



Chapter Title: How the U.S. Economy Connects with the World

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How the U.S. Economy Connects with the World

The United States engages with the world economy in a variety of ways. These include trade; operations by U.S. companies in other countries (known as foreign *direct* investment [FDI]); operations by foreign companies in the United States; purchases of foreign equities and bonds (known as foreign *portfolio* investment); purchases by foreigners of U.S. equities and bonds; flows of people (immigration, emigration, tourism, and travel); and supply of currency (many international transactions take place in dollars, many foreign countries hold reserves in dollars, and many economies use dollars, either as a matter of policy or as a matter of fact because of lack of confidence in the local currency).

This chapter will highlight four aspects of U.S. international engagement with the world: trade, FDI, the energy revolution and its implications for the United States, and the influence of the Federal Reserve (the U.S. monetary policy authority) over the global economy. Although still in deficit, the U.S. trade balance has narrowed a great deal in the past ten years, reducing the need for foreign financing of U.S. consumption and production; a trade deficit is financed by borrowing abroad. Trade is one channel of engaging with the world, but a more important channel in dollar terms is FDI—sales abroad by affiliates of multinationals far outstrip U.S. exports. One source of the reduction of the trade deficit has been a revolution in the exploitation of hydrocarbons and increases in production of U.S. oil and gas. That has principally helped keep oil and gas prices low and now, with the removal of a longstanding ban on U.S. exports of crude oil, may increase U.S. exports. Finally, the Federal Reserve is another channel through which the United States engages with the international economy. Although its principal responsibilities

focus on the well-being of the U.S. economy, any measure the Federal Reserve takes has international implications; in addition, it has helped rescue the international economy during times of economic stress, such as the period of the Great Recession.

International Trade

One way the United States engages with the world is through the sale abroad of U.S.-produced goods and services and the purchase of foreign-produced goods and services. Total U.S. trade relative to GDP has been expanding. In 1991, exports of goods and services plus imports of goods and services totaled 19.2 percent of GDP. By 2014, that figure was 29.9 percent of GDP and from 2011 through 2013 it was slightly more than 30 percent. In fact, the proportion in the five-year recovery period following the Great Recession, 2010 through 2014, averaged 30.0 percent, far more than the 24.6-percent average for the entire period from 1991 through 2014.

The broadest measure of such international transactions is the current account, which includes not only trade, but also investment income and employee compensation earned abroad, or sent from the United States to foreign entities. Trade in goods and services makes up the vast majority of the current account.

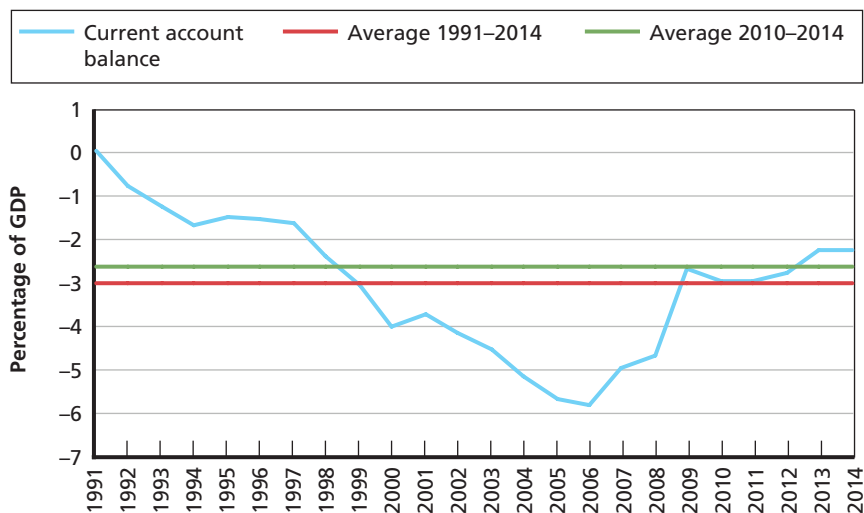
A decade ago, the size of the current account deficit was of great concern, hitting almost 6 percent of GDP in 2006. Some feared that the deficit was a sign that the United States was living unsustainably beyond its means. Such deficits must be financed by foreigners, and the financing comes primarily in the form of lending money to the United States or buying U.S. assets. One of the biggest concerns was that foreigners might eventually tire of accumulating dollars in their portfolios, leading to a large decrease in demand for dollars, a large depreciation of the dollar, and a difficult adjustment for the U.S. economy as imports became far more expensive than before the depreciation.¹

