

## CHAPTER 3

# Adjustment and Growth in a Changing World Economy

**MAINTAINING NONINFLATIONARY GROWTH**, while reducing external imbalances, is the primary objective of economic policy in the United States and other leading industrial nations. Market forces and economic policies have combined to reduce external imbalances, at least in volume terms, for more than a year. Further reductions are in prospect and are important to maintaining the long-run health of the world economy. Even more important, this progress should be continued in a manner that does not undermine economic growth, reignite inflation, or yield to the temptation of protectionism.

The problems associated with present external imbalances are real and require attention, but unfortunately they often are exaggerated or misunderstood. Despite a large increase in the U.S. external deficit since 1980 and problems in specific industries, overall employment growth in the United States has been very strong—the strongest of all the major industrial countries. The U.S. unemployment rate has dropped 5 percentage points since late 1982, while unemployment rates in many other industrial countries have risen and now are well above the U.S. rate. Improvement in the trade balance is expected to contribute to job growth when it is most needed—during 1988 when domestic spending is expected to grow only slowly. Nor has U.S. manufacturing performed poorly. During the past 5 years its share of total real output has been running at the postwar average, and in 1987 it stood just below its postwar peak. But despite substantial gains in employment, persistence of a large U.S. trade deficit fuels protectionist sentiment that threatens the open system of world trade and could impair future employment gains.

In the 1980s the measured rate of national saving has been low, and the United States has been a substantial net importer of foreign capital. Yet net foreign claims against the United States remain very small relative to U.S. income and wealth. Thus the general economic problems arising from the U.S. external deficit are primarily problems of the future—problems that will arise only if adequate progress is not maintained in reducing external imbalances. The immediate concern, therefore, is to continue visible progress in reducing these

imbalances in order to reassure financial markets and enhance prospects for sustaining noninflationary growth in the world economy.

Current external imbalances have arisen primarily from macroeconomic causes and require primarily macroeconomic solutions. The \$219 billion deterioration in U.S. real net exports of goods and services between 1980 and late 1986 was widespread across product categories and trading partners. Although some U.S. exports have suffered from barriers in some foreign markets, the growth of the U.S. trade deficit was not caused by an increase in unfair trade practices in foreign countries.

Instead, the growth of the U.S. trade deficit in the 1980s primarily reflects the influence of several interrelated macroeconomic developments. Rapid growth of spending (domestic demand) in the United States relative to both growth of spending in other countries and to growth of production (gross national product, or GNP) in the United States spurred U.S. demand for foreign imports and restrained foreign demand for U.S. exports. The need for many heavily indebted developing countries to reduce their international borrowing and improve their trade balances also cut into U.S. exports and tended to expand imports into U.S. markets. Growth of U.S. spending relative to production and income implied a deterioration in the national saving-investment balance, which, in turn, owed much to the persistence of a large Federal deficit late into the current expansion. An increasing net inflow of foreign capital offset a declining national saving rate and helped to finance reasonably robust U.S. investment. This capital inflow, which was partly motivated by high prospective after-tax returns on U.S. investment, was one among several important factors that contributed to the strong appreciation of the U.S. dollar between 1980 and early 1985. Dollar appreciation, in turn, was the critical proximate cause of much of the deterioration in the U.S. trade balance, because it made U.S. exports more expensive in foreign markets and foreign imports less expensive in U.S. markets.

Efforts to reduce external imbalances have focused on reversing their underlying macroeconomic causes and on facilitating structural adjustments essential to an altered pattern of world trade. In the United States, a continued slowing of domestic demand growth and further reductions in the Federal deficit promise continued improvements in the national saving-investment balance. In contrast, demand growth in other leading industrial countries has increased, due to government policies and market forces. In the United States relative price changes have encouraged economic adjustments directed toward higher output, increased employment, and greater investment in tradable goods industries. Relative price changes also appear to have assisted in reorienting economic activity toward stronger inter-

nally led growth in some countries with trade surpluses. A large correction in the foreign exchange value of the U.S. dollar has been especially important in improving international competitiveness of U.S. industry and, in turn, the U.S. real trade balance.

This chapter first assesses the economic significance of present external imbalances. It then discusses two of the key macroeconomic causes of present imbalances: the strong growth of domestic demand in the United States relative to other industrial countries, and the decline of the U.S. national saving-investment balance in the presence of persistently large Federal deficits. It next considers the role of exchange-rate movements and relative price changes in creating and correcting external imbalances. The chapter concludes with a discussion of the adjustment process that will sustain progress in reducing external imbalances in an environment of noninflationary growth.

## THE SIGNIFICANCE OF EXTERNAL IMBALANCES

The external trade and payments position of the U.S. economy moved from surplus to substantial deficit in the early 1980s. This deterioration reflects several closely related phenomena. However, it does not signal a defect in the general performance of the U.S. economy, nor does it necessarily portend serious problems for the future. The significance of the U.S. trade and payments imbalance—the problems that it does and does not pose for the U.S. and the world economy—are best understood with reference to alternative measures of these imbalances.

### MEASURES OF THE EXTERNAL BALANCE

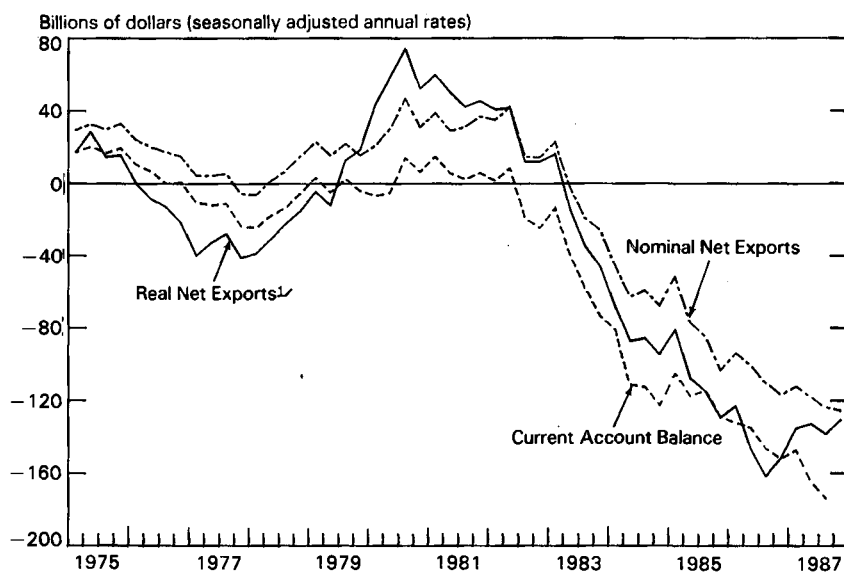
All measures of the U.S. external position show broadly similar movement during the past two decades and exhibit sharp deterioration since 1980–82. For example, as measured in the national income and product accounts (NIPA), the merchandise trade balance—the difference between exports and imports of goods alone—moved from a \$29 billion deficit in 1980–82 to a \$143 billion deficit in 1986. In 1987 the merchandise trade deficit grew further to \$153 billion. These movements in the merchandise trade balance indicate that, since 1980–82, the value of U.S. imports has grown far more rapidly than U.S. exports.

Expanding the measure of the trade balance to include services (and factor income) yields the NIPA concept of “net exports.” Chart 3–1 shows that nominal net exports were in surplus in 1980–82, before deteriorating through the end of 1987. Movements in nominal net exports have closely paralleled movements in the merchandise trade balance. However, since the United States runs a surplus of

trade in services, the deficit in nominal net exports is somewhat smaller than the deficit in merchandise trade.

Chart 3-1

### Net Exports and the Current Account Balance



✓ Billions of 1982 dollars.

Note.—Net exports for fourth quarter 1987 are preliminary; current account balance not available.

Source: Department of Commerce.

Measuring the balance between exports and imports of goods and services in constant 1982 dollars, rather than in current dollars, produces the NIPA measure of “real net exports,” the measure most closely related to real GNP. As illustrated in Chart 3-1, real net exports fell more than nominal net exports between 1980–82 and late 1986; since then real net exports have improved, while nominal net exports have continued to deteriorate. The behavior of real net exports since late 1986 indicates that the external sector has made a net positive contribution to growth in real GNP and employment.

The recent divergence in the movements of real and nominal net exports primarily reflects movements in import prices. The price of imports, as measured by the import price deflator, fell between 1980–82 and late 1986, with an especially sharp drop in 1986 due to the fall in the price of imported oil. As a result, the increase in nominal spending on imports was less than the increase in the real quantity of imports. Since late 1986 import prices generally have been rising faster than the price deflator for domestically produced goods

and services. Consequently, nominal spending on imports rose more than the real quantity of imports and more than the nominal value of exports. This phenomenon usually is referred to as the "J-curve" effect of currency depreciation. The initial effect of depreciation is often to raise nominal spending on imports because of higher prices and to lead to a deterioration in the nominal trade balance. However, over time the depreciation will tend to improve both real and nominal net exports.

A deficit in net exports necessarily implies that total spending by domestic residents is greater than the value of domestic production (GNP) and domestic income. When domestic demand exceeds domestic production, the excess is imported and the country runs a deficit on goods and services. Accordingly, the decline of U.S. real net exports between 1980–82 and late 1986 corresponded to a growing gap between real domestic demand and real GNP. Similarly, the decline in nominal net exports corresponded to the growing gap between nominal domestic demand and nominal GNP.

The decline in nominal net exports also was closely related to the deterioration of the national saving-investment balance. This is a direct consequence of national income accounting relationships. Aside from some relatively minor items, the excess of national saving over national investment is equal to the excess of GNP over domestic demand and, therefore, equal to nominal net exports. As will be discussed later, growth of the government deficit (which counts as a negative element in national saving) played an important role in the deterioration of the national saving-investment balance.

The difference between national saving and national investment equals the flow of net foreign investment. When U.S. residents save more than is required to finance national investment, the remainder is available to finance net accumulation of foreign assets—either direct ownership of assets located abroad or ownership of stocks, bonds, or other financial claims on foreigners. Conversely, when national investment in the United States exceeds national saving, the excess is financed through net foreign accumulation either of direct claims on U.S. assets or of financial claims on U.S. residents (including the government). Since 1980–82 foreigners have increased their net claims on U.S. assets and U.S. residents as the deficit in international trade has grown.

