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The U.S. Trade Deficit: Causes, Consequences, and Cures

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The U.S. Trade Deficit: Causes, Consequences, and Cures

Summary

The U.S. trade deficit had risen steadily since 1992. In 2007, however, the trade imbalance decreased to $738.6 billion from $811.5 billion in 2006. This decrease was a reflection of continued strong growth of exports sales, up $182 billion or 12.6% over their level in 2006; and the continuing deceleration of import purchases, advancing $132.7 billion or 6.0% over their level in 2006. A sizable depreciation of the dollar since 2002 has at once made U.S. exports more attractive to foreign buyers and imports less attractive to American buyers. As a percentage of GDP, the trade deficit in 2007 stood at 5.3%, a decrease from 6.1% in 2006. The surplus in the investment income component of the trade balance increased to $74 billion, up from a surplus of $36.6 billion in 2006. However, the large and growing size of U.S. foreign indebtedness caused by successive trade deficits suggests that the investment income surplus will soon be pushed toward deficit.

The size of the U.S. trade deficit is ultimately rooted in macroeconomic conditions at home and abroad. U.S. saving falls short of what is sought to finance U.S. investment. Many foreign economies are in the opposite circumstances, with domestic saving exceeding domestic opportunities for investment. This difference of wants will tend to be reconciled by international capital flows. The shortfall in domestic saving relative to investment tends to draw an inflow of relatively abundant foreign savings seeking to maximize returns and, in turn, the saving inflow makes a higher level of investment possible. For the United States, a net financial inflow also leads to a like-sized net inflow of foreign goods — a trade deficit. In 2007, both saving and investment fell, but investment fell more, causing the trade deficit to narrow.

The benefit of the trade deficit is that it allows the United States to spend now beyond current income. In recent years that spending has largely been for investment in productive capital. The cost of the trade deficit is a deterioration of the U.S. investment-income balance, as the payment on what the United States has borrowed from foreigners grows with rising indebtedness. Borrowing from abroad allows the United States to live better today, but the payback must mean some decrement to the rate of advance of U.S. living standards in the future. U.S. trade deficits do not now substantially raise the risk of economic instability, but they do impose burdens on trade sensitive sectors of the economy.

Policy action to reduce the overall trade deficit is problematic. Standard trade policy tools (e.g., tariffs, quotas, and subsidies) do not work. Macroeconomic policy tools can work, but recent and prospective government budget deficits will reduce domestic saving and most likely tend to *increase* the trade deficit. Most economists believe that, in time, the trade deficit will correct itself, without crisis, under the pressures of normal market forces. But the risk of a more calamitous outcome can not be completely discounted. This report will be updated annually.

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Introduction

International trade continues to grow in importance for the world economy as well as the U.S. economy, enhancing economic well-being generally, but also imposing costs on trade sensitive sectors of national economies. The importance of trade has been well-recognized by Congress, which in recent years has paid close attention to many dimensions of U.S. international trade performance. This report examines the trade deficit, paying special attention to what causes the imbalance, why it may be a problem, and what can be done to correct it.

Trade Performance in 2006

The U.S. trade deficit, as tallied in the *current account balance*,[1] had risen steadily since 1992. In 2007, however, the trade imbalance decreased to $738.6 billion from $811.5 billion in 2006. This decrease was a reflection of continued strong growth of exports sales, up $182 billion or 12.6% over their level in 2006; and the continuing deceleration of import purchases, advancing $132.7 billion or 6.0% over their level in 2006. As a percentage of GDP, the 2007 trade deficit stands at 5.3%, down from a record size of 6.1 % in 2006.

The trade deficit rose slowly and, more or less, steadily from a small surplus in 1991(a recession year) to about $135 billion in 1997. Over the next three years, as the pace of the economic expansion accelerated, the trade deficit grew substantially, reaching $413.4 billion in 2000. With recession in 2001, the trade deficit fell moderately to $389 billion. With the economic recovery in 2002, the trade deficit again began to expand along with the steady improvement in the pace of economic growth. The size of the trade deficit between 1997 and 2007 increased by $806 billion, with particularly large increases occurring between 2003 and 2006. **Table 1** shows the anatomy of recent trade trends.

Goods Trade Balance

Goods trade is the largest component of the current account balance, and what has happened in this form of trade has been the major source of change in the overall

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[1] The balance on current account is the nation's most comprehensive measure of international transactions, reflecting exports and imports of goods and services, investment income (earnings and payments), and unilateral transfers.

current account in recent years, including 2007. The deficit in goods trade decreased to $815.4 billion in 2007 from $838.3 billion in 2006.

Over the last decade, the U.S. deficit in goods trade increased by over $600 billion. During this period, both exports and imports generally rose, but import growth out paced export growth. In 2001, in response to slack demand across the world economy, U.S. goods exports had fallen, but the U.S. recession in 2001 also led to an even larger curtailment in the U.S. demand for imports, causing the goods deficit (and the current account deficit) to fall. In 2002, weak world demand continued to push U.S. exports down, but even a tepid U.S. economic recovery in 2002 was enough to cause goods imports to increase, and the goods deficit (and the current account deficit) was once again on the rise.

In 2007, goods exports grew 12.3%, continuing a pattern of strong growth that began in 2004. In contrast, goods imports grew only 5.5% in 2007, continuing a pattern of deceleration from a 17% annual pace in 2004. This disparate performance of exports and imports reflects the impact of a 26% real depreciation of the dollar since 2002.[2] The depreciation has improved the price competitiveness of U.S. exports in foreign markets and deteriorated the price competitiveness of foreign goods in U.S. markets. Also contributing to this phenomenon was faster economic growth in Japan and the euro area. Nevertheless, in 2007 goods imports were still nearly twice as large as goods exports, with the implication that growth of goods exports will have to substantially exceed that of goods imports for many years to erase the deficit in goods trade.

Table 1. U.S. Current Account and Components
(BOP basis, billions of dollars, annual rate)

	2002	2003	2004	2005	2006	2007
Current account balance	-472.4	-527.5	-665.3	-791.5	-811.5	-738.6
Goods balance	-482.3	-547.3	-665.4	-782.7	-838.3	-815.4
Exports	682.4	713.4	807.5	894.6	1023.1	1,149.2
Imports	-1,164.7	-1,260.7	-1,473.0	-1,677.2	-1,861.4	-1,964.6
Services balance	61.2	52.4	54.1	66.0	79.7	106.9
Exports	292.3	302.7	344.4	380.6	422.6	479.2
Imports	-231.0	-250.3	-290.3	-314.6	-342.8	-372.3
Investment income(net)	12.2	36.6	27.6	11.3	36.6	74.3
Transfers (net)	-63.5	-69.2	-81.5	-86.1	-89.6	-104.4

Source: U.S. Department of Commerce (Bureau of Economic Analysis) and Global Insight

[2] The depreciation of the dollar is measured by the inflation adjusted change in an index of the trade-weighted currencies of the United States trading partners. Individual currencies may of changed more or less than the average for the overall index.

Services Trade Balance

In 2007, the U.S. surplus in services trade increased to $106.9 billion from $79.7 billion in 2006. In contrast to goods, services trade has consistently shown a surplus in the post-WWII era. From 2001 through 2003, the services surplus decreased due to the dampening effects of a strong dollar and generally weak growth in the industrial economies. Since then, however, a large depreciation of the dollar and faster economic growth abroad caused the surplus in services trade to nearly double in size by 2007. In general, the persistent surplus in services trade is a reflection of the competitive strength of most U.S. service exports.

Investment Income Balance

In 2007, the balance in the U.S. investment income account increased to $74.3 billion from a surplus of $36.6 billion in 2006. This increase was mostly the result of larger net inflows of interest and dividend payments.

The investment income balance is a tally of what U.S. foreign investments earn against what foreign investments in the United States earn. This pattern of surplus seems inconsistent with the rapid growth of foreign assets in the United States relative to the stock of U.S. assets in the rest of the world that has accompanied the rising U.S. trade deficit. Nevertheless, since 1998, the surplus in investment income has exhibited a rising trend, even as U.S. net indebtedness to the rest of the world increased sharply.

The persistence of the U.S. investment income surplus through 2007 is the result of the interplay of several forces. First, U.S. investments abroad on average earn a higher return than foreign investments do in the United States. This differential is thought to result from a higher incidence of mature, high yielding, assets in the U.S. investment portfolio, greater risk exposure, and the special status of the dollar as the worlds reserve currency of choice. Second, the sharp fall of interest rates in 2006 and 2007 translated into a significant fall in payments because a large portion of U.S. foreign debt is short-term and has been rolled over at lower interest rates. Third, in the period 2002 to 2007, a falling dollar, particularly against the euro, caused the foreign currency value of U.S. foreign assets and the associated earnings to rise.

