



C H A P T E R 4

SAVING AND INVESTMENT

The United States appears poised to begin its recovery from the most severe recession since the Great Depression. But as discussed in Chapter 2, the recession has been unusually deep, and the crisis has caused declines in credit availability as well as weak consumer and business confidence. As a result, achieving the private spending necessary to support a robust and full recovery has been, and will continue to be, challenging.

Moreover, as the President has repeatedly emphasized, it is not enough simply to return to the path the economy was on before the slump. The growth that preceded the recession saw high consumption spending, low private saving, excessive housing construction, unsustainable run-ups in asset prices (especially for assets related directly or indirectly to housing), and high budget and trade deficits. That path was unstable—as we have learned at enormous cost—and undermined long-run prosperity. Thus, as the economy recovers, a rebalancing will be necessary. The composition of spending needs to be reoriented in a way that will put us on a path to sustained, stable prosperity.

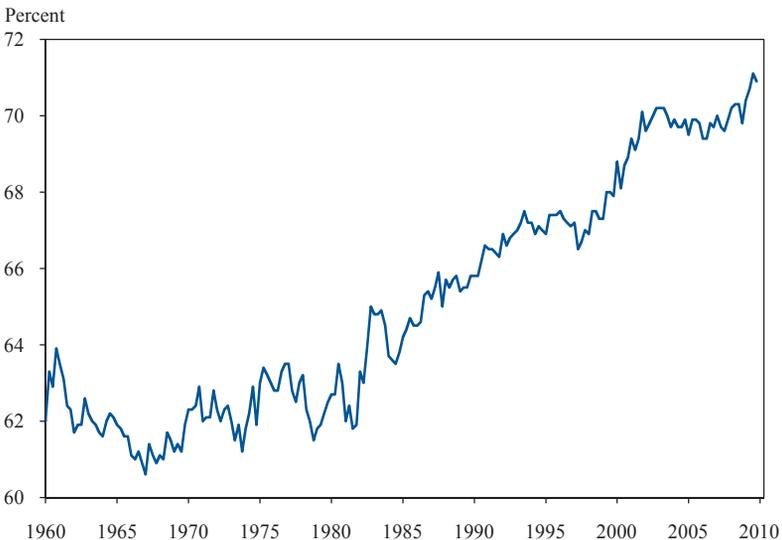
In thinking about the twin challenges of recovery and reorientation, it is useful to consider the division of demand into its components. Overall or aggregate demand can be classified into personal consumption expenditures, residential investment, business investment, net exports, and government purchases of goods and services. Government purchases, which consist of such items as Federal expenditures on national defense and state and local spending on education, are relatively stable. This is especially true when one recalls that government transfers, such as spending on Medicare or Social Security, are not part of government purchases but rather are elements of personal income. Thus, it is the behavior of the remaining components that will be central to addressing the challenges of generating enough demand for recovery and a better composition of demand for long-run growth and stability.

This chapter lays out a picture of how the components of private demand behaved during the downturn and how they are likely to evolve as the economy recovers and once it returns to full employment. The chapter describes the transition that has already occurred away from low personal saving and high residential investment, as well as the transition that needs to occur toward greater business investment and net exports. It also describes the President's initiatives for encouraging the transitions necessary for long-run prosperity and stability.

THE PATH OF CONSUMPTION SPENDING

Figure 4-1 shows the share of gross domestic product (GDP) that takes the form of production of goods and services directly purchased by consumers. The figure has two key messages. First, consumption represents a substantial majority of output. As a result, movements in consumption play a central role in macroeconomic outcomes. Second, the fraction of output devoted to consumption has been rising over time, leaving less room for components that contribute to future standards of living. The behavior of consumption will therefore be central to addressing both the shorter-run challenge of generating a strong recovery and the longer-run challenge of rebalancing the economy.

Figure 4-1
Personal Consumption Expenditures as a Share of GDP

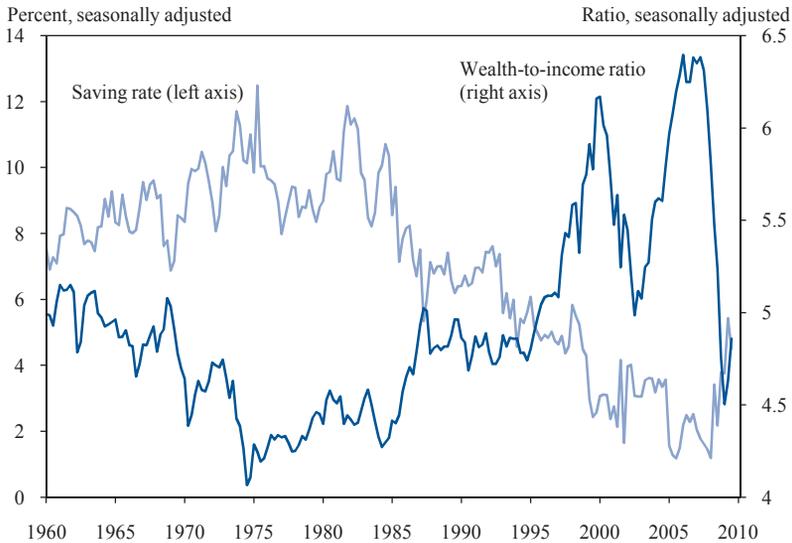


Source: Department of Commerce (Bureau of Economic Analysis), National Income and Product Accounts Table 1.1.10.

The Determinants of Saving

To understand the behavior of consumption, it is critical to consider how households divide their disposable income between consumption and saving. Figure 4-2 shows the personal saving rate (that is, the ratio of saving to disposable personal income) since 1960 (left axis), along with the ratio of household wealth to disposable personal income (right axis).

Figure 4-2
Personal Saving Rate Versus Wealth Ratio



Sources: Department of Commerce (Bureau of Economic Analysis), National Income and Product Accounts Table 2.1; Federal Reserve Board, Flow of Funds Table B.100.

The big swings in wealth reflect asset market booms and busts. Much of the drop in wealth in the early 1970s reflects the stock market decline associated with the first oil price shock. The stock market booms of the mid-1980s and the late 1990s are obvious, as is the decline in stock prices in the early 2000s. The wealth decline in 2008–09 was the largest such experience in the sample, reflecting large contributions from falling house prices as well as stock prices.

Paralleling the behavior of the consumption-output ratio, the saving rate showed no strong trend before roughly 1980. But it has shown a marked downward trend since then. Economic theory suggests a variety of factors that should influence saving, most notably changes in the demographic structure of the population, the growth rate of income, and the real after-tax interest rate. None of these three factors, however, provides a compelling explanation for the fluctuations in the saving rate evident in the figure.