¹ Jeffrey A. Frankel, "Guest Contribution: Is the U.S. Current Account Deficit Problem Over?" *Econbrowser*, October 24, 2014.

This problem—if it ever was a problem—has dramatically receded (Figure 3.1).² From a post-1991 trough of -5.8 percent of GDP in 2006, the current account deficit in 2014 registered only -2.2 percent of GDP. It averaged -3.0 percent in the entire post-1991 period, but only -2.6 percent in the recovery period following the Great Recession.

Part of what is fueling the narrowing of the current account deficit is the rapid advance in services trade. Although most people are exposed to trade through goods—such as foreign-made clothing or cars—trade in services is large and growing. This includes international tourism, financial services, transportation, and other categories, many of which require highly skilled or highly educated

Figure 3.1
U.S. Current Account Balance (as a percentage of GDP)



SOURCES: BEA, "GDP in Billions of Current Dollars," *Current-Dollar and "Real" Gross Domestic Product*, Excel spreadsheet, July 2015a; BEA, "U.S. International Transactions: Third Quarter 2015," news release, BEA 15-64, December 17, 2015h, Table 1.

NOTE: The period starting in 2010 is the recovery period following the Great Recession.

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² In fact, because of mismeasurement in official statistics, the current account might actually have gone into surplus in 2009 and stayed there (Frankel, 2014).

workers. The U.S. deficit in goods trade has largely been flat since 2006 (except for the Great Recession year of 2009, when imports fell by \$560 billion and exports fell by \$240 billion), albeit with some improvement (Figure 3.2). In contrast, the services surplus in 2014 was triple that in 2006.

As of 2014, the value of services exports equaled 43.5 percent of the value of goods exports (Figure 3.3). In contrast, services imports constituted only 20.1 percent of goods imports. Given the U.S. advantage in producing internationally traded services, a clear implication is that U.S. policymakers will want to reduce foreign barriers to such trade.

Foreign Direct Investment

Besides trade, the United States engages with the world economically through FDI, defined as cross-border investment for the purpose of controlling a business enterprise or purchasing land. Companies

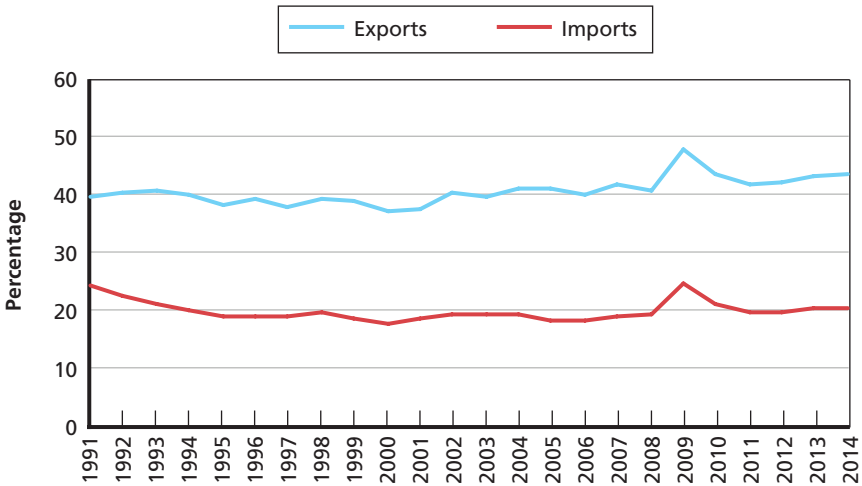
Figure 3.2
Goods Trade Balance and the Services Trade Balance



SOURCE: BEA, 2015i.

