# Private-Sector Decisions and the U.S. Trade Deficit

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Many analysts have argued that the United States needs to correct its trade imbalance, but much of the commentary is rather vague in stating why. The conventional argument against trade deficits—that they create prosperity abroad at the expense of domestic industries and workers—does not seem relevant to the current U.S. experience. Although many U.S. manufacturing firms were hurt by the trade deficit's growth from 1982 through 1985, overall profits and capacity utilization at U.S. firms increased. And during 1986 and 1987, as the trade deficit continued to widen, even the manufacturing sector grew strongly. Moreover, the unemployment rate has been declining since 1982, despite the trade deficit, and most economists think it is about as low as it can go without risking a serious acceleration in inflation.

One reason the trade deficit might be harmful is that it may reduce the welfare of future U.S.

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generations. To pay for the excess of U.S. imports over U.S. exports, the current generation of Americans must either sell assets to foreigners or borrow from them. In the 1983-87 period, Americans increased their net indebtedness to the rest of the world by more than $500 billion, to pay for persistent and unprecedentedly large trade deficits. And since 1985, the total value of foreigners' claims on the U.S. economy has surpassed the total value of foreign assets held by Americans, for the first time in over half a century.

Some observers consider the recent increase in net U.S. indebtedness alarming because of the burden it will impose on future generations, who will have to consume less than they produce in order to service or to repay the current generation's foreign debt. But even with this debt, those future generations may nonetheless be able to consume more goods and have a higher standard of living than we do today, as long as we have used the borrowing opportunity to finance expanded productive investment.

The U.S. trade deficit is the outcome of many private- and public-sector decisions, in the United States as well as abroad. In particular, changes in private savings behavior in the U.S. have played a major role during the past few years. To evaluate the trade deficit's effects on the welfare of current and future generations, we must first understand the underlying decisions that have contributed to its emergence and persistence. But before turning to this question, we need to review some basic concepts from the national income accounts.[1]

## PERSPECTIVES ON THE TRADE DEFICIT

There are several measures of a country's balance of international payments. One standard measure is the trade deficit, which is the difference between imports and exports of goods and services. We can view the trade deficit as the difference between the quantity of goods and services that a country uses up in a year and the quantity it produces—or, more technically, the difference between "gross domestic purchases" and "gross national product."

In the national income accounts, total U.S. purchases of goods and services are broken down into three categories:

1. personal consumption expenditures, which consist of household spending on goods and services;
2. gross private domestic investment, which is defined as business spending on plant, equipment, and inventories plus spending on new residential construction; and
3. government purchases of goods and services, which include the purchases of federal, state, and local governments.

The sum of these three categories of spending—which represents the *total purchases* of American households, businesses, and governments—is called gross domestic purchases. Gross national product (GNP), in contrast, is a measure of the *total production* of goods and services by American residents. Whenever gross domestic purchases exceed GNP—that is, whenever American households, businesses, and governments are collectively purchasing more goods and services than the nation is producing—the United States becomes a net importer of goods and services from other countries. In other words, the U.S. trade deficit is simply the difference between gross domestic purchases and GNP:

Trade Deficit = Gross Domestic Purchases - Gross National Product

Thinking of the trade deficit as the difference between domestic purchases and domestic output provides us with an important insight: any policy that aims to reduce the trade deficit must either accelerate the growth of domestic output or slow the growth of domestic purchases (or both). With the U.S. economy close to full em-

[1]The national income accounts are government statistics measuring the economy's output, income, and expenditures, which are broken down into various categories. They are published by the U.S. Department of Commerce in the *Survey of Current Business*.

ployment in 1988, any attempt to accelerate the growth of U.S. output would probably run into capacity constraints and cause inflationary pressures. Accordingly, a noninflationary policy aimed at reducing the trade deficit would have to involve slower growth of personal consumption, domestic investment, or government purchases.

Another measure of the imbalance in international payments is "net foreign investment in the U.S."[2] To the trade deficit, it adds the deficit resulting from unilateral transfers, which reflects items such as U.S. government grants and private gifts to foreigners. When U.S. imports exceed U.S. exports, foreign countries can use the proceeds from their trade surplus with the United States either to reduce their indebtedness to Americans or to acquire U.S. assets (such as bonds issued by U.S. companies or government agencies, or stocks of U.S. corporations). Similarly, unilateral transfers from the United States enable foreigners to reduce their indebtedness to Americans or to acquire U.S. assets.