Indeed, some of the factors should probably have pushed saving up in recent decades, not down. A 1991 study, for example, predicted that the saving rate would rise as the baby boom generation entered its high-saving preretirement years (Auerbach, Cai, and Kotlikoff 1991). Instead, the saving rate fell steadily as the boomers approached retirement (the first boomers claimed early Social Security benefits in 2008).

Figure 4-2 suggests to the eye, and statistical analysis confirms, a strong negative association between the saving rate and the wealth-to-income ratio. This relationship has been interpreted as reflecting the effect of wealth on spending: a run-up in wealth leads to less need for saving. Such an interpretation is unsatisfying, however, because it leaves a key question unanswered: If wealth movements cause saving rate movements, what causes wealth movements? More broadly, it leaves open the possibility that both saving choices and asset price movements are a consequence of some deeper underlying force. For example, an increase in optimism about future economic conditions might lead both to a spending boom and to a general bidding up of asset prices. In that case, the true moving force would not be wealth changes per se; instead, both asset prices and saving would be responding to the increase in optimism.

Survey data measuring “consumer sentiment” or “consumer confidence” do, in fact, have substantial forecasting power for near-term spending growth, and are also associated with contemporaneous movements in asset prices (Carroll, Fuhrer, and Wilcox 1994). Such surveys are therefore a useful part of a macroeconomist’s forecasting tool kit. But such surveys have not proven useful in explaining long-term trends like the secular decline in the saving rate.

Emerging economic research suggests another underlying explanation that may be more potent: movements in the availability of credit. A substantial academic literature has documented the expansion of credit since the era of financial liberalization that began in the early 1980s (Dynan 2009). Many factors have contributed to this expansion; perhaps the most prominent explanation (aside from the liberalization itself) is the telecommunications and computer revolutions, which together have permitted the construction of ever-more-detailed databases on consumer credit histories, giving creditors a far more precise ability to tailor credit offers to the personal characteristics of individual borrowers (Jappelli and Pagano 1993). A beneficial effect of this information revolution has been that many people who had previously been unable to obtain credit have for the first time been able to borrow to buy a home, to start a business, or to undertake many other useful activities (Edelberg 2006; Getter 2006).

A reduction in saving, however, is almost the inevitable consequence of a general increase in the ability to borrow. If there is less need to save for a down payment for a home, for a child's education, for unforeseen emergencies, or for spending of any other kind, then the likelihood is that less saving will be done. Of course, eventually the saving rate should mostly recover from any dip caused by a one-time increase in the availability of credit, because whatever extra debt was incurred must be paid back over time (and paying back debt is another form of saving). This recovery in saving, however, may take a long time. If, in the meantime, credit availability increases again, the gradual small increase in saving that reflects debt repayment could easily be obscured by the new drop in saving occasioned by the continuing expansion in credit availability.

How much of the decline in the saving rate was due to a gradual, but cumulatively large, increase in credit availability is not easy to determine, partly because an aggregate measure of credit availability is difficult to construct. Recent research on commercial lending has argued that a good measure of the change in credit supply is provided by the Federal Reserve's Senior Loan Officer Opinion Survey on Bank Lending Practices, in which managers at leading financial institutions are asked for their assessments of credit conditions for businesses (Lown and Morgan 2006). Building on that research, one study has proposed that a measure of the level of credit availability to consumers can be constructed simply by accumulating the sequence of readings from this survey's measure of credit availability to consumers (Muellbauer 2007).¹

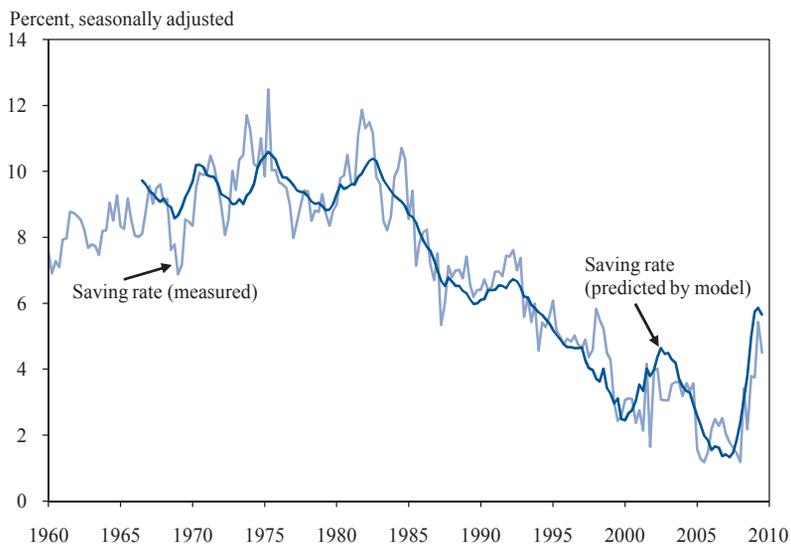
Economic theory suggests that one further element may be important in understanding spending and saving choices around times of recession: the intensity of consumers' precautionary motive for saving. Because the risk of becoming unemployed is perhaps the greatest threat to most people's future financial stability, the unemployment rate has sometimes been used as a proxy for the intensity of the precautionary saving motive.

Implications for Recent and Future Saving Behavior

Figure 4-3 shows the relationship between the measured saving rate and a simple statistical model that relates the saving rate to the wealth-to-income ratio, a slightly modified version of Muellbauer's credit availability index, and the unemployment rate. The statistical model is estimated over the sample period 1966:Q3 to 2009:Q3. All three variables have statistically important predictive power, with the two most important measures being the measure of credit conditions and the wealth-to-income ratio.

¹ Specifically, each quarter the survey asks about banks' willingness to make consumer installment loans now as opposed to three months ago.

Figure 4-3
Personal Saving Rate: Actual Versus Model

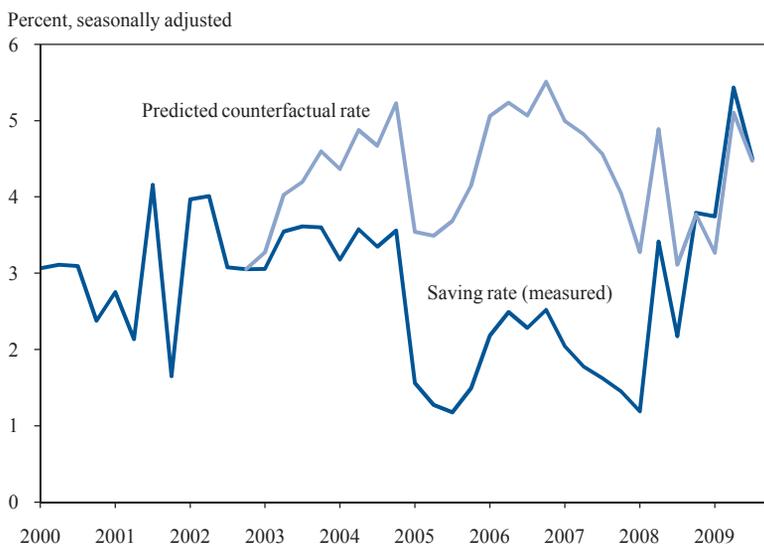


Sources: Department of Commerce (Bureau of Economic Analysis), National Income and Product Accounts Table 2.1; CEA calculations.