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Figure 3.3
Services Trade as a Percentage of Goods Trade



SOURCE: BEA, 2015i.

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that invest abroad then own foreign affiliates or branches. Sales of goods and services by foreign affiliates of U.S. companies far outstrip exports of goods and services from the United States. Multinational affiliates are subsidiaries or branches set up in a foreign, or *host*, country by a parent company in a *home* country. One example is Pan Asia Technical Automotive Center Co., Ltd., 50–50 owned by U.S.-headquartered General Motors and China-headquartered SAIC Motor (formerly Shanghai Automotive Industry Corporation).³

Companies tend to gain efficiencies when they expand abroad by lowering production costs and the costs of sales to final markets. These efficiencies result in higher profits, wages, and benefits. In fact, foreign capital spending and foreign hiring are associated with increased domestic capital spending and hiring.⁴ Likewise, FDI by foreign companies in the United States contributes to U.S. productivity gains,

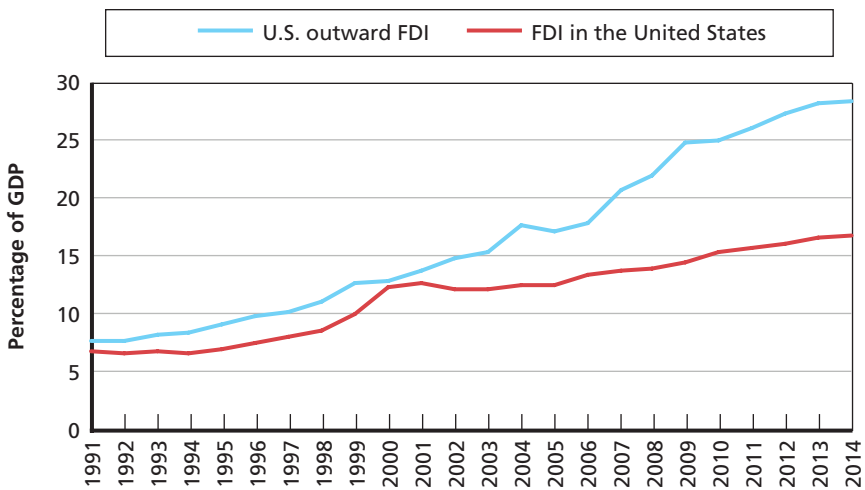
³ General Motors China, *Backgrounder: General Motors in China*, March 5, 2015.

⁴ White House, *Economic Report of the President, 2007*, Washington, D.C.: U.S. Government Printing Office, 2007, Ch. 8.

increased trade, increased research and development, an increase in the capital stock, and financing for the current account deficit.⁵

Both outward and inward FDI have risen steadily, with outward FDI rising much more rapidly after 2000 (Figure 3.4). The outward direct investment position—the cumulative value of equity, inter-company debt, and other forms of investment into facilities for production overseas—rose from 7.6 percent of GDP in 1991 to 12.8 percent in 2000 and hit 28.4 percent in 2014. In contrast, the inward direct investment position rose from 6.8 percent of GDP in 1991 to 12.2 percent in 2000—both numbers on par with the outward direct invest-

Figure 3.4
Direct Investment Position



SOURCES: BEA, July 2015a; BEA, “International Data, Direct Investment and MNE,” (search string: Foreign Direct Investment in the United States, Balance of Payments and Direct Investment Position Data, Foreign Direct Investment Position in the United States on a Historical-Cost Basis), Washington, D.C.: U.S. Department of Commerce, July 2015b; BEA, “International Data, Direct Investment and MNE,” (search string: U.S. Direct Investment Position Abroad, Balance of Payments and Direct Investment Position Data, U.S. Direct Investment Position on a Historical-Cost Basis), Washington, D.C.: U.S. Department of Commerce, July 2015c.