Thus, the sum of the U.S. trade deficit and the U.S. deficit on unilateral transfers is matched by an increase in foreign claims on the United States or a decrease in U.S. claims on other countries—that is, by net foreign investment in the U.S. A positive value of net foreign investment in the U.S. would indicate that Americans sold assets to foreigners or increased their indebtedness to foreigners. According to the Commerce Department's estimate, net foreign investment in the U.S. totaled $156.9 billion in 1987.[3]

**The "Saving-Investment" Identity.** In the national income accounts, there is a relationship among net foreign investment in the U.S., private savings, domestic investment, and the government budget deficit. Most macroeconomics textbooks present the derivation of this relationship, referred to as the "saving-investment" identity.[4] The idea behind the identity is easy to understand even without looking at the derivation. When the need for funds to finance domestic business investment and the U.S. budget deficit exceeds the flow of private savings from American households and businesses, then Americans must borrow from foreigners or sell existing assets to foreigners in order to raise part of the needed funds. Borrowing from or selling assets to foreigners constitute foreign investment in the U.S. Accordingly, net foreign investment in the U.S. is always equal to the government budget deficit (for all levels of government, combined) plus domestic investment minus private savings:

Net Foreign Investment in the U.S. =
Government Budget Deficit +
Private Domestic Investment -
Private Savings

We can think of the government budget deficit as the public-sector counterpart of net foreign investment in the U.S. and of the gap between private domestic investment and private savings as its private-sector counterpart.

The saving-investment identity provides a framework for analyzing the links between the trade deficit and the relevant private- or public-sector decisions. If Americans increase domestic investment but do not save more to finance the additional investment, then net foreign investment in the U.S. must rise. An example of domestic investment being financed by foreign

[2]The concept of "net foreign investment in the U.S." (by foreigners) used here coincides with "net foreign investment" (by Americans in other countries) as reported in the U.S. national income accounts, but with the signs reversed. In the balance of payments accounts, the conceptual counterpart of "net foreign investment in the U.S." is the "U.S. current account deficit."

[3]This figure is obtained by dropping the minus sign in front of the "net foreign investment" figure reported in the *Survey of Current Business* (May 1988) p. 11. See Footnote 2 above. All numbers cited are from the May 1988 issue.

[4]See, for example, Robert E. Hall and John B. Taylor, *Macroeconomics* (New York: W.W. Norton & Company, 1986) pp. 34-38.

investment in the U.S. would be the building of a new auto plant that is financed by selling bonds to foreigners. Similarly, if private savings fall or if the government budget deficit increases while domestic investment remains unchanged, the identity implies that net foreign investment in the U.S. must rise. An example of a decline in savings matched by a rise in net foreign investment in the U.S. would occur if households paid for increased spending by liquidating foreign assets.

Net foreign investment in the U.S. rose steadily from about -0.5% of GNP in 1980 to about 3.5% of GNP in 1987 (Figure 1). The rise was notable in historical perspective. Between 1950 and 1979 there were only six years in which net foreign investment in the U.S. was positive, and even in those years its magnitude never rose above 0.7% of GNP. From 1981 to 1983 the rise in net foreign investment in the U.S. reflected a sharp increase in the government budget deficit, which increased from 1% of GNP in 1981 to about 3.8% of GNP in 1983.

But budget deficits did not by themselves account for the steady rise in net foreign investment in the U.S.; the steady rise also reflected the fact that the difference between domestic investment and private savings rose steadily from -3.5% of GNP in 1982 (indicating that private savings exceeded private investment) to 1% of GNP in 1987.