Figure 4-4 uses this simple framework to ask what the path of the saving rate might have looked like if the increase in credit availability and the housing price boom had not occurred. (To be exact, the figure shows what the model says the saving rate would have been if the wealth-to-income ratio had remained constant from the first quarter of 2003 to the fourth quarter of 2007, and if credit conditions had neither expanded nor contracted; the first quarter of 2003 is chosen as the starting point because in that quarter the wealth-to-income ratio was close to its average historical value.) In this counterfactual history, the personal saving rate would have been, on average, about 2 percentage points higher over the 2003–07 period.

Of course, a far more important consequence than the higher saving rate might have been the avoidance of the financial and real disturbances caused by the housing price boom and subsequent crash. But taking the crash as given, Figure 4-3 shows that the model does a reasonably good job in tracking the dynamics of the saving rate over the period since the business cycle peak. All three elements of the model contribute to the model's predicted rise in the personal saving rate over the past couple of years: the increase in the unemployment rate, the sharp drop in asset values evident in Figure 4-2, and the steep drop in credit availability as measured by the Senior Loan Officer Opinion Survey.

Figure 4-4
Actual Personal Saving Versus Counterfactual Personal Saving



Sources: Department of Commerce (Bureau of Economic Analysis), National Income and Product Accounts Table 2.1; CEA calculations.

The saving model also has implications for the future path of spending. Because of the important role it finds for credit availability, the model suggests that the speed of the recovery in spending is likely to be closely tied to the pace at which the financial sector returns to health. This point underscores a chief motivation for the Administration’s efforts to repair the damage to the financial system: a full economic recovery is unlikely until and unless the financial system is repaired. The vital role that a healthy financial sector plays in the functioning of the economy explains the urgency with which the Administration has been pressing Congress to pass a comprehensive and effective reform of the financial regulatory system (see Chapter 6 for a detailed discussion of the Administration’s proposals).

Over a longer time frame, a resumption seems unlikely of the past pattern in which credit growth persistently outpaces income growth. Instead, credit might reasonably be expected to expand, in the long run, at a pace that roughly matches the rate of income growth. Similarly, in keeping with the long-run stability of the wealth-to-income ratio evident in Figure 4-2, wealth plausibly might grow at roughly the same pace as income—or perhaps a bit faster if investment can sustain an increase in capital per worker. Finally, although unemployment is likely to remain above its normal rate for some time, it too can be expected to return to historically normal values in the medium run. Under these conditions, the model suggests that the personal

saving rate will eventually stabilize somewhere in the range of 4 to 7 percent, somewhat below its level in the 1960s and 1970s, but well above its level over the past decade.

The saving rate has already risen sharply over the past two years (which reflects an even steeper drop in consumption than in income). As credit conditions and the unemployment rate return to normal, it is plausible to expect a temporary partial reversal of the recent increase, even if asset values do not return to their pre-crisis levels. It would not be surprising, therefore, if the saving rate dipped a bit over the next year or two before heading toward a higher long-run equilibrium value. The prospect of temporary fallback in the saving rate is also plausible as a consequence of the expected withdrawal of some of the temporary income support policies that were part of the stimulus package. On balance, however, the United States seems now to be on a trajectory that will eventually result in a more “normal,” and more sustainable, pattern of household saving and spending than the one that has prevailed in recent years.

While the underlying economic forces sketched here seem likely to lead eventually to a higher saving rate even in the absence of policy changes, the Administration has proposed a variety of saving-promoting policy changes to enhance that trend over the longer term. These include increasing the availability of 401(k)-type saving plans and encouraging employers to gradually increase default contribution rates (and to ensure that new employees’ default saving choices reflect sound financial planning). Economic research suggests that people assume that if their employer offers a retirement saving plan, the default saving rate in that plan probably reflects a reasonably good choice for them, unless their circumstances are unusual (Benartzi and Thaler 2004).

THE FUTURE OF THE HOUSING MARKET AND CONSTRUCTION

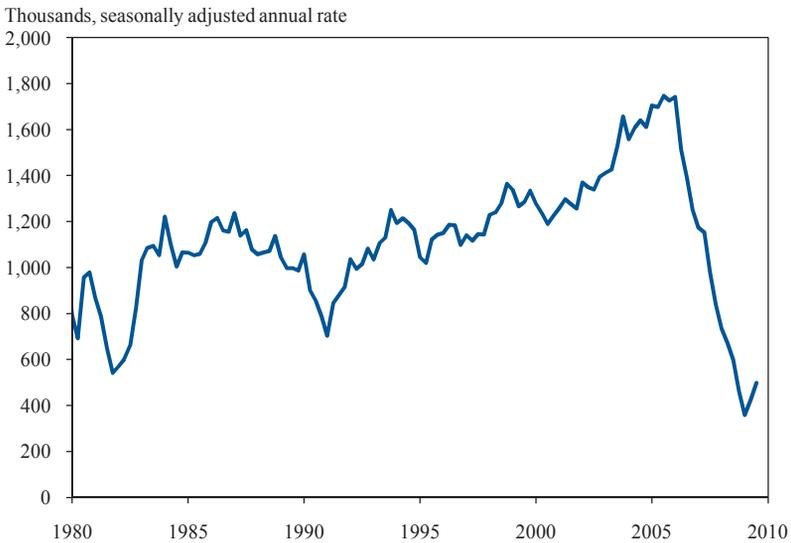
The boom in construction spending that characterized the middle years of the past decade made a substantial contribution to growth while it lasted. When the residential investment engine began to sputter around the middle of 2006, and then to stall, the ensuing correction in the sector was correspondingly steep. With the benefit of hindsight, it is now clear that much of the mid-decade’s frenetic activity was based on unsound financial decisions rather than sustainable economic developments. As a consequence, construction has declined to below-normal levels as the excesses work off. For the future, construction activity is expected to pick up and

contribute to the economic recovery, although this activity is likely to be well below the very high levels it reached in the mid-2000s.