Finally, except for some relatively minor accounting differences, the current account balance is conceptually similar to a measure of the national saving-investment balance. Moreover, the net capital inflow—which is conceptually similar to net foreign saving—equals the current account deficit, except for a statistical discrepancy. Thus the decline of the current account balance since 1980–82, illustrated

in Chart 3-1, describes the decline of national saving relative to national investment.

#### GROWTH OF EMPLOYMENT

A loss of jobs to foreign competitors and a general slowing of growth of the U.S. economy often are suggested as important adverse effects of the deterioration of the U.S. trade position since the early 1980s. In fact, however, the only significant declines in U.S. employment since 1979 occurred during the recessions of 1980 and 1981-82, when the U.S. current account was in surplus. The deterioration of the U.S. external position began in earnest in late 1982, which also marks the beginning of the longest peacetime expansion in U.S. history. As discussed in Chapter 2, employment growth during this expansion has been outstanding.

International comparisons of employment growth and reductions in unemployment do not indicate that the United States has been "losing jobs" to other industrial countries. Between 1982 and 1986 the United States sustained the strongest growth of employment in percentage terms among the seven large industrial countries that participate in the annual economic summits, creating about two and one-half times as many jobs as the other six countries combined. Especially striking is a comparison with Japan and West Germany, the two countries with the largest current account surpluses among the seven summit countries. The United States created 10 million new jobs between 1982 and 1986—almost five times as many jobs as Japan, and more than 100 times as many jobs as West Germany.

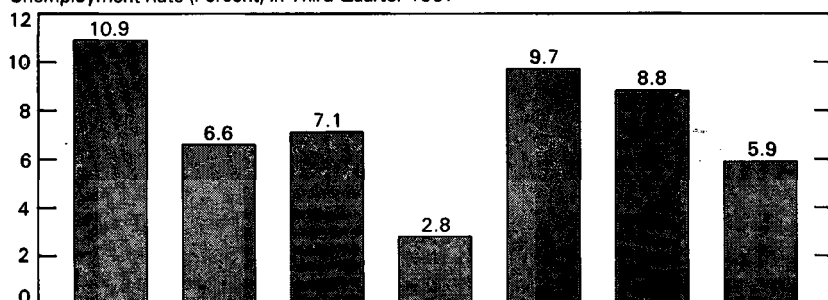
The large increase in employment does not simply reflect the size of the U.S. economy or an increase in the labor force. Since 1982 the United States has enjoyed the largest reduction in the unemployment rate of all seven of the summit countries. As the top panel of Chart 3-2 shows, as of the third quarter of 1987, the United States had the lowest unemployment rate among the summit countries, except for Japan. This reverses the situation that existed in the 1950s, 1960s, and early 1970s, when unemployment rates in Western Europe typically ran at about half the U.S. rate. Furthermore, as shown in the lower panel of Chart 3-2, unemployment rates in a number of Western European countries have increased since 1982. Despite 5 years of economic expansion, these unemployment rates now stand not only well above the U.S. unemployment rate, but also near or above the peak levels recorded for these countries between 1959 and 1981.

It has been suggested that employment in the United States would have grown even more and the unemployment rate would have dropped even further, if the U.S. external imbalance had not developed since 1982. Analysis of the strength of employment growth

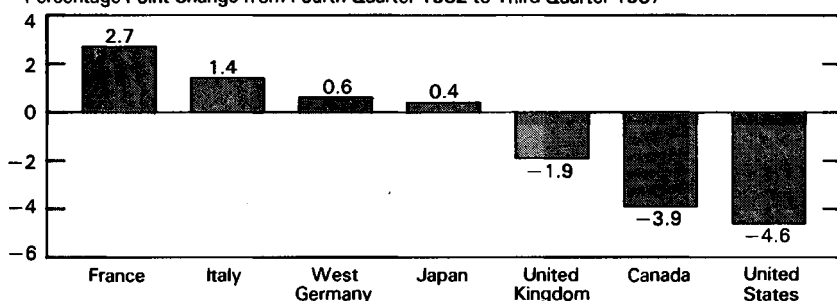
Chart 3-2

## Unemployment Rates in the Seven Summit Countries

Unemployment Rate (Percent) in Third Quarter 1987



Percentage Point Change from Fourth Quarter 1982 to Third Quarter 1987



Note.—Unemployment rates used approximate the U.S. concept.

Source: Department of Labor.

over the course of the expansion, however, does not support this notion.

During the initial phase of the expansion, from the end of 1982 through the middle of 1984, output and employment grew very rapidly (Table 3-1). Real GNP rose at a 7.0 percent annual rate, setting a 35-year record for real GNP growth during a six-quarter period. Real domestic demand grew even more rapidly than real GNP—the fastest rate, over a six-quarter period, in nearly 35 years. In these six quarters employment rose at a very strong 3.9 percent annual rate.

The exceptionally strong growth of real domestic demand relative to the strong growth of real GNP is directly reflected in the \$99 billion deterioration of real net exports between the end of 1982 and the middle of 1984. With the same rate of real domestic demand growth, if real net exports had not deteriorated, real GNP would have grown at a 9.1 percent annual rate. However, an effort to meet domestic demand growth entirely with U.S. production, even if that

TABLE 3-1.—*Economic Growth, 1982-87*

(Average annual percent change, except as noted)

Item	1982 IV to 1984 II	1984 II to 1986 III	1986 III to 1987 IV <sup>1</sup>
Real GNP.....	7.0	2.7	3.4
Real domestic demand.....	9.1	3.6	2.6
Civilian employment.....	3.9	2.1	2.5
Change in real net exports <sup>2</sup> .....	-99.0	-74.3	30.9
Change in civilian unemployment rate <sup>3</sup> .....	-3.2	-5	-1.1

<sup>1</sup> Preliminary.<sup>2</sup> Change over the period in billions of 1982 dollars (seasonally adjusted annual rate).<sup>3</sup> Change over the period in percentage points.

Sources: Department of Commerce (Bureau of Economic Analysis) and Department of Labor (Bureau of Labor Statistics).

had been feasible, probably would have been misguided. By March 1984 the Federal Reserve already was becoming concerned that the U.S. economy might be overheating and tightened monetary policy to forestall the risk of accelerating inflation. If real GNP had grown 9.1 percent rather than 7.0 percent, possible overheating of the economy—and a resurgence of inflation—surely would have been even more of a concern in 1984. A policy reaction to forestall such a development could have cut short the expansion. Thus it is not clear that more rapid growth of real GNP during the initial phase of the expansion would have been particularly good for the economy or would have contributed to employment growth in the longer term.

During the second phase of the expansion, from the second quarter of 1984 through the third quarter of 1986, the growth rates of real domestic demand, real GNP, and employment all declined from the very rapid rates recorded initially. Some slowing probably was inevitable as the expansion matured. The sharp oil price decline in early 1986 led to increased unemployment in the energy-producing States, and probably contributed to slower overall employment growth. The further decline in U.S. real net exports during this period probably also contributed to slower employment growth, and a smaller decline in real net exports probably would have been beneficial for the economy.

In the latest phase of the expansion, since the third quarter of 1986, improving real net exports have contributed positively to real GNP and employment growth. The unemployment rate dropped rapidly during this period. While further reductions in the unemployment rate appear possible for the future (Chapter 2), the feasibility of a significantly more rapid decline during the past five quarters is open to question.

Thus strong growth of domestic demand early in the expansion contributed to a growing trade deficit, without generally damaging



effects on overall employment growth. Now it is widely anticipated that improvements in real net exports will help to sustain growth of real GNP and employment during a period when growth of domestic demand is expected to be weak. The timing of movements in the trade balance may not have been exactly right to maintain the precisely optimal pace of employment growth. However, the deterioration of the trade balance did help to absorb some of the effect of very strong domestic demand growth when that could have been a serious problem for the economy. Improvement of the trade balance now promises to assist output and employment growth at a time when such assistance appears particularly useful.

#### STRENGTH OF MANUFACTURING

A related complaint about the trade and payments deficit is that it has crippled U.S. manufacturing and led to a massive loss of manufacturing jobs. This issue was examined extensively in Chapter 2. In the face of intense international competition, substantial and often difficult adjustments have been made in many manufacturing industries. The output of some manufacturing industries declined. However, the cause of the general decline in manufacturing output in 1981-82 clearly was the recession, not the trade imbalance. Since 1982 manufacturing output has recovered very strongly. In fact, manufacturing's share of total real output currently stands near the record level for the postwar era.

In the 1980s manufacturing's share of total employment has continued its long-term decline, and the absolute level of manufacturing employment at the end of 1987 remained below its peak level of 1979. These developments, however, reflect the generally stronger growth of productivity in manufacturing than in other sectors of the economy. Perhaps if foreign competition had been less intense, productivity growth in U.S. manufacturing would have been slower and more jobs would now exist in that sector. Americans as a whole, however, would be less well off. And unless real wage growth had been reduced to match slower productivity growth, manufacturing would not be as well positioned to expand exports in the future.

In comparison with other leading industrial countries, manufacturing has been relatively strong in the United States. Between 1979 and 1986 manufacturing output grew slightly more rapidly in the United States than in Canada and considerably more rapidly than in Western Europe. Only Japan recorded significantly stronger growth of manufacturing output, and only in Japan and Denmark did manufacturing employment increase. In Canada the decline in manufacturing employment was proportionally smaller than in the United States, reflecting Canada's slower growth of productivity. In France, Italy,

and the United Kingdom, the proportional decline in manufacturing employment was significantly larger than in the United States.

If there were no U.S. trade deficit, production of manufactured goods and employment in manufacturing industries in the United States probably would be higher than they are at present; but total U.S. production and total U.S. employment would not necessarily be any higher. As discussed in Chapter 2, there appears to be some room for further gradual reductions in the unemployment rate without automatically stimulating an acceleration of inflation. There is no evidence that output and employment in manufacturing and other tradable goods industries could have been increased sufficiently to replace net imports of tradable goods in 1987, without largely offsetting reductions of output and employment in other industries. Similarly, over time, as the trade deficit is corrected gradually, output and possibly employment in the manufacturing sector may expand more rapidly than in the rest of the economy. These changes, however, will reflect a shifting distribution of the economy's productive resources, not a net increase in the supply of those resources.

#### GROWTH OF FOREIGN DEBT

The present size of net foreign claims on the United States and their rate of increase often are cited as problems arising from continued large current account deficits. The recorded net international investment position of the United States, -\$264 billion in 1986 (the latest data available), represents the difference between U.S. assets abroad (\$1,068 billion) and foreign assets in the United States (\$1,332 billion). The net international investment position often is referred to as the net debt of the United States, even though the value of U.S. assets abroad and foreign assets in the United States include assets such as land, buildings, and stocks, as well as interest-bearing assets such as bonds and bank accounts.