## WHY DID NET FOREIGN INVESTMENT IN THE U.S. RISE?

The saving-investment identity tells us that net foreign investment in the U.S. must always

FIGURE 1

**Net Foreign Investment in the U.S. and Its Counterparts as a Percentage of GNP**

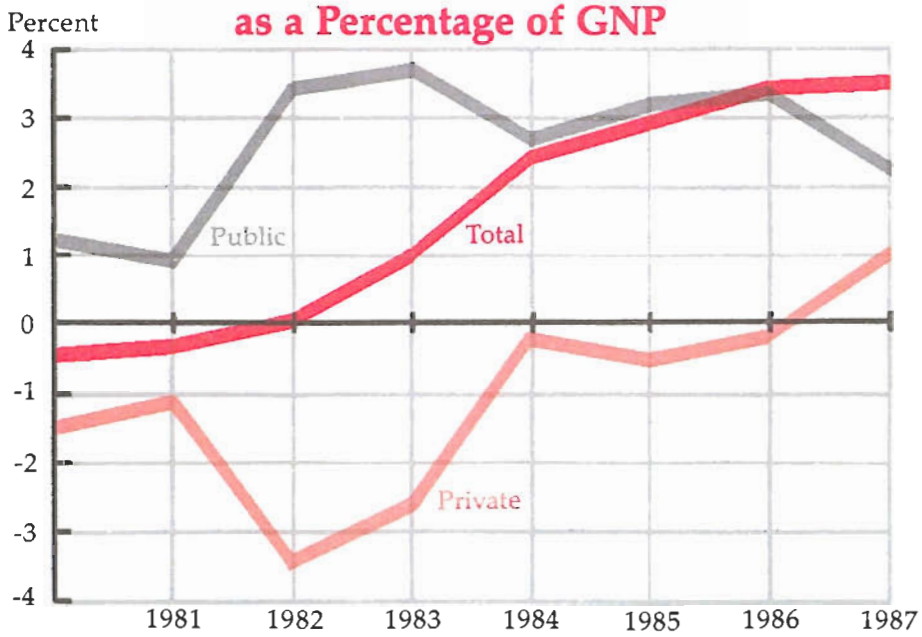



Figure 1 shows net foreign investment in the U.S. and its private- and public-sector counterparts as percentages of GNP. The private-sector counterpart is the difference between gross private domestic investment and gross private savings; the public-sector counterpart is the total government budget deficit (on a national income accounting basis).

equal the sum of its public- and private-sector counterparts. But it tells us nothing about the economic forces maintaining this equality. For net foreign investment in the U.S. to be positive, Americans must be induced to liquidate their foreign assets and/or foreigners must be induced to increase their holdings of U.S. assets. What were the inducements behind the net foreign investments in the U.S., and the associated trade deficits, in the 1980s?

A partial answer may be that foreigners wished to accumulate U.S. assets because they came to view the United States as a "safe haven" for their investments. The safe haven story says that the pro-investment image of the Reagan administration, in conjunction with the debt crises in some less developed countries, generated a flow of funds seeking the safety of U.S. assets. The safe haven story, however, is at best a partial explanation for the inflow of foreign capital to the U.S. in the 1980s. If it were the whole story, we would expect real, or inflation-adjusted, interest rates to fall in the U.S. as foreigners competed with each other to lend to Americans. In fact, real interest rates rose sharply in the United States relative to other industrial countries' in the early 1980s.[5]

The increase in U.S. real interest rates could by itself account for the capital inflows, regardless of the verdict on the safe haven story. The high yields of U.S. assets could have made foreign assets seem relatively less attractive, both to Americans and to foreigners, and thus given rise to the net foreign investments in the U.S. during the 1980s. To increase their holdings of U.S. assets, foreigners would first try to buy dollars in the foreign exchange market, which would cause the dollar to appreciate. The stronger dollar in turn would reduce U.S. exports and increase U.S. imports, leading to a rise in the trade deficit and allowing the desired increase in net foreign investment in the U.S. to take place.

But what caused the increase in U.S. real interest rates? Partial answers are easy to come by. Late in 1979, the Federal Reserve embarked on a course of tight monetary policy to reduce the high inflation rates of the 1970s. This policy quickly translated into high real interest rates, especially in 1980 and 1981. Moreover, the growing government budget deficits (depicted in Figure 1 as the public-sector counterpart of net foreign investment in the U.S.) implied a sharp increase in the government's need to borrow, particularly after 1981, which also helped raise interest rates. The combination of tight money and large fiscal deficits is a textbook recipe for high interest rates. But this combination does not fully solve the puzzle of the U.S. experience in the 1980s. Changes in private savings and investment behavior also played a role.