In the long run, however, it is likely that the United States' large and still growing stock of net foreign indebtedness will come to dominate movement of this balance and lead to steadily larger deficits in the investment income balance.[3]

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[3] The level and composition of the United States' accumulated net indebtedness to foreigners is found in the annual tally of the nation's *net international investment position* (NIIP) by the U.S. Department of Commerce and published in the June *Survey of Current Business*. In 2005, the NIIP was a deficit of $2.7 trillion. The capital inflow manifests in foreign holdings of several different types of assets including bank accounts, stocks, bonds, and real property. For more detail on cross-border capital flows, see CRS Report RL32462, *Foreign Investment in U.S. Securities*, by James Jackson.

The Causes of the Trade Deficit

An increasing current account deficit (or a falling surplus) over the course of a brisk economic expansion is not a remarkable event for the U.S. economy. In the 1960s, brisk economic growth steadily eroded a small current account surplus. In the 1970s, modest deficits occurred with each economic expansion. However, from the 1980s through 2007, the average size of the trade deficits steadily increased. Cyclical factors certainly have at times played some role in this phenomenon, particularly in recent years with the United States growing rapidly relative to most major trading partners. Trend forces are also at work, however, inclining the U.S. economy toward generating large trade deficits in all but recession conditions. The next section examines in more depth the fundamental determinants of the trade balance.

The trade deficit widens as the economy expands, not because of trade barriers abroad, not because of foreign dumping of exports, and not because of any inherent inferiority of the U.S. goods on the world market, but because of underlying macroeconomic spending and saving behavior at home and abroad. In the U.S. economy, there is a strong tendency to spend beyond current output, with the excess of demand met by a net inflow of foreign goods and services that manifests as the U.S. trade deficit.[4]

However, the U.S. trade deficit is only possible if there are foreign economies that produce more than is absorbed by their current spending and are able to export the surplus. Trade deficits and trade surpluses are jointly determined through international capital flows that lead to a mutually favorable reconciliation of these domestic spending-production imbalances. These imbalances will be sensitive to the short-run effects of the business cycle (at home and abroad) as well as long-term effects of trends in spending and production. But, these imbalances will not be significantly changed by trade policies that try to directly alter the levels of exports or imports such as tariffs, subsidies, or quotas.

A Saving-Investment Imbalance

National spending-production imbalances are analyzed by economists from the standpoint of national saving and investment behavior. Saving is just the flip side of spending (an excess of spending essentially translates into a deficiency of savings) but focusing on saving has the analytical advantage of rooting the phenomenon in the transactions on international asset markets that are the key to understanding aggregate trade imbalances.

International Capital Flows. A large and fluid trade in assets is one of the central attributes of the current world trading system, growing from flows totaling

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[4] It is useful to remember that "income"/ "spending" are the flip side of "production"/ "output." Any given value of production generates an equal value of income. Thus the income the economy earns can support spending sufficient to purchase the economy's current output. With international trade, however, it is possible for there to be a divergence of spending and production through the borrowing and lending of current income and output between nations.

only a few billion dollars in 1970 to $7 trillion in 2005. The United States has been a major participant in international asset markets. In 2007, it received capital inflows of nearly $1.9 trillion and send capital outflows to the rest of the world of over $1.2 trillion.[5]

With fluid world capital markets, domestic saving-investment imbalances will tend to cause two equivalent transfers: one, an initiating capital market transfer of real purchasing power (i.e., a loan) from the country with a surplus of saving to the country with a shortage of saving; and two, a corresponding transfer of real output (i.e., an import to the borrower and an export from the lender) through a goods market transaction.

It is an economic identity that the amount of investment undertaken by an economy will be equal to the amount of saving — that is, the portion of current income not used for consumption — that is available to finance investment. But for a nation this identity can be satisfied through the use of both domestic and *foreign saving*, or domestic and *foreign investment*. Therefore, a saving investment imbalance is a relationship between domestic saving and investment and one that can only occur if foreign saving or investment are available to satisfy the overall saving investment identity.[6] International capital flows from lender to borrower are the means by which the saving of one country can finance the investment of another. If international capital flows did not exist, domestic investment could be no larger or smaller than domestic saving.

In a relatively open world economy with reasonably fluid and well functioning international asset markets, it is possible for domestic saving-investment imbalances to be reconciled by international capital flows. With a willing lender and a willing borrower, flows of capital from a saving surplus country to a saving shortage country can achieve *overall* saving-investment balance for both nations. These asset market transactions will change the demand for and supply of national currencies needed to purchase foreign assets, causing changes in exchange rates, which, in turn, induce an equivalent sized net flow of goods (i.e., trade deficits and trade surpluses) between economies.

Interest Rates and International Capital Flows. Differences in the level of interest rates between economies are the basic equilabrating mechanism that works to induce saving (income) flows between countries as investors seek out higher rates of return. A nation with a "surplus" of domestic saving over domestic investment opportunities will tend to have relatively low domestic interest rates because the domestic supply of loanable funds (i.e., saving) exceeds the domestic demand for loanable funds (i.e., investment) pushing down interest rates (i.e., the price of loanable funds). As a result, this economy will likely see some portion of domestic saving flow

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[5] See CRS Report RL32462, *Foreign Investment in U.S. Securities*, by James Jackson.

[6] Saving in a macroeconomic framework is the portion of current income that is left after households, businesses, and government pay for their current consumption. A household that diverts some amount of current income to a bank, mutual fund, or government bond is saving. Similarly the tax revenue that the government has left after paying for its spending is (public) saving.

outward, attracted by more profitable investment opportunities abroad. This net outflow of purchasing power, which generally can only be used to purchase goods (or assets) denominated in the country's currency, will, through changes in exchange rates, induce a like-sized net outflow of real goods and services — a trade surplus. Japan is an example of a nation that in recent decades has produced large net outflows of saving to the United States and other nations.

Conversely, another nation that finds its domestic saving falling short of desired domestic investment will tend to have relatively high domestic interest rates because the domestic demand for loanable funds exceeds the domestic supply of loanable funds. As a result this economy will likely attract an inflow of foreign saving, attracted by the higher rate of return, and that inflow will help support domestic investment. Such a nation becomes a net importer of foreign saving (income), able to use the borrowed purchasing power to acquire foreign output, and leading to a like sized net inflow of foreign output — a trade deficit. That deficit augments the output available to the domestic economy, allowing the nation to invest beyond the level of domestic savings and, more generally, have domestic spending exceed domestic output.

International asset market transactions and goods market transactions influence both the demand and supply of dollars on foreign exchange markets. In most circumstances, however, there is a strong expectation that asset market transactions will tend to be dominant and ultimately dictate the exchange rate's actual direction of movement. This dominance is the result of asset market transactions occurring on a scale and at a speed that greatly exceeds what occurs with goods market transactions. Electronic exchange makes most asset transfers nearly instantaneous and, in most years, U.S. international asset transactions were two to three times as large as what would be needed to simply finance that year's trade deficit. In 2007, The balance of payments account show both a $1.2 trillion purchase of foreign assets by U.S. residents (a capital outflow) and a $1.9 trillion purchase of U.S. assets by foreign residents (a capital inflow). So while the United States could have financed the $811 billion trade deficit for 2007 simply by a $811 billion sale of assets to foreigners, U.S. and foreign investors engaged in a much larger volume of pure asset swapping.

A telling sign that asset transactions have been the determining force is that the dollar appreciated as the trade deficit grew. If goods market transactions were the determining force, the increase of the trade deficit would tend to depreciate the dollar: rising U.S. imports cause more dollars to be exchanged for foreign currency, increasing the supply of dollars on the foreign exchange market, and pushing the dollar down. In general, the exchange rate of countries that receive a net inflow of foreign capital will tend to appreciate, whereas the exchange rate of countries that have a net capital outflow will tend to depreciate.

Other Factors That Influence International Capital Flows. Although relative levels of interest rates between countries are likely to be a strong and prevalent force directing capital flows among economies, other factors will also influence these flows. For instance, the size of the stock of assets in a particular currency held in the foreign investor's portfolio of assets can cause a change in investor preferences. Prudent investment practice counsels that an investor's portfolio have an appropriate degree of *diversification* across asset types, including the

currency in which the assets are denominated. Diversification of holdings spreads risk across a wider spectrum of assets and reduces over exposure to any one asset. Therefore, even though dollar assets may still offer a high relative return, if the accumulation of dollar assets already in the investor's portfolios is large, at some point foreign investors, considering both risk and reward, may decide that their portfolio's share of dollar denominated assets is large enough. To improve the diversity of their portfolios, investors may slow or halt their purchase of such assets. Given that well over $8 trillion in U.S. assets are now in foreign investor portfolios, achieving a sufficient degree of asset diversification may be an important factor governing the behavior of international investors toward dollar assets.

There is also likely to be a significant *safe-haven* effect behind some capital flows. This is really just another manifestation of the balancing of risk and reward by foreign investors. Some investors may be willing to give up a significant amount of return if an economy offers them a particularly low risk repository for their funds. The United States, with a long history of stable government and steady economic growth, presents a continually safe investment climate.