The Housing Market

The residential investment boom can be measured in several ways. As Figure 4-5 shows, new construction of single-family housing units soared in the first half of the 2000s. Builders were constructing 30 percent more single-family housing units a year in the expansion of the 2000s than in the 1990s boom. Housing investment as a share of GDP averaged more than 5.5 percent over the 2002–06 period, compared with an average of only 4.7 percent from 1950 to 2001. Figure 4-6 shows that from 1995 to 2005 the homeownership rate rose from 65 percent to 69 percent as mortgage underwriting standards loosened, especially in the later part of the period.

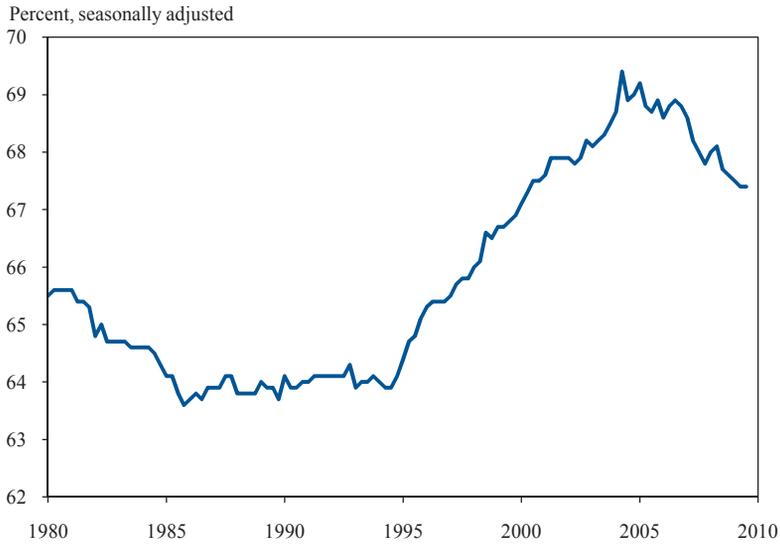
Figure 4-5
Single-Family Housing Starts



Source: Department of Commerce (Census Bureau), New Residential Construction Table 3.

It is now apparent that the mid-2000s level of new construction was unsustainable. Analysis by the Congressional Budget Office (2008) and Macroeconomic Advisers (2009) suggests the mid-2000s pace of starts was well in excess of the underlying pace of expansion in demand for new housing units based on household formation and other demographic drivers.

Figure 4-6
Homeownership Rate



Source: Department of Commerce (Census Bureau), Residential Vacancies and Homeownership Table 4.

The boom was followed by an equally dramatic bust. From their peak in the third quarter of 2005 to the first quarter of 2009, single-family housing starts fell by more than a factor of four. The homeownership rate reversed course, and by the second quarter of 2009 had returned to its 2000 level. The share of housing investment in GDP plummeted to 2.4 percent in the second quarter of 2009.

Just as the mid-decade's high levels of construction and housing market activity were not sustainable, the recent extremely low levels of construction will not persist indefinitely. In 2009, housing starts and the share of housing investment in GDP were well below their previous historical lows. In the long run, sounder underwriting standards will require more would-be homeowners to take time to save for a down payment before buying a home, suggesting that the homeownership rate will ultimately settle at a level lower than its recent peaks. Nonetheless, as the population grows and the housing stock depreciates, new residential construction will be required to meet demand. The analyses by the Congressional Budget Office (2008) and Macroeconomic Advisers (2009) suggest that the underlying demographic trend of household formation is consistent with growth in demand of between 1.1 million and 1.3 million new single-family housing units per year, more than double the pace of single-family housing starts in November 2009. Indeed, since the second quarter of 2009, housing construction has already rebounded a bit, making its first positive

contribution to GDP growth in the third quarter of 2009 since the end of 2005. But, as described in Chapter 2, the stocks of new homes and existing homes for sale, vacant homes that are not currently on the market, and homes that are in the process of foreclosure and that are likely to be put on the market at some point remain high. As a result, construction demand is likely to rise to its long-run level only gradually while some demand is met by the stock of existing units.

In short, as the housing market stabilizes and returns to a more normal condition, its role as a major drag on economic growth seems to be ending, and it is likely to contribute to the recovery. But residential construction cannot be expected to be the engine for GDP growth that it was during the housing boom of the mid-2000s.

Commercial Real Estate

The market for commercial real estate has also suffered in the recession. Commercial real estate encompasses a wide range of properties, from small businesses that occupy a single stand-alone structure to large shopping malls owned by a consortium of investors.

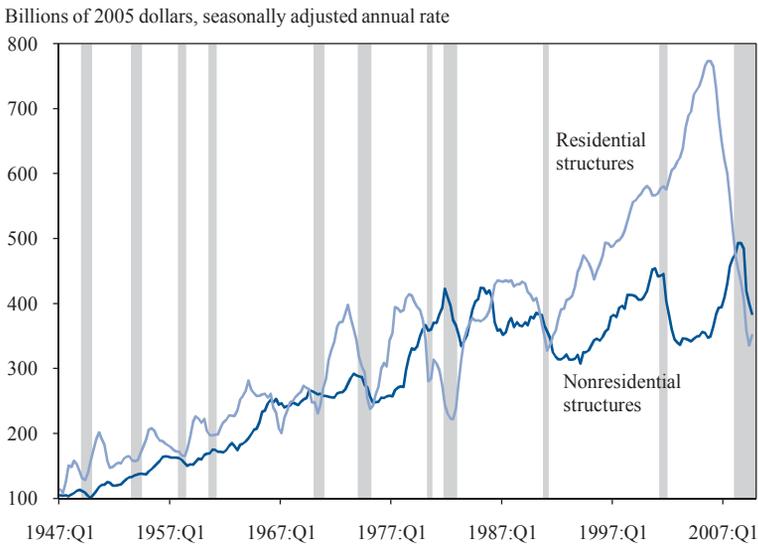
Problems in the commercial real estate sector are less obviously a result of overbuilding than those in the residential sector; instead, they reflect the sharp decline in demand for commercial space and the overall decline in the economy. The value of commercial real estate increased notably between 2005 to 2007, spurred by easy credit conditions, as measured for example in the Senior Loan Officer Opinion Survey. By the end of 2004, the net number of banks reporting they had eased lending standards for commercial real estate loans was persistently larger than at any point in the history of the series. Most banks did not begin tightening standards again until the end of 2006. The relative quantity of financing also increased over this period; the ratio of the change in the value of commercial real estate mortgages to new construction, which should increase when debt financing becomes relatively attractive, reached a 45-year high in 2003 and then continued to climb, peaking at the end of 2005 at more than three times the historical average.²

In the nonresidential sector, high prices did not translate into a dramatic increase in new construction (Figure 4-7). Rather, existing owners of nonresidential properties used the cheap financing and price increases to refinance or sell. Several factors appear to have played a role in limiting

² The numerator of the ratio is the seasonally adjusted change in commercial and multifamily residential mortgages (Federal Reserve, Flow of Funds Tables F219 and F220). The denominator is seasonally adjusted construction of commercial and health care structures, multifamily structures, and miscellaneous other nonresidential structures (Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts Table 5.3.5). The median of the ratio from 1958 to 2000 is 0.46, while the 2005:Q4 value is 1.50.

new investment in this sector. First, a close look at Figure 4-7 shows that nonresidential construction has historically exhibited much less volatility than residential construction, a pattern that also held true during the recent boom. Second, developers seem to have been wary of overbuilding because of unhappy experiences in previous expansions. A final dampening factor has been that construction resources were tied up in the residential construction sector. Indeed, only when residential construction slowed in 2006 did nonresidential construction begin to show larger gains.

