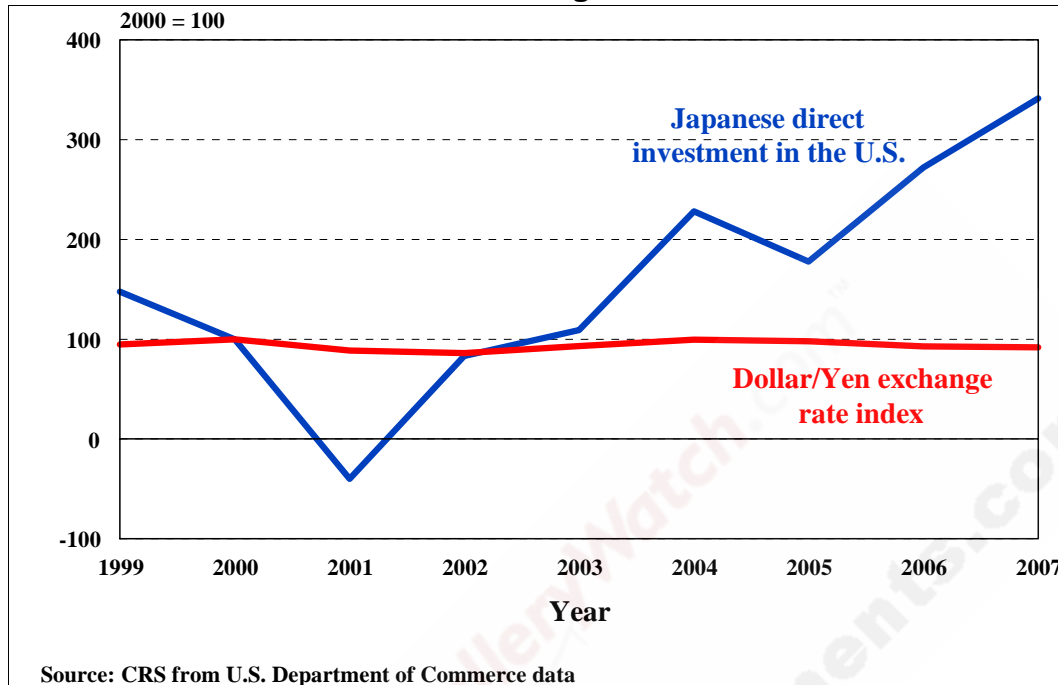
Figure 5. British Direct Investment in the United States and the Dollar/Pound Exchange Rate Index



Dollar-Yen

Different trends are shown in **Figure 6**, which displays the trend of Japanese direct investment in the United States and the dollar/yen exchange rate index during the 1999-2007 period. An increase in the yen/dollar index indicates an appreciation of the yen relative to the dollar. This figure indicates that Japanese direct investment in the U.S. economy did indeed follow a trend that is somewhat similar to that for the dollar/yen exchange rate, although turning points in the yen/dollar exchange rate do not correlate well with the turning points in direct investment. In fact, the turning points in Japanese direct investment spending occurred prior to changes in the dollar/yen exchange rate, which runs contrary to the concept that the exchange rate is an important factor that determines foreign direct investment. Major turning points in Japanese direct investment in the United States, however, correlate more closely with the overall patterns of U.S. GDP performance, except for the period from 2005-2007, than with changes in the dollar/yen exchange rate, indicating that Japanese direct investment in the United States over the 1999-2007 period was influenced more by the relative rate of growth in U.S. GDP than by the dollar/yen exchange rate.

Figure 6. Japanese Direct Investment in the United States and the Dollar/Yen Exchange Rate Index



Foreign Direct Investment and Capital Markets

There are a number of factors that complicate efforts to determine a cause-effect relationship between movements in the exchange rate and direct investment. First, both direct investment and the exchange rate are closely related to the relative rate of growth of the domestic economy and it may not be possible to separate out the individual effects. Second, one characteristic of multinational firms is that they utilize foreign and international capital markets.¹⁵ To the extent that firms can raise funds in the market in which they are investing, they can blunt exchange rate effects and weaken an expected relationship between movements in the exchange rate and direct investment. Third, multinational firms have become skilled at using specialized foreign currency markets and foreign currency derivatives that help them reduce the risk and the economic impact of changes in exchange rates. Such activities likely would lessen the impact of changes in exchange rates on direct investment transactions.