**Private Savings and Investment in the U.S.** An explanation that focuses solely on the combination of tight money and large budget deficits fails to account for the changes in private savings and domestic investment that occurred in the United States during the 1980s. Consider the textbook scenario about the effects of an increase in interest rates caused by a monetary contraction or by an increase in the budget deficit. The higher interest rates would constitute a greater reward for saving and therefore would stimulate private savings.[6] More importantly, the higher interest rates would discourage domestic investment.

A typical course of events would run as follows. The fiscal and/or monetary policy changes would first raise interest rates on Treasury

[5]For more detailed discussions of real interest rate fluctuations in the 1980s, and of economists' explanations for these fluctuations, see Stephen A. Meyer, "Trade Deficits and the Dollar: A Macroeconomic Perspective," this *Business Review* (September/October 1986) pp. 15-25, and Olivier J. Blanchard and Lawrence H. Summers, "Perspectives on High World Real Interest Rates," *Brookings Papers on Economic Activity* 2 (1984) pp. 273-334.

[6]Numerous empirical studies, however, suggest that increases in interest rates do not have a large effect on private savings. For a discussion of the relevant literature, see Robert H. DeFina, "The Link Between Savings and Interest Rates: A Key Element in the Tax Policy Debate," this *Business Review* (November/December 1984) pp. 15-21.

securities and thereby reduce the yield spread between normally higher yielding corporate bonds and bonds issued by the U.S. government. This change in relative yields would curb the demand for corporate bonds, causing their yields to rise as well. This rise in interest rates in turn would curb domestic investment by making it more expensive for business firms to borrow. The high interest rates would also make corporate equities seem comparatively less attractive to asset holders. The resulting lackluster stock market also would make it difficult for businesses to raise funds for financing investment projects.

But the typical course of events outlined above is markedly different from the actual U.S. experience (illustrated in Figures 2, 3, and 4). Private savings (as a percentage of GNP) declined fairly steadily after 1981, and domestic investment (as a percentage of GNP) rose sharply from 1982 to 1984 (Figure 2). Between 1980 and 1982, the yield spread between corporate Aaa and Treasury bonds was on the rise (Figure 3)—that is, corporations with the highest credit rating were willing to pay large premiums in order to borrow, in contrast to the typical course of events. The sharpest increases in the yield spread occurred late in 1981 and early in 1982. Finally, the S&P 500-stock index rose steadily from 1982 to 1987 (Figure 4). These figures show the actual U.S. experience to be the opposite of what the textbook scenario would lead us to expect.

These data are consistent with the view, expressed in the *Economic Report of the President* for 1985, that the strong demand for dollar assets during the first half of the 1980s reflected the attractiveness of investment opportunities in the United States. That corporations were willing to borrow at very high interest rates until late 1982 (Figure 3) suggests that they had noticed their attractive investment opportunities at an early stage. The surge in corporate interest rates subsided only after the booming stock market (Figure 4) had made it easy to raise funds via new equity issues. The stock market boom after 1982 suggests that asset holders came to share businesses' enthusiasm about the investment outlook. In sum, the rapid rise in domestic investment from 1982 to 1984 was apparently due to more attractive investment opportunities offered by the U.S. economy. It also is one cause of the rise in net foreign investment in the U.S.

What caused the attractive investment opportunities offered by the U.S. economy?