The net international investment position of the United States has deteriorated over the last few years. In 1981 the U.S. net international investment position was \$171 billion (valued in 1986 dollars). The deterioration to -\$264 billion in 1986 reflects the cumulative effect of a string of large external deficits as well as some valuation changes. Estimates of the flow of net foreign investment suggest that the U.S. net international investment position may have grown roughly \$150 billion, to approximately \$400 billion in 1987.

The net international investment position of the United States may be overstated by these estimates. According to Department of Commerce estimates, in 1986 the United States received income of \$88 billion on assets owned abroad, and it paid \$67 billion on foreign-owned assets in the United States. This excess of receipts over pay-

ments reflects, in part, undervaluation of some U.S.-owned assets located abroad (especially direct investments made years ago that are valued at historical cost), as well as a generally higher rate of return on U.S.-owned assets abroad than on foreign-owned assets in the United States. Therefore, in terms of income received and paid, the United States may have been a net creditor in 1986. However, in the third quarter of 1987, for the first time in recent history, payments on foreign-owned assets exceeded income on assets owned abroad. By this measure, the United States crossed the boundary between net creditor and net debtor only in the middle of 1987.

Even at \$400 billion, net foreign claims on the United States are not large relative to the income generated by the U.S. economy that can be used to service them. Net foreign claims of \$400 billion represent less than 10 percent of U.S. GNP. Assuming a 5 percent real rate of return, the income required to service these claims would amount to less than one-half of one percent of U.S. GNP. And based on the amount of income paid on foreign-owned assets in the United States and U.S.-owned assets abroad, the income required for net debt service in 1987 was about 0.1 percent of U.S. GNP. Consequently, concerns about the current stock of net foreign claims on the United States may be overstated.

While the current level of net foreign claims should not be cause for alarm, persistent growth of such claims at an annual rate equivalent to  $3\frac{1}{2}$  percent of U.S. GNP (about \$150 billion in 1987) would be a source of worry. At this rate, net foreign claims on the United States would reach 40 percent of U.S. GNP by the end of the century. Servicing these claims, assuming a 5 percent real rate of return, would consume about 2 percent of U.S. GNP—still not a large percentage, but a very substantial absolute sum. Relative to the size of the economy, U.S. net indebtedness would not be much larger than Canada's has been in recent years. However, the absolute figure would be very large—more than \$2 trillion in 1987 dollars. This could present difficulties for the world financial system, especially if for some reason foreigners suddenly become less willing to hold claims on the United States. Evidence of a steady reduction of the U.S. external deficit over the next few years will prevent these difficulties from emerging.

#### THE LEVEL OF NATIONAL SAVING

When a foreign net capital inflow is used to finance productive investment, even a relatively large and persistent inflow need not be a source of concern. The increased productive capacity financed by the capital inflow can generate the income to pay foreign creditors. Because of taxes and for other reasons, the entire return from invest-

ment is not always paid to creditors. Furthermore, a net capital inflow means that the level of productive capital stock in the importing country probably is higher than it would be otherwise. Hence, a country can gain from a net inflow of foreign capital, when this capital is used to increase productive investment. For much of its history—until about 1920—the United States was a fairly consistent net importer of foreign capital. For example, foreign borrowing helped to finance construction of U.S. railroads during the 19th century.

As indicated in Table 3-2, the recent net inflow of foreign capital has enabled the United States to maintain a ratio of gross investment to GNP that is close to the postwar average at a time when the ratio of national saving to GNP has been relatively low by postwar standards. The recent strong performance of the U.S. economy suggests that investment in the United States has paid an attractive return. Given the level of national saving, financing some investment through a net capital inflow—measured by net foreign saving—appears to have been worthwhile. The problem, to the extent that there currently is a problem, does not arise from the net capital inflow; it arises from the relatively low rate of national saving.

TABLE 3-2.—*Saving and Investment as Percent of GNP, 1949-87*

[Percent of GNP]

Item	1949-81 average	1982-86 average	1987 <sup>1</sup>
Current dollars:			
Gross private domestic investment .....	16.0	15.7	16.0
Gross national saving .....	16.3	13.7	12.6
Net foreign saving .....	- 3	1.9	3.3
Net national saving <sup>2</sup> .....	8.0	2.7	2.2
Constant (1982) dollars:			
Gross private domestic investment .....	16.6	16.7	17.9
Gross national saving <sup>3</sup> .....	16.9	14.6	14.2
Net private domestic investment <sup>2</sup> .....	7.9	5.5	6.7
Relative price of investment (1982=100) <sup>4</sup> .....	96.3	94.1	89.0

<sup>1</sup> Preliminary.

<sup>2</sup> As percent of net national product.

<sup>3</sup> Gross national saving deflated by the implicit price deflator for gross private domestic investment.

<sup>4</sup> Ratio of gross private domestic investment and GNP implicit price deflators, multiplied by 100.

Sources: Department of Commerce (Bureau of Economic Analysis) and Council of Economic Advisers.

National saving is a matter of concern because, when properly measured, national saving measures the increase in national wealth and thus the potential for future improvements in living standards. If the national saving rate is relatively low, future living standards may not rise as quickly. The relevant measure of national saving, however, must take into account the many forms of saving that contribute to rising living standards. Such saving includes not only the usually measured accumulation of claims to physical investments and the income streams they generate, but also investments in human capital

and in research and development leading to new products and technologies (discussed in Chapter 5), as well as the accumulation of consumer assets that contribute directly to production within the household. Making such adjustments, a recent study of broadly defined measures of national saving and capital formation found that the United States has not been a particularly "low-saving" country in the postwar period.

Moreover, even the narrow measures of national saving and national investment look more robust when recent declines in the relative price of capital goods are considered. Specifically, as indicated in Table 3-2, the ratio of real gross investment to real GNP recently has been somewhat higher than its average in the postwar period, thus implying that the recent net capital inflow has helped to finance a somewhat higher rate of real gross investment.

Nevertheless, the measured rate of gross national saving in recent years has been lower than the postwar average. Even allowing for problems in measuring depreciation, the standard measure of real net investment relative to real net national product (NNP) has not been particularly high in recent years. The standard measure of net national saving relative to NNP has been running at less than half its postwar average since 1981, and the net capital inflow has financed roughly half of net national investment. Broadening the measures of national saving and national investment to include human capital, research and development, and consumer durables diminishes the relative importance of the net capital inflow. However, it still appears that the national saving rate has been relatively low in recent years.

Whether the appearance of a low national saving rate actually portends slower growth of living standards is far from clear. The rate of national saving between 1973 and 1981—whether measured in nominal, real, gross, or net terms—was not particularly low by postwar standards. Yet, as discussed in Chapter 2, the rate of increase in living standards, measured by the rate of growth of real per capita GNP, was quite slow by earlier postwar standards. Since 1981 the rate of growth of real per capita GNP has increased, notwithstanding the decline in the measured rate of national saving. Judged by the outcome, therefore, the rate of national saving would appear to have risen since the middle and late 1970s, although not back to the level of the earlier postwar period.

In any event, a higher rate of national saving probably would mean more rapid improvement of living standards, and both natural economic adjustments and economic policies indicate an increase in the national saving rate. With national investment projected to remain strong but not increase substantially as a share of GNP, the anticipated increase in the national saving rate would imply a significantly

smaller net inflow of foreign capital and hence a significantly slower increase in net foreign claims on the United States. The anticipated increase in national saving relative to national investment also implies a reduction in the growth rate of real domestic demand relative to that of real GNP. This is consistent with the expectation that improvements in U.S. real net exports will make important contributions to output and employment growth in coming years. Because improvements in real net exports must come to a large extent in net trade in manufactured products, these anticipated developments also suggest continuing strength of output and employment growth in the manufacturing sector.

## DEMAND GROWTH AND THE SAVING-INVESTMENT BALANCE

The external deficit of the United States has been improving in real terms since late 1986. Continued progress in reducing this deficit, in an environment of noninflationary growth, is an important goal of economic policy. Assessing the likelihood of such progress, and the policies that will help to sustain it, requires clear understanding of the macroeconomic forces that are fundamentally responsible for the growth of the U.S. external deficit. Specifically, strong demand growth in the United States after the worldwide recession of 1980–82 and relatively weak demand growth in other industrial countries during the early phases of recovery spurred the growth of U.S. imports and retarded the growth of U.S. exports. Simultaneously, the growth of the Federal deficit and its persistence late into the current expansion contributed to the deterioration of the U.S. national saving-investment balance and to a corresponding increase in the net inflow of foreign capital.

### THE MACROECONOMIC CHARACTER OF THE EXTERNAL DEFICIT

The U.S. external position deteriorated between 1980 and 1986, with all measures of the trade and payments balance moving into substantial deficit. In particular, U.S. real net exports (measured in 1982 dollars) moved from a surplus of \$57.1 billion in 1980 to a deficit of \$145.8 billion in 1986, with the deficit reaching a maximum of \$161.6 billion on an annualized basis in the third quarter of 1986. As indicated in Table 3–3, all but one component of the trade balance—other goods—shared in the deterioration. The surplus in services was cut in half in real terms. Merchandise trade, which accounts for the bulk of total trade, absorbed over 80 percent of the total decline in real net exports. Most major end-use categories of the real merchandise trade balance (foods, feeds, and beverages; industrial supplies

and materials; capital goods; automobiles; and consumer goods) experienced a decline. Within merchandise, manufactured products moved from a surplus in 1980 to a large deficit in 1986. Agricultural exports, which are influenced by economic forces and policies somewhat different from other merchandise exports, also suffered from shrinking markets between 1980 and 1986. Furthermore, the aggregate trade balance deteriorated against most major regions and trading partners: against the industrial countries as well as the developing countries; against Europe and East Asia as well as Africa and Latin America.

TABLE 3-3.—*Selected Real Net Exports, 1980-87*

(Billions of 1982 dollars)

Item	1980	1982 IV	1986 III	1987 IV <sup>1</sup>
		Seasonally adjusted annual rates		
Net exports of goods and services.....	57.1	11.7	-161.6	-130.7
Services.....	68.9	55.3	31.4	22.9
Factor income.....	55.5	47.9	31.1	18.6
Other.....	13.3	7.3	.3	4.3
Merchandise.....	-11.8	-43.6	-193.0	-153.6
Foods, feeds, and beverages.....	16.9	12.2	2.6	6.0
Industrial supplies and materials (including petroleum).....	-61.9	-49.3	-94.7	-83.9
Capital goods (except automobiles).....	55.9	31.6	.6	10.9
Automobiles.....	-11.6	-16.7	-48.7	-43.2
Consumer goods.....	-17.2	-25.0	-61.5	-57.3
Other.....	6.1	3.6	8.6	13.3
MEMORANDUM:				
Nonagricultural exports minus nonpetroleum imports.....	31.9	-17.1	-137.2	-106.0

<sup>1</sup> Preliminary.