Also, there is also an important *market size effect* influencing the attractiveness of dollar assets. Not only do U.S. asset markets offer a great variety of instruments, they are also very liquid markets with the ability to handle huge sums of money with only a small impact on price. The precise size of these effects is not easy to determine, but the persistence of large capital inflows despite already large foreign holdings of dollar assets and the disproportionate share of essentially no-risk U.S. Treasury securities in foreign holdings suggests the magnitude of flows attributable to the special status of U.S. asset markets is probably substantial.

Further, foreign investor's expectations about the future path of the dollar will also influence the relative attractiveness of dollar assets. A 6% yield on a dollar denominated asset will have an expected yield of 0.0% if the dollar is expected to depreciate 6% per annum against the investors home currency over the bonds holding period. It would seem that investors at this time would likely take into consideration that keeping the rapidly rising U.S. external debt to GNP ratio in realistic bounds will require an elimination of the U.S. trade deficit and erasing the trade deficit can only be achieved by substantial real depreciation of the dollar. Therefore, the prudent investor must include this trend of decline into the calculation of the expected return, in their own currency, of holding dollar denominated assets. This expected depreciation makes the relative return on dollar assets even lower than what is indicated by the nominal interest rate differential.

In addition to private investors, governments will, with varying frequency, also buy or sell assets on the international capital market. Such *official purchases* are seldom motivated primarily by the factors of return and risk that typically propel private investors. Government *official purchases* can serve two objectives. One, the accumulation of a reserve of foreign exchange denominated in readily exchangeable currencies, such as the dollar, serves as a store of international liquidity that can be used for coping with periodic currency crises arising out of often volatile private capital flows. This is most often a device used by developing economies that periodically need to finance short-run balance of payments deficits and can not fully depend on borrowing on international capital markets to offer timely finance of these

deficits. The Asian financial crisis in the late 1990s heightened the importance for many developing economies of having very large stocks of international reserves to weather periodic financial crisis.

Two, official purchases are used to counter the impact of capital flows that would otherwise lead to unwanted changes in the countries exchange rate. The United States and most other industrial nations, while most often allowing the value of their currencies to float on the foreign exchange market, have at times undertaken such *intervention*. This, however, is a common practice for many east Asian economies that buy and sell foreign assets to influence their currencies' exchange rate relative to the dollar and other major currencies to maintain the price attractiveness of their exports. Globally, dollar assets in official foreign exchange reserves increased $1 trillion between 2001 and 2006.

Among the large industrial economies in recent years, Japan has been a highly visible practitioner of accumulating international assets so as to slow the rise of the yen relative to the dollar, accumulating dollar-denominated foreign exchange reserves in 2003 of about $117 billion. Among emerging economies, China has undertaken large scale accumulation of dollar assets to fix the value of the renminbi relative to the dollar, accumulating nearly $500 billion dollar-denominated assets between 2001 and 2007. In most cases, however, government exchange rate intervention is unlikely to be substantial enough to change the direction in which private investors are pushing the dollar. This intervention has likely slowed the fall of the dollar since early 2002, but not stopped it.

Recent Patterns of U.S. Saving and Investment Behavior

A domestic saving-investment imbalance can occur as a result of either investment rising relative to saving or saving falling relative to investment (see **Table 2**). In the 1980s, the saving rate and the investment rate both declined, but the saving rate fell substantially faster, inducing capital inflows and a rising trade deficit. The fall of the saving rate in this period was rooted in two occurrences. The first was a substantial fall in the public saving rate caused by the run up of large federal budget deficits (which amounts to negative saving or dissaving). The second occurrence was the decline of the household component of the private saving rate. In the late 1980s, this imbalance narrowed due to increased public saving (i.e., smaller deficits) and a sharp decline in the investment rate in response to a decelerating economy headed for recession.

After recovery from the 1991 recession, the U.S. saving-investment imbalance began to increase steadily, but the form of the imbalance changed. The rates of saving and investment both rose, but the investment rate increased more. The turnaround in the overall saving rate in the 1990s was the consequence of a sharp change in the public saving rate, where the steady move by the federal government from budget deficits to budget surpluses increased the public saving rate from -2.5% (i.e, dissaving) in 1992 to 5.2% in 2000. Dampening the rise of the overall saving rate, however, was the continued decline in the household saving rate, falling from about 6.5% in 1992 to 0.0% in 2000. The rise of the overall saving rate in the 1990s did not bring that rate up to the magnitude that prevailed in the 1950s, 1960s, or 1970s, and fell well short of the 1990s' briskly ascending rate of domestic investment. The

predictable consequence of a widening savings-investment imbalance was a rising inflow of foreign savings to close that gap, and in turn, an ever larger trade deficit.

A substantial decrease in the rate of investment during the 2001 recession narrowed this gap and the trade deficit. From 2002 to 2005, the U.S. rate of investment increased and the rate of saving declined, causing the investment-saving gap to widen and the trade deficit to expand. The higher rate of investment was the result of the faster pace of economic activity in the ongoing economic expansion. The further fall of the saving rate was caused by reductions in both the household and government saving rates. The overall rate of saving in the economy in this period remained positive due to a generally steady rate of business saving. In 2006, however, with stabilization of both the saving and investment rates, the investment-saving gap stopped rising and the trade deficits advance slowed significantly. In 2007, a substantial fall of the rate of domestic investment caused the U.S. economy's saving-investment gap to narrow (**see Table 2**).

Table 2. U.S. Saving-Investment Balance

(percentage of GDP)

	Ann. Avg. 1975 to 1982	Ann. Avg. 1983 to 1990	2001	2002	2003	2004	2005	2006	2007
Saving	19.7	17.1	16.5	14.7	13.5	13.4	14.0	14.1	13.4
Investment	20.3	19.5	19.1	18.4	18.2	19.2	19.9	20.0	18.7
Net[a] lending(+) or borrowing(-)	-0.6	-2.4	-3.6	-3.7	-4.7	-5.8	-6.2	-5.9	-5.3

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

a. Net lending, in concept, should equal the size of the current account balance. Statistical discrepancies prevent a precise matching, however.

Two questions may come to mind. One, why has the household saving rate collapsed over the past 20 years? Other factors unchanged, a higher rate of household savings would have likely meant the generation of smaller trade deficits. Two, why did U.S. investment spending boom in the 1990s? Other factors unchanged, a rate of investment at the lower level typical of other expansions would have also led to smaller trade deficits. The fall of the household saving rate has been the object of much economic research, but the reasons for the decline remain problematic. No single theory can fully account for the phenomenon, but three have considerable plausibility. First, capital gains on real estate, stocks, and other investments, particularly in the 1990s, have greatly increased household wealth. Economic theory predicts that a rise in wealth reduces the need to save and increases the tendency to spend. Second, increased government outlays for Medicare and Social Security transfer income from a relatively high saving segment of the population to a relatively low saving segment. Third, more streamlined credit market vehicles, such as credit

cards and home equity loans, have removed constraints on household liquidity and prompted increased spending (and reduced saving).[7]

The reasons for the investment boom in the late 1990s also remain somewhat unclear, but three plausible forces have been suggested. First, the wealth induced spending mentioned just above also provides a stimulus to business investment, as new plant and equipment is needed to meet the rising demand for output. Second, it is argued that recent deregulation of industry, liberalization of trade, and massive integration of ever cheaper and more powerful computers into the production process have boosted productivity and raised the profitability of investment in the United States. Third, and perhaps most plausible, pervasive economic weakness abroad, most recently in Asia, has made the United States a singularly attractive destination for foreign investment. Even the relatively slow pace of the U.S. economic recovery in 2002 and early 2003, when juxtaposed with generally weaker growth in the rest of the world made it likely that the trade deficit would expand in 2002 and 2003. In 2004 and 2005, the U.S. economic growth was brisk and outpaced that of other major economies.

A change of significance in U.S. saving behavior over the past five years is the shift in the trajectory of public saving. In 2002, the federal budget moved back into deficit and in 2004 that budget deficit had risen to $413 billion, with the prospect of similar sized budget deficits persisting into the foreseeable future. This has resulted in the federal government moving from being a net saver in 2000 at a magnitude equal to about 2.8% of GDP to being a net dissaver at a magnitude of about 2.5% of GDP in 2005. This fall in government saving exacerbates the saving-investment imbalance and, other factors constant, widens the trade deficit. In 2005, the federal budget deficit was reduced and government dissaving improved to -1.8% of GDP. The budget deficit continued to fall in 2006, down to about -1.1% of GDP. This recent reduction of the budget deficit has not been the result of any policy change, but rather the result of an unexpectedly large inflow of corporate tax revenue generated by record levels of profits. Despite this short-term reduction, most long-term projections see large budget deficits extending for many years into the future.