Figure 4-7
Fixed Investment in Structures by Type

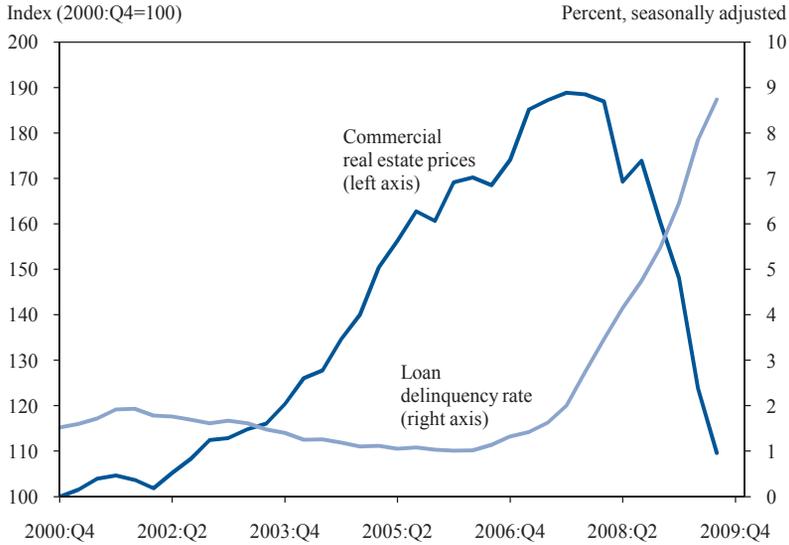


Note: Grey shading indicates recessions.

Source: Department of Commerce (Bureau of Economic Analysis), National Income and Product Accounts Table 5.3.6.

Commercial real estate values have declined dramatically since 2007. As Figure 4-8 shows, according to the Moody's/REAL Commercial Property Index, which tracks same-property price changes for commercial office, apartment, industrial, and retail buildings, commercial real estate prices fell 43 percent from their peak in October 2007 to September 2009. A steep increase in vacancy rates, stemming from weakness in the overall economy, has been one important reason for these declines in value: the commercial real estate services firm CB Richard Ellis reports that vacancy rates for offices increased from 12.6 percent in mid-2007 to 17.2 percent in the third quarter of 2009. Before the recession, vacancy rates were generally declining.

Figure 4-8
Commercial Real Estate Prices and Loan Delinquencies



Sources: Moody's/Real Estate Analytics LLC, Commercial Property Index; Federal Reserve Board.

As commercial real estate values have declined, owners have found it difficult to refinance their debt because loan balances now appear large relative to the properties' value. Nearly half of the banks responding to the Senior Loan Officer Opinion Survey in the third quarter of 2009 reported that they continued to tighten standards on commercial real estate loans, whereas none of the respondents reported having eased standards. Since commercial real estate loans typically are relatively short term, an inability to refinance debt has led to a sharp rise in delinquencies and foreclosures. Figure 4-8 shows that the proportion of commercial real estate loans with payments at least 30 days past due rose from about 1 percent during most of the decade to almost 9 percent by the third quarter of 2009. Distress has made lenders reluctant to provide financing for new projects. Overall, the value of commercial and multifamily residential mortgages declined in each of the first three quarters of 2009 (Federal Reserve Flow of Funds Tables L.219 and L.220). Tight credit and the increase in sales of distressed properties have fed into further price declines, generating a negative feedback loop between property values and conditions in the sector.

As private sources of funding have dried up, the Federal Reserve has helped fill the gap through the Term Asset-Backed Securities Loan Facility (TALF). In June 2009, the TALF made lending available to private financial market participants against their holdings of existing commercial

mortgage-backed securities (CMBS), thereby increasing liquidity in the CMBS market. In November 2009, the TALF made its first loans against newly issued CMBS. The provision of TALF financing for these newly issued securities may prove particularly important in allowing borrowers to refinance.

The negative feedback loop between credit conditions, the sale of distressed commercial properties, and commercial property values may lead to further price declines. Eventually, however, a combination of economic recovery and an improvement in financing conditions should help prices stabilize. Still, as with the residential mortgage market, commercial real estate financing will likely not return any time soon to the easy terms that prevailed before the collapse. Experience in previous business cycles suggests that recovery of the sector will lag the economy as a whole.

BUSINESS INVESTMENT

If consumption and construction are not the drivers of growth going forward in the way they were in the early 2000s, two components of private demand are left to fill the gap: business investment excluding structures, and net exports.³ Nonstructures investment could well become again (as it was in the 1990s) a driving force in the expansion of aggregate demand and economic production. And in the long run, its share in GDP could reach levels higher than those of the first part of the decade.

Investment in the Recovery

Investment spending (other than structures) plummeted in late 2008 and early 2009. This investment spending fell so low that, after accounting for depreciation, estimates of the absolute stock of capital showed stagnation in 2008 and even a decline in the first quarter of 2009. Falling spending in this category reflected falling business confidence, as indicated, for example, in the Federal Reserve Bank of Philadelphia's Business Outlook Diffusion Index; this index was negative every month from October 2008 to July 2009, signaling that more businesses thought conditions were deteriorating than thought they were improving. Similarly, the National Federation of Independent Business Index of Small Business Optimism hit its lowest point since 1980 in March 2009.

³ In the National Income and Product Accounts, construction of commercial structures is classified as part of business investment. Given that the boom and bust were concentrated in residential and commercial construction, however, for discussing recent and prospective developments it is more useful to consider commercial construction investment together with residential investment, as was done in the previous section. Thus, the discussion that follows is largely concerned with nonstructures investment.

Investment of this kind firmed in the second half of 2009, coinciding with improvements in business confidence. Indeed, investment in equipment and software increased at a 13 percent annual rate in the fourth quarter. Nevertheless, the cumulative erosion has been so substantial that years of strong growth will be necessary to fully recover from the nadir. As a result, recovery of spending in this area is likely to make a substantial contribution to the recovery of the overall economy.