Source: Department of Commerce, Bureau of Economic Analysis.

Exceptionally strong growth of imports into the United States led the deterioration in real net exports. Between the beginning of the expansion and the third quarter of 1986, real imports grew at an average annual rate of 14.6 percent, more than double the average growth rate recorded between 1948 and 1980. Real exports also grew, but their 3.3 percent annual growth rate was much less than that of imports and about half the annual growth rate of real exports between 1948 and 1980.

Between the third quarter of 1986 and the end of 1987, real net exports improved by \$31 billion, narrowing the real trade deficit from 4.3 to 3.4 percent of real GNP. A \$74 billion increase in real exports outstripped a \$43 billion increase in real imports. The 15.4 percent annual rate of real export growth was more than double the average between 1948 and 1980. Strong gains in real merchandise exports were widespread across major product categories. At 6.4 percent, the annualized growth rate of real imports was well below the pace set between 1982 and late 1986 and about equal to the average

growth rate between 1948 and 1980. Increases in real merchandise imports were generally modest (negative in the case of consumer goods and petroleum products), except for capital goods excluding autos. Strong import growth in capital goods presumably reflected increased business purchases of durable equipment and substantial inventory accumulation. Contrary to the improvement in merchandise trade, the surplus in factor income deteriorated by \$13 billion—the effect of a growing stock of foreign claims on the United States. This led to a deterioration in the real trade balance in services; the surplus on services other than factor income showed the same pattern as merchandise trade.

The influence of broad macroeconomic forces, rather than specific developments in markets for particular products or trading relationships with particular countries, is readily apparent in the development of the U.S. real trade balance during the 1980s. Broad macroeconomic forces caused the strong growth of U.S. imports and the weak growth of U.S. exports across so many products and trading partners. Similarly, broad macroeconomic forces played a critical role in the recent resurgence of real export growth and in the general slowing of real import growth. These forces must continue to be major factors in the gradual process of reducing the U.S. external imbalance.

#### DIFFERENTIAL DEMAND GROWTH

During the 1970s both real domestic demand and real GNP in the United States generally grew more slowly than in Japan, Canada, and Western Europe. Differences between demand growth and real GNP growth, however, were relatively small in all countries, and trade imbalances remained small by recent standards. The situation changed during the 1980s, as indicated by the data in Table 3-4. During the general period of slow growth and world recession in 1980-82, U.S. real GNP fell slightly more rapidly than real domestic demand; thus as a share of real GNP, U.S. real net exports fell by 1.0 percentage point. In Canada the pattern was essentially the reverse; real domestic demand fell a little more rapidly than real GNP, and real net exports increased modestly.

During the period of world recession, real GNP growth in Japan slowed from a 5 percent average annual rate in the 1970s to 3.2 percent. Real net exports contributed about 1 percentage point to Japanese economic growth, since real GNP grew about 3 percent annually and real domestic demand grew about 2 percent per year. In West Germany, real domestic demand fell at a rapid 2.6 percent annual rate, but improving real net exports cushioned the effect on output growth, and real GNP fell at only a 1 percent annual rate. The pic-



TABLE 3-4.—*Growth in Real Domestic Demand and Real GNP in Major Industrial Countries, 1980-87*

(Average annual percent change)

Country/region	1980 I to 1982 IV		1982 IV to 1984 II		1984 II to 1986 III		1986 III to 1987 III <sup>1</sup>	
	Real domestic demand <sup>2</sup>	Real GNP <sup>3</sup>	Real domestic demand <sup>2</sup>	Real GNP <sup>3</sup>	Real domestic demand <sup>2</sup>	Real GNP <sup>3</sup>	Real domestic demand <sup>2</sup>	Real GNP <sup>3</sup>
United States .....	-0.5	-0.8	9.1	7.0	3.6	2.7	12.6	13.4
Japan .....	2.1	3.2	3.0	4.4	4.1	3.7	4.8	4.3
Germany .....	-2.6	-1.0	2.9	2.5	2.9	3.3	13.3	11.6
France .....	1.1	1.4	-5	.7	3.4	2.1	2.5	2.0
United Kingdom .....	-2	-0	4.1	2.3	3.4	3.3	5.7	5.2
Italy .....	-5	.1	3.2	2.8	3.4	3.0	3.0	2.4
Canada .....	-1.0	-3	6.7	7.1	4.1	3.6	5.0	4.1
Europe (Big Four) <sup>4</sup> .....	-8	.0	2.2	2.0	3.2	2.9	3.2	2.4
G-7 less United States <sup>4</sup> .....	.1	1.0	2.8	3.2	3.6	3.2	3.8	3.1

<sup>1</sup> Data for United States and Germany are preliminary estimates for 1987 IV.

<sup>2</sup> Real domestic demand is real GNP minus real net exports.

<sup>3</sup> Data for France, United Kingdom, Italy, and Canada are real GDP.

<sup>4</sup> Data for Europe (Big Four) and G-7 less United States use GNP weights. Big Four consists of Germany, France, United Kingdom, and Italy.

Sources: Department of Commerce (Bureau of Economic Analysis) and country sources.

ture was mixed in the other three large European economies (France, Italy, and the United Kingdom).

During the initial phase of the expansion, from the end of 1982 to the middle of 1984, real domestic demand in the United States shot up at a 9.1 percent annual rate, exceeding by 2.1 percentage points the rapid growth rate of U.S. real GNP. The strong growth of demand and income reflected the recovery of the economy—from a particularly deep recession, aided by the shift to a quite expansionary monetary policy early in the second half of 1982, and spurred on by significant reductions in marginal tax rates on both labor and capital income. In most of the other six leading industrial countries, recovery was less robust, as indicated in Table 3-4. For these six countries, combined real GNP growth averaged 3.2 percent, slightly exceeding the 2.8 percent annual growth rate of real domestic demand. The very strong growth of real domestic demand in the United States, together with relatively weak demand growth in other industrial countries, clearly contributed to the strong growth of U.S. imports and the weak growth of U.S. exports during this period.

In the second phase of the expansion, from the middle of 1984 through the third quarter of 1986, growth of real domestic demand in the United States slowed to a 3.6 percent annual rate. As real net exports deteriorated further, U.S. real GNP grew at a moderate 2.7 percent annual rate. Growth of real domestic demand picked up in some of the other six leading industrial countries and equaled the U.S. rate during this period. Because U.S. imports already were substantially larger than U.S. exports by 1984, equal rates of demand

growth in the United States and abroad implied further deterioration of the U.S. trade balance.

Moreover, growth of real domestic demand during this period may give an exaggerated impression of the strength of spending, particularly for countries whose currencies appreciated against the dollar. In early 1986, the dollar prices of oil and many primary commodities fell. These price declines made possible increased purchases of oil and other primary commodities (measured in volume terms), even though the amount spent (measured in dollars) fell. And when spending is measured in foreign currencies that appreciated against the dollar, the effect of falling dollar prices of primary commodities was amplified. This observation partly explains how real domestic demand could grow more rapidly than real GNP in Japan between the second quarter of 1984 and the third quarter of 1986, and yet Japan's current account surplus could increase from 3.1 to 4.6 percent of GNP. Some of the benefits that Japan enjoyed from the large decline in the yen prices of oil and other primary commodities ended up in increased saving rather than increased spending. Similarly, during this period West Germany recorded a large increase in its current account surplus, from 0.5 to 3.6 percent of GNP, despite only a small excess of real GNP growth over real domestic demand growth.

In the most recent phase of the expansion, starting in late 1986 and continuing through 1987, the growth rate of real domestic demand in the United States slowed to 2.6 percent per year, due primarily to slower growth of consumption spending. In the other six leading industrial countries the growth rate of real domestic demand moved up slightly. The latest available data show that between their peak in the fourth quarter of 1986 and the third quarter of 1987 the current account surpluses of Japan and West Germany (as a share of GNP) declined by 1.4 and 1.8 percentage points, respectively. The reversal of the demand growth differential contributed to an improvement in U.S. real net exports, thus allowing the growth rate of U.S. real GNP to rise to 3.4 percent despite the slower growth rate of U.S. real domestic demand.

The growth rate of U.S. real domestic demand probably had to fall below the 3.6 percent annual rate experienced during the second phase of the expansion if the decline in U.S. real net exports was to be reversed. As discussed in Chapter 1, if the U.S. unemployment rate declines further and productivity grows further, the medium-term growth rate for U.S. real GNP is probably about 3.2 percent per year. Improvement of U.S. real net exports at an average annual rate equivalent to, for example, 0.8 percent of real GNP implies an aver-

age annual growth rate of real domestic demand of about 2.4 percent, which is very close to the 2.6 percent growth rate actually realized since the turnaround in real net exports began in late 1986.

In 1988 it appears likely that real domestic demand will grow relatively slowly in the United States, for the reasons discussed in Chapter 1. In particular, consumption spending is expected to grow relatively slowly as households seek to increase their saving rates above the low average level of 1987 (but probably not much above the rate achieved in the fourth quarter). Furthermore, investment spending for inventory accumulation is expected to decline. The strong growth of both real exports and real net exports is expected to play a key role in maintaining a moderate rate of economic growth.

Rapid growth of real domestic demand in other industrial countries, particularly those with large external surpluses, is critical to reducing their external surpluses, maintaining worldwide demand growth, and improving the U.S. external balance. If U.S. real domestic demand growth declines without an offsetting increase in other countries, total demand growth in the world economy would fall. If this happens, the rate of growth of world output also would fall. Output and employment growth in all the industrial countries, including the United States and the surplus countries, probably would be curtailed. The economic problems of many developing countries, especially those with large external debts, would become more severe.