Most economists believe that the exchange rate of the dollar generally is determined by the relative long-term performance of the economy, although the

¹⁵ Desai, Mihir A., C. Fritz Foley, and Kristin J. Forbes, *Financial Constraints and Growth: Multinational and Local Firm Responses to Currency Crises*. NBER Working Paper 10545, June 2004; Desai, Mihir A., C. Fritz Foley, and James R. Hines, Jr., *A Multinational Perspective on Capital Structure Choice and Internal Capital Markets*. NBER Working Paper #9715, May 2003.

exchange rate between any two particular currencies can move abruptly over the short run as a result of factors specific to individual currencies. Efforts to model and predict movements in the exchange rate of the dollar have proven to be particularly vexing because a number of factors can affect the value of the dollar and other currencies in the short run. One factor complicating efforts to determine a cause-effect relationship between movements in the exchange rate and direct investment is the apparent similarity between the inflows and outflows of direct investment, as mentioned previously.

In most cases, it would seem reasonable to assume that inward and outward direct investment generally would move in opposite directions in response to movements in the exchange rate and act somewhat as substitutes for one another. In fact, inward and outward flows of direct investment have tended to trend in the same direction over time. One possible explanation for this similarity is that the inward and outward flows of direct investment are affected by the same underlying forces, principally the relative rate of growth of the U.S. economy compared to other economies. The difficulties involved in unraveling the interrelationships between direct investment flows, the relative rate of growth of various economies, and movements in the exchange rate significantly complicate any efforts to isolate the relationship between direct investment and the exchange rate.

During periods when the U.S. economy is growing at a relatively more rapid pace than are other developed economies, foreign firms are encouraged to invest in U.S. businesses, since profits in those firms would be expected to be strong. At the same time, rising corporate earnings associated with a growing economy would encourage U.S. firms to step up their investment spending both domestically and abroad since the commanding role of the U.S. economy in the global economy means that the performance of the U.S. economy would tend to have a positive effect on economic performance abroad. The advanced development of U.S. and global financial markets and the rapid pace of globalization in trade and investment activities likely means that the U.S. and global economies are becoming increasingly intertwined, which would increase the prospect that economic events would be transmitted more rapidly between the U.S. and other economies.

Strong performance in the U.S. economy also tends to draw in foreign capital in various forms that adds to upward pressure on the dollar, so that the exchange rate of the dollar and the rate of growth in the economy would experience any number of direct, indirect (second-hand), and cross effects (third-hand). Both the rate of growth of U.S. GDP and the exchange rate of the dollar increased through the 1998 to 2000 period. As the rate of growth of the economy slowed in the 2000 to 2002 period, however, the dollar continued to appreciate due in part to the mix of macroeconomic policies in the United States that attracted inflows of capital. Since 2002, however, the exchange rate of the dollar has depreciated against the euro and a broad basket of currencies despite a general improvement in the rate of growth of U.S. GDP.

Sources of Direct Investment Funds

The data in **Table 1** also indicate that there are differences between U.S. and foreign firms in the sources of their funds, which likely lessens the impact of movements of the dollar on both U.S. and foreign direct investment. Both U.S. and

foreign firms make little use of intercompany debt to finance their investments. Instead, multinational firms raise the bulk of their funds internally or in the particular foreign markets in which they are operating, especially if those markets are in advanced developed economies. As a result, this apparent preference for host-country sources of financing would reduce the impact of movements in the exchange rate on cross-border flows of direct investment.¹⁶ Since nearly three-fourths of U.S. direct investment abroad is in highly developed economies with well-developed capital and equity markets similar to those in the United States, U.S. firms generally raise the funds they need in those markets.

In 1998 and 1999 as the U.S. economy was growing at a rapid rate, U.S. multinational firms financed their investments abroad with a combination of equity capital, reinvested earnings, and intercompany debt as the U.S. parent companies loaned funds to their foreign affiliates. Since 1999, intercompany debt has played a smaller role in financing overseas investments. Instead, equity capital and reinvested earnings have accounted for over 90% of the source of funds to the foreign affiliates of U.S. parent companies, with reinvested earnings accounting for about 60% of the funds the foreign affiliates of U.S. firms invested over the 2000-2007 period.

In contrast, the affiliates of foreign firms operating in the United States relied heavily on U.S. equity markets to finance over 80% of their investments during the 1999-2007 period. Reinvested earnings played a significant role in financing the investments of foreign firms only in 2004 and 2005, when the declining value of the dollar combined with the increased rate of growth of the U.S. economy to encourage foreign firms to reinvest the profits they raised in the United States back into their U.S. affiliates. This reliance on domestic sources of capital means that the relative importance of the exchange rate as a factor that affects the investment decisions of firms likely varies over time depending on other economic factors, especially the overall performance of the economy; taxes; and the performance of corporate earnings.