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⁵ White House, 2007, Ch. 8.

ment position—but then rose to only 16.7 percent in 2014, well below the increase of outward FDI.

There is some uncertainty with numbers from individual countries because companies in one country may route their investments through another country for tax-saving purposes or for other efficiencies. For example, the direct investment position held by investors moving money directly from the UK to the United States was almost \$449 billion in 2014. When accounting for UK firms that were ultimate beneficial owners but that might have moved their money through third countries, however, that total rises to almost \$466 billion. In fact, foreign investment into the United States from ultimate beneficial owners who were actually in the United States was almost \$80 billion. However, since this is out of a total inward direct investment position of \$2.9 trillion, it does not have a large effect on understanding aggregate trends.

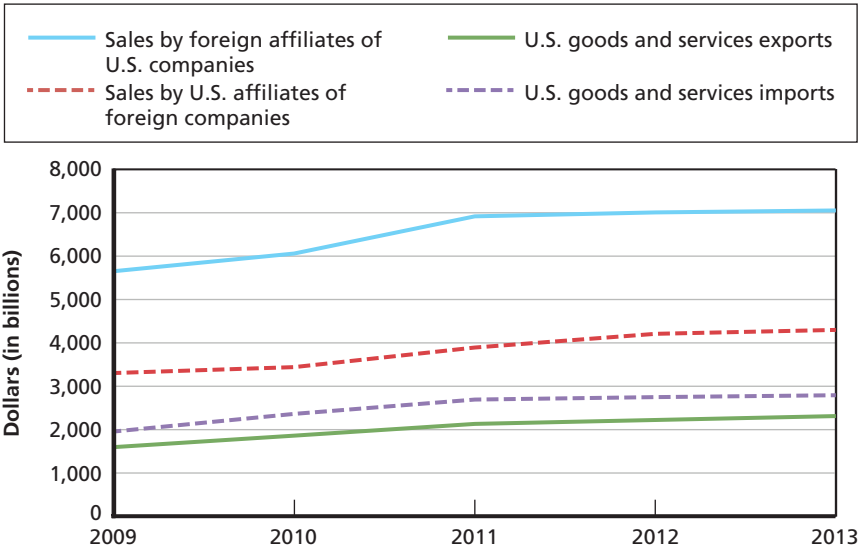
Among the reasons to invest abroad are to sell products and services to local markets more easily. Production in a market enables companies to reduce transport costs, gain better market intelligence, localize products more easily, and respond more quickly to changes in local market demand. In fact, sales by foreign affiliates of U.S. companies far outstrip U.S. exports (Figure 3.5). The vast majority of these sales go to the market in which they are located or other foreign countries, rather than being shipped back to the United States. These sales, rather than trade, are the preferred way to serve foreign markets. In 2013, more than 90 percent of all goods and services supplied by majority-owned foreign affiliates of U.S. companies went to foreign markets.⁶

Sales by foreign affiliates of U.S. companies have averaged more than three times U.S. exports since the end of the Great Recession. Sales by U.S. affiliates of foreign companies have averaged 1.15 times U.S. imports during the same period.⁷ One implication of the U.S. direct investment track record is that policymakers will want to con-

⁶ BEA, *Activities of U.S. Multinational Enterprises: U.S. Parent Companies and Their Foreign Affiliates: Preliminary 2013 Statistics*, Washington, D.C.: U.S. Department of Commerce, August 2015d, Table II.E.2

⁷ These averages are calculated for the period 2010–2013; in contrast, Figure 3.5 shows the full available data series, 2009–2013.

Figure 3.5
Sales by Multinational Affiliates Versus Trade



SOURCES: BEA, “International Data, Direct Investment and MNE,” (search string: U.S. Direct Investment Abroad, Data on Activities of Multinational Enterprises, All Foreign Affiliates, Total Sales, Data for 2009 and Forward), Washington, D.C.: U.S. Department of Commerce, August 24, 2015f; BEA, 2015h, Table 1.