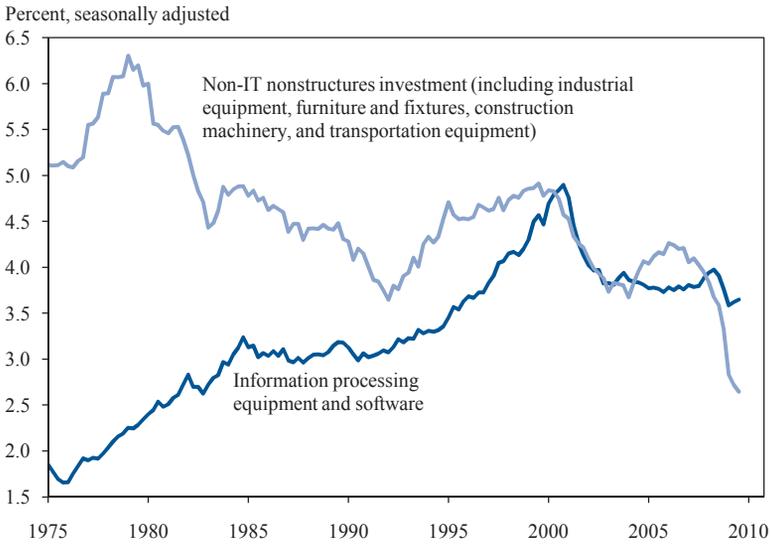
Investment in the Long Run

In the long run, the share of business investment is likely not just to return to its pre-recession levels, but to exceed them. During the boom of the 1990s, the share of business investment in equipment and software as a fraction of GDP rose from a post-Gulf-War recession low of 6.9 percent in 1991 to 9.6 percent in 2000. During that period, investment in information processing equipment and software made the largest contribution to the increase, as shown in Figure 4-9. Information technology (IT) investment grew an astounding 18 percent per year on average from 1991 to 2000. Other investment in equipment and software, which includes industrial, transportation, and construction equipment, accelerated as well, and grew as a share of GDP over this period. This high level of investment in the 1990s increased industrial capacity by an average of 4 percent per year.

As the figure shows, the boom came to an end at the beginning of the 2000s, when investment in every category of equipment and software fell sharply as a share of GDP. The recovery in business investment in equipment and software after the 2001 recession was weak. IT investment grew at a historically tepid pace of 6 percent per year from 2003 to 2007, far below pre-2000 growth rates. Non-IT investment growth was also muted, with spending on industrial equipment growing at an annual pace of only 3.7 percent from 2003 to 2007, down from an average of 5.4 percent in the 1990s. Investment in transportation equipment surpassed its 1999 peak only for one quarter in 2006. In the recovery following the 2001–02 recession, the peak value of non-IT equipment investment as a share of GDP was only 4.3 percent (in 2006), a level that does not even match the historical *average* value of that series in the period from 1980 to 2000. Production capacity in the sector grew an average of 0.6 percent per year from 2003 to 2007, substantially below the average pace of growth in the 1990s. Taken as a whole, these figures suggest that business investment may have been abnormally low over the course of the post-2001 expansion.

There are strong reasons to expect investment's role in the economy will be larger in the future. In the long run, the real interest rate will adjust to bring the demand for the economy's output in line with the economy's

Figure 4-9
Nonstructures Investment as a Share of Nominal GDP



Source: Department of Commerce (Bureau of Economic Analysis), National Income and Product Accounts Table 5.3.5.

capacity. The increase in private saving described in the first part of the chapter, together with the policies to tackle the long-run budget deficit that are the subject of the next chapter, should help maintain low real interest rates. By keeping the cost of investing low, these low real interest rates should help to encourage investment.

At the same time, other forces should help increase investment at a given cost of borrowing. A number of promising technological developments offer the prospect that businesses will be able to find many productive purposes for new investments, ranging from new uses of wireless electromagnetic spectrum, to new applications of medical and biological discoveries opened up by DNA sequencing technologies, to environmentally friendly technologies like new forms of production and distribution of clean energy (see Chapter 10 for more on these subjects).

Another form of investment is business spending on research and development (R&D). Such spending can be interpreted as investment in the accumulation of “knowledge capital.” Ideally, private investments in R&D will dovetail with complementary public investments in knowledge capital through basic research and scientific and technological infrastructure. The Administration’s commitment to fostering the connections between public and private investments in knowledge production has been strongly signaled in both the Recovery Act and the President’s fiscal year 2010 budget (Office of Management and Budget 2009). The Recovery Act included \$18.3 billion

of direct spending on research, one of the largest direct increases in such spending in the Nation's history. In addition, more than \$80 billion of Recovery Act funds were targeted toward technology and science infrastructure. The Administration's first budget proposed to double the research spending by three key science agencies: the National Science Foundation, the Department of Energy's Office of Science, and the Department of Commerce's National Institute of Standards and Technology. And to foster private sector innovation, the budget also included the full \$74 billion cost of making the research and experimentation tax credit permanent in order to give businesses the certainty they need to invest, innovate, and grow.

With reduced demand from consumption and housing tending to make the real interest rate lower than it otherwise would be, and increased investment demand from the many newly developing technologies and incentives for R&D, a larger portion of the economy's output is likely to be devoted to investment. And, because business investment contributes not only to aggregate demand but also to aggregate supply and productivity, a larger role for investment will create a stronger economy going forward.

THE CURRENT ACCOUNT

The picture of future growth in the United States described in the previous sections depends less on borrowing and consumption than did growth in the past decade. This view has important implications for our interactions with other countries and the current account.

Determinants of the Current Account

The current account is the trade balance plus net income on overseas assets and unilateral transfers like foreign aid and remittances. The trade balance, or net exports, represents the bulk of the current account and is responsible for a large majority of short-run movements in it. To a first approximation, a current account deficit implies that the trade balance is negative or, equivalently, that our exports are less than our imports. At the same time, the current account deficit must also be matched by the net borrowing of the United States from the rest of the world. If we spend more than we earn, we must borrow the money to do so. In the national income accounting sense, the definition of the current account can be reduced to national saving minus investment (plus some measurement error).

This accounting definition provides a description but not an explanation of the drivers of the current account. One important driver is the business cycle. As Box 4-1 explains, over the last 30 years, the U.S. current account deficit tended to be larger when the economy was booming

and unemployment was low. In a boom, investment tends to rise and saving tends to fall, generating a current account deficit. When the economy struggles, investment often falls and saving often rises, generating a surplus (or a smaller deficit). In countries that rely more on exports to drive their growth, an acceleration in growth can be associated with a rising current account surplus (or smaller deficit).