Recent developments indicate that domestic demand in other industrial countries is beginning to strengthen. In surplus countries recent growth of real domestic demand has been running well ahead of growth of real GNP, reversing the pattern of export-led growth that had prevailed for many years. Between the third quarters of 1986 and 1987, domestic demand growth exceeded real GNP growth by 1.1 percentage point in West Germany and by 0.5 percentage point in Japan. Furthermore, recent domestic demand growth in Japan has been exceptionally strong—5.2 and 7.6 percent in the second and third quarters of 1987. In these two quarters domestic demand growth in Japan exceeded GNP growth by an average of 2 percentage points. Strong growth of real domestic demand in Canada and the United Kingdom also has contributed significantly to recent demand growth in the world economy.

The Organization for Economic Cooperation and Development (OECD) estimates that real GNP in Western Europe will grow only about 1½ percent per year during the next 2 years, while real domestic demand is expected to rise by 2¼ percent per year. Some countries that enjoyed relatively vigorous demand and output growth during the past 2 years may face worsening balance of payments po-

sitions. Consequently, it is especially important for countries with substantial external surpluses to increase their demand growth in order to maintain their own output and employment growth while their external surpluses contract. More rapid demand growth in surplus countries also is essential for the health of the world economy, because domestic demand growth is expected to be relatively weak in the United States, and a shrinking U.S. trade deficit will subtract from demand growth in other countries.

Market forces have provided, and are likely to continue to provide, strong incentives for rapid growth of domestic demand in surplus countries. In particular, the real appreciation of the yen and the lower dollar price of imported oil have substantially reduced the real cost of goods imported by Japan relative to goods and services produced in Japan. The passthrough of a substantial part of this decline in real import costs has boosted the purchasing power of Japanese consumers, thereby contributing to rising living standards and to growth of domestic demand. Moreover, yen appreciation has induced consumers to shift their purchases from domestic to imported goods. The passthrough of the benefits of currency appreciation and lower oil prices apparently has been important in stimulating stronger growth of consumer spending in West Germany as well.

The government of Japan has carried out commitments made at the Louvre Accord in February 1987 and the Venice Economic Summit in June 1987 to boost domestic demand growth. On May 29, 1987, the Japanese government announced a 6 trillion yen (\$41.3 billion) emergency stimulus package, including 5 trillion yen in public works and 1 trillion yen in tax cuts. At the end of last year the government of Japan approved a 1988 budget including \$58.7 billion for public works—20 percent above the figure a year ago and equal to the high level established by last year's supplementary budget.

West Germany also has taken actions to boost domestic demand growth. For example, the West German government increased the amount of tax cuts for 1988 and later years to about DM14 billion (\$8.7 billion), and it will provide special loans at preferential rates for private and public investment projects. In addition, the German Bundesbank moved to reduce short-term interest rates in late 1987.

Continued domestic demand growth in other industrial countries will contribute to the health of the world economy in another important way. A growth-oriented solution to the international debt crisis requires that the heavily indebted developing countries expand their exports. During the 1980s the United States increased its purchases of goods exported by these countries while other industrial countries reduced their purchases. Now, as the United States reduces its trade deficit, other industrial countries must absorb more of the exports of

these heavily indebted developing countries if they are to solve their debt problems. As a result, developing countries would be better able to service their debts and would provide better markets for the exports of the industrial countries.

#### THE ROLE OF THE FEDERAL DEFICIT

Because a deterioration in the U.S. external position corresponds to a decline in the national saving-investment balance and to an associated increase in the net capital inflow, the deterioration of the U.S. external position also must have an explanation in terms of factors that affect the national saving-investment balance and the net capital inflow. This explanation does not contradict the earlier discussion of differential demand growth in the United States and other countries, nor does it conflict with the later discussion of exchange-rate movements. All are part of the same puzzle. The importance of different forces affecting the external balance may be more readily apparent from one perspective than another, but all the pieces fit together in the end.

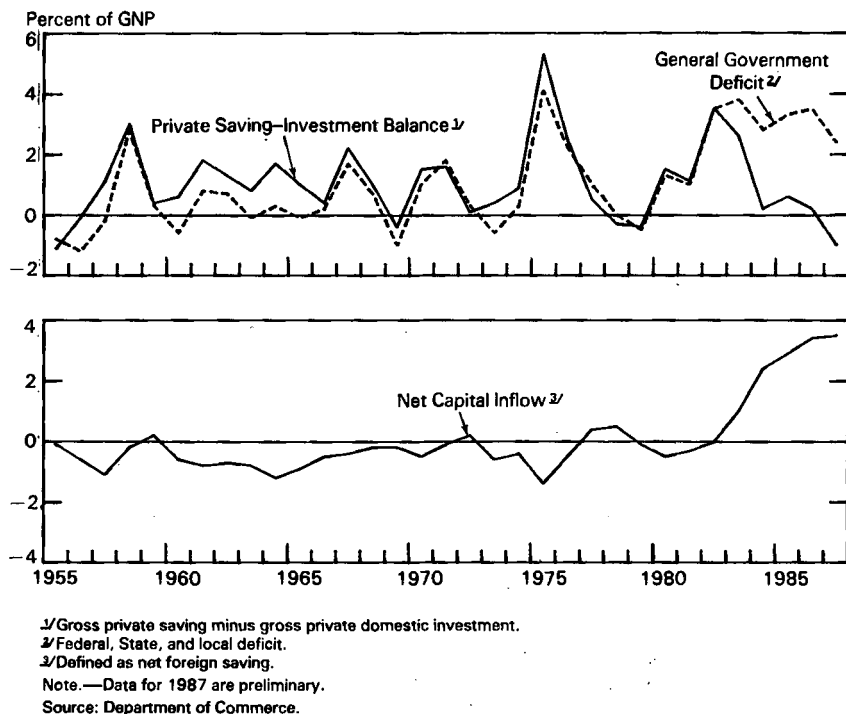
The deterioration of the national saving-investment balance and the corresponding increase in the net capital inflow since 1982 reflect primarily the decline in the national saving rate (as officially measured). The low rate of national saving since 1982 is accounted for primarily by the high rate of government dissaving which, in turn, is attributable to large Federal deficits. Measured on a NIPA basis, the government deficit (Federal, State, and local combined) has averaged 3.2 percent of GNP since 1982, compared with an average deficit of 0.3 percent of GNP between 1947 and 1982. The Federal deficit alone has increased to an average of 4.6 percent of GNP since 1982, compared with a pre-1982 average of only 0.6 percent of GNP. The personal saving rate also has been relatively low since 1982, but the rate of business saving has been relatively high. Since 1982 the private saving rate (personal plus business saving) has run about the same as its postwar average.

The causal linkages between the government deficit and national saving, national investment, and the capital inflow, however, are more complex than these averages suggest. As shown in the upper panel of Chart 3-3, movements in the general government deficit as a share of GNP have tended to parallel movements in the private saving-investment balance as a share of GNP. This parallelism has offsetting implications for movements in the net capital inflow, as measured by net foreign saving in the national income and product accounts: an increase in the private saving-investment balance implies a smaller net capital inflow, while an increase in the government deficit implies a larger net capital inflow. As shown in the lower panel of

Chart 3-3, movements in the net capital inflow generally have been smaller than movements in either the private saving-investment balance or the government deficit.

Chart 3-3

### Components of the Saving-Investment Balance



In the United States the dominant economic factor affecting movements in both the government deficit and the private saving-investment balance has been the business cycle. Usually during recessions, private investment has declined more than private saving, so the private saving-investment balance has improved. Also during recessions government revenues tend to fall and government expenditures tend to expand, so the government deficit grows. In contrast, during expansions private investment usually grows relative to private saving, so the private saving-investment balance deteriorates. Also, government revenue tends to rise relative to government expenditure, so the government deficit declines. Because business cycle effects on the private saving-investment balance typically have been a little stronger than business cycle effects on the government deficit, the net capital

inflow has tended to decline during recessions and to increase during expansions.

In this regard, the recessions of 1980 and 1981-82 were not very different from earlier recessions. However, as is apparent in Chart 3-3, the pattern changed during the current expansion. As usual, the private saving-investment balance declined during 1983-86, reflecting the strong growth of private investment. But the government deficit did not decline during 1983-86 as it usually does during a vigorous expansion—a result more than accounted for by the persistence of quite large Federal deficits. Therefore, the net capital inflow grew much more than normal between the end of 1982 and late 1986.

In fiscal 1987, due to a large decline in the Federal deficit, the total government deficit dropped substantially from 3.6 to 2.5 percent of GNP. By itself, this reduction should have cut the net capital inflow and the current account deficit by nearly one-third from its level in fiscal 1986. However, the private saving-investment balance deteriorated substantially between fiscal 1986 and fiscal 1987, from 0.3 percent to minus 0.8 percent of GNP. This fall in the private-saving investment balance reflected both a strong gain in gross private domestic investment (due largely to higher inventory investment) and an outright decline in private saving (because of lower personal saving). Thus, despite a substantial decline in the government deficit, the net capital inflow and the current account deficit both increased modestly.

Future improvements in the private saving-investment balance and future reductions in the Federal deficit should cause the national saving-investment balance to improve and the net capital inflow to decline. Because the rate of inventory investment in the nonfarm sector at the end of 1987 is probably unsustainable for any significant length of time, downward adjustment in this component of private sector investment should contribute to an improved private saving-investment balance in 1988. The personal saving rate in 1987 was very low by postwar standards, although it rose in the fourth quarter. Assuming that the personal saving rate remains close to its fourth quarter 1987 level in 1988 (which implies growth of consumption spending about even with growth of real disposable income), the average saving rate in 1988 will be well above that of 1987—a further factor tending to improve the private saving-investment balance.

The Federal budget deficit as a share of GNP is expected to decline only modestly in 1988 after the large drop registered in 1987. However, the revised Gramm-Rudman-Hollings budget law mandates a gradual reduction in the Federal deficit in later years and a balanced budget by 1993. The budget compromise agreed to by the Administration and the Congress last autumn provides for further steps

in this gradual process. Of course, the desirability of particular measures to reduce the Federal deficit must be assessed on the basis of their likely effects on the economy.

The Federal deficit has grown because Federal outlays as a share of GNP have risen substantially since the 1960s (despite a lower share for defense spending), while Federal revenues as a share of GNP have risen modestly. Specifically, Federal outlays averaged 19.0 percent of GNP in the 1960s; they were 22.8 percent in 1987. Federal revenues also rose, but by less than the increase in Federal outlays: from 18.2 percent of GNP in the 1960s to 19.4 percent in 1987. Increases in taxes, without effective restraint on spending growth, could fail to reduce the budget deficit. Moreover, increasing taxes and undoing tax reform would impair incentives to work, invest, and produce—the foundations of future growth. Thus reduction of the Federal deficit, but only through appropriate means, is the proper policy for improving the national saving-investment balance.