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tinue to expand opportunities for U.S. firms to invest abroad. Likewise, given the benefits of direct investment to the U.S. economy, they will want to make sure the U.S. investment climate remains open on a nondiscriminatory basis.

The Energy Revolution

As already noted, the current account has been narrowing. One cause of that is the advent of greater domestically produced supplies of hydrocarbons through the hydraulic fracturing process. These supplies are frequently called tight oil and shale gas, and are produced from fracturing underground rock formations to release the supplies. This revo-

lution is reflected in both production and reserves; monthly average field production of crude oil rose 85 percent from 2006 to 2015.⁸

At the end of 2006, the United States was considered to have proven reserves of oil totaling 29.9 billion barrels and proven reserves of natural gas totaling 209.15 trillion cubic feet.⁹ By the end of 2013, thanks to the way the new technologies enabled companies to produce, the United States was considered to have proven reserves of oil totaling 44.2 billion barrels and proven reserves of natural gas totaling 330.0 trillion cubic feet.¹⁰ This placed the United States tenth in the world in oil reserves, although well behind leaders Venezuela (298.3 billion barrels), Saudi Arabia (265.9 billion barrels), and Canada (174.3 billion barrels). It placed the United States fifth in natural gas reserves. Although well behind leaders Iran (1,192.9 trillion cubic feet), Russia (1,103.6 trillion cubic feet), and Qatar (871.5 trillion cubic feet), U.S. gas reserves now exceed those of Saudi Arabia, the United Arab Emirates, and Venezuela.

Until late December 2015, the U.S. government banned the export of crude oil from the continental United States except to Canada and in swaps with Mexico. Because of the energy revolution, with U.S. oil production increasing 90 percent since August 2008, and with a concomitant drop in oil and gasoline prices, Congress decided to lift the 40-year-old ban and tucked the repeal in an end-of-year budget and tax bill; President Obama had threatened to veto a stand-alone bill.¹¹

Even with the ban in place, the United States has been the world's largest exporter of refined oil products. It has exported more than 3 million barrels per day of refined oil products, more than 15 percent

⁸ U.S. Energy Information Administration, "U.S. Field Production of Crude Oil (Thousand Barrels)," in Data Spreadsheet PET_CRD_CRPDN_ADC_MBBL_M.xls, April 2016. Percentage gain is based on monthly averages in 2006 and 2015. Actual numbers are 155 million barrels per month in 2006 and 287 million barrels per month in 2015. By February 2016, the month of latest available data, this figure was 265 million barrels per month.

⁹ BP, *BP Statistical Review of World Energy 2007*, London, June 2007

¹⁰ BP, *BP Statistical Review of World Energy 2014*, London, June 2014.

¹¹ Amy Harder and Lynn Cook, "Congressional Leaders Agree to Lift 40-Year Ban on Oil Exports," *Wall Street Journal*, December 16, 2015.

of U.S. consumption of refined oil products, in recent years. With the ban on exports of crude oil lifted, some oil that is currently refined and exported abroad as product may be exported as crude. However, U.S. refineries are highly efficient and most profitable when operated near capacity, so it is not clear how much of a shift from refined products to crude might take place.

The international gas market is becoming more flexible, with the continued development of liquefied natural gas (LNG) that can move by ship from any port with a liquefaction terminal to any port with a gasification terminal. However, natural gas is primarily traded on three large regional markets: North America, Europe and Eurasia, and East Asia. In North America and Europe, almost all gas is imported through pipelines. These pipelines are fixed, meaning it remains difficult to redirect flows to take advantage of international differences in prices. In 2014, trade movements by pipeline totaled 663.9 billion cubic meters, whereas trade movements by LNG totaled 333.3 billion cubic meters.¹² As a result, there is not yet one world market.