For that widening of the trade deficit to happen, however, there will also need to be foreign lenders willing to invest in the United States. If, to take one extreme position, there are no such investors then any fall in the domestic saving rate will, through higher interest rates, lead to a like sized fall in the domestic investment rate. If, at the other extreme, there are legions of investors eager to invest in the United States, the savings shortfall will be overcome with little dampening of domestic investment. More realistically, there will likely be willing foreign investors, but that willingness might have to be gained through the prospect of a higher rate of return. The higher domestic interest rates must go to attract investors to bridge the domestic saving shortfall, the more downward pressure there will be on domestic investment.

The macroeconomic forces that generate trade deficits are entirely consistent with high rates of capacity utilization and employment. Trade deficits, however, can have negative effects on output and employment in particular sectors. (The output,

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[7] See CRS Report RS20224, *The Collapse of Household Saving: Why Has it Happened and What Are its Implications?*, by Brian Cashell and Gail Makinen.

employment, and sectoral effects of trade deficits are discussed at greater length in a latter section of the report.) The United States has regularly been the net recipient of foreign capital inflows and regularly had trade deficits for the past 25 years. It has also regularly achieved high rates of economic growth and low rates of unemployment over this time period.[8] This is more understandable in that although a deficit in goods and services trade caused by the rise of the exchange rate tends to have a negative effect on domestic economic activity that is sensitive to international trade, there is also a positive effect on domestic economic activity because of the lower interest rates caused by the like-sized net inflow of foreign capital (saving). Therefore, the trade deficit changes the composition of domestic output, but does not change the overall level of domestic output.

It is also true that an overall trade imbalance need not be reflected in the balance with individual trading partners. Bilateral balances will reflect additional forces such as geographic proximity, scale economies, and comparative advantage. Therefore, some could be in deficit and others in surplus. Similarly, overall trade balance can be consistent with significant bilateral imbalances. For example, even if Unites States were to eliminate its trade deficit, it would likely have a sizeable trade deficit with China. Or seen the other way, a reduction of the U.S. trade deficit with China, not accompanied by a change in the U.S. economy's overall domestic saving-investment imbalance, will not lead to a reduction of the overall U.S. trade deficit. If, however, a decrease in the U.S. trade deficit with China is the result of a reduced inflow of capital (saving) from China, and there is no like-sized increase in another source of foreign saving, then the overall U.S. trade deficit will also fall, but so must domestic investment in the United States to bring it into line with the smaller pool of saving that would be available to finance domestic investment.

This overall scenario leaves three strong impressions. One, U.S. trade deficits appear to be largely (but not completely) created and propelled by macroeconomic forces in the domestic economy that influence international flows of capital. Two, those deficits must be sustained by willing foreign lenders, and substantial reduction of that willingness, other factors constant, might lead to deficit reduction on less than the most favorable terms. And three, these forces are not easily manipulated by economic policy.

Sustainability of the Trade Deficit

The ever larger U.S. trade deficit has been financed with relative ease. Nevertheless, an ever larger trade deficit is not likely to be sustainable indefinitely. There are automatic adjustment processes that will dampen the willingness of borrowers to borrow and of lenders to lend, and which can cause a more or less orderly reduction of the saving-investment imbalance and, in turn, the trade deficit.

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[8] For a fuller discussion of this analytical framework, see N. Gregory Mankiw, *Principles of Economics* (Fort Worth, TX: The Dryden Press, 1997), p. 659; and also, Congressional Budget Office, *Causes and Consequences of the Trade Deficit: An Overview*, CBO Memorandum, March 2000.

Borrower's Constraint

From the lenders perspective, the central question about a borrower country like the United States is the "ability to pay," that is, the economy's capacity to meet the interest and principal payments on the accumulated debt to foreigners. Such payments must come at the expense of other forms of national expenditure and, therefore, will not increase without bound. For the United States, the Net International Investment Position (NIIP) is the measure of its stock of obligations and GDP is the measure of its ability to pay. The ratio NIIP/GDP is a possible proxy of the borrower's constraint. Because the United States does not have much experience with a rising foreign debt to GDP ratio, it is difficult to judge at what value this ratio would begin to sharply deter more borrowing. Between 1992 and 2003, this ratio (expressed as a percentage) has risen from 7.3% to 21.6%, a substantial gain, but that is still below the 25% to 35% common among other high income countries, and well short of the debt burden of most households.

In 2006, the debt to GDP ratio fell to 19 %. Given a $811.5 billion current account deficit in that year, it may seem odd that the debt to GDP ratio did not increase. However, the change in the total dollar value of U.S. foreign debt reflects not only current borrowing but also changes in the market value of existing assets. These "valuation effects" were particularly beneficial for the United States in 2006, slowing the rate of advance of the negative NIIP. But such strongly favorable effects are unlikely to persist over the long run. Nevertheless, it is still problematic what level of the debt to GDP ratio would begin to significantly constrain the behavior of U.S. borrowers.

An alternative measure of constraint is the ratio of the current account balance (CA) to GDP (CA/GDP). This measure lays more stress on the size of the annual flow of foreign obligations relative to GDP as an initiator of borrower behavior. The value of CA/GDP for the United States has risen from 0.8% in 1992 to a high of 6.1% in 2006. Historically for industrial economies, when the CA/GDP ratio exceeded 4.2% the current account began to narrow.[9] The United States CA/GDP ratio has moved beyond that point. However, there are special attributes of the American economy that would allow it to prudently push borrowing beyond this benchmark ratio (see below).

Lender's Constraint

The willingness to lend to a particular destination will be influenced by the risk-return profile to other available assets. A broad array of alternatives with comparable risk-return prospects would tend to reduce the willingness to lend to a single borrower. Similarly, a paucity of alternative investment opportunities would have the opposite effect. It can be expected that the array of alternatives faced would be influenced by the strength of economic conditions across the globe. In addition, the desire of investors for some degree of portfolio diversification will tend to limit their willingness to become overly saturated in assets denominated in a single currency.

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[9] See Catherine L. Mann, *Is the Trade Deficit Sustainable* (Washington, DC: Institute for International Economics, 1999), p. 156.

Beyond the willingness to invest is the issue of ability to invest. The ability to sustain a large or rising outflow of capital will be limited by the size of the lender's economy and its wealth portfolio. Other economies are substantially smaller than the U.S. economy and may be unable to sustain the magnitude of outflow the United States can apparently readily absorb. Also limiting cross-border lending is the observed preference in most economies to hold a high percentage of wealth in home assets, although it is suspected that this preference is steadily being eroded by the improving efficiency of international asset markets. Finally, the holders of dollar assets, particularity shot-term portfolio investments, will be sensitive to the expected path of the dollar's exchange rate because a sizable depreciation can quickly decrease the rate of return of the dollar asset to the foreign holder. Therefore, the expectation of a depreciating dollar is likely reduce the foreign investors demand for dollar assets.

Three events have likely caused a substantial diversification of foreign investor portfolios *toward* dollar assets in recent years. One, the recent liberalization of the Japanese postal saving system, with a portfolio of $3 trillion, that had been held almost exclusively in very low yielding Japanese government bonds. Two, a large accumulation of foreign currency earnings by petroleum exporting countries looking for a preferred resting place in very liquid, hard currency assets. The sheer size and high liquidity of most U.S. markets, alone, will probably draw a large share of these funds. If U.S. assets also have a rate of return advantage then the inflow will be all the greater. Three, there has been a large increase in the level of foreign exchange reserves, particularly dollar reserves, held by foreign central banks.

The willingness of central banks to accumulate dollar assets will be governed by different considerations than the standard profit-loss calculation that motivates private investors and can be sustainable for long periods of time. Nevertheless, there will be pressures that will work to limit such official purchases. Unless the asset accumulation is *sterilized*, the growth of official reserves will be inflationary, and since the capacity for sterilization is not likely to be infinite, particularly if the financial markets of the lending country are not well developed and have small absorptive capacity, the inflationary impulse of official lending may not be avoidable forever. In general, sustained asset accumulation through official purchases ties the monetary policy of the lending country to that of the borrowing country and the lending country's need to avoid an acceleration of inflation will make it an unsustainable policy.[10] Also, like private investors, the prospect of incurring capital losses on holdings of dollar assets due to a likely depreciation of the dollar on the foreign exchange market could dampen foreign central bank's willingness to purchase more or continue to hold the dollar assets it has.

Special Considerations for the United States

There are factors unique to the United States that may reduce the constraints on international lending or borrowing. First, more than 90% of the U.S. international

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[10] On the subject of sustainability of the trade deficit see CRS Report RL33186, *Is the U.S. Current Account Deficit Sustainable*? by Marc Labonte.

borrowing is denominated in dollars.[11] This means that the pressures facing other countries which cannot borrow in their own currency because of potentially large fluctuations in the value of debt service burden caused by volatile exchange rates, are largely not an issue with the United States. Second, a large portion of foreign capital inflows to the United States is in relatively stable long-term investments. Such investments tend to be less prone to volatility caused by sudden changes in investor confidence. Third, about 50% of the investment in the United States by foreigners is in the form of equity (stock) holdings. Equity holdings tend to carry less strict payment requirements than debt holdings, working to lower the potential service payments (for a given level of NIIP), and extend the period over which the nation can prudently run current account deficits. Fourth, the size, stability, and liquidity of the U.S. asset markets puts the United States in a special position as a borrower. Finally, that importance is enhanced by the dollar also being the world economy's principal reserve currency and therefore a readily held asset as well as a readily exchanged asset. As noted above, foreign central banks have recently substantially increased their holdings of dollar reserves.