Finally, the behavior of the net capital inflow cannot be viewed as entirely passive. The apparent attractiveness of U.S. investment to foreigners and the inflow of capital it helped to stimulate probably contributed to the appreciation of the dollar between 1980 and early 1985, which played a major role in the deterioration of the U.S. trade balance. In the overall equilibrium of the economy, this deterioration was the necessary counterpart of both the increase in real domestic demand relative to real GNP and the growing gap between national investment and national saving. If foreigners had not supplied capital willingly, the pattern of real domestic demand, real GNP, national investment, national saving, and the government deficit all would have been different.

Nevertheless, it is fair to say that the low rate of national saving, which reflects primarily the persistence of a large Federal deficit late into the current expansion, has played a key role in the development of the U.S. external deficit. It is equally and simultaneously true that the strong growth of real domestic demand in the United States and the relatively weak growth of real domestic demand in other industrial countries between 1982 and late 1986 played critical roles in the evolution of the U.S. external deficit. Therefore, reduction of this external deficit in an environment of continued economic growth in the United States and other countries requires two important and simultaneous developments. First, the U.S. national saving-investment balance must improve through government spending restraints leading to a reduced Federal deficit. Second, the growth of real domestic demand in other industrial countries must remain sufficiently high to sustain world output growth, while growth of real domestic demand



remains restrained in the United States, leading to a gradual contraction of worldwide external imbalances.

## EXCHANGE RATES AND RELATIVE PRICES

Strong appreciation of the U.S. dollar between 1980 and early 1985 and its lingering effects in 1986 were important proximate causes of the deterioration of the U.S. trade balance—the ultimate causes lying with the economic forces that induced the dollar to appreciate. The full effects of dollar appreciation were not felt immediately; it took time for the relative prices of imports and exports to respond fully to exchange-rate changes, and it took more time for trade quantities to respond to changes in relative prices. As illustrated in Chart 1-1 of Chapter 1, there is about a six-quarter lag between movements in the foreign exchange value of the U.S. dollar and movements in U.S. real net exports. The recent upturn in real net exports beginning in late 1986 followed six quarters after the beginning of dollar depreciation in early 1985.

The improvement in the trade balance through the end of 1987, however, is somewhat smaller than normally would be expected from dollar depreciation through the middle of 1986, after allowing for lags. Analysis of this shortfall requires examination of the responses of relative export and import prices to dollar depreciation. This analysis is important for assessing the likelihood of recovering lost ground and of further improving real net exports commensurate with the further depreciation of the dollar since the middle of 1986.

### THE EXTENT OF EXCHANGE-RATE MOVEMENTS

The value of the U.S. dollar increased substantially against the currencies of most industrial countries between 1980 and the first quarter of 1985. The extent of appreciation was somewhat uneven across currencies. The dollar rose 109 percent against the British pound and 79 percent against the West German deutsche mark, but only 14 percent against the Japanese yen and 16 percent against the Canadian dollar. According to the Federal Reserve staff's trade-weighted index of the foreign exchange value of the dollar against the currencies of 10 large industrial countries (used in subsequent discussions), the dollar rose substantially over this period. Adjusted for movements of the price level in the United States and in other industrial countries, the real foreign exchange value of the dollar rose a similar amount.

The dollar's appreciation during the early 1980s probably was spurred in part by the shift in monetary policy from perceived ease and accommodation in the late 1970s to an actual and ultimately

credible anti-inflationary stance. Continued dollar appreciation after 1982 probably also reflected the strong recovery in the United States in comparison with most other industrial countries, as well as the general restoration of confidence in the U.S. economy. High real interest rates in the United States during the early 1980s, as well as changes in U.S. tax laws that increased the attractiveness of investment in the United States, may have attracted foreign capital that tended to push up the value of the dollar. The increase in U.S. interest rates and the tightening of monetary policy that began in early 1984 may have contributed to the upward surge in the value of the dollar in 1984. No single factor, however, is the exclusive cause of the dollar's appreciation; several different factors probably played important roles.

Since February 1985 the U.S. dollar generally has been depreciating. Substantial declines have been recorded against the currencies of all the large industrial countries, except Canada. Based on the Federal Reserve's index, by the end of 1987 the dollar had fallen—in real and nominal terms—about 40 percent and was slightly below its 1980–81 level. The adjustment was less, however, against the currencies of some developing countries.

As with the dollar's appreciation in the early 1980s, the exact causes of its depreciation since early 1985 are difficult to isolate. The deceleration in U.S. real GNP growth after mid-1984 probably contributed to the dollar's fall. The intentions of the G-5 countries (France, Japan, the United Kingdom, the United States, and West Germany) to seek a lower dollar, as implied by the Plaza Agreement of September 1985, and their subsequent actions to back up these intentions probably hastened the dollar's fall. The easing of U.S. monetary policy that began in late 1984 and extended through 1986 also may have contributed to the dollar's decline.

#### THE DOLLAR AND RELATIVE EXPORT PRICES

The rising dollar in the early 1980s increased the relative price of U.S. produced goods exported to foreign markets. The price of U.S. exports in foreign currencies relative to overall foreign price levels rose 52 percent between 1980 and the first quarter of 1985. It is not surprising, therefore, that U.S. exporters became less competitive. In 1986 U.S. real exports of goods and services had fallen 3 percent below their 1980 level, compared with about 40 percent growth that would have been expected based on the trend rate of growth between 1948 and 1980.

Dollar appreciation, not slow productivity growth or spiraling wage costs, was the primary cause of the decline in the international competitiveness of U.S. manufacturing in the first half of the 1980s. Be-

tween the cyclical peak in the third quarter of 1981 and the first quarter of 1985, labor productivity in manufacturing increased at a 4.4 percent annual rate—more than one and a half times as fast as the 1948-80 average—and only slightly below the 5.0 percent growth rate of labor compensation in manufacturing. As a result, U.S. unit labor costs rose at only a 0.6 percent rate from late 1981 to the first quarter of 1985. This was less than the growth in a trade-weighted average of unit labor costs in 11 of the largest foreign industrial countries, measured on a national currency basis, during the first half of the 1980s. However, once dollar appreciation is factored in, the International Monetary Fund (IMF) estimates that unit labor costs for U.S. manufacturing, relative to unit labor costs for manufacturing in other industrial countries, rose substantially during this period.

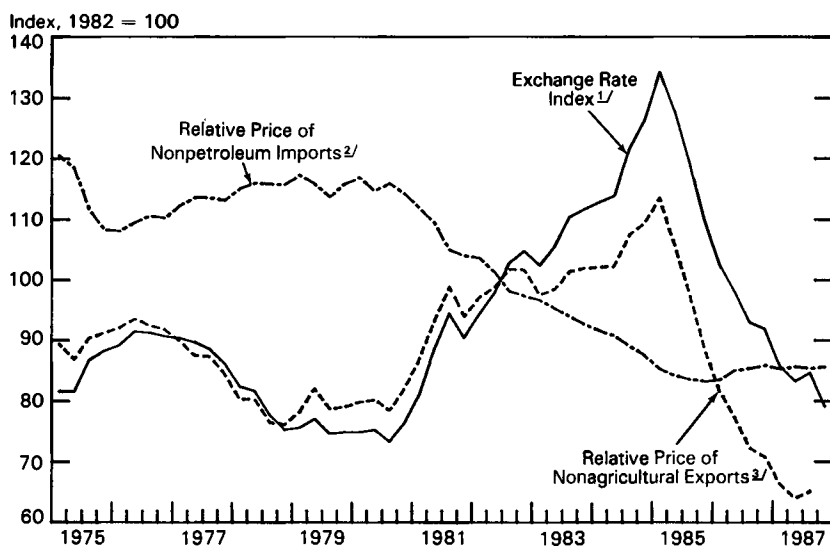
The depreciation of the U.S. dollar since early 1985 now has enabled U.S. exporters to regain the international competitiveness they lost earlier. Since the dollar began to decline, relative unit labor costs have fallen significantly. Continued strong productivity growth and wage restraint in U.S. manufacturing have contributed to improved cost competitiveness. Between the first quarter of 1985 and the fourth quarter of 1987, manufacturing productivity increased at a 3.7 percent annual rate, and hourly compensation of manufacturing workers grew at a 2.7 percent annual rate. As a result, unit labor costs for U.S. manufacturing have fallen at a 1.0 percent annual rate since the first quarter of 1985. Adding to this the effect of dollar depreciation, the IMF estimates that unit labor costs for U.S. manufacturing, relative to those in other industrial countries, fell 39 percent between the first quarter of 1985 and the second quarter of 1987 (the latest data available), and they are currently below their 1980 level.

Dollar depreciation also has contributed to a significant decline in the relative price of U.S. nonagricultural exports in foreign markets, as measured by a foreign currency price of U.S. nonagricultural exports divided by a foreign consumer price index (CPI). As Chart 3-4 illustrates, movements in the relative price of nonagricultural exports have been dominated by movements in the exchange rate. As the dollar appreciated in the early 1980s, the relative price of U.S. nonagricultural exports rose in foreign markets. As the dollar depreciated, this relative price declined, and it is now lower than it was in 1980.

As might be expected on the basis of improved price and cost competitiveness, U.S. exports recently have enjoyed very strong growth. Real nonagricultural exports have grown at a 19.5 percent annual rate since the third quarter of 1986—nearly triple their rate of growth between 1967 and 1980. Reflecting this export growth, U.S.

Chart 3-4

# Relative Prices of Exports and Imports and the Exchange Rate



<sup>1/</sup> Multilateral trade-weighted value of the dollar against the currencies of the G-10 countries plus Switzerland.

<sup>2/</sup> Ratio of the implicit price deflator for nonpetroleum imports to the U.S. consumer price index.

<sup>3/</sup> Ratio of the implicit price deflator for nonagricultural exports multiplied by the exchange rate index to a GNP-weighted consumer price index for the G-10 countries (excluding the United States) plus Switzerland.

Note.—Data for fourth quarter 1987 are preliminary.

Sources: Department of Commerce, Department of Labor, and Board of Governors of the Federal Reserve System.

manufacturing output has increased at a 5.4 percent annual rate, and manufacturing employment has increased by 380,000.