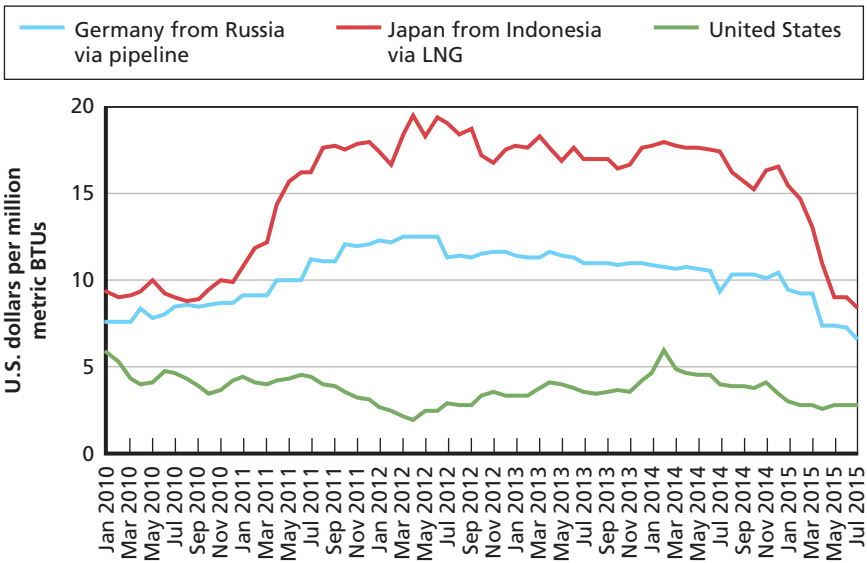
Given dramatically increased supplies of U.S. natural gas, gas prices in the United States have remained far lower than elsewhere (Figure 3.6). Until recently, price differentials between natural gas in East Asia and North America were large. However, with the decline in world market oil prices (which are linked to natural gas prices), the spread has become much smaller, reducing the attractiveness of importing LNG from the United States to East Asia and Europe.

The implications of this new energy potential are still unclear. Under a variety of conditions, U.S. energy imports and exports are expected to come into balance between 2019 and 2028.¹³ The United States will still import oil on net, although less than before, but is expected to become a net exporter of natural gas, especially LNG, by 2017. This will allow U.S. producers to sell to Europe in competition with Russia and other pipeline exporters, should U.S. and European

¹² BP, *BP Statistical Review of World Energy 2015*, London, June 2015.

¹³ U.S. Energy Information Administration, *Annual Energy Outlook 2015, With Projections to 2040*, Washington, D.C.: U.S. Department of Energy, April 2015a.

Figure 3.6
U.S. Natural Gas Prices Versus Selected International Natural Gas Prices



SOURCE: IMF, "Monthly Data" (commodity prices), Excel spreadsheet, *IMF Primary Commodity Prices*, undated.

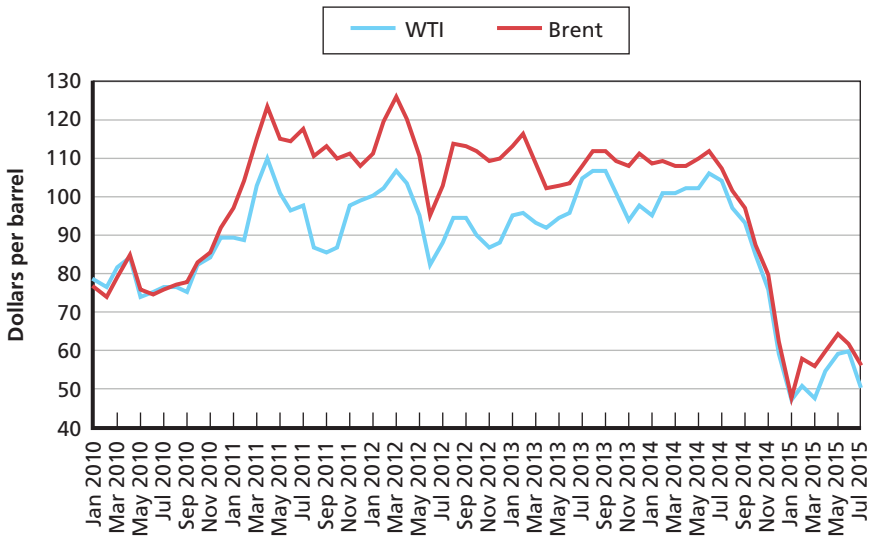
NOTE: Figure shows the monthly average price per million metric British Thermal Units (BTUs) of the Russian natural gas border price in Germany, Indonesian LNG in Japan, and the natural gas spot price at the Henry Hub terminal in Louisiana.