Prospects

Where is the trade deficit headed in the period just ahead? In the economic framework presented in this report, the answer to that question will hinge on the net direction of capital flows into and out of the American economy. At present, the United States is an international borrower receiving a net inflow of foreign capital. If that net inflow decreases, the trade deficit will also decrease. If the net inflow increases, the trade deficit will also increase. If the capital inflow remains the same, so will the trade deficit. So, what direction are capital flows likely to take?

Whether the current capital inflow gets bigger, smaller, or remains the same will most likely be determined by the resolution of two contenting forces: risk and reward. If, on balance, foreign investors see further investment in the United States as a far more riskier undertaking, other factors equal, the capital inflow will ebb and bring the trade deficit down with it. On the other hand, if the relative rate of return from investment in U.S. assets grows more attractive the net capital inflow could expand and bring the trade deficit up with it.

An important risk factor now is the adequacy of *diversification* in investor portfolios that contain large dollar balances. A survey by *The Economist* magazine shows that American assets make up 53% of the typical foreign investor's equity portfolio and 44% of the typical bond portfolio. As recently as the mid-1990s, these percentages where only about 30%. It has also been estimated that the average investor in recent years has allocated about 80% of his increased wealth to dollar assets and would have to continue at this rate or higher to sustain the U.S. trade deficit for the next few years.[12] This is a possible outcome, but it is fair to doubt that it is probable, as standard investment practice increasingly suggests that investors move away from dollar assets. Such a shift was likely a cause of the dollar's depreciation from early 2002 through 2004. In 2002, almost all foreign capital inflows

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[11] See U.S. Treasury Department, *Treasury Bulletin*, April 2002.

[12] *The Economist*, September 18, 2003.

were from private sources. But by 2004, only about 75% of that inflow was from private sources. However, as inflows of capital from private investors weakened there was a sharp increase in official purchases of dollar assets by foreign central banks. The annual increase of holdings of dollar denominated foreign exchange reserves by foreign central banks grew from $28 billion in 2001 to a peak increase of $440 billion in 2006. In 2007, foreign exchange holdings increased by $413 billion.

The dollar changed course and appreciated in 2005, reflecting some re-shifting of private foreign investor preferences toward dollar assets. Two factors are probably the principal reasons for this rise. First, bourgeoning petroleum earnings looking for a safe and liquid resting place moved toward dollar assets. Second, a significant nudging up of short-term interest rates by the Fed had made short-term dollar assets more attractive to all investors. The dollar was fairly steady through most of 2006, but began to weaken significantly at year-end and fell 9% in 2007. The recent weakness of the dollar may reflect the market's response to the Fed pushing interest rates steadily lower since mid-2006. It also may reflect some softening of the demand for dollar assets by some oil exporting countries.

In the period ahead, it seems likely that private foreign investors will continue to move away from dollar assets. There are three reasons for this. First, yields on high quality bonds in Japan and the euro area are higher than yields on similar U.S. securities, making investments in those currencies more attractive than dollar investments. Second, keeping the rapidly rising external debt to GDP ratio in realistic bounds will require an elimination of the U.S. trade deficit. Erasing the trade deficit can only be achieved by a substantial real depreciation of the dollar. Therefore, the prudent investor must include this trend of decline into the calculation of the expected return in their own currency of holding dollar denominated assets. This expected depreciation makes the relative return on dollar assets even lower than the nominal interest differential. Third, for the next few years, the U.S. trade deficit, although it might be falling, will continue to add a large volume of dollar assets to the portfolios of foreign investors. This accumulation generates an increasing need for portfolio diversification into assets in other currencies.

It is uncertain if foreign central banks will continue to increase their holdings of dollar assets, but if they do it would probably not be on a scale sufficient to fully offset the weakening demand of private investors and prevent the dollar from depreciating.

A declining dollar does reduce the purchasing power of Americans, but the magnitude of this effect is not huge because imports account for only 15% of U.S. GDP. Therefore, a further 20% reduction of the dollar over the next two to three years only reduces consumer purchasing power by about 3%. Further, the weaker dollar makes U.S. exports more competitive in world markets. Strong export sales have been one of the few positive developments in the economy recently and continued growth of export sales will provide an important offset to economic weakness in the period just ahead.

There is likely to be some degree of uncertainty in forecasting the U.S. trade deficit's path. Nevertheless, the likelihood of continuing weakening of foreign investor's demand for dollar assets, points to further dollar depreciation, and further

reduction in the trade deficit. The IMF is now projecting the U.S. current account deficit falling to $605 billion or 4.2% of GDP by 2009.[13]

Is the Trade Deficit a Problem?

A trade deficit is not necessarily undesirable. It confers benefits and carries costs, and the former may exceed the latter. Trade deficits are a vehicle for extending the gains from trade, where lending and borrowing among nations can lead to a more efficient allocation of saving and a preferred pattern of consumption over time. Trade deficits do not necessarily cause slower economic growth or lead to any economy-wide loss of jobs.

As seen in the 1980s and as was evident again in the 1990s, the U.S. unemployment has fallen to record lows and the economy's growth rate has accelerated to record highs even as the trade deficit has risen. That deficit, therefore, does not necessarily come at the expense of current domestic economic activity. Of course, borrowing carries a cost as the lender demands that interest be paid on the funds borrowed and the principal one day be repaid. This "debt service cost" is a burden the borrower must carry tomorrow for living beyond his means today.

An evaluation of the desirability or undesirability of a trade deficit will hinge on the current benefits gained from that added spending relative to the future debt service burden that is incurred. Also, reliance on foreign sources of finance often raises concern that trade deficits carry an elevated risk of instability and disruption to the economy. Finally, trade deficits have differential effects on different sectors of the economy, often placing large burdens on exporting and import-competing sectors.

Intertemporal Trade

Gains from trade can arise from *intertemporal* exchanges. These are exchanges of *current* goods and services for claims on *future* goods and services, that is, an exchange of goods and services for an asset (i.e., cash in a bank account, stock, or bond). When the United States (or any trading nation) borrows from abroad to import materials for a current investment project, it is undertaking intertemporal trade. In such a transaction, the borrowing nation gains because it can support a higher rate of investment in capital goods than what current domestic saving alone could finance. The lending nation gains an asset yielding a higher rate of return than is available in the home economy. Because of the difference in their preferences for spending over time, the international asset market allows both parties to the transaction to raise their economic well-being. The borrower's economic well-being is raised by being able to spend more in the current period than current income allows. The lender's economic well-being is raised by being able to spend more in some future period. A country that is a net borrower will also run a trade deficit, while the country that is a net lender will run a trade surplus. This type of international asset transaction allows a more global

[13] See IMF, *World Economic Outlook*, April 2008.

utilization of the world's saving, a more efficient allocation of investment spending across nations, and a preferred distribution of spending over time.[14]

Since the early 1980s, the United States has incurred trade deficits of moderate to large size, using international borrowing to push spending beyond current production, pursuing desired consumption and productive investment now rather than later. Similarly, nations like Japan have been able to run trade surpluses, using international lending opportunities to earn higher returns on their excess national savings and expanding the prospects for spending in the future. Such net flows have not grown as fast as gross flows of capital so that external sources of finance still claim only a small share of the total funding of domestic investment in most industrial countries. For the United States in 2005, for example, the trade deficit was equal to 6.4% of GDP and about 38% of domestic investment spending. The trend, nevertheless, has clearly been toward larger external imbalances (surpluses and deficits).

An aspect of the current pattern of international capital flows of some concern is that the inflows to the United States are largely outflows of capital from the developing economies. This is not a pattern that makes economic sense over the long-term. The United States has a large stock of high quality capital to equip its workers with and a slow growing but rapidly ageing population. The developing world, in contrast, tends to have a low ratio of capital to labor and have young, rapidly growing populations. Economic reasoning leads to the expectation that investment opportunities are likely to be greater in the capital poor developing economies and the need for saving to support future retirees greater in the United States, and that the United States should be running trade surpluses and be a net lender to the developing economies, not vice versa.[15]

Debt Service Burden

With each successive trade deficit the stock of foreign obligations grows. The current size of this stock is formally measured by the net international investment position (NIIP). In 1981, the United States was a *net creditor* with a net accumulation of assets in the rest of the world of $374 billion. But a steady and substantial stream of net foreign borrowing has swung the NIIP to a *net debtor* position of about $2.5 trillion in 2006, up from about $2.2 trillion in 2005. Again, favorable valuation effects on existing holdings cause the net creditor position to increase by less than the

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[14] In addition to international transactions involving the exchange of goods for gods and the exchange of goods for assets there is the exchange of assets for assets. As noted earlier, asset for asset transactions occur on a larger scale then do the two other types of international transactions. The benefit of international exchange of assets is that it allows both parties to reduce the riskiness of the returns from there wealth by diversifying their portfolios.