Econometric estimates suggest that nonagricultural exports rise about three-fourths of a percent for every 1 percent decline in their relative price, with about half the effect occurring within three quarters. Based on these estimates, the 43 percent decline in the relative price of nonagricultural exports between the first quarter of 1985 and the third quarter of 1987 should increase U.S. nonagricultural exports by about 30 percent within 2 years. By the end of 1987 real nonagricultural exports had risen 36 percent above their level in the first quarter of 1985. Since a part of this export gain probably was due to normal export growth associated with rising foreign incomes, it would appear that substantial further export growth should result from relative export price adjustments made through the third quarter of 1987.

Moreover, relative export prices in the third quarter of 1987 may not yet fully reflect the depreciation of the dollar since early 1987. Following the Louvre Accord in February 1987, exchange rates among the group of seven summit countries (the G-7 countries) remained fairly stable until the fourth quarter, allowing for much of the adjustment of relative export prices to exchange rates to occur by the end of the third quarter. However, the dollar continued to depreciate against the currencies of important trading partners outside the G-7 during the spring and summer, and it declined a further 6 to 7 percent against other G-7 currencies (except the Canadian dollar) in the fourth quarter. Therefore, there is reason to anticipate further reductions in relative prices of U.S. goods in foreign markets that will contribute to further increases in U.S. exports.

To correct the U.S. external deficit in a noninflationary manner, U.S. manufacturing industries must be able to expand output to serve domestic and foreign markets without incurring rapidly rising costs. Recent data on capacity utilization suggest that existing capacity in most manufacturing industries appears ample to meet output growth in the near term. The ability to expand capacity beyond existing levels is aided by the availability of unused capacity in the durable goods industries that produce business equipment, as well as by the slack that exists in the construction industry. The incentive to expand capacity is indicated by recent data that show manufacturers' profits from current production running well above their average rate in 1986. Additional incentive is provided by the knowledge that the correction of the trade imbalance should assure continued strong growth in the manufacturing sector. According to the most recent Department of Commerce survey of investment intentions, U.S. manufacturers plan to increase spending for plant and equipment in real terms by 8.6 percent in 1988.

#### THE DOLLAR AND RELATIVE IMPORT PRICES

The price of nonpetroleum imports relative to the U.S. consumer price index fell until the fourth quarter of 1985, at which time it was 28 percent below its 1980 level. Allowing 2 further years for this relative price decline to work its full effect on import quantities, econometric estimates suggest that a relative price decline of this magnitude would have induced about a 30 percent increase in real nonpetroleum imports. In the fourth quarter of 1985, nonpetroleum imports were about 90 percent above their 1980 level. The additional increase reflects large increases in U.S. income and real domestic demand, and the need for the heavily indebted developing countries to run external surpluses in order to service their debts. There is,

therefore, little mystery about the rapid growth of real imports between 1980 and the end of 1985.

From the end of 1985 to the end of 1986, U.S. real nonpetroleum imports increased 10 percent; from the end of 1986 to the end of 1987, they increased a further 6 percent. Some of these increases can be explained by the growth of real domestic demand (2.7 percent in 1986 and 3.2 percent in 1987) and, especially for 1986, by the delayed effects of earlier reductions in relative import prices. However, in view of the substantial depreciation of the dollar beginning in early 1985, the continued rapid growth of real nonpetroleum imports in 1986 and 1987 appears somewhat out of line with earlier empirical relationships. This continued strong growth of real imports, not a smaller than normal response of real exports, accounts for the failure of U.S. real net exports to improve as rapidly as would normally be expected, given the large adjustment in the foreign exchange value of the dollar.

Although the recent strength in real nonpetroleum imports is unusual given the sharp depreciation of the dollar, this strength is not unusual given the behavior of the relative price of such imports. As illustrated in Chart 3-4, the relative price of nonpetroleum imports increased very little during the period of dollar depreciation. At the end of 1987 it stood just 0.5 percent above its level in the first quarter of 1985 (and only 2.9 percent above its lowest level in the fourth quarter of 1985), despite a 40 percent depreciation of the dollar. Econometric studies suggest that the relative price of nonpetroleum imports normally would have risen about 25 percent in response to dollar depreciation, rather than the amount actually recorded. It appears that the very limited response of relative import prices largely accounts for the failure of real import growth to slow to the extent that normally would be expected, given the size of the dollar's decline.

#### PROFIT MARGINS AND IMPORT PRICES

A substantial decline in the cost of materials purchased by foreign exporters partially accounts for the slow rise in relative import prices in the United States since 1985. Measured in U.S. dollars, the price of oil in 1986 averaged about half its level in 1985. One commonly cited index of the dollar price of raw commodities fell 13 percent between early 1985 and late 1986. Other factors being equal, reductions in the dollar cost of raw materials allow foreign exporters to reduce the dollar prices of U.S. imports without reducing their profit margins. However, if appreciation of foreign currencies and movements in foreign labor costs are considered, the decline in materials costs only partly explains the limited increase of import prices in the

United States during the period of dollar depreciation. Apparently, the profit margins of foreign exporters have absorbed much of the effect of dollar depreciation.

The profit margins of exporting firms typically absorb some of the effect of movements in exchange rates. This appears to be true to a limited extent for U.S. firms exporting to foreign markets and to a greater extent for foreign firms exporting to the United States. When the dollar appreciates, U.S. exporters—whose costs often are determined in U.S. dollars—may not raise their prices in foreign markets (quoted in foreign currencies) in the same proportion as the dollar appreciates. Instead, to help preserve their market share abroad or for other reasons, they sometimes will absorb part of the effect of dollar appreciation by reducing their profit margins on export sales. Conversely, when the dollar depreciates, U.S. exporters may not cut their prices in foreign markets in the same proportion as the dollar's decline, and their profit margins may expand. Similarly, foreign exporters to the United States may not cut their prices in U.S. markets as much as the dollar appreciates or raise their prices here as much as the dollar depreciates.

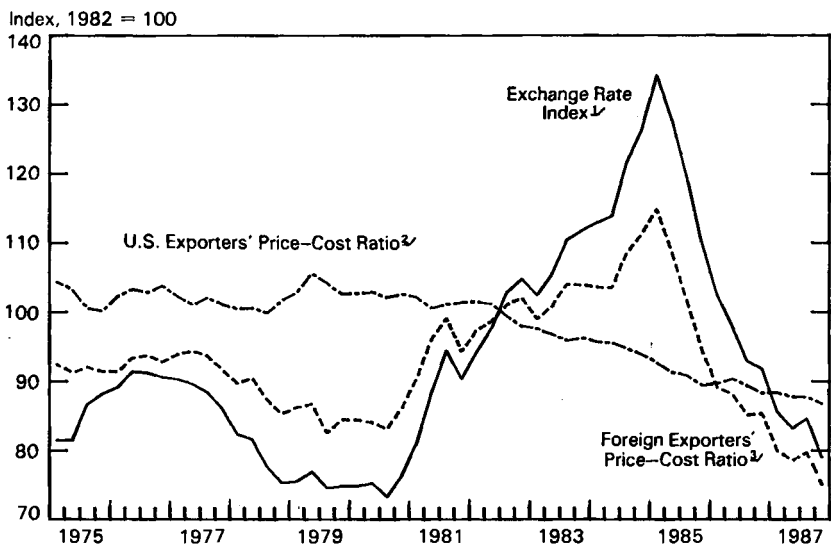
The evidence concerning adjustment of profit margins in response to exchange-rate changes is largely inferential. Some evidence is available in some specific cases, but there are no comprehensive data on profit margins in different national markets for U.S. firms or for foreign firms. It is possible, however, to construct proxy measures of the ratio of prices to costs that indicate general movements in profit margins. For U.S. exporters, the dollar price of U.S. nonagricultural exports is taken as a measure of prices received in foreign markets. If this price is divided by the U.S. producer price index (PPI) for finished goods, a proxy price-cost ratio for U.S. exporters can be constructed. For foreign exporters to the United States, the dollar price of U.S. nonpetroleum imports is one measure of prices received. If this price is divided by the foreign wholesale price index converted into U.S. dollars using market exchange rates, a proxy price-cost ratio for foreign exporters to the United States also can be constructed. An increase in this price-cost ratio generally suggests an increase in the corresponding profit margin, but the relationship probably is not exact. However, alternative measures of the price-cost ratio show generally similar movements.

The behavior of the price-cost ratios for U.S. and foreign exporters is illustrated in Chart 3-5. The levels of the two indexes are not particularly meaningful, but their movements in comparison with movements in the Federal Reserve's index of the foreign exchange value of the U.S. dollar are important. Basically, the price-cost ratio for U.S. exporters shows relatively little movement, although there is a

fairly consistent downward trend beginning in 1982. In contrast, the price-cost ratio for foreign exporters moves in fairly close sympathy, although somewhat less than in proportion, with movements in the exchange rate.

Chart 3-5

### U.S. and Foreign Exporters' Price-Cost Ratios and the Exchange Rate



1/ Multilateral trade-weighted value of the dollar against the currencies of the G-10 countries plus Switzerland.

2/ Ratio of the implicit price deflator for nonagricultural exports to the U.S. producer price index for finished goods.

3/ Ratio of the implicit price deflator for nonpetroleum imports to a trade-weighted wholesale price index for eight industrial countries excluding the United States divided by the exchange rate index.

Note.—Data for fourth quarter 1987 are preliminary.

Sources: Department of Commerce, Department of Labor, Board of Governors of the Federal Reserve System, and Data Resources, Inc.

The behavior of the price-cost ratios relative to the exchange rate illustrated in Chart 3-5 is broadly consistent with the behavior of relative import and export prices illustrated in Chart 3-4. It appears that U.S. exporters basically price their products in dollars and in line with movements in domestic costs. The relative price of U.S. exports in foreign markets, therefore, moves in close sympathy with the exchange rate (Chart 3-4), while the price-cost ratio for U.S. exporters shows little relation with the exchange rate (Chart 3-5). The reverse largely holds for foreign exporters. The relative price of foreign exports moves to some extent in response to exchange-rate movements (indicated by the inverse relation between movements in the relative price of nonpetroleum imports and movements in the ex-



change rate in Chart 3-4), while the foreign price-cost ratio appears to absorb most of the effect of exchange-rate changes (Chart 3-5).

The decline in the price-cost ratio for U.S. exporters between 1982 and 1985 or 1986 is consistent with the fact that U.S. exporters were under heavy competitive pressure in foreign markets and chose to absorb some of this pressure in lower profit margins. The further decline of the price-cost ratio for U.S. exporters through 1987 is peculiar in view of the very large correction in the value of the dollar. Part of this anomaly may be due to deficiencies in the proxy measure of the price-cost ratio. An alternative measure, based on unit labor costs and raw materials prices rather than the PPI, does not show a decline in 1987; it is roughly constant throughout the 1980s. The strong growth of corporate profits for manufacturing firms in 1987 and the strong growth of exports suggest that profit margins were not falling.