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companies find the LNG infrastructure investment to make business sense.

This changed energy landscape will not allow the United States to delink from the world energy market. The world oil market is one market, so any price volatility should feed through to U.S. prices. However, there have been advantages. Increased gas and oil production have contributed to increased employment in energy industries, and these jobs are generally higher-paying than many other jobs in the United States. U.S. oil production has contributed strongly to the dramatic decrease in global oil prices between 2014 and 2015 (Figure 3.7) and this production as of October 2015 showed little sign of letting up. Should U.S. producers increase their exports of crude oil without

Figure 3.7
The Decline in Petroleum Prices



SOURCE: U.S. Energy Information Administration, *Electricity Monthly Update*, with data for May 2015, July 27, 2015b.

NOTE: Figure shows the Cushing, Oklahoma, monthly average spot price per barrel of West Texas Intermediate (WTI) (variable "RWTC" in the source database) and the European Spot Price for Brent Crude Free On Board (variable "RBRT" in the source database).

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decreasing their exports of refined products, the additional export revenues would enter the U.S. economy.

Increased gas production may have more direct benefits to U.S. economic growth. Because the world gas market is not yet a unified market, U.S. consumers and businesses should continue to pay lower gas prices than consumers and businesses elsewhere in the world, giving a competitive edge to U.S. industries that are intensive in gas use. These industries include foundries, paper mills, and other heavy industrial processes.¹⁴ In addition, consumers should benefit because electricity generation has

¹⁴ Michael E. Porter, David S. Gee, and Gregory J. Pope, *America's Unconventional Energy Opportunity: A Win-Win Plan for the Economy, the Environment, and a Lower-Carbon, Cleaner-Energy Future*, Harvard Business School and The Boston Consulting Group, 2015.

gradually been relying more and more on natural gas, although coal still remained the single largest fuel source in 2015.¹⁵

Lower net oil imports and higher net gas exports could help improve the trade balance. That is not guaranteed, however, as Americans may use the money they saved on foreign oil to purchase other imported goods. The trade balance will be more heavily influenced by the overall U.S. savings and investment balance; so, to improve its external economic performance, U.S. policymakers will need to institute other policies to complement the changes in the energy markets.¹⁶

Finally, the energy revolution might mean a global price cap on oil for several years, even if U.S. oil wells are not producing because the price is too low to make production profitable. As of mid-February 2016, the United States had 4,000 oil wells that had been drilled and were not producing, but that could be brought online in 80 days if the price were right. Some estimate that price to be \$50 per barrel.¹⁷

The Federal Reserve

The discussion to this point has dealt largely with what is known as the real economy—trade in goods and services—including oil, gas, and refined products—and investment for the purpose of production. The United States also interacts with the global economy in the financial economy through the purchase and sale of equities and debt and other financial instruments. The United States has the largest finan-

¹⁵ U.S. Energy Information Administration, 2015b. In 2016, it appears that natural gas will supplant coal as the largest source of electric power generation and that ongoing retirements of older coal-fired power plants will cement natural gas in that position.