Current accounts do not need to be balanced in every country in every year. At any point in time, countries may offer more investment opportunities than their desired level of saving at a given interest rate can fund, making them net borrowers, resulting in a current account deficit. Other countries may have an excess of saving over desired investment, making them net lenders (a current account surplus). However, in the

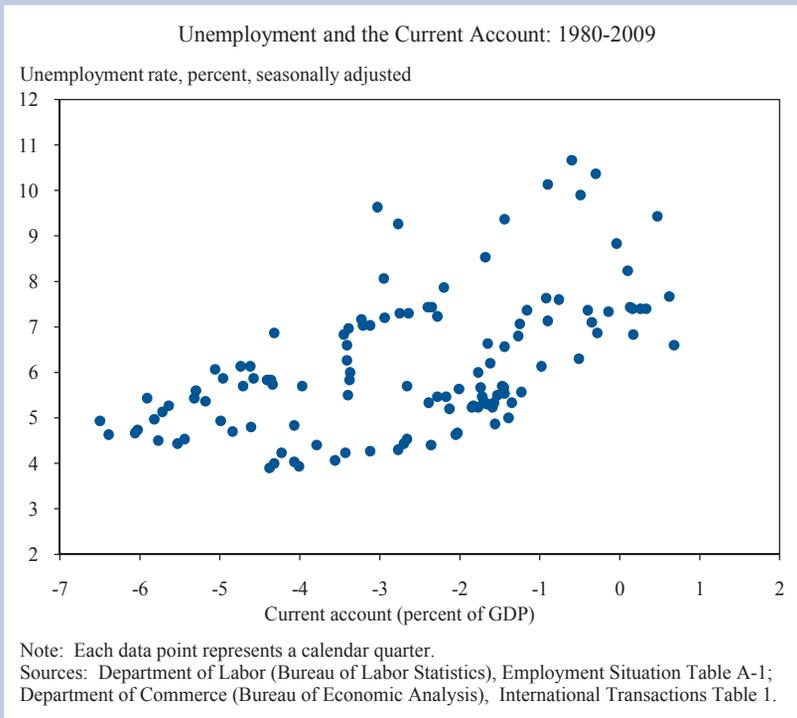
Box 4-1: Unemployment and the Current Account

The relationship between the level of unemployment and the current account balance is complicated. People frequently argue that imports—and specifically the current account deficit—displace U.S. workers and generate higher unemployment. However, the main determinant of unemployment in the short and medium runs is the state of the business cycle. The scatter plot of the current account and the unemployment rate since 1980, shown in the accompanying figure, displays a positive relationship. Historically, a smaller current account deficit has coincided with a *higher* unemployment rate. Both were being driven by cyclical economic factors: in a recession, the current account balance improved, and unemployment was high. In a boom, the current account balance deteriorated, and unemployment was low. This usual pattern has been at work in the current recession. The U.S. current account deficit narrowed from 6.4 percent of GDP in the third quarter of 2006 to 2.8 percent of GDP in the second quarter of 2009. At the same time, unemployment *rose* from 4.6 percent to 9.3 percent.

The relationship between unemployment and the current account balance can be different in countries that have relied more heavily on exports for growth. For example, in Germany, the unemployment rate fell from 11.7 percent in 2005 to 9.0 percent in 2007 while the current account surplus rose from 5.1 percent of GDP to 7.9 percent. Likewise, in Japan, unemployment fell from 2005 to 2007 as the current account surplus rose. Given the slack in the U.S. economy, a shift toward a current account surplus could increase aggregate demand and help lower the unemployment rate.

Continued on next page

Box 4-1, continued



long run, current accounts should tend toward balance, thereby allowing the net foreign investment position (total foreign assets minus total foreign liabilities) of borrowing nations to at least stabilize as a ratio to GDP and possibly to decline over time. Otherwise, creditor nations would be continually increasing the share of their wealth held as assets of debtor nations, and debtor nations would owe a larger and larger share of their production to foreign lenders and capital owners.

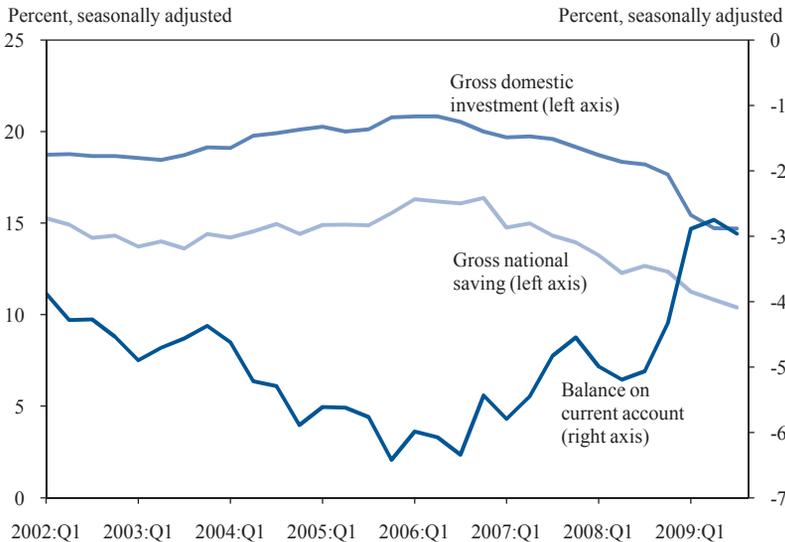
Thus, in the long run, one would expect the U.S. current account to move toward balance. As it does so, it will not cause the absolute level of our accumulated net foreign debt to decline unless the U.S. current account moves into surplus (which is of course possible). But, even if the long-run current account is merely in balance or a small deficit, the previous net foreign borrowing should still decline as a share of GDP as GDP rises. Further, so-called “valuation effects”—changes in asset values of foreign assets held by Americans or U.S. assets owned by foreign investors—also affect the ratio of foreign indebtedness to GDP.

The Current Account in the Recovery and in the Long Run

As the U.S. economy recovers from the current crisis, it is unlikely to return to current account deficits as large as those in the mid-2000s. Coming out of the 2001–02 recession, investment rose more quickly than saving, and the current account deficit widened to more than 6 percent of GDP (Figure 4-10). Investment had also declined slightly more than saving had before the current crisis hit, and the current account deficit moderated to less than 5 percent of GDP by the third quarter of 2007.⁴ The gap narrowed rapidly as investment fell sharply during the crisis. The increase in the personal saving rate since the onset of the crisis has partly offset the large Federal budget deficit (which is negative government saving), so the current account deficit shrank to under 3 percent of GDP.

The specific path of the current account as the economy exits the crisis will depend on whether government and private saving rise ahead of, or along with, a rebound in private investment. But in the long run, the current account deficit is likely to be smaller than it was before the crisis. The likely rise in private and public saving relative to their pre-crisis levels

Figure 4-10
Saving, Investment, and the Current Account as a Percent of GDP



Source: Department of Commerce (Bureau of Economic Analysis), National Income and Product Accounts Table 5.1.