**FIGURE 2**

**Private Savings and Domestic Investment as a Percentage of GNP**

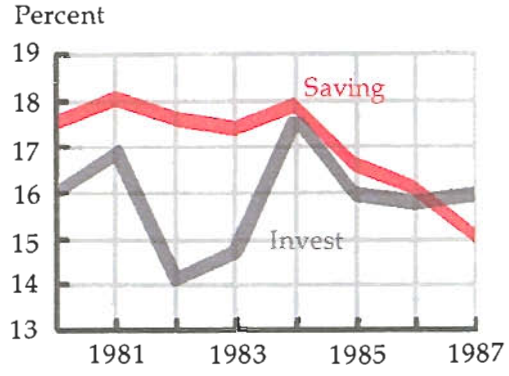



**FIGURE 3**

**Yield Differential Between Corporate Aaa and Long-Term Treasury Bonds**

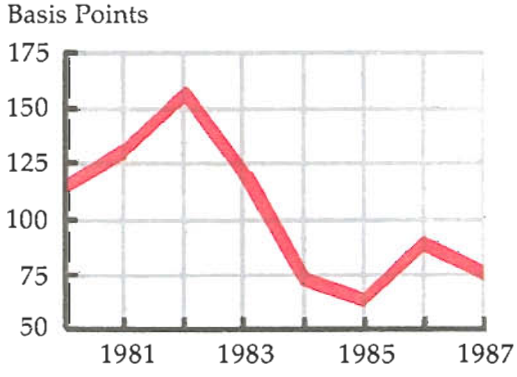
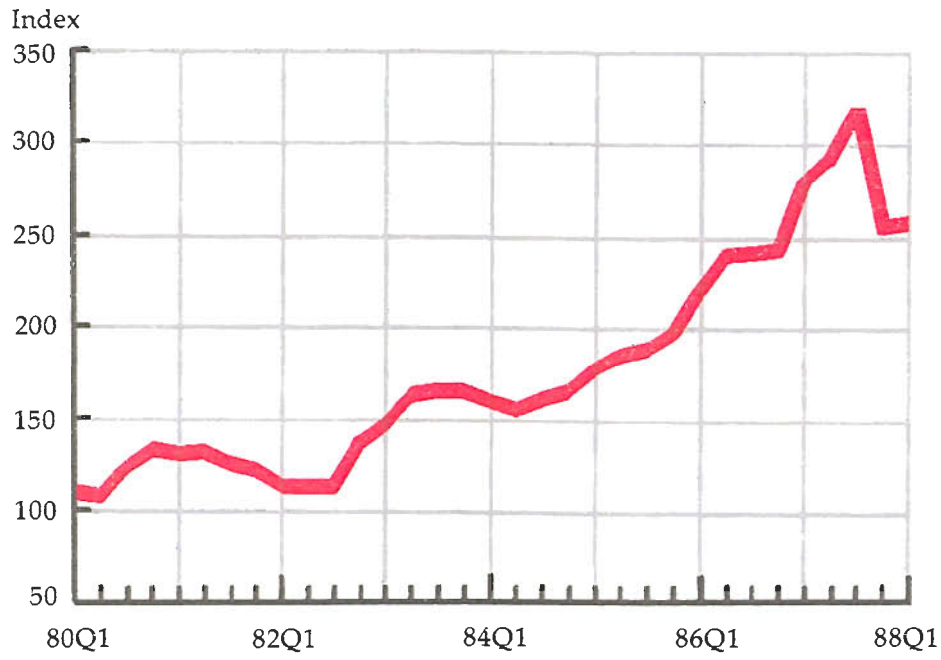


**FIGURE 4**

**S&P 500-Stock Index**




Several answers come to mind. First, aided by expansionary fiscal and monetary policies after mid-1982, the U.S. economy seemed likely to recover from the recession much faster than other industrial economies. Domestic investment has a general tendency to increase as the economy recovers from a recession; in 1982 this general tendency was probably accentuated by the fact that investment prospects in other industrial countries seemed likely to remain mediocre. Second, the Economic Recovery Tax Act of 1981 gave business firms substantial new investment incentives, which were only partially reversed in 1982.[7] Finally, the success of the Fed's earlier anti-inflationary policy seems to have convinced the financial markets that the economic expansion begun in 1982 could last a long time without rekindling inflation.

While strong growth of investment spending contributed to the growing gap between private investment and savings in the 1980s, and thus to the trade deficit, so too did a drop in private savings. We have seen several reasons why U.S. domestic investment rose in the early 1980s, but an explanation of the decline in private savings is harder to come by.[8] Private savings is the sum of two components: personal savings (the saving done by households) and business savings (composed of retained earnings and depreciation

[7]For a discussion of the effects of the 1981 and 1982 Tax Acts on investment incentives, see Stephen A. Meyer, "Tax Policy Effects on Investment: The 1981 and 1982 Tax Acts," this *Business Review* (November/December 1984) pp. 3-14.