The recent behavior of the price-cost ratio for foreign exporters suggests that their absorption of the effects of dollar depreciation at least partly explains the less-than-expected relative price increase of U.S. imports. The extent of such absorption also appears to have exceeded previous experience. Studies using alternative measures of the price-cost ratio or the profit margin for foreign exporters generally have confirmed these impressions.

Less than complete passthrough of measured dollar depreciation to import prices may result from changes in the pattern of international trade. For example, the sources of U.S. imports may have been shifting in the direction of exporters with relatively lower production costs measured in U.S. dollars, including exporters located in countries whose currencies have appreciated relatively little against the U.S. dollar. In addition, some products imported into the United States have been subject to quantitative restrictions imposed by the United States or by the countries of origin. The prices of such imported products in U.S. markets are influenced strongly by these restrictions, rather than by exchange rates.

Less than complete passthrough is also consistent with economic theory. Foreign producers whose costs tend to rise with increased output and whose sales have been falling (in both domestic and foreign markets) probably have been experiencing declining production costs, especially at the margin. Such producers naturally would cut their prices in line with declines in their marginal production costs, even if their profits (taking account of fixed costs) were falling. Furthermore, for a foreign producer whose dollar prices are higher than production costs, holding the dollar price constant and cutting the profit margin may retain more profits when the dollar depreciates than raising the dollar price and suffering substantial sales losses.

Moreover, if a large share of a foreign producer's total sales are in the U.S. market, primarily in competition with U.S. producers, there may be little alternative to maintaining dollar prices even when production costs in terms of dollars rise due to appreciation of the producer's home currency. Some of the profit shrinkage may be passed back to the foreign producer's workers and suppliers, who also recognize their indirect dependence on sales in the U.S. market. Because of the large size of the U.S. market, this situation is more likely to arise for foreign firms selling in the United States than for U.S. firms selling abroad. Finally, as a general marketing strategy, firms may find it advantageous to maintain stable prices despite fluctuations in production costs arising from exchange-rate changes or other factors. This may be especially important if brand loyalty is a significant sales factor, if production costs are a relatively small share of the final sales price, or if fluctuations in production costs are viewed as temporary.

Whatever the reason for the relatively limited passthrough of dollar depreciation to U.S. import prices through the end of 1987, the most recent depreciation of the dollar and some of the residual effects of earlier depreciation may have a more substantial effect on import prices in the future. During the past year dollar depreciation has become more general against a broader range of currencies, and some quantitative restrictions on imports that were previously important are becoming redundant. Presumably there is also a limit beyond which profit margins cannot reasonably be squeezed. Furthermore, foreign producers may now recognize that much of the dollar's depreciation since 1985 is likely to prove permanent, so previously delayed price adjustments may now be made.

In sum, U.S. exports appear to have a good potential for growth, while economic forces are working to slow, if not partially reverse, the growth of imports. Because of strong productivity growth, effective cost containment, and exchange-rate adjustment, U.S. exporters already have regained the international competitive position they held in 1980-81 when the United States had a substantial surplus of real net exports. The additional depreciation of the dollar during the fourth quarter of 1987, and the continuing passthrough of some of the effects of earlier depreciation, should enhance export competitiveness further. Provided that costs remain effectively contained and demand growth continues in foreign markets, real U.S. exports should continue their recent vigorous growth. For real U.S. imports, increasing passthrough to relative import prices of the effects of recent and earlier dollar depreciation should limit growth. Anticipated slow growth of real domestic demand is an additional factor limiting likely growth of imports. Thus with import growth restrained and

exports growing strongly, improvements in real net exports should contribute substantially to overall U.S. economic growth.

## THE ADJUSTMENT PROCESS

Reduction of external imbalances requires substantial macroeconomic and structural adjustments that may be difficult to achieve rapidly without endangering the fundamental objective of maintaining economic growth with low inflation. To be successful, therefore, the process of reducing external imbalances must be gradual. It also must be persistent. The apparent response of financial markets to disappointing news about external imbalances suggests that an undesirably rapid pace of adjustment could be forced if external imbalances are not steadily reduced. Moreover, the incentives to undertake the necessary structural adjustments probably are enhanced when the need for, and reward from, such adjustments are apparent.

Consider the necessary macroeconomic adjustment in the United States. In the fourth quarter of 1987 the U.S. deficit in real net exports was equivalent to about 3 percent of real GNP. As a matter of arithmetic, elimination of this deficit requires that real GNP rise about 3 percent relative to real domestic demand, or equivalently, that real domestic demand fall by about 3 percent relative to real GNP. Yet, since the Korean war, there has been only one period longer than a year and a half when annual growth of real GNP has consistently exceeded annual growth of real domestic demand by close to a percentage point. This period lasted just over 2 years and it included 1980, when a sudden drop in real domestic demand drove the economy into a sharp recession. The danger is that without the assurance of substantial, persistent improvement in the trade balance, slow growth of real domestic demand increases the risk of recession. Prudence, therefore, suggests that several years be allowed to achieve the large necessary reductions in the U.S. real net export deficit.

For other countries, excessively rapid reduction of the U.S. net export deficit also poses significant macroeconomic problems. In the world as a whole, demand growth must equal output growth. Therefore, if slower domestic demand growth in the United States is not offset by more rapid domestic demand growth in other countries, world output growth would suffer, and the effects would not be limited to the United States. Slow growth or outright decline of U.S. imports means slow growth or outright decline of other countries' exports. This process could be mutually reinforcing, increasing the risk of worldwide recession. Moreover, there appear to be practical limits to the growth of real domestic demand that can be expected in other

countries. Given the objective of sustaining world output growth, therefore, there are practical limits to the desirable rate of reduction of external imbalances.

Because the tradable goods and services sector of the U.S. economy is roughly 40 percent of the total economy, the structural adjustments required to reduce the U.S. trade deficit are relatively larger than the macroeconomic adjustments. To reduce the real net export deficit by 3 percent of GNP, production of tradable goods (including tradable services) must expand by about 7.5 percent relative to consumption of tradable goods. Except in an economic downturn, U.S. consumption of tradable goods is unlikely to decline over a sustained period. Indeed, the need to expand productive capacity in the tradable goods sector is likely to keep domestic demand for tradable capital goods relatively strong. Therefore, reduction of the trade deficit in an environment of economic growth likely will require significant expansion of domestic production of tradable goods.

In 1987 production of tradable goods probably expanded at about a 5 percent rate (the growth rate of industrial production), and the rate of capacity utilization increased significantly. Sustaining output growth at a 5 percent rate probably would be feasible if productive capacity were expanded sufficiently rapidly. However, at this rate of output growth, it would take several years to close the gap between production and consumption of tradable goods. In a growing economy with the unemployment rate already down to 5.7 percent, pushing adjustment of the tradable goods sector too fast could generate undesirable cost pressures that, among other problems, could erode the international competitiveness of U.S. producers.

For other countries whose trade positions must adjust as the U.S. position improves, their structural adjustment problem is essentially the opposite. Production of tradable goods must decline relative to consumption of tradable goods. This adjustment will be easier and less painful to achieve, especially for workers and firms in the tradable goods sector, if it occurs gradually through a shift in the relative growth rates of tradable goods production and consumption, rather than suddenly through an absolute decline of tradable goods production. In the United States, it should be recalled, even though adjustments in tradable goods industries often were difficult during the period of the growing U.S. trade deficit, output of most tradable goods industries (particularly manufactures) continued to expand in line with the overall economy.

Moreover, outright contraction or very slow growth of tradable goods industries in foreign countries could impair overall economic growth there. Resources need to shift away from tradable goods and toward nontradable goods. However, unemployment of resources in

the tradable goods sector means temporary income losses that may limit spending and thereby impair domestic demand growth essential to maintaining overall growth in the world economy. These difficulties could be magnified if investment in the tradable goods sector drops precipitously without offsetting increases of investment in other sectors. Thus all trading nations share a common interest in avoiding adjustment pressures that are ultimately too strong and self-defeating.

## CONCLUSION

Macroeconomic and structural adjustments in the United States and other countries have begun to reduce external imbalances in an environment of sustainable noninflationary growth. That process will continue in 1988 and beyond. Growth of real domestic demand has slowed in the United States, and it appears likely to remain relatively slow in the period ahead. Federal deficit reduction, together with prospective improvement in the private saving-investment balance, should improve the national saving-investment balance. Growth of real domestic demand abroad has accelerated due to government policies and market forces. Relative price adjustments resulting from the substantial correction in the foreign exchange value of the dollar already have brought, and will continue to bring, reductions in worldwide external imbalances. These relative price adjustments have helped to stimulate stronger internally led growth in foreign economies and to motivate necessary structural adjustments both in the United States and abroad.

Clearly, it is important to maintain policy momentum in the macroeconomic area, as well as to continue progress in reducing structural rigidities and barriers to adjustment, especially in economies with high unemployment rates. Reduction of marginal tax rates, of burdensome government regulations, and of inefficient government subsidies and, when appropriate, judicious easing of monetary policy and increased spending on worthwhile public investments can contribute to demand and output growth without raising risks of inflation. Elimination of restrictive work practices, excessive nonwage labor costs, expensive job security arrangements, rigid work rules and wage restraints, and other labor market practices that impair mobility and discourage job creation can contribute to both growth and adjustment. On the consumption side, reform of government policies that prevent efficient use of scarce land and removal of artificial restraints on mortgage and consumer credit can aid growth under appropriate circumstances.

Finally, maintenance of an open system of world trade is essential to the process of reducing external imbalances in an environment of noninflationary growth for the world economy. Specifically, the growth-oriented method for gradually reducing external imbalances requires stronger demand growth in foreign countries while demand growth remains restrained in the United States. This will allow improvements in the U.S. trade balance to come primarily from an expansion of exports, rather than a sharp cut in imports. For this method to work, foreign markets must be open to U.S. exports. The alternative method for reducing the U.S. trade deficit—protectionism at home and retaliatory market-closing measures abroad—is a prescription for worldwide economic stagnation. Especially now, when U.S. industries have regained international competitiveness and export growth appears likely to sustain economic expansion, the United States has a particular interest in avoiding protectionism and pursuing instead its program for freer and fairer trade.