¹⁶ In balance of payments accounting, the current account, the broadest measure of the trade balance, is equal to a nation's savings minus its investment, where investment means new buildings, plants, and equipment. Therefore, to carry a current account surplus, a nation must save more than it invests. This increased saving can come in the form of government budget surpluses or higher household and business saving.

¹⁷ Javier Blas and Dan Murtaugh, "There's One Place Where OPEC Can't Broker an Oil Deal: Texas," *BloombergBusiness*, February 17, 2016.

cial market in the world, in dollar terms, and the deepest, in terms of amount of trading and variety of securities. Underpinning this is the U.S. dollar and the Federal Reserve (the Fed), an operationally independent government agency.

The Fed has a dual mandate of price stability and maximum sustainable employment.¹⁸ These are largely domestic concerns, but because of the degree to which the U.S. and global economies are intertwined, the Fed also pays attention to its effect on foreign economies. Economic problems in other countries may adversely affect the U.S. economy, and instability in the U.S. economy may adversely affect foreign economies with negative feedback to the U.S. economy. As a result, monetary policy, whether in normal or crisis times, is conducted with an eye toward the global economy.

Interest rate changes—the Fed’s main policy instrument, at least until the financial crisis that brought on the Great Recession—affect the value of the dollar and therefore of other currencies, as well as capital flows into or out of the United States, and therefore into or out of other countries. Furthermore, its more recent policy innovation of directly buying U.S. assets to help with the U.S. economic recovery caused increases in the prices of foreign assets, including riskier assets in foreign countries.¹⁹

In a number of instances, the Fed has gotten directly involved in foreign economies or foreign economic policymaking. For example, the Fed and other central bank governors worked with finance ministers in 1985 to halt the appreciation of the U.S. dollar. Regular meetings of senior central bank officials have helped with information exchange and coordination of foreign-exchange market intervention—as in 1998, when central banks coordinated in reaction to Japanese yen depreciation following the Asian financial crisis, and in 2000, when they reacted to euro depreciation. As the financial crisis developed in 2008, the Fed and

¹⁸ Stanley Fischer, vice chairman, Board of Governors of the Federal Reserve System, “The Federal Reserve and the Global Economy,” speech at the conference held in honor of Professor Haim Ben-Shahar, former president of Tel Aviv University, Tel Aviv, Israel, May 26, 2015.

¹⁹ Fischer, 2015.

the central banks of Europe, the UK, Canada, Switzerland, and Sweden coordinated an easing of monetary policy.²⁰

The fact that the dollar is globally used also has necessitated Fed cooperation. Because foreign financial institutions borrow and lend in dollars, they need to be assured that they will be able to access dollars when they need them, or they might be faced with an inability to meet their obligations. Accordingly, in the early days of the financial crisis in 2007, the Fed set up dollar swap lines with 14 foreign central banks, enabling it to exchange dollars for the currencies held by those central banks. The Fed renewed five of those swap lines in 2010.²¹

Conclusion

The U.S. economy has increasingly globalized over the long post–World War II period, with this trend accelerating since the opening of China, first in the late 1970s and more so in the 1990s, and the end of the Soviet Union and its domination of parts of Europe from 1989 through 1991. In recent years, a number of positive developments have occurred: The broad trade balance has improved, energy production has risen and prices have fallen, and the United States has maintained strong performance in services exports.

Furthermore, without judgment as to whether this is positive or negative, U.S. trade and investment relative to the size of the economy have risen strongly. This suggests that the influence of the global economy on the U.S. economy likely has risen as well, and that the United States will benefit from staying engaged in the global economy.

Every trade has a partner, and every foreign investment has a destination. So far, this report has considered U.S. economic trends against past measures. The next chapter presents U.S. economic trends in an international comparative perspective.

²⁰ Barry Eichengreen, *Does the Federal Reserve Care About the Rest of the World?* Cambridge, Mass.: National Bureau of Economic Research Working Paper 19405, September 2013.

²¹ Eichengreen, 2013.