[15] See Ben S. Bernanke, "The Global Saving Glut and the U.S. Current Account Deficit," speech delivered March 10, 2005, The Federal Reserve Board.

size of the 2006 current account deficit. Nevertheless, the cumulative increase in U.S. net foreign debt since 1981 is more than $3 trillion.[16]

The current annual debt service cost of America's net foreign debt can be roughly judged from the size of the investment income component of the current account balance (see **Table 1**). That series is a measure of the nation's net payments and receipts on past investment and debt. If positive, the United States earned more than it paid; if negative, the United States paid more than it earned. Over time the movement in this measure will be reflective of changes in the stock of net indebtedness. As seen in **Table 1**, U.S. international investment income in 2007 was a surplus of $74.6 billion, up from a surplus of $36.6 billion in 2006.

As discussed earlier, the investment income balance has shown a surplus in the $20 billion to $30 billion range for the past 30 years. In recent years, the surplus of investment income has persisted despite the United States having a large *negative* international investment position (i.e., a large external debt). This continuing surplus means that there has been no true debt service burden to the U.S. economy from its net external debt. This lack of economic burden has happened because there has been no net outflow of investment income, meaning there was no net diversion of U.S. real output to the rest of the world to service the external debt.

Even with the trade deficit growing smaller, until the deficit is eliminated the volume of debt obligations will continue to grow, and as a result it is credible to expect U.S. international debt payments to also grow. It is possible that U.S. foreign debt service payments will reach or exceed $100 billion before the current account deficit is erased and net foreign borrowing stops.

A $100 billion transfer of real income to the rest of the world would be significant, but it would not be an overwhelming outflow for the world's largest economy. In 2006, the United States has a GDP valued at more than $13 trillion, and by decades end, it will likely exceed $14 trillion. For an economy of this size, a $100 billion foreign debt service burden amounts to 0.8% of GDP. Clearly, insolvency is not lurking just over the horizon, particularly since the economy in the future will be larger and more capable of meeting debt service payments.

Nevertheless, a debt service payment of this size would be significant, particularly if viewed in the context of the economy's average annual growth rate of real GDP. For a mature industrial economy like the United States, the long-term growth rate of real output can optimistically be expected to average as much as 3.0 % per annum. Thus, a yearly debt service burden of about 1.0% of GDP would mean that the rate of growth of output that is effectively available to the domestic economy is reduced to 2.0%. That would be a significant erosion of the rate of improvement in the U.S. living standard. At a 3.0% annual growth rate, national income doubles

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[16] See U.S. Department of Commerce, Bureau of Economic Analysis, *2005 Year-end Net International Investment Position*, June 30, 2006. The term "net debtor" is somewhat inaccurate in that only a fraction is a true debt obligation, such as a bond, where there is a fixed term and contractual obligation to pay a fixed amount to the holder. Holdings of equities carry the expectation of earnings , but there is no obligation to pay if no earnings are made.

about every 24 years, whereas at a 2.0% annual rate, doubling occurs every 35 years. Put another way, if the per capita GDP in 2002 of $36,600 grows on average at 3.0% for 24 years, GDP per capita would equal about $75,000, whereas growing at 2.0% for that same period would bring per capita GDP to only $59,000 or about 21% less.

The degree of burden actually incurred, however, will depend in part on how the nation has used what it borrowed. Since 2001, foreign borrowing has financed an increase in domestic consumption (public or private), therefore it will not generate any boost to future productive capacity. Therefore, to meet debt service expense, future consumption must be reduced below what it otherwise would have been. Such a reduction represents the burden of foreign borrowing. This is not necessarily bad; it all depends on how current versus future consumption is valued.

On the other hand, in the period from 1994 to 2000, foreign saving was used to finance an increase domestic investment, allowing the debt service burden to be avoided or at least reduced. Investment spending increases the nation's capital stock and expands the economy's capacity to produce goods and services. The value of this added output may be sufficient to both pay foreign creditors and also augment domestic spending. In this case, because future consumption need not fall below what it otherwise would have been, there would be no true economic burden.

It is difficult to assess to what extent U.S. debt service cost will be attenuated by the shift in the 1990s to the pattern of supporting rising domestic investment using foreign borrowing from the pattern of the 1980s of support, more or less exclusively, added domestic consumption with foreign borrowing. (Keep in mind, however, that the accelerated rate of investment makes only a small net contribution to the size of the nation's huge capital stock. Thus its growth-accelerating effect is commensurately modest.

Instability

Trade deficits often raise concern about the potential instability of external sources of finance. What if foreign investors begin to pull their funds out of the United States, disrupting domestic capital markets and the wider economy? There are good reasons to doubt that a sharp turnaround in foreign capital flows is likely. Recent experience of other countries with the panic of foreign investors has shown that such behavior most often results from the growing likelihood that they would not be repaid, that debt service payments were doubtful. Very often because many economies, particularly emerging economies, are not able to borrow in their own currency, a weakening of the home currency can lead to sharp increases in the cost of servicing such external debt. This ability to pay problem would also be exacerbated by weak economic growth or the rapid consumption of the nation's foreign exchange reserves in the defense of an overvalued currency. These are not risk factors that have much relevance to the circumstances of the United States, which has strong growth, does not fix its exchange rate, and borrows in its own currency.

In addition, a large proportion of investments made in the United States have been long-term in nature and not particularly prone to quick changes in commitment. It is very likely that many foreign investors generally see the U.S. economy as a bastion of long-run economic strength and will continue to invest for long-term gain.

It is true that a sizeable share of the stock of U.S. foreign debt is in short term assets that can move quickly. That these types of assets will change direction as relative yields rise abroad is quite likely and does raise the risk of instability somewhat. But given the absence of the risk factors noted just above, it is far more likely that such capital outflows will be part of an orderly adjustment process and not lead to undue economic instability. The impact of any exodus of foreign capital, absent any compensating increase in domestic saving, would tend to raise interest rates and dampen credit sensitive activities. It is very likely that a falling dollar and a shrinking U.S. trade deficit would be more disruptive to the more export dependent and exchange rate sensitive economies of Europe and Japan.

The United States underwent a very orderly correction from a large trade deficit in the 1985-1990 period. However, the current task is likely to be more difficult and carry a higher risk of a disorderly adjustment for four reasons. One, oil prices were falling sharply in the late 1980s, but now oil prices and other commodity prices are rising sharply. This will add to the inflation impact of a falling exchange rate and hamper the Federal Reserve's ability to counter upward pressure on domestic interest rates caused by a rapidly dwindling inflow of foreign capital.

Two, in the 1985-1990 episode, other economies central banks, particularly Japan's, were willing to buy a large volume of dollar assets, providing a stabilizing counter force on the falling dollar and the rising yen. Given the already huge stocks of dollar assets being held abroad this action seems improbable today.

Three, in the 1986-1990 period, Europe, the strongest market for U.S. exports, was booming. Today economic growth in Europe is slower.

Four, holders of the U.S. external debt are accepting yields that seem too low given to keep the volume of U.S. external debt in realistic bounds the dollar must continue to fall, perhaps even faster than has occurred so far. As foreign investors come to fully appraise the expected depreciation, it will increase their reluctance to hold dollar assets.[17]

And five, the size of the current trade deficit is more than twice as large as the deficit in 1985.

For the United States, the pain of such an adjustment would be somewhat muted by the large size of the overall U.S. capital market relative to the scale of the foreign capital flows. In recent years, the total funds raised annually in U.S. credit markets have been around $2,200 billion. Therefore, net borrowing from the rest of the world at around $600 billion to $800 billion per year represents 25% to 30% of the nations annual flow of credit. This is a magnitude of significance, but if withdrawn gradually it is not necessarily overwhelming for the United States.

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[17] For further discussion of dollar depreciation and investor expectations see CRS Report RL34311, *Dollar Crisis: Prospect and Implications* by Craig K. Elwell.

Effects on Total Output and Employment

Standard economic analysis indicates that a trade deficit does not cause a net loss of output or jobs in the overall economy. Trade deficits will, however, likely change the composition of output and employment. This compositional effect occurs because the forces generating the trade deficit will tend to increase the dollar's exchange rate, raising the incentive to substitute some types of foreign output for similar types of domestic output. But this dampening effect on some domestic industries will tend to be offset by the positive effects of the trade deficits associated capital inflow on other parts of the economy. With a trade deficit some import sensitive industries (i.e., textiles) will have their output and employment decline, but some credit sensitive industries (i.e., housing) will have their output and employment increase. Recently, some domestic manufacturing industries have been harmed by the trade deficit, but there has also been a great surge in home building stimulated by lower interest rates afforded by the trade deficits attendant inflow of foreign capital.