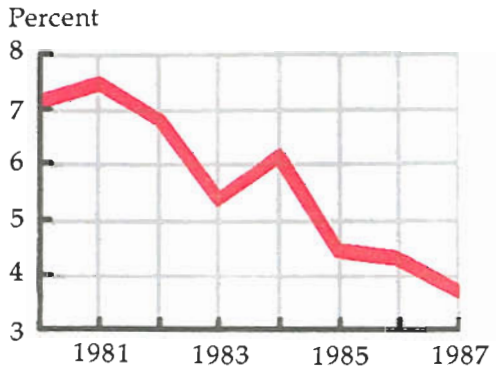
[8]For a discussion of trends in U.S. savings rates and the problems of finding an explanation for them, see Lawrence Summers and Chris Carroll, "Why Is U.S. National Saving So Low?" *Brookings Papers on Economic Activity* 2 (1987) pp. 607-42. Also see F. Gerard Adams and Susan M. Wachter (eds.), *Savings and Capital Formation: The Policy Options*, proceedings of a conference sponsored by the Savings Forum and the Federal Reserve Bank of Philadelphia (Lexington Books, 1985).

allowances). Of the two components, business savings remained fairly stable during the 1980s, rising from 12.5% of GNP in 1980 to 13.5% by 1984, then declining back to 12.3% by 1987. But personal savings dropped sharply, from a rate of about 7.5% of disposable personal income in 1981 to about 3.8% in 1987 (Figure 5). This decline in the personal savings rate during the 1980s is notable; between 1950 and 1979, it averaged 7.2% and did not fall below 5.7% in any year.

Why did American households decide to save a smaller fraction of their disposable income—or, equivalently, to consume a bigger fraction? Economists have no definite answer. Some claim, however, that the stock market boom increased the value of household net worth and made people feel wealthy enough to raise their consumption expenditures faster than their incomes were rising.

Even if we cannot answer the question of why the personal savings rate declined, we can focus on the critical question of whether the decline had a quantitatively large effect on net foreign investment in the U.S. A simple thought experiment will give a grasp of the magnitudes involved. Suppose the personal savings rate in 1987 had been 7.2% (its 30-year average) rather than the actual 3.8%. Personal savings in 1987 then would have been $229 billion instead of the actual $120 billion. Assuming for our thought experiment that domestic investment, business savings, and the government budget deficit had remained at their actual levels, the saving-investment identity implies that net foreign investment in the U.S. would decrease by the same $109 billion amount as personal savings increased. That is, instead of the actual 1987 net foreign investment figure of about $157 billion, the figure in the thought experiment would be $48 billion. Since net foreign investment in the U.S. represents an inflow of funds into the United States to match the sum of the trade deficit and the deficit on unilateral transfers, this sum also would have been $109 billion smaller if the private savings rate had been 7.2% in 1987 and everything else had stayed the same.

**FIGURE 5**
**Personal Savings as a Percentage of Disposable Personal Income**




It is, of course, difficult to say precisely how net foreign investment in the U.S. would have differed if the personal savings rate had not declined; we don't know what changes in domestic investment, business savings, or the budget deficit would have accompanied a hypothetically higher personal savings rate. But a $109 billion improvement in net foreign investment and in the trade deficit is essentially the same as what we would get if we assumed, in our thought experiment, a balanced budget for federal, state, and local governments while leaving private savings and domestic investment unchanged. Thus, the change in private savings behavior is as important as changes in government budget deficits when it comes to understanding the magnitude of U.S. trade deficits in the 1980s.

## ARE TRADE DEFICITS NECESSARILY UNDESIRABLE?

A trade deficit is undesirable only to the extent that its underlying causes are considered undesirable. Our discussion suggests that at various times during the 1980s, the causes of the U.S.

trade deficit included tight monetary policy, the fiscal deficit, the reluctance of households to maintain a high savings rate, and the attractiveness of investment opportunities in the United States. Economics does not provide a clear-cut answer as to the desirability of a trade deficit that reflects so many diverse factors—mainly because some of these factors can benefit the current generation of Americans at the expense of future generations.

Suppose, for example, that American households choose to accumulate foreign debt to finance imports in order to increase their consumption. This increase in the current generation's consumption will force future generations of Americans to reduce their consumption relative to their incomes because they will have to spend part of their incomes to service the debt. Economics provides no clear answer when it comes to evaluating the gains of the current generation vis-a-vis the losses of future generations; it is a social and political issue.