⁴ There is also a statistical discrepancy between the saving-minus-investment gap and the current account. While this discrepancy is generally close to zero, it moved from slightly negative to slightly positive in this period, so that the measured current account moved more than the measured gap between saving and investment did.

implies an increase in national saving. Thus, saving is likely to more closely balance domestic investment, suggesting a transition to a smaller current account deficit than in the 2000s. Given that the current account deficit has already narrowed to roughly 3 percent of GDP—less than half its peak—the crucial challenge will be to avoid a reversion to a high-spending, low-saving economy. A successful shift toward a more balanced world growth model generated by increased consumption in nations with current account surpluses could improve net exports even more. This could bring the current account deficit toward its mid-1990s level of roughly 1 to 2 percent of U.S. GDP.

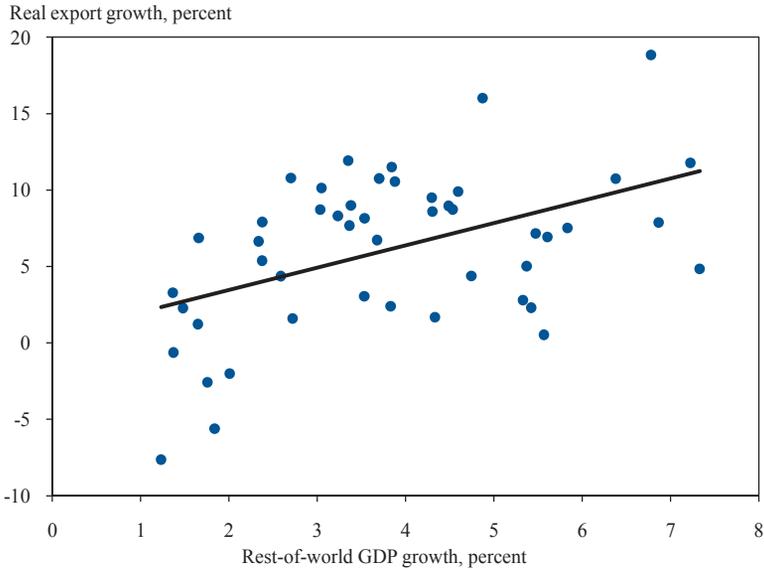
Exports can be expected to rise rapidly as the world economy recovers for a number of reasons. Just as trade typically falls faster than GDP in a recession (discussed in Chapter 3), it typically grows faster during a rebound. Trade-to-GDP ratios have fallen in the last year and can be expected to bounce back as the world economy recovers. This bounce-back alone will lead to rapid export growth. More generally, the crucial driver of exports is always the performance of the world economy. For U.S. goods and services to be bought abroad, demand in other countries must return robustly. This is one reason for the United States to strengthen its ties with fast-growing regions such as emerging East Asia. The faster our trade partners grow and the more we trade with fast-growing economies, the more demand for U.S. exports grows. Figure 4-11 shows the historical relationship between U.S. export growth and growth of non-U.S. world GDP.

The rebalancing of the U.S. economy is likely to be accompanied by a rebalancing of the world economy as well. It is reasonable to expect growth in East Asia to continue at a rapid rate but also to become more oriented toward domestic consumption and investment than it has been in the recent past. Some nations with large current account surpluses took steps to increase domestic demand during the crisis, and these efforts must be maintained and expanded if world growth is to rebalance. It is not a given that such a transition in world demand will take place. Concerted policy action will be needed, but if saving falls in countries with current account surpluses and spending rises, that should stimulate U.S. exports as well as take pressure off of the U.S. consumer as an engine of world growth.

Steps to Encourage Exports

The Administration is taking many concrete steps to encourage exports. The Trade Promotion Coordinating Committee brings government agencies together to help firms export. While the final decision of whether and how much to export is a market decision made by private businesses, the government can play a constructive role in many ways. The

Figure 4-11
Growth of U.S. Exports and Rest-of-World Income: 1960-2008



Notes: Rest-of-world GDP constructed as world GDP in constant dollars less U.S. GDP. Data are annual growth rates, 1960-2008. Best-fit linear regression equation is: export growth = 0.5 + 1.5 (GDP growth). Sources: World Bank, World Development Indicators; Department of Commerce (Bureau of Economic Analysis), National Income and Product Accounts Table 1.1.6.

Export-Import Bank can help with financing; consular offices can provide contacts, information, and advocacy; Commerce Department officials can help firms negotiate hurdles; a combination of agencies can help small and mid-sized businesses explore overseas markets. Much of the academic literature in trade models a firm's decision to export as involving a substantial one-time fixed cost (Melitz 2003). The Administration is doing all that it can to lower that initial fixed cost to help expand exports.

In addition, the Administration is pursuing possible trade agreements and making the most of its current trade agreements to expand opportunities for American firms to export. Because U.S. trade barriers are relatively low, new trade agreements often lower barriers abroad more than in the United States, opening new paths for U.S. exports. As the Administration works to expand U.S. market access through a world trade agreement in the Doha round of multilateral trade talks, it continues to explore its options in bilateral free trade agreements and regional frameworks, such as the Trans-Pacific Partnership. The United States Trade Representative continues to work through previously negotiated trade agreements to lower non-tariff trade barriers and facilitate customs issues to make it easier for U.S. businesses to export.

Not all of these developments will necessarily increase net exports (or the current account) of the United States. Since the current account equals net lending to or borrowing from the world, moving the current account balance requires adjustments in saving and investment as well as more opportunities to export. In the long run, increases in demand for U.S. exports resulting from export promotion or reduced trade barriers will generate higher standards of living, but through improved terms of trade, not an increase in net exports. Further, the simple recovery of world trade volumes will increase exports and imports alike. As discussed in Chapter 10, this increase in trade can increase productivity and living standards, but it will not change the current account. However, rapid world growth and declining current account surpluses abroad should lead to an increase in U.S. exports. This can help increase U.S. net exports and hence contribute to the recovery.

As with higher investment, lower current account deficits have important long-run benefits. Lower foreign indebtedness than the country otherwise would have had means reduced interest payments to foreigners. Equivalently, it means that foreigners have on net smaller claims on the output produced in the United States. Thus, lower current account deficits will raise standards of living in the long run.

CONCLUSION

Economic policy should not aim to return the economy to the path of unstable, unsustainable, unhealthy growth it was on before the wrenching events of the past two years. We should—and can—achieve something better. Growth that is not fueled by unsustainable borrowing, and growth that is based on productive investments, is more stable than the growth of recent decades. And growth that is associated with higher saving will lead to greater accumulation of wealth, and so greater growth in our standards of living.

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