International Role of the Dollar and Derivatives

Volatility in the exchange value of the dollar has spurred many multinational firms to act to protect themselves against such fluctuations. As a result, firms and other enterprises that deal in foreign currencies have become accustomed to participating in what is termed “over the counter” currency transactions that are aimed at reducing the risks and mitigating the effects of changes in the exchange value of the dollar. The growth in the U.S. economy and the growth in the international role of the dollar means that the dollar is now heavily traded in financial markets around the globe and, at times, plays the role of a global currency.

¹⁶ Bobillo, Alfredo Martinez, Pablo de Andres Alonso, and Fernando Tejerina Gaité, “Internal Funds, Corporate Investment and Corporate Governance: International Evidence,” *Multinational Business Review*, Fall 2002, pp. 151-162. There are other factors that also may cause firms to prefer internal sources of funds over external sources, see Hubbard, R. Glenn, “Capital-Market Imperfections and Investment,” *Journal of Economic Literature*, March 1998, pp. 193-225.

The prominent international role of the dollar means that the exchange value of the dollar often acts as a mechanism for transmitting economic and political news and events across national borders. While such a role helps facilitate a broad range of international economic and financial activities, it also means that the dollar's exchange value can vary greatly on a daily or weekly basis as it is buffeted by international events.¹⁷ A triennial survey of the world's leading central banks conducted by the Bank for International Settlements in April 2007 indicates that the **daily** trading of foreign currencies through traditional foreign exchange markets¹⁸ totals more than \$3.2 trillion, up sharply from the \$1.9 trillion reported in the previous survey conducted in 2004. In addition to the traditional foreign exchange market, the over-the-counter (OTC)¹⁹ foreign exchange derivatives market reported that daily turnover of interest rate and non-traditional foreign exchange derivatives contracts reached \$2.1 trillion in April 2007. The combined amount of \$5.3 trillion for daily foreign exchange trading in the traditional and OTC markets is more than three times the **annual** amount of U.S. exports of goods and services. The data also indicate that 86.3% of the global foreign exchange turnover is in U.S. dollars, slightly lower than the 88.7% share reported in a similar survey conducted in 2004.²⁰

In the U.S. foreign exchange market, the value of the dollar is followed closely by multinational firms, international banks, and investors who are attempting to offset some of the inherent risks involved with foreign exchange trading. On a daily basis, turnover in the U.S. foreign exchange market²¹ averages \$664 billion; similar transactions in the U.S. foreign exchange derivative markets²² averages \$607

¹⁷ Samuelson, Robert J., "Dangers in a Dollar on the Edge," *The Washington Post*, December 8, 2006, p. A39.

¹⁸ Traditional foreign exchange markets are organized exchanges which trade primarily in foreign exchange futures and options contracts where the terms and condition of the contracts are standardized.

¹⁹ The over-the-counter foreign exchange derivatives market is an informal market consisting of dealers who custom-tailor agreements to meet the specific needs regarding maturity, payments intervals or other terms that allow the contracts to meet specific requirements for risk.

²⁰ *Triennial Central Bank Survey: Foreign Exchange and Derivatives Market Activity in 2007*. Bank for International Settlement, September 2007. pp. 1-2. A copy of the report is available at: [http://www.bis.org/publ/rpfx07.pdf]

²¹ Defined as foreign exchange transactions in the spot and forward exchange markets and foreign exchange swaps. A spot transaction is defined as a single transaction involving the exchange of two currencies at a rate agreed upon on the date of the contract; a foreign exchange swap is a multi-part transaction which involves the exchange of two currencies on a specified date at a rate agreed upon at the time of the conclusion of the contract and then a reverse exchange of the same two currencies at a date further in the future at a rate generally different from the rate applied to the first transaction.

²² Defined as transactions in foreign reserve accounts, interest rate swaps, cross currency interest rate swaps, and foreign exchange and interest rate options. A currency swap commits two counterparties to exchange streams of interest payments in different currencies for an agreed upon period of time and usually to exchange principal amounts in different currencies as a pre-agreed exchange rate; a currency option conveys the right to buy or sell

(continued...)

billion, nearly double the amount reported in a similar survey conducted in 2004.²³ Foreigners also buy and sell U.S. corporate bonds and stocks and U.S. Treasury securities. Foreigners now own about 54% of the total amount of outstanding U.S. Treasury securities that are publicly held and traded.²⁴

The data in **Table 3** provide some selected indicators on the relative sizes of the various capital markets in various countries and regions and the importance of international foreign exchange markets. In total, these markets amounted to \$500 trillion in value in 2006. Worldwide, foreign exchange and interest rate derivatives, the most widely used hedges against movements in currencies, were valued at \$243 trillion in 2006, nearly 60% larger than the combined total of all public and private bonds, equities, and bank assets. For the United States, such derivatives total twice as much as all U.S. bonds, equities, and bank assets.