Also, the Federal Reserve, using monetary policy, can set the overall level of spending in the economy to a level consistent with full employment.[18] Although deviations from full employment can occur, a well-run monetary policy will minimize the incidence and duration of such episodes and help keep the total level of employment high in most years with or without outsourcing, trade deficits, or trade in general.

Trade deficits are most often a means of augmenting the level of goods and services available to domestic purchasers, in effect, allowing the nation to spend beyond current domestic output by means of importing foreign output. Both domestic and foreign output are used to meet current domestic demand. With strong demand in an economy operating near or at its productive capacity, and unable to generate a near-term expansion of that productive capacity sufficient to meet that demand, it is possible for domestic industries to be working at full capacity, even as there are also large inflows of similar or related foreign products.

Another reason why more imports do not lead to a reduction of domestic output and employment is because a very large share of U.S. trade is *intraindustry* trade in intermediate products — trade within the same industry due to an internationally fragmented production process — a final product will often be composed of several

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[18] 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 who normal market forces have temporarily displaced. 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 United States 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. There is no theory or evidence to indicate full employment is influenced by the trade deficit.

components, some of domestic origin and some of foreign origin.[19] With this structure of production, an increase in the demand for the final product will increase both domestic output and imported foreign output of necessary components, regardless the level of capacity utilization. Finally, there may simply be no domestic counterpart for some goods because product differentiation has led to specialization across countries in the production of particular goods. (The economic gain from such specialization arises from economies of scale, not comparative advantage and is common among high income economies with very similar resource endowments).

For these reasons, to a substantial degree the size of the trade deficit during an economic expansion, as during the 1980s and 1990s, cannot be taken as a one-for-one measure of reduced domestic output and the loss of the associated jobs. Since the end of the recession in 2001, the trade deficit has increased about $400 billion, whereas the unemployment rate fell from 6% in 2003 to 4.6% in 2006 and total civilian employment climbed from a low of 136 million workers in 2002 to 144 million workers in 2006.[20]

Effects on Particular Sectors

Although large trade deficits do not necessarily reduce the total level of economic activity, they can alter the composition of domestic output. Evidence shows that over the past 20 years, persistent trade deficits may have caused a reduction in the size of the domestic manufacturing sector.[21] The trade deficit exerts some downward pressure on the size of the domestic manufacturing sector because the trade inflow cannot easily augment the full spectrum of goods and services that comprise the nation's increase in domestic demand. About 70% of domestic spending is on services, but because trade is a relatively poor vehicle for acquiring services, only about 15% of U.S. imports are services. Therefore the trade deficit, largely a net inflow of manufactured goods, may not meet the augmented domestic demand for goods and services. In this circumstance, relative prices can be expected to change

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[19] The significance of intraindustry trade varies by industry. For industries that make sophisticated manufactured goods it tends to be very high with over 90% of trade of this form. In labor intensive industries, that manufacture less sophisticated products, very little trade is intraindustry. Intraindustry trade is to a great degree a manifestation of a wide spread move towards more fragmented production processes, or what is called *vertical specialization*. It is estimated that about one-third of the growth of world trade since 1970 is the result of this phenomenon and can be expected to be even higher for the trade of an advanced industrial economy such as the United States. For further examination of the nature and significance of intraindustry trade, see Paul Krugman and Maurice Obstfeld, *International Economics: Theory and Policy* (Reading, MA: Addison Wesely, 1997), pp. 139-142. For further examination of the *vertical specialization* phenomenon, see David Hummels, Dana Rapoport, and Kei-Mu Yi, "The Nature and Growth of Vertical Specialization," *Journal of International Economics*, vol. 54 (June 2001), pp. 75-96.

[20] See the *Economic Report of the President*, February 2006, Appendix B: Statistical Tables.

[21] See CRS Report RL32350, *Deindustrialization of the U.S. Economy: The Roles of Trade, Productivity, and Recession*, by Craig K. Elwell; CRS Report RL32179, *Manufacturing Output, Employment, and Productivity*, by Stephen Cooney; and Robert Rowthorn and Ramana Ramaswamy, "Deindustrialization: Causes and Implications," *Staff Studies for the World Economic Outlook*, IMF, 1997.

so as to reallocate some resources out of the domestic manufacturing sector and into the production of services to help meet the added domestic demand for services. This, in turn, should induce a greater reliance on the net inflow of foreign manufactured goods to help meet the added domestic demand for manufactures. The outcome will be greater real output by the domestic service sector and smaller real output by the domestic manufacturing sector.[22]

Recent surges of the trade deficit have clearly had a sharp negative impact on particular sectors. On the export side, agriculture and commercial aircraft experienced dampened export sales, mainly due to general weakness in other economies, particularly in Asia. On the import side, the steel industry and the textile and apparel industries came under considerable pressure from low price competition from countries affected by economic crises. The trade deficit is certainly a factor in the fall of employment in the U.S. manufacturing sector from 17 million in 2000 to 14 million in 2006. (However, of greater importance in the reduction of jobs in manufacturing is the rapid increase in worker productivity.)

Adjustment to such trade effects can be economically painful for workers in these harmed sectors. Many economists argue that it is usually more beneficial to the overall economy to encourage adjustment than it is to protect sectors from the disruptive effects of trade. There are government programs that provide some amount of *trade adjustment assistance*, but there are important questions about the adequacy of these programs.

Looking to the future, trade deficit induced erosion of the U.S. manufacturing sector may also undercut the country's ability to make future debt service payments to foreign creditors. Manufacturing is a major part of the exporting sector and it is that sector which will be the means for paying debt service. A healthy manufacturing sector is likely to make that task easier.

Policy Responses to Trade Deficits

So long as domestic saving in the United States falls short of domestic investment and an inflow of foreign saving is available to fill all or part of the gap, the United States will run a trade deficit. This suggests that the use of trade policy tools to alter the flow of exports or imports, while imposing efficiency costs on the domestic economy, would not *over time* change the domestic investment-saving imbalance, and therefore would not change the overall size of the trade deficit.[23] On the other hand, macroeconomic policy tools have the potential to alter the saving-investment balance and the trade balance, but the realistic scope for their use is limited.

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[22] This argument is not likely undermined by the development of U.S. trade surpluses in services in this period as *tradable* services are a small sub-set of the full spectrum of, largely non-tradable, services in domestic demand.

[23] Similarly, the removal of U.S. trade barriers, while conferring efficiency gains, would not change the domestic investment-saving imbalance, and therefore would not widen the trade deficit.

Trade Policy Responses

Trade policy involves actions to directly stimulate or retard the flows of imports and exports such as the erection or removal of tariffs and subsidies. Such actions will have significant impacts on the level of trade and economic efficiency (positive or negative) but will not change the balance of trade. In each instance action aimed at altering one side of the trade equation tends to induce effects via the exchange rate that will cause the other side of the equation to change in the same direction and by an equal amount. For example, using a tariff or quota as a barrier to stem the flow of imports into the United States would also reduce the demand for foreign exchange needed by the United States to purchase imports, appreciate the dollar's exchange rate, and induce an equivalent curtailment of export sales. With this policy, the level of trade has been reduced along with the economic *gains from trade* and general economic well-being, but the trade deficit would be unchanged.

Alternatively, getting the trading partners to remove trade barriers would stimulate export sales, but would increase the demand for dollars by foreigners, appreciate the dollar exchange rate and induce an equivalent increase of imports. In this case, the level of trade is increased along with the gains from trade and economic well-being, but the trade deficit would be unchanged. Finally, an export subsidy would also stimulate export sales but an exchange rate induced rise of import sales would also leave the trade balance unchanged. (In the case of the subsidy, economic theory holds that a higher level of trade does not lead to an increase in economic welfare as the gains from trade are more than offset by the economic inefficiency of distorting the allocation of resources towards the export sector.)

Macroeconomic Policy Responses

To eliminate the U.S. trade deficit and halt the growth of external debt, there must be a rebalancing of global spending: the United States must reduce domestic spending and the economies with trade surpluses must increase domestic spending. In the framework of the saving-investment relationship, this rebalancing means that the United States faces three option: (1), the rate of domestic investment falls, (2), the level of domestic saving rises (due to reduced consumption spending), (3), some combination of one and two. In all cases the dollar will have to fall to induce changes in spending at home and abroad. The inducement is caused by the depreciating dollar increasing the relative price of foreign goods in the U.S. market and decreasing the relative price of U.S. goods in foreign markets.

Macroeconomic policy, the use of monetary and fiscal policy tools can, in theory, effect changes in these saving and spending flows. For example, monetary policy, by raising domestic interest rates and braking economic activity, can lower the rate of domestic investment, reduce the saving-investment gap, and decrease the trade deficit. (At the extreme, a recession could dramatically reduce the trade deficit as it did in 2001.) Because of its negative effects on economic growth, however, decreasing the rate of domestic investment is not generally considered the most desirable economic course to follow, however.