In some cases, however, economics provides us with a reasonably clear-cut answer. Consider, for example, the rise in net foreign investment in the U.S. from 1982 to 1984 and suppose that, as argued above, it largely reflected the attractiveness of investment opportunities in the United States. Since the high yields of these U.S. investments failed to raise private savings in the United States, we can presume that the current generation of Americans preferred not to sacrifice their current consumption in exchange for the future rewards of larger domestic investment. Moreover, had the United States somehow avoided running the 1982-84 trade deficits, foreigners would have been worse off because they would have had to invest their savings in less profitable projects in other countries.

Would future generations of Americans be better off if the United States had somehow avoided running the 1982-84 trade deficits? Probably not; without the deficits, domestic investment would have been lower, and future generations would lose the income from some of the investment projects. To see if future generations would be better or worse off without the 1982-84 trade deficits, we would have to compare the interest payments on the foreign funds borrowed during those years to the income from the investment projects made possible by the inflow of foreign funds. If American business firms exercised good judgment in choosing their investment projects, the income from the projects should (on average) be large enough to pay off the foreign creditors and leave a surplus for the firms—which will be at least partly owned by future generations of Americans. That profits of American corporations have grown rapidly during the past five years suggests that the investment projects have generated such a surplus; that surplus is extra income that will allow increased consumption for future generations.

The preceding example illustrates some general principles. Trade balance fluctuations are necessary whenever asset holders wish to adjust their asset portfolios. They can serve to allocate global savings to the most promising investment opportunities. An increase in the trade deficit that finances increased domestic investment, as opposed to consumption or government purchases, does not impose a burden on future generations. Therefore, to arrive at a simple measure of how a trade deficit will affect the welfare of future generations of Americans, we should look at the change in net foreign investment in the U.S. in comparison to the change in domestic investment. In other words, we should use the *gap* between domestic investment and net foreign investment in the U.S. as a measure of the trade deficit's impact on future generations' welfare. If that gap does not narrow, then a growing trade deficit will not make future generations worse off.

But even this measure is quite crude because it implicitly assumes that future generations do not benefit from borrowing abroad to finance current government purchases. In fact, they benefit from current government expenditures that constitute public investment in creating parks, highways, and other infrastructure. Unfortunately, in practice we have no straight-

forward way of classifying government expenditures into "public investment" and "public consumption." In many instances, the appropriate classification is not even conceptually clear. Expenditures on a military buildup, for example, may or may not represent a valuable investment in national security and technology that will increase the welfare of future generations.

## CONCLUSION

The U.S. trade deficit is the outcome of both public- and private-sector decisions in the United States and abroad. Focusing only on the trade deficit masks the various factors that contributed to the U.S. trade deficit in the 1980s. In particular, the trade deficit's sharp increase in the early 1980s partly reflected an investment boom in the United States that was not matched by an increase in domestic savings and was not necessarily undesirable. What might be cause for concern is that after the investment boom subsided, the trade deficit did not narrow; instead, it was sustained by a decline in private savings and by large government budget deficits.

The ultimate desirability of the government expenditures that accompanied the budget deficits, or of any particular allocation of consumption between current and future generations, cannot be judged on economic grounds alone. However, assuming that concern about the trade deficit is warranted, simple economic reasoning has several implications for how the required trade adjustment should be achieved. First, given the likely inflationary consequences of any attempt to generate substantially faster growth of U.S. output, the adjustment to the trade balance must involve slower growth of domestic purchases. Second, because slower growth of domestic investment would benefit neither current nor future generations, the required slowing in the growth of domestic purchases must come from temporarily slower growth of either government purchases or consumer spending.

We have seen that a return of the personal savings rate to a historically more "normal" level could be as effective in reducing the trade deficit as eradication of the combined government budget deficits would be. So those who consider the trade deficit alarming, and who also are pessimistic about the prospects for a sharp reduction of government budget deficits, can still hope for a rebound in the personal savings rate. In fact, since the stock market crash of October 1987, the personal savings rate has rebounded some, rising from 2.3% in the third quarter of 1987 to 3.8% in the second quarter of 1988. The increase in the savings rate implies slower growth of consumer spending, which, as long as a recession is avoided, should be nothing but good news to those concerned about the trade deficit.