Table 3. Selected Indicators of the Size of the Global Capital Markets, 2006
in billions of U.S. dollars

	Gross Domestic Product (GDP)	Total Official Reserves	Bonds, Equities, and Bank Assets				Exchange Market Derivatives		
			Total	Stock Market Capitalization	Debt Securities	Bank Assets	Total	OTC Foreign Exchange Derivatives	OTC Interest Rate Derivatives
World	48,434.4	5,091.5	194,452.7	50,826.6	68,200.9	74,465.2	395,557.0	48,620.0	211,970.0
European Union	13,658.0	252.7	73,983.7	13,068.8	23,192.3	37,736.3	N.A.	N.A.	N.A.
Euro Area	10,586.1	157.5	54,129.5	8,419.1	18,761.1	26,719.2	145,903.0	18,280.0	81,442.0
United States	13,194.7	54.9	56,822.0	19,569.0	27,050.1	10,202.9	154,799.0	40,488.0	74,441.0
Japan	4,377.1	879.7	20,109.5	4,795.8	8,723.7	6,590.0	58,329.0	10,579.0	25,605.0
Emerging Market Countries	14,262.9	1,932.0	30,984.4	11,692.4	6,072.7	13,219.4	N.A.	N.A.	N.A.

Source: *Global Financial Stability Report*, International Monetary Fund, April 2008. Statistical Appendix, Table 3. *Quarterly Review*, Bank for International Settlements, March 2008, Tables 20b and 21b. Total derivatives does not include equity- and commodity-linked derivatives.

Conclusions

The depreciation of the dollar has raised concerns that the lowered value dollar would lead to a “fire sale” of U.S. firms. Such an increase of foreign direct

²² (...continued)

a currency with another currency as a specified rate during a specified period.

²³ *The Foreign Exchange and Interest Rate Derivatives Markets: Turnover in the United States April 2007*. The Federal Reserve Bank of New York, April, 2004. pp. 1-2. A copy of the report is available at [http://www.newyorkfed.org/markets/triennial/fx_survey.pdf].

²⁴ *Treasury Bulletin*, March 2007. Table OFS-2. p. 48.

investment would be of concern to Congress, which has shown a heightened level of interest in the role and presence of foreign-owned firms in the economy since September 11, 2001. There is little academic research and much still to be learned about the role of the exchange rate in the decision-making process of U.S. and foreign multinational firms, but movements in the exchange rate do not appear to be a major factor in driving those investment decisions. While U.S. and foreign direct investment were both higher in 2006 than they were in 2005, neither U.S. direct investment abroad nor foreign direct investment in the United States seems to be tied too strongly to the depreciation of the dollar. There does appear to be a complex set of relationships that connect direct investment, the relative rate of growth in the economy, and movements in the exchange rate, but it is difficult to unwind these relationships to determine the relative importance of each factor. A cursory examination of the available data seems to indicate that the relative rates of growth between the U.S. and foreign economies likely is the most important factor in driving direct investment transactions.

As U.S. and foreign firms become more adept at utilizing foreign capital markets and foreign currency derivatives, they likely are reducing the importance of fluctuations in currencies as a major factor in some of their investment decisions. Nevertheless, firms likely do consider the movements in currencies and the relative values of currencies as they determine the disposition of corporate earnings. In some cases, the depreciation of the dollar relative to the euro caused foreign firms operating in the United States to retain the earnings from those operations to invest in the United States rather than to return those profits to the parent company at a depreciated value. Over the near term, more developing countries are expected to reduce national restrictions to foreign direct investment and more firms from both developed and developing countries are expected to engage in the direct investment process. As a result, these firms likely will participate more extensively in international capital markets and place added pressure on global and local capital markets as sources of funds and likely act as agents of reform in the capital markets of developing countries. In addition, the proliferation of financial techniques, communications technology, and currency hedging strategies means that it will become even more challenging to untangle the direct and indirect factors that might determine specific cause-effect linkages between direct investment and movements in exchange rates.