Also, fiscal decisions on taxing and spending influence the deficit or surplus position of the federal budget and the rate of public saving. As seen in the late 1990s,

a rise in the U.S. overall saving rate as a consequence of a rising public saving rate stemmed from the sharp swing of the federal budget from a deficit of $290 billion in 1992 to a surplus of $236 billion in 2000. Since 2002, budget deficits have fallen and the government saving rate has increased accordingly. This change has restrained the growth of the trade deficit, but to eliminate the trade deficit by raising government saving would likely require the government to run a substantial and sustained budget surplus. Given the political nature of budget deliberations, it seems problematic whether the federal budget can be an easily exploitable policy tool for eliminating the trade deficit.

Also, there is less than a one-for-one change in the total saving rate from a given reduction of the budget deficit. The lower interest rates that come from the smaller budget deficit will also tend to stimulate some amount of domestic spending and reduce national saving accordingly. The ultimate effect on the overall saving rate is likely to be $0.50 to $0.80 for each dollar reduction in the budget deficit. This also means that a dollar of budget deficit reduction results in less than a dollar of trade deficit reduction, other factors constant. Therefore, if the saving-investment gap is about $700 billion to $800 billion, an elimination of the trade deficit achieved through an increase of government saving would require running a budget surplus of well over a trillion dollars.

Can macroeconomic policy lift the low private saving rate? Proposals have been made to use the tax code to raise incentives for saving by households. Careful analysis reveals that such proposals most often have uncertain effects on the saving-investment balance, as they tend to raise both saving and investment.[24] Other proposals, such as individual retirement accounts, may just redistribute saving, raising the household rate (a little), but lowering the public rate by an offsetting amount. In addition, the adverse effects of the current fall in housing prices on household wealth could prompt a higher rate of personal saving.

The Effect of Economic Policy Abroad. Foreign economic policy can help or hinder efforts by the United States to decrease the size of its trade deficit. As discussed above, the U.S. trade deficit is a two-way affair, reflecting the behavior of borrower and lender alike. The need to borrow must be met by a willingness to lend. On the other side of the U.S. inclination to spend beyond current domestic output is a symmetrical inclination of foreign nations to spend well short of domestic output and export the difference. It seems that American spending is as important to these economies as foreign borrowing is to the United States.

The most orderly adjustment to a smaller U.S. trade deficit is likely to occur through mutually supporting policy actions — as the United States brings domestic spending *down* closer to domestic output and its major trading partners bring domestic spending *up* closer to their domestic output. In so doing, the U.S. efforts to become less dependent on imports is complemented by foreign efforts to become less dependent on exports to the United States. As already noted above, this change would require a substantial appreciation of foreign currencies relative to the dollar.

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[24] See CRS Report RL32119, *Can Public Policy Raise the Saving Rate?* by Brian Cashell and CRS Report RL33482, *Saving Incentives: What Works, What May Not.* By Thomas Hungerford.

The less willing foreign economies are to change this current pattern of spending, the more protracted and difficult shrinking the U.S. current account deficit could be. If foreign economic policies work to counter U.S. policies attempting to raise domestic saving by reducing their domestic saving, then the dollar depreciation needed to induce a sizable reduction of the U.S. trade deficit would be larger than if foreign policies were more supportive of the change in spending patterns.

Without mutually supporting policies, the dollar might need a further 40% to 50% real depreciation to induce any sizable reduction of the U.S. trade deficit. A depreciation of that magnitude is risky for two reasons. One, some would argue that the greater the size of the currency's fall, the greater the chance that it will fall too far, too fast, sending a jolt to world financial markets that could possibly precipitate a world recession. Two, the dollar may not fall evenly against other currencies. For example, from 2002 through 2007, the dollar fell by nearly 70% against the euro but only about 11% against the Chinese yuan. This has occurred because China has actively limited the strengthening of the yuan relative to the dollar, accumulating a large stock of dollar assets. This very uneven depreciation across currencies places more of the burden of adjustment of trade flows on the euro area economies, and raises the risk of major economic crisis there.

Because of their size and degree of economic interaction with the United States, Japan and the euro zone (particularly Germany) would likely have to play a key role in assuring the world economy has an orderly adjustment to a weaker dollar and a much smaller American trade deficit. Yet neither has had a recent history of economic strength and there are reasons to doubt their willingness to undertake the actions that would better insure an orderly adjustment to a smaller U.S. trade deficit. Japan has struggled with poor economic performance for more than a decade and despite much better performance recently it is unclear that it is willing to overcome its fears of deflation and move strongly toward a stronger yen and reduced dependence on exports to support economic activity there. In Europe, structural rigidities continue to slow economic growth and a distinct bias towards tight macroeconomic polices further inhibits economic activity. In addition, there is an evident tendency of the euro zone to also use exports to support economic activity and therefore an inclination to avoid significant strengthening of the euro.

This adjustment process would also be assisted by the appreciation of other currencies, particularly in other Asian economies that have "pegged" their currency to the dollar. Much attention has been focused on China and its pegged currency. Many economists would argue that there is a need for China to allow its currency to appreciate much more substantially against the dollar. This could be accomplished by China channeling more of its large pool of domestic saving into investment in China.

An appreciation of the yuan without changes in the saving-investment asymmetries between the United States and China would not lead to any significant changes in each trade imbalance. At present, it can be argued, China, by accumulating short-term reserves to maintain an undervalued exchange rate, is running a "neo-mercantilist" policy that allows it to run a large trade surplus to generate demand for its products and also have a large net inflow of long-term capital to help propel its economic development. For an economy of China's, this is not likely to be a sustainable process from the viewpoint of its trading partners. If it needs the inflow

of long-term capital, then it should allow the real transfer of those resources by running a trade deficit or be prepared to use more of its own saving to support domestic investment rather than transfer those saving to the rest of the world.

In general, policies that improve the investment climate in many developing countries such as improved macroeconomic stability, increased financial transparency, and better bank regulation will tend to redirect international lending toward them and away from the United States. Nevertheless, it would seem quite problematic whether other countries will follow polices that would greatly increase the prospect for an orderly or quick shrinking of the U.S. current account deficit.

Conclusion

A trade deficit is not necessarily bad. It is most useful to see it as a vehicle to achieve an economic end, conferring some benefit at some cost. Whether the trade deficit is good or bad will hinge on a weighing of these benefits and costs. The overriding benefit is the ability to borrow internationally so as to push current spending beyond current production. Trade deficits in the 1990s have been a means to help finance an elevated level of domestic investment. Investment augments the nation's future productive possibilities and is a boon to long-term economic welfare.

In contrast, the large trade deficits of the 2000s have been used to finance greater public and private consumption. In this situation, the benefit of an increase in current consumption must be weighed against the cost of a reduction of future consumption.

The long-term cost of the trade deficit is the debt service that must be paid on the associated borrowing from the rest of the world. The U.S. debt service burden has been avoided so far, but this is not likely to be true forever. The short-term cost is the adverse effects the trade deficit has had on trade sensitive sectors of the U.S. economy, particularly the manufacturing sector.

Certainly true that standard trade policy tools such as tariffs, quotas, and subsidies will not significantly change saving or investment behavior and, therefore, will not reduce the trade deficit. But in most cases will create distortions that reduce national economic welfare.

Macroeconomic policy can affect the saving-investment balance and can change the trade deficit, but how to do so by raising domestic saving rather than reducing domestic investment remains unclear. The government budget deficit and government saving have improved in recent years, but a much more sizable increase would be needed to eliminate the trade deficit by this means alone. Over the long-term, many economists see the budget balance moving in the opposite direction under the pressures of rising entitlement spending.

However, the prospect of more vigorous economic growth in the euro area and Japan could cause greater opportunities for investment in those economies, slowing their saving outflow to the United States, and working to shrink the U.S. trade deficit. Generating a sustained increase in the U.S. economy's rate of saving by reversing the

steadily sagging rate of household saving would reduce the trade deficit, but how to do that rate is uncertain.

It is possible that the trade deficit could correct itself without any inducement by economic policy. There are good reasons to expect that economic forces will work to sate the demand for foreign borrowing as well as reduce the supply of foreign funds being offered. A significant acceleration of the rate of growth abroad relative to that of the United States (raising domestic investment relative to domestic saving abroad) would likely initiate such a process. A change in relative growth rates would most likely alter rates of return between the United States and the rest of the world, redirect a larger share of international investment flows towards destinations other than the United States, and shrink the U.S. trade deficit.

Nevertheless, a smaller trade deficit, lacking an increase in the rate of U.S. domestic saving, will mean that the reduced saving inflow from abroad will have shrunk without any offsetting increase in domestic saving. This will increase U.S. interest rates above where they would otherwise be, forcing a reduction of domestic investment to the level of domestic saving available to finance it.